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UNITED STATES DEPARTMENT OF THE INTERIOR
OFFICE OF HEARINGS AND APPEALS
INTERIOR BOARD OF LAND APPEALS

INDIAN PEAKS BAND OF THE PAIUTE INDIAN TRIBE OF UTAH, Appellant, v. UNITED STATES BUREAU OF LAND MANAGEMENT, Appellee.	IBLA No. _____ **NOTICE OF APPEAL AND PETITION FOR STAY OF BLM'S MARCH 2, 2026 DECISION APPROVING CEDAR VALLEY WATER CONSERVANCY'S RIGHT-OF-WAY GRANT AND TEMPORARY USE PERMIT FOR PINE VALLEY WATER SUPPLY PROJECT, DOI-BLM-UT-2020-0012-EIS**

NOTICE OF APPEAL AND PETITION FOR STAY

NOTICE OF APPEAL

Pursuant to 43 C.F.R. Part 4, the Indian Peaks Band of the Paiute Indian Tribe of Utah (sometimes referred to herein as "the Band" or "Appellant") files this Notice of Appeal and Petition for Stay of the March 2, 2026 Record of Decision ("ROD") for Bureau of Land Management ("BLM") Project DOI-BLM-UT-C010-2020-0012-EIS by the BLM approving Cedar Valley Water Conservancy's ("CVWC")[1] right-of-way ("ROW") grants and temporary use permit for the purposes of constructing, operating, and maintaining the Pine Valley Water Supply Project ("PVWSP"), comprised of a water transfer pipeline, production and monitoring wells, storage tanks, and associated facilities, across BLM-managed land within the Cedar City Field Office. The ROD is attached as Exhibit A. The Final Environmental Impact Statement ("FEIS"), on which the ROD is based is not attached but available on BLM's online National NEPA Register.[2]

Pursuant to 43 C.F.R. § 4.411(d)(3), the Band further requests that the BLM provide it with a full copy of the "complete administrative record compiled during the officer's consideration of the matter leading to the decision being appealed" when BLM forwards a copy to the IBLA.

INTRODUCTION

This is an appeal of BLM's decision to grant CVWC's two right-of-way applications for the PVWSP resulting in up to 273 acres of disturbance across Iron and Beaver counties within the Cedar City Field Office. *See* Exhibit A at 1. The Band is a federally recognized Indian Tribe and a constituent band of the Paiute Indian Tribe of Utah. 91 Fed. Reg. 4104 (Jan. 30, 2026). The PVWSP is not only located in the Band's aboriginal territory, but is immediately adjacent to the

[1] Cedar Valley Water Conservancy ("CCWC") was previously known as Central Iron County Water Conservancy District ("CICWCD"). CICWCD was the original applicant for the right-of-way permits.

[2] Final Environmental Impact Statement: Pine Valley Water Supply Project, DOI-BLM-UT-C010-2020-0012-EIS, DEP'T OF THE INTERIOR (Feb. 2026) ("FEIS"), https://eplanning.blm.gov/public_projects/%2F74d9f5cd-94f2-f011-8407-001dd80db62a%2FDocuments%2FPVWS%20Final%20EIS.pdf.

Band's prior Reservation, on which the Band has unquantified vested federally reserved water rights that will be substantially impacted by the PVWSP.

CVWC's predecessor, CICWCD, applied to BLM for two right-of-way grants to construct, operate, maintain, and decommission groundwater production wells within Pine Valley in southern Utah, a transportation pipeline to convey the water to the existing CICWCD water system in Iron County, Utah, and appurtenant Project facilities. *See* Exhibit A at 3. The PVWSP seeks to construct a 70-mile pipeline from the Pine Valley to Cedar City, Utah, to convey 15,000 acre feet per year of groundwater for the primary purpose of accommodating growth in Iron County, Utah. *See* Exhibit A at 1; FEIS at Executive Summary, ES-1. The PVWSP is premised on unsustainable groundwater mining, pumping that exceeds Pine Valley's recharge rate and safe yield, and poses a serious threat to the groundwater system underlying a substantial portion of the carbonate aquifer province, groundwater-dependent environmental resources, and the Band's federally reserved water rights. BLM's Notice of Intent to consider the right-of-way (ROW) application for the PVWSP was issued on July 15, 2020. 85 Fed. Reg. 42914 (July 15, 2020). In January 2022, BLM issued its Draft Environmental Impact Statement ("DEIS") for the PVWSP. 87 Fed. Reg. 988 (Jan. 7, 2022).

At the time BLM issued the DEIS for the PVWSP, it was completely unaware that the Band possessed federally reserved water rights adjacent to the PVWSP's proposed wellfield. The Band obtained these federally reserved rights when its original Reservation was created in 1915, and those rights have never been abrogated or extinguished. The Band was not initially notified about the PVWSP, and when the Band learned of the DEIS and the location of the proposed wellfield adjacent to its prior Reservation, the Band notified the BLM of its concerns, initially in a letter dated March 11, 2022. On May 4, 2023, BLM paused the PVWSP environmental review at the

request of CICWD, and the project remained paused for over two years, until May 19, 2025. In the interim period, while the project was paused, the Band sought government-to-government consultation with BLM on the PVWSP's impacts to the Band's federally reserved water rights and the Band's cultural resources associated with its original Reservation, and when the environmental review resumed, the Band became a Cooperating Agency. On Friday, February 27, 2026, BLM issued the FEIS, which did not resolve the errors noted in the Band's and other Cooperating Agency's submissions on the record, and on the following Monday, March 2, 2026, BLM issued the ROD approving the right-of-way grants and temporary use permit for the PVWSP.

STATEMENT OF TIMELINESS

A Notice of Appeal is timely if it is filed no later than 30 days "after the date of receiving notice of the decision." 43 C.F.R. § 4.403(c)(1). A person or entity receives notice of a decision at the earliest of the following dates: (i) the date of delivery by mail or delivery service; (ii) the date the bureau or office electronically transmits the decision or a notice that the decision is available on a public website, to the person or entity at their designated electronic address and does not receive electronic notification that the transmission was unsuccessful; (iii) the date the bureau or office notifies the public in an online news release that the decision is available on a public website; (iv) the date of the decisions publication in the Federal Register; or (v) the date the person or entity receives actual notice of the decision. *Id.* at (c)(2). The BLM did not notify the Band in any manner that the Record of Decision had been published, despite the fact that the Band was a Cooperating Agency for the purposes of the BLM's environmental review of the PVWSP under the National Environmental Policy Act ("NEPA"), nor did the BLM notify the public of the decision in an online new release or publish the decision in the *Federal Register*. Moreover, the Band was aware that the BLM had filed an extension request on the deadline of the Record of Decision, and the BLM

did not communicate to the Band when it anticipated publishing the Final Environmental Impact Statement and the Record of Decision. However, the Band received actual notice the Record of Decision was published to BLM's ePlanning website on March 2, 2026.[3] This appeal is timely filed, as it is filed within 30 days of the BLM's March 2, 2026 Record of Decision.

STATEMENT OF STANDING

The Band can properly pursue this administrative appeal. 43 C.F.R. § 4.402(a). To maintain an appeal, the Appellant must (i) be a party to the case; and (ii) be adversely affected by an appealable decision. *Id.* The Band meets both requirements.

A. The Band is a Party to the Case

A party to the case includes a person or entity that "participated in the process leading to the decision under appeal . . . by commenting on an environmental document, or by filing a protest to a proposed action." 43 C.F.R. § 4.401. Here, the Band is a party on the basis of its status as a Cooperating Agency in the NEPA review process. *See* Memorandum of Understanding Between BLM and Indian Peaks Band of the Paiute Indian Tribe of Utah, BLM-MOU-UT-C000-2025-002 (Oct. 20, 2025) (Exhibit B). Moreover, the Band submitted extensive comments to the BLM regarding the PVWSP during the Cedar City Office's NEPA review, in response to the Draft Environment Impact Statement ("DEIS")[4] and the Administrative Final Environmental Impact Statement ("AFEIS"). *See* Indian Peaks Band's Comments on the PVWSP DEIS (Mar. 11, 2022) (Exhibit C at Appendix I); Indian Peaks Band's Comments on the PVWSP AFEIS (Oct. 20, 2025) (Exhibit D). The Band also sought government-to-government consultation meetings and

[3] *See* Pine Valley Water Supply Project, BLM National NEPA Register (last updated Mar. 2, 2026), https://eplanning.blm.gov/Project-Home/?id=e71249b5-a7f2-f011-8406-001dd80ef717.
[4] Draft Environmental Impact Statement: Pine Valley Water Supply Project, DOI-BLM-UT-C010-2020-0012-EIS, DEP'T OF THE INTERIOR (Jan. 2022) ("DEIS"), https://eplanning.blm.gov/public_projects/%2F1503915%2F200379940%2F20052653%2F250058836%2FRevised%20DOI-BLM-UT-C010-2020-0012-EIS_Public%20Comment.pdf.

communication with the BLM on the Project's impact on Tribal interests over the course of the Project's NEPA review. *See* Indian Peaks Band's Government-to-Government Request to BLM re: Central Iron County Water Conservancy District Right-of-Way Application to for the Pine Valley Water Supply Project, No. DOI-BLM-UT-C010-2020-0012-EIS (Dec. 16, 2024) (Exhibit C); Indian Peaks Band's Letter to BLM re: Indian Peaks Band Water Rights Claims (May 30, 2025) (Exhibit E). In addition, this appeal is the Band's direct protest of the proposed action and the only avenue to do so.

B. The Band is Adversely Affected by the Record of Decision

To demonstrate that a party will be "adversely affected," the party must demonstrate a legally cognizable "interest" and that the "decision on appeal has caused or is substantially likely to cause injury to that interest." 43 C.F.R § 4.401. A legally cognizable interest "may include, but is not limited to, a property or economic interest in the affected lands or resources, or a cultural, recreational, or aesthetic interest in the affected lands or resources." *Id.* The IBLA does not require showing that an injury has actually occurred, as a colorable allegation of injury suffices. *See Wildlands Defense and Deep Green Resistance*, 187 IBLA 233, 240, 241 (2016).

The Band is a federally recognized Tribal Nation with federally reserved water rights and cultural resources that will be directly adversely affected by the Project. *See* Exhibit C at 2-3, 11-14; Exhibit E at 2-4. Between 1915 and 1924, the President and Congress established the Indian Peaks Reservation on a portion of the Band's aboriginal lands in Beaver County, Utah, "set[ting] aside [the land] for the permanent use and occupancy of two certain bands of Paiutes Indians." Executive Order No. 2229 (Aug. 2, 1915); *see also* H.R. 2884, 68th Cong. (1924) (adding sections 21-24, T 29S R 18W Salt Lake Meridian). The reservation land area amounted to approximately 8,960 acres.

Under the federally reserved water rights doctrine recognized in *Winters v. United States*, 207 U.S. 564 (1908), the Band has water rights sufficient to fulfill the purposes of the reservation, derived from both surface and groundwater, and those rights were vested when the federal government reserved the land. Although the Band was terminated in 1954, Pub. L. No. 83-762 (25 U.S.C. §§ 741-760; hereinafter, the "Termination Act"), the Termination Act expressly reserved water and subsurface rights for the Band by stating that "the Secretary is directed to reserve subsurface rights in tribal property from any sale or division of such property," and that "[n]othing in this Act shall abrogate any water rights of a tribe or its members." *Id.* at §§ 745(d), 752. The Band's federal recognition was restored in 1980 under the Paiute Indian Tribe of Utah Restoration Act of 1980 (Pub. L. No. 96-227, 25 U.S.C. §§ 760-768), and the Paiute Reservation Plan of 1984 (Pub. L. No. 98-219, 98 Stat. 11) was enacted four years later to establish a distinct, significantly smaller reservation of only 424 acres on different land for the Band in Iron County, Utah, where the Band currently resides. However, the Band's federally reserved water rights associated with its former reservation—though unquantified—survived termination, still exist today, and are impacted by the extraction of groundwater in Pine Valley for the PVWSP.

In the FEIS, the BLM generally recognizes the existence of these impacts of the PVWSP on the Band:

> The Band's prior Reservation is now where the Indian Peaks Wildlife Management Area is located in Beaver County, about 4 to 5 miles west of the proposed Project wellfield, and within the area predicted to experience between 15 and 100 feet of project-induced drawdown.

FEIS at 57.

> Under both the Proposed Action and the ANWS Alternative, groundwater level drawdown impacts would be most pronounced in the Pine Valley HA, reach a maximum at the end of the Project 50-year operational period, and recover slowly after that time. This includes the Indian Peaks State Wildlife Area, for which the Indian Peaks Band of the Paiute Indian Tribe has asserted they hold federally

> reserved water rights (Great Basin Water and Tribes Initiative 2025), and beneath which drawdown is predicted to range from approximately 15 to 100 feet.

Id. at 121.

Moreover, the Band has interests in the cultural resources that continue to exist on the Band's former reservation and which the Band continues to value and to use for cultural, traditional and ceremonial practices, which may be affected by the groundwater drawdown in the regional groundwater aquifer. Although the FEIS states that, based on the groundwater modeling relied upon in the Groundwater Resources Impact Assessment ("GRIA"),[5] the Project assumes that the springs in the mountains surrounding Pine Valley are hydrologically disconnected from the regional aquifer, the FEIS also notes that potential connection cannot be ruled out without significant long-term stress to the aquifer system, which has not yet occurred. FEIS at 89. Given the acknowledged uncertainty in the groundwater modeling, the failure of the Adaptive Management, Monitoring, and Mitigation Program to account for the Band's federally reserved water rights, and the failure of BLM to acknowledge that a federal agency cannot lawfully authorize the diminishment of federally protected Tribal rights, *see id.* at Appendix F, APM-WR-10, it is clear from BLM's own record that the Project is substantially likely to injure the Band's interests. Thus, as a result of BLM's decision, the Band faces significant risk of harm to its water rights, and its economic and cultural interests.

For all the foregoing reasons, Appellant is a party to the case with an adversely affected and legally cognizable interest, therefore meeting the standing requirements for appeal to the IBLA.

[5] Formation Environmental, Final Groundwater Resources Impact Assessment: Pine Valley Water Supply Project, Iron and Beaver Counties, Utah (Dec. 2025) ("GRIA"), https://eplanning.blm.gov/public_projects/%2F74d9f5cd-94f2-f011-8407-001dd80db62a%2FDocuments%2F1.%20Final%20GRIA%20508_Compressed.pdf.

PETITION FOR STAY

The Band respectfully requests the IBLA grant this request for a stay of the BLM's ROD for the PVWSP during the pendency of this appeal. 43 C.F.R. § 4.405(b). The Band asserts that BLM's ROD violates the agency's obligations under the NEPA and the agency's trust obligation to the Band to not interfere with the Band's federally reserved water rights, as well as BLM's independent obligations under other applicable federal laws. Permitting the PVWSP to proceed will cause the Band irreparable harm due to the long-term impacts of the groundwater drawdown in Pine Valley on the Band's federally reserved water rights and environmental damage to the Band's culturally significant resources. On balance, the harm to the Band outweighs any speculative economic harm the applicant might face, especially since there is no clear timeline for project development.

A. Legal Standard

An appellant seeking a stay must demonstrate that (1) the balance of harms weighs in favor of a stay, (2) the Appellant is likely to succeed on the merits of their appeal, and (3) there is a likelihood of irreparable harm to appellant if the stay is not granted. 43 C.F.R. § 4.405(b)(4)(i)-(iii); *see also Las Vegas Paiute Tribe*, 200 IBLA 172, 178 (2025). The appellant bears the burden of proof to demonstrate that a stay should be granted in whole or in part based on the previous three criteria. 43 C.F.R. § 4.405(b)(5). To obtain a stay, an appellant must show it is likely to meet each criterion. *Las Vegas Paiute Tribe*, 200 IBLA at 180. The Band meets its burden, as shown below. As such, the IBLA should grant the Band's Petition for Stay based on the likelihood of the Band's success on the merits, the irreparable harm the Band will suffer from the ROD, the greater harm to the Band than to the applicant of a stay during the pendency of appeal, and for other causes herein stated.

B. The Band is Likely to Succeed on the Merits

To establish a likelihood of success on the merits, an appellant must make a "persuasive showing" that their claims of legal or factual error have merit. *Las Vegas Paiute Tribe*, 200 IBLA 172, 180 (2025). However, to achieve the standard necessary to substantiate a petition for stay, an appellant need not show that their prospects of success are "free from doubt," and "one hallmark of an appeal that is likely to succeed . . . is the need for a 'more deliberative investigation of the evidence and basis for [the agency's] decision." *Id.* at 181 (internal citations omitted); *see also Pueblo of San Felipe*, 187 IBLA 342, 346 (2016).

BLM's ROD approving the right-of-way grants for the PVWSP was based on an inadequate environmental analysis, in violation of NEPA, and violated the agency's trust obligations not to interfere with the Band's federally reserved water rights. NEPA "ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts…." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989); *see also Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553 (1978). To succeed on its claims, the Band must demonstrate that BLM's decision is premised on a "clear error of law or demonstrable error of fact," *Great Basin Mine Watch*, 159 IBLA 324, 353 (2003), or that NEPA analysis "failed to consider a substantial environmental question of material significance to the proposed action." *Las Vegas Paiute Tribe*, 200 IBLA at 182; *Kevin Kane*, 195 IBLA 17 (2019). The adequacy of BLM's NEPA review is undermined by pervasive deficiencies arising from incomplete, factually unsupported, speculative, unsound, and outdated technical analyses, as documented extensively in the Cooperating Agencies' comments on the DEIS and AFEIS. Specifically, the impacts of the PVWSP to the Band's federally reserved water

rights and the significant errors in the hydrological modeling in the Pine Valley and surrounding valleys are matters of material significance to the proposed action, and BLM did not consider these impacts in its ROD. Thus, the Band is likely to succeed on the merits of its claims against BLM.

1. BLM failed to consider the Band's federally reserved water rights in its analysis

Between 1915 and 1924, the President and Congress established the Indian Peaks Reservation on a portion of IPB's aboriginal lands in Beaver County, Utah, "set[ting] aside [the land] for the permanent use and occupancy of two certain bands of Paiutes Indians." Executive Order No. 2229 (Aug. 2, 1915); *see also* H.R. 2884, 68th Cong. (1924) (adding sections 21-24, T 29S R 18W Salt Lake Meridian). The reservation land area amounted to approximately 8,960 acres. Under the federally reserved water rights doctrine recognized in *Winters v. United States*, 207 U.S. 564 (1908), the Band has water rights sufficient to fulfill the purposes of the reservation and those rights were vested when the federal government reserved the land. While the Band's water rights have not yet been quantified, they remain legally relevant to any water-related actions that could impair IPB's use of those rights.

When BLM released the DEIS for the PVWSP, it was completely unaware of the Band's federally reserved water rights in its prior Reservation. While some Tribes raised concerns in the DEIS that the PVWSP would generally affect their *Winters* federally reserved water rights, the DEIS summarily dismissed those concerns. The DEIS made three "observations" regarding those claims. First, BLM noted that, "[t]he groundwater modeling conducted for the Project shows that the anticipated drawdown after 50 years of pumping and 200 years of recovery does not extend to the groundwater basins where tribal reservations are located." DEIS at 52. It is clear that BLM, at the time of its erroneous conclusion that the modeling conducted for the PVWSP would not affect any Tribal reservations, was completely unaware of the Band's federally reserved water rights on

its prior Reservation. Second, BLM opined that, "[i]n addition, the federally reserved water rights associated with each reservation have not yet been quantified or adjudicated, so there is not a method to quantify impacts in the extremely unlikely event that unexpected drawdowns occur in the basins where the reservations are located." *Id.* at 51-52. Third, BLM concluded in the DEIS that:

> If the Tribes conclude that there is a possibility that long-term operation of the proposed Project may affect their federal reserved water rights, the Tribes would have to bring a claim in the relevant court to request quantification, adjudication, and enforcement of their federal reserved water rights. Such a claim could be brought in the Utah State court that has jurisdiction over any water rights adjudication that is occurring in the basin where each reservation is located. Alternatively, if the State of Utah is not conducting an adjudication in the basin and declines to initiate adjudication proceedings, the Tribes have the option of filing a claim in federal district court.

Id. at 53.

Between the time of the DEIS, which was published in January 2022, and the publication of the FEIS on February 27, 2026, the Band provided substantial information to BLM on its federally reserved water rights and engaged in government-to-government consultation. On March 11, 2022, the Band send a letter to BLM which explained, in detail, the Band's interests in Pine Valley, including the proximity of the PVWSP to the Band's prior Reservation. *See* Exhibit C at Appendix I. The Band's letter included conveyance information for parcels from the prior Reservation, correspondence between the Band and the United States, and copies of applicable statutes and executive orders pertaining to the Band's prior Reservation.

On December 16, 2024, the Band made a formal request for government-to-government consultation with the United States. *See* Exhibit C. This letter explained, in detail, the factual and legal basis for the Band's federally reserved water rights in its prior Reservation under *Winters*. In 1954, Congress passed the Termination Act, which terminated the Band from federal supervision.

The Termination Act expressly reserved water and subsurface rights for the Band by stating that "the Secretary is directed to reserve subsurface rights in tribal property from any sale or division of such property," and that "[n]othing in this Act shall abrogate any water rights of a tribe or its members." *Id.* at §§745(d), 752. In *U.S. v. Adair*, the court considered a section of the 1954 Klamath Termination Act providing that no water rights of the tribe and its members were abrogated and determined that such a provision could not be read to exclude reserved water rights, concluding that "such rights survived termination." 723 F.2d 1394, 1412 (9th Cir. 1983). Relying on identical language in the Termination Act, it is certain that the Band's reserved water rights survived termination and exist to this day. *See Parravano v. Babbitt*, 70 F.3d 539, 544 (9th Cir. 1995), *cert. denied*, 518 U.S. 1016 (1996) ("In interpreting statutes that terminate or alter Indian reservations, we construe ambiguities in favor of the Indians [and] [r]ights arising from these statutes must be interpreted liberally, in favor of the Indians.") (citations omitted). The December 16, 2024 letter also attached the Band's previous comments from 2022.

On May 30, 2025, the Band sent a letter to BLM, specifically addressing BLM's position that, because the Band's water rights had not undergone a formal adjudication process, "we are unable to fully analyze any potential impacts in the analysis for the pipeline since we have no quantity or specific evaluation to locate." Email from Gloria Tibbetts, District Manager, Color County District, Bureau of Land Management to Chairwoman Tamra Borchardt-Slayton, Indian Peaks Band (May 7, 2025) (Exhibit F); *see* Exhibit E. In the email, BLM also stated that in the event the Band's water rights are adjudicated "at some point in the future," the Band's water rights "may be subject to protection" under the PVWSP Project Adaptive Management, Monitoring, Mitigation Measures and Reporting plan, and specifically APM-4 addressing interference with senior water rights. Exhibit F. The Band's letter demonstrated in detail that: (1) the Band has

federally reserved water rights on its prior Reservation that will be impacted by the PVWSP; (2) requiring the Band to adjudicate its water rights before those rights received any consideration is unrealistic; and (3) the federal trust responsibility to Indian Tribes and the BLM's affirmative obligations under NEPA mandate non-interference with the Band's unquantified federally reserved water rights. That letter attached additional historical documents in which the United States acknowledged the Band's "superior" water rights. As noted in the letter, the section of Appendix F in the DEIS that addressed interference with senior water rights provided only that CVWC will be required to reimburse senior rights holders for expenses associated with well interference drawdown induced by the Project, which cannot address impacts to Tribal federally reserved water rights.

How did this substantial amount of additional information affect the BLM's FEIS? While BLM finally acknowledged that the Band's prior Reservation is within a significant drawdown area of the PVWSP, BLM also stated that, "[g]iven the limited information the BLM has, there is not a method to quantify specific impacts beyond those general impacts within the APE described in this analysis." FEIS at 58. And, while it is the federal government's obligation, as trustee for the Band, to pursue quantification and enforcement of the Band's water rights, BLM stated that it "has limited information concerning tribal reserved water rights (i.e., no quantification, no specific source locations, no time and mode of use, etc.). BLM's ability to analyze specific impacts to the reserved water rights is therefore limited." *Id.*

The BLM's conclusion? *Exactly the same as in the DEIS*:

> If the Band or Tribes conclude that there is a possibility that long-term operation of the proposed Project may affect their federal reserved water rights, the Tribes, or the United States on behalf of the Band or Tribes, would need to bring a claim in the relevant court to request quantification, adjudication, and enforcement of their federal reserved water rights. Such a claim could be brought in the Utah State court that has jurisdiction over any water rights adjudication that is occurring in the basin

> where each reservation is located. Alternatively, if the State of Utah is not conducting an adjudication in the basin and declines to initiate adjudication proceedings, the Tribes, or the United States on behalf of the Band or Tribes, have the option of filing a claim in federal district court.

Id. In addition, no modification was made to that component of the Adaptive Management, Monitoring, Mitigation Measures and Reporting plan, other than enforcement by BLM, which, again, cannot address interference with the Band's water rights. *See* FEIS at Appendix F, F-7.

Thus, while ultimately acknowledging the Band's federally reserved water rights claims in its prior Reservation, the BLM did not even attempt to address the impact of the PVWSP on the Band's water rights and, instead, improperly shifted the burden of demonstrating any impacts to the Band. In other words, the BLM did nothing to determine the impact of a huge pipeline project on the federally reserved water rights of an Indian Tribe immediately adjacent to the project.

2. Current hydrology for the Pine Valley does not support the PVWSP and demonstrates that the PVWSP will substantially impact the Band's federally reserved water rights, regardless of quantification

The FEIS is fundamentally flawed and must be withdrawn because it continues to rely on the applicant's GBCAAS-PV groundwater model, even though the model has been shown, repeatedly and in detail, to be technically unsound and incapable of producing sufficiently reliable impact predictions. BLM has a duty to ensure the scientific integrity of the analyses contained in the PVWSP EIS and make use of reliable data and resources in conducting its NEPA analysis. 42 U.S.C. § 4332(D), (E); *see also Or. Natural Desert Ass'n v. Jewell*, 840 F.3d 562, 568-70 (9th Cir. 2016) (acknowledging the necessity of defining an adequate baseline under NEPA and noting that "deference does not excuse the BLM from ensuring the accuracy and scientific integrity of its analysis, a NEPA requirement"); *Great Basin Res. Watch v. BLM*, 844 F.3d 1095, 1101 (9th Cir. 2016) ("Without establishing the baseline conditions . . . before a project begins, there is simply no way to determine what effect the project will have on the environment and, consequently, no

way to comply with NEPA.") (citation omitted). Moreover, the agency may not ignore reputable scientific criticisms. *See, e.g., Seattle Audubon Soc'y v. Espy*, 998 F.2d 699, 704 (9th Cir. 1993).

While CVWC's predecessor, CICWCD, obtained a permit from the Utah State Engineer to appropriate 15,000 afy from the Pine Valley, the hydrology of the Pine Valley does not support this amount of groundwater pumping. The most recent peer-reviewed published scientific study of the Pine Valley—conducted by the USGS in 2017—estimates the recharge in the entire Pine Valley at 11,000 acre-feet per year ("afy"). Lynette Brooks, *Groundwater Model of the Great Basin Carbonate and Alluvial Aquifer System Version 3.0: Incorporating Revisions in Southwestern Utah and East Central Nevada*. U.S. Geological Survey Scientific Investigations Rep. 2017-5072, at 49 tbl.8; 61 (2017). The analysis used by CVWC's contractor increased the recharge to 17,700 afy in Pine Valley, which is much more recharge than actually reaches the regional aquifer. GRIA at 75. The efforts of CVWC's contractor in the GRIA to "find more water" in the Pine Valley is a function of a crude approach in which it estimated recharge by estimating precipitation and subtracting estimated evapotranspiration. *Id*. This approach improperly assumes that all water that seeps through the surface reaches the regional aquifer.

Submissions of other parties identified clear flaws in the CVWC's modeling, including from the developer of the model. As stated in the Beaver, Millard, Juab, Tooele, and White Pine Counties' January 14, 2026 comments,

> the appropriate benchmark for evaluating the scientific integrity of the AGRIA and AFEIS groundwater analysis is the USGS Great Basin Carbonate and Alluvial Aquifer System model, documented in Conceptual Model and Numerical Simulation of the Great Basin Carbonate and Alluvial Aquifer System—Version 3.0 (USGS Scientific Investigations Report 2017-5072) (GBCAAS v. 3.0), which represents the best available science applicable to an assessment of Project impacts. The model is widely relied upon as a regional standard for evaluating groundwater development in the Great Basin. The GBCAAS v. 3.0 report not only establishes appropriate uses and limitations of the model but also includes USGS-generated drawdown projections associated with PVWSP groundwater development

> scenarios, projections that indicate far greater and more widespread impacts than those presented in the AFEIS based on CICWCD's GBCAAS-PV model. The creation of a project-specific child model, absent calibration tied to proper characterization of regional groundwater conditions using spring, groundwater level, recharge, and transmissivity data, was therefore both unnecessary and unsupported from a scientific standpoint; it also was inconsistent with the guidance and limitations articulated in the 2017 USGS report itself. As a result, GBCAAS-PV departs from the USGS framework without adequate technical justification. Examination of this departure is particularly important, because CICWCD's GBCAAS-PV model was developed specifically for this Project and, incorporates methodological choices and assumptions that produce substantially less severe drawdown impacts than those projected by the underlying U.S. Geological Survey ("USGS") GBCAAS v. 3.0 model on which it is based.

Cooperating Agency Counties' Request to Adopt the No Action Alternative or Withdraw the AFEIS and Prepare a New DEIS; Submission of New Information and Request for Supplemental EIS; Request for a 60-Day FEIS Public Availability Period Prior to Issuance of Record of Decision, at 10-11 (Jan. 14, 2026) (Exhibit G).

The inaccuracy and inadequacy of the GBCAAS-PV model, which the FEIS and ROD relied upon, was confirmed by a series of independent technical reports submitted by the Cooperating Agency Counties and the Band in response to the AFEIS. The technical reports include:

i. Andy Zdon, Roux Associates, Inc., Technical Memorandum (Oct. 10, 2025) (Exhibit H)
ii. Lynette Brooks, Groundwater Model Analysis, LLC, Technical Review of the Draft Environmental Impact Statement Pine Valley Water Supply Project (Oct. 3, 2025) (Exhibit I)
iii. Tom Myers, Review of Hydrology for the Pine Valley Water Supply Project (Jan. 27, 2026) (Exhibit J, Myers 2026a)
iv. Tom Myers, Review of Water Resources Impact for the Administrative Final Environmental Impact Statement for the Pine Valley Water Supply Project (Jan. 27, 2026) (Exhibit J, Myers 2026b)

Of particular note is the memorandum drafted by hydrologist Lynette Brooks, a former USGS hydrologist and an author of the GBCAAS v. 3.0 study, which expressly identifies improper and unsupportable uses of that model in CVWC's GBCAAS-PV analysis. *See* Exhibit I. All the

technical memoranda demonstrate that the recharge predicted in the GBCAAS-PV model is substantially overestimated and that, at full capacity, the PVWSP is likely hydrologically infeasible, would result in an unsustainable decline in the regional aquifer, and would stress the groundwater system in a manner that has not been studied. *See, e.g.,* Exhibit J, Myers 2026a at 41-42.

The impacts of the drawdowns from the PVWSP will be severe in the Pine Valley. Based on the GBCAAS v. 3.0 model, drawdown at the PVWSP's withdrawal wells will exceed 500 feet after 62 years, and drawdown on the Band's prior Reservation will be in the -100 to -499 foot range. *See* Brooks, *supra*, at 58 fig.33. Even the simulation from CVWC's revised model demonstrates that drawdown on the Band's prior Reservation will be between -10 to -50 feet by 30 years of pumping, and that—assuming all pumping ends at 50 years—after the 100-year recovery, much of the prior Reservation will be in the -50 to -100 foot drawdown zone. *See* GRIA at 178 fig.4-1; Exhibit J, Myers 2026a at 28; *see also* FEIS at 58 ("[T]he former Indian Peaks Band of Paiutes (IPB) reservation area is within the APE of groundwater drawdown, where Project-induced drawdowns are projected to range between approximately 15 to 100 feet for the action alternatives.") While the GRIA for the PVWSP acknowledged that the Project's pumping would affect nearby wells, it only assessed impacts on state-based water rights in the Utah Division of Water Rights database and did not assess impacts on any potential groundwater development or use by the Band. GRIA at 125 tbl.4-3; 126 tbl.4-4; 155 tbl.4-8.

While CVWC likely chose the Pine Valley for the PVWSP due to its isolation, the isolation is also the cause of the massive drawdown. The Project unquestionably threatens the Band's water rights, given the groundwater budget assessments, the high likelihood that CVWC would extract more groundwater than would annually recharge, and the failure of the Adaptive Monitoring and

Mitigation Plan to account for the Band's water rights or to require curtailment of groundwater withdrawal if the basin is overdrawn.

3. BLM has a trust responsibility to the Band to consider likely effects of the PVWSP, including impacts to the Band's federally reserved water rights, which it has not done

The Band's federally reserved water rights in its former Reservation are water resources held in trust by the United States for the benefit of the Band and are subject to the trust obligation of the United States, as trustee, to the Band. The federal government's "general duty to deal with Indian Tribes according to the 'most exacting fiduciary standards' is well enshrined." *Great Basin Mine Watch*, 160 IBLA 340, 368 (2004) (citing *Seminole Nation v. United States*, 316 U.S. 286, 297 (1942)). In addition to the mandates created by the specific statutes and cases the Band cites, including the Termination Act and *Winters*, government actions have also been held to be subject to a general trust responsibility. *Id.* (citations omitted). BLM has previously agreed that the trust responsibility requires that it "consider and protect" Tribal resources and that "a federal agency's trust obligation to a tribe extends to actions it takes off a reservation which uniquely impact tribal members or property on a reservation." *Id.* at 367-368 (citations omitted).

In *Great Basin Mine Watch*, the analysis done by BLM of the federal action at issue indicated that there was no threat to Tribal resources because the Tribe's reservation was located upgradient from the groundwater flow. *Id.* at 368-369. This case is distinguishable because here, although the PVWSP clearly impacts and threatens the Band's water resources, BLM did not purport to confirm that there was no threat to Tribal resources; instead the agency unlawfully sidestepped the analysis altogether.

In preparing the DEIS, BLM did not consider the Band's federally reserved water rights in its prior Reservation; indeed, it was not even aware of those rights. When it did become aware of

the Band's rights, instead of acknowledging its trust responsibility and taking actions to protect those rights, BLM "ran away" from the issue, stating—without any support—that it had no way of determining the impact of the PVWSP on the Band's water rights and improperly shifting the burden to the Band to take actions to protect its water rights. However, in doing so, BLM ignores the evidence that the groundwater budget in Pine Valley cannot support extraction at the scale the PVWSP proposes without interfering with the Band's federally reserved rights.

To this extent, *Island Mountain Protectors*, 144 IBLA 168 (1998) is directly on point. In *Island Mountain*, the Board noted that:

> Obviously, in order for BLM to analyze potential impacts on the Reservation, determine that mitigation measures protect trust resources, and find that special protective measures are not needed, BLM had to first conclude that the proposed operations would affect trust resources.

144 IBLA at 184. In short, "BLM was required to consult with the Tribes and to identify, protect, and conserve trust resources, trust assets, and Tribal health and safety." *Id.* at 185. As in *Island Mountain*, BLM did none of this here and did not make the requisite preliminary determination that the PVWSP *would affect* the Band's trust resources.

Federal agencies lack the constitutional and statutory authority to abrogate or otherwise interfere with federally protected Tribal rights, such as the Band's federally reserved water rights. Basic Indian law canons of construction require that treaties, agreements, statutes, and executive orders be liberally construed in favor of the Indians; that all ambiguities are to be resolved in favor of the tribes; that treaties and agreements are to be construed as the Indians would have understood them; and that tribal property rights and sovereignty are preserved unless Congress's intent to abrogate a treaty right is clear and unambiguous.[6] Relevant here, "[t]he rule of construction

[6] *See* 1 Cohen's Handbook of Federal Indian Law § 2.02 for a thorough discussion of the Indian canons of construction.

applicable to executive orders creating Indian reservations is the same as that governing the interpretation of Indian treaties." *Parravano* 70 F.3d at 544.[7] These canons establish that only Congress has the authority to modify or abrogate rights secured to Tribal Nations.[8] As a federal agency, BLM does not possess the authority to "diminish,"[9] "impinge upon,"[10] "interfere with,"[11] "qualify,"[12] or "burden"[13] those federally protected rights by authorizing interference.

Given the significant concerns with the hydrologic modeling of the impacts of the PVWSP in Pine Valley and the associated likely impact on the Band's federally reserved water rights, BLM has a responsibility to consider these effects as part of its NEPA review. The Band and other Cooperating Agencies have requested that BLM conduct a Supplemental EIS to address the inadequacies of the agency's environmental review to date, and BLM has rejected these requests. Failure to take these effects into account is a failure to uphold BLM's trust responsibility to the Band in violation of NEPA.

C. The Band Will Suffer Irreparable Harm to its Interests in its Federally Reserved Water Rights if a Stay Is Not Granted

The first criterion for a stay is that "[t]he appellant will likely be irreparably harmed by implementation of the decision pending resolution of the appeal, and the harm will be avoided by granting the stay." 43 C.F.R. § 4.405(b)(4)(i). It is worth noting that the criterion under the current rule at 43 C.F.R. Part 4 no longer requires a showing of "immediate" harm:

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[7] *See also Montana v. Blackfeet Tribe*, 471 U.S. 759, 766 (1985) ("Statutes are to be construed liberally in favor of the Indians, with ambiguous provisions interpreted to their benefit.") (citations omitted).
[8] *See United States v. Washington* ("*Culverts*"), 853 F.3d 946, 967 (9th Cir. 2017), *aff'd by equally divided court*, 584 U.S. 837 (2018) (United States may abrogate treaty rights only through an Act of Congress); *Minnesota v. Mille Lacs Band of Chippewa Indians*, 526 U.S. 172, 202 (1999) ("Congress may abrogate Indian treaty rights, but it must clearly express its intent to do so.") (citations omitted).
[9] *Culverts*, 853 F.3d at 967.
[10] *Nw. Sea Farms, Inc. v. U.S. Army Corps of Eng'rs*, 931 F. Supp. 1515, 1520 (W.D. Wash. 1996)
[11] *Id.* at 1522.
[12] *Puyallup Tribe v. Dep't of Game of Wash.*, 391 U.S. 392, 399 (1968).
[13] *Washington State Dep't of Licensing v. Cougar Den, Inc.*, 586 U.S. 347, 359 (2019).

> The interim final rule will eliminate the ''immediate'' terminology and instead will require a showing that irreparable harm is likely to occur ''pending resolution of the appeal''—before the appeal is decided. This change will promote the purpose of granting stays, which is to prevent or minimize irreparable harm while an appeal is being considered, while also accounting for the fact that petitions for a stay will be filed at the beginning of the administrative appeal process, which may not correspond to when the harm is expected to occur. Given the restriction on when a petition for a stay may be filed in paragraph (b)(2), we will remove the immediacy requirement to better allow the Board to issue stays to prevent irreparable harm that is likely to occur while an appeal is pending.

90 Fed. Reg. 2365 (Jan. 10, 2025). The harm to the Band in this matter is not speculative and will occur as a result of the PVWSP.

The Band faces significant impacts to its federally reserved water rights and its economic and cultural interests tied to those water rights. Construction of the PVWSP pipeline without an accurate BLM determination there are sufficient available water resources to support the operation of the project directly affects the Tribe and its interests. DOI is charged with the "highest trust responsibility to protect Tribal interests" in "managing public lands and waters." Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Water, SO 3403 A1, DEPT. OF AGRIC., DEPT. OF THE INTERIOR, & DEPT. OF COM. (Nov. 30, 2022), https://www.doi.gov/document-library/secretary-order/so-3403-a1-joint-secretarial-order-fulfilling-trust-responsibility. This mandate includes the obligation to "[e]nsure that all decisions by the Departments relating to Federal stewardship of Federal lands, waters, and wildlife under their jurisdiction include consideration of how to safeguard the interests of any Indian Tribes such decisions may affect." *Id.* Allowing a water pipeline project to proceed while acknowledging that the development will threaten federally reserved Tribal water rights in Pine Valley creates an unacceptable threat to the Tribe. If one assumes the "general" impacts of the PVWSP on the Band's former reservation, the impacts of 50 years of continuous pumping of 15,000 acre feet annually of

groundwater, along with the 400-year recovery period, is a long enough period that the harms to the Band's water resources are irreparable.

Moreover, evidence of inaccurate hydrologic modeling underlying the NEPA review suggests the PVWSP will result in environmental injury, which "by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i.e., irreparable." *Amoco Prod. Co. v. Village of Gambell, Alaska*, 480 U.S. 531, 545 (1987). In *Amoco Prod. Co.*, the Supreme Court acknowledged that because environmental harm, by its nature, is often permanent or irreparable, "balance of harms usually favors issuance of an injunction to protect the environment." *Id.* at 545.

If the PVWSP is permitted to proceed without a stay, even if CVWC will not commence construction in the immediate future, CVWC will proceed to make financial plans and other commitments based on the current NEPA analysis and pursuant right-of-way approvals. "Once large bureaucracies are committed to a course of action, it is difficult to change that course—even if new, or more thorough, NEPA statements are prepared and the agency is told to 'redecide.'" *Com. of Mass. v. Watt*, 716 F.2d 946, 952–53 (1st Cir. 1983) *abrogated on other grounds by Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360 (1989). Thus, maintaining the status quo during pendency of appeal "can be of considerable importance since the effectiveness of any relief may be compromised if actions objected to are allowed to go forward during the period of adjudication." *W. Wesley Wallace*, 156 IBLA 277, 278 (2002). This would be the case here. CVWC has stated that, now that they have obtained the BLM grant of ROWs, "the Water Conservancy will begin detailed design, permitting, and phased construction of wells, pipelines, and power facilities."[14]

[14] Water Conservancy Celebrates Federal Approval of the Pine Valley Water Supply Project, Cedar Valley Water Conservancy (Mar. 2, 2026), https://cedarvalleywaterutah.gov/2026/03/02/water-conservancy-celebrates-federal-approval-of-the-pine-valley-water-supply-project/.

The most recent CVWC Financial Business Plan and Water Needs Assessment report, which has not been updated since 2023, stated that "[e]arliest possible PVWS design/construction initiation would be complete by 2030[], when the Environmental Impact Statement Record of Decision is anticipated."[15] However, as noted in the basis for this appeal, the ROD was granted on March 2, 2026, and in the CVCD Board of Directors meeting on March 26, 2026, General Manager Paul Monroe stated that the engineering and design would take only two to three years for the design and engineering process to be completed, which makes it likely that the PVWSP would be constructed during the pendency of this IBLA appeal.[16] Thus, if a stay is not granted, CVWC is likely to begin construction and to cause irreparable harm.

D. The Balance of Harms Favors Granting a Stay

The final factor for a stay is whether the harm to the movant "exceeds the harm to the United States and other parties from a stay being granted." *Las Vegas Paiute Tribe*, 200 IBLA at 191. The potential harm to the Band significantly outweighs harm to the United States and other parties from a stay during the pendency of an IBLA appeal.

Instead of considering the Band's federally reserved water rights as part of its analysis of the effects of the PVWSP, BLM instructed that if the PVWSP interfered with the Band's federally reserved water rights, the only recourse the Band has is to seek a general adjudication of the Band's water rights in Pine Valley, despite the fact that the United States, as the Band's trustee, is obligated to represent Indian tribes in water rights adjudication proceedings. *See* 25 U.S.C.A. § 175; *see also Justice Manual*, *Title 5-14.100*, U.S. DEP'T OF JUSTICE (updated Apr. 2018). Water rights

[15] Carollo, Pine Valley Water Supply and Conservation Project Financial Business Plan and Water Needs Assessment, CICWCD, 2-18 (June 2023), https://cedarvalleywaterutah.gov/wp-content/uploads/2024/03/2023-6-Final-WNA-FBP-PVWSProject.pdf.
[16] Cedar Valley Water Conservancy, Board Meeting Recording at 39:55 (Mar. 26, 2026), https://cedarvalleywaterutah.gov/board-meetings-2026.

adjudications take several decades, if not longer, to complete, leaving the Band without recourse to protect its federally reserved rights. *See, e.g., Indian Water Rights Settlements*, CONG. RSCH SERV. REP. R44148, 3 (updated Dec. 3, 2024). The PVWSP is, at minimum, a 30-year project that will result in groundwater drawdowns below the Band's former reservation lands of almost 500 feet by the end of the projected project extraction timeline, and will continue to have drawdown effects for over 200 years after the completion of the project.[17] The Band's federally reserved water rights associated with the former reservation will suffer irreparable harm if the PVWSP is improperly permitted to be developed. If the PVWSP is developed as currently approved, the Band's federally reserved water rights will be interfered with for many years, and even if the Band adjudicates its water rights, the groundwater drawdown effects will continue long past pumping is curtailed. Moreover, upholding the federally protected rights of Tribal Nations is a significant public interest factor that weighs in favor of injunctive relief. *See, e.g., Muckleshoot Indian Tribe v. Hall*, 698 F. Supp. 1504, 1516 (W.D. Wash. 1988) ("[T]he enforcement of rights that are reserved by treaty to the Tribes is an important public interest, and it is vital that the courts honor those rights."); *see also Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, No. 3:01-CV-640-SI, 2026 WL 599621, *17 (D. Or. Mar. 2, 2026) ("Upholding the promise of these treaties is a vital public interest . . . [i]ndeed, nothing less than the honor, reputation, and trust of the nation is at stake in that effort.")

Compared to the Band, there is little to no harm to BLM or to CVWC in a stay. BLM alleges no harm from the previous stay, which was granted at the applicant's request but its own election, of the proceedings for over two years between May 4, 2023 and May 19, 2025, and there

[17] The BLM acknowledges that the intended lifespan of the PVWSP is longer than the duration of the requested ROW grant: "The term of the BLM long-term Project ROW would be 30 years. The impact analysis in Chapter 3 assumes a probable 20-year extension. After a total of 50 years, the need for additional NEPA analysis would be evaluated to consider further renewal of the long-term ROW grant." *See* FEIS at 27.

is no evidence that a temporary stay would cause any harm to the United States. There is also no evidence that CVWC would face any substantial harm from a delay. In its 2025 decision in *Las Vegas Paiute Tribe*, IBLA found that although a project to "accommodate the growing population" is an important Federal priority, nothing in the record suggested a stay would cause the BLM to abandon its proposal, rather than simply delaying it, and thus, the IBLA "d[id] not find the public interests against such a temporary delay, for a project request that has been pending for 6 years, to outweigh the potential irreparable harms to the Tribe from implementation of a decision that may not withstand review." *Id.* at 192; *see also Alliance for the Wild Rockies v. Marten*, 200 F. Supp. 3d 1110, 1112 (D. Mont. 2016). So too here would a stay cause only a delay of a project that has also been pending for six years, during which time the applicant sought a two-year stay of its own.

CONCLUSION

In light of the foregoing, the Band respectfully requests the IBLA grant a stay of the ROD and FEIS (DOI-BLM-UT-2020-0012-EIS) for the ROW grants to construct and operate a new wellfield and pipeline system for the Pine Valley Water Supply Project, and following a review on the merits, reverse and set aside the Decision.

SUBMITTED this 1st day of April, 2026.

NATIVE AMERICAN RIGHTS FUND

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Attorneys for Appellant

Exhibits, submitted herewith:

A: Pine Valley Water Supply Record of Decision, DOI-BLM-UT-C010-2020-0012-EIS (Mar. 2, 2026).

B: Memorandum of Understanding Between BLM and Indian Peaks Band of the Paiute Indian Tribe of Utah, BLM-MOU-UT-C000-2025-002 (Oct. 20, 2025).

C: Indian Peaks Band's Government-to-Government Request to BLM re: Central Iron County Water Conservancy District Right-of-Way Application to for the Pine Valley Water Supply Project, No. DOI-BLM-UT-C010-2020-0012-EIS (Dec. 16, 2024);

Appendix I: Indian Peaks Band's Comments on the PVWSP DEIS (Mar. 11, 2022).

D: Indian Peaks Band's Comments on the PVWSP AFEIS (Oct. 20, 2025).

E: Indian Peaks Band's Letter to BLM re: Indian Peaks Band Water Rights Claims (May 30, 2025).

F: Email from Gloria Tibbetts, District Manager, Color County District, Bureau of Land Management to Chairwoman Tamra Borchardt-Slayton, Indian Peaks Band (May 7, 2025).

G: Cooperating Agency Counties' Request to Adopt the No Action Alternative or Withdraw the AFEIS and Prepare a New DEIS; Submission of New Information and Request for Supplemental EIS; Request for a 60-Day FEIS Public Availability Period Prior to Issuance of Record of Decision (Jan. 14, 2026).

H: Andy Zdon, Roux Associates, Inc., Technical Memorandum (Oct. 10, 2025).

I: Lynette Brooks, Groundwater Model Analysis, LLC, Technical Review of the Draft Environmental Impact Statement Pine Valley Water Supply Project (Oct. 3, 2025).

J: Tom Myers, Review of Hydrology for the Pine Valley Water Supply Project (Jan. 27, 2026) (Myers 2026a);

Tom Myers, Review of Water Resources Impact for the Administrative Final Environmental Impact Statement for the Pine Valley Water Supply Project (Jan. 27, 2026) (Myers 2026b).

CERTIFICATE OF SERVICE

Pursuant to 43 C.F.R. § 4.407(b) and the OHA Standing Orders on Electronic Transmission and the OHA Standing orders on Contact Information, service of the NOTICE OF APPEAL AND PETITION FOR STAY was made to the following parties in the following manner:

VIA BISON FILE & SERVE & E-MAIL:

Interior Board of Land Appeals
Office of Hearings and Appeals
U.S. Department of the Interior
801 N. Quincy St., Suite 300
Arlington, VA 22203
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Office of the Solicitor
Intermountain Regional Office
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Salt Lake City, UT 84138-1180

VIA USPS & E-MAIL:

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/s/ Thomas L. Murphy

Attorney for Appellant

U.S. DEPARTMENT OF THE INTERIOR

Bureau of Land Management

DOI-BLM-UT-C010-2020-0012-EIS

March 2026

Pine Valley Water Supply

Record of Decision

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FINAL AGENCY ACTION

Issuance of Right-of-Way Grant and Temporary Use Permit

The National Environmental Policy Act (NEPA) process concluded when the Bureau of Land Management (BLM) published the Pine Valley Water Supply Final Environmental Impact Statement (EIS) (DOI-BLM-UT-C010-2020-0012-EIS). I have reviewed the environmental analysis in the Final EIS and supporting documentation and have considered all relevant information raised in the NEPA process.

It is therefore my decision to approve the Proposed Action as described in Sections 2.2.2 and 2.2.3 of the EIS—including all design features described in EIS Appendix C, ROW stipulations described in EIS Appendix E, and the adaptive management measures identified in EIS Appendix F—and to approve the issuance of temporary and long-term right-of-way (ROW) grants for the purposes of constructing, operating, and maintaining a water transfer pipeline, production and monitoring wells, storage tanks, and associated facilities across BLM-managed land within the Cedar City Field Office. This decision will allow the BLM to fulfill the requirements of the Federal Land Policy and Management Act, as amended (43 U.S.C. 1701 et seq.) in responding to a properly submitted application for use of federal lands by Central Iron County Water Conservancy District (CICWCD). This decision is issued in full force and effect pursuant to 43 C.F.R. 2801.10(b).

Decision by:

THOMAS HEINLEIN Digitally signed by THOMAS HEINLEIN
Date: 2026.03.02 10:13:21 -07'00'

Thomas A. Heinlein Date
State Director, Acting
Bureau of Land Management, Utah

EXHIBIT A

RIGHT OF APPEAL

This decision may be appealed to the Interior Board of Land Appeals (IBLA), Office of Hearings and Appeals, in accordance with the regulations contained in 43 CFR Part 4. The notice of appeal must be filed no later than 30 days after the date of receiving notice of this decision. Any notice of appeal must be filed with the IBLA and must include a copy of the decision being appealed, a statement of standing, and a statement of timeliness.

If you wish to file a petition for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must show sufficient justification based on the criteria at 43 CFR 4.405(b).

The appellant must serve a copy of the notice of appeal and any accompanying documents on the office of the officer who made the decision, each person or entity named in the decision, and the appropriate Office of the Solicitor at the time of filing with IBLA (see 43 CFR 4.403(b); 4.407(b)). Parties must serve the Office of the Solicitor at the address shown on Form 1842-1. Service on a party known to be represented by an attorney or other designated representative must be made on the representative. If a statement of reasons for the appeal is not included with the notice of appeal, it must be filed within 30 days after the record on appeal is filed with the IBLA. Failure to file a statement of reasons within the time required will subject the challenged decision to summary affirmance (see 43 CFR 4.412(a)).

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1. INTRODUCTION

This Record of Decision (ROD) documents the Bureau of Land Management's (BLM) decision and rationale for authorizing two right-of-way (ROW) grants resulting in up to 273 acres of disturbance across Iron and Beaver counties within the Cedar City Field Office. This decision is made pursuant to the Federal Land Policy and Management Act of 1976, as amended (FLPMA; 43 U.S.C. 1701 et seq.) and the ROW regulations contained in 43 Code of Federal Regulations (CFR) Part 2800.

On July 10, 2019, the Central Iron County Water Conservancy District (CICWCD) applied for a long-term and short-term ROW to construct and operate infrastructure for transporting water from the Pine Valley Basin to the Cedar City Valley Basin. The CICWCD manages water resources for municipal and other uses in central Iron County, Utah, serving the communities of Cedar City, Enoch, and Kanarraville.

The CICWCD's objective in applying for the ROW grants is to develop and convey acquired and permitted water rights issued by the State of Utah (Water Right 14-118) to supply water to Iron County users that existing aquifers in Cedar City Valley cannot provide in perpetuity. The CICWCD applied for the water rights in 2006, with a final settlement completed and rights acquired in 2019.

The CICWCD's need for additional water arises from the lack of sufficient existing water resources within the overdrawn Cedar City Valley basin to respond to growing population needs and the gradual implementation of the Cedar City Valley Groundwater Management Plan that will affect the CICWCD's ability to extract groundwater from the basin. The Cedar City Valley basin is currently overdrawn, and the Utah State Engineer has adopted a Groundwater Management Plan that will impose phased reductions in depletions until the basin is back within safe yield estimates. Based on an analysis of the Cedar City Valley basin demand and projected savings from conservation efforts by the CICWCD, conservation alone cannot overcome the current deficit.

1.1 Purpose and Need

The purpose of the federal action is to respond to the ROW applications for the Pine Valley Water Supply Project (Project). The need for the federal action is established by the BLM's responsibility to respond to a ROW application under FLPMA and the ROW regulations contained in 43 CFR Part 2800.

1.2 Conformance with Land Use Plans

This decision complies with the Cedar City Field Office's Cedar/Beaver/Garfield/Antimony Resource Area Resource Management Plan (RMP) (1986), the Pinyon Management Framework Plan (1983), the Fillmore Field Office's Warm Springs Resource Area RMP (1986), and the Ely District's Ely District Approved RMP (2008).

Portions of the Project are within greater sage-grouse (GRSG) priority habitat management areas (PHMA) as detailed in the 2015 Utah GRSG Approved Resource Management Plan Amendment (2015 ARMPA) and ROD (BLM 2015). The Project must comply with the applicable plan objectives and management decisions. The Project's approach, which is in compliance with the 2015 ARMPA and includes applicant-committed design features to enhance GRSG habitat, is

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discussed in detail in the Greater Sage-Grouse Net Conservation Gain Analysis associated planning document available at the BLM ePlanning site for the Project.

The Project was expected to publish a Final EIS in Fall 2025, but this was delayed to early 2026 because of a 43-day government shutdown. As the Final EIS and ROD were nearing completion, the BLM signed the 2025 Greater Sage-Grouse Approved RMP Amendment and ROD for Utah in December of 2025 (BLM 2025). The BLM acknowledges that the timing of the Pine Valley Water Supply Final EIS and ROD are exempted from the requirements of the 2025 GRSG ARMPA based on the following language from that decision:

> To maintain the orderly administration and management of the public lands, the BLM will be consistent with the Approved RMP Amendment unless the BLM has a Draft EIS or Environmental Assessment for the project before the publication of the Approved RMP Amendment. The decision for such projects and any subsequent authorizations associated with the approval (such as the issuance of a ROW authorized by a decision) may be exempted from the requirements of this effort's approved GRSG planning decision. The BLM has the discretion to apply the Approved RMP Amendment to projects that are substantially underway and will seek input from the project proponent prior to exercising such discretion. (BLM 2025).

For information about the applicable decisions in the Management Framework Plan and the RMPs, see Section 1.4 of the Final EIS.

1.3 Consistency with other plans, statutes, and objectives

The Iron County RMP was completed in June 2017 and outlines Iron County positions and policies regarding resource management and coordination with resource management agencies (Iron County 2017). The Iron County RMP highlights the groundwater withdrawal rates for the Cedar Valley and Escalante Valley that exceed basin recharge rates and discusses the initiation of the Cedar City Valley GMP (Iron County 2017). Under "Future Plans for Groundwater Recharge," the Iron County RMP specifically supports the "West Desert Pipeline Project," which is a precursor to the Pine Valley Water Supply Project (Iron County 2017). The goal is to provide water from a basin open to new appropriation to Iron County users to reduce withdrawals within the Cedar City Valley basin.

The Beaver County RMP outlines land use policies and serves "as a basis for communicating and coordinating with the federal government on land and resource management issues" (Beaver County 2019). The Beaver County RMP discusses the fact that the Utah State Engineer manages potential drawdown of groundwater resources and that sections of western Beaver County are open to new appropriation (Beaver County 2019). It also highlights the dependence of many natural resources on groundwater and expresses concern regarding the "dependability of long-term supply, depletion of groundwater storage, reductions in streamflow, potential loss of groundwater-dependent ecosystems (GDE), and changes in groundwater quality" (Beaver County 2019). Beaver County's land-use policy guideline 18.h states that BLM land use planning should "provide for the protection of existing water rights and the reasonable development of additional water rights" (Beaver County 2019). Groundwater objectives include "to preserve, improve, and develop groundwater resources for the use of man while supporting multiple use/sustained yield principles"

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and “to recognize humans as a subset of groundwater dependent fauna, and development of resources for their use should be given priority” (Beaver County 2019).

The Millard County RMP prepared under Utah Code 17-27a-40 includes a county policy to “retain and preserve groundwater resources in the basin of origin” (Millard County 2017). The groundwater modeling performed for the Project action alternative found that drawdown in the groundwater levels in a portion of Millard County would eventually occur, although it is predicted to be less than levels that can be distinguished from ambient fluctuations.

Tied to the county RMPs, the Utah State Resource Management Plan (SRMP) is an aggregation of the land-use decisions and directives that emerge from county plans. The Utah SRMP supports maximized land use for its citizens, industries, and government purposes.

1.4 Project Description

On June 15, 2017, the CICWCD applied for long-term and short-term ROWs across BLM-administered lands in Beaver and Iron counties, Utah. The Project would develop and convey up to 15,000 acre-feet of groundwater, as permitted by the State of Utah, from Pine Valley in Beaver County to the Cedar City Valley in Iron County. The Project includes up to 15 production wells (up to 10 on BLM-administered lands); an estimated seven new monitoring wells (all on BLM-administered lands); up to 70 miles of underground main, lateral, and up to 42.6 miles of transmission pipeline on BLM-administered lands; and up to 11.7 miles of above-ground power lines (up to 11 miles on BLM-administered lands). The ROW would be 50 feet wide, for a term of 30 years. During construction, there would be an additional 70-foot-wide short-term ROW. There are also eight existing monitoring wells on BLM-administered lands drilled under a previous authorization that would be included in a new 30-year ROW grant. Additionally, the Project includes an ancillary solar energy field on private land and a 10-million-gallon underground water storage tank.

The Project would allow CICWCD to exercise groundwater rights previously approved by the State of Utah and to convey water to the Cedar City Valley to support municipal and regional water supply needs. The ROW grants will include design features, monitoring requirements, and operational constraints intended to avoid, minimize, and mitigate environmental impacts to groundwater resources, wildlife habitat, cultural resources, and other affected values. The BLM will also require ongoing coordination, reporting, and adaptive response should monitoring indicate impacts deviating from those analyzed in the Final EIS.

2. DECISION

After extensive review of the Pine Valley Water Supply Final EIS (DOI-BLM-UT-C010-2020-0012-EIS) that analyzed the impacts and mitigation measures associated with the Project, and in accordance with 43 CFR Part 2880, it is the decision of the BLM to select the Proposed Action and grant a long-term ROW UTUT106089002 and the associated short-term ROW UTUT106782297 for the construction, operation, maintenance, and termination of the Proposed Action as described in the Final EIS for the Pine Valley Water Supply Project across BLM-managed lands.

The long-term ROW grant will be for the route and facilities described in Sections 2.2.2 and 2.2.3 of the Final EIS and will include all design features described in EIS Appendix C, ROW

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stipulations described in EIS Appendix E, and the adaptive management measures identified in EIS Appendix F. Specifically, the BLM has decided to:

- Grant a long-term ROW authorizing the construction, operation, and maintenance of up to 15 production wells and 70 total miles of pipeline alignment, including both main lines and lateral pipelines, plus other appurtenant Project facilities on BLM-managed lands. The term of the grant is thirty (30) years with the right of renewal. The width of the long-term ROW would be 50 feet wide.

- Grant a short-term ROW authorizing the use of temporary workspace outside of the long-term ROW during the construction of the project. A 70-foot-wide temporary construction ROW encompasses approximately 643 acres. The term of the short-term ROW grant will be up to 10 years with a right of renewal.

Both ROW grants will be issued under authority of the FLPMA, as amended (43 U.S.C. § 1701 et seq.). Under FLPMA, the BLM has significant discretion to approve or deny potential uses of the public lands in the course of managing those lands under principles of multiple use and sustained yield. See 43 USC 1732(a)-(b). The BLM's broad discretion under FLPMA extends specifically to its consideration of proposed ROWs under Title V of FLPMA and its implementing regulations, which authorize the BLM to grant, grant with modifications, or deny proposed ROWs over areas of public lands. *See* 43 USC 1761(a); 43 CFR 2802.10.

The BLM's federal action is limited to authorization of the ROWs on BLM-administered lands and does not include approval of water rights, which were granted by the Utah State Engineer in 2019 pursuant to a settlement agreement.

3. RATIONALE FOR DECISION

The BLM has selected the Proposed Action as described in Sections 2.2.2 and 2.2.3 of the Pine Valley Water Supply Final EIS because it supports the responsible development of valid existing water rights to meet regional water supply demands, is consistent with the BLM land use plans applicable to the federal lands where the Project is proposed, and the use meets Project objectives while minimizing adverse environmental impacts. I have determined that the Proposed Action is in the public interest and will not result in unnecessary or undue degradation of the public lands.

Due to overallocation in past years, the water rights in the Cedar City Valley aquifer (Basin 73) are subject to the approved Cedar City Valley Groundwater Management Plan, which was adopted in January 2021. Under this plan, the Utah Division of Water Rights (DWRi) will begin to curtail the use of water rights, starting with the most junior, to depletion and recharge, and bring the basin back to safe yield as determined by the Utah State Engineer. The current average depletion rate from the groundwater basin is estimated to be 28,000 acre-feet per year (afy), and it is estimated that average actual depletion must be reduced by 7,000 afy to balance recharge and depletion amounts in this groundwater basin (UTDNR 2021). The Groundwater Management Plan outlines a schedule for reaching the estimated safe yield of 21,000 afy by 2080. Over that same general time period, Iron County's population is expected to grow to between 94,290 and 169,658 by 2075, with a projected CICWCD service area population of 86,162 to 155,034 (Carollo 2023).

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The demand of the CICWCD and key municipal and agricultural customers is anticipated to grow from 13,205 afy in 2025 to 36,472 afy by 2075 without factoring in further conservation enhancements (Carollo 2023). The net result is that demand within the basin is anticipated to eclipse the total available senior groundwater rights within the Cedar City Valley basin that will not be subject to phased reductions in depletions under the Groundwater Management Plan.

Existing CICWCD conservation programs, existing recharge projects, planned reuse projects, and meeting future statewide conservation targets are all current and anticipated future conditions that are incorporated into all alternatives analyzed in the Final EIS. Based on a review of the Cedar City Valley demand and projected savings from conservation efforts to meet or exceed these targets, the CICWCD assessed that conservation alone cannot overcome the current deficit (CICWCD 2020b). A review of the population growth scenarios shows that consumptive water usage would need to be reduced to somewhere between 62 gallons per capita per day (gpcd) and 112 gpcd, depending on the growth estimate used.

The CICWCD's Pine Valley Water Supply Project would facilitate conveyance of up to 15,000 afy with existing water rights that were acquired through approval by the State of Utah and a settlement agreement that was reached in 2019.

The Proposed Action is selected because it meets the BLM's responsibility to respond to a ROW application under the FLPMA and the ROW regulations contained in 43 CFR 2800 Title V. The Proposed Action effectively balances the anticipated socioeconomic and natural resource impacts. This decision is supported by a comprehensive evaluation of the environmental considerations detailed in the Final EIS, reflecting collaboration with various state and local agencies.

While the construction and operation of the Project may result in some adverse impacts, most of these are expected to be temporary or short-term, with some long-term effects on groundwater-dependent vegetation and springs. With the implementation of the avoidance, minimization, and other mitigation measures, including the Adaptive Management, Monitoring, and Mitigation Program (Final EIS Appendix F), the Project is expected to result in substantially minimized environmental impacts. Furthermore, no alternative method or route offers a significant environmental advantage over the Proposed Action. Therefore, the BLM concludes that issuance of the ROW grants is justified, as it aligns with Project objectives while effectively addressing environmental considerations.

3.1 Alternatives Considered in Detail

The BLM analyzed in detail two alternatives in addition to the Proposed Action. Table 1 compares the pipeline lengths, disturbance acres, resource and design factors, and estimated cost by alternative.

Under the No Action alternative, the BLM would not approve the ROWs and associated infrastructure or ground disturbance. CICWCD would need to pursue other water source alternatives including those described in 2.2.1 of the EIS.

The No Action alternative would prevent the CICWCD from exercising groundwater rights previously approved by the State of Utah and would not support municipal and regional water supply needs related to the existing water deficit in the Cedar City Valley.

Under the Adaptive Northern Well Sites (ANWS) alternative, the BLM would grant the CICWCD the authorization to construct the associated wellfield, pipelines, and other supporting

EXHIBIT A

infrastructure as described in Section 2.2.2 of the Final EIS but would require the wellfield construction to be expanded farther north within Pine Valley to decrease aquifer stress in the southern area of Pine Valley as described in 2.2.4 of the Final EIS.

The additional seven miles of pipeline and associated infrastructure under the ANWS alternative increase the amount of disturbance, and associated impacts to socioeconomic and natural resources, without substantially reducing the effects of groundwater drawdown when compared to the Proposed Action.

Table 1. Comparison of Alternatives Considered in Detail

Alternative	Water Provision (AFY)	Pipeline Length (miles)	Disturbance (total acres/ PHMA* acres)	Resource and Design Factors	Estimated Cost ($ million)
No Action Alternative	-	-	-	-	$247
Proposed Action	15,000	70.0	1,307 / 536	Minimizes total ground disturbance	$309
ANWS Alternative	15,000	77.3	1,457 / 536	Decreases aquifer stress in the southern portion of Pine Valley	$357

*PHMA – Priority Habitat Management Area for greater sage-grouse, covering Federal and non-Federal lands

3.2 Alternatives Considered but Eliminated from Detailed Analysis

Five additional alternatives were identified during Project scoping and considered in the Final EIS. These alternatives were eliminated from further analysis for the reasons explained in EIS Section 2.2.5.

4. PUBLIC INVOLVEMENT

The BLM posted a Notice of Intent to prepare an EIS in the Federal Register on July 15, 2020 (85 FR 42914) followed by a 35-day public scoping period ending on August 19, 2020. Agencies and private landowners crossed by the alignment were mailed a scoping letter, including 12 mailings to ROW holders and 20 mailings to grazing permittees. The BLM hosted an online public scoping meeting on August 5, 2020, with approximately 40 members of the public in attendance.

A total of 98 comment letters were received from the public, agencies, and Tribes during the public scoping period, including 11 from federal, state, or local agencies or elected officials; 3 from Tribes; 11 from non-governmental organizations; and the remaining 83 from private landowners or citizens. A scoping report summarizing the pertinent comments within these submissions and the public scoping process is available on the project website.

The BLM published the Notice of Availability (NOA) of the Draft EIS in the Federal Register on January 7, 2022, which initiated a 45-day public comment period. At the request of commenters, the BLM extended the public comment period to March 11, 2022, for a total duration of 63 days. An online public meeting was held by the BLM on Wednesday, February 9, 2022, during which the BLM summarized the Proposed Action, alternatives, and the findings of the environmental

EXHIBIT A

analysis and encouraged the public to submit comments on the Draft EIS. The BLM received a total of 6,183 submitted comment letters and/or emails on the Draft EIS. Summary statistics of the public comments received and the BLM response to each comment are included in Appendix G of the EIS. Where multiple comments were received that pertained to the same concern, the BLM summarized the comments in a single "issue statement" and provided a single response.

5. CONSULTATION AND COORDINATION

5.1 Cooperating Agencies

The following entities contributed to the development of this EIS as cooperating agencies: United States Geological Survey, United States Fish and Wildlife Service (USFWS), Utah's Public Lands Policy Coordinating Office, Utah State Historic Preservation Office, Utah Trust Lands Administration, Nevada Department of Wildlife, Enoch City, Iron County, Beaver County, Millard County, Juab County, Tooele County, White Pine County, Paiute Indian Tribe of Utah, and the Indian Peaks Band of Paiutes.

Cooperating agencies attended online informational meetings hosted by the BLM and reviewed administrative drafts of the Draft EIS and/or Final EIS prior to publication.

5.2 Endangered Species Act Section 7 Consultation

Section 7(a)(2) of the Endangered Species Act (ESA) requires that each Federal agency ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. If an action agency determines a proposed action may affect listed species or designated critical habitat, consultation between that agency and the USFWS is required under section 7 of the ESA.

The BLM prepared a Biological Assessment to analyze potential effects of the Project on the Utah prairie dog and transmitted it to the USFWS on April 6, 2020. On May 20, 2020, the USFWS concurred with a Not Likely to Adversely Affect determination for the Utah prairie dog. The USFWS issued a second concurrence letter confirming the Not Likely to Adversely Affect determination on August 8, 2024, after reviewing an updated Biological Assessment prepared for the Final EIS, which addressed issues raised during public comment.

5.3 State Historic Preservation Office Consultation

The BLM completed compliance with Section 106 of the National Historic Preservation Act (NHPA). Cultural Resources Inventory Reports were submitted on June 23, 2020, and October 20, 2020, to the Utah State Historic Preservation Office. Concurrence of the BLM's determination of eligibility and the BLM's finding of no adverse effect were received on June 24, 2020, and October 26, 2020.

Traces of the Old Spanish National Historic Trail are avoided by a reroute of the pipeline that became part of the Proposed Action and ANWS Alternative. The BLM consulted with the National Park Service regarding the Cultural Resources Inventory report for the Trail in June of 2020. The National Park Service responded on July 1, 2020, with no additional comments or concerns.

5.4 Tribal Consultation

Fifteen Tribes or Bands were sent letters on September 3, 2020, inviting them to participate in government-to-government consultation including: Cedar Band of Paiutes, Kanosh Band of Paiute

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Indians, Indian Peaks Band of Paiutes, Moapa Band of Paiutes, Paiute Indian Tribe of Utah, Shivwits Band of Paiutes, Ute Indian Tribe, Kaibab Band of Paiute Indians, Pueblo of Zuni, Confederated Tribes of the Goshute Reservation, Hopi Tribe, Navajo Nation, San Juan Southern Paiute Tribe, Southern Ute Indian Tribe, and Ute Mountain Ute Tribe. Prior to the September 3, 2020, letter, the Kanosh Band of Paiutes, Cedar Band of Paiutes, and the Confederated Tribes of the Goshute Reservation had already provided comments during the scoping period from July 15 to August 19, 2020. Government-to-government consultation efforts have been ongoing throughout the preparation of the EIS and are described in detail in Section 4.3 of the Final EIS.

Appendix A:
Project Map

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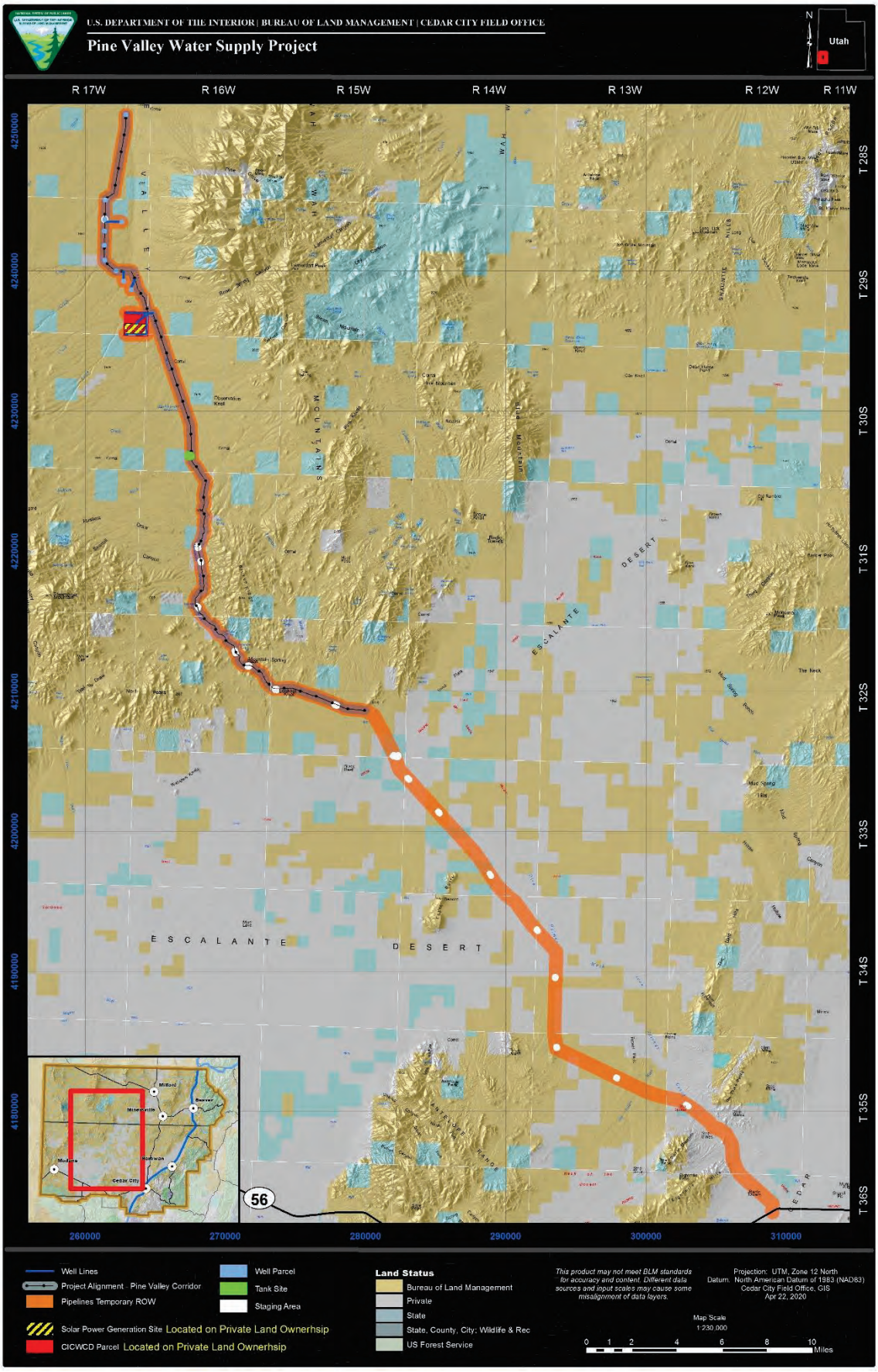
U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | CEDAR CITY FIELD OFFICE
Pine Valley Water Supply Project
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Well Lines
Project Alignment - Pine Valley Corridor
Pipelines Temporary ROW
Well Parcel
Tank Site
Staging Area
Solar Power Generation Site Located on Private Land Ownerhsip
CICWCD Parcel Located on Private Land Ownerhsip
Land Status
Bureau of Land Management
Private
State
State, County, City; Wildlife & Rec
US Forest Service
This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers.
Projection: UTM, Zone 12 North
Datum: North American Datum of 1983 (NAD83)
Cedar City Field Office, GIS
Apr 22, 2020
Map Scale
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Miles

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MEMORANDUM OF UNDERSTANDING
BLM-MOU-UT-C000-2025-002

United States Department of the Interior Bureau of Land Management

and

Indian Peaks Band of the
Paiute Indian Tribe of Utah

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MEMORANDUM OF UNDERSTANDING

Between

THE U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COLOR COUNTY DISTRICT

and

Indian Peaks Band
of the
Paiute Indian Tribe of Utah

Concerning:

Preparation of an Environmental Impact Statement
for the proposed
Pine Valley Water Supply Project
in
Iron and Beaver Countries, Utah

I. INTRODUCTION

A. This Memorandum of Understanding (MOU) establishes a cooperating agency relationship between the Indian Peaks Band of the Paiute Indian Tribe of Utah (Indian Peaks Band) and the Department of the Interior, Bureau of Land Management (BLM), Color Country District, for the purpose of preparing the Environmental Impact Statement (EIS) for the Pine Valley Water Supply Project. The BLM is the lead Federal agency for the development of the EIS. The BLM acknowledges that the Band has special expertise applicable to and interest in the EIS effort. This MOU describes responsibilities and procedures agreed to by the Indian Peaks Band as a cooperating agency and the BLM (Parties).

B. The National Environmental Policy Act (NEPA) was passed by Congress in 1969 and signed into law on January 1, 1970. This legislation encourages environmental protection and informed decision-making. It provides the means to carry out these goals by:

1. mandating that every Federal agency prepare a detailed statement of the effects of "major Federal actions significantly affecting the quality of the human environment,"
2. establishing the need for agencies to consider alternatives to those actions,
3. requiring the use of an interdisciplinary process in developing alternatives and analyzing environmental effects,

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4. requiring that each agency consult with and obtain comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved, and
5. requiring that detailed statements and the comments and views of appropriate Federal, State, tribal, and local agencies be made available to the public.

C. The BLM implements NEPA according to regulations (in particular, 43 C.F.R. and the Department of the Interior Manual (516 DM 11). To this end, the BLM has invited the Indian Peaks Band to participate in development of this EIS relative to its expertise and/or jurisdictional responsibility of local land use plans, policies, and controls for the area where the Pine Valley Water Supply Project (Project) is located. This Memorandum of Understanding (MOU) is being developed in response to a verbal request from Indian Peaks Band on February 26, 2025 to become a cooperating agency for the Project.

Participation in this MOU does not imply Indian Peaks Band's endorsement of the proposed project. The BLM will not make any representations that by participating in this MOU, Indian Peaks Band endorses the proposed project or the Draft and Final EIS.

II. PURPOSE

The purpose of this MOU between the BLM and Indian Peaks Band is to identify Indian Peaks Band as a cooperating agency and establish the roles and responsibilities of the BLM and Indian Peaks Band in the preparation of the EIS. The BLM and Indian Peaks Band recognize the need to work together; to provide a basis for timely disposition of material issues or problems connected with the development of this EIS; and to achieve maximum efficiency for their respective agencies. This MOU will serve as a project-specific MOU for the Project EIS.

III. AUTHORITY

A. The authority of the BLM to enter into and engage in the activities described within this MOU include, but are not limited to:
   1. National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq*., as amended).
B. Regulations implementing the above authority:
   1. Bureau of Land Management planning regulations (43 CFR, Part 46 *et seq*.)
C. The authorities of Indian Peaks Band enter into and engage in the activities described within this MOU include, but are not limited to:
   1. National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq*.)
   2. Applicable Indian Peaks Band regulations, plans, and/or policies
D. This agreement is not intended to limit any Federal, State, or Tribal laws, rules, or regulations. This agreement is not intended to give any agency or entity additional authority beyond current laws, rules or regulations.

IV. PROCEDURES

A. The BLM maintains responsibility for the administration and management of public

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lands. The BLM will be the lead agency in the NEPA process as described by Federal Regulations 43 C.F.R. 46.220(c). As lead agency, the BLM will rely on the final EIS, drafted pursuant to NEPA, as a basis for deciding whether to approve the Proposed Action or one of the alternatives analyzed in the EIS in the agencies' decision documents.

B. Indian Peaks Band agrees to become a cooperating agency in the NEPA process.

C. Indian Peaks Band is recognized to have special expertise in indigenous knowledge associated with the "custom and culture" of the Indian Peaks Band, which includes, without limitation, special expertise in air and water quality, hydrology, forest ecology, fish and wildlife and their habitats, archaeological resources, other cultural resources, and facilitation and consensus-building.

D. Both Parties agree to:

1. Meet as needed on mutually agreed upon dates to review and evaluate the implementation of current conditions and trends concerning the intent and functioning of this MOU. This meeting will also serve as a coordination session to determine immediate and future timing requirements and the general programming of cooperative actions as related to the EIS.
2. Adhere to the applicable laws and regulations of the United States, the regulations of the BLM and the laws and regulations of Indian Peaks Band.
3. Cooperate in apprising each other, as far in advance as possible, of any related actions or problems that might affect the EIS and documentation process or that might affect either party.
4. Cooperate in the development and review of any operating guidelines or agreements between Indian Peaks Band or the BLM and other entities involved in the EIS which might affect the writing of the EIS.
5. Any agency participating in this MOU can opt out of participating in the Project EIS by letter or email from the signing authority or designated agent with a 30-day notice.

V. RESPONSIBILITIES

A. BLM Responsibilities

1. Ensure that Indian Peaks Band has a meaningful opportunity to review and comment on the EIS and related documents and reports within its identified areas of expertise. If necessary, BLM may withhold certain documents from general circulation based on their proprietary nature or other Privacy Act concerns.
2. Coordinate the exchange of information among the Parties and the EIS contractor and its subcontractors who will be preparing the EIS. This will include the Plan of Development and reviewed and previously accepted baseline studies as references for the analysis.
3. Invite Indian Peaks Band, along with other Cooperating Agencies, to attend meetings with Federal, State, Tribal, regional and local agencies, and other groups as appropriate to discuss the alternatives, expected public impacts, and mitigation.
4. Provide regular verbal and/or written progress updates of the NEPA review to Indian Peaks Band along with the other Cooperating Agencies.

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5. To the fullest extent consistent with its responsibilities as lead agency, obtain and consider input from Indian Peaks Band on the inclusion or deletion of information in the NEPA process in areas of Indian Peaks Band jurisdiction or special expertise.
6. To the fullest extent consistent with its responsibilities as lead agency, review and consider Indian Peaks Band's proposed alternatives, mitigation, or other relevant requests to determine if they should be carried forward into analysis in the NEPA process in accordance with 43 C.F.R. 46.230. The BLM will request additional clarification from Indian Peaks Band regarding the requests, if necessary, for full consideration. The BLM will notify Indian Peaks Band verbally or in writing of changes to the alternatives, preferred alternative, methods, or mitigation measures.
7. Review and consider each inconsistency or possible conflict with applicable adopted Tribal plans, policies, and controls, as documented by Indian Peaks Band in writing. The BLM will consider potential methods for resolving the identified conflicts to the extent practicable in accordance with 43 C.F.R. 46.155, and other applicable laws and regulations.

B. Indian Peaks Band Responsibilities
1. Participate as a Cooperating Agency in the document review and preparation of the EIS as specified in applicable laws and regulations and described in the BLM's *A Desk Guide to Cooperating Agency Relationships and Coordination with Intergovernmental Partners*.
2. Participate in communications regarding the NEPA review of the project, including, but not limited to, conference calls, meetings, and emails, particularly when such communication concerns Indian Peaks Band's jurisdiction or special expertise. When appropriate, send a representative(s) to attend project related meetings scheduled by the BLM (this could include public meetings for scoping or the Draft EIS).
3. Provide guidance and expertise in reviewing and establishing baseline information and potential impacts concerning items of Indian Peaks Band jurisdiction or, special expertise, and Indian Peaks Band plans, policies, controls, regulations, and laws.
4. Where appropriate for baseline studies that have already been deemed complete by the BLM, optionally review and provide comments or supplementary information that will be added to the project record and considered in preparation of the EIS.
5. Provide written comments on the Preliminary Draft EIS with regard to any inconsistencies or possible conflicts with Indian Peaks Band plans or other Indian Peaks Band policies and controls.
6. Provide written comments on EISs, other related documents, and proposed mitigation, for which review and comments are requested by the BLM, within the established project schedule. Indian Peaks Band has the ability to provide comments on other documents, and they will be added to the record and considered throughout the process.
7. Indian Peaks Band, as time and funding allow, may prepare and submit technical analyses and/or data sets to the BLM pertaining to Indian Peaks Band's special

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expertise.

8. To the maximum extent allowed under Freedom of Information Act (FOIA), maintain the confidentiality of the documents and deliberations during the period prior to public release by the BLM of any project related work products, including, but not limited to drafts, proprietary information, the plan of development, sensitive resource data and locations, baseline reports, and other NEPA-related documents.
9. Identify a point of contact (POC) and alternate POC to act on Indian Peaks Band's behalf to coordinate comments and input throughout the remaining NEPA process.
10. Funding for Indian Peaks Band's participation in the Project EIS development process will be the responsibility of Indian Peaks Band. In no event is Indian Peaks Band obligated under this MOU to incur any expense, except as it may choose to do so in furtherance of its participation hereunder.

C. BLM and Indian Peaks Band Joint Responsibilities

1. The BLM will have the lead responsibility in maintaining the administrative record; however, Indian Peaks Band share the responsibility with the BLM for ensuring that documents related to Indian Peaks Band participation in the process are complete and accurate.
2. The Parties agree to participate in this planning process in good faith and make all reasonable efforts to resolve disagreements. Where procedural or substantive disagreement may impede effective and timely completion of the EIS, the Parties agree towork towards consensus and enhanced coordination and cooperation in accordance with, but not limited to, 43 CFR 46.110 and the BLM's *A Desk Guide to Cooperating Agency Relationships and Coordination with Intergovernmental Partners*.
3. Parties to this MOU will have access to all information relevant to the fulfillment of their responsibilities under this agreement, though the Indian Peaks Band may choose to withhold sensitive archaeological and cultural resource information. Data provided pursuant to this agreement may contain proprietary BLM, or Indian Peaks Band information. All records or information requested of either party by the other will be reviewed by the releasing party prior to release. To the extent permissible under law, any recipient of proprietary information agrees not to disclose, transmit, or otherwise divulge this information without prior approval from the releasing party. Any breach of this provision may result in termination of this MOU.
4. Indian Peaks Band may use outside experts to assist in providing timely comments to the BLM on materials provided through the cooperating agency relationship within the cooperating agency's area(s) of special expertise. Indian Peaks Band agrees that all internal working draft formulations, including draft documents, e-mails, phone discussions, and meeting discussions used in the development of the EIS will not be available for review by individuals or entities other than Indian Peaks Band's staff, counsel, and experts prior to release to the

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public by the BLM.

VI. ADMINISTRATION

A. It is mutually agreed and understood by all parties that:

1. Nothing in this MOU will be construed as affecting the authorities of the participants or as binding beyond their respective authorities, or to obligate the BLM, or Indian Peaks Band to any current or future expenditure in advance of the availability of appropriations from Congress for such expenditures. Nor does this agreement obligate the BLM, or Indian Peaks Band to spend funds on any particular project or purpose, even if funds are available.
2. Any information furnished to the BLM or Indian Peaks Band during and related to the EIS process may be subject to the Freedom of Information Act (5 U.S.C. 552). The BLM agrees to maintain the confidentiality of all information it receives in the implementation of this MOU that is identified in writing as confidential, culturally sensitive, or proprietary by the Band. This is supported by Exemption 3 to the Freedom of Information Act (FOIA), which allows for non-disclosure of certain categories of culturally sensitive information under the provisions of the Archeological Resources Protection Act (16 U.S.C. § 470hh), the National Historic Preservation Act (16 U.S.C. § 470w-3), and the Cultural and Heritage Cooperation Authority (25 U.S.C. § 3056). Unless specifically approved for release by the Band, all information designated in writing to be confidential, culturally sensitive, or proprietary information shall be kept confidential to the fullest extent possible under the law.
3. This MOU in no way restricts the BLM or Indian Peaks Band from participating in similar activities with other public or private agencies, organizations, and individuals, or from accepting contributions and donations for activities related to the preparation of the Project EIS.
4. Nothing in this MOU shall obligate the BLM or Indian Peaks Band to obligate or transfer any funds. Specific work projects or activities that involve the transfer of funds, services, or property among the various agencies and offices of the BLM and Indian Peaks Band require execution of separate agreements and would be contingent upon the availability of appropriated funds. Such activities must be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Negotiation, execution, and administration of each such agreement must comply with all applicable statutes and regulations.
5. This MOU is not intended to and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers, or any person.
6. Conflicts between the participants concerning procedures under this MOU which cannot be resolved at the operational/staff level will be referred to successively higher levels as necessary for resolution.
7. Upon request by either of the parties, each party shall review this MOU to ensure that it continues to reflect the appropriate understandings and procedures to provide

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for current needs and capabilities and adherence to the Public Laws.

8. The terms of this MOU may be renegotiated at any time at the initiative of either party after providing a 30-day notice to the other party. Such changes will be in the form of an amendment and will become effective upon signature by the MOU participants. Any party may terminate their involvement under this MOU upon providing a 30-day written notice of such termination to the other parties. The Federal Government's liability shall be governed by the provisions of the Federal Tort Claims Act (28 U.S.C. 2671-80). The parties shall operate in conformance with the Code of Federal Regulations and the United States Code.
9. The Parties shall comply with applicable Federal Statutes relating to nondiscrimination.
10. Unless otherwise provided, this agreement is not intended to supersede provisions of other agreements between both parties, in whole or in part, unless there is a conflict between the two agreements. This MOU is limited to the preparation of the Project EIS.

VII. APPENDICES

Any Appendices attached hereto are incorporated and made a part of this MOU and each shall be effective until modified or superseded. An appendix may be amended in writing upon mutual agreement of the Parties.

VIII. APPROVALS

This MOU will become effective upon the last date of signature and shall remain in effect through: (A) Completion of the NEPA decision document; or (B) upon thirty days (30) advance written termination notice by Indian Peaks Band or the BLM.

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COLOR COUNTRY DISTRICT

By:

_____ _____

Gloria Tibbetts — Date

Title: District Manager
Address: Color Country District
176 East D.L. Sargent Drive
Cedar City, Utah 84721

EXHIBIT B

INDIAN PEAKS BAND OF THE PAIUTE INDIAN TRIBE OF UTAH

By: 

10/20/2025

Tamra Borchardt-Slayton — Date

Title: Indian Peaks Band Chair

Address: Color Country District
440 Paiute Drive
Cedar City, UT 84721

EXHIBIT B

APPENDIX I

BLM and Indian Peaks Band EIS Contacts

	Primary Points of Contact	Alternate Points of Contact
BUREAU OF LAND MANAGEMENT		
Name	Jacqueline Russell	Gloria Tibbetts
Title	Field Manager	District Manager
Phone	(435) 865-3081	(435) 865-3022
Email	jrussell@blm.gov	gtibbetts@blm.gov
INDIAN PEAKS BAND OF THE PAIUTE INDIAN TRIBE OF UTAH		
Name	Tamra Borchardt-Slayton	Nikki Borchardt Campbell
Title	Indian Peaks Band Chair	Band Council Member
Phone	(435) 238-0772	(720) 838-1816
Email	tbslayton@pitu.gov	nikki.borchardt@gmail.com

EXHIBIT B

Indian Peaks Band of Paiutes
4377 Old US Highway 91
Cedar City, Utah 84720

December 16, 2024

Tracy Stone-Manning, BLM Director
Bureau of Land Management
1849 C Street NW
Washington, DC 20240

Matt Preston, State Director, Acting
Bureau of Land Management
Utah State Office
440 West 200 South, Ste. 500
Salt Lake City, UT 84101

Gloria Tibbetts, District Manager
Bureau of Land Management
Color County District Office
176 East D.L. Sargent Drive
Cedar City, UT 84721

Jacqueline Russell, Acting Field Manager
Bureau of Land Management
Cedar City Field Office
176 East D.L. Sargent Drive
Cedar City, UT 84721

RE: Central Iron County Water Conservancy District Right-of-Way Application to for the Pine Valley Water Supply Project, No. DOI-BLM-UT-C010-2020-0012-EIS

Director Stone-Manning,

On behalf of the Indian Peaks Band of the Paiute Indian Tribe of Utah (IPB), I am requesting government-to-government consultation between IPB and the Bureau of Land Management (BLM) regarding the agency's consideration and National Environmental Policy Act (NEPA) review of two requested rights-of-way over federal lands to support the Pine Valley Water Supply (PVWS) Project (Project) in Beaver and Iron counties, Utah. We are concerned with BLM's 2022 Draft Environmental Impact Statement (DEIS) on the Project and its failure to recognize or account for potential impairment of IPB's federal reserved water rights in the Project area. Moreover, in response to the publication of the DEIS, IPB submitted 128 pages of detailed comments and exhibit material via letter dated March 11, 2022, that addressed these and other fatal flaws in the DEIS. Indian Peaks Band Comment Letter on PVWS Project DEIS (March 11, 2022) ("*Appendix I*"). To date, BLM has not acknowledged or responded to IPB's comments on the DEIS.

IPB asserts that the Project, and its preferred alternative, cannot be considered as proposed and analyzed in the DEIS because the Project's NEPA analysis fails to address and analyze Project impacts on IPB water rights. To move the Project forward, BLM must complete a supplemental environmental impact assessment given the missing information and insufficient analysis in the DEIS. IPB would like to discuss the Project and our concerns with the agency at an in-person meeting at your earliest convenience.

EXHIBIT C

Indian Peaks Band's Federal Reserved and State Water Rights

A. IPB's Reserved Water Rights under the *Winters* Doctrine

Between 1915 and 1924, the President and Congress established the Indian Peaks Reservation on a portion of IPB's aboriginal lands in Beaver County, Utah, "set[ting] aside [the land] for the permanent use and occupancy of two certain bands of Paiutes Indians." Executive Order No. 2229 (Aug. 2, 1915); *see also* H.R. 2884, 68th Cong. (1924) (adding sections 21-24, T 29S R 18W Salt Lake Meridian). The reservation land area amounted to approximately 8,960 acres. Under the federal reserved water rights doctrine recognized in *Winters v. United States*, 207 U.S. 564 (1908), IPB has water rights sufficient to fulfill the purposes of the reservation and those rights were vested when the federal government reserved the land. While our water rights have not yet been quantified, they remain legally relevant to any water-related actions that could impair IPB's use of those rights.

In 1954, Congress passed Pub. L. 83-762 (25 U.S.C. §§ 741-760; hereinafter, the "Termination Act"), which terminated IPB from federal supervision. The Termination Act expressly reserved water and subsurface rights for IPB by stating that "the Secretary is directed to reserve subsurface rights in tribal property from any sale or division of such property," and that "[n]othing in this Act shall abrogate any water rights of a tribe or its members." *Id.* at §§745(d), 752. In *U.S. v. Adair*, the court considered a section of the 1954 Klamath Termination Act providing that no water rights of the tribe and its members were abrogated and determined that such a provision could not be read to exclude reserved water rights, concluding that "such rights survived termination." 723 F.2d 1394, 1412 (9th Cir. 1983). Relying on identical language in the Termination Act, it is certain that IPB's reserved water rights survived termination and exist to this day.

The Paiute Indian Tribe of Utah Restoration Act of 1980 (Pub. L. 96-227, 25 U.S.C. §§ 760-768, hereinafter "Restoration Act"), which restored the federal trust relationship with IPB, further underscores the continued existence of IPB's reserved rights. The Restoration Act did not restore the reservation land, but it explicitly restored "all rights and privileges of the tribe and of members of the tribe under any Federal treaty, Executive order, agreement, or statute, or under any other authority, which were diminished or lost under the Act of September 1, 1954 (68 Stat. 1099)[.]" *Id.* at § 762(b). The Restoration Act restored IPB's rights prior to, and independently from, the Paiute Reservation Plan of 1984 (Pub. L. 98-219, 98 Stat. 11), which was enacted four years later and established a distinct, significantly smaller reservation of only 424 acres on different land for IPB, where we currently reside.

B. State Water Rights Through Post-Termination Chain-of-Title

Separately, and parallel to the IPB's reserved rights under the *Winters* doctrine, IPB's state-based water rights can also be traced through chain-of-title. After termination, the reservation land was transferred to Walker Bank & Trust Company as Trustee, and by 1957, the Trustee had deeded the 8,960-acre original reservation land to the State of Utah. Walker Bank & Trust Company Trustee's Deed (Nov. 27, 1957) ("*Appendix II*"). However, in the Trustee's deed to the state, the Trustee reserved to itself, its successors and assigns: (1) all subsurface rights in and to the land; (2) the

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right to use and develop surface and subsurface waters; (3) rights-of-way and easements for subsurface possession, development, operation, and extraction. *Id.* In 1966, the Trustee transferred all subsurface rights, including the aforementioned subsurface water rights, back to the beneficiaries of the Indian Peaks Trust as they appeared on the final roll of the IPB in 1956 as published in the Federal Register. *Appendix I* at 21-25. Then, one year after Congress passed the Restoration Act in 1980, the individual members of the tribe conveyed those subsurface water rights back to the United States in trust for IPB. *Appendix I* at 26-57. Thus, the United States holds in trust expressly titled water rights for IPB. The validity of this chain of title was acknowledged in a regional Interior Department Solicitor's Memorandum dated November 12, 2009, that confirmed that the individual beneficiaries and heirs of the Indian Peaks Trust …"could transfer the subsurface rights back to the United States as trustee for the benefit of the Band." *Appendix I* at 58-65.

To protect these reserved and expressly recognized state water rights, IPB is requesting formal consultation with the BLM and cooperating agencies on the Project. It is beyond question that the proximity of the Project to IPB's original Reservation will substantially impact the IPB's state and federal reserved water rights.

Failures of the Draft Environmental Impact Statement

The BLM released for public comment a Project DEIS on January 7, 2022. 87 Fed. Reg. 988. The Project seeks to develop production wells and a 70-mile pipeline in Pine Valley—in the same groundwater basin and in close proximity to the original IPB reservation—to pump 15,000 acre feet per year ("AFY") of water from the Pine Valley basin into the Central Iron County Water Conservancy District's (CICWCD) water system in Iron County. CICWCD obtained the water permit for 15,000 AF from the State Engineer in 2019. That permit, however, was approved without consideration of (a) IPB's priority water rights, and (b) the 2017 USGS study referenced in the DEIS, which estimate the groundwater recharge budget for the Pine Valley Hydrographic Area is approximately only 11,000 AFY, 4,000 AFY less than the amount allocated to CICWCD. DEIS at 88, Table 22. Although the Groundwater Resources Impact Assessment (GRIA) acknowledges that the response of the Pine Valley aquifer system to larger scale pumping is uncertain, the Adaptive Management, Monitoring, and Mitigation Program (AMMP) proposed in the DEIS to address this uncertainty only accounts for *recognized* prior (senior) water rights holders, and IPB was not recognized. GRIA, Pine Valley Water Supply Project, Iron and Beaver Counties, Utah, Formation Environmental (2021) 5.2.3 at 165; DEIS at Appendix F. This suggests that drawdown from the Project would impact *any* IPB water right.

The Interior Department recognized in 1981 that IPB has subsurface water rights on the original Indian Peaks reservation when the Bureau of Indian Affairs signed acceptance of the tribal members' conveyances, the DEIS did not at any point acknowledge the existence of those rights nor did it address IPB's unabrogated reserved water rights on the original reservation.[1] Instead,

[1] Moreover, the United States has acknowledged IPB's "superior rights" to the waters on its original reservation for over 100 years. In 1924, the Attorney General of the United States authorized the United States Attorney in Utah to take action to protect IPB's "superior rights"

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the BLM failed to appreciate the existence of IPB's unquantified water rights in the Project area. In reference to the water rights of the tribes located near the Project area, which includes IPB as one of the five Bands of the Paiute Indian Tribe of Utah, the DEIS stated: "the federal reserved water rights associated with each reservation have not yet been quantified or adjudicated, so there is not a method to quantify impacts in the *extremely unlikely event* that unexpected drawdowns occur in the basins *where [] reservations are located*." DEIS at 52-53 (emphasis added). The DEIS clearly overlooked IPB's rights on its *original* reservation. Further, it is not an unlikely event, but a certainty, that drawdowns would occur in the Pine Valley basin where that reservation was located.

The Project unquestionably threatens IPB's water rights, given the groundwater budget assessments, the high likelihood that CICWCD would extract more groundwater than would annually recharge, and the failure of the Adaptive Monitoring and Mitigation Plan to account for IPB's water rights and to require curtailment of groundwater withdrawal if the basin is overdrawn. Finally, the BLM also did not properly identify, evaluate, and disclose important impacts on Native American religious sites and cultural resources as required under Section 106 of the NHPA. The area of potential effect in Pine Valley and beyond is within IPB's ancestral territory. CICWCD's proposed groundwater wells lie near the original Indian Peaks Reservation, wherein IPB has significant traditional religious and burial sites. Prior to BLM sending the Cultural Resources Report to IPB after the DEIS was released, BLM did not consult with IPB. Thus, IPB had no opportunity to participate in the identification of sites, their significance and National Register eligibility, determination of adverse effects, or any resolution of impacts. And after review of the Cultural Resources Report, IPB objected to the determination of non-eligibility of certain cultural resources.

Request for Government-to-Government Consultation

Tribal consultation should be a process that builds trust and emphasizes shared responsibility between tribes and the federal government. BLM Handbook, *Improving and Sustaining BLM-Tribal Relations* H-1780-1 at III-1-III-2. Such consultation is necessary when the nature or location of a proposed land use could affect tribal interests or concerns. *Id.* at III-2. Additionally, under the Presidential Memorandum on *Uniform Standards for Tribal Consultation*, federal agencies are mandated to "recognize and respect Tribal self-government and sovereignty [and, specifically, to] identify and consider Tribal treaty rights, *reserved rights*, and other rights. 87 Fed. Reg. 74479 (Nov. 30, 2023) (emphasis added).

Given the Project's direct impact on IPB's tribal reserved rights and the critical importance of tribes having a voice in decision processes that impact tribal rights, IPB seeks to begin a relationship of government-to-government collaboration between the BLM and IPB to achieve responsible water management in the Pine Valley Basin. Although the EIS process has been officially "on pause" since May 4, 2023, at the request of CICWCD, IPB is aware that the BLM and the CICWCD Board of Directors anticipate an imminent resumption of the process and a final EIS publication this spring. Before this EIS process resumes, IPB requests a response to the

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against interference from a non-Indian water user. Letter from Harlan F. Stone, Attorney General, to Hubert Work, Secretary of the Interior, September 10, 1924.

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comment letter submitted after the DEIS publication and a meeting between BLM office representatives involved in this decision, from the National Office to the Cedar County Field Office, with IPB concerning the protection of IPB's reserved water rights held in trust by the United States.

Request for Supplemental Environmental Impact Statement

Based on the lack of identification or consideration of IPB's reserved water rights in the Project DEIS, IPB also submits a formal request that BLM prepare, at minimum, a supplemental EIS to inform the final EIS and record of decision.

An agency "shall prepare supplements to either draft or final environmental impact statements if a major Federal action is incomplete or ongoing, and . . . (ii) there are substantial new circumstances or information about the significance of adverse effects that bear on the analysis." 40 C.F.R. § 1502.9(d)(1). The BLM's mandate under NEPA is to fairly and fully disclose significant impacts on the environment, including the human environment, and to analyze the intensity of the effects of a federal action considering "[t]he degree to which the action may adversely affect rights of Tribal Nations that have been reserved through treaties, statutes, or Executive Orders." NEPA Implementing Regulations Revisions Phase 2, 89 Fed. Reg. 35554 § 1501.3(d)(2)(viii) (May 1, 2024). By failing to identify IPB's reserved and expressly recognized water rights in the DEIS, the BLM did not appropriately disclose or analyze significant and adverse impacts to the environment and to IPB's water rights. A supplemental EIS must account for IPB's reserved and expressly recognized water rights and their impairment and should fully discuss these rights in relation to a range of reasonable project alternatives considered.

The IPB looks forward to a confirmation of this request to convene a government-to-government consultation with the BLM in hopes of finding amenable solutions to protect our federally reserved water rights that will be impacted by the proposed Project. Should you have any questions about this communication, please do not hesitate to contact me at indianpeaks@utahpaiutes.org. I also request that you include our attorney team at the Native American Rights Fund on any communications, including Tom Murphy, murphy@narf.org, Daniel Cordalis, cordalis@narf.org, and Melissa Kay, kay@narf.org.

We look forward to hearing from you.

Sincerely,

Tamra Borchardt-Slayton, Chairwoman
Indian Peaks Band of the Paiute Indian Tribe of Utah

EXHIBIT C

Appendix I

Indian Peaks Band's Comments on the
Pine Valley Water Supply Project Draft Environmental Impact Statement

EXHIBIT C

Indian Peaks Band of Paiutes
4377 Old US Highway 91
Cedar City, Utah 84720

March 11, 2022

Bureau of Land Management
Cedar City Field Office
176 East DL Sargent Drive
Cedar City, Utah 84721
Email: pvwsproject@gmail.com

RE: Request to Immediately Cancel the Pine Valley Water Supply Project, Uphold the Federal Trust Responsibility to Protect Tribal Rights and Trust Resources, and Withdraw BLM's Pine Valley Water Supply Water Project Draft EIS Based on Our Attached Comments

Dear Federal Government Representatives:

I am writing on behalf of the Indian Peaks Band of the Paiute Indians ("IPB") to request that the federal government immediately cancel the BLM's Pine Valley Water Supply (PVWS) Project and uphold its federal trust responsibility to protect our water rights, trust resources, and interests in Pine Valley, Utah.

The BLM's PVWS Project is proposing to grant rights-of-way to the Central Iron County Water Conservancy District (CICWCD) to allow for the development of wellfields and water pipelines. CICWCD would then pump and export 15,000 acre-feet of groundwater annually (afy) from Pine Valley and sell that water to customers in and around Cedar City, Utah. Our primary issue with this Project is that IPB has subsurface and water rights in Pine Valley which are held by the United States in trust for IPB. CICWCD even has one or more points of diversion for groundwater pumping on our original Reservation where we retain water rights. While BLM's PVWS Project would clearly cause severe and irreparable harm to IPB, federal agencies have taken no action thus far to protect these rights and resources.

The Department of Interior has a clear fiduciary duty to take action on our behalf. Yet, the BLM continues to advance the PVWS Project. This is a clear case where the federal government must discharge its trust responsibility. We are requesting that the government take immediate and comprehensive action to protect IPB's rights and resources, which again are held by the United States in trust for IPB.

To facilitate the DOI's decision-making on this important matter, we have attached more information that includes: (1) a brief historical timeline about the IPB's rights and interests in Pine Valley, (2) appropriations of water rights to CICWCD absent any consideration of IPB's rights, (3) the federal government's legal obligation to take action pursuant to the federal trust responsibility, and (4) comments on the PVWS Project Draft DEIS (DOI-BLM-UT-C010-2020-0012-EIS).

I.
HISTORICAL TIMELINE OF IPB'S RIGHTS AND INTERESTS IN PINE VALLEY

The Indian Peaks Band has a complicated history. The timeline below provides a brief summary of the establishment of the Indian Peaks Reservation in Pine Valley, the federal termination of the Indian Peaks Band, the reservation of rights and interests for the IPB on the original Reservation, the restoration of the IPB and certain rights, and the transfer of certain rights to the United States held in trust for IPB.[1]

1915-1924 Establishment of Indian Peaks Reservation

- 1915. Executive Order 2229 reserved Sections 13-16, 25-28, 33-36, Salt Lake Meridian T29S R18W as the Indian Peak Reservation.
- 1920, 1921, 1923 Executive Orders temporarily reserved Sections 21-24 in T29S R18W.
- 1924. Congress added Sections 21-24 to the Indian Peak Reservation.

1954 Termination of Indian Peaks Band

- 1954 Termination Act. 25 U.S.C. §741-760, P.L. 83-762, 68 Stat. 1099.
- § 745 (d) and §752 expressly reserved subsurface rights and water rights for the IPB.

1956 Trust Agreement pursuant to 1954 Termination Act. USA gives and grants to IPB Trustee the Sections 13-15, 21-28, 33-35 from T29S R18W (8,960 acres).

1957 Trustee's Deed to State of Utah established the following:

- Sections 13-15, 21-28, 33-35 from T29S R18W (8,960 acres).
- Reserves unto Grantor (Trustee for the Indian Peaks Band) and its successors and assigns:
  - All subsurface rights in and to the land above described.
  - Right to use and develop surface and subsurface waters.
  - Rights-of-way and easements for subsurface possession, development, operation, extraction.

1958 State of Utah granted Sections 16 and 36 of T29S R18W to the Utah Fish & Game.

1966 Trustee's Deed. Subsurface rights transferred to Tribal beneficiaries.

1980 Paiute Indian Tribe of Utah Restoration Act, P.L. 96-227, 94 Stat. 317, 25 USC 760-768**.** The Act restored the federal trust relationship with the Utah Paiutes, including IPB. Pursuant to Section 3(b) of the Act, "all rights and privileges of the tribe and of members of the tribe under any Federal treaty, Executive order, agreement, or statute, or under any other authority, which were diminished or lost under the Act of September 1, 1954 (68 Stat. 1099), are hereby restored."

1981 IPB's subsurface rights conveyed to the United States in trust for IPB, pursuant to Act of April 3, 1980, P.L. 96-227, for "the following described real property in Beaver County, Utah, to wit: All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah." (Exhibit A).

1981 Bureau of Indian Affairs (BIA) signed acceptance of Tribal conveyance of rights, as referenced above, to the United States in trust for the Indian Peaks Band. (Exhibit A).

2009 Solicitor's Opinion dated November 12, 2009. The Solicitor concluded that IPB has subsurface and water rights on the original Indian Peak Reservation in Pine Valley.

[1] See Exhibit A.

2019 **Settlement Agreement** between the Utah State Engineer, Central Iron County Water Conservancy District (CICWCD), Beaver County, Utah School and Institutional Trust Lands Administration (SITLA), and the Utah Alunite Corporation. The State Engineer approved 15,000 acre-feet per year for CICWCD without considering IPB's priority water rights.

II.
CICWCD OBTAINED WATER RIGHTS VIA THE 2019 SETTLEMENT AGREEMENT, WHICH WAS ABSENT ANY CONSIDERATION OF EXISTING IPB FEDERAL RESERVED WATER RIGHTS

The CICWCD applied for water rights in Pine, Wah Wah, and Hamlin Valleys with the Utah State Engineer. However, the Bureau of Indian Affairs did not protest those water applications on behalf of IPB and failed to lodge any effort to protect the IPB's rights and interests in Pine Valley. IPB also did not protest those applications given that, at the time, we were not aware that CICWCD was seeking those water rights, including at points of diversion in very close proximity to where the IPB has priority federal reserved water rights held by the United States in trust for IPB.

In 2019, the Utah State Engineer approved 15,000 afy in Pine Valley to CICWCD and 1,650 afy in Pine Valley to Beaver County. This was accomplished via the 2019 Settlement Agreement between the Utah State Engineer, CICWCD, Beaver County, Utah School and Institutional Trust Lands Administration (SITLA), and the Utah Alunite Corporation.[2] Paragraph 1 of the 2019 Settlement Agreement stated that the amount of water available for development in Pine and Wah Wah Valleys was in dispute among the Parties. The Agreement explicitly stated that the State Engineer may exercise his authority in a way that may result in a reduction of the amount of water authorized for diversion. Paragraph 1 added that:

> By way of this Agreement the State Engineer will allow the non-State Engineer Parties to proceed with plans to develop the amount of water stated herein with the understanding that the non-State Engineer Parties assume all risk and full responsibility for the possibility that the safe annual yield of the Wah Wah Valley aquifer and/or the Pine Valley aquifer is less than the amounts referenced in this Agreement. The non-State Engineer Parties expressly understand and acknowledge that ***the State Engineer is making no warranty or representation about the amount of water available for development in the Wah Wah Valley and the Pine Valley, and that approvals provided under this Agreement may be for more water than future facts demonstrate is actually available for long-term beneficial use*** . . .

(Emphasis added.)

Future and historical facts are both relevant now. With priority dates between 1915-1924, the IPB has water rights on the original Indian Peak Reservation in Pine Valley. Still, our water rights were not considered when approving water appropriations in the 2019 Settlement Agreement. Because our water rights in Pine Valley are held by the United States in trust for the IPB, the federal government has a clear fiduciary duty to ensure our water rights and interests are not infringed upon by the BLM's PVWS Project or by CICWCD's improperly appropriated water rights and use of those rights via the ROWs.

III.
THE FEDERAL TRUST RESPONSIBILITY REQUIRES IMMEDIATE ACTION BY THE FEDERAL GOVERNMENT TO PROTECT INDIAN PEAKS BAND'S RIGHTS AND INTERESTS IN PINE VALLEY

The BLM's PVWS Project presents a clear threat of injury to the IPB's rights, resources, and interests in Pine Valley. The maps below (courtesy of the BLM's PVWS Project Groundwater Study but with our addition of the outline of the "Original Indian Peaks Reservation") shows the original Indian Peak Reservation, where the IPB has existing rights, in relation to the CICWCD's wellfields and water pipeline.

[2] Judge Keith C. Barnes. February 27, 2019. Stipulated Judgment. Fifth District Court. Available online at: https://www.waterrights.utah.gov/docImport/0627/06274800.pdf.

The groundwater drawdown map shows rapid and substantial impacts on the IPB's existing rights and interests within the original Indian Peaks Reservation. The BLM PVWS Groundwater Report and DEIS also reveal that the PVWS Project could cause substantial land subsidence with the dramatic amounts of groundwater drawdown that would occur from the Project. That land subsidence would extend well into the original Indian Peaks Reservation, potentially further impacting IPB's existing rights and interests.

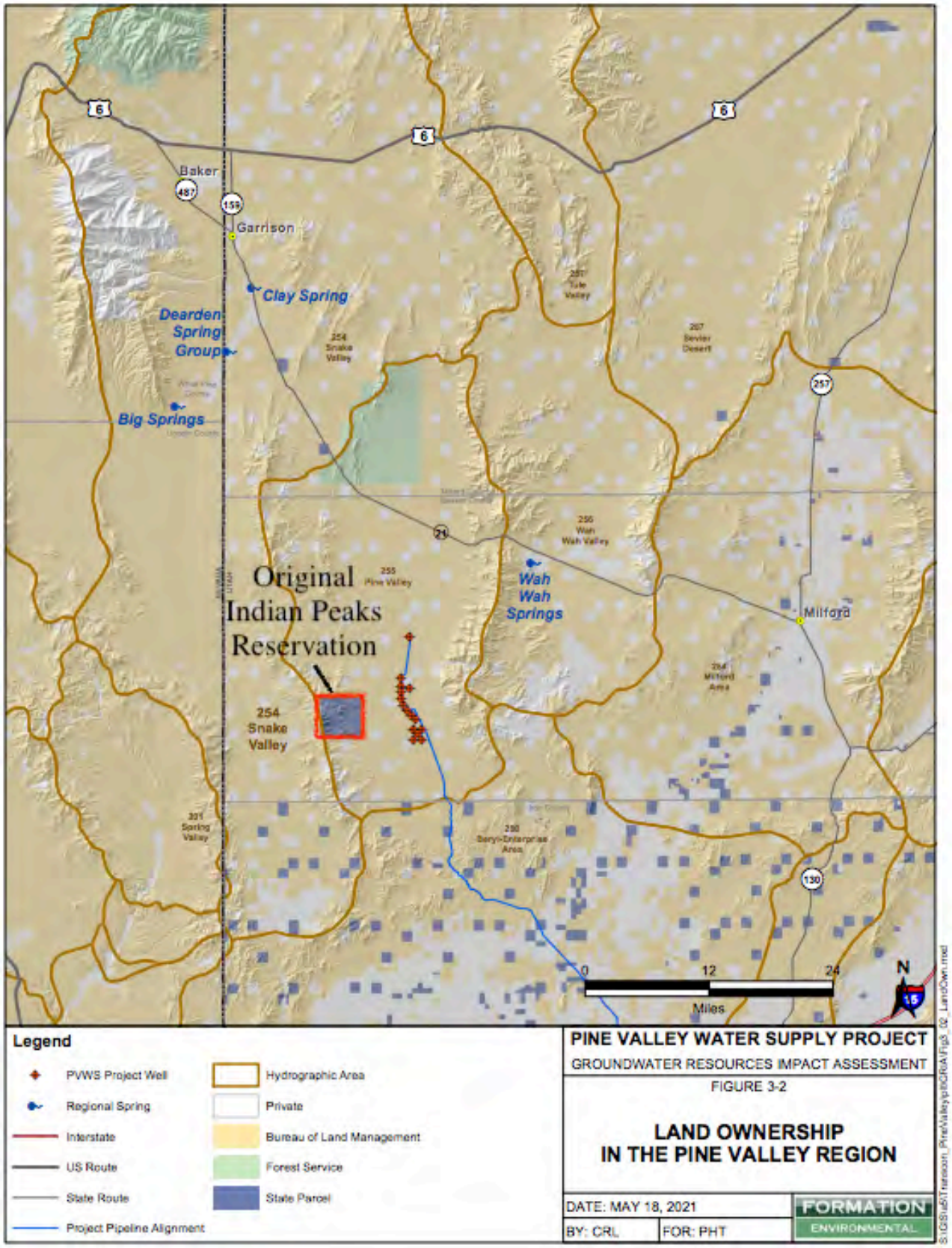
We compel the federal government to immediately discharge its duties to protect IPB's rights and interests in Pine Valley. This should come in at least two forms.

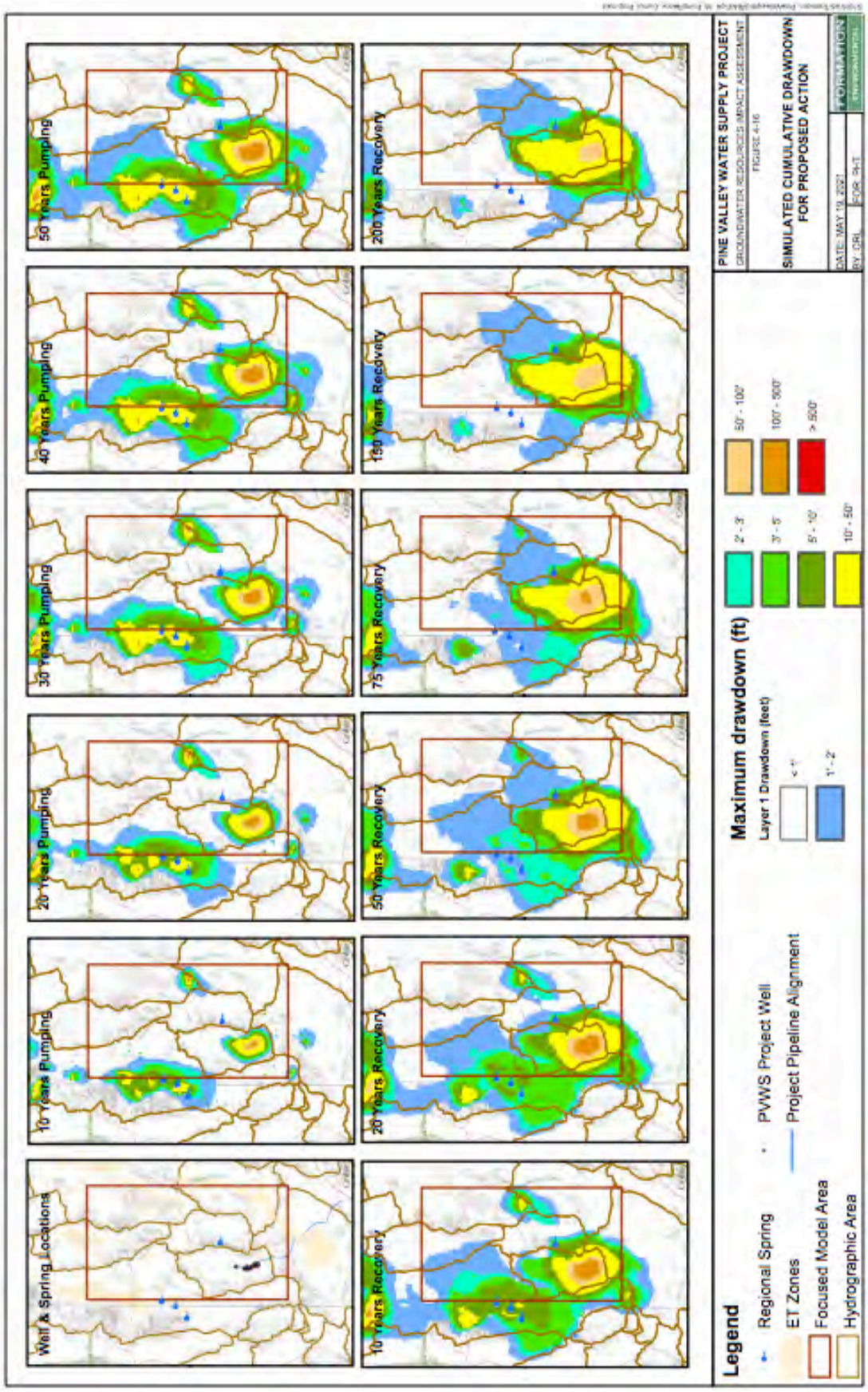
(1) BLM should cancel the PVWS Project and give no further consideration to the proposed PVWS Project. BLM's decision to consider and move forward on the PVWS Project is completely discretionary, as is BLM's decision to issue a Record of Decision and to approve or deny the ROWs. What is not discretionary is the BLM's trust responsibility to the IPB. If BLM fails to take action to protect our rights and interests, which again are rights held by the United States in trust for the IPB, we believe this would pose a clear breach of trust. A breach of trust would still occur if BLM were to issue a Record of Decision on the PVWS Project, negating its trust responsibility and forcing the IPB to appeal and litigate the matter.

(2) DOI must take action to protect our senior federal reserved water rights (among other rights and interests) in Pine Valley. This necessarily may require the DOI to challenge CICWCD's 15,000 afy groundwater right (water right #14-118; application #A76676) so that their junior right is either overturned or reduced to prevent any injury to our existing rights and interests.

While BIA exercises primary administrative jurisdiction over Indian tribes, lands, waters, and other tribal resources, the entire Department of Interior and federal government have a trust responsibility to protect rights and resources of Indian tribes, especially when those rights are threatened by decisions within the federal government and proposals for exploitation from other entities. 25 USC § 2, 25 USC § 9, 43 USC § 1457; See also Cohen's Handbook of Federal Indian Law 225 (1982) ("Since the trust obligations are binding on the United States, these standards of conduct would seem to govern all executive departments that may deal with Indians, not just those of the Bureau of Indian Affairs which have special statutory responsibilities for Indian affairs."). The BLM is not exempt from upholding the trust responsibility to Indian tribes. In fact, a DOI Solicitor Opinion dated November 21, 1978, which remains valid still today, stated "The government has fiduciary duties of care and loyalty, to make trust property income productive, to enforce reasonable claims on behalf of Indians, and to take affirmative action to preserve trust property."

The federal trust responsibility is a legal obligation with foundations in Article 1 of the United States Constitution, federal statutes, and U.S. Supreme Court precedent established in *Cherokee Nation v. Georgia*, 30, U.S. 1, 16 (1831). This trust responsibility is an obligation with the most exacting fiduciary standards, whereby the United States has highest moral obligations to ensure the protection of lands, waters, other resources, assets, and treaty and similarly recognized rights and interests of Indian tribes and individual tribal members. *Seminole Nation v. United States*, 316 U.S. 286, 296-97 (1942). In the same precedent-setting case, the SCOTUS emphasized that "Payment of funds at the request of a tribal council which, to the knowledge of the Government officers charged with the administration of Indian affairs and the disbursement of funds to satisfy treaty obligations, was composed of representatives faithless to their own people and without integrity would be a clear breach of the Government's fiduciary obligation." The SCOTUS has expounded on this precedent, stating: "that a fiduciary actually administering trust property may not allow it to fall into ruin on his watch. 'One of the fundamental common-law duties of a trustee is to preserve and maintain trust assets.'" *United States v. White Mountain Apache Tribe*, 537 U.S. 465, 475 (2003). In the landmark *Cobell* case, multiple courts found that the Interior and Treasury departments breached their trust duties to Indian tribes or individual Indians in part by failing to act on the trust responsibility and failing to keep proper records of trust assets. E.g., *Cobell v. Babbitt*, 91 F. Supp. 2d, Dist. Court, Dist. of Columbia (1999).


Baker
Garrison
Clay Spring
Dearden Spring Group
Big Springs
Original Indian Peaks Reservation
254 Snake Valley
Wah Wah Springs
Milford
0
12
24
Miles
N
Legend
PVWS Project Well
Regional Spring
Interstate
US Route
State Route
Project Pipeline Alignment
Hydrographic Area
Private
Bureau of Land Management
Forest Service
State Parcel
PINE VALLEY WATER SUPPLY PROJECT
GROUNDWATER RESOURCES IMPACT ASSESSMENT
FIGURE 3-2
LAND OWNERSHIP IN THE PINE VALLEY REGION
DATE: MAY 18, 2021
BY: CRL
FOR: PHT
FORMATION ENVIRONMENTAL


Well & Spring Locations
10 Years Pumping
20 Years Pumping
30 Years Pumping
40 Years Pumping
50 Years Pumping
10 Years Recovery
20 Years Recovery
50 Years Recovery
75 Years Recovery
150 Years Recovery
200 Years Recovery
Legend
Regional Spring
PVWS Project Well
ET Zones
Project Pipeline Alignment
Focused Model Area
Hydrographic Area
Maximum drawdown (ft)
Layer 1 Drawdown (feet)
< 1'
1' - 2'
2' - 3'
3' - 5'
5' - 10'
10' - 50'
50' - 100'
100' - 500'
> 500'
PINE VALLEY WATER SUPPLY PROJECT
GROUNDWATER RESOURCES IMPACT ASSESSMENT
FIGURE 4-16
SIMULATED CUMULATIVE DRAWDOWN FOR PROPOSED ACTION
DATE: MAY 19, 2021
BY: CRL
FOR: SWCA
FORMATION
ENVIRONMENTAL

One outcome of the landmark breach-of-trust case in *Cobell* was the Secretarial Commission on Indian Trust Administration and Reform's recommendations pursuant to DOI Secretarial Order 3292, which urged all federal agencies "to abide by and enforce trust duties." Secretarial Order 3335 later directed DOI bureaus to: "Ensure to the maximum extent possible that trust and restricted fee lands, trust resources, and treaty and similarly recognized rights are protected." Furthermore, as stated in BLM Handbook 1780, it is BLM policy that the "BLM recognizes that it has a broad trust responsibility that in some cases includes a fiduciary duty related to Indian trust assets and property or interests reserved by or granted to Indian tribes or Indian individuals by treaty, statute, and Executive orders." The BLM's advance of the PVWS Project runs contrary to BLM policy, DOI orders, and legal precedent regarding its federal trust responsibility.

IV.
COMMENTS ON BLM'S PINE VALLEY WATER SUPPLY PROJECT DEIS

A. BLM Failed to Disclose in the DEIS that the PVWS Project Does Not Comply with Certain Laws, Regulations, Plans and Policies

After the BLM received and reviewed the CICWCD's ROW application, BLM was required to determine whether the proposed use by CICWCD complies with applicable Federal and State laws. *See* 43 CFR 2804.24(e)(5). Sections 1.4 and 1.5 of the DEIS reveal the BLM's limited findings of compliance. DEIS at 3-6. The BLM appears to have only cherry-picked ways in which the Project may comply, but the BLM is required under 40 CFR 1502.1 to "provide full and fair discussion" even on matters of how the Project may or may not comply. The BLM provided no discussion as to how the PVWS Project would likely be in noncompliance with a multitude of plans, policies, regulations, and laws. For example, the Project poses a clear threat of noncompliance with BLM policy, DOI orders, and legal precedent regarding the federal trust responsibility. While we have identified some of these noncompliance issues above, it is BLM's responsibility—not that of Tribes—under FLPMA and NEPA to identify whether the proposed use will be in compliance or noncompliance with applicable laws, regulations, plans, policies, etc.

BLM failed to disclose that the PVWS Project would likely conflict with the Lincoln County Conservation, Recreation, and Development Act of 2004 (LCCRD). Under Title III(a) of the LCCRD[3], Congress directed the Secretary of the Interior to establish utility corridor in Lincoln and Clark Counties, Nevada. Title III(e) required an official agreement between the State of Nevada and the State of Utah, as follows:

> (3) AGREEMENT.—Prior to any transbasin diversion from ground-water basins located within both the State of Nevada and the State of Utah, the State of Nevada and the State of Utah shall reach an agreement regarding the diversion of water resources of those interstate ground-water flow system(s) from which water will be diverted and used by the project. The agreement shall allow for the maximum sustainable beneficial use of the water resources and protect existing water rights.

This requires an interstate agreement for ***any*** transbasin diversion from groundwaters basins located in both Utah and Nevada—and this includes Hamlin Valley. Therefore, because CICWCD's larger project includes Hamlin Valley, the LCCRD requires Nevada and Utah to reach a formal agreement before the BLM can approve CICWCD's transbasin diversion project. Given that the PVWS Project—which includes its connected actions in Hamlin Valley—is a transbasin diversion, the LCCRD applies. The problem, therefore, is that BLM is advancing the PVWS Project in direct conflict with the LCCRD. Again, this was a conflict raised by the CTGR at the time of scoping, but it was discounted or otherwise ignored for several years as the BLM developed the DEIS.

Similarly, the BLM failed in numerous ways to provide a full and fair disclosure of the "possible conflicts between the proposed action and the objectives of Federal, regional, State, Tribal, and local land

[3] Public Law 108-424, 18 Stat. 2412-2413.

use plans, policies and controls for the area." 40 CFR 1502.16(c). (1) BLM failed to disclose potential conflicts and noncompliance with the Cedar Beaver Garfield Antimony Resource Area RMP (CBGA-RMP). It does not comply with the Soil/Water/Air Objectives to:

> Assure an adequate supply of water for existing and proposed Bureau management activities. Ensure production of quality water as required by State and Federal legislative acts and regulations for onsite and downstream users. Coordinate with the proper local, State, and Federal authorities on water-related issues.

CBGA-RMP at 95. The BLM has not assured production and quality water for the Indian Peaks Band, which is required under the 1954 Termination Act (25 USC 745(d) and 752) and the Paiute Indian Tribe of Utah Restoration Act (25 USC 760-768, P.L. 96-227). Nor is there any information or indication that the BLM coordinated with the proper local, State, and Federal authorities (e.g., Utah DWRi, DOI-BIA, US Solicitor's Office) as it relates to water right related issues of the Indian Peaks Band of the Paiute Indian Tribe of Utah.[4] Moreover, it is unclear as to whether the PVWS proposed ROW falls within the rights-of-way corridors approved in the CBGA-RMP; if not, then it would require an RMP amendment. In addition, there are a multitude of monitoring/mitigation components to the CBGA-RMP, but BLM makes no assessment as to whether the PVWS Project would be in accordance with these measures. The CBGA-RMP also "requires cultural resources clearances and mitigations on all projects involving surface disturbing activities," (CBGA-RMP at 163) which is problematic given demonstrated problems with the existing Cultural Resources Inventories and no consultation with and input from the CTGR on cultural resources and what we consider to be proper mitigation (see Paragraph F).

(2) BLM failed to disclose that the advance of this PVWS Project would run counter to BLM policy to uphold their federal trust responsibility to Indian tribes affected by this Project. The federal trust responsibility, with origins in the U.S. Constitution, has been repeatedly affirmed and reaffirmed in federal law, U.S. Supreme court precedent, Department of Interior Orders, Solicitor Opinions, and even BLM Policy. We are aware that the Indian Peaks Band of Paiutes have rights held in trust by the United States for the Band, and these rights would undoubtedly be harmed by the PVWS Project. Yet, BLM made no mention of how the PVWS Project would be in serious conflict to the BLM's—and the whole of the federal government's—highest fiduciary duty.

(3) BLM did not disclose that Beaver County's land use policies and plans are in conflict with the PVWS Project. The land use policy 18.h explicitly states that BLM land uses in the county should "provide for the protection of existing water rights". DEIS at 5. Nowhere in the DEIS does the BLM address anything about Indian Peak Band's existing rights. Here again, BLM provides unfair and limited disclosure of compliance/conformance issues, when they have a clear legal mandate to be transparent about these matters. Under 40 CFR 1506.2(d), BLM "shall discuss any inconsistency of a proposed action with any approved State or local plan and laws (whether or not federally sanctioned). Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed use with the plan or law." This was not done.

(4) BLM concluded that the PVWS Project conforms to applicable BLM management plans.[5] DEIS at 3-4. But this is just not the case. In the 1983 Pinyon Management Framework Plan, under Issue 4 Rights-of-Way and Corridors of the Planning Criteria, "Rights-of-way will not be authorized in: [] Other areas where rights-of-way should not be allowed because of significant resource value." BLM's PVWS Project ROW is located in an area with significant resource value—including resources and historic properties of traditional and religious significance. The PVWS Project would result in significant harm to these resources and sites. BLM does not evaluate and identify how the PVWS Project would comply with this Plan.

[4] *See* Indian Peaks Band of Paiute Tribe of Utah comments on the PVWS Project DEIS.
[5] Available at: https://eplanning.blm.gov/eplanning-ui/project/7100/570

(5) BLM did not disclose whether the PVWS Project would be consistent with or otherwise comply with other applicable land-use plans. The environmental impacts would also affect areas within the Ely District Resource Management Plan, the House Range Resource Management Plan, Fillmore District's Warm Springs Resource Management Plan, and the Utah GRSG Approved RMP Amendment and Record of Decision of 2015.[6] These all apply because the Project would have widespread environmental impacts well beyond the areas covered under the identified management plans. DEIS at 3.

(6) BLM analyzed a different wellfield design than the points of diversion actually approved. The DEIS proposes 15 points of diversion for CICWCD's wellfield, when in fact only 10 points of diversion were approved in the 2019 Stipulated Judgment[7] and by the Utah Division of Water Rights (DWRi).[8] In this respect, it appears that the PVWS Project would not comply with applicable laws. And this is not addressed in the DEIS. (This issue is discussed further in Paragraph D.)

(7) CICWCD's 15,000-afy water right in Pine Valley was a permanent appropriation,[9] whereas the PVWS DEIS examines the PVWS Project for a maximum 50-year term (30-year initial ROW term plus a 20-year ROW extension). Thus, the BLM's analysis of impacts for a 30- to 50-year term is incongruent with CICWCD's intended use. If CICWCD only intended to obtain and use the 15,000 afy for 30-50 years, then they could have applied for the water right for a fixed term. Or, they could have negotiated a fixed term in the 2019 Settlement Agreement. But they did not. BLM's DEIS analyses of groundwater drawdown impacts are therefore unreasonable and not grounded in key facts. Plus, given the rapid growth and development in the CICWCD's service area, no rational mind would project that CICWCD would simply walk away from this $260-million Project after a few decades. All they would need is BLM's approval to extend the ROW term every few decades. BLM's analysis of impacts must be based on the reality of the intended use, not an arbitrary two-term duration set forth by the BLM. *See* DEIS at 1 and 74-124. The analysis must be based on a reasonable and rational period of time that makes sense in light of the facts. This conflict must be disclosed and evaluated in the DEIS.

B. The Purpose and Need of the Proposed Action are Not Fully and Fairly Discussed

The BLM did not fairly and fully identify the purpose and need for proposed action. We recommend that the BLM fully and fairly "specify the underlying purpose and need for the proposed action" as required under 40 CFR 1502.13. The underlying purpose and need for the proposed action is that CICWCD is seeking more water for its service area in Utah, because they have severely mismanaged their existing water sources in Iron County, which has caused major land subsidence, cracks in the Earth's crust, and damage to infrastructure. CICWCD has been engaged in groundwater mining for decades, drawing out far more water than the safe yield. For decades, they have failed to undertake sufficient water conservation measures to slow or reverse their existing groundwater mining. Therefore, CICWCD is now seeking water in Pine Valley where the PVWS Project shows every indication that CICWCD would cause 500+ feet of drawdown just within a few decades and perpetual groundwater mining and depletion.

Also, CICWCD' water-use rate in their service area is high at 262 gallons per capita per day. BLM provides this number but provides no context on how extraordinarily high the rate is. It is twice the rate of say Albuquerque, NM. Instead, the BLM states that CICWCD has reduced its per capita water consumption by 18% over a 25-year period. Compare this to Las Vegas, which reduced its per capita water use by 47% in 18 years. CICWCD has orders of magnitude of improvement to make in conservation measures. But still, BLM describes CICWCD's conservation program like a model system, one which appears to be little more

[6] For more details, see Great Basin Water Network Comments on the PVWS DEIS.
[7] Judge Keith C. Barnes. February 27, 2019. Stipulated Judgment. Fifth District Court. Available online at: https://www.waterrights.utah.gov/docImport/0627/06274800.pdf.
[8] https://waterrights.utah.gov/asp_apps/wrprint/wrprint.asp?wrnum=14-118
[9] Judge Keith C. Barnes. February 27, 2019. Stipulated Judgment. Fifth District Court. Available online at: https://www.waterrights.utah.gov/docImport/0627/06274800.pdf.

than ideas that may be or have been "considered" but not enacted or otherwise enforced. For example, "A turf rebate program has been considered by the CICWCD but has not been pursued . . ." DEIS at 2.

C. The BLM Inappropriately Uses the DEIS to Support a Pre-Determined Decision

BLM is prohibited from using the DEIS to "justify[] decisions already made." 40 CFR 1502.2(g). Yet, the DEIS is replete with examples where, instead of being completely transparent and fully disclosing inconsistencies, the BLM gives the overwhelming appearance of using the DEIS to justify the approval of the PVWS Project. As described above, for example, the BLM does not disclose inconsistency with plans, policies, and laws; rather BLM only provides information in support of the PVWS Project. There are even instances where BLM portrays plans and policies to be in favor of their Project, when in fact they are not. Beaver County's land use plans, policies, and guidelines are one example. DEIS at 5.

D. Project Alternatives are Segmented and Not Reasonable

The BLM has two action alternatives: the Proposed Action and the Adaptive Northern Wells Sites (ANWS) Alternative. The DEIS states that the Project would have up to 15 points of diversion, but that the "total number of wells would be dependent on water production rates of the initial wells constructed". DEIS at 16 and see map below. However, CICWCD's 15,000-afy water right (#14-118) was granted for only 10 points of diversion, which are shown in the Utah DWRi map below.[10] Clearly, the DEIS analyzes points of

diversion that are neither approved by the Utah DWRi nor approved in the 2019 Stipulated Judgment and Amended Order.[11] Furthermore, the ANWS Alternative proposes to shift "up to nine wells from their originally proposed locations to alternative locations further north in Pine Valley." DEIS at 29. Thus, the BLM's DEIS Proposed Action and ANWS Alternative are inconsistent with the clear facts and locations of the CICWCD's water right's approved points of diversion. No alternative actually uses a wellfield of approved points of diversion. These facts render the Proposed Action and ANWS Alternative irrational and

[10] Details of CICWCD's approved points of diversion for water right #14-118 can be obtained from the Utah Division of Water Rights at https://www.waterrights.utah.gov/asp_apps/wrprint/wrprint.asp?wrnum=14-118.
[11] Judge Keith C. Barnes. February 27, 2019. Stipulated Judgment. Fifth District Court. Available online at: https://www.waterrights.utah.gov/docImport/0627/06274800.pdf.

unreasonable, which is in contravention to NEPA requirements to provide an EIS that must "evaluate all reasonable alternatives". 40 CFR 1502.14(a).

One purpose for identifying and evaluating reasonable alternatives is to sharply define the issues and provide a clear basis for choice as to which alternative the BLM would select. BLM stated that a major reason they developed the ANWS Alternative was to "reduce groundwater drawdown and well drawdown interference impacts south of the Project area, within the southern Pine Valley and the northern Beryl-Enterprise hydrologic area." DEIS at 29. However, this ANWS Alternative spreads out the impacts to a larger area. More specifically, it will reverse interbasin flow of aquifers whereby groundwater will begin to flow out of the Great Salt Lake Desert Flow System and into Pine Valley.[12] This reverse flow would spread Project impacts to basins well beyond Pine Valley. While we discuss this matter in more detail below, we point it out here because it goes to the very heart of BLM's obligation to identify and evaluate "reasonable alternatives" and not unreasonable alternatives that make the impacts more widespread.

The No Action Alternative does not anticipate substantial future management actions. The BLM disregards CICWCD's plans for groundwater pumping and export in Wah Wah Valley and Hamlin (Snake) Valley. The Utah DWRi has approved substantial water rights in Wah Wah Valley, albeit less than CICWCD initially applied for. CICWCD has also applied for 10,000 afy in Hamlin Valley. Even if the BLM denies the CICWCD's PVWS Project ROW, it is reasonable to assume CICWCD would pursue the development and exportation of these water rights, at the bare minimum. Plus, the No Action Alternative does not take into account IPB's use or development of their water rights in Pine Valley.

BLM has also impermissibly segmented CICWCD's groundwater development projects. CICWCD is not only seeking groundwater development in Pine Valley (which is the subject of this PVWS DEIS and ROW), but they are also seeking water development projects in Wah Wah Valley and Hamlin Valley. As mentioned in the above paragraph, CICWCD has obtained or is seeking water rights in all three basins. And this three-basin project is part of one larger effort by CICWCD to import water to offset their water pumping deficit in and around Cedar City. CICWCD has even identified that the PVWS Project is a critical part of their larger Pine-Wah Wah-Hamlin groundwater development project, or what they call the West Desert Water Supply Pipeline Project.[13] BLM recognizes this fact, saying that "The Project was initially proposed as part of a large 'West Desert Pipeline Project' that included additional well and pipeline developments in Wah Wah Valley and Snake Valley." DEIS at 40. Utah DWRi has also discussed CICWCD's Project to include not just Pine Valley but also Hamlin and Wah Wah.[14] CICWCD's three-part water supply project consists of connected actions that must be analyzed under a single EIS, as required in 40 CFR 1508.25.

The effect of BLM's DEIS segmentation and analysis of unreasonable alternatives is that it gives a faulty scope, extent, intensity and significance of environmental impacts. Such an impact assessment cannot be relied upon, as it is not a full and fair disclosure of impacts. When BLM has failed to properly evaluate a project in a DEIS, a new and correct DEIS is required.

E. BLM Failed to Analyze Impacts on the Indian Peaks Band's Rights, Resources, and Interests in Pine Valley

The BLM analyzed impacts on snails and mice, but not on Indian people—and not on our rights, resources, and interests in Pine Valley. BLM's PVWS DEIS provides no analysis of the likely impacts on IPB's rights, resources, and interests in Pine Valley that would be irreparably harmed by the PVWS Project.

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[12] We incorporate by reference the related comments on the PVWS DEIS from the Great Basin Water Network.
[13] *See* CICWCD's Financial Business Plan and Water Needs Assessment. Available online at: https://cicwcd.org/wp-content/uploads/2020/06/2020-5-21-PVWSProject-FBP-WtrNeedsAssmt_Final-Report-June-2020.pdf. *See also* CICWCD's West Desert Water Supply Timeline at: https://cicwcd.org/west-desert-water-supply-timeline/.
[14] Cedar City Valley Groundwater Management Plan. Utah State Engineer. Adopted January 11, 2021. Available at: https://waterrights.utah.gov/groundwater/ManagementReports/CedarValley/CedarCityValleyGWMP20210111.pdf

Instead, the BLM stated their position: "the federal reserved water rights associated with each reservation have not yet been quantified or adjudicated, so there is not a method to quantify impacts in the extremely unlikely event that unexpected drawdowns occur in the basins where the reservations are located." DEIS at 52-53. BLM's mandate under NEPA is to fairly and fully disclose significant impacts on the environment. BLM cannot pass over the disclosure of impacts just because they don't know how to analyze and disclose that impact. Furthermore, BLM punts to the IPB to bring a lawsuit to protect rights that are actually held by the United States government. This demonstrates how BLM attempts to evade their legal obligation under federal law, SCOTUS precedent, DOI orders, and BLM policies. BLM stated further:

> If the Tribes conclude that there is a possibility that long-term operation of the proposed Project may affect their federal reserved water rights, the Tribes would have to bring a claim in the relevant court to request quantification, adjudication, and enforcement of their federal reserved water rights. Such a claim could be brought in the Utah State court that has jurisdiction over any water rights adjudication that is occurring in the basin where each reservation is located. Alternatively, if the State of Utah is not conducting an adjudication in the basin and declines to initiate adjudication proceedings, the Tribes have the option of filing a claim in federal district court.

DEIS at 53. Said another way, BLM is proposing that they have no federal trust responsibility and that it is up to tribes to defend legal rights held by the United States government.

The BLM also did not properly identify, evaluate, and disclose important impacts on Native American religious sites and cultural resources. The area of potential effect in Pine Valley and beyond are within our ancestral territory. Near CICWCD's points of diversion lies or original Indian Peaks Reservation, wherein we have significant traditional religious and burial sites. Prior to BLM sending the Cultural Resources Report to us after the DEIS was released, the Indian Peaks Band was not consulted by the BLM. Thus, we had no opportunity to participate in the identification of sites, their significance and National Register eligibility, determination of adverse effects, or any resolution of impacts. And after our review of the Cultural Resources Report, we object to the determination of non-eligibility of certain cultural resources. Also of importance here is that the BLM did not conduct an ethnographic assessment. BLM conducted studies on bats and snails but opted out of any assessment of IPB's use of our ancestral territory, religious sites, and burial grounds. On these issues, BLM did not undergo the required NHPA Section 106 Consultation with the IPB but deferred to other Bands. For example, the BLM identified they had ongoing consultation with the Kanosh and Cedar Band of Paiutes, but not the IPB—the Band that would be directly and significantly affected by the BLM's PVWS Project. DEIS at 52-53, 125-126. As a result, the BLM did not fairly and fully disclose significant impacts on the IPB.

F. BLM Failed to Analyze Impacts on Native American Resources, Cultural Sites, and Historic Properties

BLM analyzed impacts on mice, but not on Indian people. There were substantial studies on snails too, but there was no ethnographic assessment to identify and evaluate impacts on traditional and religious sites. Nor did the BLM evaluate potential impacts on our legal rights and socioeconomics. While the BLM's mandate under NEPA is to fairly and fully disclose significant impacts on the environment, BLM cannot pass over the disclosure of impacts just because they failed to undergo necessary work to identify those resources and impacts. Furthermore, BLM advises the tribes to bring a lawsuit to protect their rights that could be affected by the PVWS Project. BLM stated further:

> If the Tribes conclude that there is a possibility that long-term operation of the proposed Project may affect their federal reserved water rights, the Tribes would have to bring a claim in the relevant court to request quantification, adjudication, and enforcement of their federal reserved water rights. Such a claim could be brought in the Utah State court that has jurisdiction over any water rights adjudication that is occurring in the basin where each reservation is located. Alternatively, if the State of Utah is not conducting an adjudication in the basin and declines to initiate adjudication proceedings, the Tribes have the option of filing a claim in federal district court.

DEIS at 53. Said another way, the BLM is telling the tribes that BLM has no federal trust responsibility to the tribes. It is continued pattern of evading the protection of our rights and resources. Plus, BLM's mandate under NEPA is to identify, evaluate, and disclose impacts from the Project. As it relates to the tribes and tribal resources, BLM failed in large part to do so.

The BLM did, however, conduct a cultural resources study, but it did not identify, evaluate, and disclose Native American religious and cultural sites. The area of potential effect in Pine Valley and beyond is within our ancestral territory, and our tribal members continue to use sacred places within this area of potential effect. This region was and still is important to our sister tribe, the Confederated Tribes of the Goshute Reservation, and the cultural resources studies failed to acknowledge this fact. We cannot trust the results of the cultural resources studies when BLM did not provide the correct information and historical context, which are critical parts of determining the significance of cultural resources. This surely renders the cultural resources study inaccurate. BLM also failed to include important prior ethnographic work for the PVWS's area of potential effect.[15] Also, no ethnographic study was conducted to identify Native American sacred and ceremonial sites, other cultural sites, burial grounds, or any other sites of cultural and religious significance. This further establishes the cultural resources inventories as having a substantial lack of historical context and correct information. This body of work then formed the baseline by which BLM assessed impacts on cultural resources from the Project. Given that the BLM accepted the CRPs as credible information and relied on them for their analysis and disclosure of impacts in the PVWS DEIS, the DEIS is not credible. In effect, the CRPs and the PVWS DEIS are arbitrary and capricious.

Under Section 106 regulations at 36 CFR 800, BLM was required to identify historic properties (36 CFR 800.4), assess adverse effects (36 CFR 800.5), and resolve adverse effects (36 CFR 800.6). Pursuant to 36 CFR 800.4(a), BLM was required to determine the scope of identification efforts, including by determining the area of potential effects (APE). APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in character or use of historic properties." 36 CFR.16(d). Figure 1 in the 2020 Cultural Resources Inventory shows the APE limited to the proposed pipeline (and possible wellfield sites) route. Because the definition of APE includes indirect effects from the Project, including impacts from groundwater drawdown and from CICWCD's connected actions in Snake (Hamlin) and Wah Wah valleys, BLM impermissibly restricted the scope of identification of historic properties to a tiny fraction of the affected region.

As mentioned above under Paragraph F.1-3, substantial data and reference gaps exist in the 2020 CRP. Under 36 CFR 800.4(a)(2), BLM is required to "review existing information on historic properties within the area of potential effects, including any data concerning possible historic properties not yet identified." BLM had at its disposal the Solar PEIS Ethnographic Analysis,[16] which clearly revealed areas potentially impacted by the Project to be historic properties. The classic ethnographic works by Julian Steward also reveals the high likelihood of historic properties within the area potentially impacted by the PVWS Project, including Snake Valley (UT-NV).[17] However, we see no evidence that the BLM took these important sources into account to identify historic properties. As a result, BLM's 800.4(a)(2) review was missing critical information that would have led the BLM to actually identify historic properties. This formed a faulty baseline upon which BLM moved through the remainder of the Section 106 requirements.

BLM failed to consult with IPB. BLM never made a reasonable and good faith effort to gather information from the IPB so we could "assist in identifying properties, including those located off tribal

[15] Stoffle, R., Van Vlack, K., Johnson, H., et al. 2011. Tribally Approved American Indian Ethnographic Analysis of the Proposed Wah Wah Valley Solar Energy Zone. Solar Programmatic Environmental Impact Statement and Solar Energy Study Areas in Portions of Arizona, California, Nevada, and Utah. University of Arizona and SWCA.
[16] Stoffle et al. 2011 Solar PEIS Ethnographic Analysis. See above reference.
[17] Steward, J.H. 1938. Basin-Plateau Aboriginal Sociopolitical Groups. Smithsonian Institution. Bureau of American Ethnology. Bulletin 120. University of Utah Press, Reprint 1997.

lands, which may be of religious and cultural significance to them and may be eligible for the National Register." 36 CFR 800.4(a)(4).

Where the BLM did identify any potential Native American historic properties, they could not have possibly fairly evaluated the historic significance without input from IPB. Under 36 CFR 800.4(c)(1), the BLM must evaluate historic significance "In consultation with . . any Indian tribe . . . that attaches religious and cultural significance to identified properties . . . the agency official shall apply the National Register criteria (36 CFR 63) to properties identified." A key criteria is the "significance of feeling and association" to the property, which is impossible for BLM to assess or otherwise assign without information gathering from the tribes. Where BLM has found "no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in 800.16(i), the agency official shall provide documentation of this finding, as set forth in 800.11(d), to the SHPO/THPO. The agency official shall notify all consulting parties, including Indian tribes and Native Hawaiian organizations, and make the documentation available for public inspection prior to approving the undertaking." This was not done, as we have not been notified of this. This is contrary to 36 CFR 800.4 regulations and contrary to the fact that IPB has areas of religious and cultural significance within the areas that would be impacted by the Project.

Because the BLM failed to identify historic properties as part of their baseline evaluation, any assessment of adverse effects and resolution of those effects was therefore based on a false premise, which in effect excluded or otherwise erased CTGR from the PVWS Project area.

Section 110 of the NHPA requires the BLM to assume responsibility for the preservation of historic properties or resources that are under BLM jurisdiction. 16 USC 470h-2(a)(1). Under BLM's federal preservation program, they are required to ensure that such historic properties are identified, evaluated, and nominated to the National Register. 16 USC 470h-2(a)(2)(A). Furthermore, that section of the law also requires the following:

> (E) that the agency's procedures for compliance with section 470f of this title—
> (i) are consistent with regulations issued by the Council pursuant to section 470s of this title;
> (ii) provide a process for the identification and evaluation of historic properties for listing in the National Register and the development and implementation of agreements, in consultation with State Historic Preservation Officers, local governments, Indian tribes, Native Hawaiian organizations, and the interested public, as appropriate, regarding the means by which adverse effects on such properties will be considered; and
> (iii) provide for the disposition of Native American cultural items from Federal or tribal land in a manner consistent with section 3002(c) of title 25.

The BLM did not provide what is required under subsection (E)(ii). BLM should not allow this PVWS Project to go forward without such compliance.

Moreover, after our review of the CRPs, we object to the determination of non-eligibility of certain cultural resources. Such determinations cannot be trusted given significant exclusions of information in the CRPs, the clear lack of understanding of the tribes with current and historic connections to the affected region, and the lack of correct historical context needed to evaluate cultural resources and historic properties for NRHP-eligibility. Also of great importance here is that the BLM did not conduct an ethnographic assessment. The BLM conducted studies on bats and snails but opted out of any assessment of current and historic tribal use of our ancestral territory, religious sites, and burial grounds. On these issues, BLM did not undergo the required NHPA Section 106 Consultation with IPB. As a result, the BLM did not fairly and fully disclose significant impacts on historic properties of religious and cultural significance.

G. The Adaptive Monitoring and Mitigation Plan is Flawed

The BLM offers what they call the Adaptive Monitoring and Mitigation Plan (AMMP). It is not sufficiently detailed to allow for a fair and full review of and comments on the DEIS. In fact, the AMMP is not even an actual plan. It is a plan for potential future plans. As BLM states, "CICWCD will develop a Wellfield Construction Monitoring and Adaptive Management Plan." DEIS at F-10. Also, "CICWCD will develop and Spring Flow Depletion Monitoring and Mitigation Plan." DEIS at F-14. And the "CICWCD will develop a GDA Depletion Monitoring and Mitigation Plan." DEIS at F-15. The BLM states that "the plan will detail" a number of monitoring and mitigation issues, but these are not provided with any detailed information. E.g., DEIS at F-10. Furthermore, "A draft plan shall be submitted for approval to the DWRi and BLM and finalized based on the comments received." DEIS at F-10. BLM relies on the AMMP in large part to base their assessment that environment impacts that can be mitigated. We cannot possibly fairly review and comment on an outline of a plan of potential future plans, especially when the plan is such a vital part of the DEIS.

The BLM's plan for plans (the AMMP) lacks an appropriate and reasonable decision-making body. CICWCD is the "Responsible Party" to gather information. DEIS at F-10 thru F-17. CICWCD is the Responsible Party to analyze data. CICWCD is the Responsible Party to submit monitoring reports to Utah DWRi and BLM. Stakeholder involvement is left to all those involved in approving the Project. Tribes are not involved. The BIA or other DOI agencies are not involved. Beaver County is not involved. Private landowners and water right holders are not involved. And surely, neither the BLM nor the Utah DWRi have the bandwidth to validate CICWCD analyses and findings. The BLM cannot even seem to find the bandwidth to uphold its federal trust responsibility. Accordingly, this plan for a plan is unfair and one-sided wherein CICWCD has complete control over data analyses and conclusions. Whether or not CICWCD would escalate its monitoring and investigations to the level of actually mitigating any impacts remains in the hands of CICWCD itself. DEIS at F-10 thru F-17.

The DEIS' AMMP runs counter to the Department of Interior guidelines for adaptive management plans. A fundamental aspect of the Interior's guidelines for adaptive management is the involvement of stakeholders.[18] The guidelines identify that adaptive management includes "engaging the relevant stockholders in the decision making process, identifying the problems to be addressed, and specifying objectives and tradeoffs that capture the values of stakeholders." There a whole host of other DOI adaptive management guidelines that are not included in BLM's AMMP. As such, the BLM is not even following its own DOI guidelines. If the BLM fails to follow through with legal obligations, DOI orders, policy, and guidelines here and now at the DEIS stage of the Project, then how can we trust the agency to do so after the Project approval? This is especially critical as it relates to upholding mitigation requirements. The BLM must address and fix these crucial issues.

Furthermore, there are no hard requirements for any specific mitigation. Under the AMMP section on monitoring and mitigation of the Groundwater Discharge Area (GDA), if CICWCD's monitoring and data analyses show where a "LAI quantile score is less than 0.10…a mitigation plan shall be developed." DEIS at F-16. In another example, BLM states that "Based on the findings of the Tier III Subsidence Monitoring and Investigation, the following Mitigation may be undertaken". DEIS at F-17. The problem with this is that we have no way to know what will actually be in future plans. Parts of the DEIS' AMMP would presumably be in those future plans, yet the AMMP only says that BLM will either provide a list of options of what mitigation measures "may be undertaken" or provides statements saying that mitigation would be identified and developed in some future plan. In addition, BLM uses an abundance of "may be" statements that provide escape routes to CICWCD so that there is no actual mitigation requirement. For example, "it is assumed that this plan may include curtailment of groundwater withdrawal by the CPM project if necessary to prevent potentially significant impacts." DEIS at F-16. In other words, BLM's

[18] Department of Interior. 2009. Adaptive Management: The U.S. Department of Interior Technical Guide. https://www.doi.gov/sites/doi.gov/files/migrated/ppa/upload/TechGuide.pdf

mitigation plan is based on assumptions that may include if necessary to prevent significant impacts. These "significant impacts" are elusive, for they are not identified or defined. Furthermore, the AMMP put forth an option to curtail groundwater pumping by CPM but leaves curtailment of CICWCD pumping up to the Utah DWRi's requirement via a potential future groundwater management plan. Again, this substantial lack of detail in the AMMP truncates our ability to have a fair and full opportunity to review and comment on the DEIS and it undermines the purpose and function of NEPA.

BLM provides vague if not zero actual information on mitigation effectiveness. For example, BLM provides no evidence or proof that the menu of possible mitigation options would actually work. DEIS at F-1 thru F-17. In fact, the DEIS shows that if CICWCD stopped pumping after 50 years, the aquifer would not return to normal even after 200 years. DEIS at 97-103 and GRIA at Figure 4-16 and 4-17. Outside of the DEIS and BLM's analysis, there is an abundance of scientific information revealing that groundwater pumping impacts are often very long term and irreversible.[19] In fact, there are cases where aquifers will never recover due to water removal and subsequent ground compaction and subsidence. By not providing details or an evaluation of the mitigation effectiveness, it truncates our ability to review and comment on the DEIS. BLM's approach instead is to say that they will develop future adaptive monitoring and mitigation plans. If BLM cannot identify whether mitigation would be effective, then they have failed to uphold NEPA requirements including but not limited to 40 CFR 1502.1, 1502.2(d), 1502.9(a), 1502.12, 1502.14(b) and (f), 1502.16.

H. The BLM Did Not Properly Analyze Cumulative Impacts

BLM's cumulative impacts analysis is substantially flawed in at least two major ways: (1) the geographic area of the analysis was improperly bound; and (2) a plethora of impacts beyond the PVWS Project itself were excluded. First, there is substantial evidence that the PVWS Project will have far-reaching impacts beyond Pine Valley, including for example within the Sevier Lake Desert Groundwater Flow System and the Great Salt Lake Desert Groundwater Flow System.[20] The evidence shows that the CICWCD's pumping will cause a reversal in the flow of waters in the flow systems. In other words, CICWCD's pumping will begin to drain water out of other major flow systems as CICWCD is sending that water to Cedar City. Therefore, the geographic area required for cumulative impact analysis includes large areas within the other ground-water flow system(s).

Second, NEPA requires the BLM to disclose and evaluate "the incremental impact the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." 40 CFR 1508.7. The PVWS DEIS is full of instances where there is no cumulative impact analysis or where it excludes incremental impacts. Under the DEIS Section 3.6 on Native American Religious Concerns, BLM made the following statement under the cumulative impacts subsection:

> Many activities and developments on public land have affected cultural resources in the past. The BLM has, for at least the last 30 years, actively consulted with the Paiute Indian Tribe of Utah about projects which would take place in Beaver and Iron counties to ensure that sacred sites and resources are not affected or are mitigated appropriately and that the Tribe is aware of projects taking place on BLM-administered land.

DEIS at 53. In no way is this a cumulative impacts assessment. There is no statement of past and future impacts added to PVWS Project impacts to show the total. In another example, BLM provides a one-sided

[19] *See* (1) Bredehoeft, J. et al. 1982. Groundwater: the Water-Budget Myth. In: Scientific Basis of Water-Resource Management, Studies in Geophysics. National Academy Press, Washington DC. pp. 51-57; (2) Bredehoeft, J. et al. 2002. The Water Budget Myth Revisited: Why Hydrogeologists Model Groundwater. Groundwater. 40: 340-345; (3) Bredehoeft, J. and Durbin, T. 2009 Ground Water Development - The Time to Full Capture Problem. Groundwater 47: 506-514.

[20] *See* Comments from the Great Basin Water Network.

examination of the socioeconomic benefit, but provide no cumulative analysis of impacts. DEIS at 53-60. They also do not state how the PVWS Project would negatively affect the IPB given the harm to our subsurface and water rights in Pine Valley. Instead, BLM says the "monitoring and mitigation measures would require the CICWCD to make all affected water rights holders whole (see Appendix F)." DEIS at 58. Unfortunately, BLM's AMMP in Appendix F does not require this, and so far BLM has not required or taken any action to ensure our rights and interests in Pine Valley are protected. Instead, BLM states in the DEIS that the Tribe should go file a lawsuit in state and/or federal court. That in and of itself would be a socioeconomic impact on the Tribe, one that was not included in this DEIS.

I. The BLM Provides No Information on Clean Water Act Issues

The BLM provided no information on how the PVWS Project would impact "waters of the United States". Also, no information was provided in the DEIS as to whether the PVWS Project would be in compliance with the Clean Water Act or require specific permits prior to Project approval. It is likely that PVWS Project would result in impacts to various waters, including stream courses, wetlands, springs, etc. Project impacts would extend to Fish Springs National Wildlife Refuge, yet the DEIS does not evaluate this impact and the ramifications on Clean Water Act compliance and mitigation. In fact, the DEIS does not provide any specific information about what mitigation would look like when it comes to specific impacts on places like Fish Springs National Wildlife Refuge.

J. BLM's Socioeconomics Analysis Does Not Include Impacts on IPB

The BLM's analysis of socioeconomics falls short. The PVWS Project would impact IPB's rights and resources within the original Reservation. But BLM provides no socioeconomic analysis of how this would affect IPB. Even if the AMMP in Appendix F would apply, that plan has no hard requirements. Given that IPB rights in Pine Valley were never included in the Utah DWRi's consideration of granting water rights in the 2019 Settlement Agreement or BLM's analysis for this PVWS DEIS, it would be irrational to assume IPB would be included in any mitigation. Mitigation, that is, which is not actually required per the AMMP in Appendix F.

K. Substantial Evidence Justifies BLM's Denial of CICWCD's ROW Application(s)

During a public meeting on the PVWS Project on February 9, 2022, BLM stated that their decision to grant or deny the CICWCD's ROWs is "completely discretionary." Also, 43 CFR 2804.26 identifies a number of important circumstances to consider. We urge the BLM to deny CICWCD's ROW application(s) for the PVWS Project, which could be based on BLM's complete discretion or in part on the following:

- "The proposed use is inconsistent with the purpose for which BLM manages the public lands described in the application." 43 CFR 2804.26(a)(1). The PVWS Project is inconsistent with stated purpose in the 1983 Pinyon Management Framework Plan, under Issue 4 Rights-of-Way and Corridors of the Planning Criteria, "Rights-of-way will not be authorized in: [] Other areas where rights-of-way should not be allowed because of significant resource value." The IPB has significant resource values that will be irreparably harmed by PVWS Project's proposed use. The AMMP—the plan to develop a plan—does not avert these harms.

- "The proposed use would not be in the public interest." 43 CFR 2804.26(a)(2). The BLM's DEIS does not give full consideration to the public interest. Rather, they selectively chose information that supports a decision to approve the Project, leaving out information that may be viewed as inconsistent with the Project approval. BLM says nothing of IPB's rights and resources that we describe above. They say nothing of their trust responsibility to protect those rights and resources. BLM's fiduciary duty to the IPB is clearly in the public interest, whereas punting and evading that duty is not.

- "You are not qualified to hold a grant." 43 CFR 2804.26(a)(3). CICWCD is not qualified to hold a grant for the PVWS Project ROW. First, they cannot demonstrate responsible and sustainable management of groundwater resources. What CICWCD can demonstrate is over-exploitation of the aquifer in their service area whereby they have been extracting about 7,000 afy than the safe yield. And this has been going on for decades. Second, CICWCD's substantial lack of water conservation measures demonstrates further irresponsible and unsustainable water management practices. No turf removal program. No mandate to disallow new homes from having green lawns. There are far too many instances of having "considered" conservation options but not requiring them. The same is true in the AMMP whereby there are no actual requirements for mitigation.

- "Issuing the grant would be inconsistent with the Act, other laws, or these or other regulations." 43 CFR 2804.26(a)(4). The PVWS Project ROW would be inconsistent with the Act given that it would not be in the public interest. It would also be inconsistent with the federal trust responsibility, which is established SCOTUS precedent. The proposed use of the ROW would be inconsistent with the Utah DWRi's approved points of diversion for CICWCD's Pine Valley water right. Pumping at unapproved points of diversion is unlawful under Utah state water law. Furthermore, based on the DEIS, the grant of the PVWS Project ROW would result in continuous groundwater drawdown, or what is known groundwater mining which is disallowed in the State of Utah.

- "Applicants must have or be able to demonstrate technical and financial capability to construct, operate, maintain, and terminate a project throughout the application process and authorization period." 43 CFR 2804.26(a)(5)(i). CICWCD's has not demonstrated their capability to terminate the project within the time period of ROW term. The BLM states in the DEIS that the Project ROW is for a 30-year term. No information indicates CICWCD can maintain and operate the Project in a sustainable way that does not cause severe impacts from groundwater pumping, including impacts on existing water rights and waters beyond Pine Valley. CICWCD's prior record of mismanagement of an aquifer speaks volumes about their lack of technical capability to operate and maintain the Project in a way that does not cause irreparable harm to existing rights, resources, and the environment.

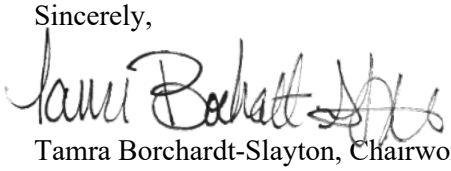
K. Incorporate By Reference

We hereby incorporate by reference the comments on the PVWS Project DEIS from the Great Basin Water Network and the Confederated Tribes of the Goshute Reservation.

V.
CONCLUSION

In summary, the information provided herein provides substantial justification for the federal government to uphold its federal trust responsibility and cancel the PVWS Project. We are requesting that the federal government take immediate action to do so. We are also requesting that the BLM take necessary measures to sponsor or otherwise provide for an ethnographic assessment to be conducted and led by IPB and the Confederated Tribes of the Goshute Reservation within the entire area of potential effect of the three-part PVWS Project. Thank you.

Sincerely,



Tamra Borchardt-Slayton, Chairwoman

Cc.
Paiute Indian Tribal Council
Gloria Tibbetts, District Manager of BLM's Color Country District
Paul Briggs, Field Manager of BLM's Cedar City Field Office
Greg Sheehan, Director of BLM's Utah State Office
James Williams, Superintendent of BIA's Southern Paiute Agency
Pamela Williams, Director of BIA's Indian Water Rights Office
Cathy Wilson, Division Chief of Natural Resources at BIA
Bryan Newland, Assistant Secretary for Indian Affairs
Laura Daniel-Davis, Principal Deputy Secretary – Lands and Minerals
Deb Haaland, Secretary of the Department of the Interior
Brenda Mallory, Chair of the Council on Environmental Quality

EXHIBIT A

1966

TRUSTEE'S DEED

EXHIBIT C

1650

NO. 108150

TRUSTEE'S DEED

WHEREAS,

(a) Under authority of an Act of September 1, 1954, (68 Stat. 1099; 25 U.S.C., Sec. 745(b) and (d) (Supp. III, 1956)) a fee simple patent, No. 1164176, was issued to Walker Bank & Trust Company, Trustee, under a Trust Agreement approved October 23, 1956, which patent is dated September 10, 1956, and recorded April 1, 1957, in the office of the County Recorder of Beaver County, State of Utah, in Book Z-12, page 101, and covers the following described land:

Salt Lake Meridian, Utah
T. 29S., R. 18 W.,

Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34 and 35, containing 8,960 acres, more or less, according to the official Plat of the Survey of the Land, on file in the Bureau of Land Management.

(b) Under the provisions of the Trust Agreement (wherein the trust thereby established is designated as the "Indian Peaks Trust"), said Indian Peaks Trust as to subsurface rights of the land hereinabove described terminated on October 23, 1966, and it is provided that, after said termination date, said subsurface rights to the above described land shall be transferred by the Trustee unto the beneficiaries of said trust, as tenants in common; and

(c) Said Trust Agreement also provides that the beneficiaries of said trust as to the subsurface rights of the land hereinabove described shall be those persons whose names appear on the final roll of the Indian Peaks Band of the Paiute Indians, Utah, as published in the Federal Register for April 14, 1956; that in each instance where a beneficiary shall die

EXHIBIT C

during the tenure of the Indian Peaks Trust, all of such beneficiary's rights under said trust shall go to such person or persons as shall be entitled thereto under the terms of the last will and testament of such beneficiary; and that in each instance where a beneficiary shall die intestate during the tenure of the Indian Peaks Trust, all of such beneficiary's rights under said trust shall go to his heirs-at-law as determined by the laws of succession of the State of Utah, in effect at the time of the death of said beneficiary.

NOW, THEREFORE, pursuant and subject to the terms and conditions of said Trust Agreement,all and whatsoever the rights, title and interest of the undersigned, Walker Bank & Trust Company, as trustee, in and to the subsurface rights of the land hereinabove described in recital (a) hereby are conveyed, transferred and quit-claimed by the undersigned to the beneficiaries of said trust hereinafter set forth, if living, in equal shares as tenants in common, and if any such beneficiary be not living, then such beneficiary's share hereby is conveyed, transferred and quit-claimed by the undersigned, as Trustee, to such person or persons as are entitled thereto under the terms of the last will and testament of such beneficiary, and if any such beneficiary has died intestate, then such beneficiary's share hereby is conveyed, transferred and quit-claimed by the undersigned, as Trustee, to the heirs-at-law of such beneficiary as determined by the laws of succession of the State of Utah, in effect at the time of the death of such beneficiary.

EXHIBIT C

Names and residences of Beneficiaries of Indian Peaks Trust as appear on the final roll of the Indian Peaks Band of the Paiute Indians, Utah, as published in the Federal Register for April 14, 1956:

Name	Residence
Anderson, (Jake), Geneva	Cedar City, Utah
Anderson, Curtis	Cedar City, Utah
Anderson, Geneal	Cedar City, Utah
Anderson, Jeanette	Cedar City, Utah
Jake, Carl	Cedar City, Utah
Jake, Minnie	Cedar City, Utah
Jake, Manell	Cedar City, Utah
Jake, Ernestine	Cedar City, Utah
Jake, Wilford	Cedar City, Utah
Jake, Shirley	Cedar City, Utah
Jake, Clifford	Cedar City, Utah
Jake, Darlene	Cedar City, Utah
Jake, Bryant	Cedar City, Utah
Jake, Althea R.	Cedar City, Utah
Jake, John	Cedar City, Utah
Jake, John, Jr.	Cedar City, Utah
Kanosh (Jake), Edwina	Richfield, Utah
Kanosh, Wilbert	Richfield, Utah
Kanosh, Milo Dee	Richfield, Utah
Kanosh, Don Boyden	Richfield, Utah
Kanosh, Karn Anna	Richfield, Utah
Kanosh, Kennard K.	Richfield, Utah
Solls, Marie Ramona	Cedar City, Utah
Swallow, George M.	Owyhee, Nev.
Tom, Roy	Moccasin, Ariz.
Wichetts, Eddie	Kanosh, Utah

IN WITNESS WHEREOF, Walker Bank & Trust Company, Trustee, has caused its corporate name and seal to be hereunto affixed by its duly authorized officers the 31st day of October, 1966.

WALKER BANK & TRUST COMPANY

ATTEST:

By _____
Vice President and Trust Officer

_____
Secretary

EXHIBIT C

BOOK 104 PAGE 77

STATE OF UTAH)
) ss.
COUNTY OF SALT LAKE)

On the 31st day of October, A.D. 1966, personally appeared before me WM. J. FITZPATRICK and O. K. CARKSON, who being by me duly sworn did say, each for himself, that he, the said Wm. J. Fitzpatrick is a Vice President and Trust Officer, and he, the said O. K. Carlson is a Secretary of Walker Bank & Trust Company, a corporation, and that the within and foregoing instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors and said Wm. J. Fitzpatrick and O. K. Carlson each duly acknowledged to me that said corporation executed the same and that the seal affixed is the seal of said corporation.

Norman K Broadbeck
Notary Public
Residing at Salt Lake City, Utah

My Commission expires:

NORMAN K. BROADBECK NOTARY PUBLIC COMMISSION EXPIRES OCT. 28, 1970 STATE OF UTAH

10-28-70

FILED FOR RECORD
at 9:00 o'clock A. M.
NOV 30 1966
Louis Fleming
Beaver County Recorder

BOOK 104 PAGE 78

EXHIBIT C

1981

WARRANTY DEEDS

CONVEYANCE OF SUBSURFACE RIGHTS TO THE UNITED STATES OF AMERICA IN TRUST FOR INDIAN PEAKS BAND

EXHIBIT C

145398

WARRANTY DEED

I Geneva Anderson, grantor, residing at Las Vegas hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10th day of March, 1981.

Geneva Anderson
Grantor

Mary E. Shumway
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me Geneva Adnerson the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:

Sept. 10th, 1984

FILED FOR RECORD
at 10:00 o'clock A m
MAR 27 1981
Beaver County Recorder
fee $ 5.00

Book 184 Page 335

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from GENEVA ANDERSON, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

181 336

EXHIBIT C

WARRANTY DEED

I Shirley Bowmen, grantor, residing at Enoch hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10 day of March, 1981.

Shirley Bowman
Grantor

Paul S. Truesdell
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me Shirley Bowman the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:

Sept. 10th, 1984

FILED FOR RECORD
at 12:10 o'clock A m
MAR 27 1981
Beaver County Recorder
Fee $ 5.00

181 320

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from GENEAL ANDERSON, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

W T Fitzpatrick

ASSISTANT Area Director

Date: MAR 19 1981

Ref. No. 334

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from GENEVA ANDERSON, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

181 336

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from DAVID C. KANOSH, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

181 336

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from CLIFFORD JAKE, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from MINNIE JAKE, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

181 332

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from EARNESTINE J. POOWEGUP, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

Assistant Area Director

Date: MAR 19 1981

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from WILFORD JAKE, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

EXHIBIT C 325

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from JOHN JAKE, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

Book 191 Page 323

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from CURTIS ANDERSON, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

161 PAGE 319

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from SHIRLEY BOWMAN, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

181 321

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from ALTHEA J. SERAWAP, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

W P Lazzelle

ASSISTANT Area Director

Date: APR - 1 1991

191 504

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from DARLENA J. BEAR, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: APR 01 1981

181 502

EXHIBIT C

145394

WARRANTY DEED

I Minnie JAKE, grantor, residing at ENOCH, UTAH hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10th day of MARCH, 1981.

Grantor

Mary E. Shongreau
Witness

Paul S. Truesdell

ACKNOWLEDGEMENT

State of Utah, County of IRON

On the 10th day of March, 1981, personally appeared before me Minnie Jake the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:

Sept 10, 1981

FILED FOR RECORD
at 10:00 o'clock A m
MAR 27 1981
Beaver County Recorder
Fee $ 5.00

EXHIBIT C

145395

WARRANTY DEED

I Geneal Anderson, grantor, residing at Las Vegas, Nev. hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10th day of March, 1981.

Geneal Anderson
Grantor

Mary E. Schneider
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me Geneal Anderson the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:

Sept. 10th 1984

FILED FOR RECORD
at 10:00 o'clock A m
MAR 27 1981
Beaver County Recorder
Fee $

694 333

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from FARRON W. KANOSH, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

W P Ragsdale

ASSISTANT Area Director

Date: MAR 27 1981

EXT. 181 ... 500

EXHIBIT C

145398

WARRANTY DEED

I Geneva Anderson, grantor, residing at Las Vegas, Nv hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10th day of March, 1981.

Geneva Anderson
Grantor

Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me Geneva Adnerson the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:

Sept. 10th, 1984

FILED FOR RECORD
at 10:00 o'clock A m
MAR 27 1981
Beaver County Recorder
fee $ 5.00

EXHIBIT C

145297

QUITCLAIM DEED

I [illegible], grantor, residing at [illegible], hereby quitclaim to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration all my rights, title and interests in and to the following described real property located in Beaver County, Utah, to wit:

Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35, T. 29 S., R. 18 W., Salt Lake Meridian, Utah

Witness the hand of said grantor this 10th day of March, 1981.

David C Kanosh
Grantor

Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me David C. Kanosh the signer of the above instrument, who duly acknowledged to me that he executed the same.

Notary Public
Mary Guendert

My commission expires:

Sept. 10th, 1984

FILED FOR RECORD
10:00 o'clock A m
MAR 27 1981
Beaver County Recorder
fee 5.50

181 337

EXHIBIT C

WARRANTY DEED

I Clifford Jake, grantor, residing at Cedar C
hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the
INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and
sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94
Stat. 317 the following described real property located in Beaver
County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to
Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35
T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10th day of March,
1981.

Clifford Jake
Grantor

Mary E. Thompson
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared
before me Clifford Jake the signer of the above instrument, who duly
acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:
Sept. 10th, 1984

FILED FOR RECORD
at 10:00 o'clock A m
MAR 27 1981
Beaver County Recorder
Fee $ 4.00

EXHIBIT C

145159

WARRANTY DEED

I Marion W. Knoch, grantor, residing at 81 N. 100 E. Richfield, Utah hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 314 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 24 day of March, 1981.

Marion W. Knoch
Grantor

Clarence J. Pachard Jr.
Witness

ACKNOWLEDGEMENT

State of Utah, County of Sevier

On the 24 day of March, 1981, personally appeared before me Marion W. Knoch the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Gruendert
Notary Public

My Commission expires:

Sept 10, 1984

FILED FOR RECORD
at 11:00 o'clock A m
APR - 7 1981
Beaver County Recorder
Fee $ 7.00

EXHIBIT C499

145151

WARRANTY DEED

I Darlena J Bear, grantor, residing at c/o Skull Valley Res. Grantsville, Utah 84029 hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 314 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 25 day of 3, 1981, 1981.

Darlena J Bear
Grantor

Witness

ACKNOWLEDGEMENT

State of Utah, County of TOOELE

On the 25th day of March, 1981, personally appeared before me Darlena J. Bear the signer of the above instrument, who duly acknowledged to me that he executed the same.

Darlene Bechtel
Notary Public

My Commission expires: [illegible] 1984

FILED FOR RECORD
at 11:50 o'clock A m
APR - 7 1981
Beaver County Recorder
fee $ 7.00

EXHIBIT C

145152

QUITCLAIM DEED

I Arthur J Seranop grantor, residing at Ft. Duchesne, Utah hereby quitclaim to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration all my rights, title and interests in and to the following described real property located in Beaver County, Utah, to wit:

Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35, T. 29 S., R. 18 W., Salt Lake Meridian, Utah

Witness the hand of said grantor this March 20 day of 81, 1981.

Arthur J Seranop
Grantor

Linji G. Wyant
Witness

ACKNOWLEDGEMENT

State of Utah, County of Uintah

On the 20th day of March, 1981, personally appeared before me Arthur J. Seranop the signer of the above instrument, who duly acknowledged to me that he executed the same.

NOTARY PUBLIC

Notary Public

My commission expires:

June 25, 1981

FILED FOR RECORD
at 11:50 o'clock A m
APR - 7 1981
Beaver County Recorder
Fee $ 7.00

EXHIBIT C

145388

WARRANTY DEED

I Curtis Anderson, grantor, residing at Las Vegas Nevada hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10th day of March, 1981.

Curtis Anderson
Grantor

Mary E. Steensgaard
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me Curtis Anderson the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:

Sept. 10th, 1984

FILED FOR RECORD
at 10:00 o'clock A m
MAR 27 1981
Beaver County Recorder
Fee $ 5.00

EXHIBIT C

BOOK 181 PAGE 315

145389

WARRANTY DEED

I Shirley Bowman, grantor, residing at Enoch hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10 day of March, 1981.

Shirley Bowman
Grantor

Paul S. Truesdell
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me Shirley Bowman the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:

Sept. 10th, 1984

FILED FOR RECORD
at 12:10 o'clock A m
MAR 27 1981
Beaver County Recorder
Fee $ 5.00

Bk 191 Pg 320

EXHIBIT C

Bureau of Indian Affairs

Phoenix Area Office

Phoenix, Arizona 85011

The foregoing conveyance from DAVID C. KANOSH, to the United States of America in trust for the INDIAN PEAKS Band of Paiute Indians is hereby accepted on behalf of the United States pursuant to P.L. 96-227 (April 3, 1980; 94 Stat. 317), and authority delegated by the Secretary of the Interior in 10 BIAM 2 and redelegated in 10 BIAM 3.

ASSISTANT Area Director

Date: MAR 19 1981

I - 181 . 338

EXHIBIT C

145297

QUITCLAIM DEED

I David C. Kanosh, grantor, residing at Enoch Utah hereby quitclaim to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration all my rights, title and interests in and to the following described real property located in Beaver County, Utah, to wit:

Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35, T. 29 S., R. 18 W., Salt Lake Meridian, Utah

Witness the hand of said grantor this 10th day of March, 1981.

David C Kanosh
Grantor

Mary E. Stenglein
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me David C. Kanosh the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My commission expires:

Sept. 10th, 1984

FILED FOR RECORD
at 10:00 o'clock A m
MAR 27 1981
Beaver County Recorder
fee $ 5.00

181 337

EXHIBIT C

145390

WARRANTY DEED

I John Jake, grantor, residing at Enoch Ut.
hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10th day of March, 1981.

John Jake
Grantor

Mary E. Sturgeon
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me John Jake the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:
Sept. 10th 1984

FILED FOR RECORD
at 10:00 o'clock A m
MAR 27 1981
Beaver County Recorder
Fee $ 5.00 BOOK 181 PAGE 322

EXHIBIT C

145391

WARRANTY DEED

I Wilford Jake, grantor, residing at Enoch Ut. 84720 hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10th day of March, 1981.

Wilford Jake
Grantor

Mary E. Thompson
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me Wilford Jake the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:

Sept. 10th, 1984

FILED FOR RECORD
1:00 o'clock P m
MAR 27 1981
Beaver County Recorder
Fee $ 5.00

EXHIBIT C

181 324

145392

WARRANTY DEED

I Earnestine J. Poowegup grantor, residing at Cedar City, Utah hereby conveys and warrants to the UNITED STATES OF AMERICA in trust for the INDIAN PEAKS BAND OF PAIUTE INDIANS OF UTAH, grantee for good and sufficient consideration pursuant to the Act of April 3, 1980, P.L. 96-227, 94 Stat. 317 the following described real property located in Beaver County, Utah, to wit:

All sub-surface interests and rights appurtenant thereto to Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 T.29S., R.18W., Salt Lake Base Meridian, Utah

Subject to easements, rights-of-way and encumbrances of record.

WITNESS the hand of said Grantor this 10th day of March, 1981.

Earnestine J. Poowegup
Grantor

Mary E. Snowden
Witness

ACKNOWLEDGEMENT

State of Utah, County of Iron

On the 10th day of March, 1981, personally appeared before me Earnestine J. Poowegup the signer of the above instrument, who duly acknowledged to me that he executed the same.

Mary Guendert
Notary Public
Mary Guendert

My Commission expires:

Sept. 10th 1984

FILED FOR RECORD
at 10:00 o'clock A m
MAR 27 1981
Bruce Bon
Beaver County Recorder
Fee $ 5.00

BOOK 191 PAGE 326

EXHIBIT C

SOLICITOR'S OPINION

NOVEMBER 12, 2009

EXHIBIT C

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
SOUTHERN PAIUTE AGENCY
P.O. Box 720
St. George, Utah 84771

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
Superintendent

January 07, 2010

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Honorable Anthonia Tom
Chairperson, Indian Peaks Band
P. O. Box 973
Cedar City, Utah 84720

Dear Chairperson Tom:

Attached is the Solicitor's Opinion dated November 12, 2009 regarding Indian Peaks Band Surface and Subsurface Rights.

Mr. Grant Vaughn, Attorney-Adviser, Office of the Solicitor, Intermountain Region is available to discuss this opinion at your request.

Should you have any questions please contact this agency at 435-674-9720.

Sincerely,

/s/ Kellie Youngbear

Superintendent

Attachment

H69101:KYOUNGBEAR:ap:01/07/10:674-9720:

EXHIBIT C

United States Department of the Interior

OFFICE OF THE SOLICITOR
SUITE 6201, FEDERAL BUILDING
125 SOUTH STATE STREET
SALT LAKE CITY, UTAH 84138

November 12, 2009

MEMORANDUM

To: Superintendent, Southern Paiute Agency

From: Attorney-Adviser, Office of the Solicitor, Intermountain Region

Subject: Indian Peaks Band Surface and Subsurface Rights

This is in response to your memorandum of May 28, 2009, requesting that we answer certain questions with respect to the property rights of the Indian Peaks Band (the Band) of the Paiute Indian Tribe of Utah in sections 16 and 36, T. 29 S., R. 18 W., S.L.M. (sections 16 and 36). We have reviewed the documents you provided with your memorandum, a copy of the 1956 Indian Peaks Trust Agreement that you provided to us on July 28, 2009, and a letter to us from Jeanine Borchardt, Chairwoman the Band dated July 31, 2009. We will provide a general description of the relevant transactions involving sections 16 and 36 and will address each of the questions that both you and Chairwoman Borchardt posed.

Background

Because the relevant history of sections 16 and 36 extends over a period of more than 80 years and involves several key dates, we provide at the outset a basic chronology that should make the discussion of the history easer to follow.

July 16, 1894	Utah Statehood Act is passed; it grants sections 16 and 36 to the State for school purposes
July 8, 1915	Survey for Sections 16 & 36, T. 29 S., R. 18 W., S.L.M. accepted; title to sections 16 and 36 vests in the State of Utah by operation of law
August 2, 1915	Subject to valid existing rights, the Indian Peaks Reservation is established by Executive Order of Pres. Wilson; the reservation includes sections 16 and 36
September 1, 1954	The Act terminating the Indian Peaks Band is passed
November 27, 1957	Surface estate of former reservation conveyed to State; compensation given to Band.

EXHIBIT C

September 23, 1965 Patent is issued to State for sections 16 & 36

April 3, 1980 Act is passed restoring Indian Peaks Band

The Band is currently a component Band of the Paiute Indian Tribe of Utah (PITU), which is a federally recognized Indian Tribe organized under a Constitution authorized by the Indian Reorganization Act of 1934, 48 Stat. 984, 25 U.S.C. § 476, as amended.

Under Section 6 of the Utah Enabling Act of July 16, 1894, 28 Stat. 107, Sections numbered 2, 16, 32, and 36 in every township were set aside as land grants for the support of common schools:

> . . . Provided, that the second, sixteenth, thirty-second, and thirty-sixth, sections embraced in permanent reservations for national purposes shall not, at any time, be subject to the grants nor the indemnity provisions of this Act, nor shall any lands embraced in Indian, military, or other reservations of any character be subject to the grants or to the indemnity provisions of this Act until the reservations shall have been extinguished and such lands be restored to and become a part of the public domain.

Id. (Exhibit 13 to your memorandum).

On July 8, 1915, the survey plats for sections 16 and 36 were approved by the responsible federal official.

On August 2, 1915, President Wilson created a reservation for the Band by Executive Order No. 2229. (Exhibit 12 to your memorandum). In that Order, sections 16 and 36 were reserved with all the other listed sections "for the permanent use and occupancy of two certain bands of Paiute Indians. . . ." *Id.* However, the reservation was expressly made "subject to any valid existing rights of any person thereto." *Id.*

The Band was terminated, along with the Shivwits, Kanosh, and Koosharem Bands of the Paiute Indians of Utah pursuant to the Act of September 1, 1954, 68 Stat. 1099, 25 U.S.C. §§ 741-760 (Exhibit 10 to your memorandum). Section 5(a) of the Act directed the Secretary to provide reasonable assistance as may be requested by the PITU in the formulation of a plan for the disposition and future control of tribal property. This is acknowledged in the Termination Notice published in the Federal Register. 22 Fed. Reg. 1503 (February 21, 1957) (Exhibit 8 to your memorandum).

On October 23, 1956, the Secretary designated Walker Bank & Trust Company as trustee of the surface and subsurface rights of the Band, in accordance with the provisions of the Termination Act and a Trust Agreement dated August 18, 1956. (Exhibit 9 to your memorandum). As title to the Sections 16 and 36 had already passed to the State, they were not transferred in trust to Walker Bank as part of the Trust Agreement. The

EXHIBIT C

beneficiaries of the trust were "all those persons whose names appear on the final roll of [the Band] as published in the Federal Register for April 14, 1956. . . ." The Trust Agreement directed Walker Bank to "endeavor to sell the surface rights as a unit."

On November 27, 1957, Walker Bank sold the surface rights in the Trust to the State of Utah. (Exhibit 7 to your memorandum). Sections 16 and 36 described above were not included in this conveyance, as they had not been transferred in trust to Walker Bank. Beneficiaries of the Indian Peaks Trust Agreement received compensation for this sale.

On January 10, 1958, the State of Utah conveyed all of Section 16, T. 29 S., R. 18 W., S.L.M., to the Utah State Department of Fish & Game for $2,240, reserving all mineral rights to the State of Utah (Exhibit 6 to your memorandum).

On September 23, 1965, the Bureau of Land Management, Utah State Office, issued a patent to the State of Utah for lands granted to it at the time of Statehood that included sections 16 and 36 (Exhibit 5 to your memorandum). The patent stated that title to the various sections "vested in the State of Utah under the Act of July 16, 1894 (28 Stat. 107), upon the acceptance of the Plats of Surveys by the Bureau of Land Management on the dates hereinafter stated." *Id.* For sections 16 and 36, the plats were accepted on July 8, 1915. This was the month before the Executive Order of President Wilson establishing the Indian Peaks Reservation.

The subsurface rights to the former Indian Peaks Reservation were never sold. Rather, by Trust Deed of October 31, 1966 (Exhibit 4 to your Memorandum) the subsurface rights were conveyed to "the beneficiaries of [the Indian Peaks Trust]" who are "those persons whose names appear on the final roll of the Indian Peaks Band of the Paiute Indians, Utah. . . ."

In 1968, the Southern Paiute Nation[1], including the Band, received a judgment award of the Indian Claims Commission as compensation for the extinguishment of aboriginal title. Act of October 17, 1968, Pub. L. 90-584, 82 Stat. 1164 (Exhibit 3 to your memorandum). The area covered by the claim included the lands in the area of the former Indian Peaks Reservation. *The Southern Paiute Nation, et al. v. United States*, 14 Ind. Cl. Comm. 619 (1965). The Indian Claims Commission found that "[t]he claimed lands were allegedly taken by the [United States] without compensation over a period of time roughly from 1853 to 1880." *Id.* at 619-20.

The United States restored federal recognition to the Band, along with the Shivwits, Kanosh, and Koosharem Bands, and restored or confirmed recognition with respect to the Cedar City Band as the Paiute Indian Tribe of Utah (PITU) by the Act of April 3, 1980, 94 Stat. 917, 25 U.S.C. §§ 761-766.

---

[1] This broader group of Southern Paiutes includes the current bands of the PITU as well as the Las Vegas Band, the Kaibab Band, the Moapa Band, and other who could "establish Southern Paiute lineal descent to the satisfaction of the Secretary. . . ." Act of October 17, 1968, Pub. L. 90-584, 82 Stat. 1164.

EXHIBIT C

Discussion

The general rule, as confirmed by the U.S. Supreme Court, is that title to the public land sections set aside for the States upon their admission to the Union does not pass to the States until there has been an accepted or approved U.S. government survey of the sections. In *United States v. Wyoming*, 331 U.S. 440 (1947), the Supreme Court stated:

> It has consistently been held that under the terms of the grants [made to the States], title to unsurveyed sections of the public lands which have been designated as school lands does not pass to the State upon its admission to the Union, but remains in the Federal Government until the land is surveyed.
>
> It is significant that for a period extending over half a century, the land decisions of the Department of the Interior have consistently taken the position that title to unsurveyed school sections passes to the State only upon completion of the survey, and prior to that time the Federal Government is not inhibited from making such reservations and dispositions of the lands as required by the public interest and as authorized by applicable statutes.

Id. at 443, 454. In that case, Wyoming was seeking to obtain sections that had been set aside in reservations before a survey had been accepted or approved. *See, e.g., State of Utah v. Work*, 6 F.2d 675 (D.C. Cir. 1925); *State of Utah*, 53 I.D. 365 (1931).

The transfer of title to the State occurs by operation of law on the date of Statehood for lands already surveyed or when the official survey is subsequently accepted or approved, regardless of when the actual patent may be issued. When an Indian Reservation is created after school sections granted to the State have been surveyed and the survey approved, the Tribe for whom the Reservation is created obtains no rights to those lands, even though they might be included within the Reservation. The Executive Order that established the Indian Peaks Reservation expressly stated that the Reservation was "subject to valid existing rights," which would include the school sections granted to the State that had been surveyed and approved prior to the creation of the Reservation. EO No. 2229 (August 2, 1915) (Exhibit 12 to your memorandum).

This principle was applied in the case of the Navajo Reservation in Utah. *Navajo Tribe of Indians v. State of Utah*, 12 IBLA 1 (1973). In that case, the State of Utah filed application in 1958 "for a confirmatory patent to two school sections lying within the exterior boundaries of the extension of the Navajo Reservation added by the Act of March 1, 1933, 47 Stat. 1418." *Id.* at 11. The Navajo Tribe protested the issuance of a patent. IBLA ruled that title to the school sections at issue passed to the State under the authority of the Utah Enabling Act when the surveys of the sections were approved in 1900, and that the Navajo obtained no rights to those sections when its Reservation was extended in 1933. *Id.* at 216, 217. [2]

[2] One of the several factors considered by the Board was whether the Navajos had actual occupancy of the disputed sections before they passed to the State. *Id.* The *Navajo* case leaves open the possibility that if there was occupancy of the disputed sections by members of the Band before the sections vested in the

EXHIBIT C

Based on the above, we address your specific questions and the issues presented by the Band as follows:

1. Does the Indian Peaks Band still own sections 16 and 36, T. 29 S., R. 18 W., S.L. M., including subsurface rights and water rights, or does the Utah State Department of Fish & Game and State of Utah own these sections by adverse possession or some other theory of law?

The Band does not now own sections 16 and 36 because, as explained above, title to them vested in the State by operation of law on July 8, 1915, several weeks before Pres. Wilson created the Band's reservation. Although President Wilson's Executive Order "set[s] aside" sections 16 and 36 for the "permanent use and occupancy" of the Band, it does so "subject to any valid existing rights." As the State had already acquired title to the sections, the Band obtained no interest in the sections by virtue of the Executive Order. We have not reviewed the current title of the sections, and so do not provide an opinion on their current ownership, but note, from the documents you provided that the sections appear to have been sold by the State to the Utah State Department of Fish & Game in 1958.

2. Did the Bureau of Land Management have the authority to retroactively convey sections 16 and 36 to the State of Utah?

BLM did not retroactively convey sections 16 and 36 to the State of Utah. The patent issued by BLM in 1965 did not convey title to the sections; rather, it confirmed and provided evidence of "the title which was granted to and vested in the State of Utah to [sections 16 and 36] on the date[] aforesaid"—i.e. July 8, 1915, which was the date the survey plats for section 16 and 36 were accepted. This was not a retroactive conveyance but recognition of title that had already been conveyed by operation of law.

3. Does the Indian Peaks Band still own the subsurface rights including water to sections 12, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34 and 35, T. 29 S., R. 18 W., S.L.M., or are these rights the property of the individual beneficiaries and heirs of Indian Peaks Trust as they appear on the final roll, or does somebody else own them?

State, this could serve as a basis to show Indian occupancy which could preclude the grant to the State. *Id* However, the only evidence to establish such occupation is a letter you provided from the Supervising Engineer to the Commissioner of Indian Affairs dated May 12, 1924, after the 1915 establishment of the reservation, indicating, without any specific reference to Sections 16 or 36 that the Indians had been in the area of the reservation "for some time." This is a fairly vague reference The Navajo case also holds that "As indicated in the Solicitor's decision, 72 I.D. 361, 366 [(1965)], the Tribe has the burden of proof to overcome the presumptive vesting of the State's title." *Id.* at 177. We would need significantly more evidence to establish actual occupancy before the transfer to the State. Specifically, it would need to address "the extent of improvements placed on the land in the form of [structures], corrals, fences, etc., the extent of actual residence and the extent of grazing or cultivation." 72 I.D. 361, 366 (1965).

EXHIBIT C

By the Trust Deed of October 31, 1966 (Exhibit 4 to your Memorandum) the subsurface rights were conveyed to "the beneficiaries of said trust [Indian Peaks Trust]" who are "those persons whose names appear on the final roll of the Indian Peaks Band of the Paiute Indians, Utah, as published in the Federal Register. . . ." Therefore, we are of the opinion that the subsurface rights, including the associated water rights (if any) belong to the individual beneficiaries and heirs of the Indian Peaks Trust as "tenants in common." If the "tenants in common" so desired, they could transfer the subsurface rights back to the United States as trustee for the benefit of the Band under the authority of the Indian Land Consolidation Act Amendments of 2000, 25 USC § 2216.

4. How can we resolve this matter with the State of Utah and assist the Indian Peaks Band to obtain an equitable settlement or remuneration?

As the Band did not obtain any ownership rights in sections 16 and 36 by virtue of President Wilson's Executive Order, there is no basis for seeking an equitable settlement or remuneration.

5. The Band claims that "the State did not follow proper procedure cited in 43 USC Sec. 863" regarding proper notice of its application for patents for Sections 16 and 36 thus invalidating their application.

The statutes cited by the Chairwoman in her letter do not apply to the patent issued to the State.

6. The Band states that only ceded Indian Reservations were open to State selection.

The State did not select sections 16 and 36 from lands included in an Indian Reservation. The sections were granted to the State by the 1895 Enabling Act and title to the sections vested in the State prior to the creation of the Indian Peaks Reservation.

Please call me at 801-524-5677 x223 if you require further information or would like to discuss this matter further.

GRANT L. VAUGHN
Attorney-Adviser

cc:
Regional Director, Western Region, BIA, Branch of Real Estate Services

EXHIBIT C

BIA MEMO

MAY 28, 2009

EXHIBIT C

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
SOUTHERN PAIUTE AGENCY
P.O. Box 720
St. George, Utah 84771

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
Superintendent's Office

May 28, 2009

Memorandum

To: Regional Solicitor

From: Superintendent, Southern Paiute Agency

Subject: Indian Peaks Band surface and subsurface rights

On December 15, 2008, we received a letter from Lora E. Tom, Chairperson of the Paiute Indian Tribe of Utah requesting our assistance in obtaining some consideration for the Indian Peaks Band. (See Exhibit 1) Over the course of the Band's dealings with the United States and the State of Utah there was a considerable mix-up concerning two (2) sections located in Beaver County, Utah. After reviewing the documentation, we share the opinion of the Paiute Tribe Chairperson that the Indian Peaks Band did not receive proper consideration for these two (2) sections when the Band's recognition was terminated on February 21, 1957. We have attached a timeline and several documents associated with this memorandum for your review.

Under the Utah Enabling Act of July 16, 1894 (28 Stat. 107) Section 6, upon Utah's admission into the Union, sections, numbered 2, 16, 32, and 36 in every township were set aside as land grants for the support of common schools… with the approval of the Secretary of the Interior: "Provided, that the 2nd, 16th, 32nd, and 36th sections embraced in permanent reservations for national purposes shall not, at any time, be subject to the grants nor to the indemnity provisions of this Act, nor shall any land embraced in Indian, military, or other reservations of any character be subject to the grants or to the indemnity provisions of this Act until the reservation shall have been extinguished and such lands be restored to and become a part of the public domain." (See Exhibit 13)

The State received the approval of the Secretary of the Interior for the set aside of sections 16 and 36, T. 29 S., R. 18 W., S.L.M., on September 23, 1965. (See Exhibit 5) Therefore, the approval of the Secretary was granted fifty (50) years after the sections were reserved for the Indian Peaks Band. (See Exhibit 12)

On August 2, 1915, by Executive Order No. 2229, sections 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, and 36, T. 29 S., R. 18 W., Salt Lake meridian, in Utah, approximately 10,240 acres were set aside for the permanent use and occupancy of two certain bands of Paiute Indians and such other Indians of this tribe as the the Secretary of the Interior may direct, subject to any valid existing rights of any person thereto. (See Exhibit 12)

EXHIBIT C

Under Public Law 762, September 1, 1954 (68 Stat. 1099), Congress provided for the termination of Federal supervision over the property of the Shivwits, Kanosh, Koosharem, and Indian Peaks Bands of the Paiute Indian Tribe and under section 5(a) of the Act directed the Secretary of the Interior to provide reasonable assistance as may be requested by the tribe in the formulation of a plan for the disposition or future control and management of tribal property. (See Exhibit 10)

On September 10, 1956, the Secretary of the Interior designated Walker Bank & Trust Company as trustee of all of sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35, T. 29 S., R. 18 W., S.L.M. Therefore, the Secretary failed to include sections 16 and 36, T. 29 S., R. 18 W., S.L.M., when Walker Bank & Trust Company was designated trustee. (See Exhibit 9)

Whether this was merely an oversight or an intentional exclusion by the Secretary probably does not matter. The members of the Indian Peaks Band did not receive any consideration for sections 16 and 36 when Walker Bank & Trust Company sold the Indian Peaks reservation surface rights to the State of Utah on November 27, 1957, and sections 16 and 36 were not included in the Trustee's Deed of conveyance. (See Exhibit 7)

On January 10, 1958, the State of Utah sold all of section 16, T. 29 S., R. 18 W., S.L.M., to the Utah State Department of Fish & Game for $2,240, reserving all the mineral rights to Utah. However, at the time, the Indian Peaks Band owned the property and the mineral rights. (See Exhibit 6 and Exhibit 12)

Apparently, somebody realized that sections 16 and 36, T. 29 S., R. 18 W., S.L.M., were never formally conveyed to the State of Utah by the Secretary of the Interior as required by the Utah State Enabling Act and a conveyance was signed by the Bureau of Land Management on September 23, 1965. (See Exhibit 5) The conveyance appears to be retroactive to the date the Plat was accepted on July 8, 1915. The date the Plat was accepted, fortunately for the State of Utah, was one (1) month prior to Executive Order 2221, dated August 2, 1915. It appears to have been filed for Recording on March 21, 1958. Eight (8) years prior to the conveyance? We doubt the Bureau of Land Management had the authority to convey sections 16 and 36 retroactively, since the two sections had already been conveyed to the Band by the President of the United States over fifty (50) years before the conveyance to the State of Utah. (See Exhibit 12)

The Bureau of Indian Affairs' mission is to enhance the quality of life, to promote the economic opportunity, and to carry out the responsibility to protect and improve the trust assets of American Indians. Although sections 16 and 36, T. 29 S., R. 18 W., S.L.M., are not currently trust assets, these sections were trust assets at one time and there was a serious lapse by the United States in its fiduciary duty to the Indian Peaks Band. These sections were conveyed by an officer of the United States to the State of Utah without any consideration being paid to the Indian Peaks Band or its members.

We agree with the Chairperson of the Paiute Indian Tribe of Utah. The Band should receive an equitable settlement or renumeration for sections 16 and 36. However, we need the Solicitor's Opinion:

1. Does the Indian Peaks Band still own sections 16 and 36, T. 29 S., R. 18 W., S.L.M., including subsurface rights and water rights, or does the Utah State Department of Fish & Game and State of Utah own these sections by adverse possession or some other theory of law?
2. Did the Bureau of Land Management have the authority to retroactively convey sections 16 and 36 to the State of Utah?
3. Does the Indian Peaks Band still own the subsurface rights including water to sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35, T. 29 S., R. 18 W., S.L.M., or are these rights the property of the individual beneficiaries and heirs of Indian Peaks Trust as appear on the final roll, or does somebody else own them? (See Exhibit 4)
4. How can we resolve this matter with the State of Utah and assist the Indian Peaks Band to obtain an equitable settlement or renumeration?

If you should have any questions, please contact Michael Haller, Realty Specialist at (435) 674-9720.

Sincerely

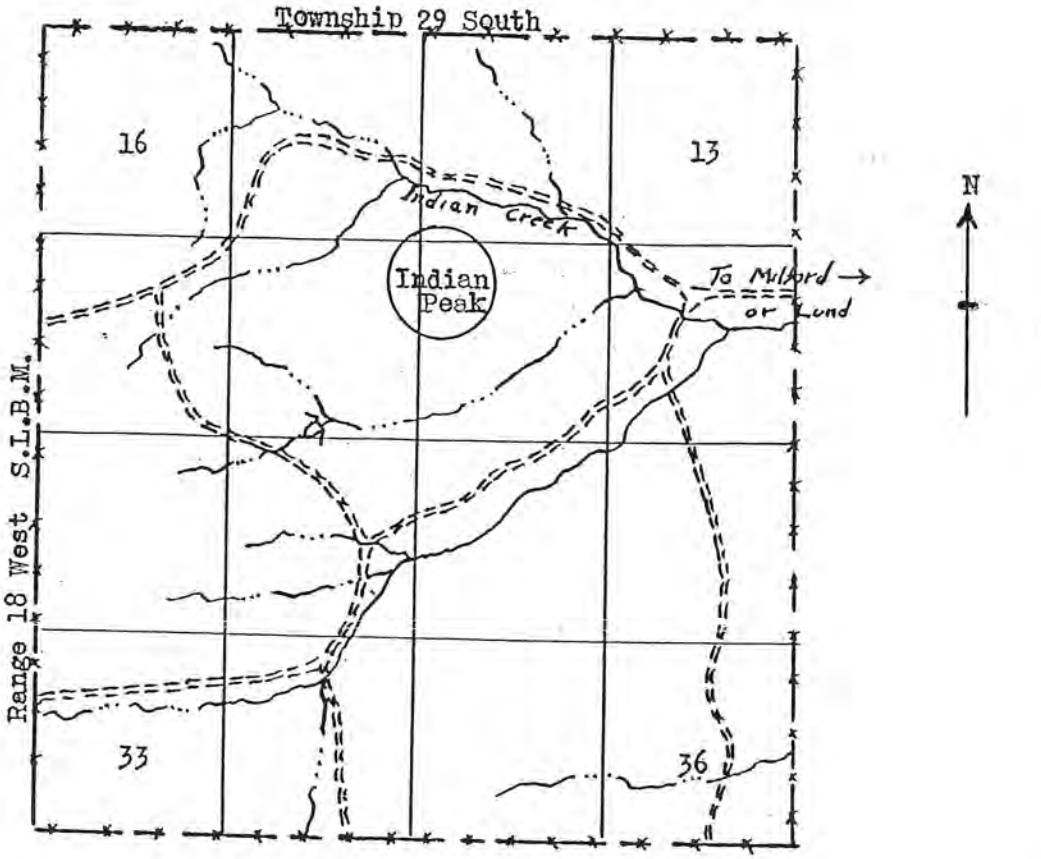
Kellie Youngbear
Superintendent

Attachment(s):

INDIAN PEAKS
UTAH

7/16/1894 (28 Stat. 107)	Utah Enabling Act
1/04/1896 (29 Stat. 876)	Utah Statehood Proclamation
8/2/1915 (Executive Order No. 2229)	Reserved public domain land in Beaver County, Utah "for the permanent use and occupancy of two certain bands of Paiute Indians."
8/5/1954 (Report No. 2221)	Recommendation to sell approximately 10,240 acres of land in Utah, described as sections 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, and 36, T. 29 S., R. 18 E., S.L.M.
9/1/1954 (Pub.L. 762, 68 Stat. 1099, 25 U.S.C. Sec. 745(b) and (d) Supp. III, 1956)	Provided for the termination of Federal supervision over the trust and restricted property of the following tribes or bands of Indians located in the State of Utah: Shivwits, Kanosh, Koosharem, and Indian Peaks Bands of the Paiute Indian Tribe.
9/10/1956 (Trust Agreement)	Between Secretary of the Interior and Walker Bank & Trust Company, Salt Lake City, Utah – designates latter as trustee of 8,960 acres: All of Secs. 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35, T. 29 S., R. 18 W., S.L.M., pursuant to Section 25 U.S.C. Sec. 745(b) and (d); Act of 9/1/1954 (68 Stat. 1099). Reserving to the Indian Peaks Band the right of internment in an existing cemetery, situated in the SE1/4NW1/4 of Sec. 23 with right of ingress and egress.
2/21/1957 (22 Federal Register 1957)	Proclamation of Termination of Federal Supervision of the Shivwits, Kanosh, Koosharem and Indian Peaks Bands of Paiute Indian Tribe and its members.
11/27/1957 (Trustee's Deed)	Walker Bank & Trust Company conveys all of Secs. 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35, T. 29 S., R. 18 W., S.L.M., to the State of Utah in consideration of Thirty Nine Thousand Five Hundred ($39,500.00) Dollars. Reserving to the Grantor all sub-surface mineral, oil & gas rights and surface and/or sub-surface water.
1/10/1958 (Patent)	State of Utah conveys all of Section 16, T. 29 S., R. 18 W., S.L.M., to Utah State Department of Fish & Game.
9/23/1965 (Patent)	Bureau of Land Management conveys Secs. 16 and 36, T. 29 S., R. 18 W., S.L.M., to the State of Utah pursuant to Act of Congress of 6/21/1934 (48 Stat. 1185). Plat Accepted on 7/8/1915. Recorded 3/21/1958?
10/31/1966 (Trustee's Deed)	Walker Band & Trust Company conveys all subsurface rights in Secs. 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35, T. 29 S., R. 18 W., S.L.M., to those persons whose names appear on the final roll of the Indian Peaks Band of Indians, Utah, as published in the Federal Register for April 14, 1956, and their heirs.
10/17/1968 (82 Stat. 1147)	Provides for the disposition of funds appropriated to pay a judgment in favor of the Southern Paiute Nation of Indians.
4/03/1980 (94 Stat. 317)	Restores Federal Trust Relationship to members of Shivwits, Kanosh, Koosharem, Indian Peaks and Cedar City Bands of Paiutes in Utah.

EXHIBIT C



DEPARTMENT OF INTERIOR

Bureau of Indian Affairs

PAIUTE (INDIAN PEAK) INDIAN RESERVATION

Beaver County, Utah

RANGE UNIT MAP - 1954

Legend

Reservation Boundary

Unimproved Road

Indian Peak — Non-Indian Use

Intermittent Stream

Permanent Stream

Barbed Wire Fence

Scale 1"= 1 mile

EXHIBIT C

EXHIBIT 1

LETTER FROM
PAIUTE INDIAN TRIBE OF UTAH
12/15/2008

EXHIBIT C

K, 12/15/08
TO: M. Black

THE PAIUTE INDIAN TRIBE OF UTAH

440 North Paiute Drive · Cedar City, Utah 84720 · (435) 586-1112

Kellie Youngbear
Superintendent
U.S. Department of Interior
Bureau of Indian Affairs
Southern Paiute Agency
180 North 200 East #111
St. George, UT 84771

Superintendent Youngbear:

In reviewing the land transfer documents relating to the Indian Peaks Band regarding the land in Western Beaver County, it has come to our attention that sections 16 and 36 of Township 29 South, Range 18 West were granted to the Band by executive order on 2 August, 1915, by President Woodrow Wilson.

These same two sections were also reserved on July 16, 1894 for the State of Utah School Trust Land. A provision of the School Trust land Reservation stipulates that if any of the sections were previously sold or otherwise obligated that the State should be given other substitute sections of equal value and close proximity.

The two above mentioned sections were sold by the State of Utah to the Utah Division of Wildlife Resources in January of 1958. About that same time the Indian Peaks Band sold it's surface rights to sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, & 35 which had also been reserved by President Wilson and by President Warren G. Harding for the Band.

There seemed to be the intent for the Band to have had a complete 16 square mile parcel of land at the time the set aside was made and the Band would like to regain ownership of the two sections for cultural use. If the two sections 16, and 36 cannot be obtained then the Band would ask for the same consideration as the State of Utah was requesting, two nearby and equivalent value sections.

EXHIBIT C

The Band clearly did not get any remuneration for the sale of the two sections. The State of Utah received the compensation.

Most of the surrounding sections of land are owned by the BLM so it really shouldn't be that difficult to accomplish. Especially since the intent of the original transfer is quite clear and the old documents are available for examination.

This area is a traditional area for the Band to gather pine nuts and hold ceremonial gatherings to pay respect for their ancestors who are interred in that area. There is a small cemetery located in section 23, T29S, R18W which is still visited by Band members.

We would appreciate your assistance in obtaining a settlement in this matter. If we can be of any assistance please let us know.

Hopefully this matter can be expedited before the next pine nut harvest season.

Sincerely:

Lora E. Tom
Tribal Chairwoman
Paiute Indian Tribe of Utah

EXHIBIT C

EXHIBIT 2

4/03/1980 (94 STAT. 317)

EXHIBIT C

status as Indians, all statutes of the United States which affect Indians because of their status as Indians shall no longer be applicable to the members of the tribe, and the laws of the several States shall apply to the tribe and its members in the same manner as they apply to other citizens or persons within their jurisdiction.

(b) Citizenship status unaffected

Nothing in this subchapter shall affect the status of the members of the tribe as citizens of the United States, or shall affect their rights, privileges, immunities, and obligations as such citizens.

(Sept. 1, 1954, ch. 1207, § 17, 68 Stat. 1103.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 758, 760 of this title.

§ 758. Status of Tribes

(a) Revocation of corporate charter

Effective on the date of the proclamation provided for in section 757 of this title, the corporate charter issued pursuant to the Act of June 18, 1934 (48 Stat. 984), as amended [25 U.S.C. 461 et seq.], to the Kanosh Band of Paiute Indians of the Kanosh Reservation, Utah, and ratified by the band on August 15, 1943, and to the Shivwits Band of Paiute Indians of the Shivwits Reservation, Utah, and ratified by the band on August 30, 1941, are revoked.

(b) Termination of Federal power

Effective on the date of the proclamation provided for in section 757 of this title, all powers of the Secretary or other officer of the United States to take, review, or approve any action under the constitution and bylaws of the tribe are terminated. Any powers conferred upon the tribe by such constitution which are inconsistent with the provisions of this subchapter are terminated. Such termination shall not affect the power of the tribe to take any action under its constitution and bylaws that is consistent with this subchapter without the participation of the Secretary or other officer of the United States.

(Sept. 1, 1954, ch. 1207, § 18, 68 Stat. 1104.)

REFERENCES IN TEXT

Act of June 18, 1934, referred to in subsec. (a), popularly known as the Indian Reorganization Act, is classified generally to subchapter V (§ 461 et seq.) of this chapter. For complete classification of this Act to the Code, see Short Title note set out under section 461 of this title and Tables.

§ 759. Rules and regulations; tribal referenda

The Secretary is authorized to issue rules and regulations necessary to effectuate the purposes of this subchapter, and may in his discretion provide for tribal referenda on matters pertaining to management or disposition of tribal assets.

(Sept. 1, 1954, ch. 1207, § 19, 68 Stat. 1104.)

§ 760. Education and training program; purposes; subjects; transportation; subsistence; contracts; other education programs

Prior to the issuance of a proclamation in accordance with the provisions of section 757 of this title, the Secretary is authorized to undertake, within the limits of available appropriations, a special program of education and training designed to help the members of the tribe to earn a livelihood, to conduct their own affairs, and to assume their responsibilities as citizens without special services because of their status as Indians. Such program may include language training, orientation in non-Indian community customs and living standards, vocational training and related subjects, transportation to the place of training or instruction, and subsistence during the course of training or instruction. For the purposes of such program the Secretary is authorized to enter into contracts or agreements with any Federal, State, or local governmental agency, corporation, association, or person. Nothing in this section shall preclude any Federal agency from undertaking any other program for the education and training of Indians with funds appropriated to it.

(Sept. 1, 1954, ch. 1207, § 23, 68 Stat. 1104.)

SUBCHAPTER XXXII-A—PAIUTE INDIANS OF UTAH: RESTORATION OF FEDERAL SUPERVISION

§ 761. Definitions

For the purposes of this subchapter—

(1) the term "tribe" means the Cedar City, Shivwits, Kanosh, Koosharem, and Indian Peaks Bands of Paiute Indians of Utah;

(2) the term "Secretary" means the Secretary of the Interior or his authorized representative;

(3) the term "Interim Council" means the council elected pursuant to section 764 of this title;

(4) the term "member", when used with respect to the tribe, means a person enrolled on the membership roll of the tribe, as provided in section 763 of this title; and

(5) the term "final membership roll" means the final membership roll of the tribe published on April 15, 1955, on pages 2499 through 2503 of volume 20 of the Federal Register and on April 14, 1956, on pages 2453 through 2456 of volume 21 of the Federal Register.

(Pub. L. 96-227, § 2, Apr. 3, 1980, 94 Stat. 317.)

SHORT TITLE

Section 1 of Pub. L. 96-227 provided: "That this act [enacting this subchapter] may be cited as the 'Paiute Indian Tribe of Utah Restoration Act'."

§ 762. Federal restoration of supervision

(a) Trust relationship restored or confirmed; statutory provisions applicable; eligibility for Federal services and benefits

The Federal trust relationship is restored to the Shivwits, Kanosh, Koosharem and Indian

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Peaks Bands of Paiute Indians of Utah and restored or confirmed with respect to the Cedar City Band of Paiute Indians of Utah. The provisions of the Act of June 18, 1934 (48 Stat. 984), as amended [25 U.S.C. 461 et seq.], except as inconsistent with specific provisions of this subchapter, are made applicable to the tribe and the members of the tribe. The tribe and the members of the tribe shall be eligible for all Federal services and benefits furnished to federally recognized Indian tribes. Notwithstanding any provision to the contrary in any law establishing such services or benefits, eligibility of the tribe and its members for such Federal services and benefits shall become effective April 3, 1980, without regard to the existence of a reservation for the tribe or the residence of members of the tribe on a reservation. For the purpose of providing for Federal services and benefits, the service area shall be Iron, Millard, Sevier, and Washington Counties, Utah, except that should lands in any other county be added to the reservation pursuant to section 766(c) of this title, the service area shall also include the area on or near the additions to the reservation.

(b) Restoration of rights and privileges

Except as provided in subsection (c) of this section, all rights and privileges of the tribe and of members of the tribe under any Federal treaty, Executive order, agreement, or statute, or under any other authority, which were diminished or lost under the Act of September 1, 1954 (68 Stat. 1099) [25 U.S.C. 741 et seq.], are hereby restored, and such Act shall be inapplicable to the tribe and to members of the tribe after April 3, 1980.

(c) Hunting, fishing, or trapping rights not restored

This subchapter shall not grant or restore any hunting, fishing, or trapping right of any nature, including any indirect or procedural right or advantage, to the tribe or any member of the tribe.

(d) Effect on property rights or obligations, contractual rights or obligations, or obligations for taxes

Except as specifically provided in this subchapter, nothing in this subchapter shall alter any property right or obligation, any contractual right or obligations, or any obligation for taxes already levied.

(Pub. L. 96-227, § 3, Apr. 3, 1980, 94 Stat. 317.)

REFERENCES IN TEXT

Act of June 18, 1934, referred to in subsec. (a), popularly known as the Indian Reorganization Act, is classified generally to subchapter V (§ 461 et seq.) of this chapter. For complete classification of this Act to the Code, see Short Title note set out under section 461 of this title and Tables.

Act of September 1, 1954, referred to in subsec. (b), is act Sept. 1, 1954, ch. 1207, 68 Stat. 1099, which is classified generally to subchapter XXXII (§ 741 et seq.) of this chapter. For complete classification of this Act to the Code, see Tables.

§ 763. Membership roll

(a) Opening; establishment of accuracy

The final membership roll is declared open. The Secretary, the Interim Council, and tribal officials under the tribal constitution and bylaws shall take such measures as will insure the continuing accuracy of the membership roll.

(b) Prerequisites for inclusion

(1) Until after the initial election of tribal officers under the tribal constitution and bylaws, a person shall be a member of the tribe and his name shall be placed on the membership roll if he is living and if—

(A) his name is listed on the final membership roll;

(B) he was entitled on September 1, 1954, to be on the final membership roll but his name was not listed on that roll;

(C) he is a descendant of a person specified in subparagraph (A) or (B) and possesses at least one-fourth degree of blood of members of the tribe or their Paiute Indian ancestors;

(D) his name is listed on the roll established pursuant to the Act of October 17, 1968 (82 Stat. 1147), for the disposition of judgment funds, as a member of the Cedar City Band of Paiute Indians;

(E) he was entitled on October 17, 1968, to be on the judgment distribution roll as a member of the Cedar City Band as specified in subparagraph (D) but his name was not listed on that roll; or

(F) he is a descendant of a person specified in subparagraph (D) or (E) and possesses at least one-fourth degree of blood of members of the tribe or their Paiute Indian ancestors.

(2) After the initial election of tribal officials under the tribal constitution and bylaws, the provisions of the tribal constitution and bylaws shall govern membership in the tribe.

(c) Verification of descendancy, age, and blood; procedures applicable

(1) Before election of the Interim Council, verification of descendancy, age, and blood shall be made upon oath before the Secretary and his determination thereon shall be final.

(2) After election of the Interim Council and before the initial election of the tribal officials, verification of descendancy, age, and blood shall be made upon oath before the Interim Council, or its authorized representative. A member of the tribe, with respect to the inclusion of any name, and any person, with respect to the exclusion of his name, may appeal to the Secretary, who shall make a final determination of each such appeal within ninety days after an appeal has been filed with him. The determination of the Secretary with respect to an appeal under this paragraph shall be final.

(3) After the initial election of tribal officials, the provisions of the tribal constitution and bylaws shall govern the verification of any requirements for membership in the tribe, and the Secretary and the Interim Council shall deliver their records and files, and other material relating to enrollment matters, to the tribal governing body.

(d) Participation in elections and voting rights

For purposes of section 764 and 765 of this title, a member who is eighteen years of age or older is entitled and eligible to be given notice

EXHIBIT C

of, attend, participate in, and vote at, general council meetings and to nominate candidates for, to run for any office in, and to vote in, elections of members to the Interim Council and to other tribal councils.

(Pub. L. 96-227, § 4, Apr. 3, 1980, 94 Stat. 318.)

REFERENCES IN TEXT

Act of October 17, 1968, referred to in subsec. (b)(1)(D), is Pub. L. 90-584, Oct. 17, 1968, 82 Stat. 1147, which is not classified to the Code.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 761, 764, 765 of this title.

§ 764. Interim Council

(a) Nomination and election of members; notice; meetings; ballot requirements; approval by Secretary

Within forty-five days after April 3, 1980, the Secretary shall announce the date of a general council meeting of the tribe to nominate candidates for election to the Interim Council. Such general council meeting shall be held within sixty days after April 3, 1980. Within forty-five days after such general council meeting the Secretary shall hold an election by secret ballot, absentee balloting to be permitted, to elect six members of the tribe to the Interim Council from among the nominees submitted to him from such general council meeting. The Secretary shall assure that notice of the time, place, and purpose of such meeting and election shall be provided to members described in section 763(d) of this title at least fifteen days before such general meeting and election. The ballot shall provide for write-in votes. The Secretary shall approve the Interim Council elected pursuant to this section if he is satisfied that the requirements of this section relating to the nominating and election process have been met. If he is not so satisfied, he shall hold another election under this section, with the general council meeting to nominate candidates for election to the Interim Council to be held within sixty days after such election.

(b) Powers and authorities

The Interim Council shall represent the tribe and its members in the implementation of this subchapter and shall be the acting tribal governing body until tribal officials are elected pursuant to section 765(c) of this title and shall have no powers other than those given to it in accordance with this subchapter. The Interim Council shall have full authority and capacity to receive grants from and to make contracts with the Secretary and the Secretary of Health and Human Services with respect to Federal services and benefits for the tribe and its members: *Provided*, That no authority to enter into contracts or to make payments under this subchapter shall be effective except to such extent or in such amounts as are provided in advance in appropriation Acts. The Interim Council shall have the authority to bind the tribal governing body as the successor in interest to the Interim Council for a period extending not more than six months after the date on which the tribal governing body takes office. Except as provided in the preceding sentence, the Interim Council shall have no power or authority after the time when the duly-elected tribal governing body takes office.

(c) Vacancies; notice; meeting; election

Within thirty days after receiving notice of a vacancy on the Interim Council, the Interim Council shall hold a general council meeting for the purpose of electing a person to fill such vacancy. The Interim Council shall provide notice of the time, place, and purpose of such meeting and election to members described in section 763(d) of this title at least ten days before such general meeting and election. The person nominated to fill such vacancy at the general council meeting who received the highest number of votes in the election shall fill such vacancy.

(Pub. L. 96-227, § 5, Apr. 3, 1980, 94 Stat. 319; Pub. L. 96-88, title V, § 509(b), Oct. 17, 1979, 93 Stat. 695.)

CHANGE OF NAME

"Secretary of Health and Human Services" substituted for "Secretary of Health, Education, and Welfare" in subsec. (b), pursuant to section 509(b) of Pub. L. 96-88 which is classified to section 3508(b) of Title 20, Education.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 761, 763 of this title.

§ 765. Tribal constitution and bylaws

(a) Election; time and preconditions

Upon the written request of the Interim Council, the Secretary shall conduct an election by secret ballot, pursuant to the provisions of section 476 of this title, for the purpose of adopting a constitution and bylaws for the tribe. The election shall be held within sixty days after the Secretary has—

(1) reviewed and updated the final membership roll for accuracy, in accordance with sections 763(a), 763(b)(1), and 763(c)(1) of this title,

(2) made a final determination of all appeals filed under section 763(c)(2) of this title, and

(3) published in the Federal Register a certified copy of the membership roll of the tribe.

(b) Pre-election duties and functions of Interim Council

The Interim Council shall draft and distribute to each member described in section 763(d) of this title, no later than thirty days before the election under subsection (a) of this section, a copy of the proposed constitution and bylaws of the tribe, as drafted by the Interim Council, along with a brief and impartial description of the proposed constitution and bylaws. The members of the Interim Council may freely consult with members of the tribe concerning the text and description of the constitution and bylaws, except that such consultation may not be carried on within fifty feet of the polling places on the date of the election.

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(c) Majority vote for adoption

In any election held pursuant to subsection (a) of this section, a vote of a majority of those actually voting shall be necessary and sufficient for the adoption of a tribal constitution and bylaws.

(d) Election of tribal officials pursuant to constitution and bylaws; ballot requirements

Not later than one hundred and twenty days after the tribe adopts a constitution and bylaws, the Interim Council shall conduct an election by secret ballot for the purpose of electing the individuals who will serve as tribal officials as provided in the tribal constitution and bylaws. For the purpose of this election and notwithstanding any provision in the tribal constitution and bylaws to the contrary, absentee balloting shall be permitted.

(Pub. L. 96-227, § 6, Apr. 3, 1980, 94 Stat. 319.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 763, 764, 766 of this title.

§ 766. Tribal reservation

(a) Transfer of real property to Secretary; existing rights applicable and status of property subsequent to transfer; taxation

The Secretary, within one year following April 3, 1980, shall accept the real property of members of the tribe or bands if conveyed or otherwise transferred to him, and real property held for the benefit of members of the tribe or bands if conveyed or otherwise transferred to him by the owner or owners of such land held for the benefit of the bands. Such property shall be subject to all valid existing rights including, but not limited to, liens, outstanding taxes (local and State), and mortgages. The land transferred to the Secretary pursuant to this subsection shall be subject to foreclosure or sale pursuant to the terms of any valid existing obligation in accordance with the laws of the State of Utah. Subject to the conditions imposed by this subsection, the land transferred shall be taken in the name of the United States in trust for the tribe or bands to be held as Indian lands are held, and shall be part of their reservation. The transfer of real property authorized by this section shall be exempt from all local, State, and Federal taxation. All real property transferred under this section shall, as of the date of transfer, be exempt from all local, State, and Federal taxation.

(b) Exercise of civil and criminal jurisdiction by Utah

The State of Utah shall exercise civil and criminal jurisdiction with respect to the reservation and persons on the reservation as if it had assumed jurisdiction pursuant to the Act of August 15, 1953 (67 Stat. 588), as amended by the Act of April 11, 1968 (82 Stat. 79), and pursuant to sections 63-36-9 through 63-36-21 of the Utah State Code.

(c) Plan for enlargement of reservation; negotiation; development; scope and approval

Inasmuch as the Kanosh, Koosharem and Indian Peaks Bands of Paiute Indians lost land which had been their former reservations and the Cedar City Band of Paiute Indians had never had a reservation, the Secretary shall negotiate with the tribe or bands, or with representatives of the tribe chosen by the tribe or bands, concerning the enlargement of the reservation for the tribe established pursuant to subsection (a) of this section and shall within two years after April 3, 1980, develop a plan for the enlargement of the reservation for the tribe. The plan shall include acquisition of not to exceed a total of fifteen thousand acres of land to be selected from available public, State, or private lands within Beaver, Iron, Millard, Sevier, or Washington Counties, Utah. Upon approval of such plan by the tribal officials elected under the tribal constitution and bylaws adopted pursuant to section 765 of this title, the Secretary shall submit such plan, in the form of proposed legislation, to the Congress.

(d) Notification and consultative requirements for enlargement plan

To assure that legitimate State and local interests are not prejudiced by the enlargement of the reservation for the tribe, the Secretary, in developing the plan under subsection (c) of this section for the enlargement of the reservation for the tribe, shall notify and consult with all appropriate officials of the State of Utah, all appropriate local government officials in the affected five county area in the State of Utah and any other interested parties. Such consultation shall include the following subjects:

(1) the size and location of the additions to the reservation;

(2) the effect the enlargement of the reservation would have on State and local tax revenues;

(3) the criminal and civil jurisdiction of the State of Utah with respect to the reservation and persons on the reservation;

(4) hunting, fishing, and trapping rights of the tribe, and members of the tribe, on the reservation;

(5) the provision of State and local services to the reservation and to the tribe and members of the tribe on the reservation; and

(6) the provision of Federal services to the reservation and to the tribe and members of the tribe and the provision of services by the tribe to members of the tribe.

(e) Contents of enlargement plan

Any plan developed under this section for the enlargement of the reservation for the tribe shall provide that—

(1) the enlargement of the reservation will not grant or restore to the tribe or any member of the tribe any hunting, fishing, or trapping right of any nature, including any indirect or procedural right or advantage, on such addition to the reservation;

(2) the Secretary shall not accept any real property in trust for the benefit of the tribe or bands unless such real property is located either within Beaver, Iron, Millard, Sevier, or Washington Counties, State of Utah;

(3) the transfer of any real property to the Secretary in trust for the benefit of the tribe or bands as an addition to the reservation

EXHIBIT C

shall be exempt from all Federal, State, and local taxation, and all such real property shall, as of the date of such transfer, be exempt from Federal, State, and local taxation; and

(4) the State of Utah shall exercise civil and criminal jurisdiction with respect to the addition to the reservation and persons on such lands as if it had assumed jurisdiction pursuant to the Act of August 15, 1953 (67 Stat. 588), as amended by the Act of April 11, 1968 (82 Stat. 79), and pursuant to sections 63-36-9 through 63-36-21 of the Utah State Code.

(f) Statement appended to enlargement plan respecting implementation of notification and consultative requirements

The Secretary shall append to the plan a detailed statement describing the manner in which the notification and consultation prescribed by subsection (d) of this section was carried out and shall include any written comments with respect to the enlargement of the reservation for the tribe submitted to the Secretary by State and local officials and other interested parties in the course of such consultation.

(Pub. L. 96-227, § 7, Apr. 3, 1980, 94 Stat. 320.)

REFERENCES IN TEXT

Act of August 15, 1953 (67 Stat. 588), as amended by the Act of April 11, 1968 (82 Stat. 79), referred to in subsecs. (b) and (e)(4), probably means section 7 of act Aug. 15, 1953, ch. 505, 67 Stat. 590, which was set out as a note under section 1360 of Title 28, Judiciary and Judicial Procedure, and was repealed by Pub. L. 90-284, title IV, § 403(b), Apr. 11, 1968, 82 Stat. 79. For complete classification of this Act to the Code, see Tables.

RESERVATION OF PAIUTE INDIAN TRIBE OF UTAH

Pub. L. 98-219, Feb. 17, 1984, 98 Stat. 11, provided that:

"SECTION 1. (a) Subject to subsection (d), all right, title, and interest of the United States in the lands described in subsection (b) (including all improvements thereon and appurtenances thereto) are declared to be held in trust by the United States for the benefit of the respective bands of the Paiute Indian Tribe of Utah, as provided in subsection (b), and are declared to be part of the reservation of the Paiute Indian Tribe of Utah.

"(b) The lands subject to this section are parcels 1 through 5 of the lands depicted on the maps contained in the draft document entitled 'Proposed Paiute Indian Tribe of Utah Reservation Plan', dated January 24, 1982, and published by the United States Department of the Interior, Bureau of Indian Affairs. Upon enactment of this Act [Feb. 17, 1984], the Secretary shall publish in the Federal Register the legal description of the lands so depicted. The Secretary is authorized to correct any technical errors in the descriptions of the subject lands. Such lands shall be held as follows:

"(1) To be held in trust for the Kanosh Band of the Paiute Tribe of Utah: Parcel numbered 2, figure 5, page 95, containing approximately five hundred and sixty acres; parcel numbered 3, figure 6, page 99, containing approximately five hundred and two acres.

"(2) To be held in trust for the Koosharem Band of the Paiute Tribe of Utah: Parcel numbered 4, figure 7, page 105, containing approximately five hundred and twenty acres; parcel numbered 5, figure 8, page 111, containing approximately seven hundred and fifteen acres.

"(3) To be held in trust for the Cedar City Band of the Paiute Tribe of Utah: That portion of parcel numbered 1, figure 4, page 85, containing approximately two thousand forty-four acres.

"(4) To be held in trust for the Indian Peaks Band of the Paiute Indian Tribe of Utah: That portion of parcel numbered 1, figure 4, page 85, containing approximately four hundred and twenty-four acres.

"(c) Nothing in this section shall deprive any person of any existing legal right-of-way, mining claim, grazing permit, water right, or other right or interest which such person may have in the lands described in subsection (b).

"(d) Pursuant to the Act of June 14, 1934 (48 Stat. 985) [probably means section 5 of act June 18, 1934, 25 U.S.C. 465], the Secretary shall acquire, to the extent available, easements to and water rights for the lands described in subsection (b) as necessary for their use.

"(e) The Secretary shall consult with the town council of Joseph, Utah, and other appropriate local governmental entities prior to permitting the introduction of any point source of contamination pursuant to any proposed development on parcel numbered 4 as described in subsection (b)(2). The Secretary shall require a minimum of one thousand five hundred feet distance be maintained from the town well of the town of Joseph and any such point source of contamination and may, if he determines it is necessary to prevent contamination of said well, require the installation of an appropriate waste water disposal system as part of any proposed development on parcel 4.

"(f) Upon the effective date of this Act [Feb. 17, 1984], all valid leases, permits, rights-of-way, or other land use rights or authorizations, except mining claims, existing on the date of enactment of this Act [Feb. 17, 1984] in the lands described in subsection (b), including the right to receive compensation for use of the lands, shall cease to be the responsibility of, or enure to the benefit of, the United States, and shall become the responsibility of the Paiute Indian Tribe which shall succeed to the interests of the United States and shall continue to maintain them under the same terms and conditions as they were maintained by the United States.

"(g) All improvements on the lands described in subsection (b) in existence on the effective date of the Act [Feb. 17, 1984], under the authority of the land use rights or authorizations described in subsection (c), shall remain in the same status as to ownership and right of use as existed prior to the date of enactment of this Act [Feb. 17, 1984].

"(h) Nothing in this Act shall be construed as terminating any valid mining claim existing on the date of enactment of this Act [Feb. 17, 1984] on the lands described in subsection (b).

"(i) The mining claims described in subsection (c) shall carry all the rights incident to mining claims, including the rights of ingress and egress over the land described in subsection (b). Such mining claims shall carry the right to occupy and use so much of the surface of the land within their boundaries as is required for all purposes reasonably necessary to mine and remove the minerals, including the removal of timber for mining purposes. Such mining claims shall terminate when they are determined invalid under subsection (j) or are abandoned.

"(j) As soon as possible after enactment of this Act, the Secretary of the Interior shall determine the validity of the mining claims described in subsection (h) as of the date of enactment of this Act [Feb. 17, 1984]. Those mining claims which the Secretary determines to be valid shall be maintained thereafter in compliance with the mining laws of the United States but the holders of such claims shall not be entitled to a patent.

"(k) Nothing in this Act shall prevent the Paiute Indian Tribe from negotiating the accommodation of land use rights or authorizations described in this section through any method acceptable to the parties.

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"SEC. 2. The lands which are declared to be held in trust for the benefit of the tribe or bands under this Act shall be subject to the laws of the United States relating to Indian land to the same extent and in the same manner as the lands comprising the reservation of the tribe or bands on the day before the date of the enactment of this Act [Feb. 17, 1984].

"SEC. 3. (a) The Secretary of Agriculture shall not deny the tribe or any member of the tribe the right to use and occupy, on a nonexclusive basis, the national forest land described in subsection (b) for religious and ceremonial purposes for such periods of time and under such reasonable terms and conditions as the Secretary may prescribe: *Provided*, That the Secretary shall permit the tribe to use and occupy, on an exclusive basis, so much of the national forest land in subsection (b) abutting Fish Lake as is necessary for such religious and ceremonial purposes during and including the second and third weeks of June and the first and second weeks of September of each year, under such reasonable terms and conditions as the Secretary may prescribe.

"(b) The land referred to in subsection (a) is the parcel of land depicted on the map contained in the document entitled 'Proposed Paiute Indian Tribe of Utah Reservation Plan', dated January 24, 1982, and published by the United States Department of the Interior, Bureau of Indian Affairs, as follows: Parcel numbered 6: Fish Lake; figure 9, page 117.

"SEC. 4. (a) There is hereby established in the Treasury of the United States a fund to be known as the Paiute Indian Tribe of Utah Economic Development and Tribal Government Fund. This Fund shall be held in trust for the benefit of the tribe and administered in accordance with this Act.

"(b)(1) One-half of the principal of the Fund shall be designated as the Economic Development Fund and the remaining one-half as the Tribal Government Fund. Each portion of the Fund shall be administered by the Secretary in accordance with reasonable terms established by the tribe and agreed to by the Secretary. The Secretary shall not agree to terms which provide for the investment of the Fund in a manner not in accordance with section 1 of the Act of June 24, 1938 (52 Stat. 1037) [25 U.S.C. 162a], unless the tribe first submits a specific waiver of liability on the part of the United States for any loss which may result from such an investment. Until such terms have been agreed upon, the Secretary shall fix the terms for the administration of any portion of the Fund as to which there is no agreement.

"(2) Under no circumstances shall any part of the principal of the Fund be distributed to the tribe, or to any member of the tribe, nor shall income accruing to the Fund be used for per capita payments to any member of the tribe.

"(3) The Secretary shall make available to the tribe in quarterly payments, without any deductions, any income received from the investment of each fund. The use of the income from the Tribal Government Fund shall be free of regulation by the Secretary. The use of the income from the Economic Development Fund shall be consistent with an economic development plan developed by the tribe and approved by the Secretary. The Secretary shall approve such plan within sixty days of its submission if he finds that it is reasonably related to the economic development of the tribe. If the Secretary does not approve such plan, he shall, at the time of his decision, set forth in writing the reasons for his disapproval. With the approval of the Secretary, the tribe may alter the economic development plan subject to the conditions set forth in this section.

"(c) There is authorized to be appropriated in fiscal year 1985 the sum of $2,500,000, which shall be deposited in the Fund. Not more than 5 per centum of any amount appropriated to the Fund under this section may be obligated or spent by the tribe under any contract or agreement relating to the employment of legal counsel.

"(d) The transfer of the approximately four thousand seven hundred and seventy acres of land and the appropriation of the $2,500,000 authorized by this Act shall be in complete fulfillment of the provisions of Public Law 96-227 [this subchapter] relating to the enlargement of the tribe's reservation.

"SEC. 5. For purposes of this Act—

"(1) the term 'tribe' means the Cedar City, Shivwits, Kanosh, Koosharem, and Indian Peaks Bands of Paiute Indians of Utah; and

"(2) except where otherwise specified, the term 'Secretary' means the Secretary of the Interior."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in section 762 of this title.

§ 767. Legal claims barred for lands lost through tax or other sales since September 1, 1954

Any legal claims for lands owned by the Shivwits, Kanosh, Koosharem, or Indian Peaks Bands of Paiute Indians of Utah and lost through tax sales or any other sales to individuals, corporations, or the State of Utah since September 1, 1954, are hereby barred.

(Pub. L. 96-227, § 8, Apr. 3, 1980, 94 Stat. 322.)

§ 768. Rules and regulations

The Secretary may make such rules and regulations as are necessary to carry out the purposes of this subchapter.

(Pub. L. 96-227, § 9, Apr. 3, 1980, 94 Stat. 322.)

SUBCHAPTER XXXIII—INDIAN TRIBES OF OREGON

§ 771. Enrollment of descendants; determination of eligibility

The Secretary of the Interior, hereafter referred to as the "Secretary", is authorized and directed to prepare separate rolls of the Indians of the blood of the Molel or Molallalas Tribe of Oregon and of the Confederated Bands of the Umpqua Tribe of Indians and the Calappoias residing in the Umpqua Valley, and of the Tillamook, Coquille, Tootootoney, and Chetco Tribes of Oregon, living on August 30, 1954. Applications for enrollment shall be filed within one year of August 30, 1954. The determination of the Secretary of the eligibility of an applicant for enrollment shall be final and conclusive. No person shall be entitled to be enrolled on more than one roll.

(Aug. 30, 1954, ch. 1085, § 1, 68 Stat. 979.)

§ 772. Per capita payments to tribal members; tax exemption

The Secretary is authorized and directed to withdraw the funds on deposit in the Treasury of the United States to the credit of the respective tribes or bands, including those funds appropriated by Public Law 253 (Eighty-second Congress) approved November 1, 1951, in satisfaction of judgments obtained by the tribes or bands in the cases of Alcea Band of Tillamook, et al., against United States (119 C. Cls. 835), and Rogue River Tribes of Indians, et al., against United States (116 C. Cls. 454), and to make appropriate and equitable per capita payments therefrom to each person whose name

EXHIBIT C

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10/17/1968 (82 STAT. 1147)

EXHIBIT C

(b) Sections 302 (a) (1) and 502 (a) of such Act are each amended by striking out "2 per centum thereof, as he may determine for allotment as provided in section 1008" and inserting in lieu thereof "3 per centum thereof, as he may determine for allotment as provided in section 1008 (A), and such amount, not in excess of 1 per centum thereof, as he may determine for allotment as provided in section 1008 (B)".

* * *

Effective date.

(d) The amendments made by this section shall be effective with respect to fiscal years ending June 30, 1968.

* * *

Approved, October 16, 1968.

PUBLIC LAW 90-584

October 17, 1968
[S. 3227]
82 Stat. 1147

AN ACT

To provide for the disposition of funds appropriated to pay a judgment in favor of the Southern Paiute Nation of Indians in Indian Claims Commission dockets numbered 88, 330, and 330-A, and for other purposes.

Indians.
Southern Paiute Nation.
Judgment funds, disposition.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the purpose of disposing of the sum of $7,253,165.19 appropriated April 30, 1965 (79 Stat. 81, 108, 109), to pay a judgment of the Indian Claims Commission entered in its dockets numbered 88, 330, and 330-A on January 18, 1965, on behalf of the Southern Paiute Nation, the bands and groups of Southern Paiute Indians named in the petitions and the Las Vegas Band, together with interest accruing thereon, the Secretary of the Interior shall prepare a roll of all persons who meet the following requirements for eligibility: (a) they were born on or prior to and living on the date of this Act and are (b) enrolled or entitled to be enrolled as members of the Kaibab Band of Paiute Indians of the Kaibab Reservation, Arizona, or (c) enrolled or entitled to be enrolled as members of the Moapa Band of Paiute Indians of the Moapa River Reservation, Nevada, or (d) whose names or the name of a lineal ancestor appears on the final rolls of the Shivwits, Kanosh, Koosharem, and Indian Peaks Bands of Paiute Indians which were prepared pursuant to the Act of September 1, 1954 (68 Stat. 1099), or (e) Southern Paiute Indians whose names or the name of a lineal ancestor appears on the January 1, 1940, census roll of the Cedar City, Utah, Indians, or (f) Southern Paiute Indians whose names or the name of a lineal ancestor appears on the January 1, 1940, census roll of the Las Vegas Colony, Nevada, or (g) Indians living elsewhere who can establish Southern Paiute lineal descent to the satisfaction of the Secretary of the Interior: *Provided, however,* That no enrollee shall have elected or shall elect to participate in the judgment awarded by the Indian Claims Commission in its dockets numbered 31, 37, 80, 80-D, and 347, granted to "Certain Indians of California" or in dockets numbered 351 and 351-A granted to the Chemehuevi Tribe of Indians. Any person qualifying for enrollment as a member of more than one of the named Indian groups shall elect with which group he shall be enrolled for the purpose of this Act.

25 U. S. C. 741-760.

Applications.

SEC. 2. Applications for enrollment must be filed with the Area Director, Bureau of Indian Affairs, Phoenix, Arizona, in the manner and within the time limits prescribed by the Secretary for that purpose. The Secretary's determination on all applications for enrollment shall be final.

SEC. 3. The cost of preparing the Southern Paiute Indian roll, and of disposing of the judgment funds, and the deduction of attorneys' fees and expenses and the cost of litigation, shall be deducted from the judgment fund. The balance of said fund, together with accrued interest, shall be apportioned by the Secretary of the Interior among

Apportionment.

EXHIBIT C

the groups of persons entitled to enrollment on the Southern Paiute Indian roll as provided in section 1 of this Act. Apportionment among said groups shall be on the ratio that the number of enrollees in each group shall bear to the total number enrolled on the Southern Paiute Indian roll.

SEC. 4. The total amounts apportioned to the groups enrolled in section 1 (b) and (c) shall be redeposited in the Treasury of the United States to the credit of the respective bands, and may be advanced, ⊥expended, invested, or reinvested in any manner authorized by the governing body and approved by the Secretary. Redeposit and disposition. ⊥1148

SEC. 5. The funds apportioned to those Southern Paiute Indians enrolled under sections 1 (f) and (g) shall be available for distribution in equal shares to the enrollees except as provided in section 6 of this Act. Equal shares.

SEC. 6. Sums payable to enrollees or their heirs or legatees who are less than twenty-one years of age or who are under a legal disability shall be paid in accordance with such procedures as the Secretary determines will best protect their interests, including the establishment of trusts. Minor enrollees, protection.

SEC. 7. All funds, including interest, of the adult members of any group enrolled pursuant to sections 1 (d) and (e) of this Act may be advanced, expended, invested, or reinvested in any manner pursuant to a plan agreed upon between the governing body thereof or by the members thereof, at a meeting called in accordance with rules approved by the Secretary of the Interior, and the Board of Indian Affairs of the State of Utah, subject, however, to the previous approval of such plan by the Secretary of the Interior. However, the Secretary of the Interior shall not be charged with any responsibility in the administration of the funds. Disposition.

SEC. 8. No part of the per capita distributions made under authority of this Act shall be subject to Federal or State income tax. Tax exemption.

SEC. 9. The Secretary is authorized to prescribe rules and regulations to carry out the provisions of this Act. Rules and regulations.

Approved, October 17, 1968.

PUBLIC LAW 90-585

AN ACT

To provide for the disposition of funds appropriated to pay judgments in favor of the Seminole Tribe of Oklahoma in dockets numbered 150 and 248 of the Indian Claims Commission, and for other purposes.

October 17, 1968
[H. R. 18885]
82 Stat. 1148

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the unexpended balance of the funds on deposit in the Treasury of the United States to the credit of the Seminole Tribe of Oklahoma that were appropriated by the Act of September 29, 1959 (73 Stat. 717), to pay a judgment by the Indian Claims Commission in docket numbered 150, and by the Act of May 13, 1966 (80 Stat. 141), to pay a judgment by the Indian Claims Commission in docket numbered 248, and any interest thereon, less payment of attorneys' fees and expenses, together with those school funds on deposit in the Treasury of the United States under the following symbols and titles: Indians. Seminole Tribe. Judgment funds, disposition.

14X7091 Seminole school fund.

14X7591 Interest and accruals on interest, Seminole school fund, may be advanced, expended, invested, or reinvested for any purpose that is authorized by the General Council of the Seminole Tribe of Oklahoma or other recognized governing body of that tribe and approved by the Secretary of the Interior.

SEC. 2. The Secretary of the Interior is authorized to prescribe rules and regulations to carry out the provisions of this Act.

Approved, October 17, 1968.

EXHIBIT C

EXHIBIT 4

10/31/1966 (TRUSTEE'S DEED)

EXHIBIT C

NO. 108150

TRUSTEE'S DEED

WHEREAS,

(a) Under authority of an Act of September 1, 1954, (68 Stat. 1099; 25 U.S.C., Sec. 745(b) and (d) (Supp. III, 1956)) a fee simple patent, No. 1164176, was issued to Walker Bank & Trust Company, Trustee, under a Trust Agreement approved October 23, 1956, which patent is dated September 10, 1956, and recorded April 1, 1957, in the office of the County Recorder of Beaver County, State of Utah, in Book Z-12, page 101, and covers the following described land:

Salt Lake Meridian, Utah
T. 29S., R. 18 W.,

Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34 and 35, containing 8,960 acres, more or less, according to the official Plat of the Survey of the Land, on file in the Bureau of Land Management.

(b) Under the provisions of the Trust Agreement (wherein the trust thereby established is designated as the "Indian Peaks Trust"), said Indian Peaks Trust as to subsurface rights of the land hereinabove described terminated on October 23, 1966, and it is provided that, after said termination date, said subsurface rights to the above described land shall be transferred by the Trustee unto the beneficiaries of said trust, as tenants in common; and

(c) Said Trust Agreement also provides that the beneficiaries of said trust as to the subsurface rights of the land hereinabove described shall be those persons whose names appear on the final roll of the Indian Peaks Band of the Paiute Indians, Utah, as published in the Federal Register for April 14, 1956; that in each instance where a beneficiary shall die

Not according To the trust agreement.

To the Band Not the individuals

EXHIBIT C

during the tenure of the Indian Peaks Trust, all of such beneficiary's rights under said trust shall go to such person or persons as shall be entitled thereto under the terms of the last will and testament of such beneficiary; and that in each instance where a beneficiary shall die intestate during the tenure of the Indian Peaks Trust, all of such beneficiary's rights under said trust shall go to his heirs-at-law as determined by the laws of succession of the State of Utah, in effect at the time of the death of said beneficiary.

NOW, THEREFORE, pursuant and subject to the terms and conditions of said Trust Agreement,all and whatsoever the rights, title and interest of the undersigned, Walker Bank & Trust Company, as trustee, in and to the subsurface rights of the land hereinabove described in recital (a) hereby are conveyed, transferred and quit-claimed by the undersigned to the beneficiaries of said trust hereinafter set forth, if living, in equal shares as tenants in common, and if any such beneficiary be not living, then such beneficiary's share hereby is conveyed, transferred and quit-claimed by the undersigned, as Trustee, to such person or persons as are entitled thereto under the terms of the last will and testament of such beneficiary, and if any such beneficiary has died intestate, then such beneficiary's share hereby is conveyed, transferred and quit-claimed by the undersigned, as Trustee, to the heirs-at-law of such beneficiary as determined by the laws of succession of the State of Utah, in effect at the time of the death of such beneficiary.

EXHIBIT C

Names and residences of Beneficiaries of Indian Peaks Trust as appear on the final roll of the Indian Peaks Band of the Paiute Indians, Utah, as published in the Federal Register for April 14, 1956:

Name	Residence
Anderson, (Jake), Geneva	Cedar City, Utah
Anderson, Curtis	Cedar City, Utah
Anderson, Geneal	Cedar City, Utah
Anderson, Jeanette	Cedar City, Utah
Jake, Carl	Cedar City, Utah
Jake, Minnie	Cedar City, Utah
Jake, Manell	Cedar City, Utah
Jake, Ernestine	Cedar City, Utah
Jake, Wilford	Cedar City, Utah
Jake, Shirley	Cedar City, Utah
Jake, Clifford	Cedar City, Utah
Jake, Darlene	Cedar City, Utah
Jake, Bryant	Cedar City, Utah
Jake, Althea R.	Cedar City, Utah
Jake, John	Cedar City, Utah
Jake, John, Jr.	Cedar City, Utah
Kanosh (Jake), Edwina	Richfield, Utah
Kanosh, Wilbert	Richfield, Utah
Kanosh, Milo Dee	Richfield, Utah
Kanosh, Don Boyden	Richfield, Utah
Kanosh, Karn Anna	Richfield, Utah
Kanosh, Kennard K.	Richfield, Utah
Solls, Marie Ramona	Cedar City, Utah
Swallow, George M.	Owyhee, Nev.
Tom, Roy	Moccasin, Ariz.
Wichetts, Eddie	Kanosh, Utah

IN WITNESS WHEREOF, Walker Bank & Trust Company, Trustee, has caused its corporate name and seal to be hereunto affixed by its duly authorized officers the 31st day of October, 1966.

WALKER BANK & TRUST COMPANY

ATTEST:

By _____
Vice President and Trust Officer

_____
Secretary

EXHIBIT C

STATE OF UTAH)
) ss.
COUNTY OF SALT LAKE)

On the 31st day of October, A.D. 1966, personally appeared before me WM. J. FITZPATRICK and O. K. CARKSON, who being by me duly sworn did say, each for himself, that he, the said Wm. J. Fitzpatrick is a Vice President and Trust Officer, and he, the said O. K. Carlson is a Secretary of Walker Bank & Trust Company, a corporation, and that the within and foregoing instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors and said Wm. J. Fitzpatrick and O. K. Carlson each duly acknowledged to me that said corporation executed the same and that the seal affixed is the seal of said corporation.

Norman K Goodrich
Notary Public
Residing at Salt Lake City, Utah

My Commission expires:
11-28-70

NORMAN K. GOODRICH NOTARY PUBLIC COMMISSION EXPIRES OCT. 28, 1970 STATE OF UTAH

FILED FOR RECORD
at 9:00 o'clock A. M.
NOV 30 1966
Beaver County Recorder

BOOK 104 PAGE 78

EXHIBIT C

EXHIBIT 5

9/23/1965 (PATENT)

EXHIBIT C

Utah 0124686

Utah 0124684-A
Utah 0124694-A BOOK 136 PAGE 138

No. 106574 12041

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, There are now deposited in the Bureau of Land Management of the United States, applications by the State of Utah and decisions of the Land Office at Salt Lake City, Utah, directing that a patent issue to the State of Utah under the provisions of the Act of Congress approved June 21, 1934 (48 Stat. 1185), entitled "An Act authorizing the Secretary of the Interior to issue patents to the numbered school sections in place, granted to the States by the Act approved February 22, 1889, by the Act approved January 25, 1927 (44 Stat. 1026), and by any other Act of Congress," for the following numbered school section lands in place, granted for the support of common schools and the title to which vested in the State of Utah under the Act of July 16, 1894 (28 Stat. 107), upon the acceptance of the Plats of Surveys by the Bureau of Land Management on the dates hereinafter stated:

Salt Lake Meridian, Utah,

Beaver

T. 24 S., R. 1 W.,
Sec. 2, Lots 1, 2, 3, 4, 5, 6, 7, 8;
Sec. 16, All;
Sec. 32, Lots 1 to 12, Incl., N½.

Plat approved on June 24, 1899.

T. 24 S., R. 2 W.,
Sec. 2, Lots 1 to 12, Incl.;
Sec. 32, Lots 1, 2, 3, 4, 5, 6, 7, 8;
Sec. 36, Lots 1, 2, 3, 4, N½, N½S½.

Plat accepted on February 13, 1903.

Millard & Beaver

T. 24 S., R. 4 W.,
Sec. 2, Lots 1, 2, 3, 4, S½N½, SE¼.

Plat accepted on March 27, 1897.

Garfield

T. 31 S., R. 5 W.,
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

Plat accepted on March 5, 1915.

Document created after the 1915 date when land had already been given to the Indian Peaks Band by Woodrow Wilson

Millard

T. 24 S., R. 7 W.,
Sec. 2, Lots 1, 2, 3, 4, S½N½, S½;
Sec. 16, All;
Sec. 32, All;
Sec. 36, Lots 1, 2, 3, 4, N½E¼, W½.

Plat accepted on October 15, 1918.

Beaver

T. 29 S., R. 12 W.,
Sec. 2, All;
Sec. 16, All;

EXHIBIT C

24 Utah 0101268-A
Utah 0124680

Utah 0124684-A
Utah 0124694-A

12041

Salt Lake Meridian, Utah.

Beaver

T. 29 S., R. 13 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

Plat accepted on January 22, 1938.

"

T. 29 S., R. 14 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

Plat accepted on June 27, 1941.

"

T. 29 S., R. 15 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

"

T. 29 S., R. 16 W.,
Sec. 2, Lots 1 to 9, Incl., S½NE¼, SE¼NW¼, SW¼, N½SE¼, SE¼SE¼;
Sec. 16, N½, SW¼, S½SE¼, NE¼SE¼;
Sec. 32, All.

Plats accepted on October 23, 1943.

"

T. 29 S., R. 17 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

"

T. 29 S., R. 18 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

These are the two sections 16 & 36 we believe were taken w/o considering Indian rights to ownership

Plats accepted on July 8, 1915.

Juab

T. 11 S., R. 19 W.,
Sec. 16, E½, E½W½.

Plat approved on June 30, 1904.

"

T. 11 S., R. 19 W.,
Sec. 36, All.

Plat accepted on December 4, 1916.

"

T. 12 S., R. 19 W.,
Sec. 32, All;
Sec. 36, All.

EXHIBIT C

IR 136 Page 149

Utah 0101268-A
Utah 0124680

Utah 0124684-A
Utah 0124694-A

12041

Salt Lake Meridian, Utah.

T. 13 S., R. 19 W.,
Sec. 2, Lots 1 to 12, Incl., S½
Sec. 16, All;
Sec. 32, All;
Sec. 36, Lots 1, 2, 3, 4, W½E½, W½.

T. 14 S., R. 19 W.,
Sec. 2, Lots 1 to 12, Incl., S½
Sec. 16, All;
Sec. 32, Lots 1, 2, 3, 4, N½, N½S½;
Sec. 36, Lots 1, 2, 3, 4, N½, N½S½.

T. 13 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4.

T. 14 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4.

Plats accepted on July 28, 1917.

T. 8 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4, E½E½.

T. 11 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4, E½.

Plats approved on June 30, 1904.

T. 12 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4.

Plat accepted on April 10, 1918.

FILED FOR RECORD
at 9:20 o'clock A. M.
MAR 21 1958
Davis County Recorder

1958

The area described aggregates 34,643.70 acres, according to the Official Plats of the Surveys of the said Lands, on file in the Bureau of Land Management;

NOW, THEREFORE, KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, and in conformity with the said Act of Congress of June 21, 1934, and as evidence of the title which was granted to and vested in the State of Utah to the above described lands on the dates aforesaid for the support of common schools, as aforesaid, and in confirmation of such title for such purpose, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of Utah, and to its assigns, the lands above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said State of Utah, and to its assigns forever; subject to any vested and accrued water rights for mining, agricultural, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights, as may be recognized and acknowledged by the local customs, laws, and decisions of courts; and there is reserved from the lands hereby granted, a right-of-way thereon for ditches or canals constructed by the authority of the United States.

IN TESTIMONY WHEREOF, the undersigned authorized officer of the Bureau of Land Management, in accordance with the provisions of the Act of June 17, 1948 (62 Stat. 476), has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

(SEAL)

Given under my hand, in Salt Lake City, Utah, the TWENTY-THIRD day of SEPTEMBER in the year of our Lord one thousand nine hundred and SIXTY-FIVE and of the Inde-

This document was filed after the sale of the land from the State to the DWR and was not signed by the BLM until 10 years later. Seems pretty fishy!!!!! "

EXHIBIT C

1965

Utah 0124684-A

Utah 0124684-A BOOK 136 PAGE 138

No. 106574 12041

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, There are now deposited in the Bureau of Land Management of the United States, applications by the State of Utah and decisions of the Land Office at Salt Lake City, Utah, directing that a patent issue to the State of Utah under the provisions of the Act of Congress approved June 21, 1934 (48 Stat. 1185), entitled "An Act authorizing the Secretary of the Interior to issue patents to the numbered school sections in place, granted to the States by the Act approved February 22, 1889, by the Act approved January 25, 1927 (44 Stat. 1026), and by any other Act of Congress," for the following numbered school section lands in place, granted for the support of common schools and the title to which vested in the State of Utah under the Act of July 16, 1894 (28 Stat. 107), upon the acceptance of the Plats of Surveys by the Bureau of Land Management on the dates hereinafter stated:

Salt Lake Meridian, Utah.

Sevier

T. 24 S., R. 1 W.,
Sec. 2, Lots 1, 2, 3, 4, 5, 6, 7, 8;
Sec. 16, All;
Sec. 32, Lots 1 to 12, Incl., N½.

Plat approved on June 24, 1899.

"

T. 24 S., R. 2 W.,
Sec. 2, Lots 1 to 12, Incl;
Sec. 32, Lots 1, 2, 3, 4, 5, 6, 7, 8;
Sec. 36, Lots 1, 2, 3, 4, N½, N½S½.

Plat accepted on February 13, 1903.

Millard & Sevier

T. 24 S., R. 4 W.,
Sec. 2, Lots 1, 2, 3, 4, S½N½, SE¼.

Plat accepted on March 27, 1897.

Garfield

T. 31 S., R. 5 W.,
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

Plat accepted on March 5, 1915.

Millard

T. 24 S., R. 7 W.,
Sec. 2, Lots 1, 2, 3, 4, S½N½, S½;
Sec. 16, All;
Sec. 32, All;
Sec. 36, Lots 1, 2, 3, 4, W½E½, W½.

Plat accepted on October 16, 1918.

Beaver

T. 29 S., R. 12 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

Plat accepted on January 21, 1938.

Patent Number 43-66-0042

BOOK 101 PAGE 176

23

EXHIBIT C

24 Utah 0101258-A
Utah 0124688

Utah 0124694-A
Utah 0124694-A

12041

Salt Lake Meridian, Utah.

Beaver

T. 29 S., R. 13 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

Plat accepted on January 22, 1938.

T. 29 S., R. 14 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

Plat accepted on June 27, 1941.

T. 29 S., R. 15 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

T. 29 S., R. 16 W.,
Sec. 2, Lots 1 to 9, incl., S½NE¼, SE¼NW¼, SW¼, N½SE¼, SE¼SE¼;
Sec. 16, N½, SW¼, S½SE¼, NE¼SE¼;
Sec. 32, All.

Plats accepted on October 23, 1943.

T. 29 S., R. 17 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

T. 29 S., R. 18 W.,
Sec. 2, All;
Sec. 16, All;
Sec. 32, All;
Sec. 36, All.

Plats accepted on July 8, 1915.

Juab

T. 11 S., R. 19 W.,
Sec. 16, E½, E½W½.

Plat approved on June 30, 1904.

T. 11 S., R. 19 W.,
Sec. 36, All.

Plat accepted on December 4, 1916.

T. 12 S., R. 19 W.,
Sec. 32, All;
Sec. 36, All.

Plat accepted on April 10, 1918.

43-66-0042

BOOK 101 PAGE 777

EXHIBIT C

Utah 0101268-A
Utah 0124694-A

12041

Salt Lake Meridian, Utah.

T. 13 S., R. 19 W.,
Sec. 2, Lots 1 to 12, Incl., S½
Sec. 16, All
Sec. 32, All
Sec. 36, Lots 1, 2, 3, 4, W½E½, W½

T. 14 S., R. 19 W.,
Sec. 2, Lots 1 to 12, Incl., S½
Sec. 16, All
Sec. 32, Lots 1, 2, 3, 4, N½, N½S½
Sec. 36, Lots 1, 2, 3, 4, N½, N½S½.

T. 13 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4.

T. 14 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4.

Plats accepted on July 28, 1917.

T. 8 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4, E½E½.

T. 11 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4, E½

Plats approved on June 30, 1904.

T. 12 S., R. 20 W.,
Sec. 36, Lots 1, 2, 3, 4.

Plat accepted on April 10, 1918.

FILED FOR RECORD
at 9:20 A.M.
MAR 21 1968
Tooele County Recorder

The area described aggregates 34,643.70 acres, according to the Official Plats of the Surveys of the said Lands, on file in the Bureau of Land Management:

NOW, THEREFORE, KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, and in conformity with the said Act of Congress of June 21, 1934, and as evidence of the title which was granted to and vested in the State of Utah to the above described lands on the dates aforesaid for the support of common schools, as aforesaid, and in confirmation of such title for such purpose, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of Utah, and to its assigns, the lands above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said State of Utah, and to its assigns forever; subject to any vested and accrued water rights for mining, agricultural, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights, as may be recognized and acknowledged by the local customs, laws, and decisions of courts; and there is reserved from the lands hereby granted, a right-of-way thereon for ditches or canals constructed by the authority of the United States.

IN TESTIMONY WHEREOF, the undersigned authorized officer of the Bureau of Land Management, in accordance with the provisions of the Act of June 17, 1948 (62 Stat. 476), has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

GIVEN under my hand, in Salt Lake City, Utah, the TWENTY-THIRD day of SEPTEMBER in the year of our Lord one thousand nine hundred and SIXTY-FIVE and of the Independence of the United States the one hundred and NINETIETH.

By Robert D. Nielsen
State Director

Patent Number 43-66-0042

-3-

BOOK 101 PAGE 778

EXHIBIT C

EXHIBIT 6

1/10/1958 (PATENT)

EXHIBIT C

E. R. CHRISTIAN
Attorney General.
By Cleon B. Feight

PAID IN FULL 1-10-58
P. D. Miller
CASHIER.

Certificate of Sale No. 23703

Filed for Record: 11:35 A. M. Jan. 29, 1958.

Louis Leaming
COUNTY RECORDER

12 PS 216
No. 90348

PATENT

No. 17823

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING:

WHEREAS, UTAH STATE DEPARTMENT OF FISH & GAME, SALT LAKE CITY, of the County of Salt Lake, State of Utah, heretofore purchased from the State of Utah, the lands hereinafter described, pursuant to the laws of said State in such case made and provided,

AND WHEREAS, the said UTAH STATE DEPARTMENT OF FISH & GAME has paid for said lands, pursuant to the conditions of said sale, and the laws of the State duly enacted in relation thereto, the sum of Two thousand two hundred forty and no/100 ($2240.00) Dollars, and all legal interest thereon accrued, as fully appears by the certificate of the proper officer, now on file in the office of the Secretary of State of the State of Utah;

NOW THEREFORE, I GEORGE D. CLYDE, Governor, in consideration of the premises, and by virtue of the power and authority vested in me by the laws of the State of Utah, in such case made and provided, do issue this PATENT, in the name and by the authority of the State of Utah, hereby granting and confirming unto the said UTAH STATE DEPARTMENT OF FISH & GAME and to its successors and assigns forever, the following piece or parcel of land, situate in the County of Beaver, State aforesaid, to-wit: All of Section Sixteen (16), Township Twenty-nine (29) South, Range Eighteen (18) West, Salt Lake Meridian,

(Reserving to the State of Utah, all coal and other minerals, in the above lands, and to it, or persons authorized by it, the right to prospect for, mine and remove coal and other minerals from the same, upon compliance with the conditions and subject to the limitations of Title 86-Chapter 1, Revised Statutes of Utah 1933 and amendments thereto.)

Rights of way for canals, ditches, tunnels, telephone and transmission lines constructed by authority of the United States are hereby reserved. U. S. Act. Aug. 30th, 1890 (26 Stat. 391); 6-2-3 Utah Code Annotated 1943.

containing Six Hundred Forty and no/100 (640.00) acres according to the said certificate.

EXHIBIT C

Z-12 2-7

TO HAVE AND TO HOLD the above described and granted premises unto the said UTAH STATE DEPARTMENT OF FISH & GAME and to its successors and assigns forever, subject to any easement of right of way of the public, to use all such highways as may have been established according to law, over the same or any part thereof, and subject also to all rights of way for ditches, tunnels, and telephone and transmission lines that may have been constructed by authority of the United States.

IN TESTIMONY WHEREOF, I have hereunto set my hand and caused the great seal of the State of Utah to be hereunto affixed. Done at Salt Lake City, this Twenty-second day of January, in the year of our Lord, one thousand nine hundred and fifty-eight and of the independence of the United States of America the one hundred and eighty-first, and in the Sixty-second year of the State of Utah.

By the Governor:

(SEAL)

George D. Clyde

Lamont F. Toronto
Secretary of State.

Frank J. Allen
State Land Board.

Recorded Patent Book 35 Page 329
Certificate of Sale No. 23762

PAID IN FULL 1-10-58
P. D. Miller, Cashier

APPROVED AS TO FORM:
E. R. CALLISTER, Attorney General
By Cleon B. Feight

Filed for Record: 11:30 A. M. Jan. 29, 1958.

Louie Leaming
County Recorder

NO. 90381

WARRANTY DEED

UTAH COUNTY

LAWRENCE J. DEAN and CINDA S. DEAN, husband and wife Grantors, of Beaver City, Utah hereby CONVEY and WARRANT to MORTGAGE INSURANCE CORPORATION Grantee, of PROVO, UTAH for the sum of TEN DOLLARS AND OTHER GOOD AND VALUABLE CONSIDERATION--DOLLARS the following described tract of land in BEAVER County, State of Utah, to-wit:

Commencing 6 rods North of the Southeast corner of Lot 1, Block 14, Plat "A" Beaver City Survey, thence running West 12 rods; thence North 9 1/3 rods; thence East 12 rods; thence South 9 1/3 rods to the place of beginning. Together with all water and water rights thereupon belonging, and all improvements and appurtenances thereon.

Subject to deed restrictions and easements of record.

EXHIBIT C

ISHIP 29 So. RANGE 18 W

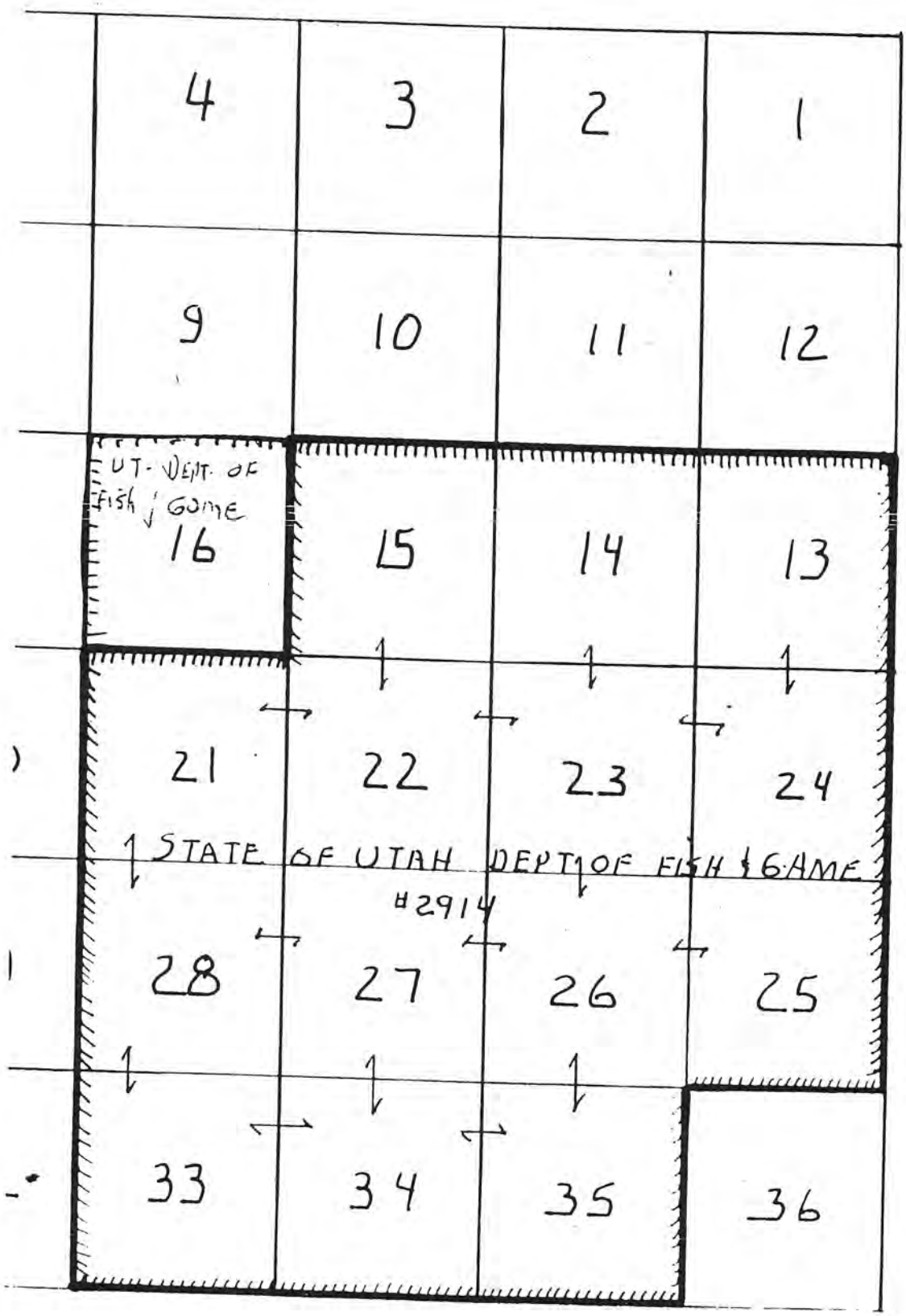
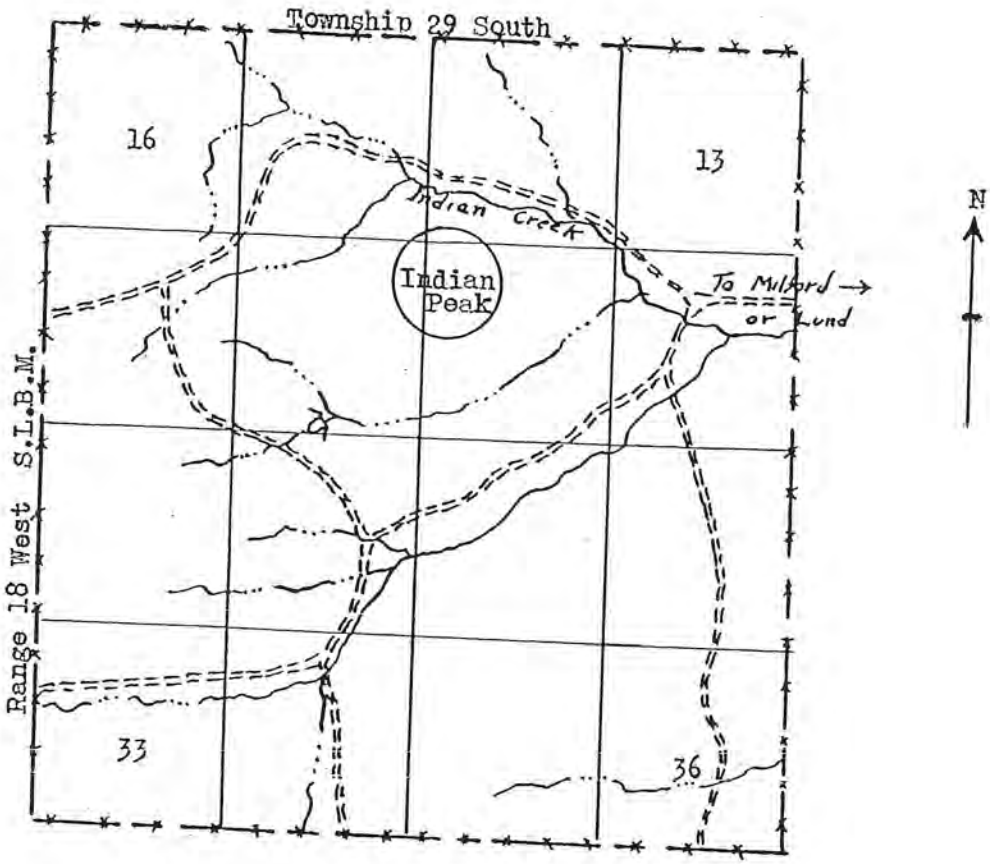


EXHIBIT C

105 East Center



DEPARTMENT OF INTERIOR

Bureau of Indian Affairs

PAIUTE (INDIAN PEAK) INDIAN RESERVATION

Beaver County, Utah

RANGE UNIT MAP - 1954

Legend

Reservation Boundary

Unimproved Road

Indian Peak — Non-Indian Use

Intermittent Stream

Permanent Stream

Barbed Wire Fence

Scale 1" = 1 mile

EXHIBIT C

EXHIBIT 7

11/27/1957 (TRUSTEE'S DEED)

EXHIBIT C

No. 50110

TRUSTEE'S DEED

KNOW ALL MEN BY THESE PRESENTS:

That Walker Bank & Trust Company, a banking and fiduciary corporation at Salt Lake City, Utah, as Trustee for the Indian Peaks Band of Paiute Indians under that certain Trust Agreement dated August 18, 1956, Grantor, for and in consideration of the sum of Thirty Nine Thousand Five Hundred ($39,500.00) Dollars does by these presents grant, bargain and sell unto the State of Utah Department of Fish and Game, hereafter referred to as the Department, an agency of the State of Utah, Grantee, the following real property within Beaver County, State of Utah, namely:

All of Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 within Township 29 South, Range 18 West, Salt Lake Meridian, containing 8,960 acres, more or less.

TO HAVE AND TO HOLD the same together with all appurtenances unto the said Department and its successors and assigns forever.

Reserving to the enrolled members of the Indian Peaks Band of Paiute Indians, Utah, and their descendants the right of interment in an existing cemetery approximately forty feet by sixty feet in size situated within the Southeast Quarter of the Northwest Quarter of Section 23, together with the right of ingress and egress;

Reserving also unto the Grantor and its successors and assigns all sub-surface rights in and to the land above described including, but not limited to the rights of ownership, possession, control, development, extraction and disposal of all sub-surface products within and beneath the surface of the property above described. The terms "sub-surface products" when used herein shall include all ores, minerals, gases, oil, chemical elements, chemical compounds, salts, emulsions, solutions, by-products, sands, gravels, rocks, shales, stones and/or gems situated beneath the surface of the land above described;

Also reserving unto the Grantor and its successors and assigns the right to use and develop in accord with applicable state law, surface and/or sub-surface water for the furtherance of the objectives reserved in this deed, and Grantee, its successors and assigns are granted a like privilege and right to use and develop in accord with applicable state law, surface and sub-surface water incidental to their use and enjoyment of the said property; both parties to exercise said rights in accordance with good usage, custom and due conservation.

The terms "possession," "control," "development," "extraction," and "disposal" when used herein shall include but shall not be limited to prospecting for, surveying, locating, inspection, assaying, analyzing, developing, controlling, quarrying, extracting, handling, treating, storing, transporting and/or disposing of sub-surface products. Further reserving unto said Grantor, its successors and assigns, such rights-of-way and/or easements over and through the surface of the lands above described and the usuage of such portions of such surface as shall be reasonably necessary for sub-surface operation, possession, control, development, extraction and disposal and for facilities used in connection therewith.

IN WITNESS WHEREOF, the said Grantor has caused these presents to be executed in its behalf by one of its duly authorized Vice Presidents and its duly authorized Secretary at Salt Lake City, Utah, on this 27th day of November, 1957.

Book 212 of Deeds Pg. 186

WALKER BANK & TRUST COMPANY, as Trustee for the Indian Peaks Band of the Paiute Indians under that certain Trust Agreement dated August 18, 1956.

EXHIBIT C

ATTEST:

O.K. Carlson
Secretary

(SEAL)

By William J. Fitzpatrick
Vice President and Trust Officer

STATE OF UTAH,)
COUNTY OF SALT LAKE.) ss.

On this 27th day of November, 1957, personally appeared before me William J. Fitzpatrick and O.K. Carlson who being first duly sworn each for himself did say that the said William J. Fitzpatrick is a Vice President and Trust Officer and the said O.K. Carlson is the Secretary of Walker Bank & Trust Company, a banking and fiduciary corporation at Salt Lake City, Utah; that said corporation is the duly appointed and acting Trustee for the Indian Peaks Band of the Paiute Indians under that certain Trust Agreement dated Auguts 18, 1956; that as such Vice President and Secretary respectively they executed the foregoing instrument for and in behalf of said corporation as Trustee as aforesaid by authority of its By-Laws and said William J. Fitzpatrick and said O.K. Carlson acknowledged to me that said corporation as Trustee as aforesaid has executed the same.

(SEAL)

George Smith
NOTARY PUBLIC
Residing at Salt Lake City, Utah.

My Commission Expires:
February 1st, 1961.

Filed for Record: 9:00 A.M. December 2, 1957.

COUNTY RECORDER

EXHIBIT C

Bk Z-12
Pg 186

NO. 90110

TRUSTEE'S DEED

KNOW ALL MEN BY THESE PRESENTS:

That Walker Bank & Trust Company, a banking and fiduciary corporation at Salt Lake City Utah, as Trustee for the Indian Peaks Band of Paiute Indians under that certain Trust Agreement dated August 18, 1956, Grantor, for and in consideration of the sum of Thirty Nine Thousand Five Hundred ($39,500.00) Dollars does by these presents grant, bargain and sell unto the State of Utah Department of Fish and Game, hereafter referred to as the Department, an agency of the State of Utah, Grantee, the following real property within Beaver County, State of Utah, namely:

All of Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 within Township 29 South, Range 18 West, Salt Lake Meridian, containing 8,960 acres, more or le

TO HAVE AND TO HOLD the same together with all appurtenances unto the said Department and its successors and assigns forever.

Reserving to the enrolled members of the Indian Peaks Band of Paiute Indians, Utah, and their descendants the right of interment in an existing cemetery approximately forty feet by sixty feet in size situated within the Southeast Quarter of the Northwest Quarter of Section 23, together with the right of ingress and egress;

Reserving also unto the Grantor and its successors and assigns all sub-surface rights in and to the land above described including, but not limited to the rights of ownership, possession, control, development, extraction and disposal of all sub-surface products within and beneath the surface of the property above described. The terms "sub-surface products" when used herein shall include all ores, minerals, gases, oil, chemical elements, chemical compounds, salts, emulsions, solutions, by-products, sands, gravels, rocks, shales, stones and/or gems situated beneath the surface of the land above described;

Also reserving unto the Grantor and its successors and assigns the right to use and develop in accord with applicable state law, surface and/or sub-surface water for the furtherance of the objectives reserved in this deed, and Grantee, its successors and assigns are granted a like privilege and right to use and develop in accord with applicable state law, surface and sub-surface water incidental to their use and enjoyment of the said property; both parties to exercise said rights in accordance with good usage, custom and due conservation.

The terms "possession," "control," "development," "extraction," and "disposal" when used herein shall include but shall not be limited to prospecting for, surveying, locating, inspection, assaying, analyzing, developing, controlling, quarrying, extracting, handling, treating, storing, transporting and/or disposing of sub-surface products. Further reserving unto said Grantor, its successors and assigns, such rights-of-way and/or easements over and through the surface of the lands above described and the usuage of such portions of such surface as shall be reasonably necessary for sub-surface operation, possession, control, development, extraction and disposal and for facilities used in connection therewith.

IN WITNESS WHEREOF, the said Grantor has caused these presents to be executed in its behalf by one of its duly authorized Vice Presidents and its duly authorized Secretary at Salt Lake City, Utah, on this 27th day of November, 1957.

WALKER BANK & TRUST COMPANY, as Trustee for the Indian Peaks Band of the Paiute Indians under that certain Trust Agreement dated August 18, 1956.

EXHIBIT C

ATTEST: (SEAL) By William J. Fitzpatrick
Vice President and Trust Officer

O.K. Carlson
Secretary

STATE OF UTAH,)
COUNTY OF SALT LAKE.) ss.

On this 27th day of November, 1957, personally appeared before me William J. Fitzpatrick and O.K. Carlson who being first duly sworn each for himself did say that the said William J. Fitzpatrick is a Vice President and Trust Officer and the said O.K. Carlson is the Secretary of Walker Bank & Trust Company, a banking and fiduciary corporation at Salt Lake City, Utah; that said corporation is the duly appointed and acting Trustee for the Indian Peaks Band of the Paiute Indians under that certain Trust Agreement dated Auguts 18, 1956; that as such Vice President and Secretary respectively they executed the foregoing instrument for and in behalf of said corporation as Trustee as aforesaid by authority of its By-Laws and said William J. Fitzpatrick and said O.K. Carlson acknowledged to me that said corporation as Trustee as aforesaid has executed the same.

(SEAL)

My Commission Expires:
February 1st, 1961.

George Smith
NOTARY PUBLIC
Residing at Salt Lake City, Utah.

Filed for Record: 9:00 A.M. December 2, 1957.

Louis Lessing
COUNTY RECORDER

NO. 90112

QUIT-CLAIM DEED

MORGAN EVANS, Grantor of Adamsville, Utah, County of Beaver, State of Utah, herety QUIT-CLAIM to MYRTLE S. LITTLEFIELD of Salt Lake City, Utah, grantee for the sum of One Dollar ($1.00) DOLLARS the following described tract of land in Beaver County, State of Utah:

Com. 17½ rds. W. NE cor. SW¼ Sec. 30, T. 29 S., R. 8 W., SLM; N. 40 rds; W. 9½ rds; S. 30 rds; W. 1 rd; S. 10 rds; E. 10½ rds to beg. cont. 2 100/160 ac.

With one ac. of water right Furnace Ditch Co.

Witness the hand of said grantor, this 7th day of June, A.D. one thousand nine hundred and fifty five.

Morgan Evans

STATE OF UTAH,)
COUNTY OF BEAVER.) SS.

On the 2nd day of Dec., A.D. one thousand nine hundred and fifty-seven, personally appeared before me Morgan Evans the signer of the foregoing instrument, who duly acknowledge to me that he executed the same.

(SEAL)

Filed for Record:
10:00 A.M. December 2, 1957.

Louis Lessing
Beaver County Recorder
Address: Beaver, Utah.

EXHIBIT C

EXHIBIT 8

2/21/1957 (22 FED. REG. 1957)

EXHIBIT C

forms of appropriation under the public land laws, including the mining and mineral-leasing laws, in aid of legislation to add such lands to the Navajo Indian Reservation:

SALT LAKE MERIDIAN

T. 38 S., R. 23 E.,
Secs. 13, 14, 15, 17, and 18;
Secs. 20 to 29, inclusive;
Secs. 33, 34, 35.
T. 38 S., R. 24 E.,
Secs. 13, 14, and 15;
Secs. 17 to 31, inclusive;
Secs. 33, 34, and 35.
T. 38 S., R. 25 E.,
Secs. 33, 34, and 35.
T. 39 S., R. 22 E.,
Sec. 13, E½;
Secs. 21, 22, 23, and 24;
Sec. 25, E½.
T. 39 S., R. 23 E.,
Secs. 1, 3, 4, and 5;
Secs. 8 to 15, inclusive;
Secs. 17 to 31, inclusive;
Secs. 33, 34, and 35.
T. 39 S., R. 24 E.,
Sec. 1;
Secs. 3 to 15, inclusive;
Secs. 17 to 31, inclusive;
Secs. 33, 34, and 35.
T. 39 S., R. 25 E.,
Secs. 4, 5, 6, 7, 8, and 18.

The areas described, including both public and nonpublic lands, aggregate approximately 73,600 acres.

FRED A. SEATON,
Secretary of the Interior.

February 8, 1957.

1263 [Order No. 2508, Amdt. 17]

BUREAU OF INDIAN AFFAIRS

Delegation of Authority With Respect to Operation of U. S. M. S. "North Star"

Order No. 2508, as amended, is further amended by addition of a new section to read as follows:

SEC. 32. *Operation of U. S. M. S. "North Star".* The Commissioner of Indian Affairs may exercise all of the authorities contained in 25 CFR Part 3.

FRED G. AANDAHL,
Acting Secretary of the Interior.

February 19, 1957.

[Order No. 2508, Amdt. 18]

BUREAU OF INDIAN AFFAIRS

Delegation of Authority With Respect to Funds and Fiscal Matters

SEC. 11. *Funds and Fiscal Matters* of Order No. 2508, as amended (14 F. R. 258; 16 F. R. 473, 11620; 19 F. R. 34, 4585; 20 F. R. 167) is further amended by addition of a new paragraph to read as follows:

(3) (i) The approval of mortgages of trust chattels and crops on trust or restricted land of an Indian, and assignments of income from trust or restricted land of an Indian, except income from restricted land of heirs or devisees of members of the Five Civilized Tribes, Oklahoma, as security for a loan by any lender.

(2) The approval of assignments of any trust property of an Indian, except land, and authority to act as the Indian's attorney in fact to execute leases on any trust land in which the Indian borrower may have an interest, and to apply the rentals on the Indian's indebtedness, for a loan made pursuant to 25 CFR Parts 21, 23, and 28.

(3) The release of interests of the United States in any trust or restricted property of an Indian, except land.

FRED G. AANDAHL,
Acting Secretary of the Interior.

February 20, 1957.

1301 ## PROPERTY OF CERTAIN TRIBES, BANDS, AND COLONIES OF INDIANS IN UTAH AND OF INDIVIDUAL MEMBERS THEREOF

Termination of Federal Supervision

Whereas, all Federal restrictions on the property of the Shivwits, Kanosh, Koosharem and Indian Peaks Bands of the Paiute Indian Tribe, located in the State of Utah, and of individual members thereof, have been removed, and

Whereas, Congress, by section 17 (a) of the act of September 1, 1954 (Public Law 762, 83d Congress, 68 Stat. 1099, 25 U.S.C. 757), has directed the Secretary of the Interior to publish this Proclamation,

Now, therefore, I, Fred G. Aandahl, Acting Secretary of the Interior, do hereby declare that

1. The Federal trust relationship to the affairs of the Shivwits, Kanosh, Koosharem and Indian Peaks Bands of the Paiute Indian Tribe and its members has terminated.

2. Hereafter, all powers of the Secretary of the Interior or other officer of the United States to take, review, or approve any action under the Constitutions or by-laws of the Shivwits, Kanosh, Koosharem and Indian Peaks Bands of the Paiute Indian Tribe are terminated, and any powers conferred upon the tribe by such constitution which are inconsistent with the provisions of the act of September 1, 1954, supra, are terminated.

3. The corporate charters issued pursuant to the act of June 18, 1934 (48 Stat. 984), as amended, to the Kanosh Band of Paiute Indians of the Kanosh Reservation, Utah, and ratified by the band on August 15, 1943, and to the Shivwits Band of Paiute Indians of the Shivwits Reservation, Utah, and ratified by the band on August 30, 1941, are revoked.

4. All statutes of the United States which affect Indians because of their status as Indians shall no longer be applicable to the members of said Bands of the Paiute Indian Tribe, and individual members shall not be entitled to any of the services performed by the United States for the Indians because of their status as Indians.

5. All other rights, privileges, immunities and obligations of such bands, and of the members thereof, and all other powers and responsibilities of the Secretary of the Interior, remain unaffected, except as provided in said act of September 1, 1954, to which reference is hereby made for the provisions of Congress concerning the termination of Federal supervision over the affairs and property of such Indian bands and individuals.

In witness whereof, I have hereunto

EXHIBIT C

subscribed my name and caused the seal of the Department of the Interior to be affixed, this 21st day of February 1957.

FRED G. AANDAHL,
Acting Secretary of the Interior.

[Order 2508, Amdt. 19]

12017 **BUREAU OF INDIAN AFFAIRS**

Delegations of Authority With Respect to Lands and Minerals

March 20, 1957.

Order No. 2508, as amended (14 F. R. 258; 16 F. R. 473, 11620, 11974; 17 F. R. 1570, 6418; 19 F. R. 34, 1123, 4585; 20 F. R. 167, 552, 3834, 5106, 7017; 21 F. R. 7655) is further amended by addition of a new paragraph under section 13 *Lands and minerals* to read as follows:

(y) The approval of orders to change designation of homestead and approval of instruments vesting title, pursuant to the provisions of 25 CFR 242, Subpart B.

FRED A. SEATON,
Secretary of the Interior.

13124 [Public Land Order 1414]

UTAH

Power Site Restoration No. 529; Partially Revoking Executive Order of January 23, 1912, Which Established Power Site Reserve No. 243

By virtue of the authority vested in the President by section 1 of the act of June 25, 1910 (36 Stat. 847; 43 U.S.C. 141), and pursuant to Executive Order No. 10355 of May 26, 1952, it is ordered as follows:

The Executive order of January 23, 1912, reserving certain lands in Utah for water-power sites as Power Site Reserve No. 243, is hereby revoked so far as it affects the following described lands:

UINTA SPECIAL MERIDIAN

T. 1 S., R. 8 W.,
Sec. 5, lot 8.

The area described contains 40 acres.

The above described lands are undisposed of opened lands of the Uintah and Ouray Indian Reservation restored to tribal ownership for use and benefit of the Ute Indian Tribe of the Uintah and Ouray Reservation in Utah, and added to and made a part of the existing reservation by the order of the Secretary of the Interior of August 25, 1945 (10 F. R. 12409).

HATFIELD CHILSON,
Acting Secretary of the Interior.

April 26, 1957.

13474 [Order No. 2508, Amdt. 20]

BUREAU OF INDIAN AFFAIRS

Delegation of Authority

Order No. 2508, as amended, is further amended as hereinafter indicated.

1. Section 13 *Lands and minerals* (14 F. R. 258; 16 F. R. 11974; 17 F. R. 6418; 19 F. R. 34, 4585; 20 F. R. 167, 552, 7017; 21 F. R. 7655; 22 F. R. 2017) is further amended to read as follows:

(z) The approval of any and all tribal deeds made and executed according to law for any of the Five Civilized Tribes in Oklahoma pursuant to the act of March 3, 1911, 36 Stat. 1058, 1069. This authority shall not be redelegated beyond the Area Director.

2. Section 25 *Redelegation* (14 F. R. 258; 16 F. R. 473; 17 F. R. 6418; 20 F. R. 167) is further amended to read as follows:

Except as may otherwise be provided in this order, the Commissioner of Indian Affairs may, in writing, redelegate to any officer or employee of the Bureau of Indian Affairs any authority delegated to him by this order or by the regulations in 25 CFR, and he may authorize written redelegations of any such authority.

FRED A. SEATON,
Secretary of the Interior.

May 10, 1957.

13693 **SOUTH DAKOTA**

Restoring Lands to Tribal Ownership of the Cheyenne River Sioux Tribe of Indians

Whereas, pursuant to the authority contained in the act of Congress approved May 29, 1908 (35 Stat. 460-463), the Townsite of Timber Lake was established within the Cheyenne River Indian Reservation, South Dakota, and

Whereas, lots 1 and 6, Block 5, Townsite of Timber Lake, are desired by the Indians and do not appear to be in public demand, and

Whereas, the Tribal Council and the Commissioner of Indian Affairs have recommended restoration of the lots involved to tribal ownership:

Now, therefore, by virtue of the authority vested in the Secretary of the Interior by sections 3 and 7 of the act of June 18, 1934 (48 Stat. 984; 25 U.S.C. 463 (a)), I hereby find that the restoration to tribal ownership of lots 1 and 6, Block 5, Townsite of Timber Lake, South Dakota, will be in the public interest and the said lands are hereby restored to tribal ownership for the use and benefit of the Cheyenne River Sioux Tribe of the Cheyenne River Indian Reservation, South Dakota, and are added to and made a part of the existing reservation, subject to any valid existing rights.

HATFIELD CHILSON,
Acting Secretary of the Interior.

May 17, 1957.

13897 [Order 2508, Amdt. 21]

BUREAU OF INDIAN AFFAIRS

Delegation of Authority With Respect to Conveyance of Buildings and Improvements

May 27, 1957.

Order No. 2508, as amended (14 F. R. 258), is further amended by addition of a new section, to read as follows:

SEC. 40. *Conveyance of buildings and improvements.* The Commissioner of Indian Affairs may exercise all of the authority of the Secretary contained in the act of August 6, 1956 (70 Stat. 1057). This act permits the conveyance to Indian tribes of title to Federally owned buildings and improvements (including personal property used in connection therewith) no

EXHIBIT 9

9/10/1956 (TRUST AGREEMENT)

EXHIBIT C

NO. 88143

THE UNITED STATES OF AMERICA
TO WHOM THESE PRESENTS SHALL COME, GREETING:

73083
11828-56 B.I.A.

WHEREAS, an Order of the authorized officer of the Bureau of Indian Affairs is now deposited in the Bureau of Land Management, directing that a fee simple patent issue to the Walker Bank and Trust Company, Trustee, under a trust agreement dated August 18, 1956, for the Indian Peaks Band of Paiute Indians, Utah, according to the provisions of the Act of September 1, 1954 (68 Stat. 1099; 25 U.S.C. Sec. 745(b) and (d) Supp. III, 1956), for the following described land:

Salt Lake Meridian, Utah. T. 29 S., R. 18 W.,

All of Secs. 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35, containing 8,960 acres, according to the Official Plat of the Survey of the said land, on file in the Bureau of Land Management.

NOW KNOW YE, That the United States of America, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said Walker Bank and Trust Company, Trustee, the land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said Walker Bank and Trust Company, Trustee, and to its successors in trust and assigns forever.

Reserving to the enrolled members of the Indian Peaks Band of Paiute Indians, Utah, and their descendants the right of interment in an existing cemetery, situated in the SE¼NW¼ said Sec. 23, together with the right of ingress and egress.

IN TESTIMONY WHEREOF, the undersigned authorized officer of the Bureau of Land Management, in accordance with the provisions of the Act of June 17, 1948 (62 Stat., 476), has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

GIVEN under my hand, in the District of Columbia, the TENTH day of SEPTEMBER in the year of our Lord one thousand nine hundred and FIFTY-SIX and of the Independence of the United States the one hundred and EIGHTY-FIRST.

For the Director, Bureau of Land Management.

By Rose M. Beall
Chief, Patents Section.

(SEAL)

Patent Number 1164176

Filed for Record: 9:05 A.M. April 1, 1957.

COUNTY RECORDER

Trust for The BAND

Interment only

EXHIBIT C

Z-12 p 10

EXHIBIT 10

9/1/1954
(PUB.L. 762, 68 STAT. 1099,
25 U.S.C. SEC. 745(b) and (d)
SUPP. III, 1956)

EXHIBIT C

lands, easements, rights-of-way, or other interests in land within the Colorado River Indian Reservation, not exceeding thirty acres in all, as may be required for the construction and maintenance of the works authorized in section 1 of this Act: *Provided*, That nothing contained herein shall preclude said tribes, if they believe that such payment constitutes less than just compensation for the extinguishment or impairment of their interest in the lands and interests in land in question, from maintaining an appropriate action against the United States for such compensation.

Use of water.

SEC. 5. The use of all water diverted for the district through said works from the Colorado River shall be subject to and controlled by the Colorado River Compact, the Boulder Canyon Project Act (45 Stat. 1057), the California Limitation Act (Stats. Cal. 1929, ch. 16), contract dated February 7, 1933, between the United States and Palo Verde Irrigation District, and the Mexican Treaty (Treaty Series 994), and shall be included within and shall in no way increase ⊥the total use of water to which the State of California is entitled as limited by said compact, statutes, contract, and treaty.

43 U. S. C. 617t.

59 Stat. 1219.

⊥1047

Nonliability.

SEC. 6. Neither the enactment of this Act nor anything contained in it nor any action taken pursuant to it shall be deemed a recognition or admission of any obligation or liability whatsoever to the Palo Verde Irrigation District on the part of the United States.

Nonreimbursable costs.

SEC. 7. All costs incurred under authority of this Act, except those to be repaid by the Palo Verde Irrigation District, shall be nonreimbursable.

Appropriation.

SEC. 8. There are hereby authorized to be appropriated, out of any moneys in the Treasury not otherwise appropriated, the sum of $7,999,000.

Approved, August 31, 1954.

PUBLIC LAW 762

CHAPTER 1207

September 1, 1954
[S. 2670]

68 Stat. 1099

AN ACT

To provide for the termination of Federal supervision over the property of certain tribes, bands, and colonies of Indians in the State of Utah and the individual members thereof, and for other purposes.

Paiute Indians, Utah. Termination of Federal supervision.

⊥1100

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the purpose of ⊥this Act is to provide for the termination of Federal supervision over the trust and restricted property of certain tribes and bands of Indians located in the State of Utah and the individual members thereof, for the disposition of federally owned property acquired or withdrawn for the administration of the affairs of such Indians, and for a termination of Federal services furnished such Indians because of their status as Indians.

SEC. 2. For the purposes of this Act—

(a) "Tribe" means any of the following tribes or bands of Indians located in the State of Utah: Shivwits, Kanosh, Koosharem, and Indian Peaks Bands of the Paiute Indian Tribe.

(b) "Secretary" means the Secretary of the Interior.

(c) "Lands" means real property, interests therein, or improvements thereon, and include water rights.

(d) "Individual Indian" means any individual Indian whose name appears on the final roll prepared pursuant to section 3 of this Act.

(e) "Tribal property" means any real or personal property, including water rights, or any interest in real or personal property, that belongs to the tribe and either is held by the United States in trust for the tribe or is subject to a restriction against alienation imposed by the United States.

Tribal rolls.

SEC. 3. Each tribe shall have a period of six months from the date of this Act in which to prepare and submit to the Secretary a proposed

Publication in FR.

roll of the members of the tribe living on the date of this Act, which shall be published in the Federal Register. If a tribe fails to submit such roll within the time specified in this section, the Secretary shall prepare a proposed role for the tribe, which shall be published in the Federal Register. Any person claiming membership rights in the tribe or an interest in its assets, or a representative of the Secretary on behalf of any such person, may, within sixty days from the date of publication of the proposed roll, file an appeal with the Secretary contesting the inclusion or omission of the name of any person on or from such roll. The Secretary shall review such appeals and his decisions thereon shall be final and conclusive. After disposition of all such appeals by the Secretary, the roll of the tribe shall be published in the Federal Register, and such roll shall be final for the purposes of this Act.

Tribal property rights.

SEC. 4. Upon publication in the Federal Register of the final roll as provided in section 3 of this Act, the rights or beneficial interests in tribal property of each person whose name appears on the roll shall constitute personal property which may be inherited or bequeathed, but shall not otherwise be subject to alienation or encumbrance before the transfer of title to such tribal property as provided in section 5 of this Act without the approval of the Secretary. Any contract made in violation of this section shall be null and void.

Property disposition plan.

SEC. 5. (a) The Secretary shall, within six months after the publication of each final membership roll, notify the tribe of the period of time during which the tribe may study means of disposition of tribal property, real and personal, under supervision of the United States. Such period shall not be less than three months and not more than two years, including any authorized extension of the original periods. The Secretary is authorized to provide such reasonable assistance as may be requested by the tribe in the formulation of a plan for the disposition or future control and management of the property, including necessary consultations with representatives of Federal departments and agencies, officials of the State of Utah and political subdivisions thereof, and members of the tribe. During such period, the tribe may elect—

1101

(1) to apply to the Secretary for the transfer to a corporation or other legal entity organized by the tribe in a form satisfactory to the Secretary of title to all or any part of the tribal property, and the Secretary is authorized to make such transfer: *Provided*, That the Secretary of the Interior shall not approve any form of organization that provides for the transfer of stock or an undivided share in corporate assets as compensation for services of agents or attorneys unless such transfer is based upon an appraisal of tribal assets that is satisfactory to the Secretary;

(2) to apply to the Secretary for the transfer to one or more trustees designated by the tribe of title to all or any part of the tribal property, real and personal, the title to be held by such trustee for management or liquidation purposes under terms and conditions prescribed by the tribe, and the Secretary is authorized to make such transfer if he approves the trustees and the terms and conditions of the trust;

(3) to apply to the Secretary for the sale of all or any part of the tribal property, and for the pro rata distribution among the members of the tribe of all or any part of the proceeds of sale or of any other tribal funds, and the Secretary is authorized and directed to sell such property upon such terms and conditions as he deems proper and to make such distribution among the members of the tribe after deducting, in his discretion, reasonable costs of sale and distribution; and

(4) to apply to the Secretary for a division of all or any part of the tribal land into parcels for members and for public purposes,

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together with a general plan for the subdivision showing the approximate size, location, and number of parcels, and the Secretary is authorized to issue patents for that purpose.

(b) Title to any tribal property that is not transferred in accordance with the provisions of subsection (a) of this section shall be transferred by the Secretary either to all members of the tribe as tenants in common or to one or more trustees designated by him for the liquidation and distribution of assets among the members of the tribe under such terms and conditions as the Secretary may prescribe: *Provided*, That the trust agreement shall provide for the termination of the trust not more than three years from the date of such transfer unless the term of the trust is extended by order of a judge of a court of record designated in the trust agreement.

Selection of trustees.

(c) When approving or disapproving the selection of trustees in accordance with the provisions of subsection (a) of this section, and when designating trustees pursuant to subsection (b) of this section, the Secretary shall give due regard to the laws of the State of Utah that relate to the selection of trustees: *Provided further*, That the trust ageement shall provide that at any time before the sale of tribal property by the trustees the tribe may notify the trustees that it elects to retain such property and to transfer title thereto to a corporation, other legal entity, or trustee in accordance with the provisions of paragraphs (1) and (2) of subsection (a) of this section, and that the trustees shall transfer title to such property in accordance with the notice from the tribe if it is approved by the Secretary.

Reservation of subsurface rights.

(d) Notwithstanding any other provision of this section, the Secretary is directed to reserve subsurface rights in tribal property from any sale or division of such property, and to require any trustee or trustees to whom title to tribal property is transferred to retain title to the subsurface rights in such property for not less than 10 years.

Personal property control.

SEC. 6. (a) The Secretary is authorized and directed to transfer within two years after the date of this Act to each member of each tribe unrestricted control of funds or other personal property held in trust for such member by the United States.

25 USC 1102

Land restrictions, removal.

(b) All restrictions on the sale or encumbrance of trust or restricted land owned by members of the tribe (including allottees, heirs, and devisees, either adult or minor) are hereby removed two years after the date of this Act, and the patents or deeds under which titles are then held shall pass the titles in fee simple, subject to any valid encumbrance: *Provided*, That the provisions of this subsection shall not apply to subsurface rights in such lands, and the Secretary is directed to transfer such subsurface rights to one or more trustees designated by him for management for a period not less than 10 years. The title to all interests in trust or restricted land acquired by members of the tribe by devise or inheritance two years or more after the date of this Act shall vest in such members in fee simple, subject to any valid encumbrance.

(c) Prior to the time provided in subsection (b) of this section for the removal of restrictions on land owned by more than one member of a tribe, the Secretary may—

(1) upon request of any of the owners, partition the land and issue to each owner a patent or deed for his individual share that shall become unrestricted two years from the date of this Act;

(2) upon request of any of the owners and a finding by the Secretary that partition of all or any part of the land is not practicable, cause all or any part of the land to be sold at not less than the appraised value thereof and distribute the proceeds of sale to the owners: *Provided*, That any one or more of the owners may elect before a sale to purchase the other interests in the land at not less than the appraised value thereof, and the purchaser shall receive an unrestricted patent or deed to the land; and

EXHIBIT C

(3) if the whereabouts of none of the owners can be ascertained, cause such lands to be sold and deposit the proceeds of sale in the Treasury of the United States for safekeeping.

Probate, etc.
25 U. S. C. 372 *et seq.*

SEC. 7. (a) The Act of June 25, 1910 (36 Stat. 855), the Act of February 14, 1913 (37 Stat. 678), and other Acts amendatory thereto shall not apply to the probate of the trust and restricted property of the members of a tribe who die six months or more after the date of this Act.

(b) The laws of the several States, Territories, possessions, and the District of Columbia with respect to the probate of wills, the determination of heirs, and the administration of decedents' estates shall apply to the individual property of members of the tribe who die six months after the date of this Act.

Federally-owned property.
Transfer.

SEC. 8. The Secretary is authorized, in his discretion, to transfer to a tribe or any member or group of members thereof any federally owned property acquired, withdrawn, or used for the administration of the affairs of the tribe which he deems necessary for Indian use, or to transfer to a public or nonprofit body any such property which he deems necessary to public use and from which members of the tribes will derive benefit.

Taxes.

SEC. 9. No property distributed under the provisions of this Act shall at the time of distribution be subject to Federal or State income tax. Following any distribution of property made under the provisions of this Act, such property and any income derived therefrom by the individual, corporation, or other legal entity shall be subject to the same taxes, State and Federal, as in the case of non-Indians: *Provided,* That for the purpose of capital gains or losses the base ⊥value of the property shall be the value of the property when distributed to the individual, corporation, or other legal activity.

⊥1103

25 U. S. C. 70 *et seq.*

SEC. 10. Nothing contained in this Act shall deprive any Indian tribe, band, or other identifiable group of American Indians of any right, privilege, or benefit granted by the Indian Claims Commission Act of August 13, 1946 (ch. 959, 60 Stat. 1049), including the right to pursue claims against the United States as authorized by said Act.

Prior leases, etc.

Transfer of functions.

SEC. 11. Nothing in this Act shall abrogate any valid lease, permit, license, right-of-way, lien, or other contract heretofore approved. Whenever any such instrument places in or reserves to the Secretary any powers, duties, or other functions with respect to the property subject thereto, the Secretary may transfer such functions, in whole or in part, to any Federal agency with the consent of such agency and may transfer such function, in whole or in part, to a State agency with the consent of such agency and the other party or parties to such instrument.

Water rights.

SEC. 12. Nothing in this Act shall abrogate any water rights of a tribe or its members.

Guardians.

SEC. 13. Prior to the transfer of title to, or the removal of restrictions from, property in accordance with the provisions of this Act, the Secretary shall protect the rights of members of a tribe who are minors, non compos mentis, or in the opinion of the Secretary in need of assistance in conducting their affairs by causing the appointment of guardians in courts of competent jurisdiction, or by such other means as he may deem adequate.

Advances of funds.

SEC. 14. Pending the completion of the property dispositions provided for in this Act, the funds now on deposit, or hereafter deposited, in the United States Treasury to the credit of the tribe shall be available for advance to the tribe, or for expenditure, for such purposes as may be designated by the governing body of the tribe and approved by the Secretary.

Execution of patents, etc.

SEC. 15. The Secretary shall have authority to execute such patents, deeds, assignments, releases, certificates, contracts, and other instrumens as may be necessary or appropriate to carry out the provisions

of this Act, or to establish a marketable and recordable title to any property disposed of pursuant to this Act.

Cancellation of indebtedness.

SEC. 16. The Secretary is authorized and directed to cancel any indebtedness payable to the United States by the tribe arising out of any loan made by the United States to such tribe, and any indebtedness, whether payable to the United States or to the tribe, arising out of a loan made from the proceeds thereof to an individual Indian.

Termination of Federal trust.
Publication in FR.

SEC. 17. (a) Upon removal of Federal restrictions on the property of each tribe and individual members thereof, the Secretary shall publish in the Federal Register a proclamation declaring that the Federal trust relationship to the affairs of the tribe and its members has terminated. Thereafter individual members of the tribe shall not be entitled to any of the services performed by the United States for Indians because of their status as Indians, all statutes of the United States which affect Indians because of their status as Indians shall no longer be applicable to the members of the tribe, and the laws of the several States shall apply to the tribe and its members in the same manner as they apply to other citizens or persons within their jurisdiction.

Status as citizens.

(b) Nothing in this Act shall affect the status of the members of the tribe as citizens of the United States, or shall affect their rights, privileges, immunities, and obligations as such citizens.

‡1104

Revocation of charter.
25 U. S. C. 461–479.

‡SEC. 18. (a) Effective on the date of the proclamation provided for in section 17 of this Act, the corporate charter issued pursuant to the Act of June 18, 1934 (48 Stat. 984), as amended, to the Kanosh Band of Paiute Indians of the Kanosh Reservation, Utah, and ratified by the band on August 15, 1943, and to the Shivwits Band of Paiute Indians of the Shivwits Reservation, Utah, and ratified by the band on August 30, 1941, are hereby revoked.

Action under tribal constitution.

(b) Effective on the date of the proclamation provided for in section 17 of this Act, all powers of the Secretary or other officer of the United States to take, review, or approve any action under the constitution and bylaws of the tribe are hereby terminated. Any powers conferred upon the tribe by such constitution which are inconsistent with the provisions of this Act are hereby terminated. Such termination shall not affect the power of the tribe to take any action under its constitution and bylaws that is consistent with this Act without the participation of the Secretary or other officer of the United States.

Rules and regulations.

SEC. 19. The Secretary is authorized to issue rules and regulations necessary to effectuate the purposes of this Act, and may in his discretion provide for tribal referenda on matters pertaining to management or disposition of tribal assets.

25 U. S. C. 461–479.

SEC. 20. All Acts or parts of Acts inconsistent with this Act are hereby repealed insofar as they affect the tribe or its members. The Act of June 18, 1934 (48 Stat. 984), as amended by the Act of June 15, 1935 (49 Stat. 378), shall not apply to the tribe and its members after the date of the proclamation provided for in section 17 of this Act.

Separability.

SEC. 21. If any provision of this Act, or the application thereof, to any person or circumstance is held invalid, the remainder of the Act and the application of such provision to other persons or circumstances shall not be affected thereby.

Irrigation works.
Discontinuance.

SEC. 22. (a) Not later than two years after the date of this Act, the management and operation of irrigation works for Indian lands of the tribe by the Bureau of Indian Affairs shall be discontinued. Upon such discontinuance, the Secretary shall cancel the unpaid irrigation operation and maintenance assessments and reimbursable irrigation construction charges against such lands.

Transfer of title.

(b) The Secretary may transfer the title to such irrigation works to water users, water user's associations organized for such purpose, or to corporations organized, or trustees designated, as provided in section 5.

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Educational program.

SEC. 23. Prior to the issuance of a proclamation in accordance with the provisions of section 17 of this Act, the Secretary is authorized to undertake, within the limits of available appropriations, a special program of education and training designed to help the members of the tribe to earn a livelihood, to conduct their own affairs, and to assume their responsibilities as citizens without special services because of their status as Indians. Such program may include language training, orientation in non-Indian community customs and living standards, vocational training and related subjects, transportation to the place of training or instruction, and subsistence during the course of training or instruction. For the purposes of such program the Secretary is authorized to enter into contracts or agreements with any Federal, State, or local governmental agency, corporation, association, or person. Nothing in this section shall preclude any Federal agency from undertaking any other program for the education and training of Indians with funds appropriated to it.

Approved, September 1, 1954.

September 3, 1954
[H. R. 2233]
68 Stat. 1191

PUBLIC LAW 776 CHAPTER 1260

AN ACT

To provide for the acquisition of lands by the United States required for the reservoir created by the construction of Oahe Dam on the Missouri River and for rehabilitation of the Indians of the Cheyenne River Sioux Reservation, South Dakota, and for other purposes.

Oahe Dam, S. Dak. Acquisition of lands.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this agreement between the United States of America and the Sioux Indians of Cheyenne River Reservation in South Dakota, Witnesseth, That this agreement when enacted by Congress and when confirmed and accepted in writing by three-quarters of the adult Indians of the Cheyenne River Reservation in South Dakota, as shown by the tribal rolls of the said reservation, does hereby convey to the United States all tribal, allotted, assigned, and inherited lands or interests within said Cheyenne River Reservation belonging to the Indians of said reservation, which lands are required by the United States for the reservoir to be created by the construction of the dam across the Missouri River in South Dakota, now known as Oahe Dam, including such lands along the margin of said proposed reservoir as may be required by the Chief of Engineers, United States Army, for the construction, protection, development, and use of said reservoir all as described in part II of this agreement, subject, however, to the conditions of this agreement hereinafter set forth: *Provided*, That the effective date of this Act shall be the date when the Secretary of the Interior shall by proclamation declare that this agreement has been ratified and approved in writing by three-quarters of the adult members of said Indians as above defined.

Effective date.

U.S.-Cheyenne River Reservation Indians. Agreement. Payment.

SECTION II. The United States agrees to pay, out of funds appropriated for construction of the Oahe project, as just compensation for all lands and improvements and interests therein (except the agency hospital) conveyed pursuant to section I of this Act; and for the bed of the Missouri River so far as it is the eastern boundary of said Cheyenne River Reservation, the sum of $5,384,014; which sum shall be in final and complete settlement of all claims, rights, and demands of said Tribe or allottees or heirs thereof arising out of the construction of the Oahe project, and shall be deposited to the credit of said Tribe in the Treasury of the United States, to draw interest on the principal thereof at the rate of 4 per centum per annum until expended: *Provided*, That the said Tribal Council with the approval of the Secretary of the Interior shall distribute the sum of $2,250,000 in accordance with the revised appraisal of the Missouri River Basin investigation staff of the Department of the Interior.

68 Stat. 1192

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EXHIBIT 11

8/5/1954 (REPORT NO. 2221)

EXHIBIT C

Calendar No. 2250

83D CONGRESS
2d Session

SENATE

REPORT
No. 2221

AUTHORIZING SALE OF LANDS BELONGING TO INDIAN PEAK PAIUTE INDIANS, UTAH

AUGUST 5, 1954.—Ordered to be printed

Mr. WATKINS, from the Committee on Interior and Insular Affairs, submitted the following

REPORT

[To accompany S. 3570]

The Committee on Interior and Insular Affairs, to whom was referred the bill (S. 3570) authorizing the Indian Peak Paiute Indians of Utah, subject to the approval of the Secretary of the Interior, to sell certain lands situated in the State of Utah, having considered the same, report thereon with the recommendation that it do pass with the following amendments:

On page 2, line 4, strike out the following words: "said Indians shall deem satisfactory," and insert in lieu thereof the following: "the Secretary of the Interior shall approve,".

On page 2, line 13, after "Indians" insert the words "by majority vote".

On page 2, strike all of section 5.

This bill, if enacted, will authorize the Indian Peak Paiute Indians of Utah, with the approval of the Secretary of the Interior, to sell approximately 10,240 acres of land in Utah, described as sections 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, and 36, T. 29 S., R. 18 E., Salt Lake meridian, which lands comprise the entire area of the Indian Peak Reservation. These lands are usable primarily for summer grazing purposes, and have been leased for a number of years to the same non-Indian lessee for an annual rental of $525. Rentals have accumulated and approximately $3,500 are now credited to the account of this band, which amount, if this bill is enacted, may be expended for the benefit of these Indians, including per capita payments, with the approval of the Secretary of the Interior.

This band of Indians consists of 26 persons who are scattered throughout southwestern Utah. None of them has lived on the reservation during the past 10 years.

The Secretary of the Interior, as well as the Director of the Bureau of the Budget, recommend the enactment of this bill.

and 36, township 29 south, range 18 west, Salt Lake
meridian.

SEC. 2. Title shall be conveyed by issuance of patent in

EXHIBIT C

A copy of the Secretary of the Interior's report, dated July 13, 1954, and a copy of the report of the Director of the Bureau of the Budget are attached hereto and made a part of this report, as follows:

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., July 13, 1954.

Hon. GUY CORDON,
Chairman, Committee on Interior and Insular Affairs,
United States Senate, Washington, D. C.

MY DEAR SENATOR CORDON: Reference is made to the request for a report on S. 3570, a bill to authorize the sale of certain lands situated in Utah.

I recommend that the bill be enacted.

The bill authorizes the sale of approximately 10,240 acres of land in Utah, which comprises the entire area of the Indian Peaks Reservation. The reservation was established by Executive orders of August 2, 1915, May 3, 1921, April 9, 1923, and by the act of May 31, 1924 (43 Stat. 246).

The Indian Peaks Band consists of 26 persons who are scattered throughout southwestern Utah. They maintain no tribal organization, and none of them has lived on the reservation during the past 10 years. The lands are usable primarily for summer grazing purposes, and they have been leased for a number of years to the same lessee for an annual rental of $525. Rentals have accumulated and approximately $3,500 are now credited to the account of the band.

The Indian Peaks Band is ready for a complete termination of Federal supervision over its affairs. It is one of the bands named in S. 2670, which is a general termination bill for 4 Paiute bands and for 2 Shoshone bands in Utah. If that bill were enacted, S. 3570 would be unnecessary. There is no inconsistency between S. 3570 and the termination bill, however, and inasmuch as the Indians are eager for immediate authority to sell their reservation lands, which they do not use themselves, the enactment of a separate bill for that purpose seems justified.

As I am informed that there is a particular urgency for the submission of the views of the Department, this report has not been cleared through the Bureau of the Budget, and, therefore, no commitment can be made concerning the relationship of the views expressed herein to the program of the President.

Sincerely yours,

ORME LEWIS,
Assistant Secretary of the Interior.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D. C., July 27, 1954.

Hon. GUY CORDON,
Chairman, Committee on Interior and Insular Affairs,
United States Senate, Washington, D. C.

MY DEAR MR. CHAIRMAN: This is in reply to the request of your committee for the views of this office with respect to S. 3570, to authorize the sale of certain lands situated in Utah.

If enacted this bill would authorize the Indian Peak Paiute Indians of Utah to sell their interests in some 10,240 acres of land comprising the Indian Peaks Reservation. There are at present 26 members of the Indian Peaks Band, none of whom reside on the reservation. The lands in question are now leased to one person at an annual rental of $525.

The Secretary of the Interior, in a report he has made to your committee, indicates that the Indian Peaks Band is ready for a complete termination of Federal supervision and is anxious to acquire authorization to dispose of its holdings.

Under these circumstances, the Bureau of the Budget would have no objection to enactment of S. 3570.

Sincerely yours,

DONALD R. BELCHER,
Assistant Director.

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EXHIBIT 12

8/2/1915 (EXECUTIVE ORDER NO. 2229)

EXHIBIT C

UTAH.

GOSHUTE.

It is hereby ordered that the following-described lands in the State of Utah be, and the same are hereby, reserved from settlement, entry, sale, or other disposition, and set aside for the use and benefit of the Goshute and other Indians on the public domain in the State of Utah:

All of township 11 south, range 19 west, except section 36; sections 2 to 11, inclusive, and sections 14 to 22, inclusive, township 12 south, range 19 west of the Salt Lake meridian.

This order is subject to any prior valid existing rights of any persons, and does not include any lands the title to which has passed from the United States.

WOODROW WILSON.

THE WHITE HOUSE, *March 23, 1914.*

PAIUTE.

It is hereby ordered that sections 13, 14, 15, 16, 25, 26, 27, 28, 33, 34, 35, and 36 in unsurveyed Tp. 29 S., R. 18 W., Salt Lake meridian, in Utah, be, and they are hereby, reserved from settlement, entry, sale, or other disposal, and set aside for the permanent use and occupancy of two certain bands of Paiute Indians and such other Indians of this tribe as the Secretary of the Interior may direct, subject to any valid existing rights of any person thereto.

WOODROW WILSON.

THE WHITE HOUSE, *2 August, 1915.*

It is hereby ordered that sections 21, 22, 23, and 24 in township 29 south, range 18 west, Salt Lake meridian, in Utah, be, and they are hereby, temporarily withdrawn from settlement, entry, sale, or other disposition until March 5, 1923, in aid of proposed legislation.

If legislation be not enacted before the adjournment of the last session of the Sixty-seventh Congress, and no other direction is given regarding the disposition of such lands, they will, on March 5, 1923, become subject to disposal under any law then applicable thereto without further order.

WARREN G. HARDING.

THE WHITE HOUSE, *May 3, 1921.*

SHEBIT (OR SHIVWITS).

It is hereby ordered that the following-described lands in Washington County, Utah, containing approximately 26,880 acres, be, and they are hereby, withdrawn from all forms of settlement, entry, or other disposal, and set aside as a reservation for the Shebit or Shivwits Tribe or Band of Indians, and for such other Indians as the Secretary of the Interior may settle theron:

Township 41 S., range 17 W.—Sections 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35;

Township 41 S., range 18 W.—Sections 23, 24, 25, 26, 35, and 36;

Township 42 S., range 17 W.—Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, and 18;

Township 42 S., range 18 W.—Sections 1, 2, 11, 12, 13, and 14; Salt Lake meridian.

This withdrawal is subject to all prior valid rights of any persons to the lands described.

WOODROW WILSON.

THE WHITE HOUSE, *21 April, 1916.*

EXHIBIT 13

7/16/1894 (UTAH ENABLING ACT)

EXHIBIT C

UTAH ENABLING ACT

(Act of July 16, 1894, ch. 138, 28 Statutes at Large 107.)

An Act to enable the people of Utah to form a constitution and State government, and to be admitted into the Union on an equal footing with the original States.

Sec. 3. [Meeting of convention – adoption of constitution – provisions – religious freedom- public lands-taxation of lands – Indian lands-territorial debts-public schools]

That the delegates to the convention thus elected shall meet at the seat of government of said Territory on the first Monday in March, eighteen hundred and ninety-five, and, after organization, shall declare on behalf of the people of said proposed State that they adopt the Constitution of the United States, whereupon the said convention shall be, and is hereby, authorized to form a constitution and State government for said proposed State.

The constitution shall be republican in form, and make no distinction in civil or political rights on account of race or color, except as to Indians not taxed, and not to be repugnant to the Constitution of the United States and the principles of the Declaration of Independence. And said convention shall provide, by ordinance irrevocable without the consent of the United States and the people of said State –

First. That perfect toleration of religious sentiment shall be secured, and that no inhabitant of said State shall ever be molested in person or property on account of his or her mode of religious worship: Provided, That polygamous or plural marriages are forever prohibited.

Second. That the people inhabiting said proposed State to agree and declare that they forever disclaim all right and title to the unappropriated public lands lying within the boundaries thereof; and to all lands lying within said limits owned or held by any Indian or Indian tribes; and that until the title thereto shall have been extinguished by the United States, the same shall be and remain subject to the disposition of the United States, and said Indian lands shall remain under the absolute jurisdiction and control of the Congress of the United States; that the lands belonging to citizens of the United States residing without the said State shall never be taxed at a higher rate than the lands belonging to residents thereof; that no taxes shall be imposed by the State on lands or property therein belonging to or which may hereafter be purchased by the United States or reserved for its use; but nothing herein, or in the ordinance herein provided for, shall preclude the said State from taxing, as other lands are taxed, any lands owned or held by any Indian who has severed his tribal relations and has obtained from the United States or from any person a title thereto by patent or any other grant, save and except such lands as have been or may be granted to any Indian or Indians under any Act of Congress containing a provision exempting the lands thus granted from taxation; but said ordinance shall provide that all such lands shall be exempt from taxation by said State so long and to such extent as such Act of Congress may prescribe.

Third. That the debts and liabilities of said Territory, under authority of the legislative assembly thereof, shall be assumed and paid by said State.

Fourth. That provision shall be made for the establishment and maintenance of a system of public schools, which shall be open to all the children of said State and free from sectarian control.

Sec. 6. [Land grant for common schools.]

That upon the admission of said State into the Union, sections, numbered two, sixteen, thirty-two, and thirty-six in every township of said proposed state, and where such sections, or any parts thereof have been sold or otherwise disposed of by or under the authority of any Act of Congress, other lands equivalent thereto, in legal subdivisions of not less than one quarter section and as contiguous as may be to the section in lieu of which the same is taken, are hereby granted to said State for the support of common schools, such indemnity lands to be selected within said State in such manner as the legislature may provide, with the approval of the Secretary of the Interior: Provided, That the second, sixteenth, thirty-second, and thirty-sixth sections embraced in permanent reservations for national purposes shall not, at any time, be subject to the grants nor to the indemnity provisions of this Act, nor shall any lands embraced in Indian, military, or other reservations of any character be subject to the grants or to the indemnity provisions of this Act until the reservation shall have been extinguished and such lands be

EXHIBIT C

restored to and become a part of the public domain.

NOTE TO DECISION

ANALYSIS

Access rights.
Fund held by state as trustee.
Indemnity land selection.
Mineral lands not included in grant.
Mineral proceeds.
Purchaser's rights.

Access rights.

State of Utah has right of access to state school trust lands, subject to federal regulation when the crossing of federal property is involved in the exercise of that right; however, such regulation cannot prohibit access or be so restrictive as to make economic development competitively unprofitable. State v. Andrus, 486, F. Supp. 995 (D. Utah 1979).

Fund held by state as trustee.

Under this section the fund embracing revenues derived from grant by federal government of lands of state of Utah for support of common schools, whether now in the form of moneys or lands, taken over in settlement of mortgages for loans of such money, is held by the state as a trustee of an express trust, limited in the amount that can be expended, and the purposes and uses thereof. Duchesne County v. State Tax Comm'n, 104 Utah 365, 140 P.2d 335 (1943), defining and discussing trusts generally.

Indemnity land selection

State did not have right to select as indemnity land valuable mineral lands located within federal grazing districts in acreage equal to original school land grants of significantly lesser values that were lost through preemption or private entry prior to survey, without regard to the relative values of the original land grants and the indemnity selection; 43 U.S.C. § 315f confers on the Secretary of the Interior the authority in his discretion to classify lands within a federal grazing district as proper for school land indemnity selection; policy of rejecting indemnity land selections located in federal grazing districts where the value of the indemnity selection is grossly disparate in value to the original grant is not an abuse of such discretion, and the rejection of Utah's indemnity selection on the basis of disparate values was not an abuse of discretion. Andrus v. Utah, 446 U.S. 500, 100 S. Ct. 1803, 64 L. Ed. 2d 458 (1980).

Mineral lands not included in grant.

School land grant to state did not include mineral lands. United States v. Sweet, 245 U.S. 563, 38 S. Ct. 193, 62 L. Ed. 473 (1918).

In actions to quiet title by persons claiming under mineral patents against persons claiming under the grant contained in the enabling Act it was held that, where the official survey of the lands in question had not been approved at the time Utah became a state and at and prior to the time the survey was approved the lands were known to be valuable for minerals, title did not pass under the Enabling Act but passed under the mineral patents. State v. Bradley Estates, Inc., 223 F.2d 129 (10th Cir.), cert. denied, 350 U.S. 841, 76 S. Ct. 80, 100 L. Ed. 749 (1955).

There was no legislative purpose to include, in the grants of schools lands, lands known to be mineral at the time the grant took effect. State v. Bradley Estates, Inc., 223 F.2d 129 (10th Cir.), cert. denied, 350 U.S. 841, 76 S. Ct. 80, 100 L. Ed. 749 (1955).

Mineral proceeds.

Mineral proceeds derived from state school lands may be deposited in the uniform school fund and are not required to be deposited in the state school fund. Jensen v. Dinehart, 645 P.2d 32 (Utah 1982).

Purchaser's rights.

Purchaser of land set aside under this section and sold by land commissioner has such an interest as will support an action for trespass before issuance of certificate of sale. Livingston v. Thornley, 74 Utah 516, 280 P. 1042 (1929).

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COLLATERAL REFERENCES

Journal of Energy Law and Policy. – Utah's School Trust Lands: Dilemma in Land Use Management and the Possible Effect of Utah's Trust Land Management Act, 9 J. Energy L. & Pol'y (1989).

Sec. 7. [Land grant for public buildings.]

That upon the admission of said State into the Union, in accordance with the provisions of this Act, one hundred sections of the unappropriated lands within said State to be selected and located in legal subdivisions as provided in section six of this Act, shall be, and are hereby, granted to said State for the purpose of erecting public buildings at the capital of said State when permanently located, for legislative, executive, and judicial purposes.

Sec. 8. [Land grant to university and agricultural college – Permanent fund.]

That lands to the extent of two townships in quantity, authorized by the third section of the Act of February twenty-one, eighteen hundred and fifty-five, to be reserved for the establishment of the University of Utah, are hereby granted to the State of Utah for university purposes, to be held and used in accordance with the provisions of this section; and any portions of said lands that may not have been selected by said Territory may be selected by said State. That in addition to the above, one hundred and ten thousand acres of land, to be selected and located as provided in the foregoing section of this Act, and including all saline lands in said State, are hereby granted to said State, for the use of said university, and two hundred thousand acres for the use of an agricultural college therein. That the proceeds of the sale of said lands, or any portion thereof, shall constitute permanent funds, to be safety invested and held by said State; and the income thereof to be used exclusively for the purposes of such university and agricultural college, respectively.

NOTES TO DECISIONS

ANALYSIS

Proceeds for sale of university lands.
Saline lands.
Use of income for buildings.

Proceeds from sale of university lands.

The provision of this section apply to proceeds derived from sale of lands granted for university purposes. State ex rel. Univ. of Utah v. Candland, 36 Utah 406, 104 P. 285, 24 L.R.A. (n.s.) 1260, 140 Am. St. R. 834 (1909).

Saline lands.

This section granted to state only the saline lands within the specific grant of 110,000 acres, although such land was not specifically selected or located therein. Montello Salt Co. v. Utah, 221 U.S. 452, 31 S. Ct. 706, 55 L. Ed. 810, 1912D Ann. Cas. 633 (1911).

Use of income for buildings.

Under this section and Utah Const., Art. X, § 5, the income from the federal land grants could be pledged to pay off a loan for the construction of two dormitories by the University of Utah. The words "support and maintenance" used in Art. X § 5, do not mean only current expenses. Buildings are a necessary part of a university and the terms "support" and "maintenance" do not necessarily exclude the right to repair or construct them. Condor v. Univ. of Utah, 123 Utah 182, 257 P.2d 367 (1953).

Sec. 9. [Five per cent of sales of public lands granted to schools.]

That five per centum of the proceeds of the sales of public lands lying within said State, which shall be sold by the United States subsequent to the admission of said State into the Union, after deducting all the expenses incident to the same, shall be paid to the said State, to be used as a permanent fund, the interest of which only shall be expended for the support of the common schools within said State.

Sec. 10. [Permanent school fund – Lands granted not subject to entry under laws of United States.]

That the proceeds of lands herein granted for educational purposes, except as hereinafter otherwise provided, shall constitute a permanent school fund, the interest of which only shall be

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expended for the support of said schools, and such land shall not be subject to pre-emption, homestead entry, or any other entry under the land laws of the United States, whether surveyed or unsurveyed, but shall be surveyed for school purposes only.

NOTES TO DECISIONS

ANALYSIS

Exemption from taxation.
Mineral proceeds.
Proceeds from sale of university lands.

Exemption from taxation.

Proceeds from sale of lands granted by federal government to the state of Utah for the support of the common schools are exempt from taxation. Duchesne County v. State Tax Comm'n, 104 Utah 365, 140 P.2d 335 (1943).

Mineral proceeds.

Mineral proceeds derived from state school lands may be deposited in the uniform school fund and are not required to be deposited in the state school fund. Jensen v. Dinehart, 645 P.2d 32 (Utah 1982).

Proceeds from sale of university lands.

The provisions of this section do not apply to proceeds derived from sale of lands granted for university purposes. State ex rel. Univ. of Utah v. Candland, 36 Utah 406, 104 P. 285, 24 L.R.A. (n.s.) 1260, 140 Am. St. R. 834 (1909).

COLLATERAL REFERENCES

Journal of Energy Law and Policy. – Utah's School Trust Lands: Dilemma in Land Use Management and the Possible Effect of Utah's Trust Land Management Act, 9 J. Energy L. & Pol'y 195 (1989).

Sec. 11. [Schools, colleges, and university must remain under state control.]

The schools, colleges and university provided for in this Act shall forever remain under the exclusive control of said State, and no part of the proceeds arising from the sale or disposal of any lands herein granted for educational purposes, or of the income thereof, shall be used for the support of any sectarian or denominational school, college, or university.

Sec. 12. [Other land grants – Enumeration – Penitentiary granted.]

That in lieu of the grant of land for purposes of internal improvement made to new States by the eighth section of the Act of September fourth, eighteen hundred and forty-one, which section is hereby repealed as to said State, and in lieu of any claim or demand by the State of Utah under the Act of September twenty-eighth, eighteen hundred and fifty, and section twenty-four hundred and seventy-nine of the Revised Statutes, making a grant of swamp and overflowed lands to certain States, which grant it is hereby declared is not extended to said State of Utah, the following grants of land are hereby made to said State, for the purposes indicated, namely:

For the establishment of permanent water reservoirs for irrigating purposes, five hundred thousand acres; for the establishment and maintenance of an insane asylum, one hundred thousand acres; for the establishment and maintenance of a school of mines in connection with the university, one hundred thousand acres; for the establishment and maintenance of a deaf and dumb asylum, one hundred thousand acres; for the establishment and maintenance of a reform school, one hundred thousand acres; for establishment and maintenance of State normal schools, one hundred thousand acres; for the establishment and maintenance of an institution for the blind; one hundred thousand acres; for a miner's hospital for disabled miners, fifty thousand acres. The United States penitentiary near Salt Lake City and all lands and appurtenances connected therewith and set apart and reserved therefor are hereby granted to the State of Utah.

The said State of Utah shall not be entitled to any further or other grants of land for any purpose than as expressly provided in this Act; and the lands granted by this section shall be held, appropriated, and disposed of exclusively for the purposes herein mentioned, in such manner as the legislature of the State may provide.

Date of vesting title.

Grant of land made by United States under this

EXHIBIT C

Appendix II

Trustee's Deed to the State of Utah on November 27, 1957

EXHIBIT C

-91-L-1

90110

RECEIVED

TRUSTEE'S DEED

KNOW ALL MEN BY THESE PRESENTS:

That Walker Bank & Trust Company, a banking and fiduciary corporation at Salt Lake City, Utah, as Trustee for the Indian Peaks Band of Paiute Indians under that certain Trust Agreement dated August 18, 1956, Grantor, for and in consideration of the sum of Thirty Nine Thousand Five Hundred ($39,500.00) Dollars does by these presents grant, bargain and sell unto the State of Utah Department of Fish and Game, hereafter referred to as the Department, an agency of the State of Utah, Grantee, the following real property within Beaver County, State of Utah, namely:

All of Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 within Township 29 South, Range 18 West, Salt Lake Meridian, containing 8,960 acres, more or less.

TO HAVE AND TO HOLD the same together with all appurtenances unto the said Department and its successors and assigns forever. Reserving to the enrolled members of the Indian Peaks Band of Paiute Indians, Utah, and their descendants the right of interment in an existing cemetery approximately forty feet by sixty feet in size situated within the Southeast Quarter of the Northwest Quarter of Section 23, together with the right of ingress and egress;

Reserving also unto the Grantor and its successors and assigns all sub-surface rights in and to the land above described including, but not limited to the rights of ownership, possession, control, development, extraction and disposal of all sub-surface products within and beneath the surface of the property above described. The terms "sub-surface products" when used herein shall include all ores, minerals, gases, oils, chemical elements, chemical compounds, salts, emulsions, solutions, by-products, sands, gravels, rocks, shales, stones and/or gems situated beneath the surface of the land above described;

Also reserving unto the Grantor and its successors and assigns the right to use and develop in accord with applicable state

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law, surface and/or sub-surface water for the furtherance of the objectives reserved in this deed, and Grantee, its successors and assigns are granted a like privilege and right to use and develop in accord with applicable state law, surface and sub-surface water incidental to their use and enjoyment of the said property; both parties to exercise said rights in accordance with good usage, custom and due conservation.

The terms "possession," "control," "development," "extraction," and "disposal" when used herein shall include but shall not be limited to prospecting for, surveying, locating, inspection, assaying, analyzing, developing, controlling, quarrying, extracting, handling, treating, storing, transporting and/or disposing of sub-surface products. Further reserving unto said Grantor, its successors and assigns, such rights-of-way and/or easements over and through the surface of the lands above described and the usage of such portions of such surface as shall be reasonably necessary for sub-surface operation, possession, control, development, extraction and disposal and for facilities used in connection therewith.

IN WITNESS WHEREOF, the said Grantor has caused these presents to be executed in its behalf by one of its duly authorized Vice Presidents and its duly authorized Secretary at Salt Lake City, Utah, on this 27th day of November, 1957.

WALKER BANK & TRUST COMPANY, as Trustee for the Indian Peaks Band of the Ute Indians under that certain Trust Agreement dated August 19, 1954.

By _____
Vice President and Trust Officer

ATTEST:

_____
Secretary

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STATE OF UTAH)
) ss.
COUNTY OF SALT LAKE)

On this 27th day of November, 1957, personally appeared before me William J. Fitzpatrick and O. K. Carlson who being first duly sworn each for himself did say that the said William J. Fitzpatrick is a Vice President and the said O. K. Carlson is the Secretary of Walker Bank & Trust Company, a banking and fiduciary corporation at Salt Lake City, Utah; that said corporation is the duly appointed and acting Trustee for the Indian Peaks Band of the Paiute Indians under that certain Trust Agreement dated August 18, 1956; that as such Vice President and Secretary respectively they executed the foregoing instrument for and in behalf of said corporation as Trustee as aforesaid by authority of its By-Laws and said William J. Fitzpatrick and said O. K. Carlson acknowledged to me that said corporation as Trustee as aforesaid has executed the same.

George Smith
NOTARY PUBLIC
Residing at Salt Lake City, Utah

My Commission Expires:

_____

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Comments on the PVWS administrative final EIS				*Please reference the page number and paragraph of the pdf page numbers to indicate where in the document the comment pertains to.*
Date:	**10/20/2025**		**All commenter names:**	Indian Peaks Band of Paiute Indians of Utah (IPB)
Section #	**Page #**	**Para #**	**Commenter**	**Comment**
1.5.2	10, 11	1	Indian Peaks Band	BLM states that "[o]n October 17, 2006, CICWCD filed Application to Appropriate Water Number 14-118 (A76676) with the DWRi to appropriate 15,000 afy of groundwater from the aquifer underlying Pine Valley. After a lengthy hearing process, the application was approved by the DWRi in an Order dated May 13, 2014 (DWRi 2014b). The Order says the state engineer believes 16,650 afy of groundwater are available for appropriation in the Pine Valley water right area (Water Right Area 14), including the 15,000 afy appropriated under CICWCD's water right." While BLM states that these findings were "acknowledged and left intact," the Fifth Judicial District Court approved an Amended Order for Application to Appropriate Water Number 14-118 (A76676) that did not include those findings and acknowledged the 2019 USGS Scientific Investigations Report 2017-5072 estimating that recharge in Pine Valley is 11,000 AFY. The Band requests that BLM acknowledge in the EIS that the 2019 Stipulated Judgment is not a reflection of the hydrologic reality of Pine Valley, but merely an agreement between parties to resolve a lawsuit.
1.5.2	11	3	Indian Peaks Band	The FEIS states that "[t]he State Engineer has adopted a recharge estimate of 21,000 AFY for the basin based on the characterization by Stephens (Stephens 1976), and indicated it has reason to believe that groundwater in the basin is available for appropriation (DWRi 2014a)." It goes on to state that there is uncertainty regarding the groundwater budget for the Pine Valley HA. However, it does not note that the State Engineer's characterization is incorrect, as Formation's own figure 3-32 demonstrates: Stephens (1976) estimate predicted that there was only 14,000 AFY recharge to the regional aquifers, while another 7,000 AFY was predicted to recharge to perched aquifers. The updated USGS studies (Brooks 2017; Garnder et al. 2020) further this analysis and note that the groundwater recharge component of the groundwater budget for the Pine Valley HA is likely even lower, at 11,000 AFY. The Final GRIA states plainly that "[a]ll known springs in the mountains surrounding Pine Valley are at elevations above 6,200 feet amsl, which is above the mountain bedrock-basin fill transition zone, and further suggests that the springs are perched (Stephens 1976)." (Formation 2025, 38). The perched aquifers are generally not hydraulically connected to the basin fill aquifer, as demonstrated by the age of the water in the basin fill in comparison to the age of the water in the springs. However, the remaining uncertainty of the degree to which any of the perched aquifers are hydraulically connected to the groundwater in the regional aquifer (basin fill) is discussed *only* in the context of long-term stress on the system impacting spring discharge, not whether the fundamental estimation of recharge in Pine Valley has been miscalculated. Given the lack of hydrologic connectivity between the perched aquifers in the mountains and the basin fill aquifer, as well as the geography of the precipitation recharge (*see* Figures A4-3; A4-4 in GRIA Appendix A), the actual recharge budget for the basin fill aquifer from which the wells would pump is likely much lower than the GRIA estimates. BLM should acknowledge this misinterpretation of the historic studies in the Pine Valley and the implications for the GBCAAS-PV model.
Table 3	12		Indian Peaks Band	Issue under "Native American Tribal Concerns" should read "How would the Proposed Action impact Tribal water rights, including federal reserved water rights, and groundwater-dependent resources?"
Table 3	14		Indian Peaks Band	Issue under "Water Resources" should read "How would the Proposed Action affect federal reserved water rights, including those held by Indian Tribes in the Project Area?"
3.2.2	47	2	Indian Peaks Band	In the section on Incomplete or Unavailable Information, BLM states that "[t]here is insufficient information concerning the federally-reserved Tribal water rights (i.e., no quantification, no specific source locations, no time and mode of use, etc.) to allow the ability to analyze specific impacts to these water rights. Groundwater modeling conducted for the Project shows that the anticipated drawdown after 50 years of pumping and 400 years of recovery does not extend to the groundwater basins where current Tribal reservations are located. Given the limited information regarding the reserved water rights, there is no current method to quantify specific impacts in the unlikely event that unexpected drawdowns occur in the basins where the reservations are located." The Indian Peaks Band disagrees with this assessment, which does not account for the Indian Peaks Band's former Reservation lands and the reserved water rights associated with those lands. BLM uses the selective language "current Tribal reservations" to avoid certain impacts to the Indian Peaks Band's former Reservation lands. There are two revisions that BLM should make to this section. The first is to acknowledge that even if reserved water rights are not quantified, they would be considered impacted if the modeling and monitoring for the PVWSP demonstrated that there is not 15,000 AFY available for safe yield in Pine Valley HA, and that given the significant uncertainty accompanying the current groundwater models, it is highly possible that recharge to the Pine Valley HA would be less than 15,000 AFY. The second is to acknowledge that while it may be unlikely that drawdowns will occur in the basin where current reservations are located, there is a unique situation in Pine Valley where drawdowns are certain to occur under Indian Peaks Band's former Reservation. While the exact quantity of the Band's reserved water rights may be unknown, those two aspects of the impacts of the PVWSP to the Band are known. Finally, BLM should acknowledge that, while it has the capacity to "analyze specific impacts" to the Indian Peaks Band's water rights, and could develop methodologies to do so, it has chosen not to do so on the basis that the Band's rights are not yet quantified.

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Section #	Page #	Para #	Commenter	Comment
3.2.2	47-48	3	Indian Peaks Band	BLM notes that there continues to be incomplete and unavailable information in relation to the updated GBCAAS-PV model and hydrogeologic study of Pine Valley, including understanding the nature and extent of the connectivity, if any, between mountain spring aquifers and regional carbonate aquifer, and other potential subsurface flow impediments impacts on groundwater flow and drawdown. It is relevant to note that it is likely that even acknowledging these unknowns, the recharge predicted in the updated GBCAAS-PV model is likely substantially overestimated. This is due to five factors: 1. Groundwater in the basin fill is at least 2,000 years old while in the mountain aquifers is less than 60 years old. Basin fill at the head of the flow system (Great Salt Lake Desert) would not be the oldest in the system unless it was effectively isolated. *See* Gardner et al. (2020), at Figure 12. 2. Depth to groundwater in the basin fill exceeds a couple hundred feet. *See* Gardner et al. (2011) at Figure 1; Garder et al. (2020) at Figure 4. This would not manifest if groundwater reached the fill from the mountains according to the CFM of the area. 3. Estimated groundwater contours near the mountain front are very steep but probably do not accurately reflect the disconnect between the springs/wells in the mountains and the wells in the basin fill. Simply drawing a water table does not prove one actually exists. *See* Garder et al. (2020) at Figure 4. 4. Groundwater in the basin fill has a gradient to the north, but it has two very steep sections. *See* Garder et al. (2020) at Figure 4. This suggests that the basin fill is segmented and that there is very little flow among the segments. Extremely low permeability is the cause and the presence of the caldera at least likely coincides with the low permeability. This supports the hypothesis that very little flow to the north actually occurs. This is possible only if there is almost no extant recharge. 5. Dissolved solids concentrations in the basin fill are unusually low. *See* Gardner et al. (2020) at Figure 10. This would not be true if the water flowed through aquifers or any significant distance through the ground to reach the location in the fill. The low dissolved solids reflects water that has essentially not moved much in the thousands of years since it filled the basin fill. Low dissolved solids concentrations would not manifest if there was any substantial recharge into the basin fill groundwater or flow from the groundwater in the mountains. BLM must acknowledge these shortcomings in the model and their implications in the FEIS and should ask USGS to address these issues in the model.
3.2.3	48	1	Indian Peaks Band	BLM justifies not completing a pumping analysis for a longer timeframe (i.e., 200-years) because "the assumption that pumping can continue at the same rate for more than 50 years was determined to be speculative based on applicable regulatory requirements." However, in Section 2.2.5.3 (p. 41), BLM discussed the "Temporary Use Until Cedar Valley Equilibrium is Achieved" alternative and dismissed it from consideration because it would be "economically infeasible for the CICWCD to both purchase many Cedar City Valley water rights and simultaneously finance the PVWS Project," demonstrating that CICWCD will not plan to take any alternative simultaneous action to reduce the need for PVWSP water, thus making it highly probable that CICWCD will seek an indefinite extension of this Project, assuming there is water left to withdraw. Based on the economic feasibility calculation, it is inappropriate for BLM not to consider the longer term groundwater impacts of the Project, so as to understand what the impacts would be when CICWCD seeks to extend its ROW. BLM included a *Supplemental 200-Year Analysis* for "perspective only," but the scoping model demonstrated that a 200-year operational period would have significant adverse effects, and absent an alternative plan or strategy from CICWCD, BLM should consider this analysis as part of its evaluation of the impact of the Project.
3.3	49	1	Indian Peaks Band	BLM removed its draft EIS analysis of disproportionate impacts of the PVWSP on low-income and minority populations. Removing the analysis of the economic impacts of the Project on Cedar City ratepayers is a significant blind spot in analysis of the impacts of this Project, since the cost of the Project is expected to cause a 616% increase over current monthly water rates in Cedar City by 2035. *See* Table 20, p. 64. This is particularly notable since 11.6% of Cedar City residents had an income below the poverty level in 2024. Removing this element of BLM's analysis, especially after it was already drafted in the DEIS, is negligent and harmful.
3.6.3.1	55-56	1	Indian Peaks Band	BLM acknowledges that the Kanosh and Cedar Bands stated that the Project infringes on their unadjudicated reserved water rights established generally by the United States Supreme Court in *Winters v. United States* , 207 U.S. 564 (1908), but in reference to the Indian Peaks Band, BLM states only that the Band identified that the Project "is of great concern to the Band given...the likely impacts to the Band's water rights and cultural resources." While BLM mentions the concerns of the Kanosh and Cedar Bands with respect to their *Winters* rights, it fails to mention that the Indian Peaks Band has repeatedly raised concerns about its *Winters* rights on its former Reservation. BLM proceeds to provide a brief history of the Band's termination and selling off of the Band's former reservation land to the State of Utah. Although BLM traced the history of the Band's chain of title water rights retained when the Reservation lands were sold to the State of Utah, BLM does not acknowledge that the Band also made *Winters* rights claims and continues to do so. This section should be revised to clearly include the Band's *Winters* rights claims on its former Reservation lands.
3.6.3.1	56-57	3,1	Indian Peaks Band	BLM repeats its limitations regarding unadjudicated Tribal reserved water rights, but here acknowledges that Indian Peaks Band's former Reservation area is within the APE of the groundwater drawdown. The Band incorporates its comment in Row 8 on Section 3.2.2. BLM also notes that any surface water rights would be hydrologically disconnected from the regional groundwater system, but the BLM noted elsewhere that there remain significant uncertainties regarding the impact of long-term stress on the system. See Section 3.11.3.4.2 on Local Mountain Block Springs. Therefore, BLM should revise this section to acknowledge that potential impact. BLM also appears to imply that the Indian Peaks Band's water rights would only involve surface water, which is legally incorrect.
3.6.3.1	57	2	Indian Peaks Band	BLM states that "[i]f the Tribes conclude that there is a possibility that long-term operation of the proposed Project may affect their federal reserved water rights, the Tribes would need to bring a claim in the relevant court to request quantification, adjudication, and enforcement of their federal reserved water rights. Such a claim could be brought in the Utah State court that has jurisdiction over any water rights adjudication that is occurring in the basin where each reservation is located. Alternatively, if the State of Utah is not conducting an adjudication in the basin and declines to initiate adjudication proceedings, the Tribes have the option of filing a claim in federal district court." This language is exactly the same as what appeared in the DEIS for the Project. BLM should revise this section to include the following additional points: First, because the United States is the trustee for the Indian Peaks Band, it would be the responsibility of the United States--not the Band--to bring any claims for interference with federal reserved water rights. Second, it would also be the trust responsibility of the United States to begin a claim for the quantification of federal reserved water rights. Third, BLM should note that the option of adjudicating federal reserved water rights is not a realistic option here given the amount of time it generally takes to prepare for, initiate and complete a general stream adjudication when compared with the Project timeline. It is relevant to note that Indian Peaks Band met with BIA in September 2025 to discuss the possibility of adjudicating its water rights in the Pine Valley Basin and to explore federal litigation options.

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Section #	Page #	Para #	Commenter	Comment
3.6.3.2	58	2	Indian Peaks Band	BLM states, "Further impacts to the Salt Song Trail are also likely. The Project would itself be an impact and would contribute to increasing development and infrastructure in the surrounding area, impacts that Tribes have voiced as major concerns for the long-term survival of the Salt Song Trail and continuation of spiritually and culturally significant religious practices to Native American groups." The Band would like additional explanation from BLM of the anticipated further impacts to the Salt Song Trail, how that will be considered under Section 106 cultural resources impact mitigation, and what steps BLM plans to take address those impacts.
3.7.3.1.2	64	2	Indian Peaks Band	See comment in Row 11 on Section 3.3. An anticipated increase over 500% in monthly water bills for Cedar City ratepayers is an extreme increase. For the Band, this is particularly egregious, because Band members paying Cedar City water rates would be paying an over 500% increase for water, a portion of which would be the Band's own reserved water rights in Pine Valley. These are significant costs for the number of significant uncertainties facing the viability of the Project.
3.11.2	90	2	Indian Peaks Band	See comment in Row 7 on Section 1.5.2. BLM must acknowledge these shortcomings in the model and their implications in the FEIS and should ask USGS to address these issues in the model.
3.11.2.2	91	1	Indian Peaks Band	See comment in Row 9 on Section 3.2.2. BLM must acknowledge these shortcomings in the model and their implications in the FEIS and should ask USGS to address these issues in the model.
3.11.2.6	97	3, 4	Indian Peaks Band	BLM claims that younger groundwater may be present in the basin fill groundwater after acknowledging that the samples do not include "even a fraction of modern water." At least two factors demonstrate why this claim is speculation without evidence. One, because recharge directly into the valley fill would occur at the mountain fronts several miles to the west and east of the sampled wells, there is plenty of distance for water entering the the valley fill aquifer to mix vertically downward so that there would at least a fraction in the samples. The basin fill must be very stratified to prevent the mixing. Two, recharge in the mountains that passed through the aquitard into the underlying bedrock aquifer would mix with the basin fill aquifer at depth so that vertical mixing would not be necessary for there to be a fraction of new water in the samples. Third, if mountain front recharge was occurring, there would be higher groundwater levels near the mountain front; there is no evidence of this. The age of groundwater in the basin fill is strong evidence that the amount of water being relied upon just is not there. To satisfy these concerns, Formation should have drilled a few test wells to more accurately determine the age of the water and to determine if there was any mountain front recharge. One reason that small amounts of recharge have not mixed to the depth of the samples, even with the time available for mixing, could be that the aquifer is very stratified. Stratification limits mixing and also limits the thickness of aquifer available to be pumped. Deep wells would draw only from deep layers because the stratification would prevent near-surface water from flowing downward toward the well. This would create a semi-confined aquifer in which the pumping could not draw upon water in layers above the pumping level. BLM should acknowledge the assumption that the valley aquifers received modern recharge is a significant assumption that is not supported by evidence or by applicable and appropriate hydrologic frameworks. BLM must acknowledge these shortcomings in the model and their implications in the FEIS and should ask USGS to address these issues in the model.
3.11.2.7	98	3	Indian Peaks Band	BLM states in Section 3.11.2.7: “The results of [Formation's] comparisons indicate that during development of GBCAAS v. 3.0, hydraulic conductivities assigned to the alluvial basin fill aquifers were decreased below the values estimated by Gardner et al. and supported by other pumping test analyses (Brooks 2017). Based on this information, the hydraulic conductivity values in GBCAAS v. 3.0 appear to be biased low and increasing the hydraulic conductivities of these materials in GBCAAS-PV is justified provided the increased values are consistent with refined water budget estimates and result in a reasonable calibration.” The GRIA model, GBCAAS-PV, replaced calibrated hydraulic conductivities with values determined from pump tests (GRIA Appendix A, at A-32). There are two significant technical issues with this revision of the GBCAAS v. 3.0 model. Increased values cannot be considered “consistent” with the water budget, because the GRIA model’s “reasonable” calibration allowed a huge range in GWET estimates, from 18,000 to 67,000 AFY for the Tule Valley and Sevier Lake areas (GRIA Appendix A, at A-20, A-33). When simulating in steady state, it is essential that a steady state GWET value be used. The huge range represented measurements made over a period of both wet and dry years. In other words, the GWET range is not appropriate for calibration in steady state. Using this calibration range allowed Formation to calibrate to any value within the very broad GWET range. The GRIA model therefore set conductivity values closer to the values estimated with pump tests. However, the only proper method of using GWET for calibration is to have an accurate estimate and adjust parameters to equal it, not to think the calibration is acceptable if the GWET is within a large range. See Anderson et al. 2015 for a standard groundwater modeling text. Moreover, calibrated parameter values such as conductivity are more accurate than pump test results because the calibration is for a parameter at the scale of the model cells. Pump test results are a point estimate. See Anderson et al. (2015) at 211. The problem here is one of scale, and the GBCAAS-PV model incorrectly used point estimates for the cell properties when the cell ranges from 0.2 to 1.0 miles square. Doing so is inappropriate because a point estimate represents a much smaller aquifer area and volume than does a model cell. See Anderson et al. (2015), at Box 5.3 for a discussion on upscaling hydraulic conductivity from pump tests to a model domain. BLM should revise its section on Aquifer Properties to critique this aspect of the GRIA model. BLM must acknowledge these shortcomings in the model and their implications in the FEIS and should ask USGS to address these issues in the model.
3.11.2.8.1	99	1	Indian Peaks Band	BLM claims that recharge to the groundwater system is equal to the difference between HA-wide precipitation and ET. However, the HA encompasses the mountain areas where precipitation is captured by perched aquifers and is not hydrologically connected to the regional basin fill aquifer; BLM's determination of recharge relies on the incorrect fundamental assumption that all precipitation ultimately becomes recharge to the basin aquifer and "available" water. BLM's calculation of available recharge seems to be utilized for the purpose of arriving at a figure of available water (17,700 AFY) that is higher than the Project's pumping. Moreover, the geography of the precipitation recharge is predominately in the mountain ranges, rather than in the valley, and thus the precipitation is disproportionately recharging perched aquifers as opposed to the basin aquifer. See Figures A4-3; A4-4 in GRIA Appendix A. In addition, the ET estimates are too low because they are done on a scale that is too coarse for the physiography of the ET estimation method. The 30-meter grid scale cannot accurately measure ET that occurs in riparian areas that are at most 3 to 6 meters wide. One of the papers used to justify the use of the ET estimation method, Su (2002), describes why the scale may be grossly wrong for estimations in this context. The scale of the canopy temperature is very small with large changes over very short distances. Complex topography makes the wind gradients impossible to estimate at small scales. The method needs meteorology at the appropriate scales, but that is not possible in Pine Valley. Su (2002) also emphasized how the method works best for agricultural situations for which the evapotranspiring surface is much more uniform than drainages in Pine Valley. Therefore, as stated above, the actual recharge budget for the basin fill aquifer from which the wells would pump is likely much lower than the GBCAAS-PV model estimates. BLM must acknowledge these shortcomings in the model and their implications in the FEIS and should ask USGS to address these issues in the model.

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Section #	Page #	Para #	Commenter	Comment
3.11.2.8.3	101		Indian Peaks Band	As stated above in the comment on Section 3.11.2.8.1, the ET estimates for the GBCAAS-PV model are too low because they are done on a scale that is too coarse for the physiography of the ET estimation method. The 30-meter grid scale cannot accurately measure ET that occurs in riparian areas that are at most 3 to 6 meters wide. One of the papers used to justify the use of the ET estimation method, Su (2002), describes why the scale may be grossly wrong for estimations in this context. The scale of the canopy temperature is very small with large changes over very short distances. Complex topography makes the wind gradients impossible to estimate at small scales. The method needs meteorology at the appropriate scales, but that is not possible in Pine Valley. Su (2002) also emphasized how the method works best for agricultural situations for which the evapotranspiring surface is much more uniform than drainages in Pine Valley.
3.11.3.2.2	118	1	Indian Peaks Band	BLM states that the groundwater extracted over the course of the 50-year Project operational period, equating to 750,000 AF, could almost all be removed from storage in the Pine Valley HA, with only a small amount coming from storage in the surrounding HAs. However, as stated in Indian Peaks Band's comments above, the recharge rate in Pine Valley is likely substantially overestimated, and it is likely that there is significantly less water that can be removed from storage in the Pine Valley HA without it affecting other HAs and extracting groundwater in Pine Valley HA far beyond a safe yield. BLM should revise the section on Groundwater Storage Depletion to acknowledge the implications of the fallacies in the GBCAAS-PV model.
Appendix F			Indian Peaks Band	Appendix F provides the Adaptive Management, Monitoring, and Mitigation Program (AMMMP) and "presents a description of measures to avoid, minimize or mitigate potential significant environmental impacts resulting from groundwater extraction for the Pine Valley Water Supply (PVWS) Project." BLM acknowledges that it "has a responsibility to avoid, minimize, and mitigate impacts to groundwater water-dependent values (environmental resources that can be affected by groundwater pumping for the PVWS Project), regardless of whether those values are or are not represented by a water right. For this reason, the AMMMP assumes that BLM cannot exclusively rely upon enforcement of priorities within the water rights system to protect groundwater-dependent values and that other complementary measures may be required to fulfill BLM's responsibilities." Any technical team formed to advise BLM (p. F-3) should include a representative from the Indian Peaks Band. Monitoring efforts should include placement of monitoring wells on the Indian Peaks Band's former Reservation to determine the extent of impact on the Band's water resources. PM-10, the Well Interference Drawdown and Monitoring and Mitigation Program, proposes to "reimburse senior water right holders for potential expenses associated well interference associated with drawdown induced by the PVWS Project." This mitigation component only reimburses water users for interference with water rights and would not compensate the Indian Peaks Band for a prolonged period of loss of water resources. In short, there is nothing in Appendix F to mitigate or compensate the Indian Peaks Band for the impact of the Project on its reserved water rights or resources, even in the context of future quantified rights. BLM should revise the AMMMP to recognize the need for, and provide a structure for, management, monitoring, and mitigation of the Project impacts to the Band's reserved water rights if, in the future, those rights are quantified, or if the Band's reserved water rights are otherwise recognized.
Appendix G	G-106	NARC-05; NARC-06	Indian Peaks Band	BLM states that "Through the screening and groundwater modeling process, BLM determined that the likely drawdown associated with the project will not significantly affect the groundwater basins where the tribes may have federal reserved water rights." This is incorrect. The Indian Peaks Band asserts federal reserved water rights in Pine Valley associated with the Band's former reservation, and while those rights have not been adjudicated, Indian reserved water rights are vested water rights with a priority date set by the date the Reservation was established. Moreover, BLM's statement on this issue in both of these comment responses is inconsistent with the language it uses in other comment responses on the Band's federal reserved water rights. BLM needs to correct this statement.

EXHIBIT D

Indian Peaks Band of Paiutes
4377 Old US Highway 91
Cedar City, Utah 84720

May 30, 2025

Matt Preston, State Director, Acting
Bureau of Land Management
Utah State Office
440 West 200 South, Ste. 500
Salt Lake City, UT 84101

Gloria Tibbetts, District Manager
Bureau of Land Management
Color County District Office
176 East D.L. Sargent Drive
Cedar City, UT 84721

RE: Indian Peaks Band Water Rights Claims

Dear State Director Preston and District Manager Tibbetts:

This letter follows your e-mail dated May 7, 2025, regarding BLM's analysis of the Indian Peaks Band of Paiute Indians' water rights. In the first paragraph of your e-mail, you write:

> As we discussed in our meeting this afternoon, my office worked with our attorneys to consider how the Federal Reserve water rights claimed by the Indian Peaks Band of Paiutes may relate to the pending Pine Valley Water Supply project. It was determined that, since the water rights claims have not undergone a formal adjudication process, they have not yet been formally quantified or geographically designated. As such, we are unable to fully analyze any potential impacts in the analysis for the pipeline since we have no quantity or specific location to evaluate.

As we understand the BLM's position, the BLM will not consider—in any manner—the Band's federal reserved water rights in its current NEPA process involving the Pine Valley Water Supply Project ("Project") and its proposal to pump 15,000 acre feet annually of groundwater from the Pine Valley from a wellfield in very close proximity to the Band's former Reservation. BLM's reasoning for this conclusion is that the Band's federal reserved water rights have not been adjudicated and, thus, not quantified or geographically designated.[1]

[1] This is consistent with the discussion of the affected Tribal Nations' water rights in the *Draft Environmental Impact Statement*, DOI-BLM-UT-C010-2020-0012-EIS (January 2022) ("Draft EIS"), in which BLM wrote:

> If the Tribes conclude that there is a possibility that long-term operation of the proposed Project may affect their federal reserved water rights, the Tribes would have to bring a claim in the relevant court to request quantification, adjudication, and enforcement of their federal reserved water rights. Such a claim could be brought in the Utah State court that has jurisdiction over any water rights adjudication that is occurring in the basin where each reservation is located. Alternatively, if the State of Utah is not conducting an

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As the BLM is aware, the Band's federal reserved water rights in its prior Reservation were not considered in the development of the *Draft EIS*, likely because CICWCD's contractor searched only for state water rights in Pine Valley through publicly available State of Utah databases. The Band brought this omission to BLM's attention in its March 11, 2022 letter, which included a detailed history of its prior Reservation. The Band has never received a response to its letter but has repeatedly offered to provide any additional information to BLM through the ongoing government-to-government consultation process.

The Band considers your May 7, 2025 e-mail to be an inadequate response to the concerns raised about the Project and requests a reconsideration of the agency's position on its reserved water rights and, at minimum, a supplemental environmental impact statement that analyzes the impact of the Project in relation to the Band's rights and develops an adequate alternative that would protect and preserve those rights.

1. **<u>The Band has federal reserved water rights located on its prior Reservation that will be impacted by the Project.</u>**

The Band retains federal reserved water rights on its prior reservation. As you note, these rights remain unquantified, but they are vested water rights. The Band's federal reserved water rights, including groundwater rights, are recognized under the *Winters* doctrine.[2] The Band's surface and subsurface water rights are also recognized by the State of Utah through the chain of title of the Band's original reservation land sold by a trustee – federally appointed after the Band's termination – to the State of Utah in 1957. Those surface and subsurface water rights were expressly retained by the trustee in the deed to the State and subsequently conveyed by the beneficiaries and heirs of the Indian Peaks Trust back to the United States to hold in trust for the Band. Thus, the Band's water rights are legally cognizable under both the *Winters* doctrine and through express chain of title.

Between 1915 and 1924, the President and Congress through subsequent actions established the Indian Peaks Reservation on a portion of the Band's aboriginal lands in Beaver County, Utah, "set[ting] aside [the land] for the permanent use and occupancy of two certain bands of Paiutes Indians."[3] The reservation land area amounted to approximately 8,960 acres. By establishing the Indian Peaks Reservation through an Executive Order, the United States impliedly reserved federal water rights in the amount of water necessary to allow the reservation to serve as a sufficient, viable, permanent homeland for the Band under the *Winters* doctrine.[4] A Tribal Nation's *Winters*

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adjudication in the basin and declines to initiate adjudication proceedings, the Tribes have the option of filing a claim in federal district court.

Draft EIS § 3.6.3 at 52.

[2] *Winters v. United States*, 207 U.S. 564 (1908) established the "*Winters* doctrine," that when the United States creates an Indian reservation, it implicitly reserves sufficient water to fulfill the purposes of the reservation.

[3] Executive Order No. 2229 (Aug. 2, 1915); *see also* H.R. 2884, 68th Cong. (1924) (adding sections 21-24, T 29S R 18W Salt Lake Meridian).

[4] *Winters v. United States*, 207 U.S. 564 (1908) (the "*Winters* Doctrine"). The reserved water rights doctrine, established by the Supreme Court in *Winters*, applies to all federal reservations, including those created by Executive Order. *Baley v. United States*, 134 Fed. Cl. 619, 670 (2017) *aff'd*, 942 F.3d 1312 (Fed. Cir. 2019) ("The

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reserved water rights vest at and are effective as of the time of the creation of the reservation and are entitled to priority over later appropriated water rights.[5] *Winters* reserved water rights "[u]nlike most other water rights, . . . are neither created by use nor lost by nonuse."[6] The quantity of reserved water rights can be determined by the "permanent homeland" theory, which involves taking a "multi-faceted approach" to quantifying reserved water rights to satisfy future as well as present needs of a reservation.[7] The *Winters* doctrine reserves the right to "use needed water from various sources," including groundwater, rivers, streams, lakes, and springs, that arise on, border, cross, underlie, or are encompassed within a reservation.[8] In this case, the Band's water rights have not yet been quantified. However, they are vested rights to water on the Band's prior Reservation lands, including groundwater, with priority dates of 1915 and 1924, that cannot be lost through nonuse. Thus, the Band's federal reserved water rights remain legally relevant to any actions that could impair or interfere with the Band's use of those rights.

Indian Peaks Band's reserved water and subsurface rights were affirmatively retained throughout the period of termination and restoration. In 1954, Congress passed Pub. L. 83-762 (hereinafter, "Termination Act")[9], which terminated the Band from federal supervision. The Termination Act expressly reserved water and subsurface rights for the Band by stating that "the Secretary is directed to reserve subsurface rights in tribal property from any sale or division of such property," and that "[n]othing in this Act shall abrogate any water rights of a tribe or its members."[10] In *U.S. v. Adair*, the court considered a section of the 1954 Klamath Termination Act providing that no water rights of the Tribal Nation and its members were abrogated, and determined that such a provision could not be read to exclude reserved water rights, concluding that "such rights survived termination."[11] Applying this analysis to identical language in the Termination Act demonstrates that the Band's reserved water rights survived termination and exist to this day.

The Paiute Indian Tribe of Utah Restoration Act of 1980 (hereinafter "Restoration Act")[12], which restored the federal trust relationship with the Band, further underscores the continued existence of the Bands's reserved rights. The Restoration Act did not restore the reservation land, but it explicitly restored "all rights and privileges of the tribe and of members of the tribe under any Federal treaty, Executive order, agreement, or statute, or under any other authority, which were diminished or lost under the Act of September 1, 1954 (68 Stat. 1099)[.]"[13] The Restoration Act restored the Band's rights prior to, and independently from, the Paiute Reservation Plan of 1984,[14] which was enacted four years later and established a distinct, significantly smaller reservation of only 424 acres on different land for the Band, where it currently resides.

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reserved water rights resulting from treaties and executive orders 'are substantively the same, at least with respect to non-federal interests.'") (internal citations omitted).

[5] *Arizona v. California*, 460 U.S. 605, 609-10 (1983).

[6] *Hackford v. Babbitt*, 14 F.3d 1457, 1461 n. 3 (10th Cir. 1994).

[7] *See In re Gen. Adjudication of All Rts. to Use Water in Gila River Sys. & Source*, 201 Ariz. 307, 35 P.3d 68, 79-81 (2001).

[8] *Arizona v. Navajo Nation*, 599 U.S. 555, 561 (2023).

[9] 25 U.S.C. §§ 741-760.

[10] *Id*. at §§745(d), 752.

[11] 723 F.2d 1394, 1412 (9th Cir. 1983).

[12] Pub. L. 96-227, 25 U.S.C. §§ 760-768.

[13] *Id*. at § 762(b).

[14] Pub. L. 98-219, 98 Stat. 11.

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Separately, and parallel to the Band's reserved rights under the *Winters* doctrine, the Band's water rights can also be traced through chain of title. After termination, the reservation land was transferred to Walker Bank & Trust Company as Trustee, and by 1957, the Trustee had deeded the 8,960-acre original reservation land to the State of Utah.[15] However, in the Trustee's deed to the state, the Trustee reserved to itself, its successors and assigns: (1) all subsurface rights in and to the land; (2) the right to use and develop surface and subsurface waters; (3) rights-of-way and easements for subsurface possession, development, operation, and extraction.[16] In 1966, the Trustee transferred all subsurface rights, including the aforementioned subsurface water rights, back to the beneficiaries of the Indian Peaks Trust as they appeared on the final roll of the Band in 1956 as published in the Federal Register.[17] Then, one year after Congress passed the Restoration Act in 1980, the individual members of the Band conveyed those subsurface water rights back to the United States in trust for the Band.[18] Thus, the United States holds in trust expressly titled water rights for the Band. The validity of this chain of title was acknowledged in a regional Interior Department Solicitor's Memorandum dated November 12, 2009, that confirmed that the individual beneficiaries and heirs of the Indian Peaks Trust "could transfer the subsurface rights back to the United States as trustee for the benefit of the Band."[19] Because individual beneficiaries and heirs of the Indian Peaks Trust did so, those surface and subsurface rights are now held by the United States in trust for the Indian Peaks Band.

The United States has recognized the Band's water rights in its prior Reservation for over 100 years. In the early 1920s, an issue arose when an individual named George A. Mitchell proposed to use the waters of Indian Creek, the only surface stream on the Band's prior Reservation. In response, on June 5, 1924, Assistant Secretary of the Interior F.M. Goodwin wrote to the Attorney General of the United States requesting action because "[i]n view of all these conditions, the water rights of the Indians are prior in point of time to those of Mr. George A. Mitchell" and that "should he insist on interfering with the Indians' water rights it would appear that appropriate action should be instituted to restrain such interference."[20] In response to Interior's request, Harlan F. Stone, the Attorney General, wrote to the Secretary of the Interior on June 13, 1924:

> In accordance with the request of the Assistant Secretary of June 5, 1924, I have directed the United States Attorney for the District of Utah to take proper measures to assert in court the rights of the Indian Peak Reservations Indians in case Mr. Mitchell shall attempt to interfere with their use of the waters of Indian Creek.[21]

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[15] *Indian Peak Band's Government-to-Government Request to BLM on Central Iron County Water Conservancy District Right-of-Way Application to for the Pine Valley Water Supply Project, No. DOI-BLM-UT-C010-2020-0012-EIS* (Dec. 11, 2024) (hereinafter "*Government-to-Government Request*") at *Appendix II* ("Walker Bank & Trust Company Trustee's Deed to the State of Utah (Nov. 27, 1957)").
[16] *Id*.
[17] *Government-to-Government Request* at *Appendix I* ("Indian Peak Band's Comments on the Pine Valley Water Supply Project Draft Environmental Impact Statement, 21-25 (Mar. 11, 2022)").
[18] *Appendix I* at 26-57.
[19] *Appendix I* at 58-65.
[20] Letter from F. M. Goodwin, Assistant Secretary of the Interior, to Harlan F. Stone, Attorney General of the United States, June 5, 1924 (attached as "Exhibit A").
[21] Letter from Harlan F. Stone, Attorney General, to Hubert Work, Secretary of the Interior, September 10, 1924 (attached as "Exhibit B").

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The Band disagrees with your May 7, 2025 e-mail's characterization of its water rights as "not geographically designated." The Band's reserved water rights are geographically designated as rights appurtenant to the Band's prior Reservation lands. When the *Draft EIS* for the Project was issued, the BLM had not accounted for the Band's water rights in its prior Reservation, even in the abstract, and, because of this, concluded that:

> The groundwater modeling conducted for the Project shows that the anticipated drawdown after 50 years of pumping and 200 years of recovery does not extend to groundwater basins where tribal reservations are located. In addition, the federal reserved water rights associated with each reservation have not yet been quantified or adjudicated, so there is not a method to quantify impacts Pine Valley Water Supply Project in the **extremely unlikely event** that unexpected drawdowns occur in the basins where the reservations are located.[22]

Now that BLM is fully aware of the Band's reserved rights and of the certainty that they will be impaired by the Project, BLM maintains its position that it cannot conduct any analysis nor account for the Band's right in any way because those rights are unquantified and "not geographically designated." However, not only are the Band's rights "geographically designated," but they are undisputably located in the area of the "anticipated drawdown" of the Project and will be greatly affected by such drawdown.[23] The BLM's position on the impact to the Band's water rights is untenable.

2. **Requiring the Band to adjudicate its water rights to receive *any* consideration in the Project NEPA process is unrealistic.**

Your May 7, 2025 e-mail directs the Band to contact the Bureau of Indian Affairs for assistance in adjudicating its water rights, seemingly as if the adjudication of its water rights would be a straightforward and simple process. It is not. General adjudications are lengthy, time consuming, and costly legal actions that often take decades to complete. Given that the project period for the Project is 50 years, it is doubtful whether an adjudication of the Band's federal reserved water rights could be prepared for, commenced, and completed within that time period. As a practical matter, this means only that the BLM is not considering the Band's water rights in the current NEPA process.

General adjudications in Utah are governed by Utah Code, Title 73, Chapter 4.[24] The requirements for a general adjudication of water rights are set out in Section 73-4-1; the first step in initiating an adjudication is that "five or more, or a majority of, water users of a water source may submit a signed, verified petition to the state engineer requesting an investigation of the rights of all

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[22] *Draft EIS* § 3.6.3 at 52 (emphasis added).

[23] *Updated Administrative Draft - Groundwater Resources Impact Statement*, Pine Valley Water Supply Project, Formation Environmental, Figure 4-1 - Simulated Drawdown and Recovery for Proposed Action (Oct. 2024). These simulations, which represent the applicant's most up-to-date assessment of the Project's impacts, show that within 30 years of pumping, there will be 10-50 feet of groundwater drawdown in the area where the Band's prior reservation is located, and that between 25 to 100 years of recovery, at minimum, there will be 50-100 feet of groundwater drawdown in that same area.

[24] This process is also summarily explained in *Enervest, Ltd. v. Utah State Engineer*, 435 P.3d 209, 213 (Utah 2019).

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claimants to the water of the water source."[25] Once a petition is filed, the actual decision to initiate a general adjudication rests with the Utah State Engineer.[26] Thus, even if the Band were able to solicit other water users in Pine Valley to petition the State Engineer to initiate an adjudication, the State Engineer could simply decline to do so.

Once a general adjudication is initiated, there are burdensome notice and service requirements which must be met, as the action must join all water users and rights holders in the adjudication area. The State Engineer is required to provide general notice of the adjudication in a newspaper designated by the district court "as most likely to give notice to such claimants,"[27] and, for each general adjudication area, "search the records of the state engineer to identify all possible claimants."[28] The State Engineer must serve a summons to each claimant of record within the adjudication area.[29] There are also public meeting requirements and additional deadlines for filing statements of claim.[30] Once all notices have been given and statements of claim are filed, the State Engineer is required to complete a hydrographic survey report, prepare a proposed determination, and hold a public meeting to explain the proposed determination.[31]

General adjudications are slow and costly, particularly when they involve the federal reserved rights of Tribal Nations. The General Stream Adjudication in Arizona, for example, is the largest and longest judicial proceeding in the history of the state.[32] That adjudication began in 1974 and continues to this day without the entry of a single decree. In Oregon, the Klamath Basin Adjudication's initial administrative phase took 38 years of litigation to complete.[33] The adjudication of the water rights of the Shivwits Band of Paiute Indian Tribe of Utah had been pending for over twenty years at the time it was settled.

Although a few Tribal Nations have litigated their federal reserved water rights to finality, most have opted to settle their rights. However, like litigation, settlement is a lengthy process and usually does not take place unless litigation is pending. There are currently 574 federally-recognized Tribal Nations in the United States.[34] While all federally-recognized Tribal Nations are entitled to federal reserved water rights,[35] as of October 2023 only 39 federal Indian water rights settlements have been approved, including 35 Congressionally-enacted and four administratively approved settlements.[36] That's over a period of 45 years, or a rate of less than one water settlement per year.

For Tribal Nations, such as the Band, that have not litigated or settled their federal reserved water rights, the current "waiting time" for settlement is potentially in the realm of hundreds of years. Tribal Nations that have chosen to litigate their water rights are faced with lengthy general

[25] Utah Code § 73-4-1(1)(a).
[26] *Id.* § 73-4-1(b)(ii).
[27] *Id.* § 73-4-3(2)(a).
[28] *Id.* § 73-4-3(3).
[29] *Id.* § 73-4-3(4).
[30] *Id.* §§ 73-4-3(7); 73-4-3(8).
[31] *Id.* § 73-4-11.
[32] Joseph M. Feller, *The Adjudication that Ate Arizona Water Law*, 49 Ariz. L. Rev. 405, 406 (2007).
[33] Klamath Tribes' Water Rights - Native American Rights Fund
[34] 89 Fed. Reg. 944 (Jan. 8, 2024); Congressional Research Service, *The 574 Federally Recognized Indian Tribes in the United States* (Jan. 18, 2024) (hereafter "574 Tribes").
[35] *Winters v. United States*, 207 U.S. 564 (1908).
[36] *574 Tribes* at 1.

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adjudications, and both the litigation and settlement process are costly options for Tribal Nations. And, yet, these are the options BLM is recommending to the Band. Rather than directing the Band to an unrealistic adjudication or settlement process in the context of the current NEPA proceeding, the BLM should fulfill its obligations under NEPA and the federal trust responsibility to prevent interference with the Band's reserved water rights.

3. Both the federal trust responsibility and BLM's affirmative obligations under NEPA mandate noninterference with the Band's unquantified federal reserved water rights.

The Band's federal reserved water rights are held in trust for the Band by the United States. A discussion of what that means clarifies the Band's difficulties with the BLM's position in this matter.

The *Winters* doctrine, cited above, holds that when the United States sets aside land for a Tribal Nation—as it did for the Band—the reservation of land implies the right to an amount of water sufficient to fulfill the purposes of the reservation. The lands set aside and waters reserved are held by the United States in trust for the Tribal Nation. The reservation of the water, along with the obligation to protect a Tribal Nation's rights to the water, is a critical part of the United States' trust responsibility.[37] The United States' trust obligation as to the federal reserved water rights of Tribal Nations is reflected in the standards the United States utilizes for the participation in the settlement of Indian water rights claims.[38] The federal regulation outlines its criteria as providing "a framework for negotiation settlements … so that [t]he United States will be able to participated in water settlements consistent with the Federal Government's responsibilities as trustee to Indians."[39] The trust responsibility of the United States extends to the representation of Tribal Nations in general adjudications.[40] Because the Band's vested water rights in its former reservation are held by the United States in trust for the Band, the United States, as represented by the Department of the Interior, has trust responsibilities it must uphold, even if those rights are not yet quantified.[41]

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[37] *Arizona v. California*, 460 U.S. 605, 626-27 (1983), *decision supplemented*, 466 U.S. 144, (1984) (*Arizona II)* (recognizing the federal government's role "as a fiduciary" in the context of *Winters* reserved Tribal water rights); *Gila River Pima-Maricopa Indian Cmty. v. United States*, 684 F.2d 852, 863 (Ct. Cl. 1982) ("Accordingly, it is concluded that, to comply with the standard of fair and honorable dealings, it was incumbent upon the United States, once upstream diversions began to restrict the Pima and Maricopa agriculture, to take legal action either to attempt to end the diversions or to restore an alternative equivalent supply if diversions were to continue for reasons of public policy in favor of settlements."); *see also* BLM Manual (MS) 1780, *Tribal Relations* (Dec. 15, 2016) ("The BLM recognizes that it has a broad trust responsibility that in some cases includes a fiduciary duty related to Indian trust assets and property or interests reserved by or granted to Indian tribes or Indian individuals by treaty, statute, and Executive orders.).

[38] *Working Group in Indian Water Settlements; Criteria and Procedures for the Participation of the Federal Government in Negotiations for the Settlement of Indian Water Rights Claims*, 55 Fed. Reg. 9223 (March 12, 1990).

[39] *Id*.

[40] *E.g., Nevada v. United States*, 463 U.S. 110, 127 (1983) (Government's brief is replete with references to its fiduciary obligation to the Pyramid Lake Paiute Tribe).

[41] *See* Department of the Interior, American Indian and Alaska Native Programs, *Departmental Responsibilities for Indian Trust Resources*, 512 DM 2 (Dec. 1, 1995) ("It is the policy of the Department of the Interior to recognize and fulfill its legal obligations to identify, protect, and conserve the trust resources of federally recognized Indian tribes and tribal members.")

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Although the Supreme Court's decision in *Arizona v. Navajo Nation* made clear that the *Winters* doctrine of federal reserved water rights does not, on its own, require the federal government to take affirmative steps to secure water for a Tribal Nation,[42] the Supreme Court's decision holds no bearing on breach of trust claims alleging interference with a Tribal Nation's water rights.[43] The Supreme Court made clear throughout its opinion that it views the question of affirmative duties distinctly from the question of interference, and that a Tribal Nation with reserved water rights under the *Winters* doctrine, regardless of the quantification of those rights, may have a cognizable claim against the federal government for interference.[44] Here, the Band is concerned with exactly that: a federal action that knowingly authorizes interference with the Band's reserved water rights. This interference will prevent the Band from accessing water in traditional locations on its prior reservation lands for ceremonial and other purposes, including any potential Band plans for economic development relying on its reserved water rights.

The Project cannot, despite what your office suggests, mitigate that interference through the currently proposed Project Adaptive Management, Monitoring, Mitigation Measures, and Reporting Plan, as suggested by BLM. The APM-4 Mitigation Program designs a reimbursement program for senior water rights holders, whereas federally authorized interference with the Band's water rights cannot simply be reimbursed. Because a federal agency cannot "directly or indirectly" abrogate Tribal rights without a clear congressional mandate, the interference must instead be enjoined.[45]

Unfortunately, the United States here takes a view of its obligations which improperly requires an Indian Tribe's water rights to be quantified before it will consider those rights or take any action to protect them. This position leaves well over 90% of federal reserved water rights for Indian Tribes unprotected (because they are not quantified) and places the burden for protecting these rights on Tribes, many of which lack the necessary resources to protect their rights. This deliberately undermines what the trust relationship envisions.[46]

Moreover, BLM does have explicit affirmative duties relating to the Band's reserved water rights under its federal obligations for environmental review under NEPA.[47] Under NEPA, BLM must,

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[42] *Arizona v. Navajo Nation*, 599 U.S. 555, 569-70 (2023).

[43] *Navajo Nation*, 599 U.S. at 558, 563; *see also id*. at 599 ("While the Court finds the present complaint lacking because it understands it as seeking "affirmative steps," the Court does not pass on other potential pleadings the Tribe might offer, such as those alleging direct interference with their water rights.") (Gorsuch, J., *dissenting*).

[44] *Id*. at 558, 563 ("As relevant here, the Navajos do not contend that the United States has interfered with their access to water"); *id*. at 592 ("The United States, we know, must act in a 'legally [a]dequate' way when it comes to the Navajo's water it holds in trust. It follows, as the United States concedes, that the federal government could not 'legally' dam off the water flowing to their Reservation, as doing so would 'interfere with [the Tribe's] exercise of their' water rights.") (Gorsuch, J., *dissenting*) (citations omitted).

[45] *See Timpanogos Tribe v. Conway*, 286 F.3d 1195, 1203 (10th Cir. 2002) (citation omitted). No such congressional authorization exists here. *See Minnesota v. Mille Lacs Band of Chippewa Indians*, 526 U.S. 172, 202 (1999) ("Congress may abrogate Indian [reserved] rights, but it must clearly express its intent to do so.").

[46] Two of the most prominent Supreme Court cases pertaining to federal reserved rights – *Winters* and *Cappaert v. United States*, 426 U.S. 128 (1976) – involved the United States acting to protect federal reserved water rights that were not quantified.

[47] *See* 40 C.F.R. 1502.14(f); 1502.16(10); 1502.24(a); and 1508.1(i) (requiring an analysis of reasonably foreseeable effects or impacts of the proposed action, including cultural and social effects and effects on Tribal resources, and identification of an environmentally preferable alternative that protects and preserves reserved Tribal rights), as well as the Department of the Interior's NEPA implementing regulations integrating CEQ regulations at 43 C.F.R.

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at minimum, conduct an inquiry regarding the effects of the Project on, and develop an alternative that would protect and preserve, reserved Tribal rights based on the information available, including the information that the Band has provided through comments and consultation.[48] It cannot, instead, despite being put on notice by the Band about the Band's reserved water rights, turn a blind eye to the adverse effects the Project will have on the Band's rights and resources.

In conclusion, if BLM proceeds forward with its environmental review of the Pine Valley Water Supply Project without consideration of Indian Peaks Band's federal reserved water rights, this federal action will interfere with the Band's access to its water in violation of both the federal trust responsibility and BLM's regulatory requirements under NEPA. The Band requests a reconsideration of the agency's position on its reserved water rights and, at minimum, a supplemental environmental impact statement that analyzes the impact of the Project in relation to the Band's rights and develops an adequate alternative.

Should you have any questions about this communication, please do not hesitate to contact me at indianpeaks@utahpaiutes.org. I also request that you include our attorney team at the Native American Rights Fund on any communications, including Tom Murphy, murphy@narf.org, Daniel Cordalis, cordalis@narf.org, and Melissa Kay, kay@narf.org.

Sincerely,

Tamra Borchardt-Slayton, Chairwoman
Indian Peaks Band of the Paiute Indian Tribe of Utah

46.10(a)(2) and BLM Handbook H-1790-1 § 6.8.1.1. 40 C.F.R. 1500 *et seq.* should be followed until the Department of the Interior revises its NEPA regulations. The Council of Environmental Quality Memorandum on the *Implementation of the National Environmental Policy Act* released on February 19, 2025, instructed federal departments and agencies to "apply their current NEPA implementing procedures with any adjustments needed to be consistent with the NEPA statute as revised by the [Fiscal Responsibility Act of 2023 (P.L. 118-5)]" and to not delay pending or ongoing NEPA analyses. Katherine Scarlett, Chief of Staff, *Implementation of the National Environmental Policy Act*, Council on Environmental Quality (Feb. 19, 2025), https://ceq.doe.gov/docs/ceq-regulations-and-guidance/CEQ-Memo-Implementation-of-NEPA-02.19.2025.pdf.

[48] *See* 40 C.F.R. 1502.14(f). For its applicability, *see supra* n. 45. Although an agency is not responsible for environmental impacts it could not lawfully have acted to avoid, either through mitigation or by disapproving the federal action, it does need to analyze environmental impacts for which the agency's decision "would be (at least in part) 'responsible,' a requirement akin to 'the familiar doctrine of proximate cause from tort law.'" *Seven County Infrastructure Coalition v. Eagle County*, 605 U.S. ___ (2025) (Sotomayor, J., *concurring*).

EXHIBIT E

Exhibit A

Letter from F. M. Goodwin, Assistant Secretary of the Interior, to Harlan F. Stone, Attorney General of the United States, June 5, 1924

EXHIBIT E

GOODWIN, FM TO ATTNY GENL 5 JUNE 24

JUN - 5 1924

FOR FILE.

The Honorable

The Attorney General.

My dear Mr. Attorney General:

With further reference to our communication of May 1, 1924, regarding the right of the Indians of Indian Peak Reservation, Utah, to the waters of Indian Creek, Beaver County, Utah, there is transmitted herewith, in duplicate, photostat copy of report from the Supervising Engineer of the Indian Irrigation Service in charge of the district in which this project lies.

It is apparent from the statements made in the report the Indians were using the waters of this creek prior to the advent of the white man to that section of the country, which clearly indicates their prior right to the use of such water.

It will be noted that the irrigable acreage of this reservation is very small, approximating 40 acres; that apparently the maximum area that has ever been cultivated is approximately 30 acres and that there is sufficient water for this area only during the seasons of more than normal precipitation.

To Secretary

MAY 31 1924

For Signature.

INITIALING COPY - FOR FILE.

FILED BY J. M. S.

EXHIBIT E

In view of all these conditions the water rights of the Indians are prior in point of time to those of Mr. George A. Mitchell, complainant, and, therefore, it appears his complaint is not a meritorious one, and should he insist on interfering with the Indians' water rights it would appear that appropriate action should be instituted to restrain such interference.

The matter referred to in the report relative to a storage dam for the purpose of increasing the water supply will receive appropriate consideration and action. Whatever action is finally taken in this respect will not materially affect the claim set forth by Mr. Mitchell.

Very truly yours,

E. K. Burlew

5 ELM 23 Assistant Secretary.

Copies to

Supervising Engineer Engle.

Kaibab.

Inclosure 663.

I-37521.

EXHIBIT E

BIA-CCF, 1907-39
56602-1919 Goshute 341

EXHIBIT E

Exhibit B

Letter from Harlan F. Stone, Attorney General of the United States,
to Hubert Work, Secretary of the Interior, September 10, 1924

EXHIBIT E

Office of the Attorney General
Washington, D.C.

September 10, 1924

Hon. Hubert Work,
Secretary of the Interior,
Washington, D. C.

Dear Mr. Secretary:

Reference is made to the letter of the Assistant Secretary dated June 5, 1924, regarding the alleged interference by George A. Mitchell with the rights of the Indians of Indian Peak Reservation, Utah, to the waters of Indian Creek.

The United States Attorney states that after receiving a report of the investigation made by the Supervising Engineer of the District he is convinced that the Indians have superior rights, and that he has notified Mr. Mitchell that if he attempts to interfere with their rights an action will be promptly commenced against him.

Respectfully,

Harlan F. Stone
Attorney General.

FILED BY J. M. S.

EXHIBIT E

BIA-CCF, 1907-39
56602-1919 Goshute 341

EXHIBIT E

From: Tibbetts, Gloria A
To: tbslayton@pitu.gov
Cc: Melissa Kay; Tom Murphy; Russell, Jacqueline J; Cox, Brooklynn A
Subject: Indian Peaks Band Water Rights Claims
Date: Wednesday, May 7, 2025 2:21:40 PM

Chairwoman Borchardt-Slayton,

As we discussed in our meeting this afternoon, my office worked with our attorneys to consider how the Federal Reserve water rights claimed by the Indian Peaks Band of Paiutes may relate to the pending Pine Valley Water Supply project. It was determined that, since the water rights claims have not undergone a formal adjudication process, they have not yet been formally quantified or geographically designated. As such, we are unable to fully analyze any potential impacts in the analysis for the pipeline since we have no quantity or specific location to evaluate.

It appears that you may be able to engage the Bureau of Indian Affairs for assistance in initiating an adjudication process and we reached out to our sister agency to identify points of contact should you choose to pursue that process. Ray Roessel (Hydrologist, Western Regional Office, 602-379-6789, Raymond.Roessel@bia.gov) was identified as the primary point of contact and Catherine Wilson (Supervisory Water Rights Specialist, Western Regional Office, 602-369-0642, Catherine.Wilson@bia.gov) is a secondary point of contact as his supervisor. We let them know that you may be contacting them so they will hopefully be more prepared to assist you.

Appendix F of the Pine Valley Water Supply Project EIS includes the PVWS Project Adaptive Management, Monitoring, Mitigation Measures, and Reporting plan. Item APM-4 of the plan addresses interference with senior water rights. If the project is approved and the Band's water rights are adjudicated at some point in the future with an assigned date that is senior to the water rights held by the Central Iron County Water Conservancy District for the Pine Valley Water Supply Project, the Band's water rights may be subject to protection under this measure.

Although we do not have the jurisdiction/authority to assist further with any potential future processing of the water rights claims, we look forward to our continued coordination with you regarding other aspects of this project. Please let us know if you have any questions or if there is additional information we can provide.

Thank you,

EXHIBIT F

Gloria Tibbetts

District Manager
Color Country District | Bureau of Land Management
176 DL Sargent Dr. | Cedar City, UT 84721
Office: (435) 865-3022 | Cell: (435) 704-6578

EXHIBIT F

ADVOCACY FOR COMMUNITY AND ENVIRONMENT
Empowering Local Communities to Protect the Environment and their Traditional Ways of Life
Post Office Box 120
Arroyo Seco, New Mexico 87514
Phone: (505) 504-2610
Email: iris@communityandenvironment.net

January 14, 2026

VIA Email

Bureau of Land Management
Cedar City Field Office
Attn: Pine Valley Water Supply Project
176 DL Sargent Drive
Cedar City, Utah 84721
Email: jrussell@blm.gov
Email: blm_ut_cedar_city@blm.gov
Email: pvwsproject@gmail.com

Re: **Pine Valley Water Supply Project (DOI-BLM-UT-C010-2020-0012-EIS) –** Request to Adopt the No Action Alternative or Withdraw the AFEIS and Prepare a New DEIS; Submission of New Information and Request for Supplemental EIS; Request for a 60-Day FEIS Public Availability Period Prior to Issuance of Record of Decision

Dear Ms. Russell:

On behalf of Beaver County, and consistent with the County's cooperating agency responsibilities under NEPA, Advocacy for Community and Environment submits this request that the Bureau of Land Management ("BLM") either adopt the No Action Alternative identified in the Pine Valley Water Supply Project ("PVWSP" or "Project") Administrative Final Environmental Impact Statement ("AFEIS") or withdraw the AFEIS and prepare a new Draft EIS for notice and comment. Based on the current record, selecting the No Action Alternative is the only lawful option available to BLM, as the Agency has not demonstrated that any action alternative could proceed without violating the National Environmental Policy Act ("NEPA"), Federal Land Policy and Management Act ("FLPMA"), Clean Water Act ("CWA"), Endangered Species Act ("ESA"), Clean Air Act ("CAA"), National Historic Preservation Act ("NHPA"), and other applicable federal laws. This request is joined by Millard, Juab, Tooele, and White Pine Counties, all of which are cooperating agencies in the BLM's NEPA environmental review process for the PVWSP ("Cooperating Agency Counties").

In addition, the Cooperating Agency Counties hereby submit significant new information that has arisen since the preparation of the Draft EIS and which is relevant to the Project's cost and need and respectfully requests that BLM prepare a Supplemental Environmental Impact Statement ("SEIS") for public notice and comment to address this and other significant new information submitted by the Counties following the circulation of the Administrative FEIS that has arisen during the lengthy pause in the NEPA process.

Exhibit G

The Cooperating Agency Counties further respectfully request that BLM provide a minimum 60-day public availability period for the Project's FEIS prior to the issuance of any Record of Decision ("ROD"). This time is necessary to ensure that the public, affected stakeholders, and cooperating agencies have a meaningful opportunity to conduct the required technical and legal review.

These requests are supported by extensive comments and technical evidence already in the administrative record, as well as the following attachments:

Attachment 1: Stifter, R. & Zdon, A., Roux Associates, Inc., *Review of Economic and Financial Analysis Supporting the Proposed Pine Valley Water Supply Project* (Jan. 5, 2026). This technical memorandum provides an independent analysis of both the Central Iron County Water Conservancy District's ("CICWCD's") projected Project costs, financing, and stated need for the Project, as well as new information related to cost increases during the NEPA pause, which should be considered by the BLM in a Supplemental EIS.

Attachment 2: Ensign Engineers, *West Desert Pipeline Cost Estimate* (Draft, April 24, 2019).

Attachment 3: CICWCD, Financial Business Plan and Water Needs Assessment, *Carollo Excel-based Financial Model* (April 2023).

Attachment 4: CICWCD, West Desert Water Supply and Conservation Project Map.

The deficiencies identified in the NEPA record, as well as those identified in this submission and its attachments, are fundamental and remain unresolved. Their persistence into the AFEIS renders the document legally inadequate under NEPA and requires the preparation of a new Draft EIS. Additionally, significant new information, updated analyses, and subsequent developments since the issuance of the 2022 DEIS require BLM to prepare a Supplemental EIS for notice and public comment to ensure compliance with NEPA and other federal laws.

This submission is made at this time because BLM's ePlanning schedule lists a January 30, 2026, release date for the Project FEIS, followed by issuance of the Record of Decision ("ROD") on the next business day, February 2. Under this schedule, there is no meaningful public availability period during which cooperating agencies or the public could review the FEIS or submit requests of this nature for BLM's consideration prior to the scheduled issuance of the ROD. Additionally, cooperating agencies were afforded only 13 business days to comment on the AFEIS, making this supplemental submission necessary to provide the attached Roux cost analysis, which required substantial time to prepare and, in addition, depended on obtaining records from CICWCD through GRAMA, which also required additional time.[1]

The Cooperating Agency Counties request that this submission, including its attachment and new information cited, be included in the administrative record for the PVWSP. *See County of Suffolk v. Sec. of Interior,* 562 F.2d 1368, 1384 n.9 (2d Cir. 1977) (scope of NEPA administrative record), *cert. denied*, 437 U.S. 1064 (1978); *Thompson v. U.S. Dep't of Labor*, 885 F.2d 551, 555 (9th Cir.

[1] This submission is intended to supplement, and be read in conjunction with, previous County comments, which also remain viable and applicable. It focuses on the most glaring and pervasive deficiencies in the AFEIS analysis, but is not intended to waive or replace the set of issues addressed in comments on the DEIS and AFEIS, including comments related to impacts to particular environmental resources and failure to comply with NEPA, FLPMA, ESA, CWA, CAA, NHPA, and LCCRDA, which comments identified issues that remain unresolved.

Exhibit G

1989) (administrative record consists of all documents and materials directly or indirectly considered by the agency and includes evidence contrary to the agency's position).

I. Introduction:

The Central Iron County Water Conservancy District's proposed Pine Valley Water Supply Project, the first phase of the larger planned West Desert Water Supply and Conservation Project ("West Desert Pipeline Project"), would provide the infrastructure necessary to pump and convey up to 15,000 acre-feet per year ("afy") of groundwater from Pine Valley, 11,000 afy of groundwater from Wah Wah Valley, and 10,000 afy of groundwater from Hamlin Valley in southwestern rural Utah, for a total of 36,000 afy, to be conveyed via interbasin transfer to Cedar City Valley. The Project is premised on unsustainable groundwater mining, pumping that exceeds Pine Valley's recharge rate and safe yield, and poses a serious threat to the groundwater system underlying a substantial portion of the carbonate aquifer province, groundwater-dependent environmental resources, and existing senior water rights. Moreover, an analysis of the groundwater modeling prepared for the EIS demonstrates that pumping at the proposed rates is likely physically infeasible, as the Project wells may go dry, resulting in astronomical costs to ratepayers while failing to deliver the water promised.

As proposed, the Project functions primarily as a storage-depletion project, intercepting interbasin flow while failing to actually capture annual recharge;[2] yet CICWCD nevertheless relies on recharge estimates as a proxy for available water, compounding the problem by inflating the calculation of estimated recharge far above that estimated by the USGS. Among the likely harms is long-term regional aquifer depletion that would take many millennia to remedy. By substantially drawing down the local and regional aquifer systems, the Proposed Project threatens to dry out regional springs in downgradient groundwater basins that support both senior water rights under Utah and Nevada law and a host of sensitive species. These are only some of the troubling potential environmental impacts of the Project, impacts that will, in practical terms, be permanent and extremely expensive to attempt to mitigate. Moreover, the record contains no evidence that any proposed mitigation measures have any reasonable prospect of effectiveness.

In addition, the EIS itself acknowledges that water rates for Iron County residents could increase by well in excess of 500%, imposing a significant and potentially unaffordable burden on ratepayers. *See* AFEIS at § 3.7.3.1.2. Actual increases are likely to be far higher, but are not properly accounted for in the AFEIS, resulting in an AFEIS that fails to disclose actual likely impacts to either taxpayers or consumer water rates. This is, in part, because the underlying cost and financing analysis performed by CICWCD fails to properly account for costs associated with operation and maintenance, monitoring and mitigation, or the significant increase in construction costs that occurred in the four-year period between the issuance of the DEIS and scheduled release of the FEIS, which extended period was as a result of the two-year pause in the NEPA process for the Project requested by CICWCD.

Separate and apart from the magnitude of the impacts disclosed, the AFEIS remains legally deficient in its analysis and disclosure of those impacts. The limited and largely superficial revisions made in the AFEIS, when compared to the 2022 Draft EIS, underscore that despite a

[2] *See* Brooks, L., USGS, *Conceptual Model and Numerical Simulation of the Great Basin Carbonate and Alluvial Aquifer System—Version 3.0* (USGS Scientific Investigations Report 2017-5072), at 50 (GBCAAS v. 3.0).

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two-year pause in the NEPA process and ample opportunity to meaningfully address deficiencies in the record, the AFEIS does not materially improve upon or correct the DEIS's foundational analytical flaws. CICWCD itself requested that pause in May 2023, more than a year after issuance of the DEIS, asserting that additional time was needed to address major shortcomings identified by the public and cooperating agencies in its Groundwater Resources Impact Assessment and the Financial Business Plan and Water Needs Assessment, to work with neighboring Tribes, to confirm mitigation measures with the Utah State Engineer, and to implement and observe the effects of proposed conservation and recharge programs. Yet, the AFEIS provides no indication that this work was seriously undertaken or completed. Although CICWCD represented that mitigation measures would be confirmed with the State Engineer, the AFEIS contains no reference to such coordination, the State Engineer's online record for the Project applications reflects no such effort, no monitoring, management, or mitigation plan appears in the EIS, and there remains no meaningful analysis of whether any proposed mitigation would be effective. Likewise, the limited updates addressing groundwater modeling, ethnographic work, and conservation and recharge programs are cursory and fail to resolve the deficiencies identified in prior comments.

Rather than substantively addressing the concerns raised by cooperating agencies, technical experts, and the public, including improper segmentation of the West Desert Pipeline Project, an inadequate purpose and need statement, an incomplete project description, an unreasonably narrow alternatives analysis, the failure to take a hard look at impacts, the absence of meaningful mitigation analysis, and unresolved compliance issues under multiple federal statutes, the AFEIS makes only marginal edits that leave the core defects intact. Although CICWCD requested, and BLM granted, a pause expressly to conduct additional analyses in response to serious deficiencies identified in comments on the DEIS, the AFEIS reflects no meaningful or responsive update to the underlying data or analyses during that period. Instead, the four-year gap between the DEIS and the anticipated FEIS has resulted in an EIS that relies on a patchwork of partially revised and outdated information, notwithstanding CICWCD's own acknowledgement that further work was required.[3] Key components of the analysis remain grounded in stale data that no longer reflect current conditions, while other portions were selectively updated without any coherent or comprehensive effort to address the identified deficiencies.

Compounding these deficiencies, the public was never afforded an opportunity to review or comment on new information or analyses developed during the pause, nor to submit additional information that emerged during that period. Issuing a Final EIS after a multi-year analytical gap, during which new cost data, demand projections, hydrologic analyses, and other significant information became available, without re-engaging the public, and instead relying on a years-old comment process, would result in a document that is premature, incomplete, and inconsistent with NEPA's foundational principles of transparency, scientific integrity, and public involvement,

[3] The more recent record further underscores CICWCD's failure to meaningfully address concerns raised by cooperating agencies and the public. At CICWCD's publicly noticed November 2025 meeting, CICWCD confirmed that the most recent delay in release of the FEIS, from November 21, 2025, to January 30, 2026, was intended to address deficiencies in the Project's hydrologic analysis. Yet the updated schedule only provided slightly in excess of two months in which to perform that hydrologic work and obtain required approvals. That limited additional timeframe is plainly insufficient to address the fundamental deficiencies in the hydrologic modeling identified by cooperating agencies and technical experts, and supports the Counties' conclusion that any updates made during this delay are necessarily superficial and inadequate to cure those defects.

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and therefore necessitates either adoption of the No Action Alternative or withdrawal of the AFEIS and preparation of a new Draft EIS.

II. The Cooperating Agency Counties Formally Request that BLM Adopt the No Action Alternative or Withdraw the AFEIS

The Cooperating Agency Counties respectfully request that BLM either adopt the No Action Alternative for the Pine Valley Water Supply Project or withdraw the AFEIS. By failing to take the requisite hard look at the environmental consequences of the Project and by relying on incomplete, outdated, and unsupported analyses, the EIS violates NEPA and cannot lawfully support informed decision-making. Any reliance on the EIS in a forthcoming decision would be arbitrary and capricious under the Administrative Procedure Act. "Section 101 of NEPA declares a broad national commitment to protecting and promoting environmental quality." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989) (citing 83 Stat. 852, 42 U.S.C. § 4331). "The sweeping policy goals announced in § 101 of NEPA are . . . realized through a set of 'action-forcing' procedures that require that agencies take a 'hard look' at environmental consequences." *Id*. at 350 (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976)). NEPA's main "action-forcing" procedure comes in the form an environmental impact statement ("EIS"), a detailed statement on environmental impacts that must be prepared before an agency undertakes any "major Federal action[] significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). NEPA "ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts…." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989); *see also Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553 (1978).

The AFEIS is undermined by pervasive deficiencies arising from incomplete, factually unsupported, speculative, unsound, and outdated technical analyses, as documented extensively in the Cooperating Agency Counties' comments on the Draft EIS and Administrative Final EIS. These defects leave the EIS well short of NEPA's requirements and deprive BLM of a rational basis to select any action alternative. BLM has therefore failed to take the "hard look" at Project impacts that NEPA demands and has not ensured compliance with applicable federal laws. Because the AFEIS cannot support informed decision-making, any selection of an action alternative would be arbitrary and capricious under the Administrative Procedure Act.

As a result, the No Action Alternative is the only legally permissible option unless and until BLM prepares an EIS that satisfies NEPA and BLM's independent obligations under FLPMA, ESA, CWA, CAA, NHPA, and other applicable federal laws. In the absence of a legally adequate EIS, withdrawal of the AFEIS is therefore required. While the Counties maintain their comments submitted in response to the DEIS and AFEIS and all deficiencies identified therein, the following deficiencies are the most glaring; both individually and together they require either the adoption of the No Action Alternative or the withdrawal of the AFEIS and the preparation of a new DEIS to correct them.

A. Impermissible Segmentation of Analysis Requires Withdrawal of the AFEIS

NEPA requires that agencies take a "hard look" at the reasonably foreseeable environmental consequences of major Federal actions. *See* 42 U.S.C. § 4332(2)(C); *Kleppe v. Sierra Club American Electric Power System*, 427 U.S. 390, 410 n.21 (1976). This mandate necessarily

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encompasses the full scope of an action as it will be implemented in the real world, not an artificially constrained subset of its components or phases. Thus, as explained in previous comments, BLM is legally required to consider, in a single EIS, the reasonably foreseeable effects of the entire planned West Desert Pipeline Project, including the PVWSP, which functions as its first phase. *See* Beaver County DEIS Comments, at 5-9 (Mar. 11, 2022); Utah Cooperating Agency Counties' AFEIS Comments (Oct. 20, 2025). The BLM may not divide or segment its NEPA analysis into separate environmental documents in order to avoid a full consideration of Project impacts or to minimize their severity. *See Citizens' Committee to Save Our Canyons v. U.S. Forest Service*, 297 F.3d 1012, 1029 (10th Cir. 2002); *Thomas v. Peterson,* 753 F.2d 754, 759 (9th Cir. 1985); *Save the Yaak Comm. v. Block*, 840 F.2d 714, 720 (9th Cir. 1988). This requirement prevents an agency from dividing a single project into segments that individually seem to have more limited environmental impact, but as a whole have considerable impact. *See Thomas v. Peterson*, 753 F.2d at 758; *see also Utahns for Better Transp. v. U.S. Dept. of Transp*., 305 F.3d 1152, 1183 (10th Cir. 2002). The rule against segmentation was developed to ensure that a larger project, the overall effect of which is environmentally significant, is not fractionalized into smaller, less significant actions for the purpose of the evaluation of impacts. *See generally*, *Piedmont Heights Civic Club, Inc. v. Moreland*, 637 F.2d 430 (5th Cir.1981); *Swain v. Brinegar*, 542 F.2d 364 (7th Cir.1976) (*en banc*). To permit non-comprehensive consideration of a project by dividing it into smaller parts, each of which alone has lesser impact, but which taken as a whole has far greater impact, would provide a clear loophole in NEPA.

BLM's analysis continues to improperly isolate the Pine Valley Water Supply Project from the other phases of the larger planned West Desert Pipeline Project, despite CICWCD's existing 11,000 afy of Project groundwater rights in Wah Wah Valley and pending applications for an additional 10,000 afy in Hamlin Valley, and despite repeated statements by CICWCD confirming that the Pine Valley Water Supply Project is merely the first phase of the larger planned project documented in the Counties' previous comments on the DEIS and AFEIS. *Cf Seven County Infrastructure Coal. v. Eagle Cty*, 605 U.S. __ (2025). These facts make the West Desert Pipeline far from speculative contrary to BLM's statements in response to public comment, which statements are both without foundation and in contradiction to information in the record and otherwise publicly available. *See* Beaver County DEIS Comments, at 5-9 and supporting attachments (Mar. 11, 2022); Utah Counties Cooperating Agency Comments on Section 1.1 of AFEIS (Oct. 20, 2025); https://cicwcd.org/west-desert-water-supply-timeline/ (last visited Jan. 7, 2026) (attached to Beaver County DEIS Comments) ("The first phase of the West Desert Water Supply Project will import water from Pine Valley"); West Desert Water Supply and Conservation Project Map, https://cicwcd.org/west-desert-water-supply-and-conservation-project/ (last visited Dec. 15, 2025) (attached hereto as Attachment 4); https://cicwcd.org/wp-content/uploads/2020/01/Statement-of-Direction-for-Water-Resources-Signed-by-Brent.pdf (attached to Beaver County DEIS Comments); https://cicwcd.org/wp-content/uploads/2020/06/FINAL-WAC-REPORT-with-cover.pdf (attached to Beaver County's 2022 DEIS Comments).

The foreseeability of the West Desert Pipeline Project and the impact of BLM's impermissibly segmented consideration of its impacts is underscored by USGS modeling of the Project's Pine Valley and Wah Wah Valley pumping in GBCAAS v. 3.0, which modeling predicts far greater impacts than modeled by CICWCD in its Pine Valley pumping scenario. *See* Brooks, L., USGS, *Conceptual Model and Numerical Simulation of the Great Basin Carbonate and Alluvial Aquifer*

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System—Version 3.0 (USGS Scientific Investigations Report 2017-5072) (GBCAAS v. 3.0) at 56 (2017) (predicting large drawdowns near the withdrawal wells within 62 years and ultimately water-level declines of more than 1,900 ft near the withdrawals and of more than 5 ft in an area of about 10,500 square miles resulting from West Desert Pipeline Project pumping in Pine and Wah Wah Valleys). The USGS GBCAAS v. 3.0 report itself also confirms the foreseeability of the larger West Desert Pipeline Project. GBCAAS v. 3.0, at 1 (listing one of the objectives of the report as simulation of the effects of proposed Project pumping).

CICWCD must not be permitted to dictate the scope of NEPA review by filing artificially piecemealed ROW applications, as the BLM has an independent duty to consider foreseeable impacts, which may not be abdicated to the applicant. By analyzing the PVWSP in isolation, despite publicly available information demonstrating a much larger intended project scope, BLM impermissibly segments the action in a manner that obscures and understates reasonably foreseeable impacts, including groundwater withdrawals of up to 36,000 AFY, more than twice the amount evaluated in the EIS. This decision to segment the analysis prevents an accurate, or even reasonable, evaluation of cumulative and system-wide impacts and artificially masks and impermissibly downplays the true scope and severity of anticipated Project impacts in violation of NEPA. As a result, the Counties respectfully request that the BLM withdraw the AFEIS and prepare an EIS that properly addresses the entire planned West Desert Pipeline Project and its predicted impacts.

B. Reliance on the Unsound, Unsupported, and Outdated Carollo Financial Business Plan and Water Needs Assessment Requires Withdrawal of the AFEIS

As explained in the Counties' comments on the AFEIS, the June 2023 Carollo Financial Business Plan and Water Needs Assessment ("Carollo Report") submitted by CICWCD to the BLM, including its assessment of Project cost, financing, and future water demand, is patently insufficient to support informed decision-making or to satisfy NEPA's "hard look" requirement. Nor does it demonstrate that CICWCD has the technical and financial capability to construct the Project for which a right-of-way is requested, as required by FLPMA. 43 U.S.C. § 1764(j). Despite the fact that CICWCD requested a pause in the NEPA process for the express purposes of addressing deficiencies in its water needs assessment identified by the public and taking the time necessary to implement and observe the effects of its conservation and recharge programs, the AFEIS continues to rely on the 2023 Carollo Report, which had already been finalized at the time of that request. The AFEIS contains only minimal updates related to conservation and recharge programs. There is no evidence that CICWCD updated or revised the Carollo Report during the pause or incorporated the effects of its conservation and recharge programs into any updated analysis. Moreover, there is no evidence that CICWCD submitted to the BLM or made available to the public the data, formulas, and analysis underlying or supporting the 2023 Carollo Report. As a result, the BLM continues to lack the necessary factual basis to make a rational decision with respect to Project cost, financing, and need.

Closely related to NEPA's "hard look" requirement, NEPA prohibits an agency from relying on conclusions or assumptions that lack scientific or objective support. As the Tenth Circuit has held, "[u]nsubstantiated determinations or claims lacking in specificity can be fatal for an [environmental study]…. Such documents must not only reflect the agency's thoughtful and probing reflection of the possible impacts associated with the proposed project, but also provide the reviewing court with the necessary factual specificity to conduct its review." *Committee to*

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Preserve Boomer Lake Park v. Dep't of Transportation, 4 F.3d 1543, 1553 (10th Cir. 1993). In addition, the BLM is required to disclose the data on which any expert opinion is based. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150 (9th Cir. 1998), overruled on other grounds by *The Lands Council v. McNair*, 537 F.3d 981 (9th Cir. 2008). Similarly, "[t]o take the required 'hard look' at a proposed project's effects, an agency may not rely on incorrect assumptions or data in an EIS." *Native Ecosystems Council v. U.S. Forest Serv.*, 418 F.3d 953, 964 (9th Cir. 2005); *WildEarth Guardians v. Mont. Snowmobile Ass'n*, 790 F.3d 920 (9th Cir. 2015). Finally, while the BLM may permit an applicant to prepare a NEPA analysis, the agency must "independently evaluate the environmental document and shall take responsibility for the contents." 42 U.S.C. § 4336a(f).

The BLM's decision to rely on the 2023 Carollo Report without access to its underlying cost calculations, modeling, or data is not entitled to deference, because there is no demonstrated factual basis supporting the Carollo analysis contained in or referenced by the EIS, nor was any such information submitted to the BLM. The financial analysis submitted by CICWCD, as reflected in the 2023 Carollo Report, contains numerous conclusory statements that the EIS appears to accept at face value, without reviewing or analyzing their factual basis or validity. Critically, it is Beaver County's understanding that the administrative record does not include the underlying financial model or data purportedly supporting CICWCD's conclusions regarding Project cost, financing, or water demand as they were not submitted by CICWCD to the BLM. Without this foundational factual and analytical information, the AFEIS analyses of Project cost, financing, and need lack adequate basis in the record, as the BLM has no ability to evaluate the accuracy or credibility of the statements contained in the Carollo Report.

In an effort to provide the BLM with the information necessary to support an informed decision, Beaver County contracted with Roux Associates, Inc. to prepare an independent analysis of Carollo's cost, financing, and water demand projections contained in its 2023 Financial Business Plan and Water Needs Assessment ("Carollo Report"). *See* Stifter, R. & Zdon, A., Roux Associates, Inc., *Review of Economic and Financial Analysis Supporting the Proposed Pine Valley Water Supply Project* (Jan 5, 2026), attached hereto as Attachment 1. As the Counties noted in their comments on the AFEIS, the 13-business-day cooperating agency review period was insufficient to allow for preparation of this analysis, particularly given that the AFEIS and supporting documents did not contain the information necessary to conduct such a review. Beaver County therefore sought the information required to properly evaluate the Carollo Report from CICWCD through a public records request, after which the independent Roux analysis was prepared. That analysis reviews the AFEIS, the 2023 Carollo Report, the 2019 Ensign Engineering pipeline cost estimate, attached hereto as Attachment 2, the underlying Excel financial model, attached hereto as Attachment 3, and relevant cost, demand, and financing information obtained independently and cited in the Roux report. As explained in greater detail in the January 5th Roux Report,[4] additional data and information supporting the Carollo Excel financial model, particularly water rate projections and the formula used to arrive at those projections, likely are necessary to conduct a proper review of CICWCD's evaluation of Project cost, financing, and need. Beaver County has requested this additional information from CICWCD through a pending public records request.

[4] Roux, *Review of Economic and Financial Analysis Supporting the Proposed Pine Valley Water Supply Project,* n. 14 (Jan. 5, 2026) (attached hereto as Attachment 1).

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The analysis prepared by Roux Associates, Inc. confirms and quantifies key deficiencies in the Carollo Report. Roux found that Carollo provides unsupported conclusions regarding Project cost and significantly underestimates the capital, financing, and long-term operation and maintenance costs of the Pine Valley Water Supply Project by failing to adequately account for inflation, omitting critical categories of cost, and relying on unsupported assumptions. Using standard industry cost indices, Roux determined that current capital costs are likely hundreds of millions of dollars higher than Carollo's estimates, which cost estimates themselves are outdated and do not properly account for cost increases between 2019 and 2022 and do not reflect significant recent construction cost increases that have occurred since 2022.[5] Roux further found that Carollo excludes entirely the costs of groundwater monitoring and water-rights and environmental mitigation necessitated by projected drawdown impacts, even though available information indicates those costs could be substantial and long-lasting.

Roux also concluded that Carollo's financial feasibility analysis rests on unrealistic financing assumptions and outdated demand projections. The Carollo model assumes extraordinary reliance on low-interest federal loan programs that are highly oversubscribed nationwide, understates debt service costs under current interest rate conditions, and assumes water demand is unaffected by unprecedented rate increases exceeding 500 percent, which rate increases themselves are likely to be higher than estimated. Roux found that Carollo relies on obsolete population forecasts that materially overstate future municipal and industrial water demand, while failing to account for the well-documented effects of price-driven conservation and more aggressive tiered rate structures already implemented by comparable western municipalities. As a result, the Carollo analysis does not provide a reliable or transparent basis for assessing Project feasibility, ratepayer impacts, or CICWCD's ability to finance and construct the Project, and the BLM lacks an adequate economic and financial foundation in the administrative record for informed decision-making. Accurate market-demand information is necessary to ensure a well-informed and reasoned decision under NEPA. *See, e.g., NRDC v. U.S. Forest Serv.*, 421 F.3d 797 (9th Cir. 2005) (citing *Vt. Yankee Nuclear Power Corp.*, 435 U.S. at 558).

Compounding these flaws, Roux determined that the Carollo Excel spreadsheet model, attached hereto as Attachment 3, does not compute the revised water rate increases that would be required to cover actual Project costs or to address shortfalls in anticipated water purchases. As a result, an assessment of the validity of CICWCD's calculation of future rate increases necessary to sustain the Project is not possible from the Carollo Excel model itself, further depriving the BLM and the public of the ability to assess the Project's economic feasibility. Roux also concluded that the Carollo Report overstates the Project's economic benefits by assuming that all capital expenditures remain within the local economy, despite substantial leakage associated with materials and components produced outside the region, and by failing to account for the economic drag associated with higher water rates that may displace household spending from sectors with higher economic multipliers.

Accordingly, the AFEIS does not present a transparent or defensible assessment of Project costs, financing, or need and instead rests on unsubstantiated determinations and conclusions by CICWCD in violation of NEPA and FLPMA. These deficiencies are particularly significant

[5] Notably, Roux did not assess the unit cost adopted by Carollo as there was insufficient information in the record to support such an analysis. *See* Roux, at 3. The BLM must require submission of sufficient information by CICWCD to support an analysis of the sufficiency of this capital cost number.

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given that the Carollo Report fails to analyze the full scope of the West Desert Pipeline Project, including operations, monitoring, mitigation, and long-term financial impacts, and relies on outdated cost and demand assumptions that materially misrepresent the Project's true economic consequences for ratepayers and taxpayers.

Roux's cost and demand analysis, CICWCD's financial model underlying the Carollo Report attached to the Roux Report, and the data and modeling on which that financial model relies must be reviewed and considered by the BLM, together with public input, in a new Draft EIS. Absent such review, the BLM lacks a factual basis to support an informed decision, in violation of NEPA, FLPMA, and the APA.

C. CICWCD's Hydrologic Analysis Is Insufficient to Support a Hard Look Under NEPA and Requires Withdrawal of the AFEIS

Similarly, the AFEIS also is fundamentally flawed and must be withdrawn because it continues to rely on the applicant's GBCAAS-PV groundwater model, even though the model has been shown, repeatedly and in detail, to be technically unsound and incapable of producing sufficiently reliable impact predictions. The BLM has a duty to ensure the scientific integrity of the analyses contained in the PVWSP EIS and make use of reliable data and resources in conducting its NEPA analysis. 42 U.S.C. § 4332(D), (E). This review must be supported by detailed data and analysis; unsupported conclusions violate NEPA. *See Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149-50 (9th Cir. 1998), *overruled on other grounds by Lands Council v. McNair*, 537 F.3d 981 (9th Cir. 2008). "[W]ithout [baseline] data, an agency cannot carefully consider information about significant environment impacts. Thus, the agency 'fail[s] to consider an important aspect of the problem,' resulting in an arbitrary and capricious decision." *N. Plains Resource Council, Inc. v. Surface Transp. Bd*., 668 F.3d 1067, 1085 (9th Cir. 2011); *Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988) ("without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA."); *Or. Natural Desert Ass'n v. Jewell*, 840 F.3d 562, 568-70 (9th Cir. 2016) (acknowledging the necessity of defining an adequate baseline under NEPA and noting that "deference does not excuse the BLM from ensuring the accuracy and scientific integrity of its analysis, a NEPA requirement"); *NRDC v. U.S. Forest Serv.*, 421 F.3d 797, 812, 813, n.24 (9th Cir. 2005) (holding that an EIS lacking accurate baseline data cannot support reasoned decisionmaking); *see also Native Ecosystems Council v. U.S. Forest Serv.,* 418 F.3d 953, 964 (9th Cir. 2005). Additionally, an agency's NEPA analysis must expose scientific uncertainty regarding the risk of a proposed action and inform decisionmakers of the full range of responsible scientific opinion on the environmental effects of the proposed action. *Friends of the Earth v. Hall*, 693 F. Supp. 904, 926, 934 (W.D. Wash 1988). Finally, the agency has a duty to respond to credible opposing points of view, and it may not ignore reputable scientific opinion. *See, e.g., Seattle Audubon Soc'y v. Espy*, 998 F.2d 699, 704 (9th Cir. 1993).

Applying these NEPA standards, the appropriate benchmark for evaluating the scientific integrity of the AGRIA and AFEIS groundwater analysis is the USGS Great Basin Carbonate and Alluvial Aquifer System model, documented in *Conceptual Model and Numerical Simulation of the Great Basin Carbonate and Alluvial Aquifer System—Version 3.0* (USGS Scientific Investigations Report 2017-5072) (GBCAAS v. 3.0), which represents the best available science applicable to an assessment of Project impacts. The model is widely relied upon as a regional standard for

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evaluating groundwater development in the Great Basin. The GBCAAS v. 3.0 report not only establishes appropriate uses and limitations of the model, but also includes USGS-generated drawdown projections associated with PVWSP groundwater development scenarios, projections that indicate far greater and more widespread impacts than those presented in the AFEIS based on CICWCD's GBCAAS-PV model. The creation of a project-specific child model, absent calibration tied to proper characterization of regional groundwater conditions using spring, groundwater level, recharge, and transmissivity data, was therefore both unnecessary and unsupported from a scientific standpoint; it also was inconsistent with the guidance and limitations articulated in the 2017 USGS report itself. As a result, GBCAAS-PV departs from the USGS framework without adequate technical justification. Examination of this departure is particularly important, because CICWCD's GBCAAS-PV model was developed specifically for this Project and, incorporates methodological choices and assumptions that produce substantially less severe drawdown impacts than those projected by the underlying U.S. Geological Survey ("USGS") GBCAAS v. 3.0 model on which it is based.

That departure from the USGS benchmark is confirmed by the technical reports submitted by the Counties in support of their October 20, 2025, comments on the AFEIS, prepared independently by hydrologists Andrew Zdon of Roux Associates, Inc. and Lynette Brooks of Groundwater Model Analysis, LLC. Those memoranda reach consistent conclusions regarding fundamental, structural flaws in the GBCAAS-PV model, flaws that must be addressed by BLM through preparation of a new DEIS. Additionally, and of particular significance, the memorandum drafted by hydrologist Lynette Brooks, a former USGS hydrologist and an author of the GBCAAS v. 3.0 study, expressly identifies improper and unsupportable uses of that model in CICWCD's GBCAAS-PV analysis. *See* Counties' Comments on AFEIS, Attachment 2 (Oct. 20, 2025). Her critique, coming from one of the developers of the underlying scientific framework, confirms that the GBCAAS-PV model inappropriately applies and alters the 2017 USGS GBCAAS v. 3.0 model in a manner that understates groundwater impacts.

Those structural flaws are reflected throughout the modeling approach. As documented in the Zdon and Brooks Technical Memoranda, CICWCD's GBCAAS-PV model developed for the Project inherits substantial uncertainties from the underlying USGS GBCAAS v. 3.0 framework and compounds them through inadequate calibration to baseline data, incomplete boundary conditions, an artificially constrained geographic scope of analysis, analytically indefensible recharge and water availability estimates and analyses that depart from GBCAAS v. 3.0, failure to simulate historical pumping in downgradient basins, and assumptions of uniform hydraulic conductivity. Perhaps most severe among these deficiencies are significant data gaps in the GRIA GBCAAS-PV modeling, which render the hydrologic analysis highly uncertain and speculative and incapable of reliably supporting agency decision-making. The failure to conduct the field work necessary to inform the model, including systematic spring surveys, measurements of groundwater levels, and adequate pump testing, means the analysis is not grounded in, or responsive to, actual hydrologic conditions. As a result of these deficiencies, the GRIA overestimates water availability, understates predicted impacts, particularly to springs, and fails to account for the likelihood of well failure at the proposed pumping rates. Because the AFEIS does not remedy these deficiencies, BLM lacks a scientifically defensible basis for conclusions regarding the feasibility of Project pumping, water availability, predicted drawdown, spring impacts, effects on senior water rights, cumulative effects, or the geographic scope and extent of environmental harm.

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In sum, the GBCAAS-PV groundwater model suffers from foundational deficiencies. It relies on incomplete and unsupported assumptions, lacks accurate and sufficient data, and fails to establish an adequate environmental baseline, rendering it incapable of reliably predicting the scope, character, or severity of Project impacts. These are structural flaws, not minor gaps amenable to post-decision monitoring or adaptive management, that undermine the reliability of the groundwater analysis as a whole. Because the AFEIS depends on this deficient model, it lacks the high-quality information, scientific integrity, and accurate description of the affected environment that NEPA requires and fails to take the requisite hard look at environmental impacts. These deficiencies are not curable through marginal supplementation or post-hoc explanation. Accordingly, BLM cannot lawfully rely on the AFEIS to support informed decision-making and must withdraw it, require CICWCD to conduct appropriate field investigations to support a robust groundwater modeling effort, and prepare a new DEIS for notice and comment to remedy these foundational analytical failures.

D. Failure to Disclose, or Consider, the Likely Hydrologic Infeasibility of the PVWSP Requires Withdrawal of the AFEIS

Because the AFEIS does not disclose or consider that modeled drawdowns likely underestimate in-well drawdown, that transmissivity declines and well inefficiencies were not accounted for, and that the wells likely will not be capable of producing 15,000 afy for 50 years, it fails to disclose that the Project as proposed likely is hydrologically infeasible. This omission is not a minor technical oversight; it goes to the core of NEPA's mandates.

NEPA requires agencies to disclose the real-world consequences of a proposed action and to base their analysis on accurate scientific information. *See supra*. When an EIS does not acknowledge fundamental technical constraints that prevent the proposed action from functioning as described, it deprives the public and the agency of the ability to understand the true nature of the Project, its feasibility, and its likely environmental impacts. In effect, the AFEIS analyzes a hypothetical and unlikely version of the Project, one that the best available information indicates likely cannot actually be operated, while withholding from the public sufficient detail regarding the environmental impacts of the Project that likely would have to be constructed instead.

This failure violates NEPA in several ways. First, NEPA requires an agency to evaluate and disclose all "reasonably foreseeable" impacts, which includes fully evaluating an alternative configuration when the proposed configuration is infeasible. Second, NEPA requires an agency to take a "hard look" at the environmental consequences of its decision; an analysis premised on a hydrologically unattainable pumping regime cannot meet that standard. Finally, by failing to disclose the infeasibility of the Proposed Action, the AFEIS prevents meaningful public comment and undermines the informed decisionmaking at the heart of NEPA. As a result, the AFEIS must be withdrawn and these deficiencies addressed in a new DEIS.

E. Failure to Take a Hard Look at Predicted Impacts of the More Reasonably Anticipated Northern Wellfield Alternative Requires Withdrawal of the AFEIS

As a result of the predicted infeasibility of Project pumping discussed above, it appears likely—if not inevitable—that the Project design would need to be reconsidered and the Northern Well Field Alternative constructed and pumped. Yet the GRIA and AFEIS do not properly disclose this likelihood, nor do they fully analyze the impacts of pumping from that Northern Wellfield

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Alternative. Instead, the GRIA and AFEIS hydrologic analyses are geared towards addressing the impacts of the Proposed Action, an alternative that is substantially less likely to be constructed but that produces comparatively less severe modeled impacts.

By doing so, the AFEIS presents the public with an environmental analysis that does not reflect the Project that is actually most likely to be built. The effect is that the AFEIS withholds from the public and from decisionmakers a realistic appraisal of the Project's probable configuration and associated impacts. This omission prevents informed public comment and masks the far greater downgradient impacts that would occur if the northern well field were constructed and pumped. Because the Northern Wellfield Alternative is, on the record, the alternative most likely to be implemented, the BLM's failure to properly analyze and fully disclose its predicted impacts based on site specific data constitutes a significant analytical deficiency and a violation of NEPA's requirement to take a hard look at Project impacts, to fully and accurately disclose environmental consequences, and to consider a reasonable range of alternatives. As a result, the Counties respectfully request that the BLM withdraw the AFEIS to correct this deficiency.

F. Failure to Take a Hard Look at Impacts by Permitting an Artificially Narrow Scope of Analysis Requires the Withdrawal of the AFEIS

As explained in greater detail in the Counties' comments and technical reports submitted in response to both the DEIS and AFEIS, BLM looked at too small a geographic area and too short a timeframe when modeling and analyzing the Project's likely impacts, which means it failed to fully account for the extent to which Project pumping is likely to affect senior water rights and environmental resources. While an agency is owed discretion when determining the physical scope it uses for measuring impacts, its choice must be reasoned and not arbitrary. *Citizens for a Healthy Cmty. v. BLM*. 377 F.Supp.3d 1223, 1246-47 (D. Colo. 2019) (citing *Idaho Sporting Cong., Inc. v. Rittenhouse*, 305 F.3d 957, 973 (9th Cir. 2002)). Additionally, the BLM may not conduct its NEPA analysis in a manner that results in a downplaying of anticipated environmental impacts. Taking a "hard look" at the potential environmental consequences "'should involve a discussion of adverse impacts that does not improperly minimize negative side effects.'" *Biological Diversity v. United States Forest Serv.* No. CV 22-91-M-DLC (D. Mont. Oct 27, 2025) (quoting *League of Wilderness Defs. Blue Mtns. Biodiversity Proj. v. U.S. Forest Serv*., 689 F.3d 1060, 1075 (9th Cir. 2012)). By limiting the geographic and temporal scope of modeled impacts, the BLM has excluded from consideration impacts that modeling predicts are likely to occur.

The Counties therefore reiterate their comments related to the BLM's failure to consider impacts using the proper geographic and temporal scope contained in Section F and the discussions of failures to consider impacts to specific resources contained in Section H of Beaver County's DEIS comments as well as similar comments contained in the Counties' AFEIS comments, which comments have not been adequately addressed by the BLM. In particular, the BLM's analysis of impacts to tribal resources and water rights; Utah and Nevada appropriative water rights; agriculture; springs and wetlands; springsnails; sage-grouse; and least chub remains fundamentally deficient. These shortcomings result in failures to ensure compliance with the Endangered Species Act, Clean Water Act, Clean Air Act, Federal Land Policy and Management Act, and National Historic Preservation Act, and failure to ensure compliance with the federal government's trust responsibility to impacted Tribes and therefore constitute glaring deficiencies that require withdrawal of the AFEIS and preparation of a Draft EIS that corrects those failures.

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G. Failure to Adequately Consider Mitigation Measures Requires the Withdrawal of the AFEIS

NEPA also requires the BLM to consider and analyze mitigation measures and their effectiveness in the context of analyzing Project impacts. *See* 516 DM 1, Section 1.3(e). NEPA requires that mitigation measures be reviewed in the NEPA process, not in some future decision shielded from public scrutiny. Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352-53 (1989). "[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the 'action-forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." *Id*. at 353. Deferral of the proper development of a baseline or consideration of impacts to a future mitigation program in lieu of proper consideration of impacts in an EIS is considered insufficient under NEPA. *N. Plains Resource Council, Inc. v. Surface Transp. Bd*., 668 F.3d 1067, 1085 (9th Cir. 2011); *Robertson,* 490 U.S. at 348 ("NEPA ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.") (citations omitted).

Because BLM has not required submission of monitoring and mitigation information sufficient to evaluate its effectiveness, including properly sited monitoring wells and clear triggers and thresholds to prevent or mitigate impacts, the AFEIS leaves BLM without the information necessary to understand the severity of, or take a hard look at, likely impacts under NEPA. Rather than analyze and address these environmental impacts or modify the Project to avoid or reduce them, the EIS defers meaningful consideration of those impacts until they occur during Project operation. The AFEIS also leaves the fundamental question of water availability unresolved, proposing instead that impacts be managed through a State Engineer-imposed groundwater management plan that could require that pumping be sharply curtailed after substantial capital investment has been made. Deferring consideration of environmental impacts and water availability until after construction, despite a substantial risk that insufficient water exists to sustain the Project, is precisely the outcome NEPA's "look before you leap" principle is intended to prevent. As a result, the AFEIS must be withdrawn and monitoring and mitigation information submitted and considered by BLM.

H. Failure to Properly Evaluate or Resolve Inconsistencies with Applicable Management Plans Requires the Withdrawal of the AFEIS

In addition to the antidegradation and financial capability requirements addressed in Beaver County's DEIS comments, which remain applicable, FLPMA requires BLM to consider applicable resource management and local land use plans and to ensure, to the greatest extent practicable, consistency with those plans. 43 C.F.R. §§ 1601.0-5(b), 1712(c)(9), 1732(a). Yet, as noted in the Counties' comments on the AFEIS, the AFEIS addresses only a subset of applicable plans and fails to respond adequately to Beaver County's DEIS comments on this issue, particularly those concerning the limited list of BLM resource management plans considered and the Project's inconsistency with the Beaver County RMP.

The Counties therefore reiterate their prior comments that BLM must consider and ensure consistency, to the greatest extent practicable, with all resource management and local land use plans overlapping the predicted area of drawdown, including plans adopted by Millard, Juab,

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Tooele, and White Pine Counties, as well as the Beryl Enterprise Groundwater Management Plan. Until such consistency has been fully considered and ensured, the AFEIS fails to comply with NEPA and FLPMA and must be withdrawn.

III. Submission of Significant New Information and Request for Preparation of a Supplemental EIS

In addition to requesting that BLM adopt the No Action Alternative or withdraw the AFEIS, the Cooperating Agency Counties request that BLM prepare a Supplemental Environmental Impact Statement to address significant new information that has developed since the analyses supporting the AFEIS were prepared. As explained below, this new information includes: (1) significant new hydrologic and technical analyses already submitted to BLM by the Cooperating Agency Counties during the AFEIS comment period, and (2) new economic and cost developments, analysis, and information submitted herewith, each of which independently, and together, requires supplementation under NEPA.

NEPA requires agencies to take a "hard look" at significant new circumstances and information and to supplement an EIS when "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts" emerge, particularly where that information is sufficient to show that the remaining action will "affect the quality of the human environment" in a significant manner or to a significant extent not previously considered. *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 372–74 (1989). Further, NEPA imposes a continuing obligation on agencies to gather and evaluate new information relevant to the environmental impacts of its ongoing actions even after release of an EIS. *Friends of the Clearwater v. Dombeck*, 222 F.3d 552, 559 (9th Cir. 2000) (an agency must "be alert to new information that may alter the results of its original environmental analysis, and continue to take a 'hard look at the environmental effects of [its] planned action.'") (quoting *Marsh,* 490 U.S. at 374). Thus, courts have held that an agency violates NEPA when it fails to prepare a supplemental analysis to account for significant new information. *See, e.g., Southern Utah Wilderness Alliance v. Norton,* 457 F. Supp. 2d 1253, 1264 (S.D. Utah 2006).

As explained in the Cooperating Agencies' October 20, 2025, comments on the AFEIS, the technical memoranda prepared by Andrew Zdon of Roux Associates, Inc. and Lynette Brooks of Groundwater Model Analysis, LLC constitute significant new hydrologic and technical information that BLM is required to consider in a Supplemental EIS. Those memoranda identify serious and fundamental deficiencies in the groundwater modeling, baseline data, and technical assumptions underlying the NEPA analysis for the Project and were not available or evaluated when the DEIS was issued in 2022. Beyond identifying modeling flaws and data gaps, the Roux hydrology analysis raises substantial concerns regarding the likely hydrologic infeasibility of the Proposed Action which also must be considered. As previously explained, not only must this potential Project infeasibility be disclosed to the public, those concerns also require supplemental analysis of pumping impacts associated with the more likely Northern Wellfield Alternative, which the AFEIS does not adequately analyze. These hydrologic analyses by Zdon and Brooks therefore constitute significant new information requiring preparation of a Supplemental EIS to allow for informed decision-making and public review.

In addition, the Cooperating Agency Counties submit a cost and economic analysis prepared by economist Ryan Stifter and hydrologist Andrew Zdon of Roux Associates, Inc., which

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constitutes significant new information requiring preparation of a Supplemental EIS. *Stifter, R. & Zdon, A., Roux Associates, Inc., Review of Economic and Financial Analysis Supporting the Proposed Pine Valley Water Supply Project* (Jan. 5, 2026) (attached hereto as Attachment 1); see also *Ensign Engineers, West Desert Pipeline Cost Estimate* (Draft, Apr. 24, 2019) (attached hereto as Attachment 2); *CICWCD Business Plan and Water Needs Assessment, Carollo Excel-based Financial Model* (April 2023) (attached hereto as Attachment 3).

As detailed in the Roux analysis, and as discussed further in Section II(B), above, projected construction and financing costs for the Pine Valley Water Supply Project have materially increased since the estimates relied upon by BLM in the 2022 Draft EIS and the AFEIS. These increases reflect 2023-2025 market conditions that were neither evaluated nor accounted for in the AFEIS. The AFEIS's continued reliance on outdated, pre-inflation cost assumptions fails to satisfy NEPA's requirement that the agency take a "hard look" at the Project's economic feasibility, the feasibility of proposed mitigation measures, and the reasonableness of alternatives. Because these cost changes fundamentally alter the economic assumptions underlying the AFEIS, they require preparation of a Supplemental EIS.

Separately, and critically, the AFEIS appears to have accepted the conclusions of the 2023 Carollo Financial Business Plan and Water Needs Assessment at face value, without evaluating the validity, sufficiency, or reliability of the underlying capital cost calculations, financial model, assumptions, or data on which that report depends. As a result, BLM lacks an adequate basis to determine whether the Carollo Report provides a reasonable or defensible foundation for conclusions regarding Project need, feasibility, impacts, or alternatives. For this reason as well, the Roux analysis and the attachments to this submission, which for the first time provides the underlying cost calculations and financial model, constitutes significant new information that must be evaluated in a Supplemental EIS.

The Roux economic analysis directly addresses these deficiencies. That analysis is based in part on CICWCD's capital cost calculations and Excel-based financial model, which form a portion of the analytical foundation for the Financial Business Plan and Water Needs Assessment. Because CICWCD did not previously submit these materials to BLM for inclusion in the administrative record, Beaver County obtained them through a public records request. Those documents are submitted here as new information that BLM must consider in a Supplemental EIS. Using CICWCD's own cost calculations and financial model, Roux evaluates the structure and assumptions embedded in the Carollo analysis and applies updated cost inputs that materially differ from those relied upon in the AFEIS. Because the Roux analysis examines the same modeling framework that BLM accepted without independent review and provides that framework for agency evaluation, it constitutes significant new information requiring supplemental NEPA review.

Finally, although Beaver County has obtained the Carollo financial model itself, the supporting data and formulas used to generate the model's future rate-projection inputs have not yet been produced. Beaver County has submitted a follow-up public records request for that information and will provide it to BLM upon receipt. Until BLM reviews the supporting data and formulas and uses them to evaluate the validity and reliability of the Carollo model and report, the agency lacks an adequate evidentiary basis to make an informed and independent determination regarding Project cost, feasibility, need, or the reasonableness of alternatives. This deficiency

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independently requires preparation of a Supplemental EIS that evaluates and considers that information.

IV. Request for Minimum 60-Day FEIS Public Availability Period

BLM's ePlanning schedule currently lists a Final EIS release date of Friday, January 30, 2026, with issuance of the Record of Decision ("ROD") scheduled for the following Monday, February 2. The arbitrary replacement of the previously provided 30-day public availability period with an effectively concurrent release is not appropriate for this Project, as it would eliminate any meaningful opportunity for cooperating agencies or the public to review the FEIS before a decision is made, contrary to NEPA's requirement of informed public participation. A minimum 60-day public availability period is therefore essential.[6]

Such a period is particularly critical here because the FEIS will include new analysis developed since the public last commented on the DEIS in 2022, which lengthy gap resulted from the pause in the NEPA process requested by CICWCD to respond to and address deficiencies raised in public comments on hydrology, monitoring and mitigation, conservation and demand, and ethnographic issues. The extended pause in the EIS process, resulting in a four-year gap between the DEIS and FEIS, underscores the need for a full and meaningful opportunity for public participation. In addition, CICWCD's November 20, 2025, meeting record confirms that the most recent delay in releasing the FEIS was to allow for additional hydrologic work, for which CICWCD has allocated a limited amount of funding and which is likely to produce new, updated, and previously unavailable technical information requiring cooperating-agency and public review.

A 60-day availability period is further warranted because the FEIS relies on complex groundwater and financial models requiring expert evaluation; the affected area spans multiple counties and two states, necessitating coordinated review; the scale and long-term implications of the Proposed Project demand careful public scrutiny; and new data and analyses will appear for the first time in the FEIS. In addition, the Counties have identified essential cost and financial modeling information that has not previously been provided to or obtained by BLM, and the public must have a meaningful opportunity to identify such gaps and request that BLM require CICWCD to submit the missing information.

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[6] NEPA's core purposes include ensuring informed agency decisionmaking and meaningful public participation. *See* 42 U.S.C. §§ 4321, 4331(a), 4332(2)(B), (C); *Balt. Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 97 (1983); *Robertson*, 490 U.S. at 349. For over fifty years, both CEQ regulations and DOI's implementing regulations required public notice and comment on draft EISs and public involvement, to the extent practicable, in the preparation of EAs. *See, e.g.*, 36 Fed. Reg. 7724, 7726 (Apr. 23, 1971); 36 Fed. Reg. 19344 (Oct. 2, 1971); 38 Fed. Reg. 20550, § 1500.2(b)(1), (2), & (3) (Aug. 1, 1973); 45 Fed. Reg. 27541, 27544 (April 23, 1980); 516 DM 1.7(B); 37 Fed. Reg. 15015 (July 27, 1972); former 43 C.F.R. §§ 46.200(b), 46.305(a), 46.435(a)–(b) (2024). On July 3, 2025, DOI rescinded most of its NEPA implementing regulations and adopted an interim final rule relocating NEPA procedures to a departmental handbook. 90 Fed. Reg. 29498 (July 3, 2025). That interim final rule is currently the subject of pending litigation challenging DOI's elimination of mandatory public participation requirements. *See Center for Biological Diversity & Sierra Club v. U.S. Dep't of the Interior*, No. 3:25-cv-10793 (N.D. Cal. filed Dec. 18, 2025). Where the governing procedural framework is unsettled and subject to judicial review, BLM must take the conservative approach necessary to ensure compliance with NEPA and the APA by affording the public the same opportunities for notice and participation that were required under DOI's pre-July 2025 regulations.

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Providing adequate time for review will also assist BLM by ensuring that it receives informed technical analysis and commentary, thereby supporting a well-reasoned final decision consistent with NEPA's purposes. Given the complexity, scale, and controversy surrounding the PVWSP, the environmental review should not be rushed. The Project's potential impacts extend across a broad region of Utah and Nevada and may persist for decades, if not centuries. Allowing a 60-day review period would not materially affect the Project's construction or operation timeline and would not prejudice CICWCD.

Under these circumstances, a minimum 60-day public availability period plainly serves the public interest and will lead to a better-informed final decision. The Counties therefore respectfully request that BLM provide at least 60 days for public and cooperating-agency review of the FEIS prior to issuance of any ROD.

V. Conclusion

For the reasons explained herein and in previous comments submitted to the BLM, the Cooperating Agency Counties respectfully request that the BLM:

1. Adopt the No Action Alternative as the only legally supportable decision; or, in the alternative, withdraw the AFEIS and prepare a new DEIS to correct the deficiencies identified herein and in previous comments;
2. Prepare and circulate a Supplemental EIS for public and cooperating-agency review; and
3. Provide a 60-day public availability period for the FEIS prior to issuance of a ROD to allow meaningful cooperating agency and public review.

Thank you for considering this submission, including the significant new information it provides, in connection with the BLM's work on the Environmental Impact Statement for CICWCD's proposed Pine Valley Water Supply Project. The Cooperating Agency Counties sincerely appreciate the opportunity to participate in this and other important decisions affecting public resources in Utah and Nevada. The significance of the proposed Project in terms of the impacts to human communities in rural Utah and Nevada, and on the survival of unique ecosystems and endemic species in the region cannot be overstated.

We hope you find this submission and the new information it contains to be helpful, informative, and useful in your efforts to comply with NEPA and other federal statutes. If you wish to discuss the issues raised in this letter in greater detail, please do not hesitate to contact me.

Respectfully submitted,

Iris Thornton, *Counsel for Beaver County, Utah*

Exhibit G

ROUX

TECHNICAL MEMORANDUM

To: Keven Whicker, Beaver County Natural Resource Specialist

Beaver County Board of Commissioners

From: Andy Zdon, P.G.; Roux Associates, Inc.

LICENSED PROFESSIONAL GEOLOGIST
Andrew Zdon
11907683-2250
STATE OF UTAH

Date: October 13, 2025

Re: Comments regarding the Pine Valley Water Project Administrative FEIS and Associated Documents

This technical memorandum provides comments on the Administrative Final Environmental Impact Statement (AFEIS) for the Central Iron County Water Conservation District (CICWCD)'s proposed Pine Valley Water Supply Project (PVWSP). These comments have been prepared by Roux Associates, Inc. (Roux) on behalf of the Beaver County Commissioners (Beaver County). In addition to the AFEIS, the comments provided below address the following AFEIS attachments:

- The Administrative Final Groundwater Resources Impact Assessment (AFGRIA) dated July 2025;
- The AFGRIA – Appendix A, Development of the GBCAAS-PV Groundwater Flow Model;
- The AFGRIA – Appendix D, Supplemental Modeling Evaluations;
- The AFGRIA – Appendix E, Reconnaissance and Monitoring Recommendations for Selected Springs in the Area of the PVWSP Potential Effects:

During September 2021, Roux (2021) prepared a technical memorandum related to potential impacts of the proposed Pine Valley Water Supply Project with a focus on Nevada. Due to the nature of the PVWSP, the Roux technical memorandum from 2021 covered many of the issues also pertinent to the groundwater and ecological resources of Beaver County, Utah and surrounding Utah counties. Therefore, for the purposes of these comments, a copy of that Roux, 2021 technical memorandum is attached for reference and serves as an addendum to these comments.

Roux also previously provided comments related to the hydrogeological analysis of the proposed project that was presented as part of the Draft Environmental Impact Statement review in 2022. Many of the comments that were provided at that time remain issues after our review of the current (2025) analyses and associated documentation. Roux's review has identified numerous technical issues that raise questions not only on the reliability of the predicted effects of the project, but that are foundational to the analyses leaving more granular technical details of the analysis of lesser importance.

Ultimately, given Pine Valley's position within the Great Salt Lake Desert Flow System (GSLDFS), and the fact that inflow minus outflow equals change in storage, it is clear that the cone of depression in

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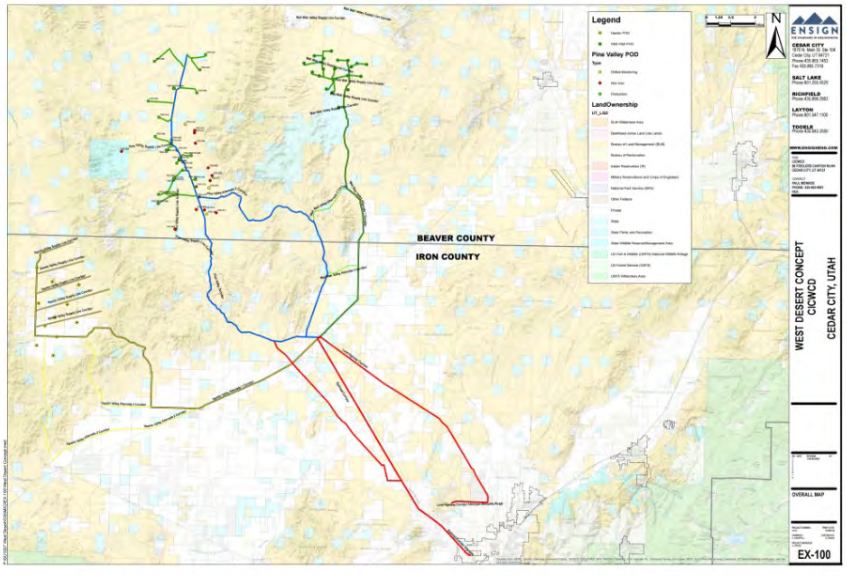
groundwater levels that would be caused by the proposed project would only stabilize (and storage changes would cease) when inflow and outflow parameters would adjust to accommodate the new pumping stress. In this case, those inflow and outflow changes would be a combination of:

- Capture of groundwater underflow toward the north, affecting the water budgets of downgradient basins inclusive of those in Beaver, Millard, Juab and Tooele Counties as well as Snake Valley in White Pine County, Nevada;
- Capture of spring discharge in Wah Wah Valley such as Pot Sum Pah spring, Snake Valley (e.g., those springs along the Big Springs Creek (formerly Lake Creek) system in Nevada; and north in places like Sevier, Tule and Fish Springs basins;
- Induced underflow from, and likely spring capture in, Snake Valley; and,
- Reduction in evapotranspiration in groundwater-dependent ecosystems in the GSLDFS as noted above.

Based on the above, the comments Roux presents herein address those issues which are foundational to the AFEIS and its relied upon analyses and are recurring insufficiencies throughout those documents.
The reviewer listed above is a Professional Geologist in the State of Utah and has more than 30 years of hydrogeological experience (C.V. attached).

1. **Scope of the Analysis**

   CICWCD proposes to pump up to 15,000 acre-feet per year of groundwater from Pine Valley. This will be the first phase of CICWCD's larger planned West Desert Water Supply and Conservation Project as presented on CICWCD's website and as shown in Figure 1.



Water Rights in the Pine and Wah Wah Valleys were secured in February 2019.

Figure 1 - West Desert Water Project (CICWCD, 2025)

The West Desert Project area lies within the headwaters of the Great Salt Lake Desert Flow System (GSLDFS; for Pine and Snake/Hamlin Valleys), and in the case of Wah Valley, in the Sevier Lake

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Flow System. CICWCD has obtained groundwater rights in Pine Valley (15,000 acre-feet per year) and Wah Wah Valley (11,000 acre-feet per year). CICWCD currently has groundwater right applications for Hamlin Valley (10,000 acre-feet per year). Therefore, cumulatively, the West Desert Project would result in pumping of up to 36,000 acre-feet per year of groundwater withdrawals from the headwaters of the Great Salt Lake Desert flow system, meaning that the PVWSP accounts for less than half of proposed project pumping. West Desert Project pumping would account for approximately 18% of the estimated annual groundwater recharge for the Great Salt Lake Desert flow system (based on Gates and Kruer, 1981) inclusive of Snake Valley, and approximately one-third of the total recharge to the Great Salt Lake Desert Flow System in Utah.

However, neither the AFEIS nor the AFGRIA analyze the entirety of the envisaged West Desert project, only considering this first phase (Pine Valley Project) of a substantially larger groundwater-export project. The cumulative impact scenarios presented in the AFEIS and associated AFGRIA do not represent the effects of future pumping in Wah Wah Valley (for which CICWCD holds groundwater rights) and in Hamlin Valley (for which CICWCD has applied for groundwater rights), leaving the only other source of additional groundwater impacts to be from the existing rural groundwater uses typical for this part of the Basin and Range (e.g., irrigation and domestic use). Additionally, based on our on-site visits, much of the irrigation in the southern half of Snake Valley is supported by captured spring discharge from such springs as Big Springs, Deardon Springs and others. Impacts to these springs, even slight, may result in the need for additional groundwater pumping to maintain land uses. Impacts from pumping to those springs in Snake Valley could result in conflict with the existing Nevada water rights confirmed by a 1922 Decree from the Ninth Judicial Court of Nevada that has been the basis of managing those spring water resources for more than 100 years.

2. Aquifer Testing

The foundation of the groundwater impact analysis, and the basis for updating the aquifer hydraulic properties in the numerical modeling activities, is the development of aquifer parameters resulting from the aquifer tests conducted in the Pine Valley and Wah Wah Valley proposed well fields. The reliability of these pump tests directly and significantly impacts the reliability of the groundwater modeling effort.

A presentation in Cedar City on April 25, 2019, by Barnett Intermountain Water Consulting presented results of aquifer testing in Pine Valley. On Slide 19 of that presentation, two graphs of aquifer data (aquifer test data were apparently made available to that consultant, but it is unclear whether they represent data from 2016-17 or more recent testing) indicated that there were issues related to maintaining constant discharge rates, and it appeared that mid-way through the testing on Well #8, that pumping ceased and was restarted. Anomalous responses to pumping rates were present as well. There are no dates on the graphs, so it is unclear if those data are from the test included in the Gardner, et.al. (2020) report. Deflections in drawdown (e.g., as seen in the output from CICWCD #7 with pumping at CICWCD #7) could be the result of a barrier or other condition. It could also be the effect of changing discharge rate. Absent the data,

it is unclear which of these options could be at work, leaving substantial room for speculation as to the cause of these conditions and the meaning of the aquifer test results that have been the foundation for the groundwater modeling supporting the GRIA and AFEIS.

Additionally, there appears to be a significant problem with the actual field testing of the wells, specifically with regard to the handling of well discharge during the aquifer tests. Numerous references, including Driscoll (1984), Stallman (1976), United State Environmental Protection Agency (1993) and others, stress the importance of discharging pumped groundwater at enough distance from the well so as not to affect the test results. Kruseman and de Ridder (2000) note "The water delivered by the well should be prevented from returning to the aquifer. This can be done by conveying the water through a large diameter pipe, say over a distance of 100 or 200 meters…this water can also be conveyed through a shallow ditch, but the bottom of the ditch should be sealed with clay or plastic sheets to prevent leakage." Based on photos previously posted on the CICWCD webpage and the photo presented as Figure 2 to the left, these procedures were lacking. Based on the information provided above, it is difficult to determine how this deficiency affected groundwater-level data during the pumping and recovery portions of the testing.

Figure 2 - Pine Valley aquifer testing (Photo: St. George News, 2017 with photo provided by CICWCD)

3. Uncertainty

The broad expanse of land that is represented by little or no hydrologic data leads to speculative conclusions regarding the extent of potential impacts and future management as described under the proposed adaptive management plan despite the numerical modeling conducted (to be discussed below). One substantial uncertainty becomes apparent when looking at interbasin flow on Figure A4-19 (Formation, 2025b). With the exception of geochemical analyses conducted by Gardner (2020), and aforementioned aquifer testing at selected locations in Pine Valley, there appears to have been no significant field investigations beyond those that were previously considered in the GBCAAS Model (Brooks, 2017) since the release of the Draft EIS and associated analyses. Of note is that the differences in the GBCAAS and GBCAAS-PV models show that in the GBCAAS-PV model, substantially more water moves from Pine Valley toward Wah Wah Valley, and groundwater moves from Pine Valley toward Snake Valley (instead of the opposite direction as in the GBCAAS model). These differences can affect the pattern of drawdown and water budget changes when the two modeling efforts are compared. Given the sparse pertinent information in either of those models regarding hydraulic characteristics along those hydrographic area boundaries, the differences illustrate the uncertainty associated with the modeling in this area.

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Furthermore, while these variances in groundwater conditions between models produce wide-ranging effects in the GSLDFS, these variances are generally the result of studies that have a relatively small footprint in the region, those being Pine Valley and Wah Wah Valley in the case of the Gardner (2020) report, and the aquifer testing conducted in the proposed PVWSP well-field area. The latter, being confined to a small area, does not provide a sufficient basis for revising regional-scale hydrogeological conceptualization, and doing so would represent a speculative extrapolation beyond that which the data can support. While it is understood that the aquifer test results should be considered in the calibration of the GBCAAS-PV model, the perspective of their importance to the overall flow system appears to be exaggerated.

Section 1.5.1 of the AFGRIA presents a series of bullets representing areas of uncertainty and/or data gaps. Virtually all aspects of the conceptual flow model of the Pine Valley area qualify as either a data gap or area of significant uncertainty. Despite this recognition of the need for additional data, and as presented in the recommendations for additional studies needed to develop an adaptive management plan, a more detailed groundwater flow model has been developed that does not appear justified based on the extent of those uncertainties and unknowns. This continues to leave a large part of the of the analysis as speculative. It is our opinion that the additional regional studies needed to develop a more defined adaptive management strategy (i.e., monitoring, management, and mitigation) would also apply to the reliability of the AFGRIA and associated AFEIS in predicting PVWSP impacts. Further, the list of data gaps is similar to that presented in the Draft Groundwater Resource Impact Assessment (Formation, 2020), yet it appears that no attempt has been made address these data gaps in the more than three years since that document's release.

4. Proximity to Springs

The AFGRIA appears to rely largely on the data presented by Gardner (2020), but apparently there has been no additional active field investigations (other than site visits) related to springs since the Draft EIS was released more than three years ago. Although the Gardner report provided a substantial advancement of our understanding of springs in the vicinity of the proposed project, the region assessed was not inclusive of the full extent of the GSLDFS that would likely be affected by the proposed PVWSP. As a result, the AFEIS inventories only a subset of the springs that stand to be impacted by the proposed project.

The proximity of the proposed PVWSP to existing groundwater dependent environmental resources and human uses in neighboring Snake Valley (and the surrounding valleys) could result in lasting water resource impacts to those areas including reductions in spring flow and reduced evapotranspiration. However, the substantial uncertainties associated with these potential impact receptors is unknown and represents a major data gap. Additionally, as presented in Formation's Groundwater Impact Assessment (AFGRIA), many of those receptors fall out of their limited project area (e.g., the Focused Model Area) which does not include Fish Springs National Wildlife Refuge to the north (Formation, 2025b).

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Gardner (2014) indicated that the Snake Valley groundwater system provided little groundwater contribution to discharge at Fish Springs. This left the Utah portion of the Great Salt Lake Desert Flow System as the ultimate source of discharge for those ecologically important springs in Fish Springs National Wildlife Refuge. As described earlier, the planned West Desert Project (of which Pine Valley Project is the first phase) would export a volume of water approximately equal to one-third of the estimated total recharge to the Great Salt Lake Desert Flow System. Additionally, the last sentence of the second paragraph on Page 42 of the GRIA clearly states that "*…the general groundwater flow direction in the vicinity of the Pine Valley HA is northward to discharge areas in the vicinity of Sevier Lake and Tule Valley, and from there (and surrounding valleys) northward to a discharge area near Fish Springs Flat.*" The discharge area that goes unnamed is Fish Springs National Wildlife Refuge.

Given these connections, the removal of an annual volume of groundwater of approximately one-third the total groundwater recharge of the contributing part of the Great Salt Lake Desert Flow System in Utah, it is difficult to conceptualize a failure by either the PVWSP, or the West Desert Project of which Pine Valley Project is just one part, to impact the system and associated groundwater-dependent ecosystems and other water rights holders in the GRSLDFS. The failure to acknowledge this obvious impact illustrates the fundamental flaws in the cumulative impact analysis presented in the AFGRIA (2025a).

5. Groundwater Movement

According to Gardner (2020), "*Because all groundwater in the basin-fill aquifers leaves as subsurface outflow, Pine and Wah Wah Valleys are clearly part of a larger, multiple-basin groundwater flow system. Although the recharge estimates presented could help water managers define a conceptual limit on groundwater withdrawal, it should be noted that pumping in the Pine and Wah Wah basins will have to capture discharge from neighboring basins because there is no groundwater discharging from the valleys in either of these basins. With the springs and ET areas in the mountains present in perched aquifers, the principal effect of increased groundwater withdrawal in the Pine and Wah Wah Valleys basin-fill aquifers would be a reduction in the quantity of subsurface outflow. This, in turn would result in reduced discharge in areas outside of the basin, most likely in Tule Valley and the Sevier Desert*." Gardner also reports that groundwater samples collected from the basin-fill of Pine Valley ranged were, 2,000, 7,000, 10,000 and 13,000 years old, respectively. This ancient water is indicative of groundwater that moves slowly through the basin, and particularly in the southern part of Pine Valley, is largely disconnected from recharge from precipitation in the surrounding mountains with extensive perched conditions present.

This further illustrates the risks then to downgradient groundwater-dependent ecosystems (e.g., springs) in the GSLDFS to the north in places like Tule Spring and Fish Springs. As Gardner (2020) also states, "Although the recharge estimates presented could help water managers define a conceptual limit on groundwater withdrawal, it should be noted that pumping in the Pine and Wah Wah basins will not actually capture that recharge and would have to capture discharge from

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neighboring basins because there is no groundwater discharging via ET from the valleys in either Pine or Wah Wah Valleys. Because the springs and ET areas in the mountains present in perched aquifers, the principal effect of increased groundwater withdrawal in the Pine and Wah Wah Valleys basin-fill aquifers would be a reduction in the quantity of subsurface outflow. This in turn would result in reduced discharge in areas outside of the basin, most likely in Tule Valley and the Sevier Desert. The domino effect that pumping from the PVP project would have as downgradient disruptions in groundwater budgets for basins to the north in Beaver, Millard, Juab and Tooele Counties is not fully captured by the Formation analyses (Formation, 2025a through 2025d) for the reasons described elsewhere in this memorandum. There is little debate that the water that will be captured by the PVWSP consists of interbasin flow to surrounding valleys, all of which downgradient valleys have active water rights that could be impacted. As such, project pumping will inevitably conflict with existing rights in downgradient groundwater basins.

6. Model Construction Considerations

Formation Environmental, LLC developed the local-scale groundwater model GBCAAS-PV for the Pine Valley hydrographic area in southwest Utah to support planning by the CICWCD to develop the PVWSP which entails proposed groundwater extraction from a wellfield in Pine Valley. The model is constructed with MODFLOW, the U.S. Geological Survey's (USGS) widely used finite-difference-based groundwater simulator and supporting package library. The development of the model is described in Appendix A ("Development of the GBCAAS-PV Groundwater Flow Model") and Appendix D ("Supplemental Modeling Evaluations") of the reported titled "Groundwater Resources Impact Assessment, Iron and Beaver Counties, Utah." Simulated pumping scenarios and associated forecasted impacts are discussed in detail in the main section of the GRIA. The focus of this current review is to provide a summary and comments pertaining to the modeling approach itself.

The GBCAAS-PV is parameterized, in part, upon the regional-scale GBCAAS Version 3 groundwater model developed by the USGS which encompasses portions of Utah, Nevada, and California. The GBCAAS-PV uses a local grid refinement approach to more finely represent groundwater elevation gradients associated with pumping wells and discharges such as spring flow. The GBCAAS-PV model meets the definition of a "child" model, characterized by a refined horizontal grid spacing of 0.2 x 0.2 miles compared to the 1 x 1 mile grid spacing of the regional "parent" model. The child model also increases the vertical resolution of the model from the 8 layers used in the parent model to 16 layers. The child and parent models are dynamically linked using the MODFLOW-LGR (i.e., Local Grid Refinement) variant.

As discussed in Section A3.3.2 of Appendix A ("Model Refinement Approach"), other alternative model construction approaches to local grid refinement were considered for the GBCAAS-PV but were ultimately rejected as disadvantageous. These included a separate, local model with posited boundary conditions, or a hybrid model which would entail deactivation of portions of the GBCAAS Version 3 grid outside of the project area. It should be noted that conversion of the

GBCAAS Version 3 to MODFLOW-6, with the discretization by vertices option enabled so that local grid refinement could be implemented with quadtree refinement, would negate the need for separate child and parent models. In addition, as noted below, additional capabilities specific to MODFLOW-6 could also have been brought to bear to improve the potentiometric surface simulation near the wellfield.

Also of note is that the regional-scale GBCAAS Version 3 model (and associated GBCAAS-PV model) assumes fully confined aquifer hydraulic conditions extending to the top of the potentiometric surface near the ground surface. This is implemented by representing the specific yield in the top model layer with an equivalent value for specific storage that reflects aquifer thickness. This assumption, applied to eliminate numerical convergence issues, is only an approximation of the water table surface and may result in underestimation of the depth of the cones of depression surrounding pumping wells. This approximation was also applied to the local-scale child model. MODFLOW-6, which permits the assignment of convertible (i.e., unconfined) grid cells, as opposed to entire model layers in older versions of MODFLOW, could have been appropriately used to simulate unconfined conditions near the pumping wells, and potentially across other portions of the child model footprint, to improve model fidelity. This also is important in that MODFLOW's Multi-node Well package was used to simulate pumping from multiple model layers, which is applicable in the well field area. However, because the model does not consider reduced transmissivity near the pumping wells under unconfined conditions, modeled drawdowns are nonetheless likely underestimated.

Finally, a notable aspect of the GBCAAS-PV model is the increase vertical discretization of the model with 16 model layers. We believe that if there are going to be that many layers in a model, there should be the data to support the separation of those layers. Absent data to support this vertical discretization, the decision is arbitrary. This discretization has led to some unrealistic conditions in the model that include anomalous hydraulic conductivity distributions (and hence transmissivity). For example, at Well WS-06, the hydraulic conductivity of aquifer materials remains constant from the groundwater table to a depth of more than 1300 feet. This is an unrealistic assumption/condition. Hydraulic conductivity decreases with depth as a result of compaction and associated porosity decreases in sediments. The same occurs in fractured bedrock although this may not be the case in carbonate aquifers. This becomes important in that the proposed wells in the wellfield would extend to depths of up to 2000 feet, yet there is scant data to understand hydraulic characteristics at those depths in Pine Valley. The saturated thickness in the wells that were tested in the field were 450 to 750 feet. Based on the scope of the PVWSP, and the associated costs, we believe that test drilling to 2000 feet should be accomplished before it is assumed that well will feasibly produce water down to those depths as described in the AFGRIA (Formation, 2025a). The model's assumptions could also obscure the potential for wells to go dry, particularly when decreased transmissivity resulting from reduced saturated thickness due to drawdown, discrepancies between modeled and observed groundwater levels in pumping wells, and well inefficiencies are all factored into project design.

7. Scenario Timeframes

The AFGRIA makes statements about impact scenario timeframes that are inaccurate and conflict with past reporting by the USGS and the Utah Department of Natural Resources. On Page 8 of the AFGRIA, the use of 200-year pumping scenarios is discounted because it would rely upon "assumptions and information that are unavailable or highly uncertain and therefore not essential to a reasoned choice among alternatives" (Formation, 2025b). Given the uncertainties described in Comment 4 above, that statement would apply to the 50-year scenarios as well and does not form a reasoned basis for failing to consider more reasonable pumping timeframes consistent with likely actual pumping timeframes. Indeed, it is standard for modelers to consider and model pumping timeframes far longer than 50 years. For example, the USGS (Masbruch, et.al., 2014) used up to 150-year pumping scenarios for describing long-term effects of pumping on springs in Snake Valley, and the Utah Department of Natural Resources, in their comments regarding potential pumping by the Southern Nevada Water Authority (Kirby and Hurlow, 2005) referenced steady-state model results by the USGS to describe potential impacts to water resources in Utah. In this case, the use of steady-state modeling results by the State of Utah is akin to the use of the 5,000-year impact scenarios in Brooks (2017).

The AFGRIA uses a speculative and baseless argument for arbitrarily limited scenario timeframes on Page A-12 (Formation, 2025b). Ultimately, a steady-state scenario that illustrates the state of the Great Salt Lake Desert Flow System when a new equilibrium condition is reached in the region as a response to pumping (both for the PVWSP and for the West Desert Project in conjunction with other existing uses) would be most appropriate for adequately evaluating project long-term effects, particularly when so much uncertainty is associated with the aquifer parameters that would affect timing of the growth of a PVWSP-related cone of depression.

8. **Model Uncertainties**

The Formation Model (2025a through d) inherits the uncertainties within the GBCAAS Model (Brooks, 2017) that include spatial variability of aquifer properties, presence of unsimulated faults, uncalibrated storage properties, and absence of data in large areas of the model. Further, refinements are based on limited new data in a small, specific area (proposed well fields) in the GBCAAS-PV Model (Formation, 2025b).

The model appears to be reasonably well-calibrated, albeit to a sparse observation, or data, set, under steady-state conditions (e.g., Figure A4-13). However, the calibration did not entail transient responses. Transient calibration of the parent model, GBCAAS v. 3.0, was limited to Parowan Valley. As noted by the USGS (Brooks, 2017), aquifer storage parameters (i.e., specified yield and specific storage) outside of the Parowan Valley area are considered uncalibrated. Simulated aquifer storage properties in Pine Valley and Wah Wah Valley therefore use assumed values (e.g., specific yield of 0.074 for basin fill and 0.01 for rock, and a specific storage value for all units of 1.2x10-7 ft-1). This is a significant source of uncertainty in predicting drawdowns on short time scales and spreading of the pumping-associated cone of depression over long time scales.

Additionally, the edge of the child model intercepts several spring areas, such as Tule Spring to the north and key springs in Snake Valley inclusive of Clay Spring and others. Management of flow from these springs in Snake Valley are included with a 1922 decree by the Ninth Judicial Court of Nevada. Impacts to these springs as predicted by the GBCAAS-PV model could result in conflict with that decree. It is therefore important to understand whether the abrupt change in grid spacing between the parent and child models impacts the accuracy of forecasted spring discharges at those locations. An extension of the child grid to fully encompass potential hydrologic impacts from pumping may have mitigated this particular concern. Indeed, the child model does not extend northwestward to include the Fish Springs National Wildlife Refuge. Given the extent of drawdown that was predicted by the USGS in a similar scenario (Brooks, 2017), the model should have been extended to the Fish Springs area. These arbitrary model boundary limitations act to exclude any and all consideration of impacts to these resources, which impacts implicate issues involving multiple states as well as protected species and existing water rights.

Finally, the analysis presented in the Formation reports (2025a through 2025b) all incorporate the following uncertainties:

- The estimated evapotranspiration assumed in the flow system to derive a recharge estimate has an estimated error bounds of plus or minus 35% (Brooks, 2017; Gardner, et al., 2020), and therefore recharge estimates are subject to similar error bounds;
- Absence of hydraulic testing in this largely undeveloped region affects predicted timing of pumping effects;
- Faults not simulated could act as barriers to groundwater flow providing greater uncertainty to model results;
- Over-generalizing the areas with similar hydraulic characteristics in the models resulting from limited data may affect the model simulations; and,
- Modeling based on an incomplete review of springs in the Great Salt Lake Desert Flow system including isotopic analyses.

Estimating groundwater recharge in arid and semi-arid environments is difficult and subject to large errors that generally cannot be precisely fact-checked. This is because of the higher evaporation rates combined with scant precipitation where there are many on-the-ground factors that influence whether precipitation eventually percolates to a groundwater table. In a case such as this project, where it was demonstrated by Gardner (2020) that there is a separation between the basin-fill groundwater and the perched waters in the mountain blocks that a recharge estimate will only be as accurate (or possibly less so) as the evapotranspiration rates (with error bounds of plus or minus 35%) on which they are partially derived. With respect to model-generated recharge estimates, which will be a function of model-calibration and the interconnectedness of changes in transmissivity and other parameters that may share sensitivity with recharge (i.e., a change in transmissivity necessitates a change in recharge to maintain model calibration).

9. Effects on Beaver County

The proposed Pine Valley Project, and the groundwater rights granted to CICWCD, limits or eliminates the potential for limited future water resource development within Beaver County that could otherwise benefit Beaver County's economy, or the economies surrounding Beaver County, particularly Millard and Juab Counties in Utah and White Pine County, Nevada. In addition, existing uses may also be unaccounted for.

Section 3.7.2 (Springs and Seeps) of the AFGRIA uses the term "suspected" for differentiating regional (tied regional aquifers) and locally-perched springs. Qualitative descriptions for differentiating these springs are provided. Only 14 "regional springs" are listed. Based on Roux's extensive experience studying desert springs in the Basin and Range and Mojave Desert region, qualitative assessments of spring sourcing are unreliable. Furthermore, while the AFGRIA notes in Section 3.7.2 that a total of 268 springs and seeps were reported in the National Hydrography Dataset as being within the Area of Potential Effects of the Proposed PVWSP, Appendix E of the AFGRIA (2025d) notes that in July and August of 2022, only 13 springs within the APE were field visited for inclusion in a monitoring program. It is unclear how the remaining 255 springs and seeps were excluded, but it is clear that the decision was made without the benefit of field visits or geochemical analyses.

Further, the GRIA's consideration and understanding of the hydrology associated with water use from streams, ponds and lakes rely solely on studies by Stephens (1976) and is not supported by field study or data. As part of the Southern Nevada Water Authority proposal for groundwater exportation, detailed spring assessments, and mapping of uses in each groundwater basin were conducted. We believe that the groundwater modeling effort for the PVWSP requires the same level of diligence as was conducted by Southern Nevada Water Authority to understand current conditions.

10. Data Deficiencies Related to Springs and other Groundwater- Dependent Ecosystems

The spring analyses for the affected region (related to connectivity with basin fill aquifers) is incomplete and is limited as described above. Due to the limitations that have been arbitrarily placed on the focused model area, groundwater-dependent ecosystems (e.g., Fish Springs National Wildlife Refuge) are not considered in the list of springs despite the statement of direct connectivity as described in Gardner (2020) and others. During 2015-16, the U.S. Bureau of Land Management funded a spring survey of the Mojave Desert region in response to increasing pressure on groundwater resources in that region, and in recognition that those pressures could only be expected to increase in the future (e.g., as described in (Partner Engineering and Science, Inc., 2020 and Zdon and Love, 2020). In the West Desert of Utah, except for the limited subset of springs in the flow system evaluated by Gardner (2020), we are unaware of a systematic field investigation of springs in the Great Salt Lake Desert flow system like those described in the references listed above. There would have been sufficient time to conduct such an effort on the GSLDFS during the more than three years since this same comment was originally brought up by Roux in 2022. The Mojave Desert project took about one year to complete from initiation and

planning to reporting, while monitoring more than 300 springs inclusive of stable isotope (and other parameter) sample analysis and reporting. Absent such an effort and considering the substantial effects associated with the proposed Pine Valley Project, and to a larger extent the West Desert Water Project of which it is a part, an understanding of potential spring impacts is incomplete and insufficient to support the consideration of impacts to springs in the region.

The insufficiencies in the modeling described above result in an inability of the model to provide sufficient insight into the effects of PVWSP pumping on groundwater dependent ecosystems. The vast differences in predicted drawdowns between the CICWCD consultants' work and the USGS point to the equally vast uncertainties with the analysis presented in the AFGRIA (Formation, 2025a, Roux, 2021 see attachment). Gardner, 2014a described the Snake Valley as being in balance. The GBCAAS-PV simulates groundwater moving toward Snake Valley under current conditions with a decrease in underflow due to project pumping (which may be an artifact of model construction). A reduction in flow to Snake Valley (if real) will still act as a capture of groundwater from Snake Valley and exacerbate declining groundwater levels and spring flow declines in that basin. Similarly, one cannot remove 15,000 acre-feet per year of underflow northward and not expect declines in groundwater-dependent ecosystems within the GSLDFS to the north.

11. Use of Adaptive Management to Address Pumping Impacts on Springs

Throughout the AFGRIA is a recurring theme that given all the uncertainties, the only way to evaluate the connectivity of springs to PVWSP pumping is to move forward with the project and evaluate whether and to what extent impacts occur. Those impacts would then be dealt with through the adaptive management program. This approach, however, is problematic as no adaptive management program has been submitted to the BLM. Without the details, including triggers and thresholds, it is not possible to evaluate the potential for such a plan to be effective. Moreover, it is very unlikely that the impacts resulting from the extraction of groundwater on the scale anticipated by CICWCD could be effectively mitigated due to the long time frames (potentially hundreds of years) between the time when a spring impact is observed and the time when recovery may begin to take place as a result of cessation of pumping. In other words, once impacts to groundwater-dependent ecosystems are observed, it will be too late managing pumping levels so as to be protective of the ecosystem. This also means that it may be too late to maintain irrigation practices in Snake Valley derived from springs (e.g., from Clay Spring, Big Springs, Deardon Springs). The absence of sufficient data collection and analyses to include a defined monitoring, management, and mitigation structure as part of the AFEIS leaves groundwater-dependent ecosystems and their uses at substantial risk due to the PVWSP.

As drawdown and groundwater capture will continue long after pumping ceases, groundwater management to avoid substantial impacts will be impracticable based on the existing analyses, as once pumping ceases it will not be possible to adjust groundwater management to ameliorate the expanding drawdown until the system reaches its own equilibrium. Once impacts to a spring system either directly in reduced spring discharge as surface flow or through stressed vegetation

and a reduction in evapotranspiration are observed, it will be too late to manage groundwater pumping in a manner that will be proactively beneficial to the spring, and thus the potential to eliminate surface flow in several springs in Snake Valley (such as those mentioned above) is real.

In Section 6.0 of the AFGRIA, it is stated that, "To address uncertainty in the aquifer response to pumping, the applicant will implement an adaptive management framework during construction and operation of the PVWSP wellfield that is intended to maintain drawdown effects within those predicted…" First, the drawdown effects will be substantial, and likely greater than those presented given the limited recovery time modeled, and the aquifer hydraulics assumptions inherent in the model as described above. It is unclear to us why, with the substantial analysis presented, the detailed modeling exercises, and other substantial reporting, why an initial "adaptive management framework" with clear thresholds and triggers as a starting point could not be presented in this environmental review. Model simulations could be run to evaluate where monitoring wells should be placed to be able to observe unanticipated changes in groundwater levels that could trigger reductions in pumping in sufficient time to avoid impacts to springs. However, as noted above, as the PVWSP is designed, those inflow and outflow changes would be a combination of:

- Capture of groundwater underflow toward the north, affecting the water budgets of downgradient basins;
- Capture of spring discharge;
- Induced underflow and likely spring capture from Snake Valley; and,
- Reduction in evapotranspiration.

In essence, the design of the PVWSP, by conducting pumping at basin inflow volumes, presupposes these impacts. The effect of not identifying potential regional effects of proposed pumping could have other unintended consequences beyond specifically impacting the spring ecosystems. As groundwater sourced in Snake Valley is discharged through spring flow, evapotranspiration and human usage, induced underflow toward Pine Valley would reduce the available water in Snake Valley which is used in-valley (Gardiner, 2016). Of greater concern is that much of the irrigated agriculture in Snake Valley (particularly in southcentral parts of the valley) is fed by springs. Spring discharges are captured and stored in impoundments, then piped to many of the existing pivot irrigation systems. Slight changes to groundwater elevations could make this sustainable approach to irrigation (which has been in use for more than one hundred years) impossible, exacerbating the need for additional groundwater pumping in Snake Valley to maintain agricultural uses, causing a spiraling impact between groundwater conditions caused by both increasing irrigation pumping and PVWSP pumping.

12. Project Feasibility

When evaluating the model-predicted drawdowns for a pumping program or wellfield, generally the model-estimated well field drawdown is not representative of drawdown that would be measured in individual wells. This is due to:

- Modeled drawdowns less than what would be measured in a specific pumping well as the drawdown is representative of conditions in the model cell containing the well, while the shape of a cone of depression caused by a pumping well would dictate a substantially greater in-well drawdown;
- Drawdown in a specific pumping well would be expected to be greater than modeled because the model assumes aquifer transmissivity remains constant even though declining groundwater levels would cause transmissivity to decrease;
- The model does not consider the additional in-well drawdown that would result from well inefficiency.

Based on the bullet points above, drawdown as measured in a specific pumping well would be considerably more than that modeled. When these three factors are considered together, given the range of projected drawdowns predicted for pumping in the Pine and Wah Wah Valleys in the GBCAAS and GBCAAS-PV Models, there is insufficient information or data to allow an informed determination to be made as to whether there is sufficient aquifer thickness to support the proposed project without substantial changes to project design. In other words, serious question exists with regard to whether the project, as designed, could feasibly pump the intended water without running the wells dry. Well depths simulated in the modeling do not compare with saturated thicknesses in wells that were field tested. That leaves the simulations, and assumptions that wells may be completed to depths of 2,000 feet as speculative without advancing test wells to those depths.

Further, as already described, the two models cover the project area the U.S. Geological Survey's GBCAAS model (Brooks, 2017), and the Formation GBCAAS-PV model (Formation, 2025b). The GBCAAS-PV model predicts substantially more limited drawdown than the GBCAAS model. However, given the modeled area, and the extent of the GSLRFS, the difference in knowledge of regional aquifer hydraulics from field testing is similar. The uncertainty surrounding these differences points to the uncertainty inherent in the drawdowns predicted in this environmental review.

Roux is not convinced that the proposed Pine Valley Project will feasibly provide 15,000 acre-feet per year of groundwater for 50 years as the well field is currently designed. Beyond the feasibility question though, this raises the likelihood that the northern wellfield alternative would be needed to achieve the pumping volumes designated by CICWCD's groundwater rights in Pine Valley. The northern wellfield alternative would place pumping centers in closer proximity to groundwater-dependent ecosystems such as Wah Wah Spring, and groundwater-dependent ecosystems to the north of Pine Valley (e.g., Sevier Lake, Tule Valley and Fish Springs Flat). Given the inevitability of this northern well field alternative, the BLM's failure to model impacts to these resources obscures the scale and extent of the project's impacts.

Based on the shortcomings of the modeling described (primarily a function of the absence of on the ground data in this extremely data sparse region), data gaps and other uncertainties, the inclusion of the northern wellfield alternative absent a full evaluation of impacts is problematic as a reliable alternative as it would likely increase impacts to groundwater-dependent ecosystems such as Wah Wah Spring and others.

CLOSING

As described above, Pine Valley's position within the Great Salt Lake Desert Flow System (GSLDFS), and the fact that inflow minus outflow equals change in storage, it is clear that the cone of depression in groundwater levels that would be caused by the proposed project would only stabilize (and storage changes would cease) when inflow and outflow parameters would adjust to accommodate the new pumping stress. Those inflow and outflow changes would be a combination of:

- Capture of groundwater underflow toward the north, affecting the water budgets of downgradient basins inclusive of those in Beaver, Millard, Juab and Tooele Counties and conflicting with existing rights in those basins;
- Capture of spring discharge;
- Induced underflow and likely spring capture from Snake Valley, which also is fully appropriated; and,
- Reduction in evapotranspiration in hydrologically connected downgradient basins.

Given the issues above, and the fact that the water-resources related analysis is burdened by substantial data gaps, uncertainties, and associated risk, we believe that substantial additional hydrogeologic investigations are needed to adequately evaluate project impacts. Additionally, the feasibility of pumping at anticipated levels is doubtful, and at best most likely would require pumping from the northern well-field alternative, which inevitability must be acknowledged and impacts modeled and fully evaluated. Finally, aspects of the project such as the adaptive management approach are too undefined to provide reliable protections that would ameliorate those data gaps and PVWSP risks and impacts.

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Comment on the Draft Environmental Impact Statement

Pine Valley Water Supply Project

(DOI-BLM-UT-C010-2020-0012-EIS)

With Emphasis on Groundwater Resources Impact Assessment and

GBCAAS-PV Model

Pine Valley Water Supply Project

Prepared by

Groundwater Model Analysis, LLC

October 3, 2025

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To Whom It May Concern:

Groundwater Model Analysis, LLC respectfully submits the following comment on the Draft Environmental Impact Statement Pine Valley Water Supply Project (DOI-BLM-UT-C010-2020-0012-EIS), with specific reference to the Groundwater Resources Impact Assessment (GRIA) incorporated by reference in the DEIS. Because the DEIS depends on the adequacy of the GRIA, any deficiencies in the GRIA and GBCAAS-PV model described in the GRIA undermine the ability of the DEIS to adequately evaluate impacts as required by NEPA. A detailed technical review is attached to this letter as "Technical Review of the Draft Environmental Impact Statement." That technical review shows the DEIS, GRIA, and GBCAAS-PV model do not meet NEPA standards for high quality accurate scientific analysis (40 CFR 1500.1), evidence that the agency has made the necessary environmental analysis (40 CFR 1500.2), accurately describing the affected environment (40 CFR 1502.15), documentation of incomplete or unavailable information (40 CFR 1500.22), professional and scientific integrity (40 CFR 1502.24), accurate cumulative impact (40 CFR 1508.7), and accurate effects (40 CFR 1508.8).

Summary of Key Concerns

The GRIA describes conceptual and numerical models that were created to assess the potential groundwater resource impacts associated with the PVWS Project alternatives in support of the DEIS. Because of omissions, errors, and inconsistencies in the GRIA, improper model calibration techniques, and incomplete model analyses, the predictions of impacts have not been shown to be accurate.

1. The model predictions do not include prediction confidence intervals, prediction scaled sensitivities, or prediction correlation coefficients. Parameter uncertainty is not presented. These statistics are critical to understanding if the model can make precise predictions and the uncertainty in those predictions. Presenting prediction uncertainty is generally expected in the scientific community.
2. The model and report fail to acknowledge and simulate past pumping in the surrounding areas of Snake Valley, Beryl-Enterprise Area, and Milford Area. This past pumping has created large drawdown cones and depleted areas of evapotranspiration that existed during the pre-development period for which GBCAAS-PV was calibrated. The effects of decades of pumping and groundwater mining cannot be estimated by starting predictions with the steady-state no pumping model. Simulating capture of evapotranspiration that does not exist reduces the simulated amount and spread of the drawdown created by the project wells and underestimates recovery time.

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3. Recharge was set as a known value in the groundwater model, despite uncertainty in recharge and despite the observations providing a lot of information about recharge parameters as indicated by large composite scaled sensitivities.
    a. It is likely that simulated recharge could have been determined by regression.
    b. Because recharge is set, this requires hydraulic properties to also be set (manually or by regression) to move this amount of water through the groundwater system.
4. The model has a lot of parameters that cover small areas and for which the observations provide little information as indicated by small composite scaled sensitivities.
    a. The additional parameters may have been hand calibrated to fit specific water levels or spring discharge, but may not accurately represent the response of the system to pumping.
    b. Having a lot of insensitive parameters increases prediction uncertainty. Of the 31 parameters added to the GBCAAS-PV model, only 7 of them have regressed values used in the final calibrated model.
5. The area of the proposed pumping has some of the highest water-level residuals in the calibrated model. The mismatch in this critical area could indicate a conceptual error in the model construction or parameterization, which could have a large impact on model predictions.
6. The pumping period of 50 years for the Pine Valley Water Supply Project and pumping in surrounding areas is unreasonably short. The DEIS and GRIA state that that a specific extraction rate beyond this time frame was considered speculative. The speculative and very specific extraction rate of zero is then used for the project pumping and pumping in surrounding areas after 50 years.

Recommendations

Several model processes should be changed and documented in the Final EIS.

1. Simulation of the affected environment must include past pumping in surrounding areas.
2. The final EIS should include calibration that allows recharge to be a calibration parameter and reduces the number of hydraulic conductivity zones.
3. Parameter uncertainty for all parameters should be determined and reported.
4. Prediction uncertainty should be determined and reported.

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5. A longer pumping period should be analyzed.

Conclusions

The deficiencies in the GRIA and GBCAAS-PV model prevent accurate analysis of the range of impacts as required by NEPA. The attached Technical Review of the Draft EIS Groundwater Analysis provides detailed documentation of these concerns. The DEIS, as written, lacks sufficient scientific support to allow for informed decision-making as required by 40 CFR Parts 1500–1508.

Groundwater Model Analysis, LLC appreciates the opportunity to provide these comments and is available to provide clarification as needed.

Respectfully Submitted,

Lynette Brooks, owner
Groundwater Model Analysis, LLC

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Technical Review of the Draft Environmental Impact Statement

Pine Valley Water Supply Project

(DOI-BLM-UT-C010-2020-0012-EIS)

With Emphasis on Groundwater Resources Impact Assessment and

GBCAAS-PV Model

Pine Valley Water Supply Project

Prepared by

Groundwater Model Analysis, LLC

October 3, 2025

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Statement of Qualifications

This technical report has been prepared by Groundwater Model Analysis, LLC. The following summarizes the qualifications and relevant experience of Lynette Brooks, Owner and Principal Consultant. The review presented in this report is informed by extensive experience with U.S. Geological Survey models and reports.

Education and Licensing
Master of Science, Civil and Environmental Engineering, Utah State University, 1986.
Professional Engineer, Utah, July 1990 to March 2019 (Expired)
Professional Engineer, Hawaii, October 2017 to present (Active)

Professional Experience
Hydrologist, U.S. Geological Survey – over 29 years of professional experience in groundwater hydrology, groundwater modeling, and water resources analysis.

Areas of Expertise
- Groundwater flow modeling and parameter estimation (MODFLOW, UCODE)
- Hydrogeologic conceptual model development
- Peer review of USGS groundwater and modeling reports

Selected Projects and References (U.S. Geological Survey)
Brooks, L.E., 2017, Groundwater model of the Great Basin carbonate and alluvial aquifer system version 3.0: Incorporating revisions in southwestern Utah and east central Nevada: U.S. Geological Survey Scientific Investigations Report 2017–5072, 77 p., 2 appendixes, https://doi.org/10.3133/sir20175072.

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Abbreviations and Acronyms

CICWCD	Central Iron County Water Conservancy District
CFR	Code of Federal Regulations
DEIS	Draft Environmental Impact Statement (DOI-BLM-UT-C010-2020-0012-EIS) Pine Valley Water Supply Project (Bureau of Land Management, January 2022)
ETg	Evapotranspiration from groundwater
GRIA	Groundwater Resources Impact Assessment Pine Valley Water Supply Project Iron and Beaver Counties, Utah (Formation Environmental, December 2021).
GBCAAS	Great Basin Carbonate and Alluvial Aquifer System
GBCAAS-PV	Great Basin Carbonate and Alluvial Aquifer System groundwater model prepared by Formation Environmental and documented in Groundwater Resources Impact Assessment Pine Valley Water Supply Project Iron and Beaver Counties, Utah.
GBCAAS v. 1.0	Great Basin Carbonate and Alluvial Aquifer System groundwater model prepared by U.S. Geological Survey (Brooks and others, 2014).
GBCAAS v. 2.0	Great Basin Carbonate and Alluvial Aquifer System groundwater model prepared by U.S. Geological Survey (Stolp and others, 2017).
GBCAAS v. 3.0	Great Basin Carbonate and Alluvial Aquifer System groundwater model prepared by U.S. Geological Survey (Brooks, 2017).
PVWS	Pine Valley Water Supply Project
USGS	United States Geological Survey

Introduction

This report accompanies the comment about the Draft Environmental Impact Statement (January 7, 2022)
and Groundwater Resources Impact Assessment and for the Pine Valley Water Supply Project (DOI-BLM-UT-C010-2020-0012-EIS) and provides further details and references about the problems that are briefly summarized in the comment. The emphasis of this report is a technical review of “Groundwater Resources Impact Assessment Pine Valley Water Supply Project Iron and Beaver Counties, Utah” (GRIA) prepared by Formation Environmental December 2021 and incorporated by reference in the DEIS. The purpose of this report is to

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provide technical concerns with the GBCAAS-PV model presented in the GRIA, technical concerns with the conceptual budget that is simulated in the model, and technical concerns with reporting of the results of the GBCAAS-PV calibration and prediction simulations. This report also clarifies misconceptions about previous USGS reports and models if those misconceptions are used to make incorrect assumptions in the GRIA or GBCAAS-PV model. This technical review shows the DEIS, GRIA, and GBCAAS-PV model do not meet NEPA requirements for high quality accurate scientific analysis (40 CFR 1500.1), accurately describing the affected environment (40 CFR 1502.15), documentation of incomplete or unavailable information (40 CFR 1500.22), professional and scientific integrity (40 CFR 1502.24), accurate cumulative impact (40 CFR 1508.7), and accurate effects (40 CFR 1508.8).[1]

Executive Summary

The GRIA describes conceptual and numerical models that were created to assess the potential groundwater resources-related impacts associated with the PVWS Project alternatives in support of the EIS (GRIA, p. A-1). This report shows little confidence can be placed on the predictions of impacts because of omissions, errors, and inconsistencies in the GRIA, improper model calibration techniques, and incomplete model analyses.

1. The model predictions do not include prediction confidence intervals, prediction scaled sensitivities, or prediction correlation coefficients. These statistics are critical to understanding if the model can make precise predictions and the uncertainty in those predictions. The lack of prediction uncertainty violates 40 CFR 1502.24 which requires scientific integrity of the discussions and analyses in environmental impact statements. Predictions are incomplete information and 40 CFR 1502.22 requires "the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community." Not calculating or presenting prediction uncertainty is not generally accepted.

2. The model and report fail to acknowledge and simulate past pumping in the surrounding areas of Snake Valley, Beryl-Enterprise Area, and Milford Area. This past pumping has created large drawdown cones and depleted areas of evapotranspiration that existed during the pre-development period for which GBCAAS v. 3.0 and GBCAAS-PV were calibrated, and the effects of decades of pumping and groundwater mining cannot be estimated by starting with the steady-state no pumping model.

[1] The author has not reviewed the Administrative Final GRIA prepared by Formation Environmental, dated July 2025, due to BLM denials for document access under FOIA, and denials by CICWCD under GRAMA.

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a. The failure to account for this pumping violates 40 CFR 1502.15 to describe the affected environment.

b. During calibration and model predictions, discharge to evapotranspiration is simulated that does not currently exist and cannot be captured by future pumping.

c. Simulating capture of evapotranspiration that does not exists reduces the simulated amount and spread of the drawdown created by the project wells.

3. The omission of past pumping in surrounding valleys also violates 40 CFR 1508.7 requiring analysis of the cumulative effects of all past, present, and reasonably foreseeable future actions.

4. Recharge was set as a known value in the groundwater model, despite uncertainty in recharge and despite the observations providing a lot of information about recharge parameters as indicated by large composite scaled sensitivities.

    a. It is likely that simulated recharge could have been determined by regression.

    b. Because recharge is set, this requires hydraulic properties to also be set (manually or by regression) to move this amount of water through the groundwater system.

    c. This violates scientific integrity (40 CFR 1502.24) by not following standard guidelines for model calibration.

    d. Setting the recharge also impacted Snake Valley hydrographic area. Hydraulic conductivity values were adjusted to decrease water levels and possible decrease discharge to Clay Springs. These changes caused an ETg observation (et37Snake3) to be only about 18,000 acre-feet per year instead of the observed 37,400 acre-feet per year or the 27,600 acre-feet per year simulated in GBCAAS v. 3.0.

5. The model has a number of parameters that cover small areas and for which the observations provide little information as indicated by small composite scaled sensitivities.

    a. The additional parameters may have been hand calibrated to fit specific water levels or spring discharge, but may not accurately represent the response of the system to pumping.

    b. Having a lot of insensitive parameters increases prediction uncertainty. Of the 31 parameters added to the GBCAAS-PV model, only 7 of them have regressed values used in the final calibrated model.

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6. The area of the proposed pumping has some of the highest water-level residuals in the calibrated model. The mismatch in this critical area could indicate a conceptual error in the model construction or parameterization, which could have a large impact on model predictions.

Scope and Organization of this Report

The body of this report mostly follows the organization of the GRIA, but does not comment on all sections of the GRIA. This report, however, changes the order of the presentation in the GRIA by inserting comments about Appendix A (Development of the GBCAAS-PV Groundwater Flow Model) between comments about Chapter 3 (Affected Environment) and Chapter 4 (Potential Project and Cumulative Effects).

Comments about GRIA Chapter 1: Introduction

This report presents two major concerns about topics highlighted in GRIA Chapter 1. The first concern is the discussion of "Management of Uncertainties and Risks". As will be explained in "Model Predictions" section of this report, uncertainty in model parameters and model predictions is never acknowledged or discussed in the GRIA, despite the GRIA (2021, p. 5) stating that uncertainties must be sufficiently addressed in the GRIA. The omission of these data violates 40 CFR 1502.24 about scientific integrity because it is commonly recommended that prediction confidence intervals be calculated and presented. The omission of the data also violates 40 CFR 1502.22(a) which states:

> "If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement."

The second concern is the simulated pumping period as described in "Scoping Considerations" section of the GRIA, which is only 50 years despite the likelihood that the PVWS Project will be needed beyond 50 years. The DEIS (p. 1-2, 35-36) highlights the continuing water needs of Cedar City:

1. "The need for additional water arises from the lack of sufficient existing water resources within the overdrawn Cedar Valley basin to respond to growing population needs and the gradual implementation of the Cedar City Valley groundwater management plan (GMP), adopted in January 2021."

2. “Based on an analysis of the Cedar Valley demand and projected savings from conservation efforts to meet or exceed these targets, conservation alone cannot overcome the current Cedar Valley deficit.”

3. “A temporary use alternative would essentially require two separate courses of action simultaneously: bringing in water from Pine Valley and purchasing existing Cedar City Valley water rights until the Project water is no longer needed (i.e., until the Cedar City Valley aquifer is in equilibrium). It would be economically infeasible for the CICWCD to both purchase many Cedar City Valley water rights and finance the PVWS Project, as the impact to Cedar City ratepayers and other customers served by the CICWCD would be extreme.”

The DEIS (p. 41) states that it is speculative to assume that pumping can continue at the same rate for more than fifty years. It is even more speculative to assume that over the next 50 years Cedar City could stop needing the 30,000 acre-ft/yr required reduction in the Groundwater Management Plan (Utah Department of Natural Resources, 2021, table 1) and the 15,000 acre-ft/yr PVWS project pumping.

The GRIA (p. 7) states:

> “As discussed in Section 2, PVWS Project is subject to adaptive management, the DWRiwater right order for the Project, and the Utah State Code. These would curtail pumping if the safe yield of the basin is exceeded, or prior water rights are impaired. Consequently, the assumption that pumping will automatically continue on the same pumping schedule and in the same geographic distribution was determined to be speculative.”

The definition of safe yield used by Utah Division of Water Rights equals recharge, which is an uncertain number (see “Groundwater Budgets” section in this report). The model also shows water rights in Wah Wah Springs will be impaired, but despite this, water rights were granted for the project and project reauthorization is already being considered. GRIA (p. 9) states:

> “If, in 50 years at the time when project reauthorization is being considered, groundwater modeling utilizing updated assumptions and information indicates that continued pumping would have unacceptable impacts to the Pine Valley aquifer system or to other aquifers within the Great Salt Lake [Desert] Flow System, the authorized project pumping schedule would be adjusted to prevent these impacts.”

The simulated 50-year pumping period violates 40 CFR 1508(b) about possible effects later in time that are reasonably foreseeable. 40 CFR 1502.22(b)(4) describes “reasonably foreseeable” as:

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> "impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason."

Comments about GRIA Chapter 2: Project Description

Applicable Water Rights and Regulations

The GRIA (p. 12) states that Utah DWRi's 2014 Order required that CICWCD "*shall develop a monitoring program to ensure that no prior rights are being impaired and that the aquifer system is not exceeding safe yield.*" The GBCAAS v. 3.0 model (Brooks, 2017) and the GBCAAS-PV model documented in the GRIA show that Wah Wah Springs will be affected by the project pumping and water rights will be impaired.

Safe Yield in Utah Law is Not Appropriate in Pine Valley

Utah Code §73-5-15(1(b)) defines "safe yield" as follows: "the amount of groundwater that can be withdrawn from a groundwater basin over a period of time without exceeding the long-term recharge of the basin or unreasonably affecting the basin's physical and chemical integrity." In many basins in Utah, natural discharge before groundwater development approximately equaled recharge, so the definition of safe yield allowed for capture of all discharge. Water levels stabilize if pumping does not exceed previous natural discharge. In many valleys, therefore, safe yield could also be considered the amount of natural discharge. The amount of natural discharge from the regional groundwater flow system in Pine Valley is essentially zero. Pumping in Pine Valley will create a large drawdown cone extending to areas outside the valleys until natural discharge equal to the pumping rate is captured. The GBCAAS v. 3.0 model used a 5,000-year simulation because that is how long it took the simulated system to come to a new steady-state condition with water levels reaching stability and natural discharge being stopped by an amount equal to pumping (Brooks, 2017, figure 32).

Defining safe yield as equal to recharge does not make sense for Pine Valley, and the emphasis on recharge and not on capture of discharge violates 40 CFR 1502.15 by not properly describing the affected environment. The GRIA (p. 12) states that because uncertainty remains about the amount of recharge in Pine Valley, the precise safe yield can only be reliably established based on long-term groundwater level measurement in response to pumping. This premise reveals a lack of understanding of the source of water to wells (Theis, 1940; Konikow and Leake, 2014). Konikow and Leake (2014) state that the average predevelopment rate of **natural recharge itself is largely irrelevant to storage depletion and capture responses**, but that the natural recharge does serve as a constraint on capture—in the sense that it controls the natural predevelopment groundwater discharge, which is subject to capture by pumping wells. Measuring water-level

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declines in response to pumping will reveal nothing about recharge, but will help define aquifer properties and may improve the groundwater flow model.

Safe yield for Pine Valley cannot be determined by the amount of recharge, and must be defined by alternative measures, such as:

1. How much decrease in flow to Wah Wah Springs is acceptable?
2. How much decrease in flow to Beryl-Enterprise Area is acceptable?
3. How much evapotranspiration loss in areas such as Tule Valley and Sevier Desert is acceptable?

Failure to consider these alternative definitions of safe yield violates 40 CFR 1502.22:

> "If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement."

Comments About GRIA Chapter 3: Affected Environment

This report details three major concerns about the description of the affected environment. First, models (Brooks, 2017; GBCAAS-PV described in the GRIA) indicate Wah Wah Springs will be affected by this project, but the DEIS does not present a summary of the use and importance of Wah Wah Springs. Second, the groundwater budgets defined in the GRIA for Pine Valley and Wah Wah Valley are questionable because of inconsistencies in the text and tables, and because of the method used to estimate precipitation. Third, the affected environment includes decades of pumping in Snake Valley, Beryl-Enterprise Area, and Milford Area that have caused large drawdown cones and reduction in natural discharge.

Wah Wah Springs

Rather than discuss Wah Wah Springs in a single paragraph or section, the GRIA scatters information in various places. To emphasize the importance of Wah Wah Springs to the water-rights holder, this report presents all information in one section. Wah Wah Springs is the sole source of water to Wah Wah Ranch and is used for irrigation, stock, and potable use (GRIA, p. 33). Power has been provided to Wah Wah Ranch since 1988 from a hydroelectric turbine placed in a water pipeline that runs from Wah Wah Springs to the ranch (GRIA, p. 23). A reservoir at Wah Wah Ranch, which has a surface area of about 60 acres and storage capacity of about 200 acre-feet, stores water diverted by pipeline from Wah Wah Springs (GRIA, p. 31).

Dutchman Reservoir and Newhouse Reservoir, two ponds located north of Wah Wah Ranch, also store water diverted from the springs.

Whether Wah Wah Springs is connected to the regional system is still unknown. It is much larger than other springs in the mountains, and is therefore more likely to be connected to the regional system. The regional system receives most of its recharge in the mountains and it is reasonable to assume that mounding occurs beneath the mountain ranges that raises the level of the regional system to the altitude of Wah Wah Springs. The GBCAAS-PV model in the GRIA simulates it as connected, as does GBCAAS v. 3.0 (Brooks, 2017).

GBCAAS v. 1.0 (Brooks and others, 2014) and GBCAAS v. 3.0 (Brooks, 2017, table 8) use an observed discharge of 720 acre-feet per year for Wah Wah Springs, which is similar to the discharge reported by Stephens (1974), but does not include the evapotranspiration around the spring that may not be discharging from the regional system. It is lower than the discharge reported by Gardner and others (2020). Long-term precipitation records from stations around the area (Cedar City, Enterprise, Black Rock; Smith and others, 2019) show that precipitation during the period before and during measurements reported by Stephens (1974) was below normal or normal. The records show that precipitation during the measurements reported by Gardner and others (2020) was above normal. Stephens (1974, table 8) measured discharge at 10 individual locations to estimate discharge from Wah Wah Springs. Gardner and others (2020, p. 40) report that discharge of Wah Wah Springs was measured through a rectangular weir in a collection box and is thought to represent nearly all the spring flow from the complex. Different precipitation and different development at the spring make it difficult to compare discharge from Wah Wah Springs between the two studies. The GBCAAS-PV model (GRIA, p. A-14) chose to use the higher number reported by Gardner and others (2020) as the model observation, and to include evapotranspiration around the springs as discharging from the regional system. In addition to using this large discharge, the GRIA typically refers to the percent reduction in flow to Wah Wah Springs, which appears small because of the large amount of assumed and simulated discharge. Scientific integrity (40 CFR 1502.24) requires the rate (and cumulative volume) of capture be described, so the direct effect on the water-rights holder is quantified. The amount of discharge and from the regional groundwater system to Wah Wah Springs, and the amount of capture, is incomplete or unavailable (40 CFR 1502.22).

40 CFR 1502.22(b) states:

> "If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the **means to obtain it are not known**, the agency shall include within the environmental impact statement:

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(1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, ''reasonably foreseeable'' includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason."

The impacts to Wah Wah Springs could be catastrophic to the water-rights owner, and the uncertainty in the predictions presented in the GRIA needs to be quantified and presented.

Misrepresentation of USGS Reports

The DEIS and GRIA repeatedly misquote Stephens (1974) and Gardner and others (2020) when stating that Wah Wah Springs follows a structural contact of the carbonate and siliciclastic rocks and is perched on siliciclastic rocks. Stephens (1974) and Gardner and others (2020) report the following geologic conditions near Wah Wah Springs:

1. (Stephens, 1974, p. 1): "The springs issue from fractures and solution channels in Paleozoic carbonate rocks and from tufa deposits in an area where the land surface transects a structurally controlled fracture zone with relatively high permeability."
2. (Stephens, 1974, p. 21): "Wah Wah Springs discharge an estimated 800 acre-feet (0.987 hm3) of ground water annually from Paleozoic carbonate rocks; an additional estimated 600 acre-feet (0.740 hm3) is discharged by evapotranspiration in the spring area."
3. (Stephens, 1974, p. 22): "The springs appear to issue on the northeast-trending axis of a flexure in the Paleozoic carbonate rocks… Fracturing of the hard, brittle limestone along the crest of the fold is believed to have created a linear zone of relatively high permeability. The springs issue where the potentiometric surface of water in this zone intersects the land surface."
4. Gardner and others (2020, p. 5): "Wah Wah Springs is the most well-known spring in the valley. The Springs are actually a complex of springs on the west side of the valley just south of Utah State Highway 21 that discharge from carbonate lithology at the base of the Wah Wah Mountains."

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The geologic framework used for GBCAAS v. 3.0 (Cederberg and others, 2011) and GBCAAS-PV have no siliciclastic rocks near Wah Wah Springs and has thickness of the Lower Carbonate Aquifer Unit of at least 17,000 ft. Unless the GRIA presents new geologic data, no evidence exists that Wah Wah Springs is perched on siliciclastic rocks.

The quotes from the DEIS and the GRIA as given below call into question the professional integrity and scientific integrity (40 CFR 1502.24) required in the DEIS, and appear to be written to emphasize the possibility that Wah Wah Springs could be disconnected from the regional groundwater flow system.

1. DEIS (p. 113): "The location of the springs and seeps is thought to follow a structural contact of the carbonate and siliciclastic rocks prevalent in the northern portion of the range (Stephens 1974). In this setting, spring flow depletion in the range of 9 to 14 percent, or similar values, would be most likely to manifest itself either as a flow depletion at spring and seep discharge areas at the fringes of the entire discharge area, away from the primary spring orifices. These discharge locations are in more vulnerable positions along the discharge structure and therefore, more vulnerable to groundwater level decline. Spring flow depletion could also occur as a decrease in overflow from the spring areas to the surrounding groundwater-dependent phreatophyte vegetation."

2. DEIS (p. 113-114) and GRIA (p. 33): "Consistent with Stephens (1974), Wah Wah Springs is described by Gardner et al. (2020) as issuing from the base of the carbonate aquifer unit in the Wah Wah Mountains and draining a mountain aquifer unit perched on a siliciclastic unit; however, it is also acknowledged that water discharged at the springs includes a "thermal" component indicative of deeper circulation. The geochemical groundwater age dating information supports the presence of modern water; however, a fraction of pre-modern water is also interpreted to be present, and therefore, the discharge from Wah Wah Springs is interpreted as a mixture of modern and Late Holocene groundwater (Gardner et al. 2020). A principal uncertainty is the fraction of modern versus pre-modern water in the spring discharge, which would shed light on the amount of discharge derived from recent recharge to a perched mountain aquifer versus more deeply circulating groundwater from the regional aquifer system that could be affected by Project pumping."

3. DEIS (table F-1) and GRIA (table 6-1): "Spring complex located on a side slope near the contact between carbonate and underlying siliciclastic rock near the alluvial valley fill boundary".

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Groundwater Budgets

The groundwater budgets presented in the GRIA have inconsistencies in both calculations and concepts. Reported precipitation amounts can be used to calculate 4 different recharge amounts, but recharge is considered to be known. Evapotranspiration estimates have a large range, which is an accurate reflection of the uncertainties involved in water budget calculations. The GRIA acknowledges that ETg is uncertain, but does not acknowledge that unknown ETg implies unknown recharge.

Precipitation in Pine Valley and Wah Wah Valley

Tables and analyses in the GRIA are inconsistent about the amount of precipitation in Pine Valley and Wah Wah Valley, and by using the reported numbers four different precipitation amounts (**Table *1*** in this report) can be calculated. These inconsistencies, and the fact that the chosen number is the only one that exceeds the proposed project pumping, call into question the scientific integrity (40 CFR 1502.24) of the recharge analysis. The GRIA (p. 52) calculates simple spatial averages for precipitation, which would meet the definition of "generally accepted" (40 CFR 1502.22(b)(4) methods. The GRIA (p. 52) wrongly concludes that using the average of rain gage data in each valley provides similar results as using spatially-averaged rain gage data and uses the average, which violates scientific integrity. The difference between the average and the spatial average in Pine Valley is enough to either have excess precipitation become recharge, or is not enough to satisfy estimated evapotranspiration (**Table *1***).

In addition to using an incorrect method, the precipitation reported for the Desert Experimental Station is reported as 6.22 inches in GRIA table 3-1, but 7.77 inches in GRIA table 3-11 for the same period. The precipitation at the Wah Wah Ranch gage is reported as 6.77 inches in GRIA table 3-2, but 6.61 inches in GRIA table 3-11 for the same period. I have been unable to find data for these stations other than that reported in the GRIA, so cannot verify which of these numbers are correct. The difference in precipitation between GRIA tables 3-1 or 3-2 and table 3-11 and between average or spatially-averaged precipitation produces significantly different results for precipitation and recharge in Pine Valley (**Table *1***). As explained in the "Safe Yield in Utah Law is Not Appropriate in Pine Valley" section of this report, recharge does not affect the capture of discharge, but it does affect model calibration and parameters. Model parameters affect model predictions.

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Table 1. Recharge calculations for different precipitation rates using precipitation gages in Pine Valley and Wah Wah Valley as reported in the GRIA.

[Recharge is calculated as difference between precipitation and evapotranspiration.]						
	Pine Valley			Wah Wah Valley		
Precipitation						
	Rate, inches	**Area, acres**	**Amount, acre-feet/year**	**Rate, inches**	**Area, acres**	**Amount, acre-feet/year**
Average of rain gages (GRIA, table 3-11)	[1]9.86	472,200	387,991	[1]7.62	386,971	245,727
Area-weighted average of rain gages (GRIA, table 3-11 and page 52)	9.28	472,200	365,168	7.69	386,971	247,984
Average of rain gages using GRIA tables 3-1 and 3-2	9.60	472,200	377,760	7.65	386,971	246,694
Area-weighted average of rain gages using GRIA tables 3-1 and 3-2 and page 52	8.91	472,200	350,609	7.72	386,972	248,952
Evapotranspiration						
Area-weighted ET (GRIA, p. 66)	9.41	472,200	370,284	7.46	386,971	240,567
Recharge						
Recharge in GRIA, which uses average from GRIA table 3-11	0.45	472,200	17,708	0.16	386,971	5,160
Recharge if using spatially-weighted average of gages from GRIA table 3-11	-0.13	472,200	-5,116	0.23	386,971	7,417
Recharge if using average from GRIA tables 3-1 and 3-2	0.19	472,200	7,476	0.19	386,971	6,126
Recharge if using spatially-weighted average of gages from GRIA tables 3-1 and 3-2	-0.5	472,200	-19,675	0.26	386,972	8,384

[1]. The GRIA (p. 53) mistakenly states that the spatially weighted average annual precipitation data is 9.86 inches in Pine Valley and 7.62 inches in Wah Wah Valley. GRIA (table 11) shows those numbers to be the average of the precipitation gages.

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Recharge in Pine Valley and Wah Wah Valley

The GRIA calculates recharge for Pine Valley and Wah Wah Valley as the difference between precipitation and evapotranspiration. Depending on the correct amount of precipitation at Desert Research Station and whether spatially averaged precipitation is used, Pine Valley has anywhere from a deficit of -19,700 acre-feet/year or recharge of 17,700 acre-feet/year (**Table *1***). The range is given here to show the uncertainty inherent in any recharge estimate. The numbers for Wah Wah Valley have less variation and range from 5,100 to 8,400 acre-feet/year of recharge.

The GRIA repeatedly states that Gardner and others (2020) did not complete water budgets and imply that a budget using precipitation and evapotranspiration has never been done for Pine and Wah Wah Valleys by the USGS. That is incorrect. Values for recharge and runoff, calculated using PRISM from 1940-2006, evapotranspiration, snow accumulation and melt, and hydraulic conductivity of surface materials (Basin Characterization Model, Flint and others, 2011) was completed for each hydrographic area in the GBCAAS study area (Masbruch, 2011). Recharge values were 27,000 acre-ft/yr for Pine Valley and 6,000 acre-ft/yr for Wah Wah Valley, similar to values reported by Stephens (1974, 1976). An earlier version of the Basin Characterization Model (Flint and others, 2004, table 1) estimated recharge for Pine Valley of 13,619 acre-ft/yr and for Wah Wah Valley of 5,418 acre-ft/yr. The same method produced different results, possibly due to differences in climate between the two studies, recalibration for surface permeability, or other unknown reasons. The point of the comparison is to show that it is difficult to estimate recharge. The GBCAAS v. 1.0 (Brooks and others, 2014) and GBCAAS v. 3.0 (Brooks, 2017) groundwater models allowed recharge to be estimated by regression, which is a generally accepted method (40 CFR 1502.22(b)(4)). Regression reduced the amount of recharge in Pine Valley and Wah Wah Valley from the conceptual numbers to match water levels and discharge observations.

A later section of this report ("Model Sensitivities and Manual Adjustment") documents that the assignment of a specific recharge number to the groundwater model violates "methods generally accepted in the scientific community." Recharge needs to be evaluated and documented as required by 40 CFR 1502.22(b)(3) and 40 CFR 1502.22(b)(4) as stated:

> "(3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community."

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Misconceptions About Recharge in GBCAAS v. 3.0

The GRIA (p. 54) wrongly claims the following:

> "The USGS incorporated the water budget estimates developed by Stephens (1974, 1976) and adjusted the water budgets assuming, among other things, that discharge from springs which ring Pine Valley at the surrounding mountain fronts is completely consumed by ET (based on reconnaissance-level calculations by Stephens), that deep percolation from semi-perched mountain aquifers does not occur, and that 3,000 AFY of recharge from precipitation falling within the Pine Valley HA drains in the subsurface to the Wah Wah Valley HA due to an eastward dip in the carbonate aquifer system of the Wah Wah Mountains. The net result was a decrease in recharge by 13,000 AFY in the Pine Valley HA in GBCAAS v. 3.0 compared to the prior version of the model."

In all USGS versions of the GBCAAS model, with the exception of the child grid for Lower Bear River, recharge is originally simulated as estimated by the Basin Characterization Model (Flint and others, 2011; Masbruch, 2011, table A4-1) and explained in Masbruch and others (2011). The simulated amount of recharge was changed during model calibration by using parameters and zonation. GBCAAS v. 3.0 did not change recharge to match recharge estimated by the concurrent USGS study in Pine and Wah Wah Valleys (Gardner and others, 2020) or to match old estimates of recharge by Stephens (1974, 1976). The zonation and parameter values around Pine Valley and Wah Wah Valley were changed during calibration of GBCAAS v. 3.0 to match water level, spring discharge, and evapotranspiration of groundwater observations including data collected by Gardner and others (2020). All flow between hydrographic areas (such as Pine Valley to Wah Wah Valley) was calculated after model calibration and was not used to construct or calibrate any of the USGS GBCAAS models.

GBCAAS v. 3.0 makes no assumption about spring discharge being consumed by ET. GBCAAS v. 3.0 simulates most recharge as occurring on the mountains surrounding Pine Valley and Wah Wah Valleys (Flint and others, 2011) and percolating to the regional groundwater system. GBCAAS v. 3.0 makes no assumption about dipping geology other than as defined by Cederberg and others (2011) and incorporated in the Hydrogeologic Unit Flow Package or how much precipitation that may fall on Pine Valley goes to Wah Wah Valley. The calibrated model was used to predict the amount of flow between all hydrographic areas (Brooks, 2017, table 9).

Data collected during USGS Pine and Wah Wah Valley study (Gardner and others, 2020) were used as observations in GBCAAS v. 3.0. That data included the estimates of groundwater discharge to evapotranspiration in Tule Valley and around Sevier Lake and groundwater levels in wells. Calibration to these new observations required less recharge and lower hydraulic conductivity in some areas than in GBCAAS v. 2.0 (Stolp and others, 2017). Recharge in Pine and Wah Wah was reduced to cause better match to new water levels on the west side of Sevier

Lake (Brooks, 2017, figures 15 and 20) and to better match the distribution of evapotranspiration in Sevier Desert (Brooks, 2017, figures 16 and 26). Gardner and others (2020) stated the following about GBCAAS v. 3.0: "These reductions in recharge resulted in (1) lower simulated water levels on the west side of Sevier Lake that more closely matched measured water levels and (2) accurate simulation of the revised conceptual model having no regional groundwater discharging as ET directly from the Sevier Lake playa."

Evapotranspiration of Groundwater in Tule Valley and Sevier Desert

The GRIA expresses several concerns relating to the previous estimates and simulation of groundwater discharge to evapotranspiration in and around the Sevier Lake playa. First, they express doubt about Gardner and others (2020) conclusion that the Sevier Lake playa is not a regional discharge zone. Second, the GRIA (p. 58) suggests that some of the ETg around the playa could be from local perched aquifers. Third, the GRIA (p. 58) expresses concern that the Evapotranspiration Package in MODFLOW does not simulate the ability of plants to adapt to declining water levels. Fourth, the GRIA (p. 59) expresses concern that all ET cells in the model around the playa have the same altitude on both the east and west sides.

Despite these concerns, and the acknowledgment that ETg around Sevier Lake playa represents a data gap and uncertainty (GRIA, p. 5), the GBCAAS-PV model does not change the representation of ETg. Even the relatively simple step of using the child model to refine the location and altitude of ETg around the playa was not done (GRIA, p. A-39 to A-40). 40 CFR 1502.22 requires more documentation about this incomplete and unavailable information and a "statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts."

In relation to the third concern, the extinction depth used in GBCAAS v. 3.0 around Sevier Lake playa is 40 feet. A drop of 4 feet (examples used in the GRIA) would only affect simulated ETg by 10 percent, well within the estimate error of ETg. The GRIA (p. 58) states that this inability to simulate the ability of plants to adapt "will tend to overpredict impacts." If ETg is not decreased by declining levels, then discharge has not been captured and drawdown will continue to deepen and spread until drawdown is captured. In that scenario, the model allowing capture of ETg would underestimate drawdown. Simulating a reduction in ETg reduces the spread of the drawdown cone and decreases the length of time required for the system to reach a new steady state condition.

Using a reasonable range of precipitation values, the GRIA reports ETg in Tule Valley and Sevier Desert to be between 35,300 to 67,300 acre-feet per year. The GBCAAS-PV model simulates 42,400 acre-feet per year (GRIA, p. 61). The conceptual and simulated totals in GBCAAS v. 3.0 were 45,400 and 38,200 acre-feet per year, respectively. All of these are within the error

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associated with estimating annual ETg over large areas. The GRIA acknowledges that ETg is uncertain, but does not acknowledge that **unknown ETg implies unknown recharge**.

Previous Pumping in Surrounding Areas

40 CFR 1502.15 requires the description of the affected environment. The discussion of the affected environment in the DEIS, however, neglects the effect of past pumping on the regional groundwater system in the area. The past pumping will impact project and cumulative effects during project pumping and recovery. The DEIS (p. 39) states: "past and present projects and uses contribute to the current condition of each of the resources considered for analysis and are described as part of the affected environment throughout this chapter." Neither the DEIS nor the GRIA, however, consider the effect pumping in Snake Valley, Beryl-Enterprise Area, and Milford Area have had on the groundwater system throughout the region.

Past and current pumping in Beryl-Enterprise Area and Milford Area have mostly eliminated evapotranspiration of groundwater in those valleys, and water levels continue to decline (Smith and others, 2019, p. 74-82). Because pumping in both of those valleys exceeds the estimated natural discharge before pumping, the cones of depression created by pumping in those valleys will continue to spread until they intercept other discharge locations. Brooks (2017, p. 56) states:

> "Because the projection stress periods, outside of Parowan Valley, start with pre-development steady-state conditions, the projection simulates capture of groundwater discharge that, in the real system, has already been captured by withdrawals that are not simulated (especially in the Beryl-Enterprise Area, HA 280). As a result, the drawdown presented in this report may underestimate the amount and extent of drawdown possible from the withdrawals in Pine and Wah Wah Valleys."

Since 1940, over 1,100,000 acre-feet per year of water has been withdrawn from Snake Valley (Masbruch and others, 2014, figure 7 and table 14) and drawdown has occurred (Smith and others, p. 95). Because past pumping in Snake Valley has not exceeded natural discharge, the drawdown cone is not likely to spread as far or take as long to recover as in Beryl-Enterprise Area and Milford Area, but past pumping still needs to be considered in describing the affected area.

Since 1937, about 5,900,000 acre-feet of water has been withdrawn from Beryl-Enterprise Area and drawdowns are large and steep (Smith and others, 2019, p. 79-82). Mower and Sandberg (1982, p. 34) stated that the reduction from 26,000 acre-ft/yr of ETg in 1927 to 6,000 acre-ft/yr in 1977 was caused by groundwater pumping and the evapotranspiration of groundwater will continue to decline as long as water levels continue to decline. Smith and others (2019, p. 79-81) show that levels continued their steep decline. Mower and Sandberg (1982) do not discuss

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the simulated change in evapotranspiration as part of the groundwater model analysis presented in the report. It would be reasonable to assume that no ETg is currently occurring in Beryl-Enterprise and that none is available for capture. The drawdown cone created by this pumping will continue to spread until that much water has been stopped from natural discharge in other areas (Barlow and Leake, 2012, p. 43), especially if pumping remains above the estimated 26,000 acre-ft/yr ETg that occurred prior to pumping. The effects of this must be included in the description of the affected environment and in model simulations.

About 4,100,000 acre-feet of water has been withdrawn from Milford Area since 1931 (Smith and others, 2019, figure 29) and drawdown in many areas is large and steep (Smith and others, 2019, p. 74-77). Mason (1998, table 2) simulates ETg of 26,900 acre-ft/yr in 1927 in the steady-state calibration of a groundwater model. Mason assumed the system was in steady-state from 1927 to 1949, and started a transient simulation in 1950. Groundwater withdrawals varied from 31,000 to 60,100 acre-ft/yr in stress periods up to 1982, and simulated evapotranspiration had declined to 12,300 acre-ft/yr at the end of the transient simulation. Predictive simulations from 1983 to 2020 of pumping 46,000 and 69,100 acre-ft/yr caused simulated evapotranspiration to be 9,600 and 7,500 acre-ft/yr, respectively (Mason, 1998, table 4). Smith and others (2019, figure 29) show that average pumping from 1983 to 2018 of about 55,000 acre-ft/yr. It is possible that current ETg in Milford Area is about 8,000 acre-ft/yr, and that the drawdown cone created by pumping in Milford will continue to spread to farther discharge locations.

Comments About GRIA Appendix A: Development of the GBCAAS-PV Groundwater Flow Model

Modeling Objectives

The modeling objectives state:

1. “Discretization should be more refined/detailed within the area surrounding the Pine Valley HA” (GRIA, p. A-4). The purpose of this refined discretization is not well explained as new geologic data is not presented that justifies geologic refinement. One thing that could have been refined in the child grid but was not is the location of evapotranspiration of groundwater around Sevier Lake playa; it is still simulated over a much larger area than it occurs because the area defined by the 1 mile by 1 mile GBCAAS v. 3.0 cells is used. Changing the ETg boundary to better match the narrow location of ETg would also change the land-surface altitude in each cell, which is used to define the top of the ETg surface in the model. Evapotranspiration in Tule Valley could also have been adjusted for the smaller grid-cell size.

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2. “Transient simulations of PVWS pumping should include a reasonably foreseeable pumping period and a long enough post-pumping period to assess latent effects and recovery trends” (GRIA, p. A-4). Fifty years of pumping is not long enough. As discussed in the “Comments About GRIA Chapter 1: Introduction” section of this report, the DEIS lists several reasons why Cedar City will continue to need water from Pine Valley for longer than 50 years.

    a. Given the referenced statements about water needs in Cedar City Valley and potential reauthorization, it is unlikely that project pumping would be stopped even if it is affecting other resources or water rights. 40 CFR 1502.14(a) requires that the EIS “rigorously explore and objectively evaluate all reasonable alternatives.” A reasonable alternative would be 100 years, as many valleys in Utah have had pumping for over 75 years.

3. “In light of the uncertainty in existing aquifer conditions and groundwater levels, a superposition approach is appropriate to evaluate the impacts of the PVWS Project.” The GRIA states superposition “is widely used in impact assessment, and tends to reduce the effect of model uncertainty on model outputs.” It is widely used, but it does not necessarily reduce model uncertainty. Predictions may be sensitive to parameters that were not calibrated, including storage properties, hydraulic conductance, and conductance of horizontal-flow barriers. National Research Council (2007, p. 11) states uncertainties in parameters and using the model to extrapolate beyond conditions for which it was calibrated might yield large uncertainties in model outputs.

    a. Chapter A5 of the GRIA indicates that superposition is not used in the prediction simulations as recharge is included in the prediction model runs. Barlow and Leake (2012, p. 65) states: “Unlike flow models, superposition groundwater models do not simulate natural movement of water through an aquifer. Instead of computing head and flow, these models directly compute *change* in head and *change* in flow from an added stress such as pumping.” By including recharge in the prediction simulations, the GBCAAS-PV model is simulating the movement of water through the aquifer. Reilly and others (1987) give several examples of superposition models and none of them include recharge unless the change in recharge is being investigated. Superposition was not used to determine the effects of the proposed plan or the ANWS simulation. The changes in water levels or groundwater discharge are presented, but they were not determined by using a superposition model.

    b. The cumulative effects analyses also did not use a superposition model, but merely added drawdown that was calculated separately for each pumping

center. The GRIA (p. 124) indicates that different models were used for separate pumping areas, which violates the principal of superposition in simply adding the drawdown from each model to get cumulative drawdown. In addition, simulated discharge to evapotranspiration may not be linear, which also violates the principal of superposition.

Regulatory Context

The GRIA (p. 6) states "The water level and water quality data [collected during monitoring] will be used to help ensure that any exceedance of the impacts identified in this EIS is preemptively identified and avoided, and that long-term extraction remains within the safe yield of the basin." This statement implies that the simulated effect of reducing discharge to Wah Wah Springs is okay if it does not exceed the model prediction. This contradicts the Utah Division of Water Rights Order dated May 13, 2014 that requires that CICWCD develop and implement a monitoring program that ensures **no prior water rights are impaired** and the aquifer system in the Pine Valley is not exceeding safe yield (DEIS, p. 5). Because effects of pumping continue after pumping stops, the worst impacts are likely to occur after being identified and will not be avoided.

Boundary Conditions

Recharge from Precipitation

Recharge in the GBCAAS-PV model is assumed to be equal to the recharge described in Chapter 3 of the GRIA and is not adjusted during model calibration. As this report already describes, using the average of all rain gages in Pine Valley is not spatially representative of precipitation in Pine Valley (**Table *1*** in this report). In addition to increasing recharge in Pine Valley and Wah Wah Valley above the GBCAAS v. 3.0 values, the recharge was also increased in areas outside of Pine Valley and Wah Wah Valley (GRIA, p. A-38). The increase in recharge in Snake Valley required changes in hydraulic properties in Snake Valley (GRIA, p. A-46). GRIA (p. A-34) states that any inconsistencies between the parent and child models would be evaluated in terms of their ability to affect the use of the model for the proposed Project and cumulative impact analysis, but provides no discussion of this later in the report.

The GRIA (p. A-31) states: "groundwater discharge by ET around Sevier Lake and in Tule Valley is subject to considerable uncertainty and is estimated to average between 18,000 AFY to 67,000 AFY." By admitting the ETg has considerable uncertainty, the GRIA is also admitting the recharge has considerable uncertainty. The GRIA (p. 103) states: "Water budget numbers derived from the GBCAAS-PV model and discussed herein should be understood in this context and should not be taken as absolute predictions" and yet use an absolute value of recharge to calibrate the

groundwater model. This violates 40 CFR 1502.24 about scientific integrity because no reason or references are given to explain how this is an acceptable method of calibration.

Wells

GRIA (p. A-39) states that calibration of the GBCAAS-PV model was performed for steady-state, pre-development conditions and includes no pumping. This violates 40 CFR 1502.15 to describe the affected environment because the effects of pumping in Beryl-Enterprise Area, Milford Area, and Snake Valley are not included. The long-term overpumping, especially in Beryl-Enterprise Area and Milford Area, has captured most or all of the ETg in those valleys, which will increase the drawdown and effects of future pumping in those areas, and may cause recovery to be slower than is estimated in the cumulative effects section of the GRIA.

The "Previous Pumping in Surrounding Areas" section of this report discuss the problems with neglecting decades of pumping in Snake Valley, Beryl-Enterprise Area, and Milford Area in the description and simulation of the affected environment. Failure to include the surrounding pumping in the baseline (without project pumping) scenario violates 40 CFR §1502.15 that "the environmental impact statement shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration."

Historical pumping in Snake Valley should be assumed to occur at the location of pumping wells found in Masbruch and others (2014) and Masbruch (2019). Estimates of yearly amounts of pumping can be found in Masbruch and others (2014) and Smith and others (2019). Since 1940, over 1,100,000 acre-feet per year of water has been withdrawn from Snake Valley (Masbruch and others, 2014, figure 7 and table 14) and drawdown has occurred (Smith and others, p. 95). The drawdown cone created by this pumping will continue to spread until that much water has been stopped from natural discharge (Barlow and Leake, 2012, p. 43) and the effects of this must be included in any predictions about cumulative effects.

Historical pumping in Beryl-Enterprise Area can be found from Utah Division of Water Rights and historic pumping can be found in Smith and others (2019). All Beryl-Enterprise pumping should be simulated, not just the small amount of pumping in the area that may also be impacted by the Pine Valley project. Since 1937, about 5,200,000 acre-feet of water has been withdrawn from Beryl-Enterprise Area and drawdowns are large and steep (Smith and others, 2019, p. 79-82). The drawdown cone created by this pumping will continue to spread until that much water has been stopped from natural discharge (Barlow and Leake, 2012, p. 43) and the effects of this must be included in any predictions about cumulative effects. The GRIA offers no explanation why all of Snake Valley pumping is included, but only a small amount of Beryl-Enterprise pumping is included.

The GRIA (table 4-5) implies that Brooks (2017) included pumping in Milford Area and showed that drawdown from pumping in Milford Area would not intersect with drawdown caused by project pumping. GBCAAS v. 3.0 (Brooks, 2017) did not simulate pumping in Milford Area or make any predictions about drawdown caused by pumping in Milford Area. Past, present, and future pumping in Milford Area needs to be added to GBCAAS-PV model. Historical pumping locations in Milford Area can be found from Utah Division of Water Rights and total historic pumping amounts can be found in Smith and others (2019). Locations and amounts may also be available from the USGS as simulated by Mason (1998).

Evapotranspiration of Groundwater

Evapotranspiration of groundwater occurs in a very narrow strip around the Sevier Lake playa (Gardner and others, 2020, figure 8; Buto and Gardner, 2020), but was simulated over a much larger area in GBCAAS v. 3.0 because of the large model cell size (Brooks, 2017, figure 10). GBCAAS-PV should have reduced the number of cells with ETg boundaries to more closely match the area where ETg occurs and adjusted the altitude of the land surface in the Evapotranspiration Package to better match the refined grid.

The GRIA (p. A-20) states: "The ETg discharge in [Tule Valley and Sevier Desert] will, therefore, be further evaluated and adjusted during calibration of the GBCAAS-PV model." The ETg discharge in Tule Valley and around Sevier Lake should be considered model observations and should not be adjusted during calibration.

Hydraulic Properties

The adjustment of hydrogeologic flow units (GRIA, p. A-41) to adjust to the child grid changes the thickness of hydrogeologic flow units from the original thicknesses mapped by Cederberg and others (2011). This differs from the method used to refine the grid in GBCAAS v. 2.0 (Stolp and others, 2017), which maintained the thickness of each HGU and adjusted the top and bottom altitudes. The effect of the change of thicknesses is not known because the GRIA presents no figures showing the differences, but this method precludes a direct comparison of hydraulic conductivity of aquifer units and zones between GBCAAS-PV and GBCAAS v. 3.0. A figure should be prepared showing the ratio of transmissivity in GBCAAS-PV compared to GBCAAS v. 3.0.

The GRIA (figure A4-10 and table A6) shows a large reduction in hydraulic conductivity of LCAU (parameter LCAU5181hkc) near Wah Wah Springs compared to GBCAAS v. 3.0. This parameter was not estimated by regression and has small composite scaled sensitivity (GRIA, figure A4-7), so the reason for its separation and value are unknown. Wah Wah Springs observation has medium 1% sensitivity to the parameter (GRIA, figure A4-7), with a larger value yielding more flow to Wah Wah Springs. It is possible the increased recharge in GBCAAS-PV created too much

discharge at Wah Wah Springs without a reduction in hydraulic conductivity. Reducing the value of this parameter may also reduce the simulated impact of pumping in Pine Valley on Wah Wah Springs in comparison to the GBCAAS v. 3.0 model because it is between the proposed pumping area and Wah Wah Springs. By neglecting to perform and report prediction parameter sensitivity and prediction uncertainty, the importance of this parameter to predictions of the effects of the project on Wah Wah Springs cannot be determined. This violates the requirements of 40 CFR 1502.22 to document incomplete or unavailable information and to use research methods generally accepted in the scientific community.

Model Observations

Using only observations in the child model does not reflect changes in the parent model that may occur because of the changes in model parameters in and near the child model. GBCAAS v. 3.0 files are available with all the data for the observations and they should be used, at least in the final calibration and sensitivity run. Even though calibration outside of the child model is beyond the scope of the EIS and the GRIA, presenting the residuals for all observations in GBCAAS v. 3.0 shows whether changes in and near the child model affected areas outside of the child model. If major changes in model fit in the parent have occurred, they should be documented in a table or figure. The GRIA (p. A-34) states: “refinement of the child model could lead to cascading effects outside the child model domain, potentially revealing inconsistencies with the parent model and the need for further calibration in areas that are beyond the scope of the Project effects analysis.” It is also possible, but not discussed in the GRIA, that incorrect calibration in the child model (such as not allowing recharge to regress) is affecting the parent model in incorrect ways.

The remaining comments in this section are of an editorial nature, and have little effect on the analysis of effects of the project or alternative. The discrepancies and data omissions, however, reflect poor scientific accuracy and integrity (40 CFR 1502.24).

1. The text, figures, and tables have inconsistencies about the observations that make it difficult to discern which observations were used for calibration, and the statistics associated with those observations. GRIA Attachment A1 lists 127 water levels in the child model, which matches the number reported on page A-43 of the GRIA. Page A-50 and figure A4-13, however, state that 92 water levels were used.

2. The weight assigned to clustered observations seems incorrect based on the description in the GRIA (p. A-42 to A-43). The discussion to reduce the weight because of clustering is correct, but the equations on p. A-43 reduce the variance of clustered observations. This increases the weight of clustered observations. GRIA Attachment A1 seems to have the calculation the correct way, but the decluster weights do not match the text

description. Some other method appears to have been used, including increasing the weight (decreasing the variance) of all wells that are not clustered.

3. GRIA Attachment A1 needs more explanation. An explanation should be provided for why "Variance used in model files" is not listed for most of the water levels on the first page of the attachment. An explanation should be given for the "NAVD88 Well Elevation" because all those values appear to have been surveyed. But if that were the case, then "Accuracy of altitude" would be much lower.

4. Another table should be added to the report with the same observations as Attachment A1, but showing observed level, simulated level, residual, and weighted residual for each well.

5. The GRIA (p. A-43) states that groundwater discharge observations are consistent with GBCAAS v. 3.0 (Brooks, 2017), but a table should be provided showing the observations and the variance. The observations for ETg in GBCAAS-PV are split between the parent and the child model, and an explanation for how those are calculated and used in regression should be included.

6. The GRIA (p. A-20) states: "The ETg discharge in [Sevier playa and Tule Valley] will, therefore, be further evaluated and adjusted during calibration of the GBCAAS-PV model. An explanation should be provided about how they were adjusted.

7. Wah Wah Springs is changed from GBCAAS v. 3.0 and the observation and the variance need to be documented. Given the changes through time in discharge from Wah Wah Springs (Stephens, 1976; Gardner and others, 2020) and that part of the discharge is to ETg not direct spring discharge, the variance could be larger than for some other springs.

Calibration

The model calibration of GBCAAS-PV as described in the GRIA has several problems that affect its ability to accurately make predictions.

1. The calibration is to conditions in the affected environment that do not include decades of groundwater development in the surrounding valleys and violates 40 CFR 1502.15. This issue has been discussed in previous sections of this report.

2. Recharge is specified and not allowed to vary during regression. This violates 40 CFR 1502.24 about scientific integrity because no reason or references are given to explain how this is an acceptable method of calibration. The uncertainty in conceptual recharge has been discussed in a previous section of this report. The problems with not allowing recharge to be a calibration parameter are discussed below.

3. The GBCAAS-PV model defines many parameters with low composite scaled sensitivities and probably large uncertainty, which also violates acceptable methods of calibration and scientific integrity.

4. The GRIA provides no uncertainty analysis of parameter values, which violates 40 CFR 1502.22 requiring documentation of incomplete or unknown information and how that information could impact predictions. Omitting uncertainty analysis of parameter values also violates scientific integrity required by 40 CFR 1502.24.

5. It is not clear if the uncertainty in parameters in the parent model outside of the child model are accounted for in the statistics presented in the GRIA. Recharge and hydraulic conductivity in the parent model are not certain, and by not accounting for that uncertainty, UCODE may give artificially small confidence intervals of the parameters in the child model or of model predictions.

Recharge

The GRIA (p. A-44) reports that modifying the most sensitive parameters correctly generally improves model fit to observations, but they do not modify recharge other than a slight rearrangement of where it occurs. Model observations provide a lot of information about recharge parameters; composite scaled sensitivities (css) in the GBCAAS-PV model show the highest value to parameter rch2551c and the third highest value to rch2542c (GRIA, figure A4-7). These two recharge parameters cover all the area around Pine Valley and the west side of Wah Wah Valley. The effects of the proposed pumping do not rely on recharge, but do rely on the aquifer properties, which are calibrated to the assigned recharge. This is a severe limitation of this model and **will impact model predictions**. 40 CFR $1502.24 requires the following:

> "Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement."

The GRIA (p. A-45) provides no scientific justification or references for not adjusting recharge in the groundwater model, only stating:

> "GBCAAS v. 3.0 estimated recharge parameters during model calibration. This approach, however, was not used during GBCAAS-PV calibration."

Hill and Tiedeman (2007, p. 278) state: "Preconceived notions about various aspects of the system only can be quantitatively tested against the observations by defining parameters, calculating sensitivities, and attempting estimation by regression." Because knowledge of recharge can be considered incomplete, ignoring standard calibration methods also violates 40

1502.22 requiring the EIS to include methods and statistics to "make clear than such information is lacking" and to document "the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community."

Hydraulic Conductivity

The GBCAAS-PV child model has 59 parameters for values of hydraulic conductivity or vertical anisotropy (GRIA, table A6). Of these, the value of only 7 were determined by regression. All parameters have uncertainty, and 40 CFR 1502.22 requires statements about incomplete and unavailable information that are not provided in the GRIA or DEIS. Determining so few parameters by regression undermines the scientific integrity (40 CFR 1502.24) of the model calibration.

The GRIA (p. A-47) states that 10 parameters were determined by regression. Of those 10, three had their values manually changed (GRIA, table A5) and were not used as determined by regression. One was a very minor adjustment, but two of them were manually adjusted to be lower than the estimated 95% confidence interval (GRIA, p. A-47 and table A5). The value for LCAU5241hkc was reduced from a regressed value of 69.2 feet per day to an assigned value 34 feet per day. The GRIA (p. A-47) wrongly states the assigned values for LCAU5241hkc and LCAU6181 represent small adjustments from the original GBCAAS v. 3.0 parameters. LCAU5241hkc was 20.3 feet per day in GBCAAS v. 3.0 and 34 feet per day in GBCAAS-PV, an increase of 67%. LCAU6181 was 0.017 feet per day in GBCAAS v. 3.0 and 0.044 feet per day in GBCAAS-PV, an increase of about 160 percent. These are hardly small adjustments, and are outside the 95% confidence intervals for these parameters reported by Brooks (2017, table 2-4). The GRIA does not provide a reason or "explicit reference by footnote to the scientific and other sources relied upon" (40 CFR 1502.24) to change the value of LCAU5241, but the GRIA (p. A-45) states carbonate aquifer zones LCAU516hkc and LCAU5241hkc are the primary parameters affecting discharge at Wah Wah Springs. It is possible the assigned hydraulic conductivity of LCAU5241hkc was adjusted to get a good match to the observed discharge at Wah Wah Springs. The GRIA (p. A-45 to A-46) states the hydraulic conductivity of LCAU6181 was adjusted to prevent mounding of water levels above land surface.

The GBCAAS-PV model (GRIA, 2021, table A6) has 2 more recharge parameters and 30 more hydraulic conductivity parameters than does GBCAAS v. 3.0 (Brooks, 2017, tables 2-3, 2-4, and 2-5). From GRIA (figure A4-6) and Brooks (2017, figure 20), only seven new water-level observations are available for GBCAAS-PV. It is unlikely that seven new observations provide enough information to justify 32 new parameters. The GRIA (p. A-47) tries to minimize the differences with GBCAAS v. 3.0 by stating: "the final model has 218 adjustable parameters; this is a slight increase from GBCAAS v. 3.0 (208 parameters) because of the shared parameters that

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crossed the parent/child boundary and sub-divided parameter zones." Whether or not GBCAAS-PV considers a parameter adjustable, it still has uncertainties that need to be quantified and that affect prediction uncertainty. Confidence intervals should be shown on GRIA figure A4-11 for GBCAAS v. 3.0 and GBCAAS-PV parameters and a table should list the values and confidence intervals for all GBCAAS-PV parameters, not just the ones that were regressed. Parameters that could not be regressed may have the largest confidence intervals, and if those parameters are important to model predictions the prediction uncertainty may be larger. GRIA (table A6) shows 12 parameters for UBFAU in GBCAAS-PV with different values than in GBCAAS v. 3.0 and 13 parameters for LCAU in GBCAAS-PV with different values than in GBCAAS v. 3.0. Five additional parameter values are changed in VU, UCAU, NCCU, and vertical anisotropy parameters (GRIA, table A6). In most cases, the parameters in GBCAAS v. 3.0 are also in the model in other locations, so the change in value in the GBCAAS-PV child model represents a new parameter.

The GRIA (p. A-44) states parameters with low sensitivity can impact small areas and targeted manual calculation was used to fine-tune areas of importance. If parameters are being adjusted to match one or two water level or discharge measurements, this could lead to many insensitive parameters and higher prediction uncertainty. Hill and Tiedeman, (2007, p. 13) state:

> "A precise parameter estimate results when the observations provide abundant information about the parameter, given the model construction. A precise prediction results when the parameters important to the prediction are precisely estimated."

National Research Council (2007) states:

> "Increasing the refinement of models introduces increasing model parameters with uncertain values while decreasing the model transparency to users and reviewers. Here, the problem is a model that accrues significant uncertainties when it contains more parameters than can be calibrated with observations available to the model evaluation process" (p. 112).

and

> "Model use in the environmental regulatory process may involve using the model to extrapolate beyond conditions for which the model was constructed or calibrated or conditions for which the model outputs cannot be verified. In these circumstances, uncertainties about the form of a model and the parameters in the model might yield large uncertainties in model outputs…any extra parameters that need to be estimated could degrade the confidence in the estimates of all parameters" (p. 11).

The GRIA does not provide parameter uncertainty, but given the small composite scaled sensitivities for many parameters, parameter uncertainty is probably large. Not providing

parameter uncertainty violates 40 CFR 1502.22 about providing more information about incomplete or unavailable information and 40 CFR 1502.24 about scientific integrity. National Research Council (2007, p. 130) states:

> "Formal uncertainty analysis provides model developers, decision makers, and others with an assessment of the degree of confidence associated with model results as well as the aspects of the model having the largest impacts on its results. As such, uncertainty analysis and related sensitivity analysis is a critical aspect of model evaluation during model development and model application stages."

More detail about parameter concerns and detailed analysis can be found in Appendix 1 of this report. The appendix discusses problems with regression as detailed in the GRIA, the problem with too many parameters and how those parameters should be grouped to provide fewer parameters and possible smaller parameter uncertainty and smaller prediction confidence intervals, and other details. While these are important considerations, the comments and tables are more for the benefit of future modeling attempts than a direct comment on the DEIS.

Model Evaluation

Model evaluation in the GRIA is mostly limited to the child model. Evapotranspiration to groundwater is an exception because the child model does not include all model cells from which ETg occurs. For transparency and scientific integrity (40 CFR 1502.24) and to meet the requirements of 40 CFR 1500.1 for high quality information and accurate scientific analysis, a table comparing statistics for all observations in GBCAAS v. 3.0 and GBCAAS-PV should be prepared. Decision makers cannot determine indirect effects farther removed in distance (40 CFR 1508.8(b)) if changes caused at distance are not documented. In addition to reporting statistics for water-level and discharge observations in the parent model, an analysis of changes in flow across the child-parent model boundaries from GBCAAS v. 3.0 (Brooks, 2017) to GBCAAS-PV should be presented.

The model evaluation is missing any discussion of parameter uncertainty, implying that the parameters are absolute values with which to make predictions. This violates 40 CFR 1502.22 to provide "a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts" based on "the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community."

National Resource Council (2007, p. 26) states:

> "The combination of model formulation and parameters that results in a good match between observations and results is never unique because another combination of model formulation and parameters could result in an equally good match."

Doherty (2025, p. 78) states:

> "Calibration must not be construed as implying certainty of parameters, nor of predictions made by a calibrated model. Nor should it diminish the fundamental truth embodied in Bayes equation that history-matching may reduce the uncertainties of some parameters but not others, and may reduce the uncertainties of some model predictions while leaving the uncertainties of other model predictions relatively unchanged."

Water-level Observations

A major problem with the calibration is that the area of the proposed pumping has some of the highest residuals (GRIA, figures A4-14 and A4-16), and on a small scale those residuals are not ly distributed. The GBCAAS-PV model simulates a steeper gradient at the southern end of Pine Valley than exists in the observed data. The mismatch in this area could indicate a conceptual error in the model construction or parameterization. The water levels in the southern end of Pine Valley were not available during calibration of GBCAAS v. 3.0, but 4 levels in the middle of the valley were. From Brooks (2017, figure 20) and GRIA (figure A4-14) it appears the GBCAAS v. 3.0 model has smaller residuals in this area. This is concerning as this area of the GBCAAS-PV model may be the most critical for estimating the effects of the proposed pumping. This is also concerning because the GRIA (p. A-51) states the most fine-tuning of the model by manual adjustments to parameters was done in Pine and Wah Wah Valleys; parameters were added or split with little support from regression statistics, and the calibration still has problems in this area. It is possible the information is not of high enough quality (40 CFR 1500.1) in this area to support the model predictions.

The model fit to water-level observations statistics indicate the model meets standards for calibration. GRIA (figure A4-13), however, obscures data by including perched water levels and making longer axes than required to show calibrated data. A comparison of both unweighted and weighted statistics between GBCAAS v. 3.0 and GBCAAS-PV should be included on GRIA figure A4-13 and GRIA figure A4-15.

Discharge Observations

As stated in the GRIA (p. A-51 and figure A4-18), the largest error in discharge observations is to discharge to ETg in part of Snake Valley (et37snake3). The GRIA states additional calibration in

the parent model may fix this, but fails to mention that the fit is significantly worse in GBCAAS-PV than in GBCAAS v. 3.0 or that changes made in the child model or in Snake Valley in GBCAAS-PV (parameters LCAU4191hkp and UCAU11hkc) may have impacted this observation.

Although recharge was increased in GBCAAS-PV in comparison to GBCAAS v. 3.0, total discharge to the eight ETg areas shown on figure A4-18 was reduced. Recharge in GBCAAS-PV is at least 8,660 acre-feet per year greater than in GBCAAS v. 3.0, but discharge to ETg and springs is 5,500 acre-feet per year less in GBCAAS-PV than in GBCAAS v. 3.0 (**Table *2*** in this report). This means a net of over 14,200 acre-feet/year is unaccounted in the budget for the child model and surrounding study area. No analyses are presented in the GRIA about flows across the child-parent boundary or discharge to other areas not included in the ETg estimates, such as Big Springs and Dearden Springs in Snake Valley. Failure to examine and explain this difference and determine if it is relevant to model calibration or model predictions violates 40 CFR 1502.22 requirements to document incomplete or unavailable information and 40 CFR 1500.1 for accurate scientific analysis.

Table 2. Mismatch between recharge and discharge in GBCAAS-PV model.

	GBCAAS v. 3. 0 (Brooks, 2017, table 8 and table A1-6)	GBCAAS-PV (GRIA, table 3-18, p. A-51, figure A4-18)
[All values in acre-feet per year]		
Recharge		
Pine Valley	11,000	17,700
Wah Wah Valley	3,200	5,160
Snake Valley	140,000	[1]>140,000
Total increased recharge in GBCAAS-PV		**>8,660**
Discharge to Etg		
et37snake2	43,200	
et37snake3	27,600	
et37snake4	7,550	
et37tule	33,900	
et39beryl	23,800	
et39milford	31,700	
et39sevier2	2,720	
et39sevier3	1,560	
Total discharge to Etg	[2]172,030	165,494
Discharge to springs in the child model		
Wah Wah Springs (gha256_1)	748	1,800
Clay Springs	281	262
Total decreased discharge in GBCAAS-PV		**5,503**
Unaccounted change in GBCAAS-PV		**>14,200**

[1.] Recharge in Snake Valley is increased in GBCAAS-PV relative to GBCAAS v. 3.0 because the higher recharge conceptualized in Pine Valley extends into Snake Valley to avoid sharp transitions in recharge at HA boundaries (GRIA, p. A-38 and figure A4-4).

[2.] Reported on GRIA figure A4-18 as 172,500 acre-feet per year.

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Model Predictions

The calculation and presentation of model predictions violate 40 CFR 1500, 40 CFR 1502, and 40 CFR 1508 for accurate scientific analysis, documentation of incomplete information and scientific integrity, and analysis of all past, present, and future actions. No prediction uncertainty is presented, the length of time Cedar City will need the water is unknown, and the affected environment is not correctly simulated. These omissions prevent the regulators from obtaining accurate descriptions of the effects of the PVWS Project pumping.

No Presentation of Prediction Uncertainty

The model predictions described in the GRIA are similar to the preliminary model projection simulated with GBCAAS v. 3.0 (Brooks, 2017) and model scenarios (Masbruch, 2019) used to show estimated effects and extent of drawdown from possible pumping. Those analyses were not intended to provide detailed information needed for environmental analysis and project approval. Part of the purpose of the GBCAAS v. 3.0 projection was met when it was used to help determine the size of the child model in GBCAAS-PV. A model being used for project design and approval needs to include robust predictions and statistics that can only be obtained using a true prediction simulation. Prediction simulations require the predictions be defined using the model and the regression software so that statistics about the predictions can be determined. The model simulation of the startup pumping (6 southern wells) should also have predictions defined and analyzed. Because predictions were not defined and analyzed (Hill and Tiedeman, 2007, Chapter 8), the "Model Prediction" and "Potential Project and Cumulative Effects" sections of the GRIA are missing essential information needed to better understand the effects of the project.

Uncertainty in model parameters and model predictions is never acknowledged or discussed in the GRIA, despite the GRIA (p. 5) stating there are still significant uncertainties in the amount and distribution of groundwater recharge and discharge, as well as the aquifer properties and the hydrogeologic conceptual model and that **these uncertainties must be sufficiently addressed in the GRIA**. The DEIS (p. 93) states the GBCAAS-PV numerical flow model was developed to evaluate the reasonable range of impacts that could occur from groundwater extraction related to the PVWS Project, but a range of impacts is not presented. The omission of these data violates 40 CFR 1502.22(a) which states:

> "If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement."

No explicit reference to scientific and other sources relied upon to justify omitting parameter and prediction uncertainty are given, violating 40 CFR 1502.24 about scientific integrity. Many references can be used to justify the inclusion of uncertainty analysis. Hill and Tiedeman (2007, p. 340) state that predictions tend to be less accurate as prediction conditions differ more from calibration conditions. Prediction conditions of pumping 15,000 acre-ft/yr are very different than the non-pumping conditions for which the model was calibrated.

Doherty (2025, p. 78) states:

> "Calibration must not be construed as implying certainty of parameters, nor of predictions made by a calibrated model. Nor should it diminish the fundamental truth embodied in Bayes equation that history-matching may reduce the uncertainties of some parameters but not others, and may reduce the uncertainties of some model predictions while leaving the uncertainties of other model predictions relatively unchanged. Nor should any conclusions regarding the predictive integrity of a model be drawn from the fact that it has been calibrated. Ultimately, decision-makers should be made aware of the range of predictive possibilities that are compatible with all available data. **Some kind of predictive uncertainty analysis is required** to answer the most important question with which decision-makers are faced."

The National Research Council (2007) states:

> "Formal uncertainty analysis provides model developers, decision makers, and others with an assessment of the degree of confidence associated with model results as well as the aspects of the model having the largest impacts on its results. As such, **uncertainty analysis and related sensitivity analysis is a critical aspect of model evaluation** during model development and model application stages. The use of formal qualitative and quantitative uncertainty analysis in environmental regulatory modeling is growing in response to improvements in methods and computational abilities" (p. 130).

and:

> "Realistic assessment of uncertainty in model outputs is central to the proper use of models in decision making. Probability provides a useful framework for summarizing uncertainties and **should be used as a matter of course** to quantify the uncertainty in model outputs used to support regulatory decisions" (p. 135).

PVWS Project Pumping

As explained in the "Comments about GRIA Chapter 1: Introduction" section of this report, the amount of pumping after 50 years is incomplete or unavailable information. 40 CFR 1502.22(a) requires:

> "If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement."

The short time frame also violates 40 CFR 1508(b) about possible effects later in time that are reasonably foreseeable. A time frame of 100 years should be considered as a compromise between the 50 years used for the prediction analysis and the 200-year simulation used in a supplement to the DEIS (Townsend and others, 2021). A recovery time of at least 450 years should also be simulated and reported for all effects instead of 200 years for some effects and 450 years for other effects (GRIA, Chapter 4).

Improper Description and Simulation of the Affected Environment

The "Previous Pumping in Surrounding Areas" and "Wells" sections of this report discuss the problems with neglecting decades of pumping in Snake Valley, Beryl-Enterprise Area, and Milford Area in the description and simulation of the affected environment and the violation of 49 CFR 1502.15. The surrounding pumping may have little affect on calibration and predictions during the 50 years of pumping. The surrounding pumping and associated decrease in natural discharge may have the most impact on the predictions during the recovery phase of the model. The cone of depression spreads from the PVWS pumping area to discharge locations until 750,000 acre-feet of cumulative discharge has been captured. In the process, it may intercept simulated discharge areas that do not exist in the physical system because past pumping has captured them. The effect on the prediction models would be to overestimate available capture, underestimate decline in storage and water levels, and simulate faster recovery time than may occur in the physical system. Failure to include the surrounding pumping in the baseline (without project pumping) scenario violates 40 CFR §1502.15 that "the environmental impact statement shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration."

Model Limitations

The GRIA (Appendix A, Chapter 4) includes little discussion about model limitations when used for predictions. For example, Brooks (2017, p. 56) states:

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> "Because the projection stress periods, outside of Parowan Valley, start with pre-development steady-state conditions, the projection simulates capture of groundwater discharge that, in the real system, has already been captured by withdrawals that are not simulated (especially in the Beryl-Enterprise Area, HA 280). As a result, the drawdown presented in this report may underestimate the amount and extent of drawdown possible from the withdrawals in Pine and Wah Wah Valleys. Simulating all model layers as confined is another model limitation because transmissivity is not reduced with declining water levels; this could also result in the model underestimating the amount and extent of drawdown. Simulated effects (recovery, drawdown, and capture of natural discharge) also are dependent on aquifer transmissivity and storage properties. The simulated ultimate (long-term steady-state) drawdown and capture are based on simulated aquifer transmissivity, which is considered reasonably calibrated throughout the model. Simulated storage properties in Parowan Valley are considered adequately calibrated, and the simulated timing of the water-level recovery is likely a reasonable estimate of actual timing if withdrawals are reduced in Parowan Valley. Simulated storage properties outside of Parowan Valley are set the same as the Parowan Valley properties and are not considered calibrated. The timing of drawdown and capture outside of Parowan Valley are a representation of what would happen if those storage parameters are correct."

Those same limitations exist in the GBCAAS-PV simulations, but are not addressed. This violates 40 CFR 1500.1 for high quality information to be available to public officials and citizens before decisions are made.

Cumulative Effects Analysis

Multiple problems with the analysis of cumulative effects call into question the scientific integrity (40 CFR 1502.24) of the analysis. First, it is highly speculative that all pumping will stop in all surrounding areas in 50 years. Second, pumping from the Milford Area is not included. Third, superposition cannot be used to add the results of two different models.

Future Pumping in Surrounding Areas

As with PVWS Project pumping, simulating pumping in surrounding areas for only 50 years and assuming all pumping will stop is highly speculative and violates 40 CFR 1508.7 that cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and **reasonably foreseeable** future actions. A 100-year pumping period would be more reasonable and have more scientific credibility (40 CFR 1502.24). The GRIA and DEIS repeatedly state assigning specific extraction rate beyond 50 years is speculative, but then use a model simulation that assigns the **very specific pumping rate of zero** in all areas. It is unlikely that three areas of agricultural development that have been

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pumping about 150,000 acre-feet/year of water for the last 50 years would suddenly quit pumping water 50 years in the future. The Groundwater Management Plan for Beryl-Enterprise plans to gradually reduce pumping until reaching 34,000 acre-ft/yr in 2130 (GRIA, p. 65). If Utah Division of Water Rights assumes pumping is going to continue for over 100 years, the GRIA and DEIS should not assume pumping will end in Snake Valley, Beryl-Enterprise Area, and Milford Area in 50 years.

The GRIA (p. 124) states Masbruch (2019) showed that continuing pumping at currently approved rates in Snake Valley would result in "significant and irreversible" impacts. Masbruch (2019) simulated rates much higher than current rates of about 28,000 acre-ft/yr using a steady-state model, presenting results possibly thousands of years in the future. Masbruch (2019) never described the effects as irreversible. The GRIA suggests the states of Utah and Nevada would curtail pumping in Snake Valley to lessen impacts. The State of Utah defines safe yield as the amount of recharge available, not on whether natural groundwater discharge is affected. Unless the State of Utah has current plans to limit production in Snake Valley, it should not be assumed as a future occurrence. Masbruch and others (2014, p. 44) report water levels in 2009 in 27 wells with long-term records were similar to long-term average water levels. The steady-state model presented in Masbruch and others (2014) pumped 28,000 acre-ft/yr from Snake Valley (Masbruch and others, 2014, table 14), and discharge to major springs closely matched or exceeded observed rates (Masbruch and others, 2014, table 12). Simulated ETg was 77 percent of estimated ETg, including small springs. This could be caused by long-term (steady-state model) pumping, but is also within the range of error for ETg estimates. This does not match the GRIA (p. 125) assumption that changes in pumping in the Snake Valley HA will occur within the next 50 years to avoid potentially significant impacts to spring resources of regional environmental significance. The 200-year simulation (Townsend and others, 2021) cannot be relied on as a predictor of future results because GBCAAS v. 3.0 and GBCAAS-PV are not calibrated transient models in Snake Valley.

The cumulative effect scenario described in the GRIA spread out the existing pumping in Snake Valley to new areas in Snake Valley and reduced the pumping at existing wells (GRIA, p. A-76). This will simulate different drawdown and capture than which has already occurred in the system. This is also speculative. Instead, existing pumping should be kept at the current locations (Masbruch, 2019 and Masbruch and others, 2014).

All pumping in Beryl-Enterprise Area must be simulated, not just the small amount of pumping in the area shown on GRIA figure A5-2. Ignoring most of the pumping in Beryl-Enterprise neglects the effects of long-term drawdown and capture of natural discharge. Pumping used for the cumulative effect prediction can be scaled or reduced at specific wells to account for future reductions under the Beryl-Enterprise Groundwater Management Plan through 2130.

Future pumping in Milford Area should be assumed to be equal to about 65,000 to 70,000 acre-ft/yr (Smith and others, 2019, figure 29) unless Utah Division of Water Rights has a plan to reduce pumping in this area.

Method

The principal of superposition to determine cumulative effects does not apply when using different models to simulate pumping as described in the GRIA. The GRIA (p. 124) states:

> "Cumulative pumping was simulated using the GBCAAS-PV model for pumping in the Pine Valley HA and the southern Sevier Desert HA. To simulate cumulative pumping in the Snake Valley HA and the Beryl Enterprise HA, the recently updated version of GBCAAS with refinements focused on Snake Valley and Hamlin Valley (Masbruch 2019) was utilized and was thought to represent the most refined modeling tool available to evaluate the effects of cumulative pumping in that area and in the northern portion of the Beryl-Enterprise Area HA."

Masbruch (2019a, p. 7) states that GBCAAS v. 3.0 was used for the simulations in that report, so it is not clear why GBCAAS-PV, which incorporates GBCAAS v. 3.0 for most of the parent model and includes the revisions deemed necessary for Pine Valley and Wah Wah Valley was not used to determine all cumulative effects. In addition, Masbruch (2019a, p. 7) used only the first steady-state period of the GBCAAS v. 3.0 model and used no storage properties. It is not possible to use Masbruch (2019b) for transient prediction simulations. The description of what model is used violates 40 CFR 1500.1 for high quality information and accurate scientific analysis.

GBCAAS v. 3.0 and GBCAAS-PV involve different recharge, different transmissivity, different model layers, and different definitions of hydrogeologic units (GRIA, p. A-41). An example of the differences in the models and why they cannot be used individually to determine cumulative effects is provided by model simulation of discharge to ETg in one area of Snake Valley. The observed discharge to et37Snake3 is 37,400 acre-ft/yr and GBCAAS v. 3.0 simulated discharge is 27,400 acre-ft/yr (Brooks, 2017, table 1-6). GBCAAS-PV simulated discharge is about 18,000 acre-ft/yr (GRIA, fig. A4-18). This difference indicates the two models will not predict linear responses and cannot be used to create superposition drawdown maps or to compare declines in discharge to springs and ETg. The GRIA provides no references to scientific or other sources about the validity of this unusual approach and therefore violates 40 CFR 1502.24.

Using two different models also complicates the determination of prediction confidence intervals which should to be presented. In addition, pumping in each valley has the potential to affect ETg in surrounding areas and because simulated ETg may not be a linear response, superposition cannot be used (Barlow and Leake, 2012, p. 65). The GRIA does not present a

valid scientific reason why GBCAAS-PV was not used to include all the pumping in one simulation.

Comments About Chapter 4: Potential Project and Cumulative Effects

Most of the technical problems with the predicted effects as estimated by the model are described in the "Model Predictions" section of this report. These problems are lack of presentation of prediction uncertainty; not simulating all past, present, and future pumping from the surrounding area for proper definition of the affected environment and cumulative effects analysis; the simulated pumping period of only 50 years; and using superposition of models incorrectly. Because the potential project and cumulative effects presented in GRIA Chapter 4 are invalid without prediction uncertainty, the importance of prediction uncertainty is repeated here.

Lack of Prediction Uncertainty Analyses

The DEIS (p. 93) states the GBCAAS-PV numerical flow model was developed to evaluate the **reasonable range** of impacts that could occur from groundwater extraction related to the PVWS Project. 40 CFR 1500.1 states NEPA procedures must insure environmental information be of high quality and that accurate scientific analysis is essential. 40 CFR 1502.1 states the EIS "shall provide full and fair discussion of significant environmental impacts." The GRIA (p. 103) states: "Water budget numbers derived from the GBCAAS-PV model and discussed herein…should not be taken as absolute predictions." The GRIA acknowledges that predictions are not absolute, but does nothing to analyze and present uncertainty, to provide a reasonable range of impacts, or to present full and fair discussion of significant environmental impacts.

Impact to Wah Wah Springs

The uncertainty in the change in discharge to Wah Wah Springs is not presented, so the reasonable range of impacts (DEIS, p. 93) cannot be determined. Wah Wah Springs is in an area of the model with a lot of zone boundaries in the model parameters. Because of this, it is likely that many of those parameters could have some influence on the simulated discharge to Wah Wah Springs and on the change in discharge caused by the Proposed Action and ANWS Alternative. The confidence interval for the prediction of change in flow at Wah Wah Springs is expected to be large because of the complicated geology and the lack of observations other than Wah Wah Springs to control the model parameters in the area.

In addition to the many parameter zones near Wah Wah Springs, a horizontal-flow barrier (HFB) is simulated on the east side of Pine Valley near the location of the ANWS Alternative wells

(Brooks, 2017, figure 12). The GRIA does not discuss why the ANWS Alternative impacts Wah Wah Springs only slightly more than the Proposed Action (in text, not in figures) despite being closer to Wah Wah Springs. It is possible that the HFB simulated on the east side of Pine Valley limits the effects of the pumping on Wah Wah Springs. The uncertainty in the conductance of that barrier, however, is large (Brooks, 2017, table 2-8). What is not known is the sensitivity of the change in discharge to Wah Wah Springs to the HFB conductivity parameter. This could be an important parameter for predictions and prediction uncertainties.

The GRIA (p. 115) states: "As discussed in Section 3.7.2.1, geochemical analyses performed by the USGS (Gardner et al. 2020) support the interpretation that only a portion of the discharge from Wah Wah Springs is derived from the regional aquifer system; therefore, the above depletion estimates may be considered conservative overestimates." Discharge to Wah Wah Springs is incomplete information and the discussion required by 40 CFR 1502.22 must be included in the GRIA or DEIS. If only part of the discharge at and near the spring is connected to the regional system, it is likely that the part of the spring that has been developed for long-term use is the part that is best connected to the regional system. In that case, the change of 159 acre-feet per year in year 50 and 257 acre-feet per year in year 100, which is the change in the regional system, would all affect the use of the spring and could have catastrophic impacts. As explained in the "Wah Wah Springs" section of this report, the difference in spring measurements from Stephens (1976) to Gardner and others (2020) could be caused by precipitation trends. It is possible that the discharge measured by Stephens during a drier period is more representative of the regional part of the flow, and the reduction caused by pumping will be a much larger proportion of the regional spring discharge. Comparing the percent change to the largest possible regional discharge presents minimal effects and lacks scientific integrity (40 CFR 1502.24). Instead of talking about percent change, only change should be discussed, as would be the case in a true superposition model.

Effects that could impact Wah Wah Springs are not examined in the GRIA. For example, the GRIA (p. 105) discusses continued drawdown into Sevier Desert and Tule Valley with the AWNS alternative, but fails to discuss the expansion of 3 to 5 feet of drawdown into Wah Wah Valley for up to 150 years of recovery and the fact that drawdown of 3 to 5 feet exists near Wah Wah Springs after 200 years of recovery (GRIA, figure 4-2). Another example is the description of interbasin flows. The decrease in flow from Pine to Wah Wah Valleys appears to decrease levels in Wah Wah Valley enough that flow is also reduced from Wah Wah Valley to Sevier Desert and from Wah Wah Valley to Tule Valley. These effects are greater in the ANWS alternative, yet no mention is made that these changes could affect Wah Wah Springs or that the ANWS alternative may have more effect on Wah Wah Springs than the proposed project.

The GRIA (p. 135) states that Wah Wah Springs is outside the area predicted to be impacted by the cumulative drawdown changes. Figure 4-16, however, shows the drawdown cones from Pine Valley pumping and Sevier Playa pumping to merge during recovery, so given the information in the GRIA, it is not possible to determine that cumulative effects do not occur. Figure 4-20 graphs effects of each cumulative pumping scenario for Clay Spring, Dearden Spring Group, and Big Springs, but not for Wah Wah Springs.

The text and figures presented in the DEIS and chapter 4 of the GRIA have multiple discrepancies about Wah Wah Springs, violating 40 CFR 1500.1 and 40 CFR 1500.2 that information in the DEIS be high quality, have accurate scientific analysis, and be clear and concise.

1. The DEIS (p. 113) states: "The predicted depletion of Wah Wah Springs discharge under the Proposed Action is approximately 14 percent of the total estimated discharge, and the predicted depletion under the ANWS Alternative is approximately 9 percent."

2. The DEIS (p. F-5) states: "…if Wah Wah Springs receives all of its discharge from the regional aquifer and operates as simulated in the GBCAAS-PV model, spring flow depletions of 14 to 15% may be anticipated as a result of implementing the Proposed Action and the ANWS Alternative, respectively."

3. The GRIA (p. 116) gives a vague description of the changes to Wah Wah Springs caused by the ANWS Alternative, and merely states that depletion would be about 25 acre-feet per year greater than with the Proposed Action. It does not state when this depletion would occur.

4. Figures 4-4, 4-11, and 4-13 show less depletion with the ANWS Alternative.

Townsend and others (2021, p. 6) report that if pumping continued for 200 years, spring flow depletion in Wah Wah Springs is simulated as reaching a maximum of approximately 65%, approximately 50 years after pumping ceases. Because the amount of time the PVWS Project will pump is unknown, 40 CFR 1502.22(b) applies:

> (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: (1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical

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> approaches or research methods generally accepted in the scientific community. For the purposes of this section, ‘‘reasonably fore seeable’’ includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.”

Presentation and Editorial Comments

This part of this report concentrates on the presentation of the predictions and how that presentation lacks clarity and consistency. The presentation makes it difficult to understand the effects of the proposed pumping, alternative pumping, and cumulative effects. The presentation violates 40 CFR 1502.1 which states the EIS “shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts.” Many parts of Chapter 4 in the GRIA violate 40 CFR 1500.1, which states NEPA procedures must ensure environmental information be of high quality and that accurate scientific analysis is essential.

Cumulative Depletion and Long Recovery

The GRIA and DEIS never clearly state the total reduction in natural discharge that will occur as a result of the proposed project. Pumping for only 50 years is going to affect the groundwater system for hundreds or thousands of years, but the GRIA present data only for 250 years or 500 years. Both alternatives have two things in common: 1) they produce drawdown, and 2) they reduce long-term cumulative discharge to springs and ETg by 750,000 acre-feet.

GRIA (p. 103) wrongly implies that recharge can be captured and limit the cone of depression caused by the project wells. This is not true in Pine Valley because only rejected recharge can be captured. (Theis, 1940, p. 2) states:

> “Discharge by wells is thus a new discharge superimposed upon a previously stable system, and it must be balanced by an increase in the recharge of the aquifer, or by a decrease in the old natural discharge, or by loss of storage in the aquifer, or by a combination of these…On the other hand, no matter how great the normal recharge, if under natural conditions none of it was rejected by the aquifer, then there is no possibility of balancing the well discharge by increased recharge, except by the use of artificial processes such as water spreading.”

Konikow and Leake (2014, p. 1) state: “An important corollary to Theis’ (1940) principles is that the average predevelopment rate of natural recharge itself is largely irrelevant to storage depletion and capture responses.”

The GRIA completely omits providing any indication of how long recovery may take after pumping ceases. 40 CFR 1508.8(b) requires analysis of effects that are later in time or farther removed in distance, but are still reasonably foreseeable. From data presented in the GRIA (table 4-1), at the end of pumping, cumulative capture is only 0.5% of total pumped and after 200 years of recovery, cumulative capture is only 23 percent of total pumped. Two hundred years after pumping stops, 77 percent of the 750,000 acre-feet pumped still must be captured from natural discharge in the proposed alternative and 72 percent in the ANWS alternative. Barlow and Leake (2012, p. 43) report that over the time interval from when pumping starts until the water table recovers to original pre-pumping levels, the volume of depletion will equal the volume pumped. A longer recovery period must be simulated in the GBCAAS-PV model to make sure the farthest spread of drawdown is shown, and to show how long full capture of 750,000 acre-feet of discharge requires. The report should include a graph similar to Barlow and Leake (2012, figure B-2) showing cumulative capture as a percent of cumulative pumped.

Differing Prediction Times

The presentation of the effects is confusing because of the different time frames involved. The DEIS (p. 93) states: "recovery periods ranging from 200 to 450 years were simulated after the pumping period, depending on the effect being evaluated." The GRIA (p. 102) states:

> "The GBCAAS-PV consists of (1) a calibrated historical model that simulates groundwater and surface water conditions; (2) a baseline forecast model without project pumping; (3) 250-year forecast scenarios (including 50 years of project pumping and 200 years of recovery) to establish the aquifer response under the Proposed Action and the ANWS Alternative; and (4) 250-year to 500-year forecast scenarios (including 50 years of project pumping and 200 to 450 years of recovery) to establish the cumulative aquifer response under both project and existing and reasonably foreseeable pumping in the area that may be affected by the project."

The GRIA fails to explain how the baseline forecast model differed from the steady-state model and whether predictions are compared to simulated values at the end of the baseline forecast model or to simulated values in the steady-state model. The GRIA also fails to explain why all effects were not reported for 500 years and why some figures and text describe 250 years and some describe 500 years. The presentation of the effects violates 40 CFR 1502.1 that the EIS provide a full and fair discussion of environmental effects and that statements shall be concise and clear.

Other Inconsistencies and Editorial Comments

Other parts of Chapter 4 indicate a lack of high quality information (40 CFR 1500.1), lack of clarity (40 CFR 1500.2), and lack of professional integrity (40 CFR 1502.24).

1. Without providing uncertainty analysis for the flows between hydrographic areas, the detailed discussions of the changes are ineffectual in examining the effects of the proposed pumping. The GRIA does not present uncertainty analysis, but GBCAAS v. 3.0 (Brooks, 2017, table 9) shows uncertainty in those flows of hundreds to thousands of acre-feet per year.

2. The GRIA (p. 114) reports that three regional springs outside the area of projected effects (APE) exist in Snake Valley. More than three regional springs, however, exist in Snake Valley (GRIA, figure 3-1; Masbruch and others, 2014, figure 6 and table 12; Brooks, 2017, figure 11 and table 1-6). The GBCAAS-PV model should include all the springs in calibration and predictions statistics.

3. Limiting change in discharge to areas with greater than one foot of drawdown is not capturing all the changes in discharge. An example is ETg in Tule Valley, which decreases even though drawdown is less than one foot.

4. Figure 4-4 should show the calibrated discharge to springs and ETg, not the observed or estimated discharge. The change being reported is from the value in the steady state or baseline model, not from the observed or estimated value.

5. Page 118 states the modeled ETg around Sevier Lake is about 1,500 acre-feet/year, which matches figures 4-14 and 4-15. Figure 4-4, however, shows estimated ETg of 4,231 acre-feet/year.

6. Page 118 states ETg in Milford Area for no pumping is about 32,000 acre-ft/yr. This is about the same as figures 4-14 and 4-15, which show about 32,400 acre-ft/yr. Figure A4-18, however, shows the calibrated discharge to ETg in Milford Area of about 27,000 acre-feet/year and observed value of about 32,000 acre-ft/yr. This makes it seem as if the calibrated model was not used as the starting point for the prediction scenarios, at least in the Milford Area.

7. Etg in Beryl-Enterprise is not discussed and no graph is shown.

8. The GRIA (p. 126) claims that groundwater levels in Snake Valley will recover rapidly because pumping centers are close to recharge and discharge areas. Recharge does not matter, and does not influence recovery. It is true that Snake Valley has a lot of discharge areas that can be captured and water levels will recover faster because of that.

9. The GRIA (p. 127) states that water levels in Beryl-Enterprise will recover to less than 10 ft of drawdown within 10 years after pumping stops. This is a case where because past pumping is not simulated, the model is probably incorrect. Water levels in Beryl-

Enterprise will probably not recover that quickly because the ETg that is being captured in the model does not exist in Beryl-Enterprise because of previous groundwater pumping.

Potential Cumulative Effects

Multiple problems with the analysis of cumulative effects call into question the scientific integrity (40 CFR 1502.24) of the analysis. These problems are discussed in detail in the "Cumulative Effects Analysis" section of this report, and are only listed here:

1. The analysis neglects past pumping in the areas surrounding Pine Valley.
2. The analysis completely ignores pumping in Milford Area.
3. Pumping that has been happening since the 1930s and 1940s and totals about 150,000 acre-ft/yr is assumed to end in 50 years.
4. Different models were used to analyze the effects of pumping in nearby areas and the effects of project pumping and the results cannot simply be added together. These results were then added together, but the principals of superposition may not apply to different models.

Comments About GRIA Chapter 6: Monitoring Plan

Monitoring Wells

The DEIS (p. 123-124) states: "Monitoring wells close to the hydrologic divide between the Beryl-Enterprise area and Pine Valley to the south, between the well field the ET discharge areas in Tule Valley HA and Sevier Desert HA, and between the wellfield and Snake Valley to the west and Wah Wah Valley to the east, would provide early warning of unexpected impacts to adjacent hydrologic basins as part of the adaptive management approach." The DEIS (p. 17) states that the location of monitoring wells are shown on Figures 2-4, 2-5 and 2-6 of the Groundwater Resources Impact Assessment.

The locations of monitoring wells shown on those figures are insufficient to determine if aquifer properties and horizontal-flow barriers simulated between Pine Valley and Snake Valley and between Pine Valley and Wah Wah Valley are simulated correctly. Small changes in those parameters could have large consequences for drawdown propagation in east and west directions from the pumping wells, but most monitoring wells are aligned with the pumping wells in a north-south direction. Only in the extreme southern portion of Pine Valley are any monitoring wells east or west of the line of pumping wells; one well is to the east, and two wells are to the west of the proposed action pumping wells. The one well to the east in not in the correct location to determine if the simulated discontinuity in drawdown between Pine Valley

and Wah Wah Valley (GRIA, figure 4-1) accurately predicts future drawdown. Given the drawdown shown in the GRIA (figure 4-1), a monitoring well in southwestern Wah Wah Valley should be added to provide information about the accuracy of the groundwater model in predicting effects in Wah Wah Valley.

A technical memorandum describing the effects of a 200-yr pumping scenario (Townsend and others, 2021) details the need for additional monitoring wells between Pine Valley and Snake Valley as stated below:

> "The monitoring approach contained in the GRIA proposes to assess the potential presence of impeding boundaries in the aquifer system by assessing the drawdown response in monitoring wells located near these boundaries. This approach attributes a downward deflection in the drawdown curve during pumping to the presence of a flow-impeding boundary. While this is a hydrologically-valid and commonly used approach to infer the existence of flow boundaries in an aquifer system, additional certainty could be derived from monitoring groundwater level responses in a transect across the impeding geologic boundaries from the Pine Valley HA into the Snake Valley HA."

The same reasoning applies to the area between Pine Valley and Wah Wah Valley, but is not discussed in the GRIA or by Townsend and others (2021). The GRIA (figures 2-4, 2-5, and 2-6) does not show a transect between Pine Valley and Snake Valley as recommended by Townsend and others (2021, figure 12).

Monitoring Spring Discharge at Wah Wah Springs

The GRIA (p. 169) again misquotes Stephens (1974) and Gardner and others (2020) when stating that Wah Wah Springs follows a structural contact of the carbonate and siliciastic rocks (see "Misrepresentation of USGS reports" section of this report. The GRIA (p. 169) then uses this questionable geologic interpretation to state spring flow depletion at Wah Wah Springs would be most likely to manifest itself either as a depletion of outlying springs and seeps that are in more vulnerable positions along the discharge structure or as a decrease in overflow from the spring areas to the surrounding groundwater-dependent phreatophyte vegetation. Because it is not known if all the discharge in the area of Wah Wah Springs is connected to the regional system, it is possible that outlying springs and ET areas are not connected to the regional system. If they are not, they will not be affected by pumping, and monitoring that shows no change in those may not represent changes occurring in the developed part of Wah Wah Springs.

The GRIA (p. 170) states that the monitoring and mitigation measures for Wah Wah Springs includes direct monitoring of key spring resources as well as monitoring of sentinel wells located

between the PVWS wellfield and the springs and that potential adverse impacts to spring resources at Wah Wah Springs will be adequately mitigated. As stated in the "Monitoring Wells" section of this report, only one monitoring well is between the PVWS wellfield and Wah Wah Springs, and monitoring ET around the springs may not show regional effects that would occur to the developed spring system.

Conclusions

This technical review shows the DEIS, GRIA, and GBCAAS-PV model do not meet the standards for high quality accurate scientific analysis (40 CFR 1500.1), accurately describing the affected environment (40 CFR 1502.15), documentation of incomplete or unavailable information (40 CFR 1500.22), professional and scientific integrity (40 CFR 1502.24), accurate cumulative impact (40 CFR 1508.7), and accurate effects (40 CFR 1508.8). This report shows little confidence can be placed on the predictions of impacts because of omissions, errors, and inconsistencies in the GRIA, improper model calibration techniques, and incomplete model analyses.

The model analysis does not include parameter uncertainty. The model predictions do not include prediction confidence intervals, prediction scaled sensitivities, or prediction correlation coefficients. These statistics are critical to understanding if the model can make precise predictions and the uncertainty in those predictions. Not calculating or presenting prediction uncertainty is not generally accepted in the scientific community.

The model and report fail to acknowledge and simulate past pumping in the surrounding areas of Snake Valley, Beryl-Enterprise Area, and Milford Area. This past pumping has created large drawdown cones and depleted areas of evapotranspiration that existed during the pre-development period for which GBCAAS v. 3.0 and GBCAAS-PV were calibrated. The effects of decades of pumping and groundwater mining cannot be estimated by starting with the steady-state no pumping model.

Recharge was set as a known value in the groundwater model, despite uncertainty in recharge and despite the observations providing a lot of information about recharge parameters (high composite scaled sensitivities). The model has a number of hydraulic conductivity parameters that cover small areas and for which the observations provide little information (low composite scaled sensitivities). Having a lot of insensitive parameters increases prediction uncertainty. Of the 31 parameters added to the GBCAAS-PV model, only 7 of them have regressed values used in the final calibrated model.

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Appendix 1: Details about Model Parameters as Presented in the GRIA

The purpose of this appendix is to detail some of the problem with model parameters in the GBCAAS-PV model. Unless the changes recommended in this appendix are made, nothing in this appendix directly relates to model predictions of the effects of project pumping.

The GRIA (p. A-45) states that the regressed value of parameter BFAU_VNC tended to be about 300, which is unreasonable for basin-fill anisotropy and so it was kept at its original value. Hill and Tiedeman (2007, p. 290) report that unrealistic estimated parameter values may indicate problems with the model or fundamental model error. The GRIA (p. A-45) suggests the problem could be a steep gradient in southern Pine Valley, but provide no evidence this area is causing the problem or solutions to the problem. This should be examined using Cook's D or DFBETAS statistics.

The GRIA (p. A-45 and figure A4-7) show that discharge to Wah Wah Springs is most sensitive to recharge (increased recharge would cause increased spring discharge) and to parameters LCAU518hkc and LCAU5241hkc (increased hydraulic conductivity would cause decreased spring discharge). The GRIA (table A5) lists that regression wanted the value of LCAU5241hkc to be 84.8 feet per day, but the final value in the model was 34 feet per day. It is not stated, but it is possible that this value was adjusted to better match discharge to Wah Wah Springs. As with BFAU_VNC, more data concerning Cook's D or DFBETAS should be examined and provided to determine which observations were driving the large increase in regressed hydraulic conductivity and if model error is leading to that high value.

Parameter uncertainty should have been determined for all parameters and those parameters with overlapping uncertainty and low composite scaled sensitivities should have been combined. A complex model leads to more uncertainty in parameters and more uncertainty in predictions. Hill and Tiedeman (2007, p. 269) state that although more complex models generally fit the observations more closely than simpler models, they can have greater prediction error. National Research Council (2007, p. 103) states: "Models are always incomplete, and efforts to make them more complete can be problematic…Even more problematic are models that accrue substantial uncertainties because they contain more parameters than can be estimated or calibrated with available observations."

Composite scaled sensitivities (GRIA, figure A4-7) indicate that observations provide enough information about some parameters to justify changing the value of hydraulic conductivity from GBCAAS v. 3.0 and creating new zones. Observations, however, do not provide enough information for 21 parameters to be defined in the upper basin fill aquifer within the child

model (UBFAU; GRIA, table A6). For many of those parameters, parameters should be combined into one parameter (

Table 1-*1* in this report), generally into the parameter for which regression was possible. After combining, regression should to be tried again and sensitivities, parameter uncertainties, and prediction uncertainties should be recalculated.

Based on composite scaled sensitivities (GRIA, figure A4-7), it is also hard to justify 21 zones for LCAU, 20 of these within the child model. As with UBFAU parameters, some of these parameters should be combined (

Table 1-*1*). After combining, regression should to be tried again and sensitivities, parameter uncertainties, and prediction uncertainties should be recalculated.

The GRIA (table A6) has some errors in the GBCAAS v. 3.0 parameter listings (

Table 1-*1*). Of importance is LCAU5151, which GBCAAS-PV reduces by 47 percent. This LCAU zone covers mountains on the northwest and north parts of Pine Valley (GRIA, figure A4-10). The GRIA repeatedly discusses increasing hydraulic conductivity of UBFAU to match aquifer tests, but does not mention the decrease in carbonate conductance. Given that UBFAU is hundreds of feet to about 2,000 feet thick and LCAU is thousands of feet thick, the change in LCAU has more impact on total transmissivity than do changes in UBFAU.

The GRIA (p. A-45 and figure A4-7C) discusses leverage, but the discussion and the figure do not match leverage information provided by UCODE, which limits leverage to a maximum value of 1.0 (Poeter and others, 2014, table 6). Hill and Tiedeman (2007, p. 133-134) describe leverage as fit independent statistics that "identify observations that are sensitive in a way that causes the observed values to potentially have a profound effect on the regression results." Because leverage statistics are fit independent, they cannot show "which observations most influence the weighted sum of square residuals" as stated in the GRIA (p. A-45). It is not possible to determine what statistics are shown on GRIA-2021 (figure A4-7C), but it is interesting that the text never discusses that Clay Springs has the highest statistic.

Table 1-1. Concerns about parameters in the GBCAAS-PV model presented in the GRIA.

[Information from GRIA, table A5, table A6, and figure A4-7. Composite scale sensitivity estimated from figure A4-7. Composite scaled sensitivity of <0.1 indicates bar cannot be seen on figure A4-7. Values of hydraulic conductivity in feet per day.]				
Parameter Name	Parameter Value	Regressed value	Composite scaled sensitivity	Comments
Observations do not provide enough data about these parameters to separate them. Provide justification if value of 36 is used instead of value of 38.8 estimated in GBCAAS v. 3.0.				
UBFAU35HKc	38.8	Not regressed	<0.1	
UBFAU351HKc	36	Not regressed	<0.1	
UBFAU352HKc	36	Not regressed	0.1	
UBFAU353HKc	38.8	Not regressed	0.1	
Observations do not provide enough data about these parameters to separate them.				
UBFAU41HKc	2.03	Not regressed	<0.1	
UBFAU411HKc	7.59	Not regressed	<0.1	
UBFAU4111HKc	4.5	4.5	1	
UBFAU4112HKc	7.59	Not regressed	<0.1	
Observations do not provide enough data about these parameters to separate them.				
UBFAU46HKc	17.1	Not regressed	<0.1	
UBFAU461HKc	16.4	16.4	0.7	
Table 1-1. Concerns about parameters in the GBCAAS-PV model presented in the GRIA—continued.				
Observations do not provide enough data about these parameters to separate them.				
UBFAU48HKc	0.229	Not regressed	<0.1	
UBFAU481HKc	1.73	Not regressed	0.1	
UBFAU4811HKc	2.2	Not regressed	0.1	
UBFAU4812HKc	1.14	1.14	1.6	
UBFAU4813HKc	0.5	Not regressed	0.3	

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Table 1-1. Concerns about parameters in the GBCAAS-PV model presented in the GRIA–continued				
Parameter Name	Parameter Value	Regressed value	Composite scaled sensitivity	Comments
Observations do not provide enough data about these parameters to separate them and the parameters occur in a small area.				
LCAU511HKc	0.00265	0.00265	1.3	Increased from 0.0023 in GBCAAS v. 3.0 model
LCAU5111HKc	0.00339	Not regressed	0.2	
LCAU5112HKc	0.0067	Not regressed	0.3	Increased to reduce "mounding" in mountains (GRIA-2021, p. A-46).
Observations do not provide enough data about parameter LCAU5181HKc to separate it from LCAU518HKc . Setting the parameter for LCAU5181HKc may be based solely or mostly on discharge to Wah Wah Springs, and may have been reduced because recharge is increased. It may also control the impact pumping in Pine Valley may have on Wah Wah Springs and needs to be statistically or geologically justified.				
LCAU518HKc	19.1	19.1	0.7	
LCAU5181HKc	3.4	Not regressed	0.2	Value decreased from 20.3 in GBCAAS v. 3.0 model.
Observations do not provide enough information about parameter LCAU618HKc to separate these parameters. These two parameters are in Beryl-Enterprise and Milford hydrographic areas.				
LCAU618HKc	0.0285	Not regressed	<0.1	Increased from 0.017 GBCAAS v. 3.0 even though observations provide little data about it.
LCAU6181HKc	0.044	0.0562	1.8	Why wasn't regressed value used?
Other problems with parameter values in GBCAAS-PV				
UBFAU431HKc	45	Not regressed	4.8	Parameter with second highest composite scaled sensitivity but was not regressed. Was increased from 38.8 in GBCAAS v. 3.0. Only occurs in Snake Valley.

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Table 1-1. Concerns about parameters in the GBCAAS-PV model presented in the GRIA–continued				
Parameter Name	Parameter Value	Regressed value	Composite scaled sensitivity	Comments
VU2_hkc zone 12	0.0202	Not regressed	0.1	Increased from 0.00337 in GBCAAS v. 3.0 to reduce "mounding" in mountains.
UCAU11HKc	0.0222	Not regressed	0.1	Decreased from 0.0419 in GBCAAS v. 3.0 even though observations provide little data about the parameter.
LCAU4111HKC	0.0023	Not regressed	0.2	Value equal same as value in GBCAAS v. 3.0. Table A6 erroneously reported incorrect value for GBCAAS v. 3.0 parameter.
LCAU4191HKp	5	Not regressed	Parameter not shown	This parameter is only in Snake Valley. Value increased from 1.24 in GBCAAS v. 3.0 because increased recharge caused water levels to be too high in Snake Valley (GRIA-2021, p. A-46). Water level observations, spring discharge, and discharge to evapotranspiration observations in Snake Valley need to be added to regression and model statistics.

Table 1-1. Concerns about parameters in the GBCAAS-PV model presented in the GRIA–continued				
Parameter Name	Parameter Value	Regressed value	Composite scaled sensitivity	Comments
LCAU425HKc	0.103	0.103	1.1	This parameter is only in Snake Valley. Value decreased from 1.24 in GBCAAS v. 3.0, possibly to better match Clay Springs after increased recharge. How does this affect Big Springs and Dearden Springs in Snake Valley? Was it also changed in parent model because the parent-child boundary splits the GBCAAS v. 3.0 parameter zone?
LCAU5151HKc	0.00685	Not regressed	0.6	Value decreased from 0.013 in GBCAAS v. 3.0. Table A6 erroneously reports incorrect value for GBCAAS v. 3.0 parameter of 0.0023. This could cause some of the mounding issues that had to be dealt with by adjusting other parameters. Observations may have provided enough information for the value to be regressed, but it was not.
LCAU5241hkc	34	84.8	0.8	Provide explanation for not accepting the regressed value.

Table 1-1. Concerns about parameters in the GBCAAS-PV model presented in the GRIA–continued				
Parameter Name	Parameter Value	Regressed value	Composite scaled sensitivity	Comments
NCCU17hkc	0.0138	Not regressed	1.5	The observations provide enough information that this parameter should have been regressed. The GRIA (p. A-45) states: "For example, testing of estimated values for NCCU17hkc did not benefit model calibration, so its initial value was not changed", but Table A6 shows it was increased from the GBCAAS v. 3.0 value of 0.00846.
NCCU36hkc	0.00613	Not regressed	0.2	The observations provide little information about the parameter, but it was decreased from 0.0109 in GBCAAS v. 3.0 with no explanation. This could cause some of the "mounding" issues that had to be dealt with.

Table 1-1. Concerns about parameters in the GBCAAS-PV model presented in the GRIA–continued				
Parameter Name	Parameter Value	Regressed value	Composite scaled sensitivity	Comments
bfau_vnc	10.7	Not regressed	1.1	The GRIA (p. A-45) states: "Estimates of the basin fill vertical hydraulic conductivity anisotropy ratio, parameter BFAU_VNC, tended toward values of 300 or more, which was larger than the anisotropy ratio of playa units. Because this is a model-wide parameter, the estimated solution was not applied and its initial value was not changed." The parameter could have been separated from the parent model parameter and more statistics used to determine what was driving the high value in the attempted regression.
playa_vnc	100	Not regressed	0.1	Observations provide little information about the parameter, and no explanation is given why it was increased from 66.1 in GBCAAs v. 3.0.

Table. Effect of Pine Valley pumping on Wah Wah Spring using modified GBCAASv3 model
[All discharge in cubic feet per day, unless specified. Discharge is negative in MODFLOW.]

Year of Pumping	Calibration Observation from GBCAASv3 archived model			Prediction model observation name	Better Locations of Wells in Pine Valley pumping for 50 years					Better Locations of Wells in Pine Valley pumping for 100 years				
	observed	Simulated	Simulated, acre-feet per year	name	Simulated	Reduction	Redcution, acre-feet per year	% reduction	From GRIA, p. 115	Simulated	Reduction	Reduction, acre-feet per year	% reduction
1	-86,400	-89,222	-748	gha256_1_0	-89,220	2	0	0.00%		-89,220	2	0	0.00%
11	-86,400	-89,222	-748	gha256_1_1	-88,532	**690**	**6**	**-0.77%**		-88,532	**690**	6	**-0.77%**
15	-86,400	-89,222	-748	gha256_1_2	-87,833	**1,389**	**12**	**-1.56%**		-87,833	**1,389**	12	**-1.56%**
26	-86,400	-89,222	-748	gha256_1_3	-84,977	**4,244**	**36**	**-4.76%**		-84,977	**4,244**	36	**-4.76%**
28	-86,400	-89,222	-748	gha256_1_4	-84,013	**5,209**	**44**	**-5.84%**		-84,013	**5,209**	44	**-5.84%**
33	-86,400	-89,222	-748	gha256_1_5	-82,626	**6,595**	**55**	**-7.39%**		-82,626	**6,595**	55	**-7.39%**
35	-86,400	-89,222	-748	gha256_1_6	-81,894	**7,328**	**61**	**-8.21%**		-81,894	**7,328**	61	**-8.21%**
39	-86,400	-89,222	-748	gha256_1_7	-80,362	**8,860**	**74**	**-9.93%**		-80,362	**8,860**	74	**-9.93%**
45	-86,400	-89,222	-748	gha256_1_8	-77,915	**11,307**	**95**	**-12.67%**		-77,915	**11,307**	95	**-12.67%**
50	-86,400	-89,222	-748	gha256_1_9	-75,761	**13,461**	**113**	**-15.09%**	150	-75,761	**13,461**	113	**-15.09%**
55	-86,400	-89,222	-748	gha256_1_10	-73,617	**15,605**	**131**	**-17.49%**		-73,523	**15,699**	132	**-17.60%**
60	-86,400	-89,222	-748	gha256_1_11	-71,766	**17,455**	**146**	**-19.56%**		-71,216	**18,006**	151	**-20.18%**
62	-86,400	-89,222	-748	gha256_1_12	-71,121	**18,101**	**152**	**-20.29%**		-70,277	**18,945**	159	**-21.23%**
100	-86,400	-89,222	-748	gha256_1_13	-65,327	**23,894**	**200**	**-26.78%**	250	-51,698	**37,524**	315	**-42.06%**
250	-86,400	-89,222	-748	gha256_1_14	-70,535	**18,687**	**157**	**-20.94%**		-49,471	**39,750**	333	**-44.55%**
500	-86,400	-89,222	-748	gha256_1_15	-78,400	**10,821**	**91**	**-12.13%**		-66,435	**22,786**	191	**-25.54%**
1000	-86,400	-89,222	-748	gha256_1_16	-84,746	**4,476**	**38**	**-5.02%**		-79,864	**9,357**	78	**-10.49%**
5000	-86,400	-89,222	-748	gha256_1_17	-89,193	**28**	**0**	**-0.03%**		-89,167	**55**	0	**-0.06%**

EXHIBIT I

Indian Peaks Band of Paiutes
4377 Old US Highway 91
Cedar City, Utah 84720

February 27, 2026

VIA E-MAIL ONLY

Bureau of Land Management
Cedar City Field Office
Attn: Pine Valley Water Supply Project
176 DL Sargent Drive
Cedar City, Utah 84721
Email: jrussell@blm.gov
Email: blm_ut_cedar_city@blm.gov
Email: pvwsproject@gmail.com

Re: Pine Valley Water Supply Project (DOI-BLM-UT-C010-2020-0012-EIS) - Submission of New Information; Request to Adopt the No Action Alternative or Withdraw the AFEIS and Prepare a New DEIS

Dear Jacqueline Russell,

On behalf of the Indian Peaks Band of the Paiute Indian Tribe of Utah ("Band"), and consistent with the Band's government-to-government relationship with BLM and its cooperating agency responsibilities under National Environmental Policy Act ("NEPA"), I am submitting two technical memoranda for consideration prior to the BLM's Record of Decision on the proposed Pine Valley Water Supply Project ("PVWSP"). The technical memoranda are: (i) Tom Myers, Review of Hydrology for the Pine Valley Water Supply Project (January 27, 2026) and (ii) Tom Myers, Review of Water Resources Impact for the Administrative Final Environmental Impact Statement for the Pine Valley Water Supply Project (January 27, 2026). These technical memoranda are being submitted via email to the BLM at blm_ut_cedar_city@blm.gov and jrussell@blm.gov.

The enclosed attached technical memoranda underscore serious concerns with the NEPA review of the PVWSP. Primarily, the Myers' Technical Memoranda emphasizes the significant deficiencies in the GBCAAS-PV groundwater model upon which the Groundwater Resources Impact Assessment ("GRIA") relies, including but not limited to evidence that local impacts of the PVWSP project are grossly underestimated because the recharge is likely substantially

Exhibit J

overestimated. The deficiencies in the GBCAAS-PV model render it likely to be hydrologically infeasible. These technical memoranda supplement the Band's comments on the Administrative Final Environmental Impact Statement ("AFEIS"), as well as other assessments of the Groundwater Resources Impacts Assessment ("GRIA") on the record, including Andy Zdon, Roux Associates, Inc., Technical Memorandum (Oct. 10, 2025) and Lynette Brooks, Groundwater Model Analysis, LLC, Technical Review of the Draft Environmental Impact Statement Pine Valley Water Supply Project (Oct. 3, 2025).

The BLM has a duty to ensure the scientific integrity of the analyses contained in the PVWSP EIS and make use of reliable data and resources in conducting its NEPA analysis. 42 U.S.C. § 4332(D), (E); *see also Or. Natural Desert Ass'n v. Jewell*, 840 F.3d 562, 568-70 (9th Cir. 2016) (acknowledging the necessity of defining an adequate baseline under NEPA and noting that "deference does not excuse the BLM from ensuring the accuracy and scientific integrity of its analysis, a NEPA requirement"); *NRDC v. U.S. Forest Serv.*, 421 F.3d 797, 812, 813, n.24 (9th Cir. 2005) (holding that an EIS lacking accurate baseline data cannot support reasoned decisionmaking). Moreover, the agency may not ignore reputable scientific criticisms. *See, e.g.*, *Seattle Audubon Soc'y v. Espy*, 998 F.2d 699, 704 (9th Cir. 1993). Because the AFEIS relies on the deficient GBCAAS-PV model for its analysis of effects, the NEPA review lacks the high-quality information, scientific integrity, and accurate description of the affected environment that NEPA requires and fails to take the requisite hard look at environmental impacts.

Based on the current record, selecting the No Action Alternative or withdrawal of the AFEIS and preparation of a new Draft Environmental Impact Statement ("DEIS") are the only lawful options available to BLM, as the Agency has not demonstrated that any action alternative could proceed without violating NEPA, the Band's federally reserved water rights, and other applicable federal laws.

Should you have any questions about this communication, please do not hesitate to contact me at indianpeaks@utahpaiutes.org. I also request that you include our attorney team at the Native American Rights Fund on any communications, including Tom Murphy, murphy@narf.org, Daniel Cordalis, cordalis@narf.org, and Melissa Kay, kay@narf.org.

We look forward to hearing from you.

Sincerely,

Tamra Borchardt-Slayton, Chairwoman
Indian Peaks Band of the Paiute Indian Tribe of Utah

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Curriculum Vitae

Objective: To provide diverse research and consulting services to nonprofit, government, legal and industry clients focusing on hydrogeology specializing in mine dewatering, contaminant transport, natural gas development, groundwater modeling, NEPA analysis, federal and state regulatory review, and fluvial morphology.

Education

Years	Degree	University
1992-96	Ph.D. Hydrology/Hydrogeology	University of Nevada, Reno Dissertation: Stochastic Structure of Rangeland Streams
1990-92		University of Arizona, Tucson AZ Classes in pursuit of Ph.D. in Hydrology.
1988-90	M.S. Hydrology/Hydrogeology	University of Nevada, Reno Thesis: Stream Morphology, Stability and Habitat in Northern Nevada
1981-83		University of Colorado, Denver, CO Graduate level water resources engineering classes.
1977-81	B.S., Civil Engineering	University of Colorado, Boulder, CO

Professional Experience

Years	Position	Duties
1993-Pr.	Hydrologic Consultant	Completion of hydrogeology studies and testimony focusing on mine dewatering, groundwater modeling, natural gas development, contaminant transport, NEPA review, and water rights for nonprofit groups and government agencies.
1999-2004	Great Basin Mine Watch, Exec Director	Responsible for reviewing and commenting on mining projects with a focus on groundwater and surface water resources, preparing appeals and litigation, organizational development and personnel management.
1992-1997	Univ of NV, Reno, Res. Assoc.	Research on riparian area and watershed management including stream morphology, aquatic habitat, cattle grazing and low-flow and flood hydrology.
1990-1992	U of AZ, Res. and Teach. Assistant	Research on rainfall/runoff processes and climate models. Taught lab sections for sophomore level "Principles of Hydrology". Received 1992 Outstanding Graduate Teaching Assistant Award in the College of Engineering
1988-1990	U of NV, Reno Res. Asst	Research on aquatic habitat, stream morphology and livestock management.
1983-1988	US Bureau of Reclamation Hydraulic Eng.	Performed hydrology planning studies on topics including floodplains, water supply, flood control, salt balance, irrigation efficiencies, sediment transport, rainfall-runoff modeling and groundwater balances.

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Peer-Reviewed Publications

Myers, T., 2016. A modeling approach to siting mine facilities in northern Minnesota USA. *J Hydrology* 533: 277-290. Doi: 10.1016/j.jhydrol.2015.12.020

Myers, T., 2013. Remediation scenarios for selenium contamination, Blackfoot Watershed, southeast Idaho, USA. *Hydrogeology J.* DOI 10.1007/s10040-013-0953-8

Myers, T., 2013. Reservoir loss rates from Lake Powell and their impact on management of the Colorado River. *Journal of the American Water Resources Association*. DOI: 10.1111/jawr.12081.

Myers, T., 2012. Potential contaminant pathways from hydraulically fractured shale to aquifers. *Ground Water* 50(6): 872-882. doi: 10.1111/j.1745-6584.2012.00933.x

Myers, T., 2009. Groundwater management and coal-bed methane development in the Powder River Basin of Montana. *J Hydrology* 368:178-193.

Myers, T.J. and S. Swanson, 1997. Variation of pool properties with stream type and ungulate damage in central Nevada, USA. *Journal of Hydrology* 201-62-81

Myers, T.J. and S. Swanson, 1997. Precision of channel width and pool area measurements. *Journal of the American Water Resources Association* 33:647-659.

Myers, T.J. and S. Swanson, 1997. Stochastic modeling of pool-to-pool structure in small Nevada rangeland streams. *Water Resources Research* 33(4):877-889.

Myers, T.J. and S. Swanson, 1997. Stochastic modeling of transect-to-transect properties of Great Basin rangeland streams. *Water Resources Research* 33(4):853-864.

Myers, T.J. and S. Swanson, 1996. Long-term aquatic habitat restoration: Mahogany Creek, NV as a case study. *Water Resources Bulletin* 32:241-252

Myers, T.J. and S. Swanson, 1996. Temporal and geomorphic variations of stream stability and morphology: Mahogany Creek, NV. *Water Resources Bulletin* 32:253-265.

Myers, T.J. and S. Swanson, 1996. Stream morphologic impact of and recovery from major flooding in north-central Nevada. *Physical Geography* 17:431-445.

Myers, T.J. and S. Swanson, 1995. Impact of deferred rotation grazing on stream characteristics in Central Nevada: A case study. *North American Journal of Fisheries Management* 15:428-439.

Myers, T.J. and S. Swanson, 1992. Variation of stream stability with stream type and livestock bank damage in northern Nevada. *Water Resources Bulletin* 28:743-754.

Myers, T.J. and S. Swanson, 1992. Aquatic habitat condition index, stream type, and livestock bank damage in northern Nevada. *Water Resources Bulletin* 27:667-677.

Zonge, K.L., S. Swanson, and T. Myers, 1996. Drought year changes in streambank profiles on incised streams in the Sierra Nevada Mountains. *Geomorphology* 15:47-56.

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Representative Projects

Expert Witnessing

Myers, T., 2016. Expert Report/Testimony: In Re State Land Office Agriculture Lease No. GT-0447, Brininstool XL Ranch, LLC v. Devon Energy Production Company, Contest No. 15-006. Santa Fe, NM

Myers, T., 2014. Expert Report/Deposition: In the Matter of California Department of Parks and Recreation v. Newmont Mining Corporation, et al. Prepared for the California Department of Justice, February 2014

Myers, T., 2012. Expert Report/ Testimony at Aquifer Protection Permit Appeal Hearing, Rosemont Mine. Phoenix AZ, August and September, 2012.

Myers, T., 2011. Deposition: Northeast Natural Energy, LLC and Enroute Properties, LLC v. The City of Morgantown, WV, Civil Action No. 11-C-411, Circuit Couty of Monongalia County, WV.

Myers, T. 2011 and earlier. Expert Reports (some listed below) and Testimony. Water Rights Protest Hearings before the Nevada State Engineer, Southern Nevada Water Authority Applications for (1) Spring Valley, (2) Cave, Dry Lake, Delamar Valley, (3) Three Lakes/Tikapoo Valley.

Myers, T. 2006. Affidavit. Diamond Cross Properties, LLC, Northern Plains Resource Council, Tounge River Water Users Assoc v. State of Montana, Dept of Env Quality, Board of Oil and Gas Conservation, Dept of Natural Resources and Conservation, and Pinnacle Gas Resources, Inc, and Fidelity Exploration and Production Co., MT 22nd Judicial District Court Big Horn County, Civil Cause No. DV 05-70.

Myers, T. 2006. Expert Report/Deposition. Cole et al. v J.M. Huber Corp, and William DeLapp. U.S. Federal District Court Case No. 06-CV-0142J.

Myers, T., 2005. Nevada State Environmental Commission Appeal Hearing, Water Pollution Control Permit Renewal NEV0087001, Big Springs Mine. Prepared for Great Basin Mine Watch, Reno NV.

Myers, T. 2004. Nevada State Environmental Commission Appeal Hearing, Water Pollution Control Permit, Lone Tree Mine, Gold Quarry Mine. Prepared for Great Basin Mine Watch, Reno NV.

Reports, Reviews and Activities

Myers, T. 2016. Effect of Open-Pit Mine Dewatering and Cessation on Semi-Arid River Flows. Prepared for the Progressive Leadership Alliance of Nevada.

Myers, T. 2016. International Technology Exchange, Mongolia. Working with Mongolian and Russian NGOs regarding Mining and Energy Development.

Myers, T. 2016. Technical Memorandum: Completeness Review of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County MT. Prepared for Montana Chapter, Trout Unlimited.

Myers, T. 2016. Technical Memorandum. Response to the US Fish and Wildlife Service Hydrologic Reasoning in its Response to the Center for Biological Diversity's Notice of Intent to Sue to Reopen

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Consultation on Various Memorandums of Agreement Regarding the Muddy River Springs. Prepared for the Center for Biological Diversity, September 10, 2016.

Myers, T., 2016. Technical Memorandum, Review of the Draft Environmental Impact Statement, Copper Flat, Sierra County, NM. Prepared for Ladder Ranch, Inc. and New Mexico Environmental Law Center

Myers, T., 2016. Technical Memorandum, Review of the Draft Supplemental Environmental Impact Statement for the Donlin Gold Project. Prepared for the Northern Alaska Environmental Center.

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Myers, T. 2016. Technical Memorandum, Twin Metals Mine and the Peter Mitchell Pit, Simulation of the Development of the Peter Mitchell Pit and Its Effects on the Proposed Twin Metals Tailings Impoundment. Prepared for Northeastern Minnesotans for Wilderness.

Myers, T., 2015. Conceptual Flow and Transport Model, Uranium Plume near the Homestake Millsite, Milan, NM. Prepared for Bluewater Valley Downstream Alliance. Marcy 16, 2015.

Myers, T., 2015. Hydrogeology of the Humboldt River Basin, Impacts of Open-pit Mine Dewatering and Pit Lake Formation. Prepared for the Progressive Leadership Alliance of Nevada and Great Basin Resource Watch, Revised June 2015.

Myers, T., 2015. Letter Report: Comments on the Draft Supplemental Environmental Impact Review for the Panoche Valley Solar Project. Prepared for Adams Broadwell Joseph and Cardozo, San Francisco CA

Myers, T., 2015. Technical Memorandum: Review of the Final Environmental Impact Statement, NorthMet Mining Project and Land Exchange. Prepared for Minnesota Center for Environmental Advocacy.

Myers, T., 2015. Technical Memorandum – Review of Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources. Prepared for Delaware Riverkeeper Network. August 24, 2015.

Myers, T., 2015. Technical Memorandum – Review of Finger Lakes LPG Storage, LLC, Proposed LPG Storage Facility. Prepared for Earthjustice, New York. January 13, 2015

Myers, T., 2015. Technical Memorandum – Review of Pennsylvania Governor's Executive Order Concerning Hydraulic Fracturing in Pennsylvania State Parks and Forest. Prepared for Delaware River Keeper, January 9, 2015.

Myers, T., 2015. Technical Memorandum – Review of Water Supply Assessment, Village at Squaw Valley. Prepared for Sierra Watch, July 13, 2015.

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Myers, T., 2014. Review of the Water Quality Modeling, NorthMet Mine and Plant Site, Minnesota. Prepared for Minnesota Center for Environmental Advocacy.

Myers, T. 2014. Technical Memorandum: Review of Performance Standards, Center for Sustainable Shale Development. Prepared for Delaware River Keeper. May 8, 2014.

Myers, T. 2014. Technical Memorandum: Review of the Hydrogeologic Aspects of the Draft Environmental Impact Statement, Haile Gold Mine, Lancaster County, South Carolina. Prepared for Southern Environmental Law Center, May 8 2014.

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Myers, T. 2014. Technical Memorandum: Twin Metals and the Boundary Waters Canoe Area Wilderness, Risk Assessment for Underground Metals Mining. Prepared for Northeastern Minnesotans for Wilderness. August 8 2014

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Myers, T., 2013. Technical Memorandum: Comments on Encana Oil and Gas Inc.'s Application for the Madison Aquifer to be Exempt Wyoming Oil and Gas Conservation Commission Docket No. 3-2013. Prepared for Natural Resources Defense Council, Powder River Basin Council. June 12, 2013.

Myers, T. 2013. Technical Memorandum: Impact Analysis: Wishbone Hill Water Right Application. Prepared for Trustees for Alaska

Myers, T, 2013. Technical Memorandum: Review of Montanore Mine Dewatering Instream Flow Methodology. Prepared for Save our Cabinets, Earthworks. March 26, 2013

Myers, T. 2012. Technical Memorandum: Chuitna Coal Mine Project, Review of Arcadis DRAFT Hydrogeologic Conceptual Site Model Update and Associated Documents. Prepared for Cook Inletkeeper. May 11, 2012.

Myers, T., 2012. Technical Memorandum, Review of DRAFT: Investigation of Ground Water Contamination near Pavillion Wyoming Prepared by the Environmental Protection Agency, Ada OK. April 19, 2012.

Myers, T., 2012. Participation in: Keystone Center Independent Science Panel, Pebble Mine. Anchorage AK, October 1-5, 2012.

Myers, T., 2012. Technical Memorandum, Review and Analysis, Revised Draft, Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program, Well Permit Issuance for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs. Prepared for Natural Resources Defense Council.

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Myers, T., 2012. Technical Memorandum, Review of the Special Use Permit PP2011-035-Camilletti 21-10, Groundwater Monitoring Requirements. Prepared for Routt County Board of Commissioners and the Routt County Planning Department. June 19, 2012.

Myers, T., 2012. Drawdown at U.S. Forest Service Selected Monitoring Points, Myers Rosemont Groundwater Model Report. Prepared for Pima County, AZ. March 22, 2012.

Myers, T. 2011. Baseflow Conditions in the Chuitna River and Watersheds 2002, 2003, and 2004 and the Suitability of the Area for Surface Coal Mining. January 14, 2011.

Myers, T., 2011. Hydrogeology of Cave, Dry Lake and Delamar Valleys, Impacts of pumping underground water right applications #53987 through 53092. Presented to the Office of the Nevada State Engineer On behalf of Great Basin Water Network.

Myers, T., 2011. Hydrogeology of Spring Valley and Surrounding Areas, Part A: Conceptual Flow Model. Presented to the Nevada State Engineer on behalf of Great Basin Water Network and the Confederated Tribes of the Goshute Reservation.

Myers, T., 2011. Hydrogeology of Spring Valley and Surrounding Areas, Part B: Groundwater Model of Snake Valley and Surrounding Area. Presented to the Nevada State Engineer on behalf of Great Basin Water Network and the Confederated Tribes of the Goshute Reservation.

Myers, T., 2011. Hydrogeology of Spring Valley and Surrounding Areas, PART C: IMPACTS OF PUMPING UNDERGROUND WATER RIGHT APPLICATIONS #54003 THROUGH 54021. Presented to the Nevada State Engineer on behalf of Great Basin Water Network and the Confederated Tribes of the Goshute Reservation.

Myers, T., 2011. Rebuttal Report: Part 2, Review of Groundwater Model Submitted by Southern Nevada Authority and Comparison with the Myers Model. Presented to the Nevada State Engineer on behalf of Great Basin Water Network and the Confederated Tribes of the Goshute Reservation.

Myers, T. 2011. Rebuttal Report: Part 3, Prediction of Impacts Caused by Southern Nevada Water Authority Pumping Groundwater From Distributed Pumping Options for Spring Valley, Cave Valley, Dry Lake Valley, and Delamar Valley. Presented to the Nevada State Engineer on behalf of Great Basin Water Network and the Confederated Tribes of the Goshute Reservation.

Myers, T., 2011. Baseflow Selenium Transport from Phosphate Mines in the Blackfoot River Watershed Through the Wells Formation to the Blackfoot River, Prepared for the Greater Yellowstone Coalition.

Myers, T., 2011. Blackfoot River Watershed, Groundwater Selenium Loading and Remediation. Prepared for the Greater Yellowstone Coalition.

Myers, T., 2011. Technical Memorandum Review of the Proposed Montanore Mine Supplemental Draft Environmental Impact Statement and Supporting Groundwater Models

Myers, T., 2010. Planning the Colorado River in a Changing Climate, Colorado River Simulation System (CRSS) Reservoir Loss Rates in Lakes Powell and Mead and their Use in CRSS. Prepared for Glen Canyon Institute.

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Myers, T., 2010. Technical Memorandum, Updated Groundwater Modeling Report, Proposed Rosemont Open Pit Mining Project. Prepared for Pima County and Pima County Regional Flood Control District

Myers, T., 2009. Monitoring Groundwater Quality Near Unconventional Methane Gas Development Projects, A Primer for Residents Concerned about Their Water. Prepared for Natural Resources Defense Council. New York, New York.

Myers, T., 2009. Technical Memorandum, Review and Analysis of the Hydrology and Groundwater and Contaminant Transport Modeling of the Draft Environmental Impact Statement Blackfoot Bridge Mine, July 2009. Prepared for Greater Yellowstone Coalition, Idaho Falls, Idaho.

Myers, T., 2008. Hydrogeology of the Carbonate Aquifer System, Nevada and Utah With Emphasize on Regional Springs and Impacts of Water Rights Development. Prepared for: Defenders of Wildlife, Washington, D.C. June 1, 2008.

Myers, T., 2008. Hydrogeology of the Muddy River Springs Area, Impacts of Water Rights Development. Prepared for: Defenders of Wildlife, Washington, D.C. May 1, 2008

Myers, T., 2008. Hydrogeology of the Santa Rita Rosemont Project Site, Numerical Groundwater Modeling of the Conceptual Flow Model and Effects of the Construction of the Proposed Open Pit, April 2008. Prepared for: Pima County Regional Flood Control District, Tucson AZ.

Myers, T., 2008. Technical Memorandum, Review, Record of Decision, Environmental Impact Statement Smoky Canyon Mine, Panels F&G, U.S. Department of the Interior, Bureau of Land Management. Prepared for Natural Resources Defense Council, San Francisco, CA and Greater Yellowstone Coalition, Idaho Falls, ID. Reno NV.

Myers, T., 2007. Groundwater Flow and Contaminant Transport at the Smoky Canyon Mine, Proposed Panels F and G. Prepared for Natural Resources Defense Council, San Francisco, CA and Greater Yellowstone Coalition, Idaho Falls, ID. Reno NV. December 11, 2007.

Myers, T., 2007. Hydrogeology, Groundwater Flow and Contaminant Transport at the Smoky Canyon Mine, Documentation of a Groundwater Flow and Contaminant Transport Model. Prepared for Natural Resources Defense Council, San Francisco, CA and Greater Yellowstone Coalition, Idaho Falls, ID. Reno NV, December 7, 2007.

Myers, T., 2007. Review of Hydrogeology and Water Resources for the Final Environmental Impact Statement, Smoky Canyon Mine, Panels F and G and Supporting Documents. Prepared for Natural Resources Defense Council, San Francisco, CA and Greater Yellowstone Coalition, Idaho Falls, ID. Reno, NV. December 12, 2007.

Myers, T., 2007. Hydrogeology of the Powder River Basin of Southeast Montana Development of a Three-Dimensional Groundwater Flow Model. Prepared for Northern Plains Resource Council. February 12 2007.

Myers, T., 2007. Hydrogeology of the Santa Rita Rosemont Project Site, Conceptual Flow Model and Water Balance, Prepared for: Pima County Flood Control District, Tucson AZ

Myers, T., 2006. Review of Mine Dewatering on the Carlin Trend, Predictions and Reality. Prepared for Great Basin Mine Watch, Reno, NV

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Myers, T., 2006. Hydrogeology of Spring Valley and Effects of Groundwater Development Proposed by the Southern Nevada Water Authority, White Pine and Lincoln County, Nevada. Prepared for Western Environmental Law Center for Water Rights Protest Hearing.

Myers, T., 2006. Potential Effects of Coal Bed Methane Development on Water Levels, Wells and Springs of the Pinnacle Gas Resource, Dietz Project In the Powder River Basin of Southeast Montana. Affidavit prepared for Northern Plains Resource Council, April 4 2006.

Myers, T., 2006. Review of Hydrogeology and Water Resources for the Draft Environmental Impact Statement, Smoky Canyon Mine, Panels F and G, Technical Report 2006-01-Smoky Canyon. Prepared for Natural Resources Defense Council.

Myers, T., 2006. Review of Nestle Waters North America Inc. Water Bottling Project Draft Environmental Impact Report / Environmental Assessment. Prepared for McCloud Watershed Council, McCloud CA.

Myers, T., 2005. Hydrology Report Regarding Potential Effects of Southern Nevada Water Authority's Proposed Change in the Point of Diversion of Water Rights from Tikapoo Valley South and Three Lakes Valley North to Three Lakes Valley South. Prepared for Western Environmental Law Center for Water Rights Protest Hearing

Myers, T., 2005. Review of Draft Supplemental Environmental Impact Statement, Ruby Hill Mine Expansion: East Archimedes Project NV063-EIS04-34, Technical Report 2005-05-GBMW. Prepared for Great Basin Mine Watch.

Myers, T., 2005. Hydrogeology of the Powder River Basin of Southeast Montana, Development of a Three-Dimensional Groundwater Flow Model. Prepared for Northern Plains Resource Council, Billings, MT in support of pending litigation.

Myers, T., 2005. Potential Effects of Coal Bed Methane Development on Water Levels, Wells and Springs In the Powder River Basin of Southeast Montana. Prepared for Northern Plains Resource Council, Billings, MT.

Myers, T., 2004. An Assessment of Contaminant Transport, Sunset Hills Subdivision and the Anaconda Yerington Copper Mine, Technical Report 2004-01-GBMW. Prepared for Great Basin Mine Watch.

Myers, T., 2004. Technical Memorandum: Pipeline Infiltration Project Groundwater Contamination. Prepared for Great Basin Mine Watch.

Myers, T., 2004. Technical Report Seepage From Waste Rock Dump to Surface Water The Jerritt Canyon Mine, Technical Report 2004-03-GBMW. Prepared for Great Basin Mine Watch.

Myers, T., 2001. An Assessment of Diversions and Water Rights: Smith and Mason Valleys, NV. Prepared for the Bureau of Land Management, Carson City, NV.

Myers, T., 2001. Hydrogeology of the Basin Fill Aquifer in Mason Valley, Nevada: Effects of Water Rights Transfers. Prepared for the Bureau of Land Management, Carson City, NV.

Myers, T., 2001. Hydrology and Water Balance, Smith Valley, NV: Impacts of Water Rights Transfers. Prepared for the Bureau of Land Management, Carson City, NV

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Myers, T., 2000. Alternative Modeling of the Gold Quarry Mine, Documentation of the Model, Comparison of Mitigation Scenarios, and Analysis of Assumptions. Prepared for Great Basin Mine Watch. Center for Science in Public Participation, Bozeman MT.

Myers, T., 2000. Environmental and Economic Impacts of Mining in Eureka County. Prepared for the Dept. Of Applied Statistics and Economics, University of Nevada, Reno.

Myers, T., 1999. Water Balance of Lake Powell, An Assessment of Groundwater Seepage and Evaporation. Prepared for the Glen Canyon Institute, Salt Lake City, UT.

Myers, T., 1998. Hydrogeology of the Humboldt River: Impacts of Open-pit Mine Dewatering and Pit Lake Formation. Prepared for Great Basin Mine Watch, Reno, NV.

Selected Abstracts, Magazine and Proceedings Articles

Myers, T., 2014. Reservoir Loss Rates, Lakes Mead and Powell and Fill Mead First. INVITED PRESENTATION at 2014 Future of the Colorado Plateau Forum – Drought and the Colorado River. http://musnaz.org/educational-programs/public-programs/future-of-the-colorado-plateau-forums/

Myers, T., 2013. Three-dimensional Groundwater and Contaminant Flow around Marcellus Gas Development. INVITED PRESENTATION at 2013 Associated Engineering Geologists Conference, Seattle WA.

Myers, T., 2012. Mine Dewatering: Humboldt River Update. INVITED PRESENTATION at 2012 Nevada Water Resources Association Annual Conference.

Myers, T., 2012. Reservoir loss rates from Lake Powell, and long-term management of the Colorado River system. 2012 Nevada Water Resources Association Annual Conference

Myers, T., 2011. Reservoir loss rates from Lake Powell, and long-term management of the Colorado River system. 2011 Fall Conference, American Geophysical Union.

Myers, T., 2006. Modeling Coal Bed Methane Well Pumpage with a MODFLOW DRAIN Boundary. In MODFLOW and More 2006 Managing Ground Water Systems, Proceedings. International Groundwater Modeling Center, Golden CO. May 21-24, 2006.

Myers, T., 2006. Proceed Carefully: Much Remains Unknown, *Southwest Hydrology 5(3)*, May/June 2006, pages 14-16.

Myers, T., 2004. Monitoring Well Screening and the Determination of Groundwater Degradation, Annual Meeting of the Nevada Water Resources Association, Mesquite, NV. February 27-28, 2004.

Myers, T., 2001. Impacts of the conceptual model of mine dewatering pumpage on predicted fluxes and drawdown. In MODFLOW 2001 and Other Modeling Odysseys, Proceedings, Volume 1. September 11-14, 2001. International Ground Water Modeling Center, Golden, Colorado.

Myers, T., 1997. Groundwater management implications of open-pit mine dewatering in northern Nevada. In Kendall, D.R. (ed.), Conjunctive Use of Water Resources: Aquifer Storage and Recovery. AWRA Symposium, Long Beach California. October 19-23, 1997

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Myers, T., 1997. Groundwater management implications of open-pit mine dewatering in northern Nevada. In Life in a Closed Basin, Nevada Water Resources Association, October 8-10, 1997, Elko, NV.

Myers, T., 1997. Uncertainties in the hydrologic modeling of pit lake refill. American Chemical Society Annual Meeting, Las Vegas, NV, Sept. 8-12, 1997.

Myers, T., 1997. Use of groundwater modeling and geographic information systems in water marketing. In Warwick, J.J. (ed.), Water Resources Education, Training, and Practice: Opportunities for the Next Century. AWRA Symposium, Keystone, Colo. June 29-July 3, 1997.

Myers, T., 1995. Decreased surface water flows due to alluvial pumping in the Walker River valley. Annual Meeting of the Nevada Water Resources Association, Reno, NV, March 14-15, 1995.

Special Coursework

Years	Course	Sponsor
2011	Hydraulic Fracturing of the Marcellus Shale	National Groundwater Association
2008	Fractured Rock Analysis	MidWest Geoscience
2005	Groundwater Sampling Field Course	Nielson Environmental Field School
2004	Environmental Forensics	National Groundwater Association
2004 and -5	Groundwater and Environmental Law	National Groundwater Association

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January 27, 2026

Technical Memorandum
Review of Hydrology for the Pine Valley Water Supply Project
Prepared for: Native American Rights Fund and the Indian Peaks Band

This technical memorandum has been prepared on behalf of the Indian Peaks Band and Native American Rights Fund in support of their review of the proposed Central Iron County Water Conservation District (CICWCD) Pine Valley Water Supply Project (Pine Valley Project). It reviews the hydrologic impacts of the proposed project. The geographic focus of the analyzed project impacts is the original Indian Peaks Reservation (IPR) (Figure 1), although it will also discuss the effects of the Pine Valley Project on other springs in the area and surrounding groundwater basins. This memorandum is based on my review of existing literature and a field visit of the Pine Valley and Indian Peaks Wildlife Management Area during September 2025.

CICWCD's proposed Pine Valley Project in Utah proposes to export approximately 15,000 acre-feet per year (afy) of groundwater from the southern portion of Pine Valley (Figures 1 and 2), a part of the headwaters of the Great Salt Lake Desert Flow System (GSLDFS) (Heilweil and Brooks 2011). The Pine Valley Project is the first phase of a proposed, multi-basin West Desert Water Supply and Conservation Project (Figure 2). CICWCD has groundwater rights in Pine Valley (15,000 acre-feet per year) and Wah Wah Valley (11,000 acre-feet per year). It currently has groundwater right applications for Hamlin Valley (10,000 acre-feet per year). CICWCD's analysis of the project considers only the exportation of water from Pine Valley and ignores the addition of exportation from the adjoining valleys as speculative.

This technical memorandum consists of three parts. First, I will describe the broad aspects of the project and regional hydrogeology based on existing studies. Second, I will describe the specific impacts this project could have on the water resources of the area near the original Indian Peaks Reservation. The overall area includes Pine Valley and surrounding groundwater basins. Impacts include predicted drawdown caused by the proposed project and changes to the water budget throughout the area with specific focus on the reservation.

Third, I will assess the background hydrogeology, conceptual model, and numerical groundwater model produced in support of the project (Formation 2025). I refer to this project

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report throughout as simply “Formation” without the year. This technical memorandum assesses gaps in the basic understanding of the area hydrology including the conceptual flow model (CFM) and the numerical model implemented based on the CFM.

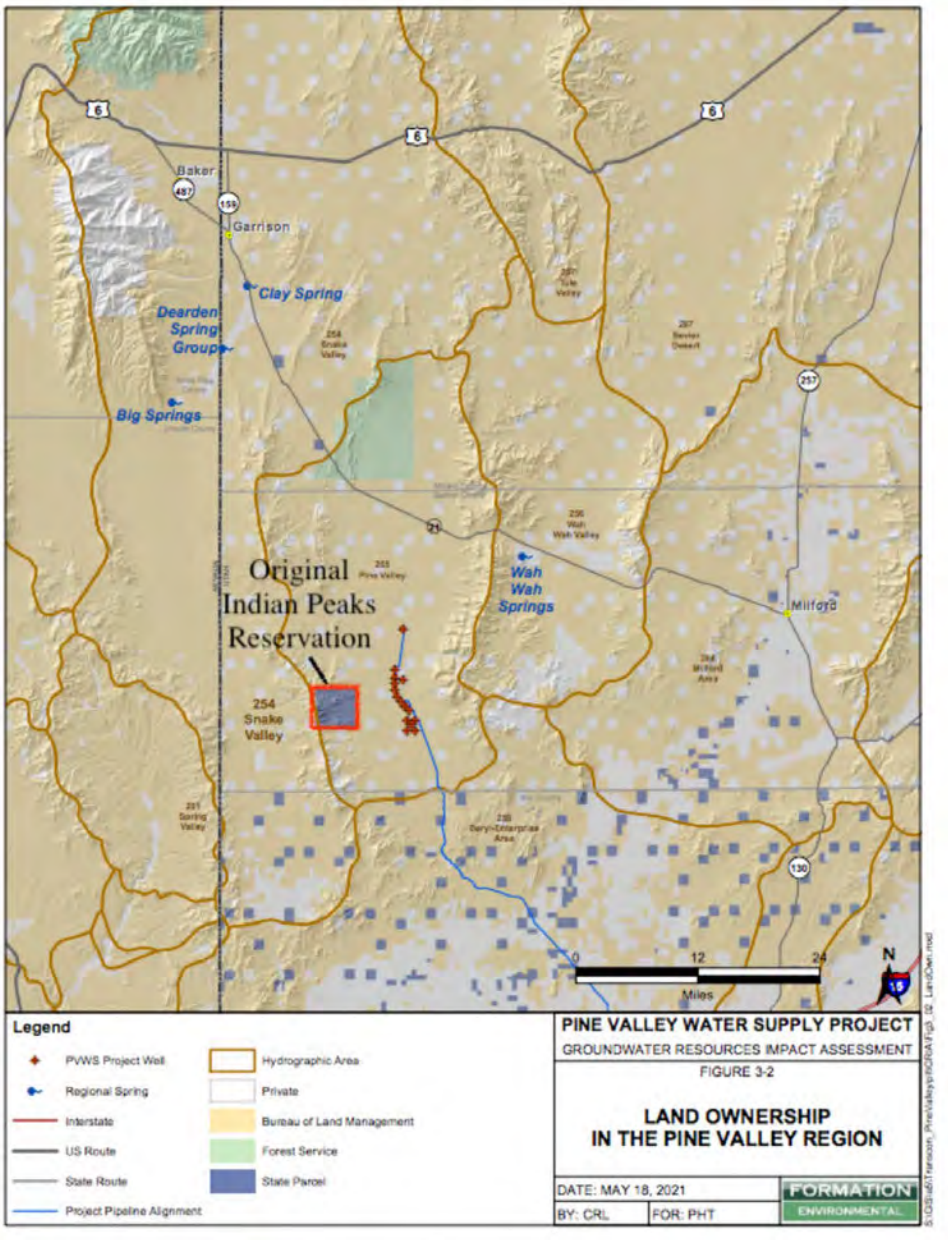

Figure 1: Map of the Pine Valley Water Supply Project, from Indian Peaks Band comment letter on project draft environmental impact state, at 5.

Figure 2: Expanded detail of the Original Indian Peaks Reservation showing proximity to project wells. See Figure 1 for scale bar; the reservation is about 5 to 10 miles west of the proposed project.

Proposed Project

The Pine Valley Project, without the later phases noted above, would install wells sufficient to extract up to 15,000 afy from Pine Valley for export to the Cedar City area. Formation describes the project in Section 2.0, from which I adapted the following description. Initially, CICWD would construct six wells in Pine Valley, shown as blue wells on Figure 3. Proposed wells would range from 500 to 2000 feet deep. However, low-permeability volcanic rock underlies the valley and Formation acknowledges that the hydrogeologic properties of that rock are not sufficiently understood to know whether the proposed pumping can be attained. Monitoring the pumping of six wells installed would be used with the groundwater modeling (described and critiqued below) to determine whether the production wells have sufficient capacity. If they do, additional wells would be added to the well field as shown with red well icons on the left side of Figure 3. This is the Proposed Action for the project. If monitoring shows the well capacity is not sufficient, the well field would be expanded by adding production wells to the north as shown on the right side of Figure 3. This is the Adaptive Northern Well Sites (ANWS) alternative. CICWD anticipates that an average production per well would be about 1000 afy, with

substantial seasonal variation, so the expected total number of wells in a fully built-out wellfield is fifteen.

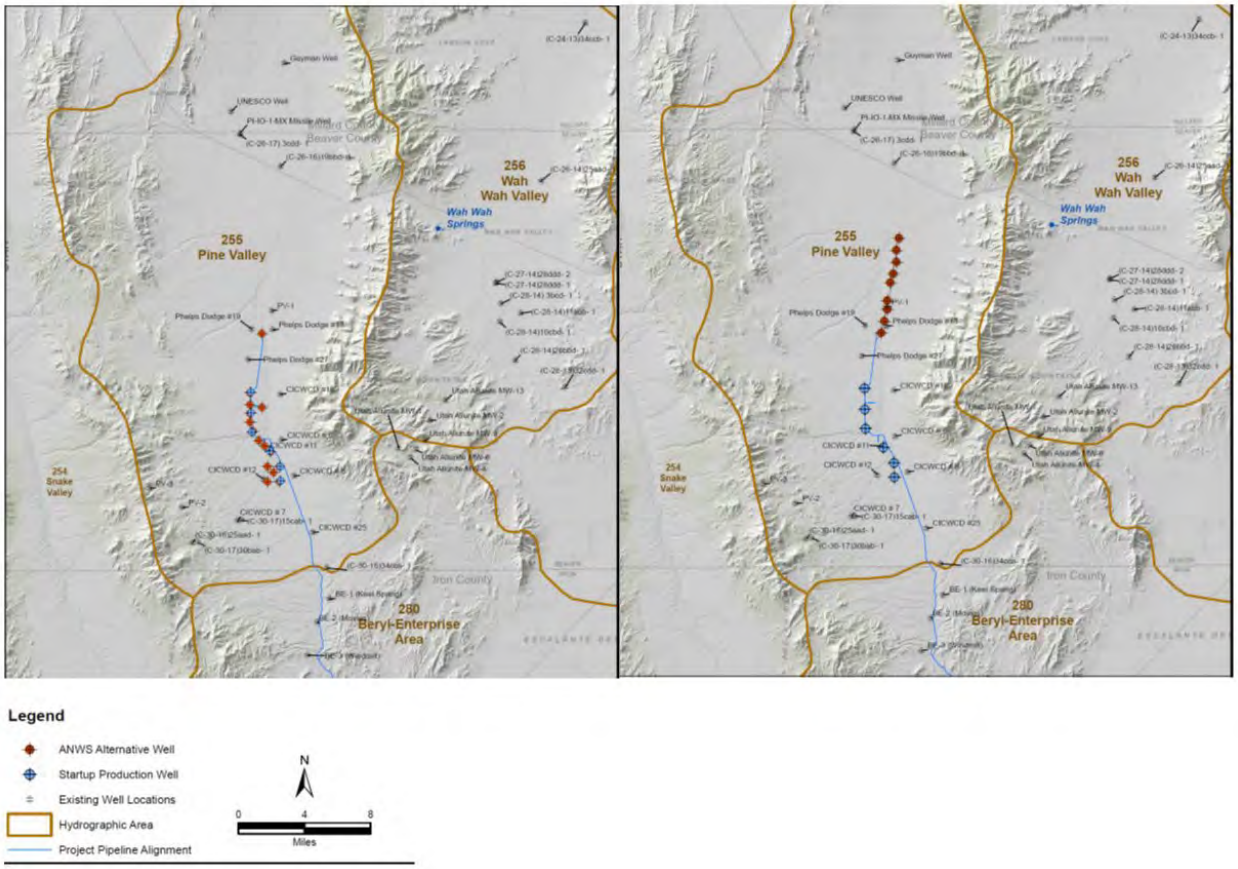

Figure 3: The well field layout for the Pine Valley Project Proposed Action (left) and Adaptive Northern Well Sites alternative (right). The project proponent expects the well depths would range from 500 to 2000 feet and have a capacity equal to 1000 afy. Source Formation Figures 2-1 and 2-2.

The development of a groundwater supply project does not simply remove water from the ground. The project captures groundwater flow that has been discharging to other features in the landscape. Some of the most valuable resources in the original Indian Peaks Reservation area are springs and groundwater dependent ecosystems.

Recharge is water that enters the aquifer by passing through the ground surface. Water can also enter the aquifer by flowing across a basin boundary from an adjoining basin upgradient. Discharge within the basin is either to evapotranspiration (ET), to springs, or as seepage to streams. Water can also discharge as interbasin flow to other basins downgradient. Groundwater development captures some of the discharge. Because the capture is not

immediate, groundwater is lost from storage and the water levels decline until the pumping captures all of the groundwater discharge.

Utah groundwater management attempts to prevent a project from pumping at a rate that exceeds "safe yield". Formation quotes Utah code defining safe yield as "*the amount of groundwater that can be withdrawn from a groundwater basin over a period of time without exceeding the long-term recharge of the basin or unreasonably affecting the basin's physical and chemical integrity"* (Utah Code §73-5-15(1)(b)) (Formation, at 16, italics in original). Nothing in this definition requires the developer to protect groundwater dependent ecosystems or prevent groundwater mining; estimates of "long-term recharge" have a great deal of uncertainty, and it is very difficult to ascertain whether a project is exceeding that recharge. Drawdown due to pumping occurs until the pumping captures discharge up to rate equivalent to the pumping rate.

Hydrogeology of Pine Valley and Surrounding Areas

Heilweil and Brooks (2011) is a conceptual and numerical model development of the overall Great Basin carbonate and alluvial aquifer system, often referred to with the acronym GBCAAS. The area extends through much of the Great Basin, the land of internal drainage centered on Nevada and including areas adjoining in Utah and California. Heilweil and Brooks, utilizing earlier studies, bring together the hydrogeologic framework and conceptual flow model for the overall area. With respect to our interests herein, it also summarizes the current understanding of the west Utah area, including Pine Valley, Wah Wah Valley and other surrounding basins. Figure 4 shows Pine Valley and the general location of the proposed wells in southern Pine Valley. CICWCD would export water to Cedar City, up to 40 miles to the southeast.

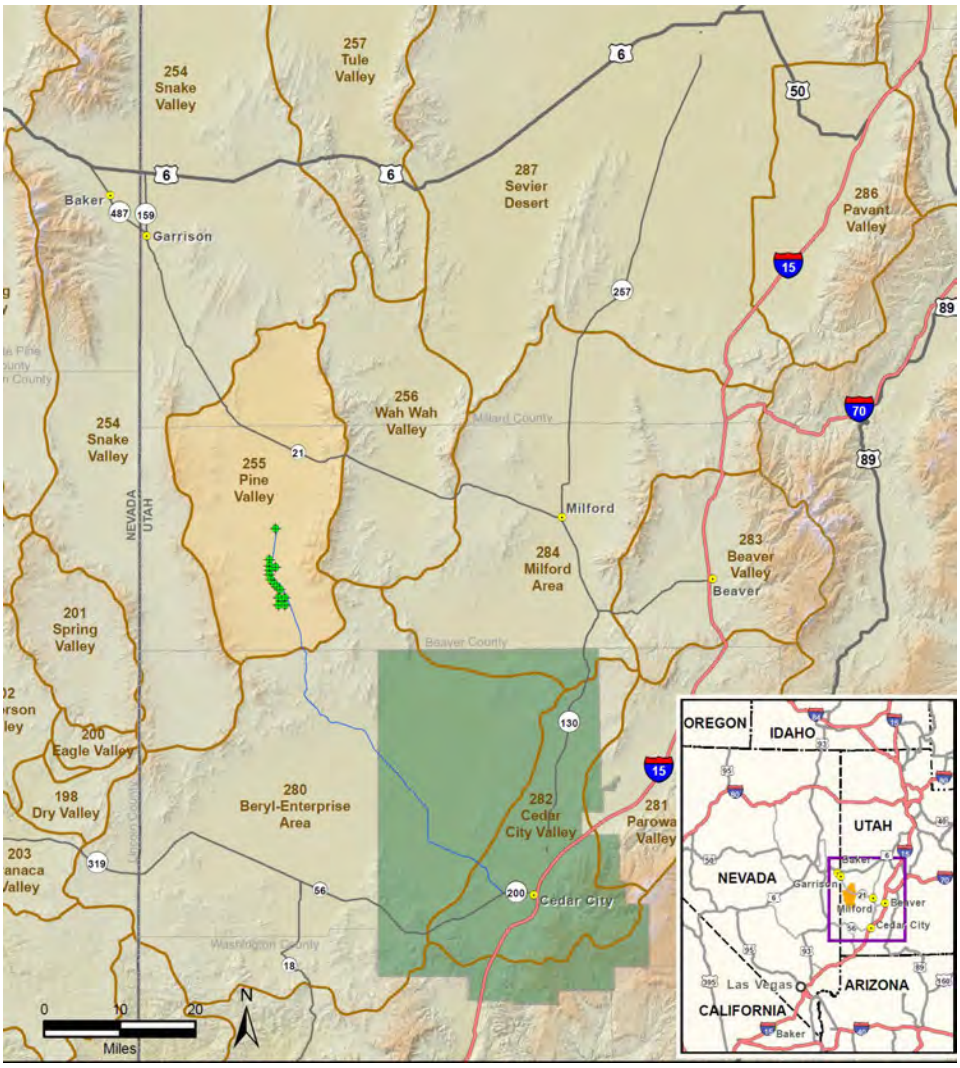

Figure 4: Groundwater basins in the west Utah Desert and eastern Nevada, the location of the proposed Pine Valley Project (in green circles), and the CICWCD serice area (in green). Source Formation (2025) Figure 1.

The prevailing geology is Basin and Range, meaning that mountains and basin are interspersed across the area. Most mountain ranges are upthrust blocks, so that one side dips steeply under the adjoining basins. The basins between the mountains are filled with detritus that eroded from the surrounding mountains. Many of the downthrust mountains bound the basins with a normal fault (Figure 5).

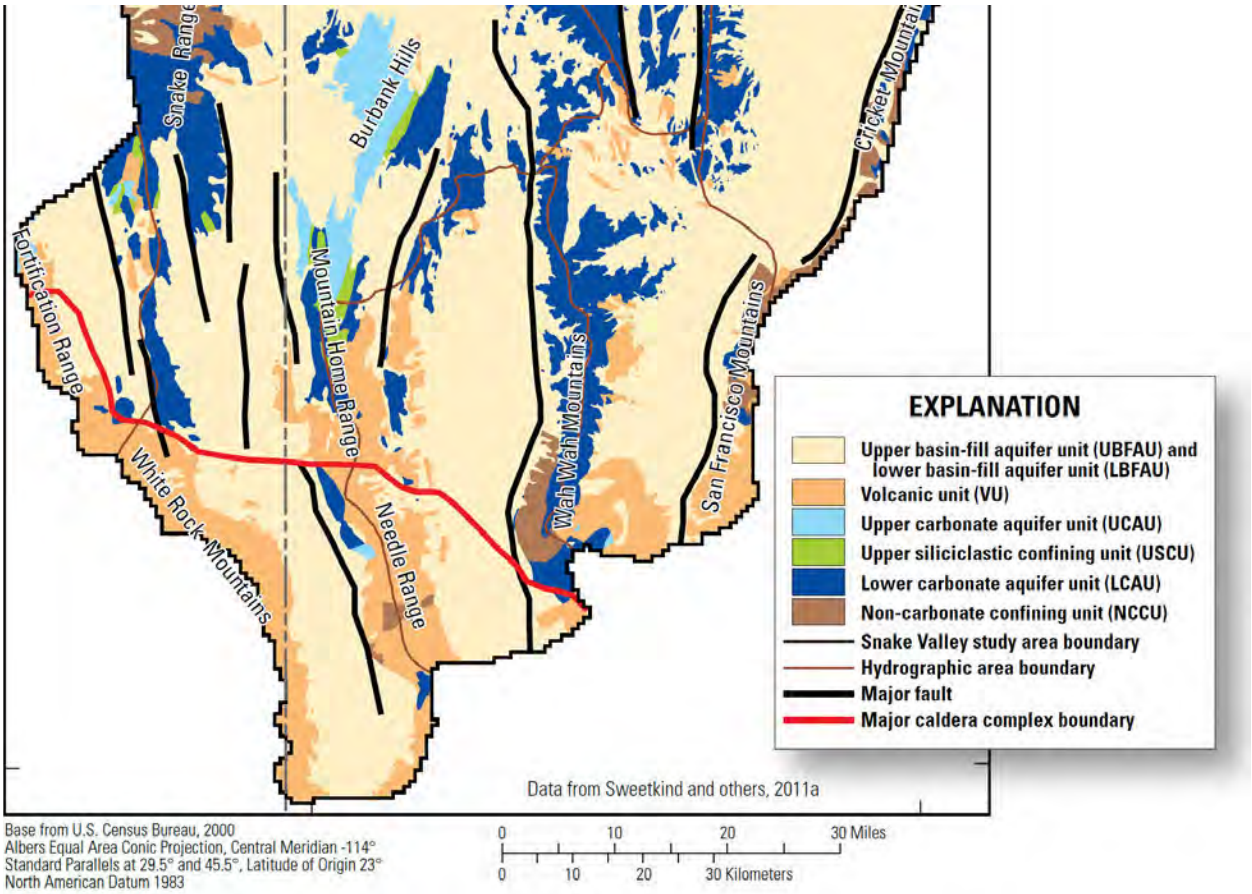

Figure 5: Surface hydrogeologic units in the southern portion of the groundwater model domain, Figure 2 in Masbruch et al. 2014. The original Indian Peaks Reservation is in the Needle Range midway between the caldera complex boundary and the edge of the map.

During the Paleozoic period, from about 542 to 251 million years ago, the area was at the bottom of an inland sea, therefore most of the rock is sedimentary of different constituents. Carbonate rock is the most conductive, so if moderately fractured, carbonate rock is highly transmissive for groundwater flow. Volcanism has also caused intrusions in areas so there are volcanic formations that can either impede or conduct flow. Masbruch et al (2014) classified the pre-Cenozoic[1] consolidated rocks, Cenozoic age sediments, and igneous rocks into seven general hydrogeologic units:

1. a non-carbonate confining unit (NCCU) representing low- to moderate-permeability siliciclastic formations as well as intrusive igneous rocks that are locally exposed in mountain ranges, and underlie parts of the study area

[1] The Cenozoic age is the last 66 million years of earth's history, commencing with the major extinction event that killed most dinosaurs and initiated the age of mammals and birds, and flowering plants became dominant

2. a lower carbonate aquifer unit (LCAU) representing a thick succession of predominantly high- to moderate-permeability carbonate rocks that are locally exposed in the mountain ranges, and present beneath most of the valleys within the study area
3. an upper siliciclastic confining unit (USCU) representing low-permeability siliciclastic rocks, predominantly shales, that are limited in extent within the study area
4. an upper carbonate aquifer unit (UCAU) representing a thick succession of low- to high-permeability carbonate rocks that are locally exposed in the mountain ranges and exist beneath some of the valleys within the study area
5. a volcanic unit (VU) representing large volumes of low- to high-permeability Cenozoic-age volcanic rocks that are locally exposed in the mountain ranges and exist beneath some of the valleys within the study area
6. a lower basin-fill aquifer unit (LBFAU) representing the deepest one-third of the Cenozoic-age basin-fill sediments, including moderate- to high-permeability volcanic rocks buried within the basin fill and consolidated older basin-fill sediments
7. an upper basin-fill aquifer unit (UBFAU) representing the shallowest two-thirds of the Cenozoic-age basin-fill sediments, including a wide variety of low- to moderate-permeability basin-fill sediments

Figure 5 shows the surface hydrogeologic units in the southern portion of the groundwater flow system modeled by Masbruch et al. (2014). Hydraulic properties for each of those units vary substantially (Figure 6) primarily due to the degree of fracturing. The most heavily fractured is the most conductive if the pores created by fracturing are connected.

Table 1. Hydraulic properties of hydrogeologic units in the Great Basin carbonate and alluvial aquifer system study area.

[Modified from Belcher and others, 2001, 2002, and Sweetkind and others, 2011a. **Abbreviations:** UBFAU, upper basin-fill aquifer unit; LBFAU, lower basin-fill aquifer unit; LCAU, lower carbonate aquifer unit; NCCU, non-carbonate confining unit; UCAU, upper carbonate aquifer unit; USCU, upper siliciclastic confining unit; VU, volcanic unit; >, greater than; NC, not calculated]

Major hydrogeologic unit	Hydrogeologic unit abbreviation	Maximum unit thickness (meters)	Hydraulic conductivity (meters per day)			
			Arithmetic mean	Geometric mean	Minimum	Maximum
Cenozoic basin-fill sediments	UBFAU and LBFAU	11,000	9	1	0.00003	131
Cenozoic volcanic rock	VU	1,000 (>3,900 in calderas)	6	0.9	0.01	55
Upper Paleozoic carbonate rock	UCAU	7,300	19	0.1	0.00009	319
Upper Paleozoic siliciclastic confining rock	USCU	>1,500	0.1	0.02	0.00003	0.9
Lower Paleozoic carbonate rock	LCAU	5,000	52	1	0.003	824
Non-carbonate confining rock	NCCU	NC	0.2	0.002	0.00000002	5

Figure 6: Hydraulic properties table for hydrogeologic units specified by Masbruch et al. (2014).

The general conceptual flow model for ranges in the Great Basin is that precipitation falling in the mountain block either recharges the aquifer under the mountain block in place or runs off and potentially enters the groundwater further downhill on the mountain (Figure 7). If the

mountain bedrock is conductive, water will sink into it. If the bedrock is not conductive, the water will run off until it seeps into the ground, possibly at the contact between the bedrock and basin fill. In the eastern Great Basin including western Utah, carbonate rock is the most ubiquitous conductive bedrock. Groundwater often flows through conductive carbonate bedrock under the mountains to the next downgradient basin as interbasin flow. Groundwater generally flows until it reaches a discharge point in a spring, stream as seepage, or groundwater evapotranspiration (GWET) area which is generally an area with groundwater dependent riparian vegetation. The travel time from recharge to discharge may range from a few to tens to thousands of years.

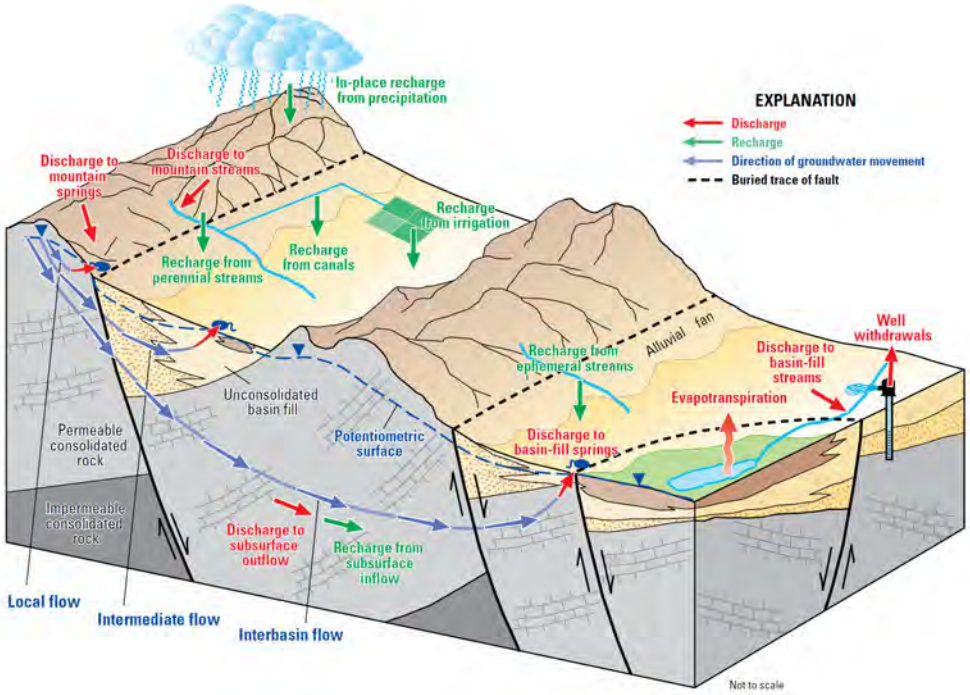

Figure 7: Schematic showing generalized groundwater conceptual flow model for Great Basin intra- and interbasin flow. Heilweil and Brooks (2011) Figure C-1

Flow in Pine Valley generally follows the simplified description with recharge occurring in the mountains and interbasin flow leaving the valley to the north. Carbonate rock forms the base of the northern end of the Needle Range and most of the Wah Wah Range (Figure 5) and probably provides a pathway for groundwater to flow from Pine into Wah Wah Valley. However, the density of springs in the mountains surrounding Pine Valley (Figure 8) complicates the conceptualization of recharge entering the regional aquifer beneath the mountain massif. These springs indicate there is a large area of low permeability soil that prevents deep recharge

and causes groundwater to discharge in the mountain. Many of these springs may be perched, as described below. Figure 8 shows the local and regional springs in the area of the project.

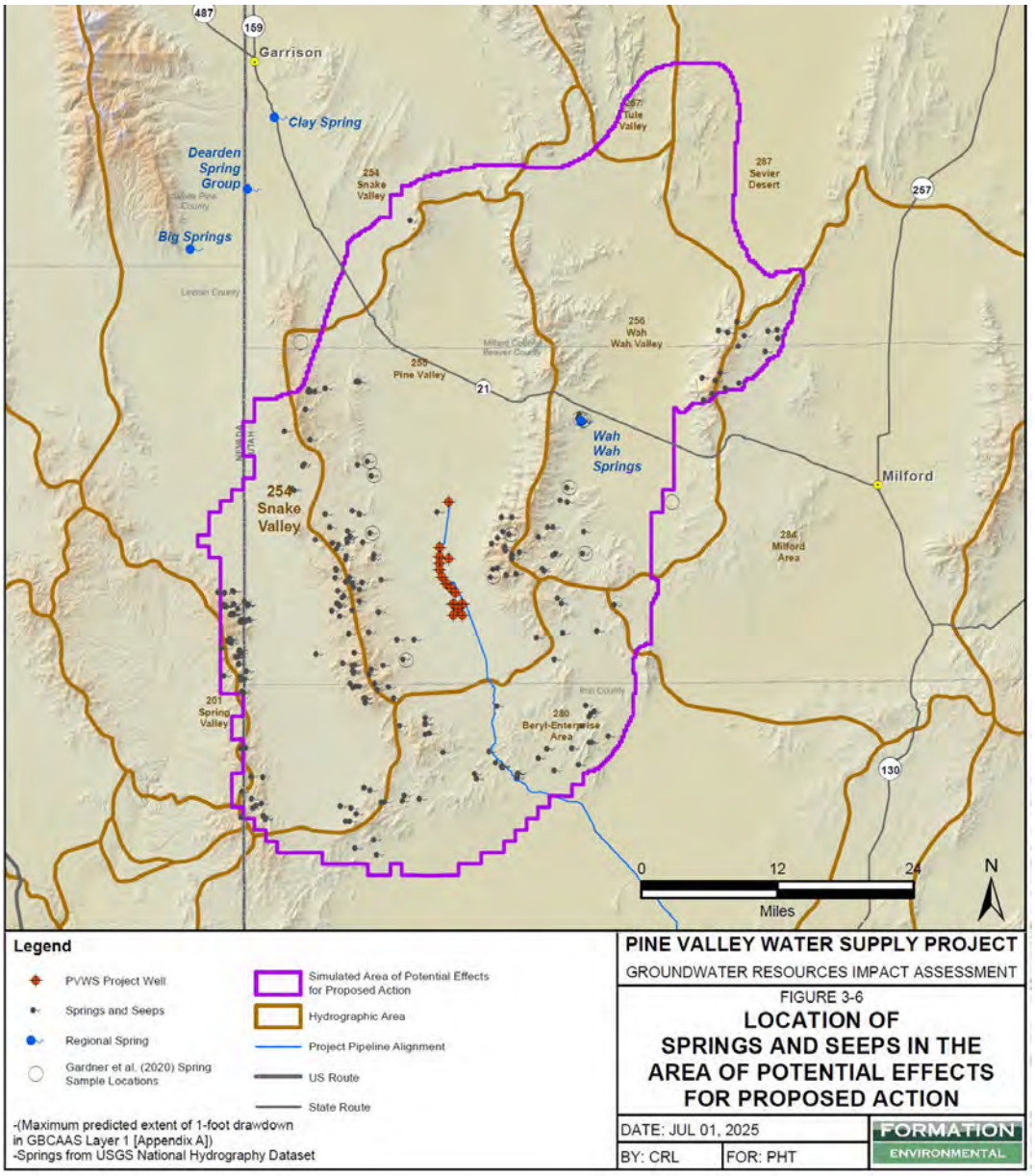

Figure 8: Snapshot of a portion of Figure 3-6 from Formation (2025). The map shows local springs circling Pine Valley and the location of the nearest potential regional springs. Regional springs attach to the regional aquifer from which project pumping would occur. The purple line is the area of potential effects as defined by Formation.

The groundwater depth is too great for there to be any GWET within the basin. Water in the regional aquifer in Pine Valley flows to downgradient basins, including Wah Wah Valley to the northeast and Snake Valley directly north, as may be discerned from groundwater contours for

the southern Great Salt Lake Desert Flow System (Figure 9). A groundwater divide separates that system from the Sevier Lake Flow System and the Beryl-Enterprise basin shown in brown south and southeast of Pine Valley.

Heilweil and Brooks (2011) found there was too little data to define the existing potentiometric surface in Pine Valley. Figure 9 shows southern Snake Valley and much of Pine Valley in cross-hatches "where potentiometric surface contours are considered less certain because of the lack of water-level data" (Heilweil and Brooks 2011, at 55). A groundwater model based on the conceptual model presented in Heilweil and Brooks (2011) therefore has inherent limitations in the Pine Valley and original Indian Peaks Reservation area.

Gardner et al. (2011) reviewed additional well data and updated the potentiometric surface for Pine Valley as part of the Masbruch et al. (2014) modeling project. The groundwater contours slope almost due north in Pine Valley with a slight trend to the northeast in the northern part of the valley (Figure 10). It is in this portion of the valley that the Wah Wah Mountains consist most of transmissive Lower Carbonate bedrock. The groundwater contours are dashed because they are inferred, meaning the data is not better for their construction than it had been in Heilweil and Brooks (2011) (Figure 9).

Gardner et al. (2020) updated the water level map for the basin-fill aquifer in Pine and Wah Wah Valleys using water levels at basin fill wells and "considering springs in the low-altitude areas of the surrounding mountain regions" (Gardner et al. 2020, at 10). Their map generally mirrors the previous maps with flow to the north in the valleys, but with a new twist (Figure 11). The map shows a steep gradient from west to east based on "[s]hallower water levels found in volcanic lithologies [observed} at higher altitudes along the margins of both valleys as well as in local mountain bedrock aquifers" (Id.). Continuing, the authors wrote:

> Steep hydraulic gradients are inferred by water levels observed in Pine Valley. The areas **of steepest hydraulic gradient are in the southern portion of Pine Valley and along the western margin of the valley in the central portion** … . It is possible that these areas represent **the boundary between sediment types that make up the basin-fill aquifer in Pine Valley**. The southern and western sides of Pine Valley likely contain fine-grained sediment that is a weathering product of the volcanic lithologies that dominates the Needle Mountains and southern portions of the Wah Wah Mountains, whereas the eastern sides of Pine Valley likely contain more course-grained sediment derived from quartzites that are found on the western slopes of the Wah Wah Mountains. (Gardner et al. 2020, at 10, emphases added)

The maps indicate the authors assume that the water level supporting springs just west of the basin fill are part of an aquifer connected to the basin fill aquifer and therefore cause the steep gradients on the west side of Pine Valley, shown on Figure 11. However, the authors provide no

evidence that the potentiometric surface at the couple of wells that support the steep gradient are hydraulically connected.

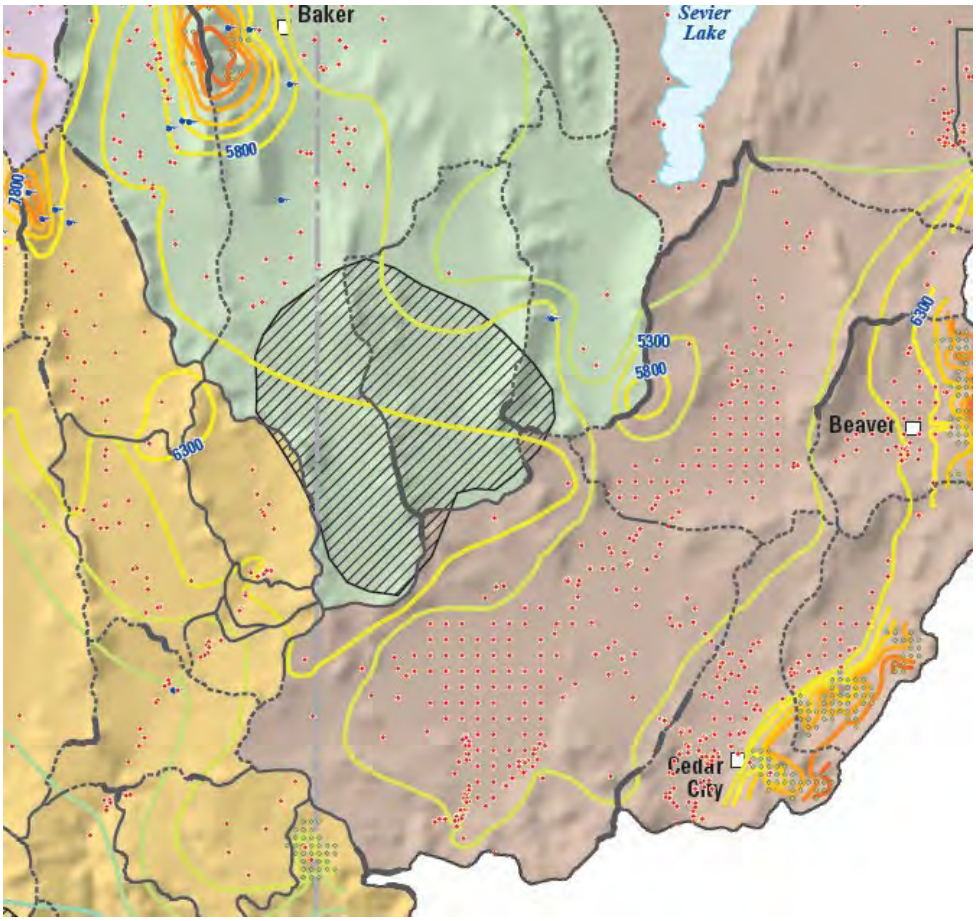

Figure 9: Snapshot of a portion of the plate: Potentiometric-Surface Map and Likelihood of Hydraulic Connections Across Hydrographic Area Boundaries of the Great Basin Carbonate and Alluvial Aquifer System Study Area (Heilweil and Brooks 2011). Pine Valley is in the center of the map on the east side of the cross-hatch area. The cross-hatch represents an area with insufficient well data to accurately determine the potentiometric surface. Thick lines between basins represent a low likelihood of interbasin flow, dotted lines represent high likelihood, and intermediate solid lines represent uncertainty regarding interbasin flow.

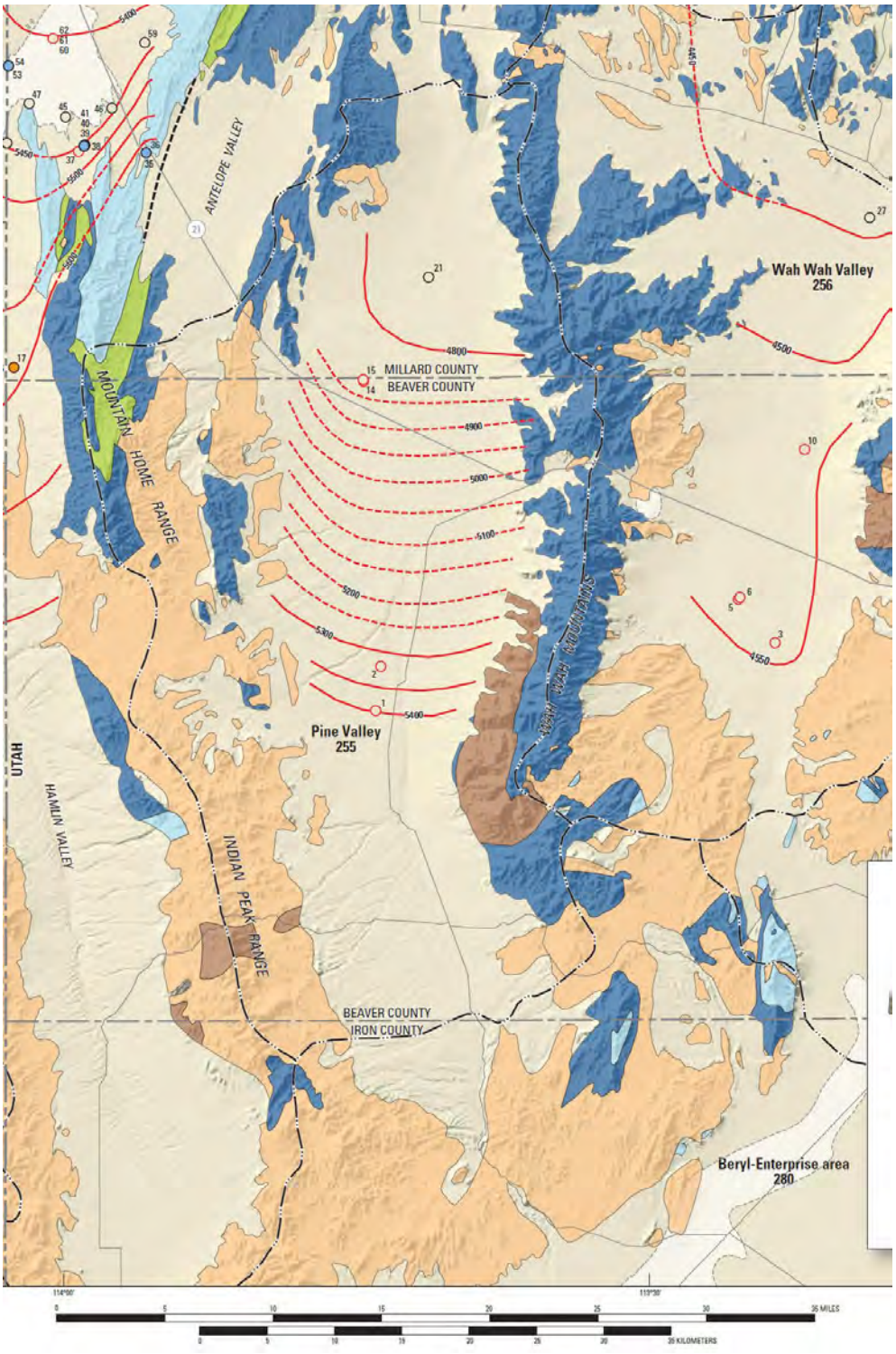

Figure 10: Potentiometric surface for Pine Valley and surrounding valleys, snapshot from Figure 1, Gardner et al. (2011).

Exhibit J, Myers 2026a

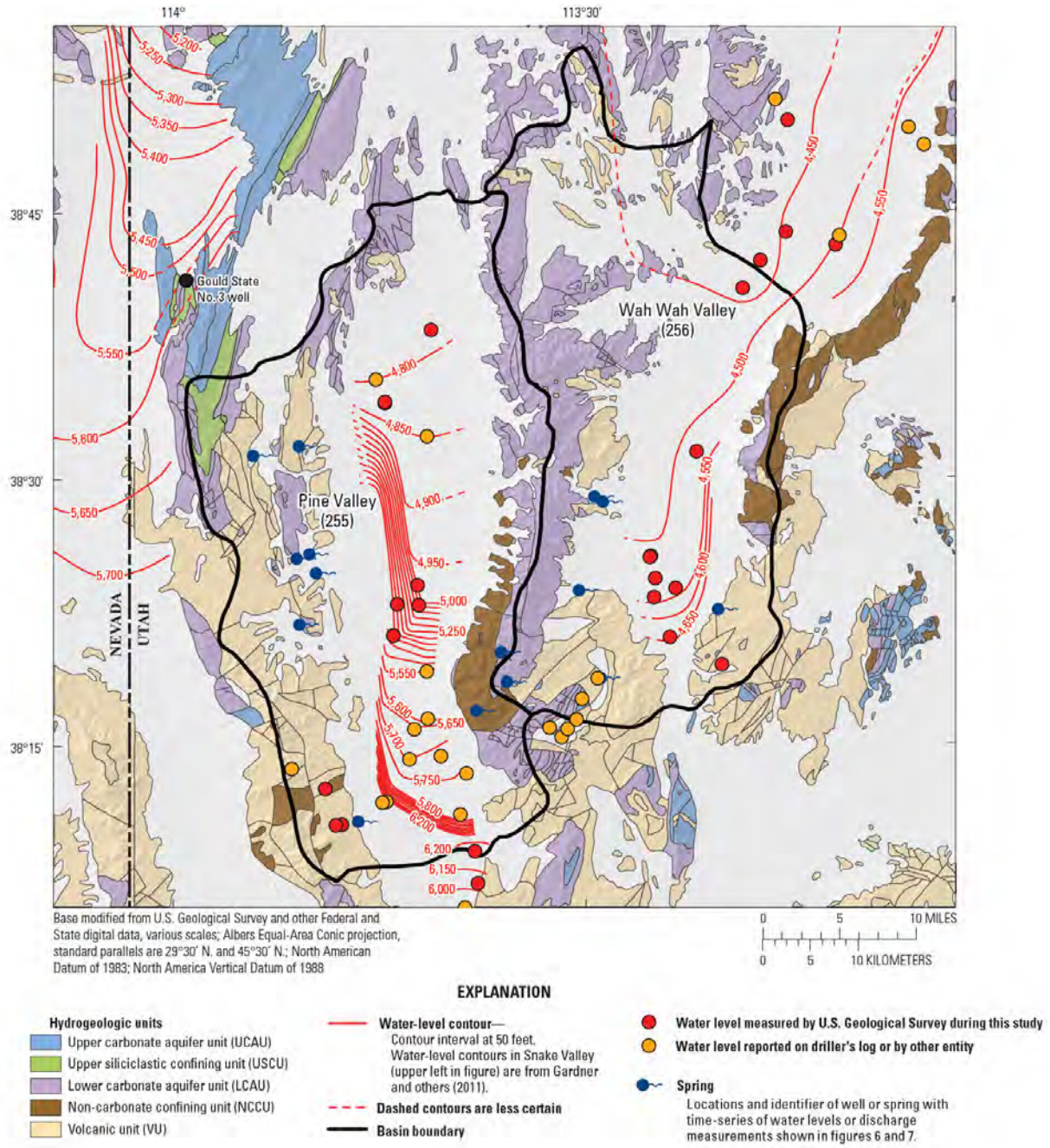

Figure 11: Gardner et al. (2020) Figure 4, showing basin-fill groundwater contours for Pine and Wah Wah Valleys and hydrogeologic unit outcrops.

Springs that discharge from the extensive igneous rocks on the east side of the Needle Range are perched (Gardner et al. 2020, at 38). Up to "80 or more springs in the Pine Valley drainage basin all discharge at altitudes above 6,200, which is above the mountain-bedrock, basin-fill transition zone" (Id.). Gardner et al. (2020) also showed that water in the mountain springs is very young, on the order of 60 years (Figure 12). Water in one well on the south end of the

Needle Range is less than 1 year. A well apparently at the junction between mountain block and basin fill is >60 years old. Water in basin fill wells in Pine Valley ranges from 2000 to 13,000 years old (Id.). Substantial age differences indicate there can be no continuous flow connection between the mountain and basin fill groundwater.

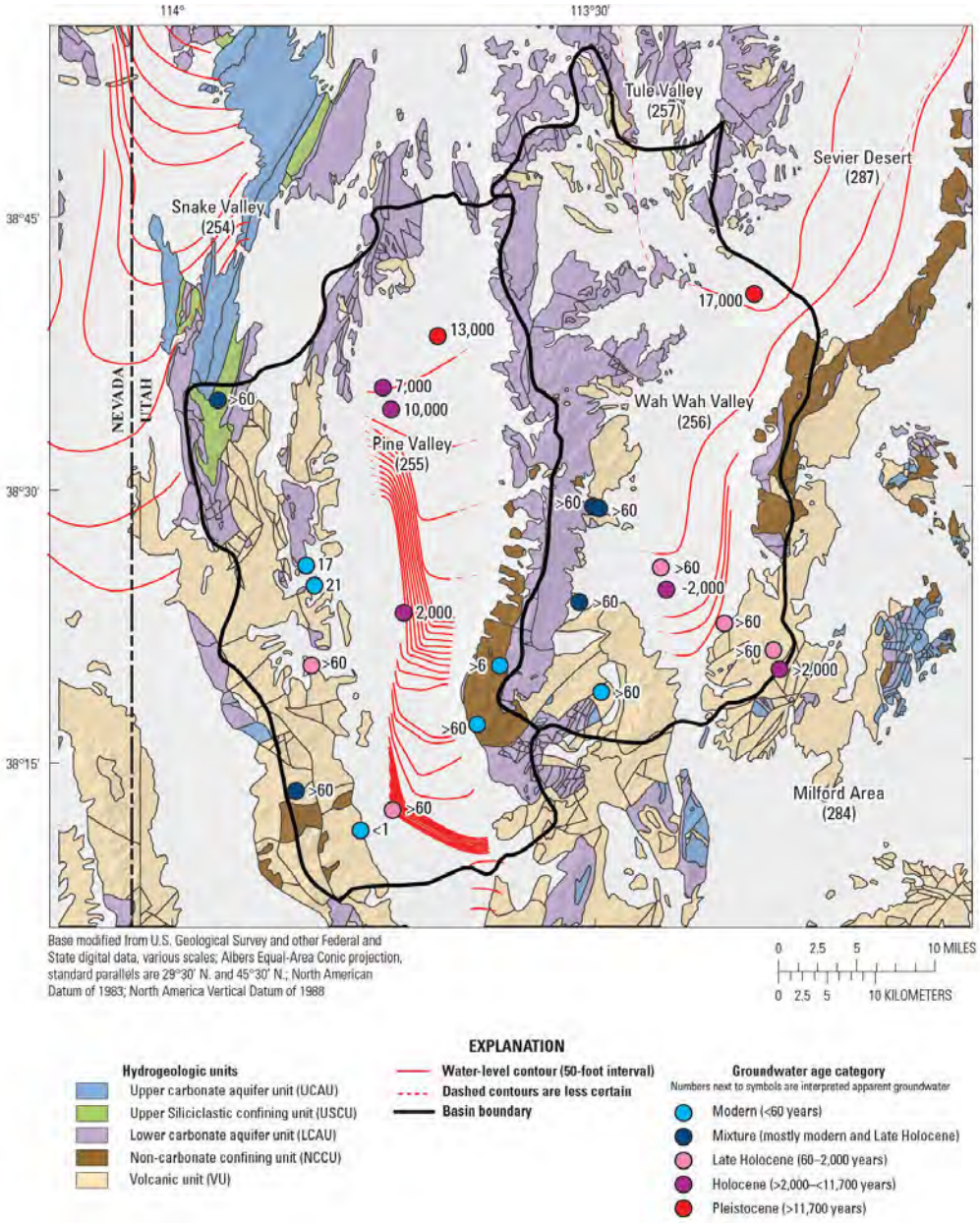

Figure 12: Snapshot of part of Gardner et al. (2020) Figure 12 showing wells presenting the age of the groundwater in the Needle and Wah Wah Range and Pine and Wah Wah Valleys. The map also shows potentiometric surface and hydrogeologic units.

This evidence indicates there is no real connection between the mountain block groundwater and the basin-fill groundwater. Gardner et al. (2020, at 38) stated "[f]urthermore, comparing

groundwater altitudes from wells and springs in the mountains to groundwater levels measured in valley wells anywhere in Pine or Wah Wah Valleys shows that **a hydraulic gradient across the mountain-bedrock, basin-fill transition zone would be unusually steep for any well-connected flow system**…, reinforcing that perched mountain groundwater is widespread." (Id., emphasis added). The age difference in the groundwater wells (Figure 12) further indicates these contours do not represent the same flow system.

Gardner et al. (2020) provided more reasoning that indicates the mountain and basin-fill groundwater are separated. "Groundwater samples from valley wells in Pine Valley clearly have lower dissolved-solids concentrations than almost all the groundwater sampled from wells and springs in the surrounding mountains" (Gardner et al. 2020, at 38). It is therefore impossible that basin-fill groundwater is the end of a flow path for mountain block groundwater. "Groundwater should add solutes over time as it moves downgradient along a flow path dissolving the rock as it flows. In areas where flow paths are continuous between mountain and valley groundwater, dissolved-solids concentrations in water from valley wells should be higher than upgradient mountain waters, especially given the long travel time indicated by the groundwater ages" (Id.). In other words, if the flow path from the mountains ended in the basin fill, as is necessary for mountain recharge to support basin-fill water, the basin fill water must have dissolved solids concentrations at least as high as that of the mountains.

Stiff diagrams of well water samples (Figure 13) also show that groundwater types are vastly different between the mountain and basin fill wells. Total dissolved solids concentrations are much less in the basin fill. As noted, that is impossible.

For the basin fill aquifer to have such low dissolved solids, it could not have flowed very far, or it would have dissolved salts from the surrounding aquifer material. The age and low dissolved solids of the basin fill water indicate that it moves only very slowly. It is therefore very likely that much of it has been there since the most recent Ice Age, which ended approximately 12,000 years ago. Although the gradient to the north indicates there is northward flow, the evidence is that recharge to the basin fill is likely very low, maybe lower than predicted by Gardner et al. (2020); this will be discussed below in *Recharge Estimates.*

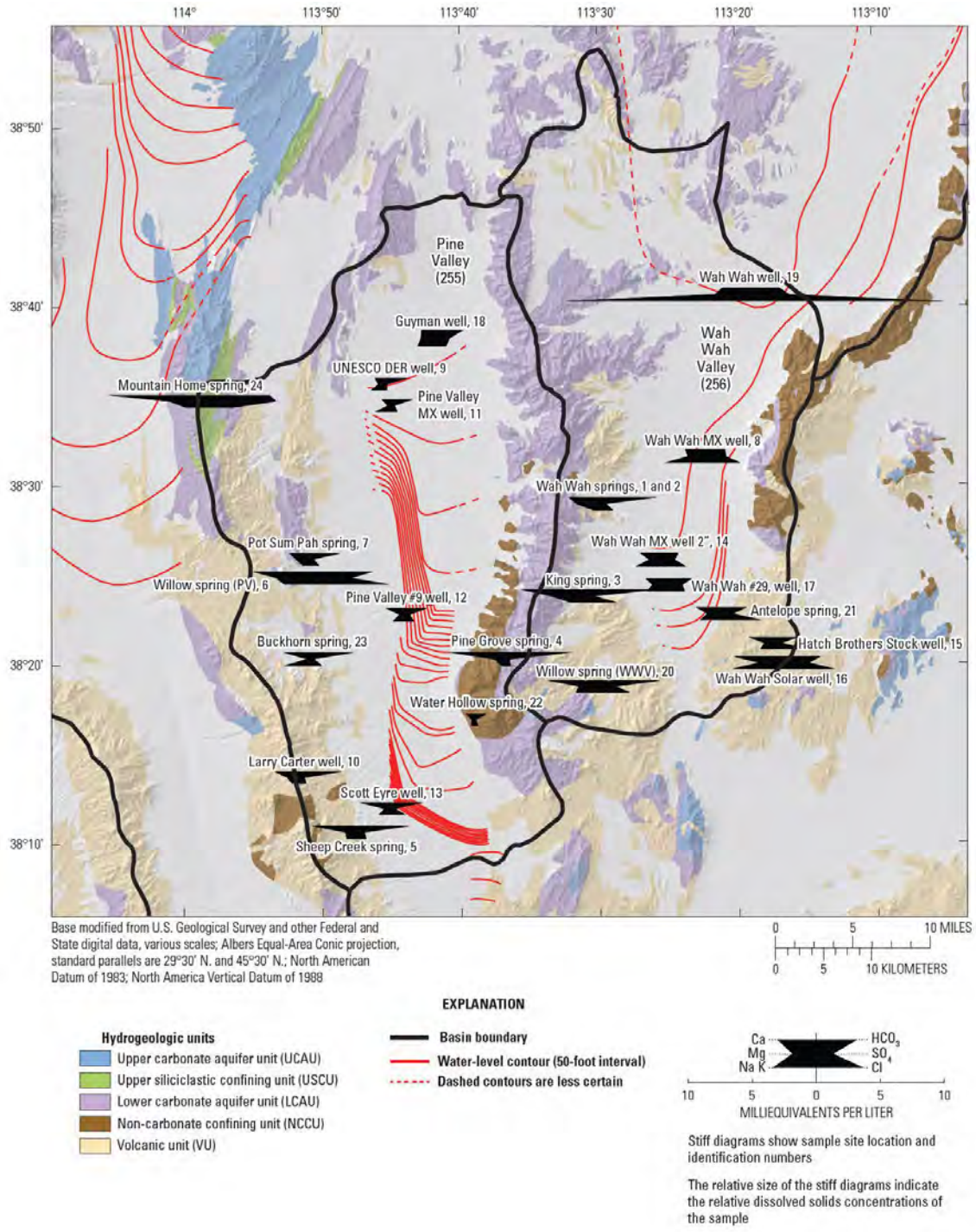

Figure 13: Snapshot of part of Gardner et al. (2020) Figure 10 showing stiff diagrams for wells in the Needle and Wah Wah Range and Pine and Wah Wah Valleys. The map also shows potentiometric surface and hydrogeologic units.

Additional evidence indicates that the steep northward contours in the Pine Valley are unrealistic. The contours do not show a simple slope to the north but include two steep sections which divide the groundwater into segments (Figures 11 and 12). This could be due to the caldera that splits Pine Valley, as described below. The change in material represents large change in properties and quite likely poor connectivity between the pores north and south of the caldera boundaries. Flow through the boundaries would be miniscule.

Although the USGS authors here indicate it would be "unusually steep", Gardner et al. (2020) use the potentiometric surface map (Figures 11 and 12) for their CFM and numerical model. The best interpretation of the data is that there is extreme uncertainty in the potentiometric surface mapping and the general CFM for the area. Such uncertainty would cause any modeling completed for the Pine Valley to potentially be fraught with errors. It would affect the detailed calibration of the modeling because simulated water levels attempt to match the measured water levels. Apparently, Formation (p 46) based its analysis on this mapping which indicates their work depends on highly uncertain understanding of the groundwater levels and local flow in Pine Valley. The underlying CFM for modeling the Pine Valley Water Exportation is therefore fraught with uncertainty.

Geologic structural features can greatly influence groundwater flow in a region, often between basins. The southern portion of Pine Valley, including the original Indian Peaks Reservation, lies within a caldera (Figure 5). Heilweil and Brooks summarized the effects of a caldera on hydrogeology as follows:

> The juxtaposition of contrasting lithologies at the margins of calderas **affects local and regional groundwater hydrology**. Structural collapse, the hallmark of caldera-forming eruptions, **occurs along a generally circular system of normal faults that constitute the caldera's structural margin** (fig. B–8). The lithologic discontinuity across the steeply inclined structural margin can extend to depths of several thousands of feet. **Where calderas form within the carbonate rock terrain, little or no carbonate aquifer would be expected at depth beneath the caldera structure**; these rocks are presumably removed during explosive caldera eruptions and intruded by subcaldera granitic rocks …. The structural and topographic margins of calderas juxtapose intracaldera and outflow-facies volcanic rocks. The intracaldera environment is usually filled by several thousands of feet of ash-flow tuff and interleaved landslide materials …. Intracaldera rocks differ in their geometry and material properties from equivalent outflow rocks in that they have greater thicknesses of welded material and more complex welding zonation, greater lithologic diversity (including megabreccia and thick lava accumulations), and a greater degree of alteration. **Fracture patterns in intracaldera rocks tend to be more irregular than those of outflow tuffs …, leading to a smaller**

> **number of connected flow paths**. Outflow tuff sheets, although thinner than intracaldera tuff accumulations, have better connected fracture networks and less likelihood of significant alteration … . In addition to juxtaposition at the caldera margins, **calderas typically are underlain by large subvolcanic granitic intrusions, which are deep, and presumably of low permeability**. These **intrusions may further lower permeability of rocks surrounding calderas** through contact metamorphism, hydrothermal alteration, and the replacement of precaldera rocks deposited throughout the area. (Heilweil and Brooks 2011, references omitted, emphases added)

Interbasin flow in carbonate rocks should be interrupted by volcanic rocks so that the transmissivity of bedrock is lower. It should not significantly affect basin fill but the connection with bedrock should be limited due to the irregular fracture patterns. This should limit the amount of water that can be drawn from the massif portions of the basin, meaning it should limit the extent that pumping can draw water from the mountains.

Recharge estimates

Precipitation is the only input of water to basins in the GBCAAS area. Precipitation that does not evapotranspire will sink into the groundwater and become recharge (Heilweil and Brooks 2011). Rainfall and melting snowpack seeps into permeable bedrock or runs off to seep into basin fill at the bedrock/fill contact, as shown in Figure 7. This primarily occurs in carbonate rock or fractured volcanic rock.

Recharge is impossible to measure directly other than at a single point. However, many methods have been used to estimate recharge in the Great Basin. The best way to estimate recharge for a basin is to identify and measure the discharge from within that basin and interbasin flow into that basin because the measured discharge must equal the recharge, with all at steady state.

Heilweil and Brooks (2011, at 75) summarized the various methods in other studies to estimate recharge for the GBCAAS study area. They estimated 470,000 afy recharged in the entire Great Salt Lake Desert System (Id., Table D-3). For Pine Valley, they estimated recharge equals 27,000 afy (Id., Table A4-1). However, that has been shown to be a gross overestimate by more recent work. Masbruch et al. (2014) indicate that the method used to estimate recharge at a point "may overestimate recharge in parts of the model domain because it is assumed that all infiltrating water that passes the root zone ultimately reaches the water table" (Id., at 92). Overestimating recharge over an area causes a numerical model based on that CFM to underestimate the drawdown depth and extent. The estimated recharge at the location of the original Indian Peaks Reservation is higher than most areas other than the highest elevations in the Snake Range (Figure 14); the green is a range from 5.5 to 9.3 inches/year.

Subsequent work with the model to update it to better simulate Pine and Wah Wah Valleys caused Brooks (2017) to decrease the recharge for Pine Valley from 26,000 to 11,000 afy. Brooks (2017) achieved this change by recalibrating the GBCAAS 3 model to much updated water level data. Figure 15 shows the resulting recharge distribution. Recharge in most of the Needle Range is less than 2.4 inches/year. Because there is no GWET from Pine Valley, recharge into Pine Valley becomes interbasin flow to Wah Wah Valley and other downgradient valleys.

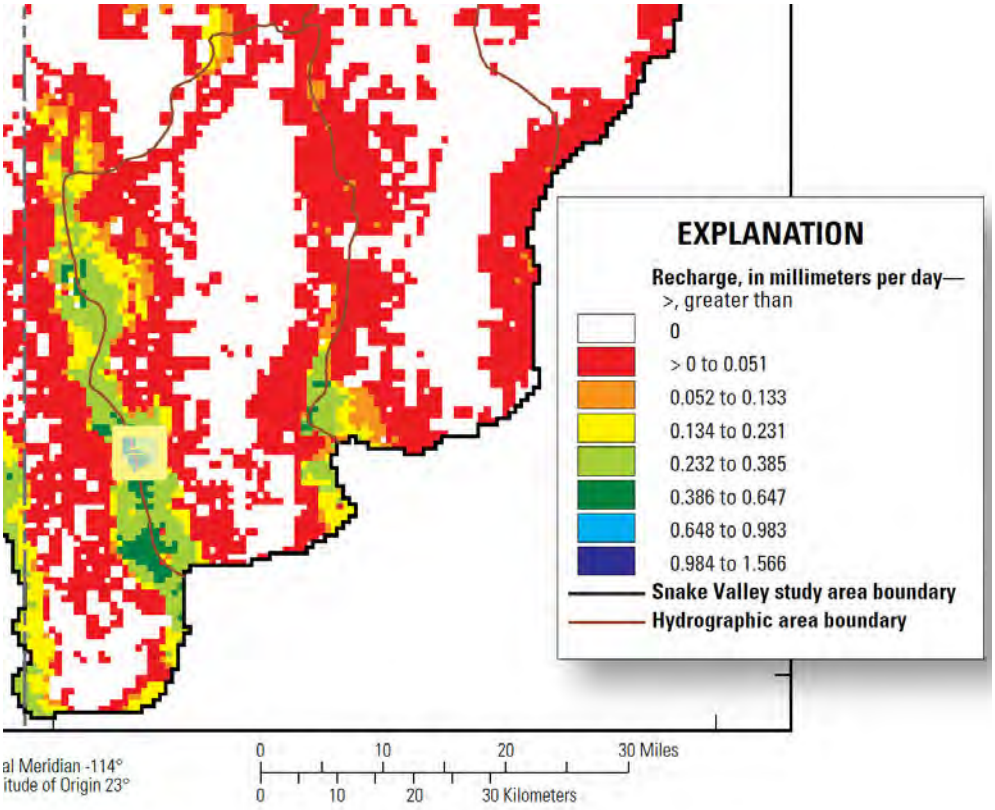

Figure 14: Snapshot of a portion of the recharge map from Masbruch et al (2014), Figure 5. The yellow square is the location of the original Indian Peaks Reservation.

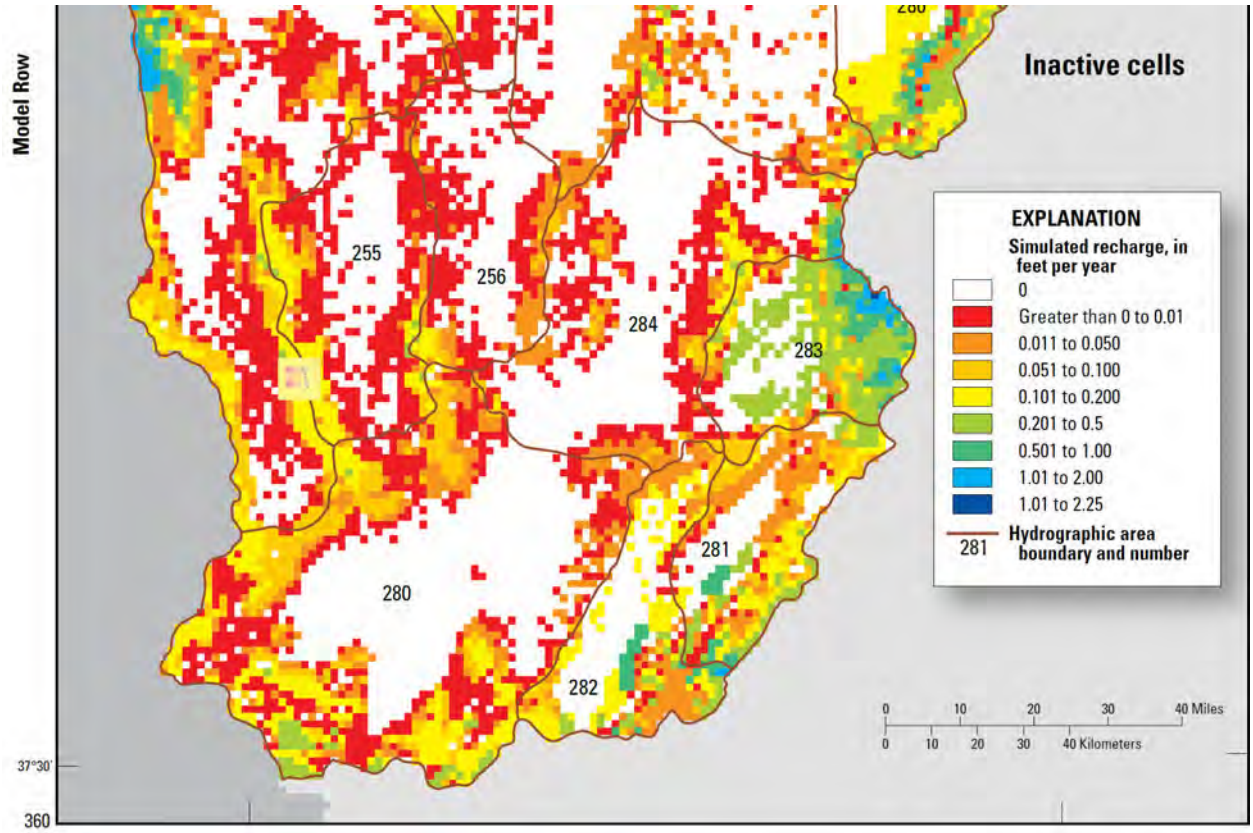

Figure 15: Distribution of recharge in south end of GBCAAS 3.0 (Brooks 2017, Figure 7).

Complicating factors regarding the CFM and estimates of recharge are the many springs in the Needle Range near the original Indian Peaks Reservation (Figure 8 and associated text above). As noted above, most of the recharge in the mountains discharges into local springs not attached to the regional aquifer being developed and modeled by the USGS and Formation. Most of the mountain spring discharge transpires in the mountains, so there really is little secondary recharge into the basin fill. Also as noted above, groundwater in the Pine Valley basin fill is very old which implies it is recharged very slowly if at all. Basin fill groundwater likely remains from a much different climate, and recharge, regime thousands of years ago. Recharge into the bedrock that does not discharge into perched springs likely reaches carbonate rock which underlies the basin fill and flows northward separate from the basin fill. The water chemistry differences between mountain and basin fill groundwater indicate the waters do not mix. Simply, recharge in the Needle Mountains and Wah Wah Range may flow beneath the basin fill to the north.

Gardner et al. (2020) describe a CFM for the perched aquifers that explains the physical process limiting recharge to the regional aquifer to 11,000 afy. They conceptualize how a substantial portion of the recharge in Pine Valley discharges in the mountains and never reaches the valleys. For Pine Valley, the authors note that overall recharge is about 21,000 afy based on

prior studies but that 3000 afy flows to Wah Wah Valley through a carbonate connection and that 7100 afy discharges in the mountain zones and never reaches the basin fill aquifer from which the pumping would occur (Gardner et al. 2020, at 40). This leaves less than 11,000 afy reaching the basin fill aquifer to discharge to the north (Id.). This is the same amount Brooks et al. (2014) estimated for recharge to the basin by calibrating the GBCAAS model. As supported by evidence reported in this technical memorandum, including the vast age difference between basin fill and mountain water and the incredibly slow flow rate through the basin fill to the north, even 11,000 afy may be a substantial overestimate of the recharge reaching the basin fill.

None of the USGS studies (Heilweil and Brooks 2011, Masbruch et al. 2014, Brooks 2017, Gardner et al. 2020) consider how recharge may change into the future. Niraula et al. (2017) indicated future recharge depends on two highly uncertain factors for the eastern Great Basin Region. The general trend of predictions is that recharge will increase in the Pacific Northwest and northern Rockies and decrease in the Southwest and Southern portion of the western United States. Projections for the eastern GB are variable and depend on the relative changes in precipitation and temperature. Some models indicate long-term precipitation increases along with increasing temperature. The increased temperature would also increase ET and offsets the additional recharge. The median prediction is for a small increase in recharge. However, Niraula et al. (2017) did not consider at least one factor that could indicate decreased recharge even if precipitation increases-phase changes in the precipitation, meaning expected changes in the ratio of snow to rain, with the amount of rain increasing in a warming climate (Snyder et al. 2019). More precipitation will run off more quickly than it has in recent history as it falls as rainfall. Whether it becomes basin fill recharge depends on the permeability of the surface sediments. The age of basin fill groundwater in Pine Valley (Figure 12 and associated text) indicates it will not become recharge but rather it will pond on the valley floor and evaporate.

The evidence regarding springs and the age and geochemistry of groundwater presented in the last several pages indicates that recharge for groundwater modeling of the area, done both by the USGS and Formation (discussed in the next section) relies on too much water entering the Pine Valley system.

Hydrologic Impacts of Developing the Pine Valley Water Exportation Project

USGS Studies

Brooks (2017) developed the GBCAAS 3.0 model based on the GBCAAS 1.0 model (Heilweil and Brooks 2011) by creating a child model for the area of interest, essentially the eastern portion of the GBCAAS area from Snake Valley to the eastern boundary including Pine and Wah Wah Valleys. This means they used updated data to improve the calibration for the GBCAAS model within the more-detailed study area. For example, as noted above, to achieve improved

calibration, modelers reduced recharge into Pine Valley to 11,000 afy. That was achieved by decreasing the recharge rate in the Needle Range near the location of the original Indian Peaks Reservation (Figures 14 and 15). Modelers reduced the recharge into the massif to 0.101 to 0.2 ft/y (0.2 ft/y is 0.17 mm/day, the units in Figure 12 and less than half the amount shown in that map). See the discussion below in the section on Modeling Errors and Uncertainty for evidence that recharge simulation has other problems.

Brooks (2017) simulated drawdown using the GBCAAS 3.0 model for development of 15,000 afy in Pine Valley and 6500 afy in Wah Wah Valley. In the long term, predicted drawdown overlaps between the two projects. Brooks (2017) presented drawdown for the two valleys at 62, 1000 and 5000 years (Figure 16). Drawdown at the Pine Valley exportation wells exceeded 500 feet after 62 years (red area on Figure 16). Drawdown up to 4.9 feet (green on Figure 16) expanded about 25 miles north; this long distance is due to there being no groundwater discharge features that could be captured by the pumping. Even after 62 years, however, drawdown between the pumping centers, which are less than 10 miles apart, remains less than 4.9 feet due to the poor hydraulic connectivity between the basins. Drawdown at the original Indian Peaks Reservation would be in the -100 to -499 feet range, although it decreases rapidly toward the mountain crest (Figure 16).

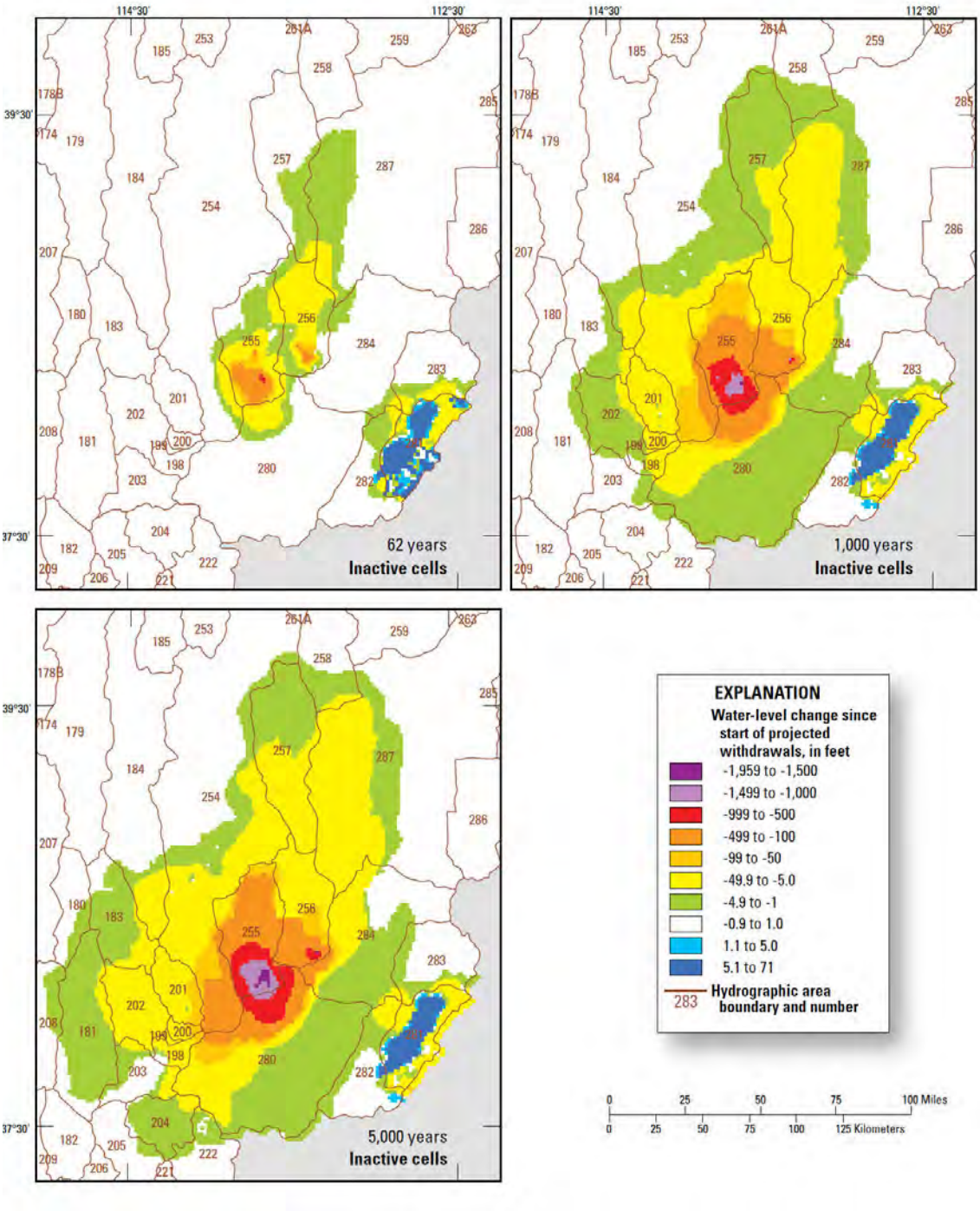

Figure 16: Figure 33 from Brooks (2017). The figures show drawdown due to pumping 15,000 afy in Pine Valley (255) and 6500 afy in Wah-wah Valley (256).

After 1000 and 5000 years, drawdown from Pine Valley would overwhelm that from Wah Wah Valley (based on there being much more drawdown in Pine Valley) with drawdown approaching 2000 feet. That the drawdown is much higher in Pine Valley suggests that most of the drawdown at the original Indian Peaks Reservation is primarily due to the Pine Valley Project.

After 1000 and 5000 years, the drawdown at the production wells would approach 2000 feet and exceed 500 feet at the original reservation[2]. The effect of such drawdown on surface resources is huge and does not vary for different drawdown depths. Uncertainty in the predictions is not relevant. The isolation of Pine Valley contributes to the massive drawdown caused by the project pumping. The caldera limits the horizontal extent of drawdown to the south due to its lower conductivity, so because the simulated pumping exceeds recharge and there is no local groundwater discharge to capture, pumping just keeps removing storage and lowering the groundwater level. **It is classic groundwater mining**. After 5000 years, the loss of GWET and spring discharges far to the north offsets the project pumping (Brooks 2017, Figure 32). For example, Fish Springs far north of the area by about 100 miles and the most distant discharge point from the flow system would lose more than 1000 afy, or about 5% of its annual flow due to project pumping (Brooks 2017, Table 12).

Brooks (2017) did not simulate flow decreases on small springs in the area because of the scale of the model. However, any drawdown of groundwater levels in the mountain massif around the original Indian Peaks Reservation would cause the springs to go dry if there is a connection between the local aquifers feeding those springs and the regional aquifer being pumped. Formation (p 38) acknowledges this is possible meaning there are uncertainties regarding how isolated the springs could be, as discussed elsewhere.

Masbruch (2019) simulated drawdown for various development scenarios within Snake Valley. These included full development of existing rights and two levels of development of SNWA water rights in Snake Valley.[3] The model was run in steady state mode meaning the results were essentially for the pumping scenario at infinity. The scenario of fully developing existing rights caused drawdown to extend into southern Snake Valley and to draw water from basins to the east, including Pine Valley, and west. Masbruch Figures 4 and 9 show drawdown as compared to predevelopment conditions at the original Indian Peaks Reservation would be in the 11 to 50 feet range. Scenarios of full development cause drawdown at the original reservation to reach to as deep as 101 to 500 feet. Beyond acknowledging that large developments west and north of the Needle Range would cause significant drawdown in the Needle Range, this modeling effort does not provide much useful information to assess impacts to the original Pine Valley Reservation nor provide much useful insight to the model that was used. Therefore, it is not further discussed in this analysis.

[2] Note that I did not consider the subroutine used to model the wells. Two thousand feet would like dry the 500 to 2000 foot deep wells simulated by Formation. Regardless, such a drawdown would be highly unlikely which simply shows how unsustainable is the project.

[3] Southern Nevada Water Authority water rights applications within Snake Valley have been dropped and no longer threaten the area.

Formation 2025 Analysis

Formation (2025) is the analysis presented by the developer in support of its proposal. Formation adapted the GBCAAS 3.0 model (Brooks 2017) for its analysis of Pine Valley and refer to it as the GBCAAS-PV model. Formation Appendix A describes the details of the model. The objectives include identification of the area of potential effects (APE), the area where project related drawdown reaches a foot (Formation, at A-3). I support the use of the one-foot drawdown because one foot of drawdown is enough to cause a stream to go dry. Also, because the model estimate is tantamount to an expected value in a statistical sense, there is an uncertainty range around so the actual one-foot drawdown could have an even larger extent.

Other resource related effects simulated include drawdown, groundwater storage depletion, changes in interbasin flow, spring discharge and groundwater evapotranspiration depletion, and subsidence (Formation, at A-3). The model also assesses the timing of the above effects and helps to determine necessary monitoring and mitigation (Id.) as required under the Utah Divisions of Water Rights 2014 Order granting CICWCD the right to appropriate and divert groundwater (Formation, at A-5).

Formation updated GBCAAS 3 with the following changes:[4]

1. Increased recharge to 17,700 and 5160 afy in Pine and Wah Wah Valleys, respectively (Formation, at A-18, -19)
2. GWET in Tule Valley and Sevier Lake area updated during model calibration based on a wide range of satellite estimates (Formation, at A-20)
3. Model grid in the Pine Valley was refined to better simulate pumping using the local grid refinement capability MODFLOW routine (Formation, at A-30), thereby creating a child model within the GBCAAS 3.0 domain (Formation, at A-36).

The proposed project would commence with start-up pumping for a year of six initial wells to determine whether they have sufficient capacity to develop the proposed project pumping, as described above. Formation considered this pumping in a separate model run, reported as the four hydrographs on Formation Figure 2-4, not as part of the proposed project impacts discussed in this section.

Formation used four stress periods to simulate the project, as described in Formation Appendix A, section A.5.1.1. First was a steady state simulation to create initial conditions. The second period was a 1000-year equilibrium transient simulation; use of such a period allows the initial conditions to reach slightly different initial conditions based on the imposition of transient

[4] I list only changes pertinent to the modeling in Pine Valley and Wah Wah Valley here.

properties. The third was the 50-year project pumping period and the fourth was the 400-year recovery period.

Pumping occurred from wells simulated to be 1500 feet deep. Based on the variable model layer thicknesses for the sixteen layers used by Formation (Appendix A Figure A4-2), pumping would have been simulated to occur from numerous layers. No figures show the distribution of model thicknesses and Formation does not specify, so it is not possible to speculate based on the published documents the flow rate simulated from each layer. Formation used a modeling subroutine which allows the well to extract a flow rate from specific layers based on the conductivity and thickness (the layer transmissivity).

Before reviewing the impacts predicted by Formation, it must be noted that they only simulated impacts for 50 years of pumping and then they allowed the system to recover as it would when pumping ceases for 400 years. Unless there are plans to replace this water source or eliminate the "need" for the water in Cedar City, it is inappropriate to present the impacts of the project based on pumping for just 50 years. Pumping for just 50 years captures almost no discharge because of the lack of the basin's isolation. Almost all pumping removes water from storage which means 50 years of pumping simply increases the area drawdown.

Formation used a superposition modeling approach (Formation, at 109) to focus on the effects of the project independent from the actual groundwater levels and flows. In other words, they try to focus simply on the changes wrought by the project. Formation suggests this approach can help subtract out some of the "potential effects of model inaccuracies on evaluation of project effects" (Formation, at 109). They claim the practice is "well established" in hydrogeologic literature (Id.) without providing any references to justify the statement. The result is simply an estimate of drawdown as literally every other environmental study of groundwater pumping has done. Statements that doing so improve the accuracy of the results are not supported by any literature. Model uncertainties apply in both baseline and with-project impacts but are not offsetting. Considering that the model is supposedly calibrated to existing natural conditions, it seems that Formation is trying to put distance between its results and the basis of its analysis (as represented by the conceptual model and calibrated numerical model).

Without considering the drawbacks in the model discussed below under *Model Uncertainties and Data Gaps*, the predicted drawdowns and depletions are immense. Figure 17 shows a times series of drawdown maps for the proposed action while Figures 18 and 19 show times series of drawdown maps for the cumulative effects analysis and the no action alternative. There are only small differences among the proposed action analysis, the cumulative impacts analysis,

and the no action analysis.[5] The no-action alternative (Formation Section 4.4) is ongoing pumping as occurs at this time without the proposed project. After simulated project pumping ceases in 50 years, currently extant pumping continues for the remaining simulation period, or for another 400 years. As discussed below, other than in Pine Valley, the drawdown caused by continuing the existing pumping into the future for 400 years dwarfs the impacts caused by the project. Formation does not consider whether the existing pumping could continue for that period or whether the drawdown would be too substantial.

Cumulative effects is the proposed action along with all other ongoing pumping in the model area (Formation Section 4.3). The cumulative effects analysis does not include the development of other water rights held by CICWCD and therefore is not truly an analysis of the potential future effects. Essentially, drawdown caused by the proposed action is the difference between drawdown from the cumulative effects analysis and the no action alternative.

Formation predicts the proposed action of course initially causes substantial drawdown at the location of the proposed wells (Figure 17). The affected area expands every ten years until the proposed pumping ceases after 50 years and recovery commences. At the wells, the drawdown reaches the 100-500 foot range within 10 years. After 50 years, that range would expand to about 15 miles north-south and 8 miles east-west. The one-foot drawdown reaches about 30 miles north-south and at least 20 miles east-west. At the Needle Range crest, including the original Indian Peaks Reservation, drawdown is in the 10-50 foot range. After pumping ceases at 50 years, the extent of the one-foot drawdown expands and reaches at least 60 miles on a northeast-southwest axis after 450 years of recovery. Even after that much opportunity for recovery, there is still a large area within the 10-50 foot drawdown range. That range continues to cover the original Indian Peaks Reservation. After the 100-year recovery, much of the original reservation will still be within the 50-100 foot drawdown zone. After 100 years, the maximum depth throughout and at the original reservation will continue to lessen but still be significant. Any springs affected during pumping or at any time will continue to be affected after 400 years of recovery (450 years after the project commenced pumping). Thus, Formation predicts that the project will cause drawdown at the original reservation of up to 50 feet 400 years after simulated pumping ceases, which in reality will not occur.

As noted above, many springs in the valley above 6200 feet amsl may be perched. Drawdown beneath the mountain massif could still affect these springs. Springs are perched generally

[5] Formation also considered an Adaptive Northern Well Sites Alternative which simply moves about half of the wells a few miles north of the proposed location. This would manifest if monitoring showed the drawdown at the wells was excessive. The impacts of ANWS alternative are not much different from the proposed action and therefore are not analyzed herein separately.

because there is a geologic layer beneath the perched aquifer that can be considered an aquitard. Aquitards transmit water, albeit at a slower rate than the adjacent aquifers. This means that recharge entering a perched aquifer flows downward until it is slowed by an aquitard which diverts a portion into the horizontal direction from which it will flow until it reaches a discharge point (or an area in the aquitard that has higher permeability). Deeper aquifers lying beneath the aquitard could be the base groundwater level. It is likely that fractures and other preferred flow zones through the aquitard provide a connection between the perched and lower, regional aquifer. If the water level in the regional aquifer decreases, the gradient through the aquitard may increase or the flow connection could be broken and the flow rate to the regional aquifer increased. This would increase the vertical downward flow from the perched aquifer and capture water that would otherwise go to springs from the perched aquifer. Project-caused drawdown under the original reservation could dry the springs otherwise considered perched on the surface.

Recovery takes more than 400 years because there is no nearby groundwater discharge to capture, other than Wah Wah Springs. Recovery is therefore mostly a rearrangement of groundwater storage within Pine Valley and the removal from storage of groundwater in the surrounding basins, as seen by the drawdown contours expanding into the surrounding basins during project recovery (Figure 17).

Both the no action and the cumulative impacts drawdown analysis (Figures 18 and 19) present comparisons that effectively minimize the impacts of the proposed project. No action assumes the current pumping will continue for hundreds of years (Figure 19) which will cause an unsustainable drawdowns. It is highly unlikely that such pumping would continue without amendment because it will become necessary to protect the water supply and limit the drawdown. Formation's analysis simply shows that even without the proposed project (which only pumps for an unrealistically short 50 years, see the discussion of this elsewhere), other pumping will cause more groundwater development impacts in the long-term (100s of years). Because of geologic factors, however, the no-action alternative causes less than 10-feet drawdown anywhere in Pine Valley even after pumping for 450 years. Therefore, the proposed action, even with the unrealistic 50-year pumping schedule, causes immense impacts in Pine Valley.

The cumulative effects analysis essentially shows the no action drawdown and the with-project drawdown on the same map. Cumulative effects pumping has little effect in Pine Valley, as noted in the previous paragraph, and therefore adds very little to the drawdown shown for the with-project conditions in Pine Valley (Figure 18).

Brooks (2017) also considered pumping the proposed action for 62 years, as presented above and in Figure 14. Brooks' analysis shows a deeper drawdown at the wells, apparently reaching as much as 500 feet. The drawdown to the northeast through Wah Wah Valley and further north (Figure 16) is due to Brooks also simulating pumping in that valley. Essentially the green area representing drawdown -4.9 to -1 feet between Pine and Wah Wah Valleys in Figure 16 for the proposed action divides the impacts. Brooks (2017) does show a much deeper drawdown within Pine Valley that extends deeper to the west into the Needle Range; the 50- to 99-foot drawdown reaches through the original Indian Peaks Reservation to the Needle Range Crest. The difference is probably due to Brooks (2017) simulating lower recharge in the Needles Range as discussed elsewhere in this memorandum.

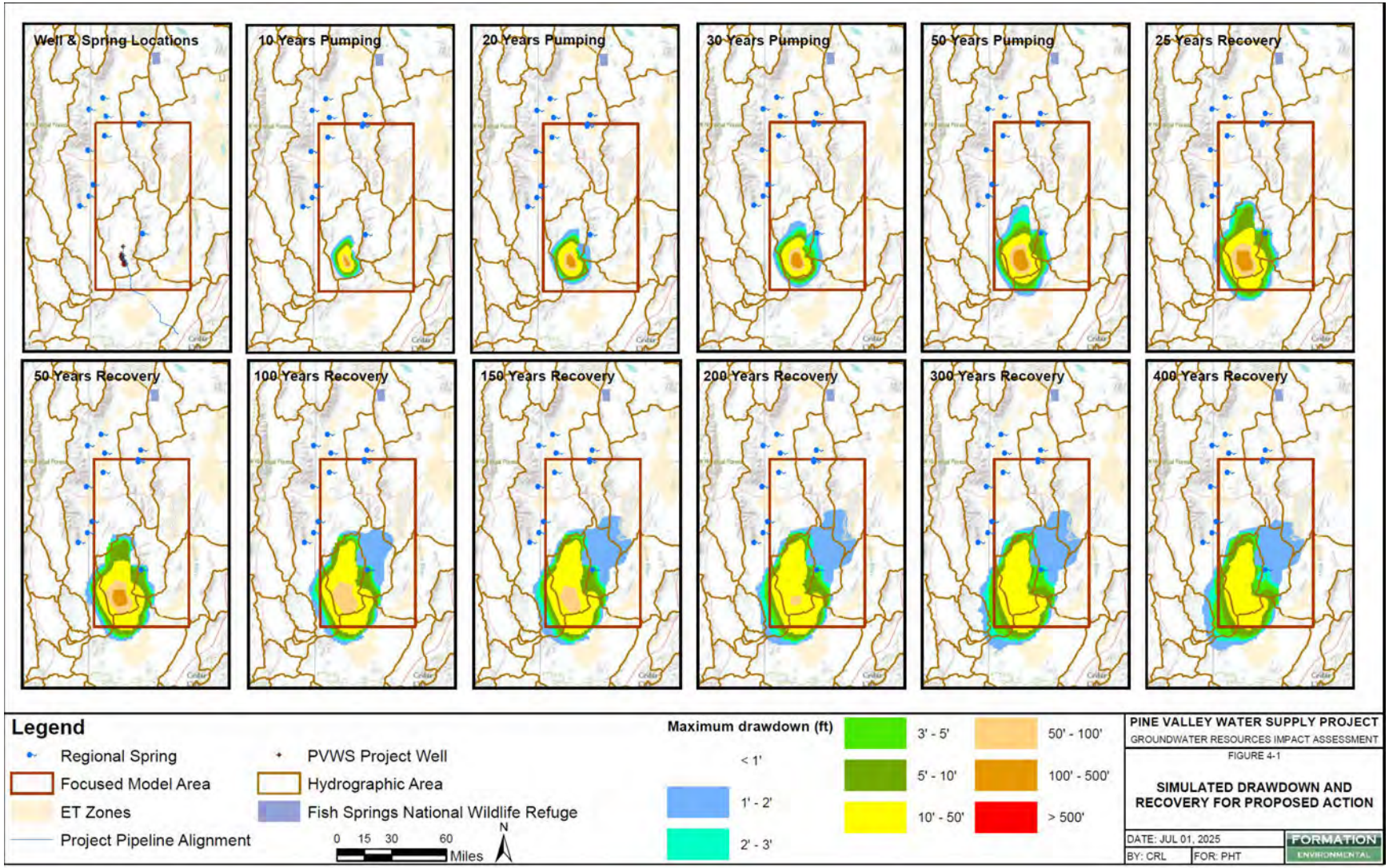

Figure 17: Formation simulated drawdown for various pumping periods for the Proposed Action. Formation Figure 4-1.

Exhibit J, Myers 2026a

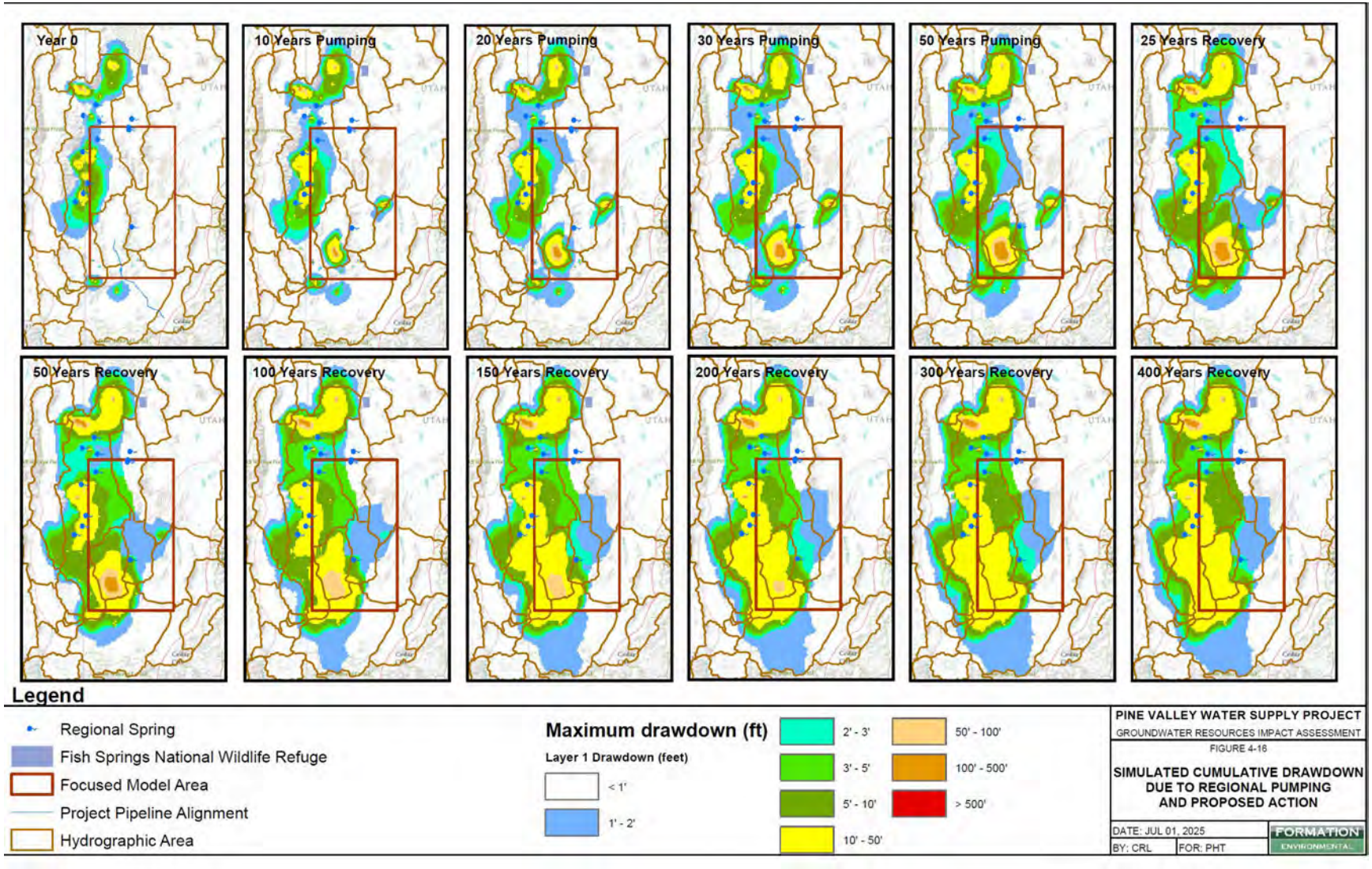

Figure 18: Formation simulated drawdown for various pumping periods for the cumulative effects analysis. Formation Figure 4-16

Exhibit J, Myers 2026a

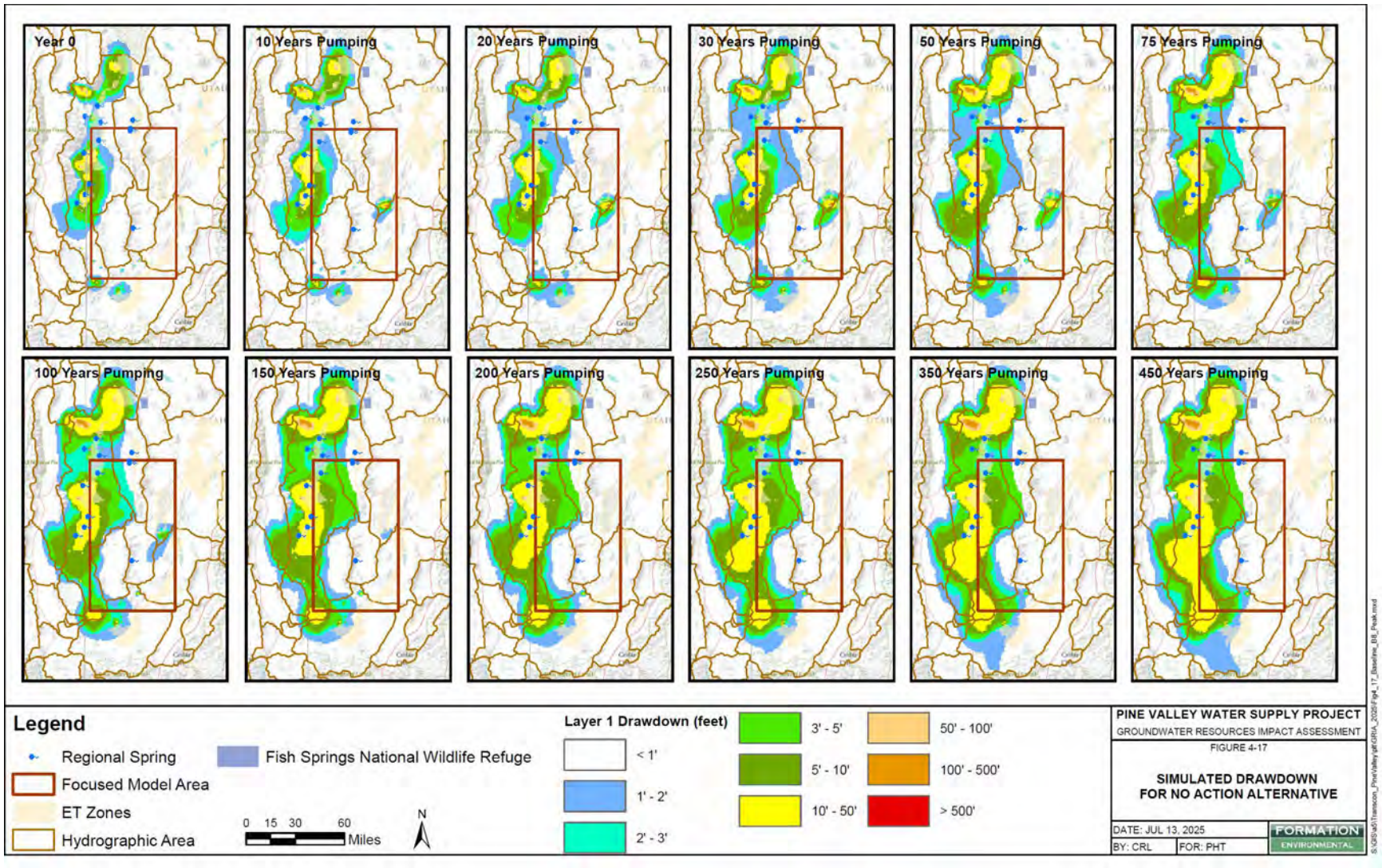

Figure 19: Formation simulated drawdown for various pumping periods for the No Action Alternative. Formation Figure 4-17

Exhibit J, Myers 2026a

Formation analyzes the effects of climate change based on the results of one study (Niraula et al. 2017) discussed above. Formation analyzed the no action alternative with both a 2.5% increase and decrease in recharge because it felt that was the strategy posed by the Niraula et al. paper (Formation, at 229). The basic results were that there were small changes in discharge at regional springs and groundwater discharge areas. Because these areas were beyond Pine Valley, the combined effects of decreased recharge with the proposed project on drawdown were not great. If the project pumping were extended to a more reasonable time frame, the project effects would likely be magnified by the decrease in recharge.

Model Errors, Uncertainties and Data Gaps

As noted above, Formation increased the recharge in Pine Valley that had been simulated in GBCAAS 3 to 17,700 afy from 11,000 afy. Formation's strategy for simulating recharge has numerous conceptual model errors that ultimately decrease the simulated drawdown in the local area around Pine Valley.

Formation (section 3.9.2 and 3.9.3) estimated recharge in valleys by estimating precipitation over the valleys and subtracting estimated ET. The approach assumes that all water that seeps through the surface essentially reaches the regional aquifer being simulated. They consider this as a steady state situation without considering recharge could vary among years. The biggest problem with this approach in Pine and Wah Wah Valley is that some of the precipitation and subsequent evapotranspiration occurs over areas that are separated from the aquifer by a substantial aquitard. As noted above, many of them are perched meaning that seepage past the ground surface reaches an aquitard and flows laterally to a discharge point. Discharge from these springs is not substantial enough to reach the basin fill and become secondary recharge but rather transpires within the mountain block. The system of perched aquifers and springs represents recharge and discharge that is independent of the aquifer system being modeled by Formation (and the USGS). I described above how the perched aquifer system in the mountains is separated from the basin fill being pumped such that recharge to it should not be considered part of the recharge to the regional aquifer. The USGS (Gardner et al. 2020) also described this isolated mountain system.

Brooks (2017) based recharge estimates on the calibration of the model so that it matched observed water levels; Formation ignored this science by setting the recharge independent of the model and forcing the hydraulic parameter values to allow the extra groundwater flow. As explained below, Formation's conductivity values are much too high and not representative of the model cells.

By changing recharge, Formation updated the groundwater budgets for Pine Valley and Wah Wah Valley. Figure 20 shows the magnitude of differences between Formation's erroneous

estimates and previous recharge estimates and the effect on the water budget. Considering the Stephens (1976) estimate as recharge to Pine Valley is an error because Stephens recognized that the mountain recharge was to a perched aquifer, as described by Gardner et al. (2020). The GBCAAS version 1 estimates committed similar errors to Formation – they did not treat recharge to the perched mountain zones as separate from the regional aquifer as explained above.

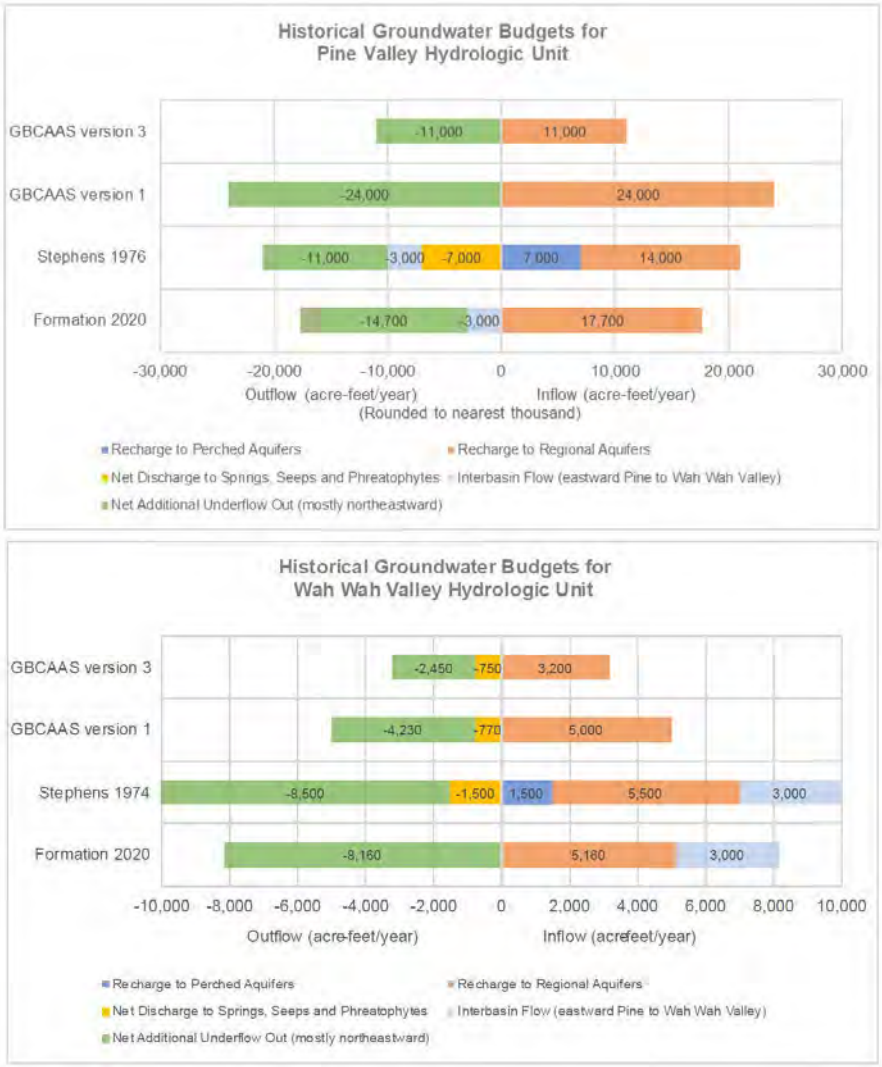

Figure 20: Historical groundwater budget for Pine Valley (upper figure) and Wah Wah Valley (lower figure). Formation Figure 3-32.

Discharge for these valleys is to interbasin flow because there is no GWET within the valleys because the groundwater level is too deep. For Pine Valley, Formation estimated that 3000 afy of interbasin flow was to Wah Wah Valley with the remaining 14,700 afy being to basins to the northeast, ultimately to Tule Valley and Sevier Lake. Compared to GBCAAS 3, Formation

increased the inflow by 61% from the GBCAAS 3 estimate of 11,000 afy of inflow and outflow. More simulated recharge means more water availability for local simulated pumping which can go directly to that pumping and limit the simulated drawdown, meaning it limits the predicted impacts of the project.

Formation also simulated recharge within the model incorrectly. Recharge values used for the model simulation are too high and partly in the wrong location (Figure 21). Formation Appendix A explains the several types of recharge it includes. Figure 21 correctly shows there is no base recharge in Pine or Wah Wah Valleys. It also shows that runoff recharge is very low in each valley. Most of the recharge is considered in-place as is typical in the Great Basin mountains. The total along the Needle Range crest near the original Indian Peak Reservation is in the two zones with a middle or median value of .001263 ft/y, or 5.5 inches/y. This may sum to Formation's target of 17,000 afy for the valley, it is impossible to be certain from the report, but the modeler forces a much too high amount of recharge into the aquifer through a mountain range that supposedly has many perched springs. Precipitation should run off the mountain massif to the top of the basin fill. It would be appropriate for Formation to have simulated some of this as run-off recharge. Along with the low conductivity volcanic formations simulated between Pine and Snake Valleys, the high recharge in that area causes a high groundwater table in the mountain range that prevents pumping impacts from being simulated as reaching Snake Valley.

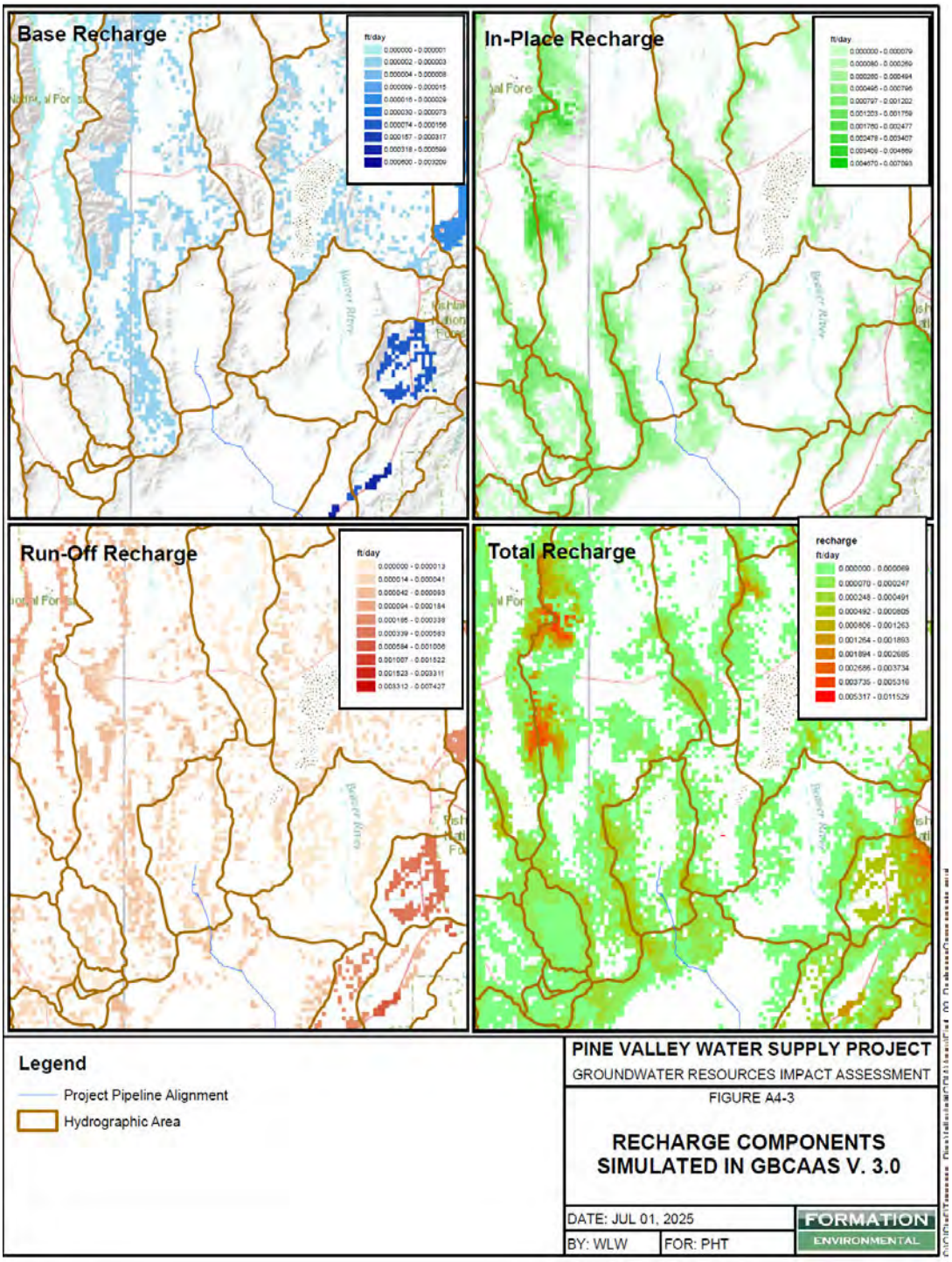

Figure 21: Components of recharge as estimated in GBCAAS 3, Figure A4-3 from Formation (2025).

Formation assumed that the alluvial and carbonate aquifers operate as one contiguous aquifer system (Formation, at A-32). They based the assumption on "available groundwater level data", but do not present it or reference to it. The steep gradient on the west side of the Pine Valley basin fill is necessary for there to be such a connection. However, Figures 11 through 13 and related text regarding the uniqueness of the springs and groundwater in the area indicate the assumption of a hydraulic connection is in error. The only way to prove a connection would be to complete pump tests with wells in both aquifers to see if there is response across the boundary.

Formation also replaced calibrated hydraulic conductivities with values determined from pump tests (Formation, at A-32). Specifically, they note that K values "estimated by the USGS are approximately 7 times higher than values incorporated into GBCAAS 3.0" (Id.). Those estimated values were from pump tests. Formation therefore used the measured values presented in GBCAAS-PV rather than the USGS calibrated values. They justify this by stating: "[t]hese data suggest that increasing the hydraulic conductivities of these materials in GBBCAAS-PV is justified provided the increased values are consistent with water budget estimates and result in a reasonable calibration" (Id.). This sentence is nonsensical because there is no way that increased values are "consistent" with the water budget. Formation's "reasonable" calibration depended on the huge range in GWET estimates, from 18,000 to 67,000 afy, Formation used for the Tule Valley and Sevier Lake areas (Id., at A-20, -33). This allowed the modeler to calibrate to any GWET within the large range and call it good. They set the Formation conductivity values closer to the values estimated with pump tests. The only proper method of using GWET for calibration is to have an accurate estimate and adjust parameters to equal it, not to think the calibration is acceptable if the GWET is within a large range.

Calibrated parameter values such as conductivity are much better than pump test results because the calibration is for a parameter at the scale of the model cells. Pump test results are a point estimate (Anderson et al. 2015, at 211). The problem is one of scale, and Formation is wrong to use point estimates for the cell properties when the cell ranges from 0.2 to 1.0 miles square. Note that the accuracy of the model in matching measured well levels is irrelevant when any GWET is acceptable.

Monitoring and Mitigation

Formation states that the Utah State Engineer (USE) is open to changing the safe yield of Pine Valley Basin and adjusting the water rights granted to CICWCD for this project. The USE estimated safe yield, the value of which I described above, based on recharge predicted in a 1976 study to be 21,000 afy (Formation, at 15), although numerous studies reviewed above have determined recharge to be much less than that. Safe yield could however be adjusted

based on the results of long-term monitoring (Id.). The monitoring plan must be designed to show that pumping is not exceeding the basin's safe yield (Formation, at 16). The M&M plan involves monitoring the project buildout and long-term operations to verify that the impacts do not exceed those predicted (Formation Sections 2 and 6).

Formation Figure 2-4 shows the drawdown response for four startup monitoring wells as simulated with the project model. It does not specify what pumping rate was used or whether the entire well field was being pumped. Both have a major effect on the graphs shown in the figure. Pumping rate will depend on the actual lithology encountered during well drilling, but this was unknown during model simulations. Also, Formation does not discuss running the model for a subset of wells. If pumping the startup wells causes unacceptable drawdown, meaning drawdown that exceeds the predicted drawdown (from a model run that has not been described), the project would shift to the Adaptive Northern Well Sites Alternative (Formation Section 2.3) which would shift 60% of the wellfield pumping to the north (Formation Section 4.2.1.3). Formation's description of the simulated pumping for the ANWSA does not describe the initial pumping used during the monitoring phase but just shows the long-term pumping. Again, there is no model simulation described against which the start-up monitoring results would be compared.

Formation would pump test new wells to determine transmissivity and storage coefficients (Formation, at 235). This additional data should be added to the groundwater model so the impacts of the project can be updated. If the changes cause noticeable differences, especially in the simulated short-term pumping periods, the overall project and mitigation scheme should be reassessed.

Formation describes the startup monitoring plan including how the wellfield will be constructed in phases and initial drawdown compared to predicted drawdown to recalibrate or make conceptual model adjustments to the groundwater model. The document does not indicate what pumping rate will be used during this phase, therefore it is impossible to judge its accuracy. For the project impact predictions, Formation does not discuss pumping at any rate other than the full project buildout rate. To be complete, the document must specify the actual and model pumping rates that will be completed for the initial monitoring phase.

Formation does not specify whether the pipeline will be completed prior to wellfield buildout (Formation Sections 2 and 6). To not waste water, the entire project pipeline would have to be constructed prior to developing the first six wells (Phase 1, Formation Section 2.2) so the water has somewhere to go. Formation acknowledges that if monitoring indicates that the Utah State Engineer has overpredicted recharge, the pumping rates could be reduced. Because the pipeline has been sized to transmit 15,000 afy, there would be a great reluctance to reduce the

pumping rate because it would mean the project facilities are not being fully utilized. Because the project pumping rate could have been grossly overstated, the pipeline should be built in phases with one pipeline at a time being added.

Suggested mitigation notes that changes in the pumping rate would be considered throughout the project life. "If the actual drawdown effects are greater than those predicted…a Modified Wellfield Operation Plan that will shift the timing, location and/or **quantity of pumping**" (Formation, at 18, emphasis added) will be considered. Adjusting the quantity of pumping is the only mitigation that would make a difference after a couple years of production because at a distance from a well, cyclic influence of seasons or pumping rates wash out. This comment also applies to the Wellfield Operation Mitigation Plan (Formation, at 247, 248) – only decreasing the amount of pumping will have any discernible impacts on the level of drawdown and impacts to springs. Neither mitigation water nor payments would restore value to the springs on original Indian Peaks Reservation. Additional monitoring (Formation, at 248) only furthers the documentation of the degradation without remedying the problem.

Monitored Springs

Wah Wah Springs is the only regional spring selected for monitoring because Formation relied on the "inferred presence of flow impedances between Pine Valley and Snake Valley" (Formation, at 249), which could, Formation assumes, prevent the transmission of drawdown effects westward to those springs. Geology maps support the presence of structural features, which could be those impedances, but there is little supporting hydrogeologic evidence. Steep gradients in the potentiometric surface could be from low conductivity formations and have nothing to do with structural features.

More importantly for Pine Valley and the original Indian Peaks Reservation, Formation based the selection of springs in the mountains surrounding Pine Valley for monitoring on fraught criteria (Formation, at 250). Specifically, none of the six criteria specified adequately describes a location which should be limiting for monitoring, as will be described here.

First, the criteria that the springs be "located near the contact between valley-fill alluvium and bedrock" depends on the pumping only affecting the basin fill, and that drawdown could propagate into surrounding bedrock. The very fact that simulated drawdown extends through the bedrock beneath the mountains provides evidence that this criteria artificially limits the choice of springs. Second, limiting the selection to springs that experience "one foot or more of drawdown" (Id.) during the pumping period ascribes an unjustified reliance on the model. Part of the reason for monitoring is to verify the model is correct so monitoring other nearby springs could demonstrate fallacies with the model. Third, requiring springs to have a "measurable area of ET influence" (Id.) limits the selection to springs with riparian vegetation. It would be better

to monitor springs with any flow, at least on an intermittent basis. Fourth, there is no explanation for what a "variety of spring hydrogeology proximal to the PVWS Project wellfield" (Id.) means. Without explanation, any spring could seemingly be rejected.

Finally, requiring data to be "available for the springs from other studies" limits the selection to the criteria used for other studies. Springs observed on maps or aerial photographs of the area should have been visited to assess whether they flow at least intermittently. Those should have been selected. With respect to the original Indian Peaks Reservation, at a minimum, springs shown on the mapping on Figure 8 should be visited and assessed. Similar photographic evidence for all mountains around Pine Valley should be assessed for potentially impacted springs.

Summary of Impacts and Recommendation

This memorandum summarizes the immense impacts the proposed Pine Valley Water Exportation project will cause to Pine Valley, the original Indian Peaks Reservation, and downgradient regional springs and GWETs. Figures 16 and 17 illustrate the expected drawdown will reach 100s of feet. If the project stops pumping and exporting water after an unrealistic 50 years, the drawdown will continue to expand away from the project area for 450 years and the drawdown at the well will remain at up to 50 feet. Continued pumping beyond 50 years will increase the drawdown at the wells to beyond realistic levels, up to thousands of feet after hundreds of years. Pumping hundreds to thousands of years could divert water from adjoining valleys, eventually affecting regional springs far downgradient. After 5,000 years, even Fish Springs over 100 miles north would lose about 5% of its flow.

Predicted drawdown near Pine Valley is high because there are no nearby springs from which to capture discharge, because the pumping rate is close to or exceeds recharge, and because geologic formation and low permeability HGUs prevent the pumping from pulling water from far away. It is likely, however, that the local impacts are grossly underestimated because the recharge may be substantially overestimated. Five bits of evidence presented in this memorandum indicate that Pine Valley probably receives much less recharge than simulated by Formation in it GBCAAS PV model and even by the USGS in the GBCAAS 3 model. That evidence is:

1. Groundwater in the basin fill is at least 2000 years old while in the mountain aquifers is less than 60 years old. Basin fill at the head of the flow system (Great Salt Lake Desert) would not be the oldest in the system unless it was effectively isolated. The evidence is in Figure 12 and associated text.

2. Depth to groundwater in the basin fill exceeds a couple hundred feet, as shown in Figures 9 through 11. This would not manifest if groundwater reached the fill from the mountains according to the CFM of the area.
3. Estimated groundwater contours near the mountain front are very steep but probably do not accurately reflect the disconnect between the springs/wells in the mountains and the wells in the basin fill. Simply drawing a water table does not prove one actually exists. See Figure 11 and associated discussion.
4. Groundwater in the basin fill has a gradient to the north, but it has two very steep sections (Figure 11). This suggests that the basin fill is segmented and that there is very little flow among the segments as discussed on page 18. Extremely low permeability is the cause and the presence of the caldera at least likely coincides with the low permeability. This supports the hypothesis that very little flow to the north actually occurs. This is possible only if there is almost no extant recharge.
5. Dissolved solids concentrations in the basin fill were unusually low (Figure 13). This would not be true if the water flowed through aquifers or any significant distance through the ground to reach the location in the fill. The low dissolved solids reflects water that has essentially not moved much in the thousands of years since it filled the basin fill. Low dissolved solids concentrations would not manifest if there was any substantial recharge into the basin fill groundwater or flow from the groundwater in the mountains.

The evidence just presented suggests that the primary groundwater system in Pine Valley is in the mountains where there are over 80 springs. Recharge and discharge occurs within the mountains. This groundwater system may operate separately from the basin fill, but if connected it would be substantially impacted.

Recommendation

As mentioned several times above, there is a great deal of uncertainty concerning whether the springs in the Needle and Wah Wah Range are perched. If they are, it affects several aspects of the modeling effort presented by Formation. Therefore, it is essential that some additional research be completed before finalizing this groundwater analysis. A subset of springs in the Needle Range, both between the boundary of the basin fill and the original Indian Peaks Reservation and within the original reservation, should be chosen for more substantial analysis. Specifically, the aquifer should be drilled to determine the lithology of a well down to and possibly through the aquitard that perches the water. Groundwater should be sampled at sufficient multiple depths for geochemical and isotope analysis to determine the age distribution of groundwater through the aquifer. This would help to improve the CFM for the

area and determine whether the original reservation springs will actually be harmed by the massive drawdown expected to occur just beneath them.

Additionally, paired wells should be identified or drilled in the Pine Valley basin fill and nearby carbonate and/or volcanic aquifers. Pump tests should be conducted to estimate the degree of connection between the aquifers.

It is necessary to prove that groundwater flows from the Pine Valley basin fill north through the Great Salt Lake Desert flow system. To do this, it is necessary to collect geochemical and isotopic data from waters along the hypothesized flow path. Going north, the age must become older than it is in the Pine Valley basin fill and other geochemical factors must reflect the flow. Dissolved solids must reflect flow actually occurring.

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Technical Memorandum
Review of Water Resources Impact for the Administrative Final Environmental Impact Statement for the Pine Valley Water Supply Project
Prepared for: Native American Rights Fund and the Indian Peaks Band

This technical memorandum has been prepared on behalf of the Indian Peaks Band and Native American Rights Fund in support of their review of the proposed Central Iron County Water Conservation District (CICWCD) Pine Valley Water Supply Project (Pine Valley Project). It reviews the water resource impacts of the proposed project as presented in the Administrative Final Environmental Impact Statement (FEIS)[1]. This memorandum references the detailed technical memorandum I prepared regarding the hydrology of Pine Valley[2]. That memorandum included a review of the Groundwater Resources Impact Assessment[3] (GRIA) prepared for the project. This memorandum highlights the aspects of the proposed project as described in the FEIS. It does not repeat substantial groundwater analysis presented in the original Myers Technical Memorandum.

The geographic focus of the analyzed project impacts is the original Indian Peaks Reservation (IPR) (Figure 1). This memorandum is based on my review of the FEIS, the detailed technical memorandum I prepared (Myers 2025) and a field visit of the Pine Valley and Indian Peaks Wildlife Management Area during September 2025.

CICWCD's proposed Pine Valley Project in Utah proposes to export approximately 15,000 acre-feet per year (afy) of groundwater from the southern portion of Pine Valley (Figures 1 and 2), a part of the headwaters of the Great Salt Lake Desert Flow System (GSLDFS) (Heilweil and Brooks 2011). CICWCD has groundwater rights in Pine Valley (15,000 acre-feet per year) and Wah Wah

[1] United States Department of the Interior, Bureau of Land Management 2025. Pine Valley Water Supply Project, Final Environmental Impact Statement, DOI-BLM-UT-C010-2020-0012-EIS. Beaver and Iron Counties, Utah. September 2025.
[2] Myers T. 2025. Technical Memorandum Review of Hydrology for the Pine Valley Water Supply Project, Prepared for: Native American Rights Fund and the Indian Peaks Band ("Myers Technical Memorandum").
[3] Formation Environmental (Formation) 2025. Groundwater Resources Impact Assessment, Pine Valley Water Supply Project, Iron and Beaver Counties, Utah. Prepared for Eocene Environmental Group, Inc. and U.S. Department of the Interior Bureau of Land Management.

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Valley (11,000 acre-feet per year). Although this project only proposes to export the Pine Valey water rights, developing its water rights in Wah Wah Valley could be the second phase of a multi-basin West Desert Water Supply and Conservation Project. It also currently has groundwater right applications for Hamlin Valley (10,000 acre-feet per year).

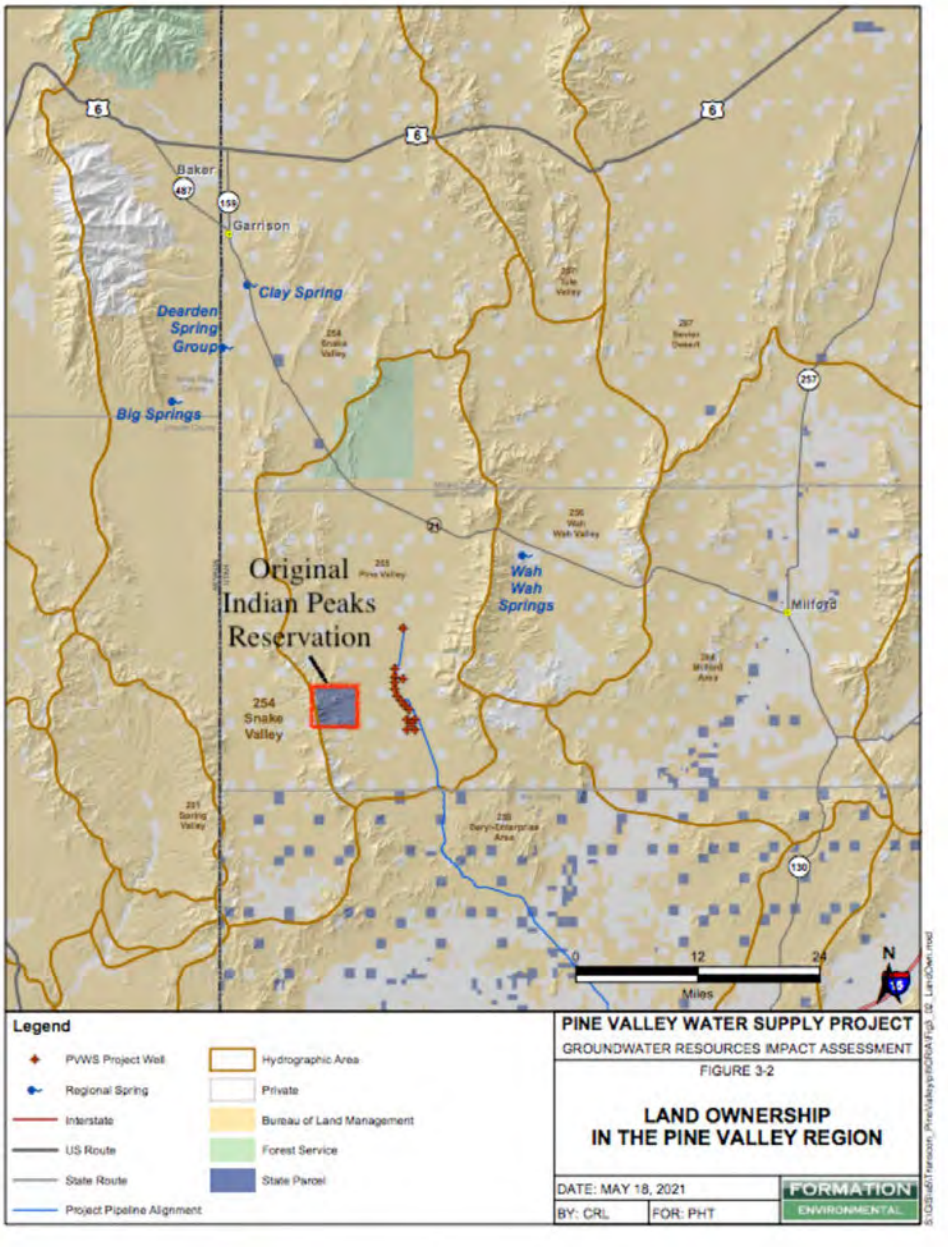

Figure 1: Map of the Pine Valley Water Supply Project, from Indian Peaks Band comment letter on project draft environmental impact state, at 5

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Figure 2: Expanded detail of the Original Indian Peaks Reservation showing proximity to project wells. See Figure 1 for scale bar; the reservation is about 5 to 10 miles west of the proposed project.

The development of a groundwater supply project does not simply remove water from the ground. The project intercepts groundwater flow that has been discharging to other features in the landscape. Some of the most valuable resources in the original Indian Peaks Reservation area are springs and groundwater dependent ecosystems. Recharge is water that enters the aquifer by passing through the ground surface. Discharge is either to evapotranspiration (ET), to springs, or to seepage to streams. Water can also discharge as interbasin flow to other basins downgradient. Groundwater development captures some of the discharge. Because the capture is not immediate, groundwater is lost from storage, and the water levels decline prior to intercepting all of the groundwater discharge.

The problem with this proposal is that there is simply not enough water, as described in the next section.

Water Budget

The proposed project is based on a major fallacy – that there is sufficient water to pump 15,000 afy for 50 years. Ignoring the fact that the 50-year project length is an abstraction, as discussed

elsewhere, there simply is not enough recharge in Pine Valley to justify this project. Estimates of recharge ranged from 11,000 to 26,000 afy, as described in the Myers technical memorandum. The analysis completed by Formation (2025) used recharge equal to 17,700 afy in Pine Valley and 5160 afy in Wah Wah Valley (FEIS, at 99). This is much more recharge than actually reaches the regional aquifer proposed to be developed by CICWD.

The primary line of evidence indicating that Formation's estimate is wrong is the presence of perched springs in the mountains surrounding Pine Valley. Hydrologic details supporting and questioning this were described in the accompanying Myers technical memorandum. There are 268 springs within the APE for the proposed action and 230 springs within the APE for the ANWS alternative (AFEIS, at 94). Most of the mountain springs occur in the volcanic rocks of the Needle Range along the west side of Pine Valley, which includes the area of the original Indian Peaks Reservation (AFEIS, at 95). The mountain springs are likely perched or semi-perched and hydraulically separate from the groundwater in the valleys (Id.).

Formation (2025) assumed that most recharge would occur in the mountains in the area of perched springs. This means that precipitation in excess of evapotranspiration would be prevented from reaching the deeper bedrock (probably carbonate beneath the volcanics) by the volcanic aquitard. The only way most of the potential recharge would reach the basin fill, which is part of the regional aquifer, would be as mountain front recharge of storm runoff. Mountain front recharge is much more likely in areas where the mountains are essentially impervious with granite on the surface. In areas such as that, snowmelt runs off and recharges at the point the streams enter the valleys. In the Needle and Wah Wah Ranges, the surface is not impervious, so most snowmelt and rainfall infiltrates through permeable volcanic rock and seeps downward until the volcanics become less permeable and the downward flow becomes more horizontal. The horizontal flow discharges into springs that are considered perched in most of these analyses. These springs may flow into streams that eventually reach the valleys, but because it is slow spring discharge rather than high snowmelt flows, the recharge supports substantial riparian zones in the channels above the basin fill.

Formation estimated ET using energy balances on a 30-meter grid as measured using satellite-based remote sensing (FEIS, at 99). A 30-meter grid is much too coarse to measure ET that occurs in riparian areas that are at most 3 to 6 meters wide. In other words, the ET estimates are much too low because they are done on a scale that is too coarse for the physiography of the ET estimation method. ET from a 3-meter-wide riparian zone does not show up accurately in calculations based on a 30-meter grid. One of the papers used to justify the use of the ET estimation method, Su (2002), describes why the scale may be grossly wrong for estimating in this situation. The scale of the canopy temperature is very small with large changes over very short distances. Complex topography makes the wind gradients impossible to estimate at small

scales. The method needs meteorology at the appropriate scales, but that is not possible in Pine Valley. Su (2002) also emphasized how the method works best for agricultural situations for which the evapotranspiring surface is much more uniform than drainages in Pine Valley.

I visited Pine Valley in late September, 2025, and observed channels in numerous drainages. At least two still had water flowing within a very narrow strip in the middle of a narrow canyon. Pine Grove in the Wah Wah Mountains (Figure 3) had a very narrow riparian area with a stream about three feet wide (Figure 4). As can be seen on the map, the flow occurred in the mountains and dissipated before reaching the mountain front where it could sink into the basin fill. The stream was small and very complex; it was likely too small to even register in the ET estimation method.

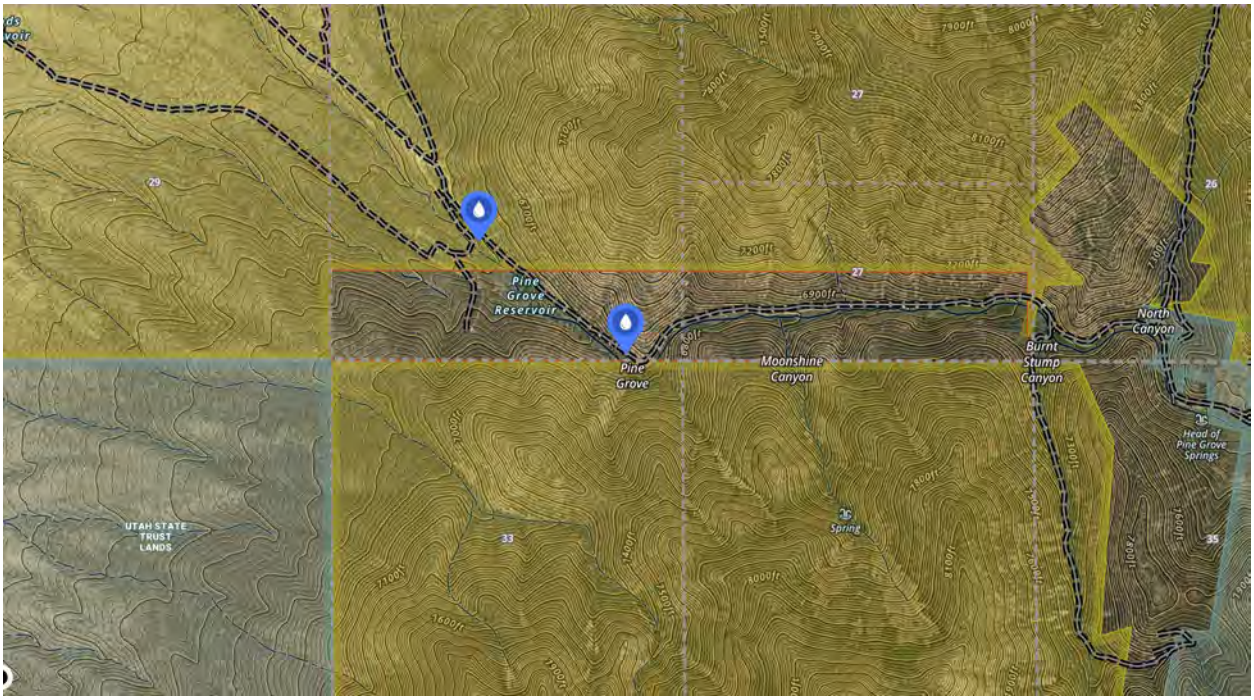

Figure 3: Map of Pine Grove area in the Wah Wah Mountains. The upstream blue label (to the southeast) had water about 3 feet wide as shown in Figure 4. The stream was dry in the northwest label. Map using Onyx software.

Figure 4: Riparian area on September 30, 2025, near Pine Grove in the Wah Wah Mountains. See Figure 3 for the exact location.

A second stream I visited was in the Needle Range on the original Indian Peaks Reservation. I walked up a long drainage channel from about 7200 feet amsl to the top of the range, as shown in Figure 5. Below about elevation 8000 feet amsl, the drainage was dry but filled with substantial riparian vegetation. There are many cottonwood trees and wild rose bushes; both species require substantial seepage from the nearby stream. At about 8200 feet amsl, there was a spring discharging about 5 gpm (Figure 6). Based on the density of the riparian vegetation, this flow was a small fraction of the water that generally flows down the drainage. ET from an area about 30 feet wide, or about one quarter of the scale used for the satellite remote sensing estimate of ET, would have been poorly represented. None of the factors needed to estimate ET could have been accurately estimated in this channel.

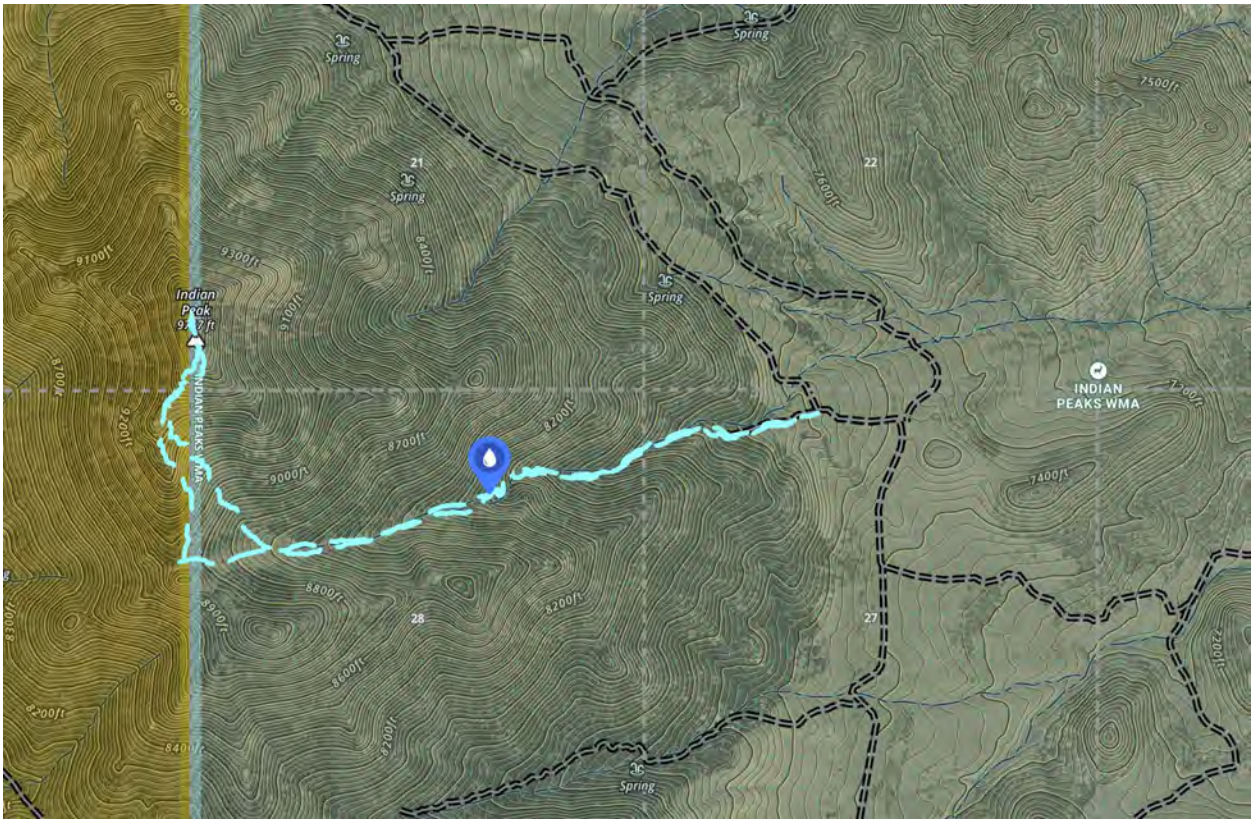

Figure 5: Map showing drainage on the southeast side of Indian Peak in the original Indian Peaks Wildlife Management Area of the Needle Range. The blue marker is the location of the photo in Figure 6 and the blue line is the route I walked up the drainage as described in the text.

Figure 6: Riparian area and spring at approximately the 8200 ft amsl elevation in a drainage southeast of Indian Peak. See Figure 5 for the location.

Another reason for significant skepticism regarding the accuracy of the ET estimates is the range reported for Tule and Sevier Lake areas. The estimate for the combined discharge from these areas is 18,000 to 67,000 afy (FEIS, at 101), a range that is about twice the lower limit of the range. Although the utilized methods were different, this range in potential estimates demonstrates the extreme uncertainty inherent when estimating ET over a large area. Such a range should not be used to estimate a recharge that is a single number used to define safe yield.

It is therefore apparent that Formation's estimates of ET were much too low, and therefore their recharge estimate was too high.

Gardner et al (2020) also conceptualize how a substantial portion of the recharge in Pine Valley discharges in the mountains and never reaches the valleys. For Pine Valley, the authors note that overall recharge is about 21,000 afy but that 3,000 afy flows to Wah Wah Valley through a carbonate connection and that 7100 afy discharges in the mountain zones and never reaches

the basin fill aquifer from which the pumping would occur (Gardner et al. 2020, at 40). This leaves less than 11,000 afy reaching the basin fill aquifer to discharge to the north (Id.). This is the same amount Brooks et al. (2017) estimated for recharge to the basin by calibrating the GBCAAS model. For reasons described in the Myers Technical Memorandum, including the vast age difference between valley fill and mountain water and the incredibly slow flow rate to the north, even 11,000 afy may be a significant overestimate of the recharge reaching the basin fill.

Perched springs and a lack of mountain runoff to the basin fill indicate that most recharge and discharge occurs in the mountains, disconnected from the aquifer proposed to be developed. The recharge is grossly overestimated. That may be why the proposal is only for 50 years, as described in the following section. The lack of sufficient water becomes even more obvious as the analysis considers the groundwater mining into the future.

Interbasin Flow

The AFEIS shows that most flow reaching Pine Valley flows north or northeastward out of the valley. AFEIS Table 27 tabulates these flows. However, there is also discussion of flow to the south into the groundwater-stressed Beryl-Enterprise area; estimates are that as much as 1,000 afy flows in that direction (AFEIS, at 100, 101). Developing 15,000 afy in a valley with recharge less than two-thirds that amount will take even more water from the downgradient valleys that depend on interbasin flow from Pine Valley. The Myers Technical Memorandum provides more details on the impacts to interbasin flow, especially as the project extends beyond fifty years.

50-year Project Pumping Period

The AFEIS analyzes the project for just 50 years. Its groundwater model simulations allowed the system to recover starting at 50 years for 400 years. BLM claimed that considering more than 50 years would be speculative (AFEIS, at 48). Consideration of a planning horizon out to 200 years would rely on "assumptions and information that are unavailable or too uncertain" (Id.). However, without plans to replace the water supply at 50 years, it is completely irresponsible to consider such a short water supply project length. This model, if conceptualized and calibrated as accurately as the current data allows, is the best available information for considering longer-term impacts. The AFEIS therefore fails to consider all potential impacts, especially considering drawdown in Pine Valley and its impacts to nearby and distant springs and water rights.

The groundwater model simulation for determining the impacts to groundwater dependent resources simulated extraction for just 50 years (AFEIS, at 107). At many points throughout, the AFEIS notes that 50 years of pumping barely changes the regional flow patterns and that GWET at discharge points such as Sevier Lake will not be affected during the period the project is

pumping. Recovery from that pumping may capture discharge at long periods, such as 200 years after pumping was simulated to cease; Formation (2025) set the area of project effects (APE) as the area with a one-foot drawdown 200 years after pumping ceases because it is close to the broadest expanse of the drawdown. The drawdown expands for a long time after pumping ceases because water flows back to the extraction points where a large hole in the groundwater storage had been created.

Probable Impacts

The AFEIS does a good job describing the drawdown that will occur around Pine Valley and surrounding basins for various periods of pumping and recovery (AFEIS, Table 29), but it does not present drawdown maps which are easier to visualize. Figures 7, 8 and 9 present the drawdown maps from Formation (2025) for the proposed action, cumulative impacts and no action alternatives. See the Myers Technical Memorandum for a detailed discussion of the impacts of drawdown on many features.

The maximum area with drawdown exceeding one foot would occur about 200 years after the 50-years of pumping ceases (AFEIS, at 117). The overlap among valleys for the cumulative effects analysis is generally less than ten feet of drawdown because Pine Valley is isolated both by distance and geology from more substantial pumping in Snake Valley and other areas within the region. Volcanic rock in the Needle Range prevents drawdown from Pine Valley from substantially reaching Snake Valley. The changes in interbasin flow among valleys due to this pumping is small on a percentage basis (AFEIS, at 119).

The huge drawdown, which could exceed a few hundred feet under the mountains, may affect the many springs in the mountains even if they are semi-perched. Springs are perched generally because there is a geologic layer beneath the perched aquifer that can be considered an aquitard. Aquitards transmit water, albeit at a slower rate than the adjacent aquifers. This means that recharge entering a perched aquifer flows downward until it is slowed by an aquitard which diverts a portion into the horizontal direction from which it will flow until it reaches a discharge point (or an area in the aquitard that has higher permeability). Deeper aquifers lying beneath the aquitard cause the base groundwater level. It is likely that fractures and other preferred flow zones through the aquitard provide a connection between the perched and lower, regional aquifer. If the water level in the regional aquifer decreases, the gradient through the aquitard may increase or the flow connection could be broken and the flow rate to the regional aquifer increased thereby increasing the effective recharge. This would increase the vertical downward flow from the perched aquifer and capture water that would otherwise go to springs from the perched aquifer. This is how the drawdown under the original reservation could dry the springs otherwise considered perched on the surface.

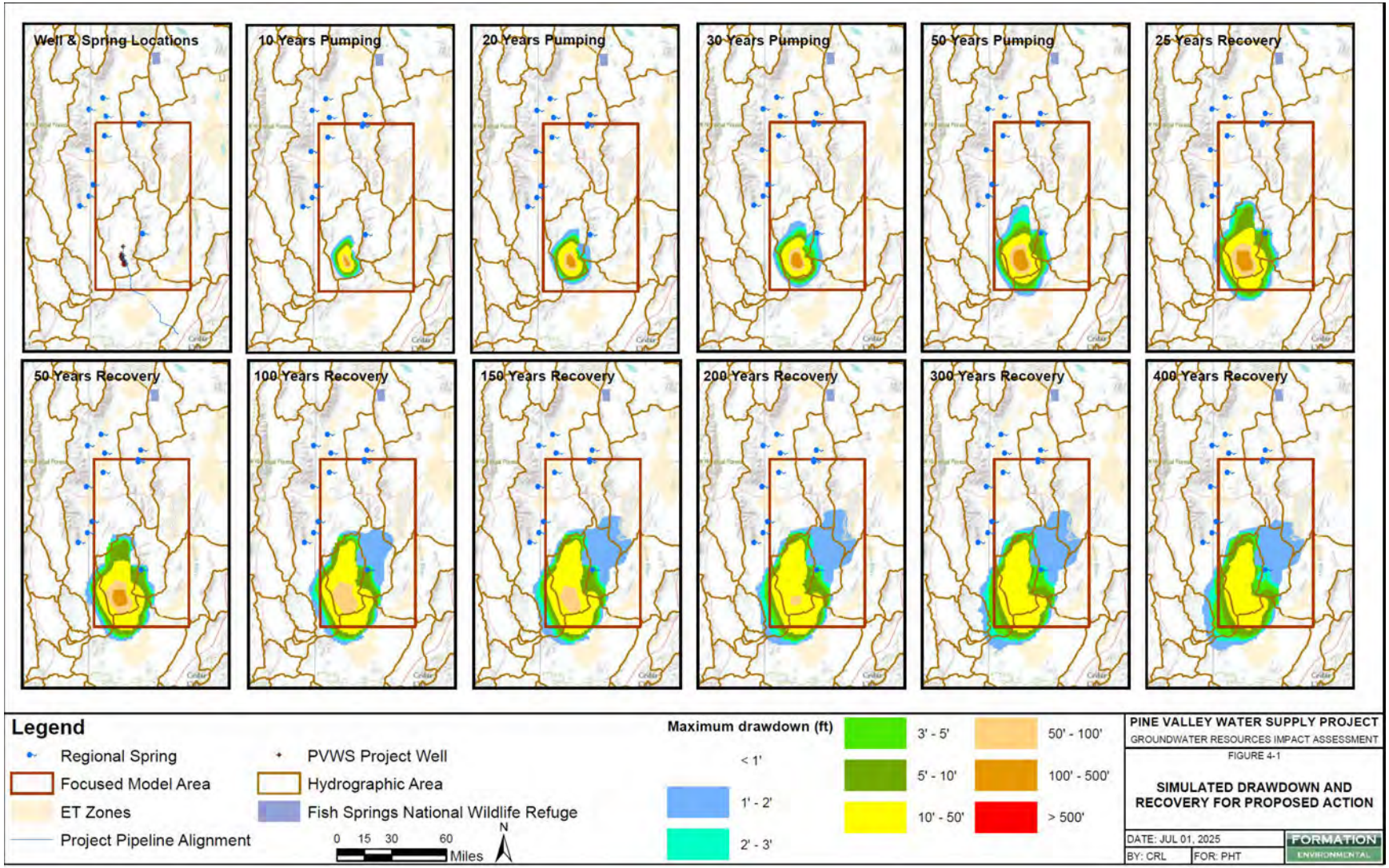

Figure 7: Formation simulated drawdown for various pumping periods for the Proposed Action. Formation Figure 4-1.

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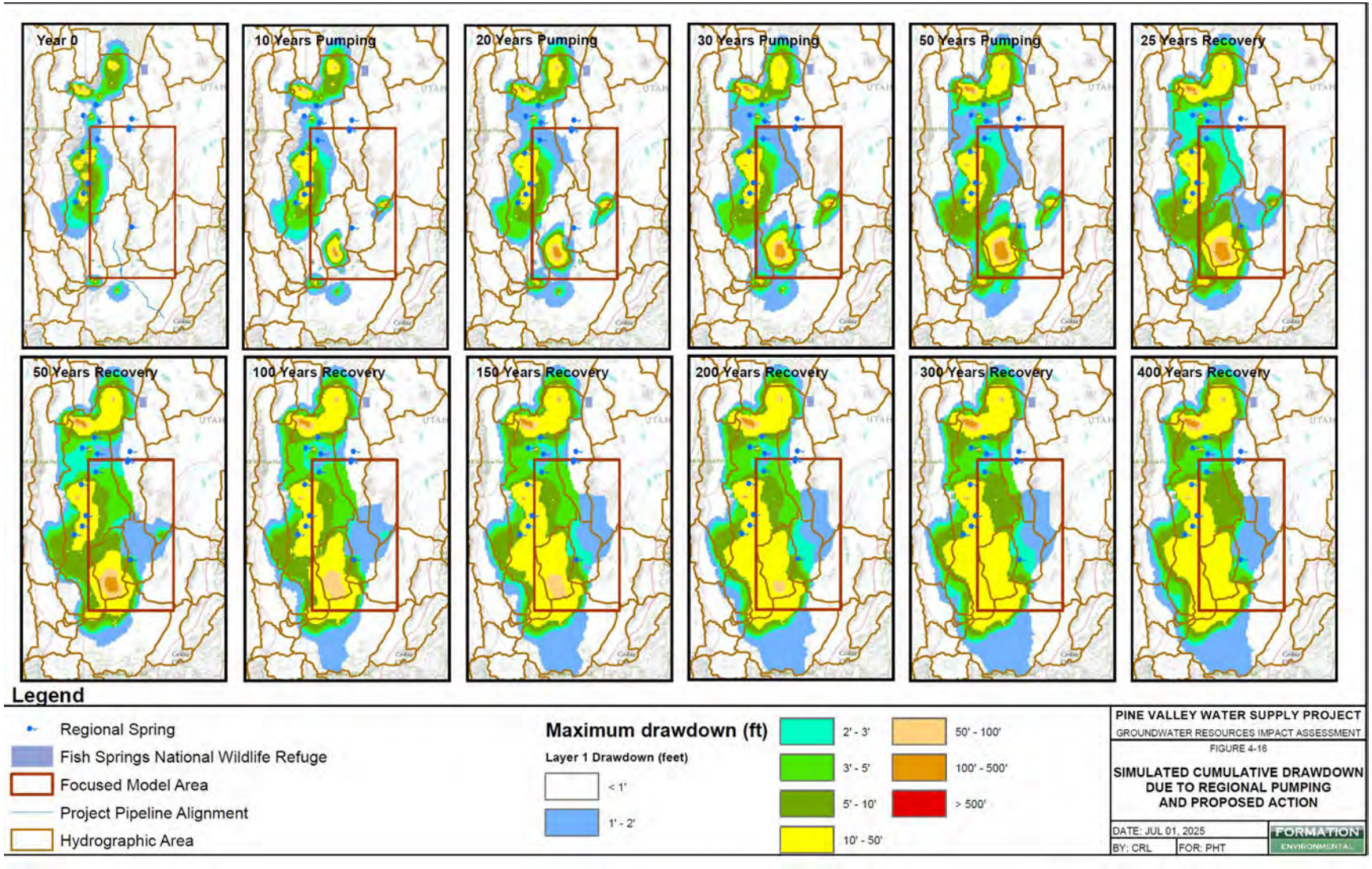

Figure 8: Formation simulated drawdown for various pumping periods for the cumulative effects analysis. Formation Figure 4-16

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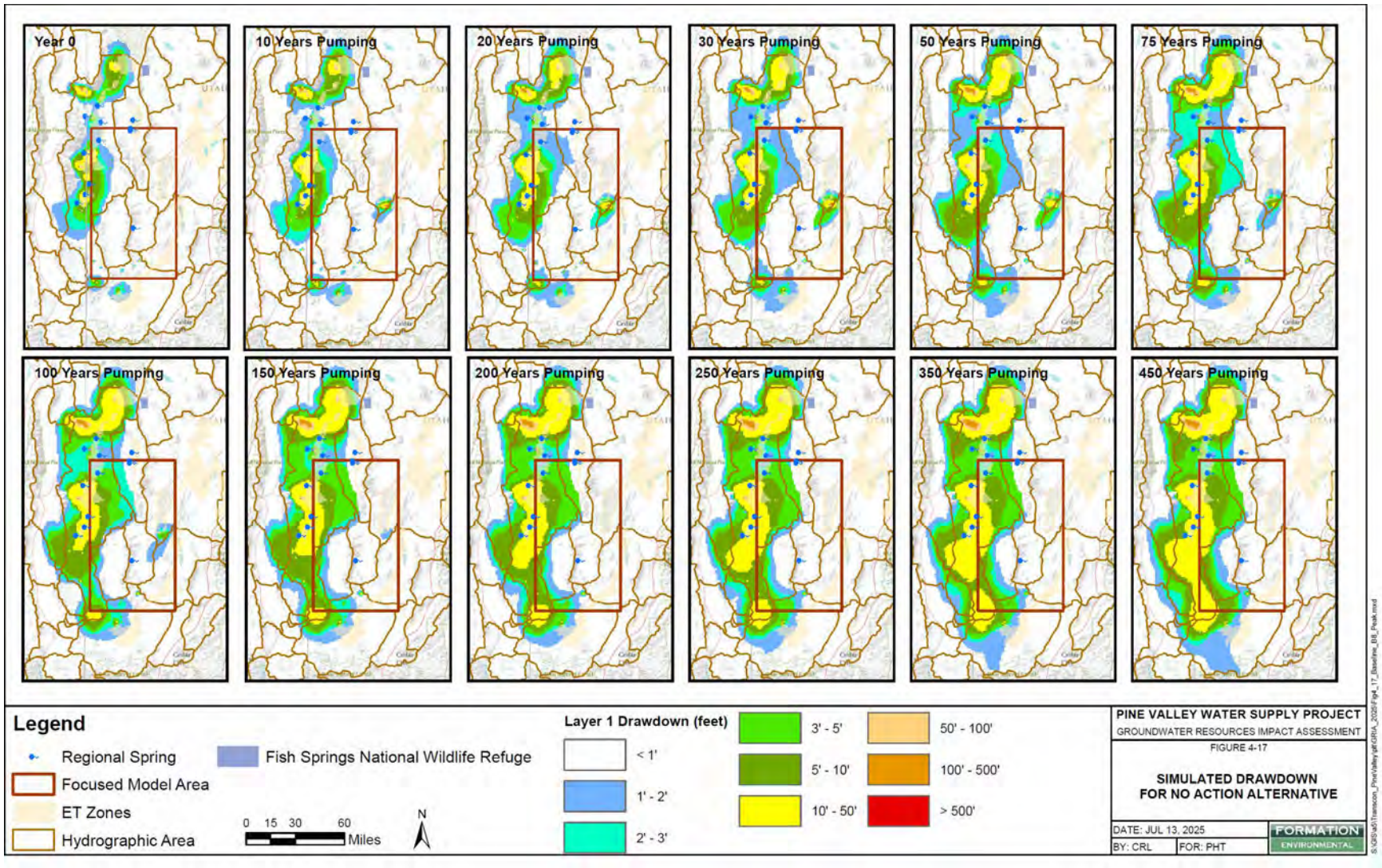

Figure 9: Formation simulated drawdown for various pumping periods for the No Action Alternative. Formation Figure 4-17

Exhibit J, Myers 2026b

Summary and Conclusion

This memorandum and the Myers Technical Memorandum describe the probable impacts of the proposed project. The analysis of impacts relies on an estimated 17,700 afy of recharge to Pine Valley. The reality is that recharge is much less than that, certainly no more than 11,000 afy based both on the analysis in Gardner et al. (2020) and the model calibration by Brooks et al. (2017). The summary of the Myers Technical Memorandum shows that the impacts will be even worse than predicted because of the overestimated recharge. It also details the evidence supporting the conclusion that recharge has been grossly overestimated.

Formation should run the model again with a more accurate, lower recharge estimate and show how the drawdown in the valley and under the surrounding mountains would be even greater. It would demonstrate that there is not enough water in the valley for this project.

The proposed Pine Valley Exportation project should be denied due to there being much too little water to support the project.

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