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RE: Castle Mountain Mine Phase II Expansion Project Draft Environmental Impact Statement and Draft Environmental Impact Report

I. Introduction

On behalf of the undersigned organizations and collectively our hundreds of thousands of members and supporters, please accept the following comments regarding the Draft Environmental Impact Statement (DEIS) and the Draft Environmental Impact Report (DEIR) for the Castle Mountain Mine Phase II Expansion Project, which is a second expansion located on public lands managed by the Bureau of Land Management (BLM). The proposed project is located in San Bernardino County, California and is surrounded by the Castle Mountains National Monument, the Mojave National Preserve, both managed by the National Park Service with associated infrastructure in the Avi Kwa Ame National Monument and other important conservation lands managed by the BLM. Our members and supporters include residents of San Bernardino County, California and Clark County, Nevada. Visitors to the National Park Service and BLM managed lands may be directly and indirectly impacted by the proposed Castle Mountain Mine Phase II Expansion Project. The undersigned groups and our members recognize this region as the homeland of the Ft. Mojave, Chemehuevi, and some Southern Paiute people. It is also significant to other Tribal Nations and Indigenous peoples. We value and cherish the wide open and tranquil landscapes, wildlife, flora, and historic and tribal connections to these special lands. We have organized field tours and desert dark skies educational events, outdoors access camping trips and naturalist tours in this landscape. After thorough review of the DEIS/DEIR, we find that the prepared document does not sufficiently evaluate the impacts that this proposed project would have on the Castle Mountains landscape. We urge the BLM to conduct a supplemental review of the impacts and appropriately address the impacts that this proposed project would have on federally managed lands. We also urge San Bernardino County (the County) to revise and recirculate the DEIR to comply with the California Environmental Quality Act (CEQA), and require the project to completely backfill all pits in accordance with California statute and regulations.

II. The NEPA Analysis Does Not Provide a "Hard Look" Based on Reliable Scientific Data and Analyses

Courts have consistently concluded that federal agencies must take a "hard look" at their proposals in light of available information, analysis, and the potential for environmental impacts, in making informed decisions to implement an action or alternative. *Kleppe v. Sierra Club*, 427 U.S. 390 at n. 21 (1976). When taking a hard look at potential impacts, and ultimately deciding whether or not the action may have significant environmental impacts, agencies must take into account the direct, indirect, and cumulative impacts of the action. *See, Hanly v. Kleindienst*, 471 F.2d 823, 830-31 (2d Cir. 1972); *Minn. Pub. Interest Research Grp. v. Butz*, 498 F.2d 1314, 1322 (8th Cir. 1974); *City of Davis v. Coleman,* 521 F.2d 661 (9th Cir. 1975).

BLM cannot take the required hard look, or determine avoidable or excessive degradation, without adequate scientific data and analysis. Indeed, the National Environmental Policy Act (NEPA) requires that all federal agencies:

- "utilize a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment." 42 U.S.C. § 4332(A);
- "ensure the professional integrity, including scientific integrity, of the discussion and analysis in an environmental document." *Id.* § 4332(D);
- "make use of reliable data and resources in carrying out this Act." *Id.* § 4332(E); and
- "initiate and utilize ecological information in the planning and development of resource-oriented projects." *Id.* § 4332(K).

Moreover, where, as here "new research . . . is essential to evaluating alternatives or the significance of the impact, and the cost and time of obtaining it are not unreasonable" BLM must make efforts to obtain that new data and information.[1]

As detailed herein and in the attached technical memos and other references, BLM has failed to take a hard look at the impacts of the proposed mining project and proposed Rights of Ways (ROWs) in the DEIS light of available scientific data and information and has relied on inaccurate, incomplete, and conflicting information (much of which was not provided to the public during the comment period, to make unsupported findings regarding the significance of impacts. These errors are found in many places including, but not limited to: the hydrology sections regarding both the baseline setting, water use, and impacts; the description and analysis of the mining project operations and reclamation plan for tailings; and the biological resources sections where appropriate surveys are not provided; and the discussion and analysis of impacts to Areas of Critical Environmental Concern (ACECs), California Desert National Conservation Lands (CDNCL) lands, and national monument lands. Individually, and together, these errors undermine the validity of the NEPA analysis provided in the DEIS. The BLM must undertake

[1] 516 DM 1 – U.S. Department of the Interior, Handbook of National Environmental Policy Act Implementing Procedures (2026) at 4

additional data gathering and analysis to revise the DEIS which must then be recirculated for public comment before BLM can make any decision on the proposal.

III. Analysis of Proposed Alternatives Is Inadequate

A. The DEIS/DEIR fails to analyze a reasonable range of alternatives pursuant to NEPA and CEQA

These comments and our scoping comments discuss the differences between the NEPA and CEQA requirements for alternatives. While NEPA requires consideration of alternatives, CEQA requires far more – substantive avoidance of impacts through the consideration of alternatives.

NEPA:

The National Environmental Policy Act (NEPA) is our bedrock environmental law. In enacting NEPA, Congress recognized the profound impacts of human activities on the environment and declared a national policy "to create and maintain conditions under which man and nature can exist in productive harmony." 42 U.S.C. § 4331(a). NEPA has "twin aims:" obligating the agency "to consider every significant aspect of the environmental impact of a proposed action," and ensuring "that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process." *Balt. Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 97 (1983).

NEPA promotes its sweeping commitment to "prevent or eliminate damage to the environment and biosphere" by focusing government and public attention on the environmental effects of proposed agency action. 42 U.S.C. § 4321. With NEPA, Congress mandated that federal agencies take a "hard look" at the environmental consequences of their actions and engage practicable measures to prevent environmental harm when engaging in agency action. *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976); *New York v. Kleppe,* 429 U.S. 1307, 1310–1311 (1976) (The Supreme Court "unanimous in concluding that the essential requirement of the NEPA is that before an agency takes major action, it must have taken 'a "hard look" at environmental consequences.'").

Under NEPA, BLM must "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(E). When an unresolved conflict exists over the use of resources, the BLM should study, develop, and describe appropriate alternatives. 42 U.S.C. § 4332(H).NEPA requires federal agencies to thoroughly explore and objectively assess all reasonable alternatives to a proposed plan of action. *See NRDC v. United States Forest Serv.*, 421 F.3d 797, 813 (9th Cir. 2005); *City of Carmel-by-the-Sea v. United States Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997). The EIS must include a "detailed statement … [on] a reasonable range of alternatives to the proposed agency action." 42 U.S.C. § 4332(2)(c)(iii). *See also* 43 C.F.R. § 46.415(b). Consideration of alternatives "is the heart of the [EIS]," and agencies should "[r]igorously explore and objectively evaluate all reasonable alternatives" that relate

to the purposes of the project and discuss the reasons for eliminating any alternatives from detailed study. *Alaska Survival v. Surface Transp. Bd.,* 705 F.3d 1073, 1087 (9th Cir. 2013). A failure to consider a reasonable range of alternatives or "present complete and accurate information to decision makers and to the public" regarding the alternatives will not meet the requirements of NEPA. *See Natural Resources Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 813-14 (9th Cir. 2005).
NEPA mandates that "[e]ach environmental document shall include a statement of purpose and need that briefly summarizes the underlying purpose and need for the proposed agency action." 42 U.S.C. § 4336a(d). The purpose and need statement dictates the range of alternatives and what is "reasonable" depending on the purpose and need for the proposed action, as a result, a project's purpose and need must be appropriately framed in order to ensure fair and adequate environmental review. An agency violates NEPA when it "define[s] its objectives in unreasonably narrow terms." *Nat'l Parks & Conservation Ass'n v. BLM*, 606 F.3d 1058, 1072 (9th Cir. 2010). "A purpose and need statement will fail if it unreasonably narrows the agency's consideration of alternatives so that the outcome is preordained." *Alaska Survival v. Surface Transp. Bd.*, 705 F.3d 1073, 1084 (9th Cir. 2013). While BLM is permitted to take the applicant's purposes into consideration, it cannot draft a narrow purpose statement that restricts the consideration of alternatives to one motivated by private interests. *Nat'l Parks & Conservation Ass'n*, 606 F.3d at 1072. "[A]n applicant cannot define a project in order to . . . make what is practicable appear impracticable." *Sylvester v. U.S. Army Corps of Eng'rs*, 882 F.2d 407, 409 (9th Cir. 1989). Federal courts have found that NEPA prevents federal agencies from effectively reducing the discussion of environmentally sound alternatives to a binary choice between granting and denying an application. *See e.g., Save Our Cumberland Mountains v. Kempthorne*, 453 F.3d 334, 345 (6th Cir. 2006).

BLM's stated purpose is responding to Castle Mountain Venture's (CMV's) proposal in accordance with statutory and regulatory obligations to analyze the environmental effects and alternatives of the proposed action (DEIS at 4). The stated need for action is to determine that the proposal does not cause unnecessary or undue degradation (UUD) of public lands and whether the proposed ROWs represent a reasonable use of BLM-administered lands consistent with the Federal Land Policy and Management Act (FLPMA) (DEIS at 4). The stated applicant objectives are to expand mining operations that would allow for full extraction of CMV's existing claim for gold and silver mineral resources (DEIS at 4). As detailed below, here, the BLM's action-alternatives (B, C, D) provide for some modifications of the proposed expanded mining project but BLM failed to consider any alternative that would eliminate the need for or re-route the proposed new pipeline and transmission ROWs and the construction and development for those features. Because the purpose and need of the project, and the applicant's objective of expanded mining operations, can be accomplished without these components that will significantly harm the environment and undermine conservation efforts, the BLM should have considered an alternative that eliminated the need for the ROWs.

CEQA:

Under CEQA, a lead agency may not approve a project if there are feasible alternatives that would avoid or lessen its significant environmental effects. (Public Resources Code §§ 21002, 21002.1(b).) To this end, an EIR is required to consider a range of potentially feasible alternatives to a project, or to the location of a project, that would feasibly attain the project's basic objectives while avoiding or substantially lessening any of the project's significant environmental impacts. (*Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437, 1456.) "Meaningful analysis of alternatives in

an EIR requires an analysis of *meaningful alternatives*." (*Save Our Capital! v. Dept. of Gen. Services* (2023) 87 Cal.App.5th 655, 704, italics added.) While alternatives must be capable of achieving most project objectives, they need not achieve all of them. (*Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477, 489.).

A feasible alternative is one that is "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Pub. Resources Code, § 21061.1; see also CEQA Guidelines § 15021(b).) "An EIR shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy." (CEQA Guidelines § 15126.4.)

The EIR must consider a range of alternatives, not only those that would achieve all of the project proponent's objectives. "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." CEQA Guidelines § 15126.6(a). "[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, *even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly*." (CEQA Guidelines § 15126.6(b) (emphasis added).)

A potentially feasible alternative that might avoid a significant impact must be discussed and analyzed in an EIR so as to provide information to the decision makers about the alternative's potential for reducing environmental impacts. (*Habitat & Watershed Caretakers v. City of Santa Cruz*, 213 Cal. App. 4th 1277 (2013).

"A local agency must make an initial determination as to which alternatives are feasible and which are not. If an alternative is identified as *at least potentially feasible*, an in-depth discussion is required . . . Even as to alternatives that are rejected, however, the EIR must explain why each suggested alternative either does not satisfy the goals of the proposed project, does not offer substantial environmental advantages or cannot be accomplished." *Ctr. for Biological Diversity v. Cty. of San Bernardino* (2010) 185 Cal. App. 4th 866, 883 (emphasis added).)

'To facilitate CEQA's informational role, the EIR must contain facts and analysis, not just the agency's bare conclusions or opinions.'" (Laurel Heights, 47 Cal.3d at 404.) In the context of alternatives analysis in an EIR this means that in order to reject an alternative as economically infeasible, the EIR must disclose the supporting evidence and analysis. (*Save the Hill Group v City of Livermore* (2022) 76 Cal. App. 5th 1092, 1112–13.) While CEQA case law "does not require any particular economic analysis or any particular kind of economic data, but requires generally 'some context' that allows for economic comparison [to determine whether a project alternative is economically infeasible]." (*Sustainability, Parks, Recycling & Wildlife Legal Def. Fund v. S.F. Bay Conservation & Dev. Com.*, 226 Cal. App. 4th 905, 918, 172 Cal. Rptr. 3d 110, 120 (2014).)

Rejection of an alternative, or consideration of an alternative, based on economic feasibility must be supported by substantial evidence and economic feasibility cannot be measured only by profitability.

Whether a mitigation measure is economically unfeasible "is not measured by increased cost or lost profit, but upon whether the effect of the proposed mitigation is such that the project is rendered impractical." (*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 600.) "[T]he question is . . . whether the marginal costs of the alternative as compared to the cost of the proposed project are so great that a reasonably prudent [applicant] would not proceed with the [project]." (*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal. App. 4th 587, 600.) "The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project." (*Sustainability, Parks, Recycling & Wildlife Legal Def. Fund v. S.F. Bay Conservation & Dev. Com.* (2014) 226 Cal. App. 4th 905.)

As detailed below, the County rejected alternatives from consideration that could avoid significant impacts of the project on the basis that the alternatives were economically infeasible, however, the County failed to explain in detail, based on substantial evidence provided to the public, why they were rejected. This renders the EIR inadequate.

The County's rejection of consideration of an alternative that would avoid the impacts of the off-site utilities, the pipeline and transmission corridor ROWs, and an alternative requiring full backfill of the anticipated south extension pit which would avoid significant short- and long-term impacts to the environment, were both unsupported by substantial evidence. As a result, the County cannot rely on the EIR to approve a reclamation plan or other project components.

Our scoping comments urged the EIS/EIR to analyze the following alternatives:

- Alternative routes for the applicant's proposed transmission line that avoids impacts to Avi Kwa Ame National Monument.
- Alternative routes for the applicant's proposed water pipeline from Nipton, that avoids impacts to Avi Kwa Ame National Monument.
- Alternatives that reduce the total amount of electricity needed for the project.
- Alternatives that reduce the total amount of water needed for the project.
- Alternative sources of water to avoid or minimize groundwater pumping that may impact groundwater dependent ecosystems.
- Alternative expansion plans with a reduced surface disturbance.
- Alternative processing methods that avoid the use of cyanide, which may negatively impact the environment through spills and lining failures.
- Timing restrictions on mine construction and operation activity to protect wildlife
- Avoiding surface disturbance to areas with tribal cultural and/or historic resources
- Avoiding rare plants and plant communities.

We also urged that the EIS/EIR must analyze and select an alternative that avoids leaving a permanent pit lake on site, discussed in more detail in the sections below.

The DEIS/DEIR has failed to analyze a reasonable range of alternatives. In the DEIS, BLM only analyzed two alternatives in addition to the no action and proposed action alternatives:

- Alternative C: Backfilling to Avoid Surface Expression of South Pit Lake (DEIS at 25)
- Alternative D: Small Solar Facility for Supplementation (DEIS at 27)

In the EIR, the County only analyzed three alternatives, in addition to the no project and proposed project alternatives. These are the same as in the DEIS, plus combining the two alternatives together:

- Alternative 2: Backfilling to Avoid Surface Expression of South Pit Lake (DEIR at 5-16)
- Alternative 3: Small Solar Facility for Supplementation (DEIR at 5-21)
- Alternative 4: Backfilling to Avoid Surface Expression of South Pit Lake and Small Solar Facility for Supplementation (DEIR at 5-25)

Both the BLM and the County failed analyze reasonable alternatives that would avoid significant impacts to Avi Kwa Ame National Monument, Ivanpah ACEC, and Castle Mountain ACEC, and that would reduce the total amount of electricity and water required for the project, thus reducing impacts to air quality, greenhouse gas emissions, and hydrology.

Appendix L of the DEIS gives a brief summary of 15 Alternatives Considered but not Analyzed in Detail. Section 5.4 of the DEIR gives an identical brief summary of Alternatives Considered but Rejected. These are:

1. 100% Diesel Generated Power
2. Diesel for Supplemental Power Generation
3. 100% Solar Power
4. Solar for Intermittent Power Generation
5. 100% Liquified Natural Gas Microturbines
6. Nuclear Micro-Reactor
7. Reduce Mining Throughout Rates by 5% to 10%
8. Reduce Mining Throughput Rates Enough to Avoid New Off-Site Utilities
9. Change the Order in Which the Pits are Mined
10. Underground Mining
11. Joint Trench for Underground Water Pipeline and Electrical Transmission Powerline
12. Burying the Electrical Transmission Powerline or the Water Pipeline within the Existing Road Footprint
13. Buried 69-kV Electrical Transmission Powerline
14. Bury Electrical Transmission Powerline Underground at Walking Box Ranch
15. Co-Location of Overhead Electrical Transmission Powerline South of Walking Box Ranch from Substation

Not enough supporting evidence is provided to justify the claims that these dismissed alternatives are technically or economically infeasible. The DEIS/DEIR must be revised to analyze these in detail.

B. The EIS/EIR must be revised to analyze in detail the alternative to Reduce Mining Throughput Rates Enough to Avoid New Off-Site Utilities

We are especially concerned that the alternative to Reduce Mining Throughput Rates Enough to Avoid New Off-Site Utilities was inappropriately dismissed from detailed analysis. Here is the full discussion of this alternative in the DEIS/DEIR:

> *Under this alternative, mining throughput would be reduced to a level intended to eliminate the need for new offsite utilities, including the underground water pipeline and 69kV overhead power line, thereby avoiding associated ROW disturbance and related visual and biological impacts. To evaluate feasibility, a representative reduced mining rate was analyzed based on a 30% reduction from the proposed 2022 Plan mining rate of approximately 52,000 tons per day to approximately 35,000 tons per day. Even at this substantially reduced rate, the project would still require extended operations to mine the same total ore volume, resulting in an estimated mine life increase of approximately 7 years. Financial analysis indicates that this reduced throughput would lower the project Internal Rate of Return (IRR) to approximately 13.8%, below the minimum industry financing threshold of 17%, and reduce Net Present Value (NPV) by more than 4%, materially affecting the viability of the project as an investable operation (CMV 2025b).*
>
> *Further reductions in mining rate sufficient to fully eliminate offsite utilities, requiring near exclusive reliance on onsite power generation and pit dewatering for water supply, were not advanced for detailed analysis because such reductions would further degrade project economics beyond levels already demonstrated to be infeasible. Although lower annual production could reduce short-term demands for power, water, and emissions, and eliminate the need for the utilities, extending the mine life would likely increase long-term water losses through evaporation and dust control, as well as cumulative energy use and emissions over the life of the project. In addition, designing a mine plan around persistently low throughput would reduce operational flexibility and increase the likelihood of future plan amendments as economic conditions change. Given the demonstrated economic infeasibility at reduced mining rates, the extended mine life and associated long-term environmental tradeoffs, and the uncertainty that further reductions would reasonably sustain a viable mining operation, this alternative does not meet the standard of a reasonable or feasible alternative and was dismissed from further consideration.* (DEIS Appendix L at L-5; DEIR at 5-8).

Not enough evidence is given to justify dismissing this alternative as economically infeasible. There are many factors in addition to mine life that may influence the Internal Rate of Return and the mine's overall economic feasibility, that have not been analyzed in detail. The financial analysis referenced to support this finding has not been made available for public review. Appendix A to the Mine Plan of Operations states that economic analysis for the project was based on forecasted gold prices of $2,479 per ounce in

2027, and $2,169 per ounce for an estimated 2029-2049 project life.[2] Yet, as of May 16, 2026 the spot price of gold had reached a near-record high of $4,555 per ounce,[3] with analysts forecasting continued growth to more than $5,000 per ounce in 2027, and possibly to $6,000 per ounce long term.[4] The high price of gold likely means that mining at 30% reduced throughout would be economically feasible for Castle Mountain, and so this alternative must be analyzed with an updated economic analysis.

Furthermore, no attempt has been made to analyze the impact of extending the mine life by seven years on water loss and energy use, and so the statement of "long-term environmental tradeoffs" used to justify its dismissal from detailed analysis is purely speculative. The Castle Mountain Mine has already stopped, re-started, expanded, and revised its plans many times over the course of more than 35 years since the first mine plan was authorized in 1990. There is nothing in the current mine plan to guarantee that mine life would not be extended regardless of throughput rate, and seven years of additional operation at lower throughput would likely have minimal cumulative environmental impact compared to the proposed action which requires constructing new groundwater pumping, constructing new utility infrastructure, and new surface and visual disturbance within national monuments. This alternative would successfully avoid the need for constructing new power and water lines entirely, effectively avoiding the adverse impacts to the visual, biological, and cultural resources of Avi Kwa Ame National Monument that are discussed in the DEIS:

> *Construction of the proposed water pipeline and power line within the AKANM could affect several monument objects identified in the Presidential Proclamation and may result in adverse impacts. Ground disturbance could affect biological soil crusts, desert pavement, and native plant communities. ROWs would also intersect areas potentially containing Joshua trees—an object of protection in the proclamation and an important component of wildlife habitat—where removal or relocation could result in the loss of mature individuals. Vegetation removal along portions of the buried pipeline, including trees in desert washes along Nipton Road, could also affect habitat used by phainopepla. In addition, construction activities and new infrastructure could introduce visual and noise effects that alter the monument's landscape setting and soundscape and affect views across the desert landscape. Because the proclamation recognizes the landscape itself—and the connections between mountains, valleys, and culturally important landmarks—as an object of protection, these disturbances would affect not only individual resources but also the broader ecological, visual, and cultural integrity of the monument.* (DEIS at 96).

As we discuss in section VII below, BLM can only approve new ROWs through the monument if "consistent with the proper care and management" of monument objects, which the proposed utility ROWs are not. Furthermore, as we discuss in section VIII, below, the proposed utility ROWs would also

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[2] Applied Analysis. (2025). p.3 *Castle Mountain Mine Phase 2 Project: Analysis of Economic, Fiscal, and Social Effects*. Appendix A to the Mine Plan of Operations. (Attachment 35)

[3] *Gold Price Today*. (2026, May 15). APMEX. https://www.apmex.com/gold-price (Attachment 36)

[4] JP Morgan. (2025). *A new high? Gold price predictions from J.P. Morgan Global Research*. https://www.jpmorgan.com/insights/global-research/commodities/gold-prices (Attachment 37)

have significant impacts to BLM Conservation Lands managed under the Desert Renewable Energy Conservation Plan (DRECP), including ACECs, CDNCLs, and Extensive Recreation Management Areas (ERMAs). Therefore, The EIS/EIR must be revised to fully analyze this alternative.

IV. Backfill Requirements Under SMARA and a Proposed Reclamation Plan

A. The Entire Project, including the South Extension Pit, is Required to be Fully Backfilled Under California's Statutory and Regulatory Backfill Requirements

Under the proposed Castle Mountain Mine Phase II Expansion Plan, the JSLA, Jumbo, and Oro Belle pits will be sequentially backfilled, but because it will be the last pit mined, the South Extension pit "will not be significantly backfilled" (Castle Mountain Mine Plan of Operation & Reclamation Plan Amendment 2025 at 1-2). Because the South Extension pit is deeper than the water table, dewatering will be carried out for excavation. According to the DEIS: "Once dewatering operations cease in 2050, the JSLA and Jumbo/Oro Belle pits will be backfilled, whereas the South Extension Pit will remain open to allow for the natural formation of a pit lake" (DEIS at 140). This pit lake will be a permanent feature on the landscape, expected to reach an elevation of 3,532 feet above mean sea level (amsl) with a total volume of 7,938 acre-feet by 2150 (DEIS at 140).

As we stated in our scoping comments, because the proposed Phase II was never previously included in a reclamation plan, we believe that the project is subject to California's statutory backfill requirements of Public Resources Code § 2773.3:

> *(a) In addition to other reclamation plan requirements of this chapter and regulations adopted by the board pursuant to this chapter, a lead agency may not approve a reclamation plan for a surface mining operation for gold, silver, copper, or other metallic minerals or financial assurances for the operation, if the operation is located on, or within one mile of, any Native American sacred site and is located in an area of special concern, unless both of the following criteria are met:*
>
> > *(1) The reclamation plan requires that all excavations be backfilled and graded to do both of the following: (A) Achieve the approximate original contours of the mined lands prior to mining. (B) Grade all mined materials that are in excess of the materials that can be placed back into excavated areas, including, but not limited to, all overburden, spoil piles, and heap leach piles, over the project site to achieve the approximate original contours of the mined lands prior to mining.*
> >
> > *(2) The financial assurance cost estimates are sufficient in amount to provide for the backfilling and grading required by paragraph (1).*
>
> *(b) For purposes of this section, the following terms have the following meanings:*
>
> > *(1) "Native American sacred site" means a specific area that is identified by a federally recognized Indian Tribe, Rancheria or Mission Band of Indians, or by the Native American Heritage Commission, as sacred by virtue of its*

established historical or cultural significance to, or ceremonial use by, a Native American group, including, but not limited to, any area containing a prayer circle, shrine, petroglyph, or spirit break, or a path or area linking the circle, shrine, petroglyph, or spirit break with another circle, shrine, petroglyph, or spirit break.

(2) "Area of special concern" means any area in the California desert that is designated as Class C or Class L lands or as an Area of Critical Environmental Concern under the California Desert Conservation Area Plan of 1980, as amended, by the United States Department of the Interior, Bureau of Land Management, pursuant to Section 1781 of Title 43 of the United States Code.

The project is located within a sacred landscape and within one mile of Native American sacred sites, including the Nuwuvi Holy Lands Salt Song Trails Area (DEIS at 82). The project is also located in, and would cause 1,400 acres of long-term disturbance to, the Castle Mountain Extensive Recreation Management Area (ERMA) (DEIS at 98). This qualifies as an "area of special concern," since it is a limited use area designated in the California Desert Conservation Area (CDCA) Plan. The project is also surrounded by the Castle Mountains National Monument, and would disturb 3 acres of the Castle Mountains Area of Critical Environmental Concern (ACEC), both of which meet the requirements to be considered an area of special concern.

Furthermore, the project is also subject to California's Metallic Mine Backfill Regulations, California Code of Regulations (CCR) §3704.1. Adopted by the State Mining and Geology Board (SMGB) in 2003, the Backfill Regulations specify the conditions under which the backfilling of open pit excavations for metallic surface mines must be undertaken pursuant to the Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code § 2710 et seq.). They require all open pit metallic mines to be fully backfilled to surface grade and contoured to match the original topography of the area, or partially backfilled if there is not enough waste rock available (State Mining and Geology Board, n.d.(Attachment 2)). Mines with reclamation plans and financial assurances approved by their lead agencies prior to December 18, 2002 are exempt from the Backfill Regulations according to CCR §3704.1(i).

The proposed Castle Mountain Phase II Expansion Project claims to be exempt from California's backfill requirements by claiming a reclamation plan for the project was already approved before 2002 when the backfill requirement came into effect. According to the reclamation plan:

Mine pit backfilling as a state regulatory and statutory requirement is not required at CMM because (1) a mining and reclamation plan of operation was approved for the Castle Mountain Mine, and (2) the related financial assurances for approved mining and reclamation were approved and held by the agencies before December 2001; therefore, because both of these conditions have been met, the mine is exempt from California's backfill statute and regulation (Castle Mountain Mine Plan of Operation & Reclamation Plan Amendment 2025 at 5-2).

However, it is clear from the Phase II proposal that expanded mining of the South Pit is a new activity, not previously carried out or approved, and thus requires a *new* reclamation plan, subject to both statutory and regulatory backfill requirements.

The 1998 Castle Mountain Mine Plan authorized some mining at the South Extension Pit, but *no mining has occurred there to date* (Castle Mountain Mine Plan of Operation & Reclamation Plan Amendment 2025 at 1-2). According to the 1998 approved EIR/EIS at 2-18 – 2-19, the South Extension Pit was

scheduled to be mined from 2002-2006, and then partially backfilled (Bureau of Land Management Needles Resource Area & County of San Bernardino, 1997 (Attachment 3)). The 1998 EIR/EIS does not include any discussion of the potential for a permanent pit lake to be left at the South extension pit.

Under the current proposed plan, mining will occur at the South Extension Pit as authorized in the 1998 plan and also *expand beyond what was previously authorized*: "The proposed pit will expand west and east from the approved South Extension pit location, eventually merging with the enlarged JSLA pit" (Castle Mountain Mine Plan of Operation & Reclamation Plan Amendment 2025 at 1-2). The current plan proposes that the South Extension pit will be mined last, and so will not be significantly backfilled, because it cannot be done sequentially (id.)

Mining was suspended in 2001 due to the low price of gold (Castle Mountain Mine Plan of Operation & Reclamation Plan – Amendment 2025 at 3-2). In 2012, the California Department of Conservation's Office of Mine Reclamation considered the site "fully reclaimed" and recommended it for closure (Hendrickson, 2012 (Attachment 4)).

In 2013, San Bernardino County approved an Interim Management Plan (IMP) and reclamation plan amendment for the mine. According to a letter from San Bernardino County to the Colorado River Regional Water Quality Control Board dated February 5, 2020, the 2013 plan notified CMV's intent to transition the mine to "idle" status. The letter states: "Idle status means that an operator has curtailed production at a surface mining operation with the intent to resume operations at a future date. (Public resources code 2727.1) SMARA allows for the suspension of surface mining operations and subsequent resumption of those operations without constituting a new 'project'." (Arceo, 2020 (Attachment 5)). However, neither the 2013 nor the 2019 amended plans allowed an increase in the area that would be mined, nor discussed leaving a permanent pit lake in the South Extension pit, as is currently proposed by the project. In order to not constitute a "new project," the resumption of mining would need to remain limited to the footprint of what was previously approved.

In conclusion, the Castle Mountain Mine Phase II Expansion should be considered a "new project" under SMARA. Since no mining has ever been carried out in the South Extension Pit despite it being scheduled for completion by 2006, *expanded* mining beyond the original footprint approved in the 1998 Plan was never permitted, the site was considered "fully reclaimed" by the Department of Conservation in 2012, the Phase II Expansion Project must be considered an entirely new mine project, requiring a new reclamation plan, and subject to California's statutory and regulatory backfill requirements.

Since it is a new project, the County wrongfully considers "Mining Revision to an Approved Action" to be the discretionary action subject to CEQA review (DEIR at 2-16). This must be revised to be approval of a new reclamation plan. Even if the County maintains that this is a "revision," approving the amendment to the reclamation plan is enough to trigger statutory and regulatory backfill requirements, which require simply that the lead agency be approving a reclamation plan (whether this applies only to new plans and not amendments is never discussed in statute or regulation).

B. Regardless of backfill requirements, under CEQA and SMARA the County must choose an alternative that avoids the formation of a permanent pit lake

While we maintain our position that the project is legally required to comply with statutory and regulatory backfill requirements, we also urge that the County must choose an alternative that avoids the pit lake to reduce overall impacts of the project.

As we stated in our scoping comments, the County can and should require backfill of all pits and full reclamation contouring on site as part of the reclamation plan to avoid long-term significant impacts to the environment including visual resources and groundwater resources. Under *any* analysis, the County can and should prohibit a "pit lake" being left as a permanent feature after reclamation. Backfilling of surface metallic mines is particularly important where wildlife habitat, wildland conservation, and other beneficial uses that are related to landscape intactness (recreational, visual, and cultural resources for example) are to be the approved end uses after reclamation. Here, the mine is on lands that are part of an ERMA dedicated to outdoor recreation and is surrounded by public lands that are designated as national monument lands and national park lands.

There is ample evidence that leaving an industrial waste feature on the landscape – a "pit lake" – causes long term water quality impairment and creates a public nuisance in many ways. These include, but are not limited to: by creating dangerous conditions for future human use; by attracting wildlife such as bighorn sheep into harm's way; by subsidizing predators of protected species (including ravens and coyotes); and by causing long term water quality impairment.

Open pits do not leave the land in a usable or safe condition as required by SMARA. Open pits support little vegetation and provide little natural habitat and create many hazards, including but not limited to, steep failing slopes, "pit lakes" that drain and pollute water resources and create death traps for wildlife. Among the impacts to water quality from pits are dissolved metals, cyanide from leach piles, acid mine drainage, and arsenic pollution. A recent review of the literature on pit lake risks finds that "water toxicity is one of the most well known risks of pit lakes" due to low pH from acid mine drainage, as well as concentration of metals and salts, and in some cases radioactivity (Lund & Blanchette, 2023 (Attachment 6)). Because concentrations of metals from the rock accumulate over time as the pit lake water evaporates, pit lakes may require costly, perpetual treatment to comply with water quality standards (Kempton et al., 2010 (Attachment 7)). Furthermore, pit lakes created in an arid landscape that may otherwise have no surface water can cause long-term declines in groundwater, due to evaporative loss (Lund & Blanchette, 2023).

Furthermore, The California State Mining and Geology Board (SMGB) has found that no beneficial alternate end uses have been demonstrated for these types of open excavations in California. *See* SMGB Informational Report 2007-02 (State Mining and Geology Board, 2007 (Attachment 8)). According to the Final Statement of Reasons for 14 CCR Section 3704.1: "In summary, leaving large open pits in the surface surrounded by millions of cubic yards of waste rock does not leave the site in a useful condition, and clearly leaves the site in a less useful and beneficial condition than before it was mined. It is the intent of SMARA that completed mine sites present no additional dangers to public health and safety, and that the mined lands are returned to an alternate, useful condition" (State Mining and Geology Board at 11 quoting Final Statement of Reasons for 14 CCR Section 3704.1 (page 1-2)). Efforts by industry urging the SMGB to remove the backfill regulation requirements have failed, including in 2006, 2018 and 2024; substantial evidence that was provided to the SMGB regarding these issues is attached to these comments as well.

The proposed action by Castle Mountain Mine to leave a permanent pit lake in the South Extension Pit would cause significant impacts to water quality and quantity that could otherwise be avoided by requiring backfilling. The DEIS finds that evaporation will exceed inflow, meaning that the pit lake risks causing groundwater drawdown that could impact Piute Springs.The pit lake may also become contaminated with heavy metals. This is a significant environmental impact that must be avoided.

In the DEIR, the County finds Alternative 4, Backfilling to Avoid Surface Expression of South Pit Lake and Small Solar Facility for Supplementation, to be the environmentally superior alternative because "it would reduce operational air emissions and would reduce long-term hydrological impacts associated with

pit lake formation, while still attaining most of the Project objectives, avoiding additional significant environmental impacts beyond those associated with the proposed Project" (DEIR at 5-31).

We maintain that full backfill according to the statutory and regulatory requirements discussed above is required. We appreciate that the County has identified partial backfilling to avoid the permanent pit lake as the environmentally superior alternative, and we also support the use of a small solar facility for supplemental power. However, we also urge the County to revise this alternative to require *full* backfilling of all pits. This should be combined with an alternative that avoids construction of utilities in Avi Kwa Ame National monument and analyzed as the preferred / environmental superior alternative in the EIS/EIR.

V. The Assessment of Hydrological Impacts and Analysis in the EIS and EIR are Inadequate

The data and information provided regarding the hydrology that will be affected by the proposed mine expansion is inadequate for the needed analysis. The proposal would affect groundwater in two basins (Lanfair Valley and Ivanpah Valley) and groundwater dependent springs, most importantly Piute Spring. The attached Technical Memorandum authored by Andrew Zdon sets out many of the shortcomings in the data and reports used as the foundation of the hydrological analysis. However, not all data and reports were made available to the public despite being relied on in the EIS and EIR, undermining the purpose of public review.

The proposed Project would more than triple the use of water for mine operations and significantly drawdown local groundwater resources, affecting local wells, groundwater dependent springs and water quality in both Lanfair Valley and Ivanpah Valley. Based on inadequate baseline information and modeling with unsupported assumptions, the DEIS and DEIR conclude that there would be no significant impacts to hydrology or water quality. (DEIS at sec. 3.17: DEIR at sec. 4-10).

A technical memorandum from Andrew Zdon, P.G.; Roux Associates, Inc., (May 29, 2026) (Attachment 1, "Tech Memo"), provided with these comments, identified multiple foundational deficiencies in the groundwater modeling, and pit dewatering reports that are relied on in the DEIS and DEIR analysis that render the conclusions in the reports and any reliance on them in the DEIS and DEIR invalid.

The Tech Memo explains that "The effects of groundwater extraction and potential water quality impacts are among the most critical issues for the environmental review of this proposed Project to assess," and provides background information on the hydrology of the area. (Tech Memo at 2-5.)

The Tech Memo found multiple errors including missing information, unsupported assumptions, and mistakes in the report "Geo-Logic Associates, 2024a. Lanfair Valley Groundwater Model Report, Castle

Mountain Mine, San Bernardino County, California. Second Revision. July 26." (Geo-Logic 2024a). The Tech Memo identifies the following concerns with the Geo-Logic 2024a report,[5] among others:

· It "remains in a draft state with potential reporting errors or misstatements awaiting verification is of considerable importance when considering the reliability of the data and analyses presented in the report, and subsequently restated in the DEIR and DEIS. Indeed, absent finalization of the report, and reliance of the DEIR and DEIS on key aspects of this unfinished product may be speculative" (Tech Memo at 6.)

· Model-related information was missing that is "standard professional practice to include in a model report . . . particularly in relation to model calibration, and groundwater . . . results both for baseline conditions and under simulated Project conditions." (Tech Memo at 6.)

· No disclosure of the measured on-the-ground elevation at Piute Spring, which undermines the ability to review the modeling—" No disclosure of the actual, on-the-ground elevation of Piute Spring with only the drain elevation used in the numerical model. Indeed a table of model target coordinates, groundwater elevations (including historic range of groundwater levels), spring elevations, and associated information is not provided in the report with only a map showing locations of calibration points. Without the actual Piute Spring elevation information assigned in the model drain package, it is impossible to interpret the reliability of the impacts of Project-caused drawdown and the impacts to Piute Spring." (Tech Memo at 7.)

· Reliance on historic precipitation for recharge estimates without addressing increasing temperatures that will significantly affect recharge and evaporation. (Tech Memo at 7.) The Tech Memo explains that information about warming temperatures is readily available and critical to the analysis of hydrology. "A climate snapshot for the Lanfair Valley zip code 92332 (for Essex, California) was run on the Cal-Adapt website (Cal-adapt, 2026) and is provided as an attachment to this [Tech Memo]. As shown in the Cal-Adapt report, temperatures by mid-century are expected to increase from 4.6 to 5.5 degrees Fahrenheit through the period 2035-2064. With increasing temperatures and aridification, increasing evaporation will result in lesser groundwater recharge, and will have other effects on the proposed Project increasing the possible need for increased water usage. The model report needs a discussion this issue more fully, and to account for that in the modeling." (Tech Memo at 7.)

· The water budget discussion in the report is incomplete with no discussion of evapotransporation or quantification of discharge at "Piute Spring and other springs in the area including Vontrigger Spring." (Tech Memo at 7.)

· There is no estimate of groundwater underflow to neighboring Piute Valley to the east, or Fenner Valley to the south." (Tech Memo at 7.)

· Water use and pumping data in the area has not been updated for over 40 years. (Tech Memo at 7.)

[5] The Tech Memo notes that the failure to provide the underlying model files hindered review of the assumptions and conclusions in the report. (Tech Memo at 6.)

· Groundwater recharge estimates in the report are based on an outdated 1988 report, although newer information is readily available from USGS. As the Tech Memo explains "the Basin Characterization Model (BCMv8) that characterizes groundwater recharge and was last updated in 2025 (U.S. Geological Survey, 2026). BCMv8 represents the best available science on current and projected recharge rates of aquifers. The BCMv8 model is used by the USGS to determine historical and future natural recharge, including in Mojave Desert groundwater basins such as Indian Wells Valley and Lucerne Valley, both located in San Bernardino County. It is also used by the State of California to estimate recharge, as seen in the California Department of Water Resources California's Groundwater Update 2025 / Bulletin 118.

The BCMv8 model presents important information related to natural recharge to Lanfair Valley (and Ivanpah Valley) that should have been considered (further discussion of how is presented in the discussion section of this memo). It provides important insight not only into current estimated recharge rates, but how those recharge rates will change over the next 40 years as the climate becomes warmer and drier." (Tech Memo at 7-8.) This resulted in significant overestimation of recharge in the report because it rests on a faulty assumption that "past data can be relied upon with confidence to predict the future" despite evidence to the contrary, including as relied on in the USGS BCMv8 model. (Tech Memo at 8.)

· The Tech Memo explains that the report's assumptions regarding precipitation in reliance on 1988 data affect both the current baseline and the analysis of future precipitation and impacts under normal and drought conditions: "The BCMv8 includes the specific basins impacted by the pumping, including the Lanfair Valley, and provides the associated data to calculate recharge. The model is calibrated to calculate the mean annual recharge in the 1991 to 2020 time period as well as the 2020 to 2049 time period. Of particular concern is that with a hotter, drier climate, as the USGS and other agencies have determined for this region, the recharge rate is estimated to decrease. Therefore assuming a steady state condition on the past precipitation record is problematic when applying to future-looking model scenarios, and assuming a dry period is still an overestimation of recharge to the Lanfair Valley basin (and Ivanpah Valley basin) because what has previously been considered a drought condition would be a new normal condition and new drought calculations would need to be considered from that baseline." (Tech Memo at 9.)

Note: The magnitude of differences between recharge estimates described in the Groundwater Model Report for the Project, and the publicly available U.S. Geological Survey (USGS) data within the Basin Characterization Model (BCMv8) model is an order-of-magnitude difference that should require a re-evaluation of the Lanfair Valley conditions, representation in the Lanfair Valley groundwater model, and a revised impact analysis (as well as a re-evaluation for other impacted groundwater basins including Ivanpah Valley).

The BCMv8 model provides the BLM and County with calibrated historical natural (1991-2020) and future (2020 to 2049) recharge data for the Lanfair Valley, Ivanpah Valley and other impacted groundwater basins. While the DEIS and DEIR relies upon a groundwater recharge figure from 1988 that estimates recharge is between 2,000-5000 acre-feet/year (AFY), the USGS BCMv8 model calculates the recharge from 1991-2020 as approximately 700-800 AFY and that the future recharge between 2020-2049, incorporating climate change impacts that reflects a hotter, drier region, as approximately 200-300 AFY. The mine expansion would require pumping

2,250 AFY, approximately 11 times more than the USGS recharge estimates for the 2021-2049 period.

	Historical Natural Recharge 1991-2020 (AFY)	Future Natural Recharge 2021-2049 (AFY)	Projected Decrease in Natural Recharge between 1991-2049
DEIS/EIR (MARK Group, 1988)	2,000-5,000	2,000-5,000	0%
USGS (BCMv8, 2025)	700-800	200-300	87%-98%
Difference between DEIS/DEIR and USGS	60%-86%	85%-96%	

· Boundary conditions at Piute Spring are not provided and contradictory calling into question conclusions based on those estimates. (Tech Memo at 9.) "This lack of clarity in the data used is particularly troubling and calls into question the estimated minimal change (less than one gallon per minute) in flow estimated for Piute Spring in Table 7 of the model report given the magnitude of assumed groundwater pumping in relation to the overall water budget for the Project area." (Tech Memo at 9.) The uncertain boundary conditions taken together with the model's assumptions regarding "proximity of the constant head boundaries to Piute Spring," discussed later in the Tech Memo, together result in modeling constraints that appear to force the conclusion that pumping will not affect Piute Spring. (Tech Memo at 10-11.)

· The targets and goals section of the report "does not provide a firm discussion and table of why individual targets were chosen and what they represent (e.g., what layers were wells completed in), nor does it provide detail on the number of targets chosen representing each model layer. The targets and goals section should have clearly discussed areas where substantial data are present and what areas are lacking monitoring wells (e.g., along the western edge of the Piute Range above Piute Spring)." (Tech Memo at 9.)

· The report fails to provide needed information regarding the steady state calibration adjustments: "hydraulic parameters were adjusted during calibration but there is not a table or summary of precisely what was adjusted. . . . This is critical information to evaluate the robustness of the model and its reliability, and is information widely provided in modeling reports as part of standard professional practice but is absent in this modeling report." (Tech Memo at 9.)

· The Tech Memo notes that drawdown contours in the report are presented in 5 foot increments which is too coarse a scale to show critical changes to springs. "Therefore the drawdown maps should be revised to show a maximum 2-foot drawdown contour to understand the zone of groundwater capture more fully for the analysis of the impacts of the Project pumping. This is critical information to assess the full extent of environmental impacts including to Piute Spring other springs in the area including Vontrigger Spring." (Tech Memo at 10.)

· The Tech Memo explains that the report's estimates of residual drawdown at 100 years after pumping ceases are flawed and appear to contain errors. (Tech Memo at 10.) The Tech Memo also explains that more data points in the future need to be assessed and water loss from the proposed pit lake clearly included in revised estimates: "additional figures showing residual drawdown at the end of pumping, and at 25 year increments are needed to evaluate whether after 100 years of non-pumping, the cone of depression is continuing to expand laterally as recovery continues closer to the mine site, and to evaluate what the maximum extent of drawdown is, regardless of time frame (even if longer than 100 years) to fully evaluate impacts to Piute Spring. The model also needs to clearly take into account continued future water loss from the proposal to leave pit lake un-reclaimed (discussed further below) and also model the alternatives where the pit is filled and reclaimed. As currently shown in the model report, the time frame presented appears to be chosen ad hoc and may not represent the full extent of groundwater impacts." (Tech Memo at 10.)

· Regarding the hydrogeologic setting, the Tech Memo finds a significant error in the report: "Figure 6 (Water Level Data) presents groundwater elevation contours that show groundwater underflow toward Piute Valley occurring along the length of the Piute Range, a substantially greater extent of underflow than stated in the report calling into question the accuracy of the assumptions and analysis in the modeling report. The model simulations are not consistent with the conceptual model, this must be corrected." (Tech Memo at 10.)

· The use of a constant head boundary near Piute Spring is also unsupported and introduces error into the report. "The extent and use of constant head boundaries in the model, particularly along the eastern edge of the model grid, is exaggerated and appears to be strongly influencing the model results, particularly potential impacts to Piute Spring. The use of the constant head boundaries will allow groundwater to enter and leave the model across the extent of those constant head boundaries as needed (whether geologically reasonable or not), and the elevations assigned to those boundaries will constrain the simulated heads at those locations. The proximity of the constant head boundaries to Piute Spring appears to constrain the predicted cone of depression from Project pumping. As the groundwater elevations are constrained, the model is not allowing for accurate simulate to response in Piute Spring. The eastern constant head boundary as used in the model is also the apparent reason why relatively even groundwater flow toward the east is simulated despite the relative impermeable volcanic rocks present in the Piute Range which would impede that flow. The use of the constant head boundaries as presented also amplifies the need to present full water budget tables for baseline, project, and post-project periods to show whether reasonable amounts of groundwater are passing through the modeled area, or if exaggerated amounts of groundwater are passing through in response to a faulty simulation of the conceptual model." (Tech Memo at 10.)

· The report relies on limited data regarding the storativity of the Lanfair Basin that is likely inaccurate. The Tech Memo explains "storativity estimates across the model area could be substantially different than would be developed had additional aquifer testing with monitoring wells occurred historically across Lanfair Valley." (Tech Memo at 11.) This affects the modeling on impacts, monitoring and mitigation design, and assumptions regarding recovery after pumping ceases: "Not only does this indicate that the report may not be presenting the full extent of Project groundwater impacts but also has a substantial impact on the design of the monitoring program,

and it's ability to be an early warning system for identifying groundwater conditions indicating that Piute Spring may be at risk, and pumping corrected, in a manner that preserves flow at Piute Spring.

The uncertainty associated with spacial variability of storativity will also affect the simulated lag in recovery that occurs after pumping ceases for a project. When a substantial stress is placed on an aquifer system such as at Lanfair Valley, once pumping ceases, although recovery will immediately begin to occur in the well field or mine pit, the more distal portions of the cone of depression may continue to expand and deepen for many years after pumping ceases. In some cases, this can occur over a much longer period of time than which the pumping was conducted. The uncertainty around timing of recovery and expansion of the cone of depression during dewatering and other water use may be considerably different than expected. This also affects the planning for a monitoring and mitigation plan, especially as it relates to Piute Spring increasing the uncertainty and risk associated with pumping impacts to the springs and any mitigation measures protecting that feature." (Tech Memo at 11.)

· The report does not accurately identify local geology near Piute Spring leading to additional errors in the analysis: "Piute Spring is in an area where the rocks present have little primary permeability but have significant secondary permeability from fracturing associated with north-trending normal faults in the Piute Range (Martin and Schroeder, 2015) The faulting is not identified in the geologic cross section presented on Figure 25D but instead by a zone of higher hydraulic conductivity in the area of Piute Spring. The model design in the Piute Spring area then appears geologically inaccurate and combined with the constant heads modeled immediately to the east of Piute Spring, likely misidentify Piute Spring impacts." (Tech Memo at 11.)

Compounding the errors in the 2024a report and the DEIS and DEIR's analyses, the Tech Memo explains that the Geo-Logic 2024a report was also relied on in the "Geo-Logic Associates, 2026. Evaluation of Dewatering Requirements and an Updated Simulation of Pit Lake Water Quality, Castle Mountain Mine, San Bernardino County, California. January 5." (Geo-Logic, 2026b) (Tech Memo at 12.) That reliance undermines the analysis, as explained in the Tech Memo: "It is difficult to understand how the draft groundwater model report can lead to a final dewatering and pit lake analysis report for the same reasons described above. The model simulations presented are based on information in a report that is stated to be draft and unverified. As presented above, given all the deficiencies in the model report and associated analyses, the dewatering and pit lake analyses are unreliable." (Tech Memo at 12.) The Tech Memo explains that the Geo-Logic, 2026b pit dewatering report is inaccurate and unreliable for many reasons, including but not limited to:

· The 2026b report does not address drought conditions at even the (insufficient) level provided in the 2024a report. (Tech Memo at 12.)

· The 2026b report relies on inaccurate precipitation and recharge estimates. (Tech Memo at 12.)

· The 2026b report is also flawed because "the absence of storativity data results in the timing of pit dewatering as well as post-dewatering regional groundwater recovery as highly uncertain." (Tech Memo at 12.)

· Unexplained changes were made in the model regarding conductivity in the area near the pit in the 2026b report rendering it incomplete. "A change to the model was made in the pit area, where a higher hydraulic conductivity zone was added to simulate a fracture zone in the pit area. This was not included in the simulations described in the model report, and sensitivity analysis of what including this zone would have done to the results of the impact scenarios in the model report should have been conducted but was not. According to the dewatering and pit lake report, "*A hydraulic conductivity value of 0.4 feet per day was assigned to the new zone based on the 2017 aquifer testing results for wells CMM-W-01 and CMM-W-02. The original model had been calibrated around regional water level data, which resulted in too low a value for this area. The new zone was added to model layers 1 and 2*." This is a puzzling statement. It recognizes that there had been a problem calibrating the pit area, but the new zone was not in the impact scenario analyses. Whether this relates to the potentially flawed simulation of the conceptual model, or a flaw in the conceptual model on which the model is based, in either case, the modeling must be revised." (Tech Memo at 12.)

· The 2026b report does not provide necessary information to evaluate the impacts of leaving a pit lake un-reclaimed as opposed to backfilled. (Tech Memo at 12.) "The flaws in the model undermine any conclusions in the DEIS and DEIR analyses regarding the short- and long-term impacts to hydrology and water quality from the proposal to leave a pit lake un-reclaimed at the site in the South pit (vs. reclamation with full or partial backfill). The impacts to Lanfair Valley groundwater and local springs from the proposal to leave a pit lake in the South pit include significant evaporation losses post closure (that were not calculated in the context of periodic drought or a warming and drying climate), water quality impacts due to the pit being a vector to leach additional toxins into the groundwater, and potential wildlife impacts due to exposure to contaminated waters and drowning risks." (Tech Memo at 12.)

Further, the Tech Memo explains that the Monitoring and Mitigation measures presented in the DEIS and DEIR to protect Piute Spring are flawed because they are based on these flawed reports and on the related Revised Groundwater Monitoring Plan (Geo-Logic, 2024b). Clearly, "because the modeling for the groundwater impacts and drawdown is inaccurate and inadequate in many respects (as detailed above), the reliance on those documents to develop monitoring measures is inappropriate." (Tech Memo at 13.) Specifically, the Tech Memo explains that the monitoring and mitigation is poorly designed and inadequate to protect Piute Spring.

· Reliance on combined decreases in flow at Piute Spring for a trigger for action is inadequate: "Table 7 uses the combined spring surface discharge and underflow to report the decrease in discharge to be accepted in each of the stages. First to be lost at Piute Spring will be surface flow before remaining underflow is decreased—using combined decreases will not protect the surface flow sufficiently. As shown on Table 7 of the groundwater model report (Geo-Logic, 2024a), surface flow typically ranges from 40 to 45 gallons per minute at Piute Spring. Since surface flow will be lost first, that means that according to the monitoring plan, nearly half the flow at Piute Spring has to be lost before a change in pumping patterns (Action D) is implemented. Not only is this ineffective (allowing a 50% loss of surface water flow), but fails to consider the lag in recovery, and that at that point, a change in pumping patterns (pumping less from the mine site and Lanfair Valley and possibly more from Ivanpah Valley) will not be immediately effective in preventing ongoing and future loss of

surface water flow at Piute Spring. As a result, Piute Spring would be subject to years of additional spring flow reduction at that point before spring flow would begin to recover, if it does." (Tech Memo at 13.)

· Measures that rely on reductions in pumping fail to take into account the delay in recovery: "even after reductions in pumping, the groundwater drawdown recovers slowly by continuing to capture additional groundwater from the outer edges of the cone of depression. This allows the cone of depression to expand spatially in width, sometimes for many times the length of the pumping that was conducted." (Tech Memo at 13.)

· Measures that rely on reductions in pumping are also uncertain to occur in a timely way with only yearly reporting proposed and uncertain decisionmaking process provided which relies on the project proponent rather than an independent review: As the Tech Memo notes: "Monitoring Piute Spring flow while it continues to decrease without corresponding action is not protective of Piute Spring." (Tech Memo at 14.)

The Tech Memo also notes the limited information provided on sources of impacts to water quality which completely ignores PFAS and related chemicals which are widely used in mining activities. (Tech Memo at 14-15.)

In sum, the hydrology and water quality analyses in the DEIS and DEIR are insufficient. As the Tech Memo concludes: "there is substantial amount of model report deficiencies that need to be addressed, and re-analysis of dewatering and pit lake formation and water quality are needed, a revised monitoring plan developed based on the updated modeling and with a revised trigger and threshold monitoring protocol, and a commitment to not use PFAS and/or related compounds as an additive in leaching solutions or other mine processes." (Tech Memo at 15.)

On this basis, the DEIS and DEIR are invalid and fail to comply with NEPA and CEQA and must be revised and recirculated. The errors and inadequacies are central to the conclusions in the environmental review of water resources and quality which are arguably the most significant impacts of the proposed Project that must be fully addressed and avoided through alternatives, and minimized and mitigated before the proposal can move forward

In addition, the expert comments from Steven Emerman at Malach Consulting (Attachment 9) note that the predicted water consumption disclosed in the EIS appears to be far lower than what would be expected for the proposed level of mining operations. Specifically, the comments note that "[t]he predicted water consumption of 2250 acre-feet per year is far less than what would be standard in the gold mining industry. A more realistic water consumption is 22,000 acre-feet per year." Underestimating water use by such a large amount (a factor of 10) would render all of the conclusions based on that assumption invalid.

Emerman explains that the underestimate of total water consumption results principally from underestimating the evaporation rate from the heap leach facility. According to guidelines from the U.S. Geological Survey, the evaporation rate should be 2363-9455 acre-feet per year, as opposed to the evaporation rate of 1153 acre-feet per year that was assumed by the company. In addition to rendering the

project description for hydrology inaccurate, any increase in the water consumption rate would render all of the groundwater modeling relied on in the DEIS and DEIR irrelevant.

The agencies cannot use this significant underestimation of the water consumption to approve the proposed project. To do so would set up a future condition in which the mining company would predictably need to request additional water use permits and approvals– after the project permits had been issued and mining activities begun– this is untenable and turns environmental review on its head– a complete and accurate description of the project including all water uses is necessary for any meaningful analysis to occur and it must be done *before* any project approval. Further, Emerman explains that although one of the DEIR Appendices includes extensive discussion of a proposed filtered tailings storage facility, there is no mention of such a facility in the DEIS, the DEIR, or the Mine Plan of Operations (MPO). It is possible that the mining plan changed substantially between the production of the Feasibility Study (Equinox Gold, 2021) and the MPO the following year (Equinox Gold Castle Mountain Mine, 2022). If that is the case, then the water balance described in Equinox Gold (2021) (see Figs. 2-5) is no longer relevant. As mentioned earlier, the water balance in Equinox Gold (2021) is the only information provided as to why the Castle Mountain Phase II Expansion requires 2550 acre-feet of water per year. If the water balance has been superseded, then the public now has no information regarding the annual requirement of 2550 acre-feet or any other quantity of water. This too shows that the data and analysis related to hydrology provided in the EIS and EIR are inadequate.

As such, the DEIR and DEIS analyses of impacts to hydrology and utilities and service systems based on an estimated 2,250 AFY of groundwater pumping is flawed and must be revised. In particular, the DEIR finds that impacts are less than significant and do not require mitigation for Impact Hyd-2: "the project would not substantially decrease groundwater supplies or interfere with groundwater recharge" (DEIR at 4.10-17). Likewise, the DEIR finds that impacts are less than significant and do not require mitigation for Impact UT-3: "The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years" (DEIR at 4.14-25). However, because the impact analyses for both of these significance thresholds are based on the vastly underestimated water demand of 2,250 AFY, the findings are not based on substantial evidence.

The DEIR contains inconsistencies and flaws in the project description that make it impossible for the public to understand the nature of the project and its impacts. As the CEQA Guidelines state, "An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences." CEQA Guidelines § 15151. "The ultimate inquiry, as case law and the CEQA guidelines make clear, is whether the EIR includes enough detail 'to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'" *Sierra Club v. Cty. of Fresno*, 6 Cal. 5th 502, 516 (2018) (citations omitted). Moreover, "decision makers and general public should not be forced to sift through obscure minutiae or appendices in order to ferret out the fundamental baseline assumptions that are being used for purposes of the environmental analysis." *San Joaquin Raptor Rescue Ctr. v. Cty. of Merced*, 149 Cal. App. 4th 645, 659 (2007). The failure to provide needed information is a violation of CEQA, "'noncompliance with the information disclosure' requirements of CEQA 'preclude[d] relevant information from being presented to the public agency' and the public. It

constitutes a prejudicial violation of CEQA . . . " *King & Gardiner Farms, LLC v. Cty. of Kern*, 45 Cal. App. 5th 814, 869 (2020)(quoting Cal. Res. Code § 21005, subd. (a).)

VI. CEQA Analysis of the Proposed Expansion Project is Inadequate

The definition of "project" is "given a broad interpretation in order to maximize protection of the environment." (*Nelson, supra*, 190 Cal.App.4th at p. 278 [BLM's review of proposed surface mining operations under NEPA does not preclude county from undertaking environmental review of entire mining proposal under CEQA]; *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1180 (internal quotation omitted); *see also, Muzzy Ranch Co. v. Solano County Airport Land Use Com.* (2007) 41 Cal.4th 372, 381-83; *Fullerton Joint Union High Sch. Dist. v. State Bd. of Educ.* (1982) 32 Cal.3d 779, 796-97; *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 277-81.) A "project" is "the whole of an action" "which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (Pub. Resources Code, § 21065; CEQA Guidelines, § 15378(a).) Critically, under CEQA, "the term 'project' refers to the underlying activity and not the governmental approval process." (*California Unions for Reliable Energy v. Mojave Desert Air Quality Mgmt. Dist.* (2009) 178 Cal.App.4th 1225, 1241, (quoting *Orinda Assn v. Bd. of Supervisors* (1986) 182 Cal.App.3d 1145, 1171-72 ; CEQA Guidelines, § 15378(c).) This means that the project encompasses all foreseeable direct and indirect environmental impacts associated with the project, not just those activities subject to a governmental permit. (*Id.* ["The term 'project' refers to the activity which is being approved and which may be subject to several discretionary approvals by governmental agencies. The term 'project' does not mean each separate governmental approval."])

The CEQA Guidelines provide guidance for determining if a project's effects are significant. Such a determination "calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data" and a "consider[ation of] the views held by members of the public in all areas affected." (*Id.* § 15064(b)-(c).) The lead agency must consider both direct and indirect physical changes in the environment caused by the project. (Id. § 15064(d).)

CEQA also requires consideration of cumulative impacts. An EIR is required "if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable . . . when viewed in connection with the effects of past projects, the effects of other current project, and the effects of probable future projects." (*Id.* § 15064(h)(1).) Cumulatively considerable environmental effects require a mandatory finding of significance. (*Id*. § 15065(a)(3).)

The County and BLM coordinated on the environmental review process but some impacts that must be considered under CEQA that are not required to be included in BLM's review including but not limited to, GHG impacts, growth inducing impacts, cumulative impacts, avoidance through alternatives, and mandatory mitigation and minimization measures. (*Nelson, supra*, 190 Cal.App.4th at p. 278-79, CEQA Guidelines § 15221(b)). Some of the differences in the CEQA and NEPA standards for alternatives are discussed above (see section III).

California and local laws also require preparation of a Water Supply Assessment (WSA), adoption of a reclamation plan consistent with SMARA, and protection of wildlife and plants.

A. The Draft EIR fails to provide accurate, reliable, or current information on existing environmental conditions to provide a baseline for analysis of impacts for many resources

The EIR must include an accurate depiction of existing environmental conditions, or baseline, which is critical to a complete assessment of project impacts. "[T]o inform decision makers and the public of any significant adverse effects a project is likely to have on the physical environment . . ., an EIR must delineate environmental conditions prevailing absent the project, defining a baseline against which predicted effects can be described and quantified." *(Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439, 447.) Investigating and reporting existing conditions are "crucial function[s] of the EIR." (*Save Our Peninsula Comm. v. Monterey County* (2001) 87 Cal.App.4th 99, 122 ("SOPC").) "[W]ithout such a description, analysis of impacts, mitigation measures and project alternatives becomes impossible." (*County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 953.) Decisionmakers must be able to weigh the project's effects against "real conditions on the ground." (*City of Carmel-by-the-Sea v. Bd. of Supervisors* (1986) 183 Cal.App.3d 229, 246.)

Similarly, baseline groundwater conditions in both Ivanpah Valley and Lanfair Valley are incomplete—for Ivanpah Valley the EIR relies on the WSA and other documents that have no data on pumping after 2008 and relies only on modeling and assumptions that the rates would remain the same. (*See* WSA at 20.) For Lanfair Valley the DEIR relies on a study more than 40 years old that admittedly did not have rigorously measured data and failed to obtain newer information on pumping by other users in Lanfair Valley to estimate use. (WSA at 15.) In this way as well, the DEIR fails to provide a meaningful baseline for analysis of the impacts that must be addressed.

These shortcomings in the pumping data are particularly problematic because both the recharge rates for these two groundwater basins are significantly overestimated, and the drought scenario of "a 10% reduction in groundwater recharge was used to simulate extreme drought conditions" is unsupported. (DEIS at 132.). (*See* Zdon Technical Memo re recharge and lack of inclusion of climate change in drought analysis). Taken together, the lack of accurate baseline data for both current use of groundwater and recharge cannot provide an accurate baseline for analysis, and undermines the conclusions in the EIR that there will be no significant impacts to groundwater or Piute Springs, which is dependent on groundwater resources. Because the conclusions are based on unreliable and outdated data, much of which was not readily accessible to the public, the conclusions are unsupported.

To comply with CEQA "[t]he EIR must contain facts and analysis, not just the bare conclusions of the agency." *Santiago Water Dist. v. County of Orange* (1981) 118 Cal. App. 3d 818, 831. The lack of sufficient and clear baseline information is "an omission [that] clearly falls short of the requirement of a good faith effort at full disclosure. (Guidelines, § 15151.) The decision makers and general public should not be forced to sift through obscure minutiae or appendices in order to ferret out the fundamental baseline assumptions that are being used for purposes of the environmental analysis." *San Joaquin Raptor Rescue Ctr. v. Cty. of Merced*, 149 Cal. App. 4th 645, 659 (2007).

Because the baseline information is insufficient for many resources, the analysis and conclusions regarding significance of impacts are unsupported and invalid. In this way, the DEIR's failures compound throughout the document rendering it inadequate as a whole.

B. Growth Inducing Impacts are not fully identified and analyzed

EIRs are required to provide a detailed discussion regarding the growth-inducing impacts of a project. (Guidelines §§ 21100(b)(5); 21156.) *Napa Citizens for Honest Government v. Napa County Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 369, sets forth three factors to determine the level of detail required in a growth-inducing impacts analysis: (a) the nature of the project; (b) the directness or indirectness of the contemplated impact; and (c) the ability to forecast the actual effects the project will have on the physical environment. (*Id*.)

Applying these factors here, the EIR discusses but dismisses several growth inducing factors due to the increased workforce and the proposed new water and power infrastructure. (DEIR at 6-1 to 6-2.) For other potential impacts, the DEIR offers a general statement that "the proposed Project is not expected to encourage or facilitate other activities that could significantly affect the environment." The DEIR at 6-2 dismisses population growth by framing it within a much larger region and fails to address increased water use and socioeconomic impacts that could result from even temporary population increases in this area.

In addition, the DEIR ignores that the proposed new power and water infrastructure would increase access across protected lands with new access roads which could encourage incursions into these areas for recreation or hunting including via off-road vehicles. These potentially significant impacts should have been identified and analyzed in the DEIR. Because they were not, the DEIR is inadequate.

C. Mitigation Strategies Have Not Been Fully Evaluated and All Feasible Mitigation Measures Are Not Proposed to Be Adopted

CEQA's substantive mandate requires effective avoidance and consideration of alternative, minimization and mitigation. "[P]ublic agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." (Pub. Res. Code § 21002.) In addition to failing to adequately consider avoidance through alternatives (see section III above), the DEIR also fails to evaluate sufficient strategies, and adopt any and all feasible mitigation measures that may mitigate significant impacts. (Pub. Res. Code §§ 21002.1(b); 21081(a)(1); 14 C.C.R. §§ 15021(a)(2), (3), 15091(a)(1); *Environmental Council of Sacramento v. City of Sacramento* (2006) 142 Cal. App. 4th 1018, 1039; *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 525.) CEQA requires mitigation measures to be "fully enforceable through permit conditions, agreements, or other measures," (*see* Pub. Res. Code. § 21081.6(b); CEQA Guidelines § 15126.4(a)(2)), so "that feasible mitigation measures will actually be implemented as a condition of development." (*Federation of Hillside & Canyon Ass'ns v. City of Los Angeles* (2000) 83 Cal.App. 1252, 1261.)

"Formulation of mitigation measures should not be deferred until some future time." (CEQA Guidelines § 15126.4(a)(1)(B).) Deferred and overly vague mitigation measures do not meet the requirements of CEQA. (*See San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670 [EIR inadequate where the success or failure of mitigation efforts "may largely depend upon management

plans that have not yet been formulated and have not been subject to analysis and review within the EIR"].) In the limited circumstances in which deferred mitigation is appropriate, the agency must meet all of the following elements: (1) practical considerations prevented the formulation of mitigation measures during the planning process; (2) the agency committed itself to developing mitigation measures in the future; (3) the agency adopted specific performance criteria prior to project approval; and (4) the EIR lists the mitigation measures to be considered, analyzed, and possibly incorporated into the mitigation plan. (*See POET, LLC v. State Air Resources Bd.* (2013) 218 Cal.App.4th 681, 736-37.) Here, the DEIR fails to meet these criteria for many of the mitigation measures

As the Zdon Technical Memo explains, the mitigation measures that are intended to protect Piute Spring are inadequate in several ways. In addition to being based on flawed hydrological data and analysis, these measures also: fail to provide adequate monitoring in appropriate locations to provide the needed data; fail to provide clear triggers for actions to mitigate impacts; and fail to provide specific quantified reductions in pumping to reduce impacts to the spring over a meaningful timeline to address hydrological drawdown over time. Mitigation must be binding and enforceable to be valid. (Guidelines § 15126.4, subd. (a)(2).) The project proponent therefore cannot defer formulating enforceable mitigation that would reduce impacts until after project approval. (CEQA Guidelines § 15126.4, subd. (a)(1)(B); (*Ctr. for Biological Diversity v. Dep't of Fish & Wildlife* (2015) 234 Cal. App. 4th 214, 240) ["[A]n agency goes too far when it simply requires a project applicant to obtain a [] report and then comply with any recommendations that may be made in the report."].); (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 793.)

No mitigation measures or monitoring are required for PFAS and related comments although these chemicals can cause significant impacts to water quality. *See* discussion below regarding California notification levels and Zdon Technical Memo. At minimum, periodic monitoring for PFAS and related chemical compounds must be required for groundwater and at area wells and springs.

D. The EIR's Conclusion of No Significant Impacts to Groundwater and Surface Water is Invalid

In addition to the shortcomings in the hydrological analysis in the EIS (which is also relied on in the EIR) discussed above, the EIR also relies on a flawed Water Supply Assessment, rendering the EIR's discussion of these issues and its conclusions invalid.

a. *Because the Water Supply Assessment is inadequate, the EIR's reliance on it is invalid.*

In addition to relying on the inadequate analysis of hydrological impacts found in the EIS and EIR, the County failed to provide a valid Water Supply Assessment for the project. The EIR's analysis of water supply and demand is based in part on its appended *Updated Water Supply Assessment, Castle Mountain Mine Project* (Water Supply Assessment or WSA) (GLA 2023) *See* Draft EIR 4.10-14 to 4.10-24. Overall, the WSA suffers from the same flaws as in other hydrology analysis in the EIR (and EIS) (see, above), because it underestimates project water demand, overestimates recharge, fails to provide a meaningful current baseline information on existing uses, and underestimates impacts of the proposed project. The WSA is also unclear and internally inconsistent.

Lanfair Valley: Under 3.5 Groundwater Production (Lanfair Valley Area), the WSA notes:

> "Other than groundwater pumping to support CMM, no significant pumping occurs within Lanfair Valley. Friewald (1983) notes that pumping within the basin in 1981 amounted to less than 40 AFY, but that well flow rates were not rigorously measured."

(WSA at 15.)

These statements about pumping by other users in Lanfair Valley rely on outdated information in a study more than 40 years old that admittedly did not have rigorously measured data and admits that the County has made no effort to update the data to estimate groundwater pumping in Lanfair valley. This lack of baseline information of current conditions fails to provide an accurate discussion of the existing conditions to assess the total water supply and demand in this area, which is critical for evaluating the long-term cumulative impact of development of the Phase II mine on water supply under CEQA.

Ivanpah Valley: Under 4.5 Groundwater Production (Ivanpah Valley Basin), the WSA notes:

> "Though conflicting estimates of basin pumping rates have been given, our review of available data indicates that the most probable distribution of pumping is approximately 2,340 AFY for Ivanpah South and about 2,000 AFY for Ivanpah North."

(WSA at 19.)

Use of conflicting estimates regarding the pumping rates and as the basis for the analysis does not provide a meaningful baseline for analysis. This undermines an accurate discussion of the project's total water supply and demand, which is critical for evaluating the long-term cumulative impact of development on water supply under CEQA.

Under 4.7 Groundwater Modeling / Predictions, 4.7.1 Model Setup (Ivanpah Valley Basin), the WSA notes:

> "The ENSR numerical groundwater model of Ivanpah Valley was updated for CMV's project to evaluate the effects of groundwater pumping by CMV to support CMM's planned amended operations (CCA, 2022). Minor adjustments to ENSR's model input parameters were made to account for data obtained from well IV-1TW and for changes in pumping patterns that have occurred in the area since 2008. Production wells that were included in CCA's model adjustment are shown on Figure 6. No additional pumping data for Ivanpah Valley was found to be available after 2008, therefore, 2008 pumping rates were used for the period 2008-2020."

(WSA at 20.)

Thus, the model uses stale information. It simply assumes 2008 pumping rates fairly reflect pumping rates over a twelve year period to 2020, and makes no effort to assess the current baseline.

In the same section, the WSA further states regarding modeling into the future:

> "Stress periods were added to CCA's model simulation to accommodate the period 2006 to 2022 and from 2023 to 2045, the period planned for CMV's planned Phase II active mining. An additional 100 years was added to simulate 2046 to 2145 groundwater rebound after CMM water use ends. Simulation of the potential drought conditions in the

basin was developed by adding a stress period of 10 years in which mountain front recharge was decreased by 10 percent."

(WSA at 20.)

And the EIS similarly states: "For the drought scenario, precipitation data from as early as 1940 was evaluated and it was determined that a 10-year drought would reduce recharge by approximately 10% over a 10-year period. Therefore, a 10% reduction in groundwater recharge was used to simulate extreme drought conditions." (DEIS at 132.)

Thus, in addition to the model not having accurate baseline information, it appears that the simulation, modeling, and analyses are still in draft form and are all flawed in relying on estimates that minimize the likely severity of drought by relying on outdated information and ignoring climate change and increasing aridity. Studies show that increased aridity, not only drought due to reduced precipitation, reduces water availability. (See, e.g., Overpeck and Udall, 2020 (Attachment 10)); Scholl et al. 2025 [aridification amplifies effects of drought and other climate drivers]).

Under CEQA, it is an error to rely on "inaccurate or outdated" information. (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1216-1218.) In addition, the EIR's reliance on outdated or conflicting information to set the baseline for water supply analysis and to undertake that analysis undermines its conclusions. (*San Joaquin Raptor, supra,* 149 Cal.App.4th at pp. 655-656 [conflicting project descriptions]; see also *Vineyard*, *supra*, 40 Cal.4th at p. 439 ["[f]actual inconsistencies and lack of clarity"].)

b. The EIR fails to provide needed minimization and mitigation measures for Impacts to Water Resources and Water Quality.

California is facing unprecedented challenges in its effort to allocate and conserve limited water resources, especially as water supply dwindles in the face of climate change and population growth. The two affected groundwater basins are rarely replenished by rain events and have very low recharge. As the Zdon Technical Memo discusses, USGS Basin Characterization Model, version 8 (BCMv8) shows that recharge is predicted to decrease significantly through 2049 even without drought conditions. That is, the new "normal" will be far dryer than the past in this area.

The errors regarding the identification and analysis of impacts to groundwater and Piute Springs compound throughout the EIR. First, as detailed above, the County failed to consider any alternative that would avoid significant impacts to groundwater (and connected surface water at Piute Springs) by reducing water use. Second, the DEIR failed to accurately address the amount of current water use and baseline use by others in the basins. Third, the DEIR's analysis of drought and recharge failed to take into account climate change, aridification, and long-term drought. Fourth, based on this inadequate assessment the DEIR summarily concluded that no significant impacts would occur. It then proposes no meaningful mitigation for the water use, only monitoring and promises of future consideration if water use affects Piute Springs.

This is inadequate. CEQA requires mitigation measures to be "fully enforceable through permit conditions, agreements, or other measures," (*see* Pub. Res. Code. § 21081.6(b); CEQA Guidelines § 15126.4(a)(2)), so "that feasible mitigation measures will actually be implemented as a condition of development." (*Federation of Hillside & Canyon Ass'ns v. City of Los Angeles* (2000) 83 Cal.App. 1252,

1261.) “Formulation of mitigation measures should not be deferred until some future time.” (CEQA Guidelines § 15126.4(a)(1)(B).)

E. The EIR Fails to Address PFAS/PFOS Standards and Threats

While the Draft EIR discusses hazardous substances, it fails to address PFAS and similar substances although these chemicals are widely used in mining and California has enacted regulations regarding them as Notification Level Issuance for drinking water contamination. These include, but are not limited to: perfluorooctanoic acid (PFOA), 2/6/2020; perfluorobutane sulfonic acid (PFBS), 3/5/2021; Perfluorohexanoic Acid (PFHxA),10/29/25; Perfluorohexane Sulfonic Acid (PFHxS),10/31/22; and Perfluorooctanoic Acid (PFOA) 10/29/25. (Attachments 11, 12, 13, 14 & 15) As explained in the Zdon Technical Memo, these substances are often used in mining and are found in other compounds even if not the principle chemical. The EIR’s failure to address these compounds and require monitoring renders the EIR inadequate.

F. The DEIS/DEIR fails to analyze impacts of an influx of construction and mine workers on increased violent crime and Missing and Murdered Indigenous Peoples (MMIP)

According to the DEIS, the project will require approximately 500 workers during two years of construction, and 273 new workers over the operating life of the mine (DEIS at 105). It is anticipated that construction workers would stay in hotels or RV parks in Clark County, be from outside the area, and not bring their families with them (DEIS at 105). This influx of outside construction workers to rural communities may bring increased risk of contributing to Missing and Murdered Indigenous Peoples (MMIP) that has not been analyzed in the DEIS/DEIR.

In February of 2019, the Department of Justice published a report titled, Violent Victimization Known to Law Enforcement in the Bakken Oil-Producing Region of Montana and North Dakota, 2006-2012 (DOJ 2019). This report analyzed increases in violent crime as a result of man camps, or worker housing, associated with extractive industry. The report found that, “From 2006 to 2012, the rate of violent victimization known to law enforcement in the Bakken oil-producing region of Montana and North Dakota increased, particularly the rate of aggravated assault, which increased 70%. There was no similar increase in rates of violent crime in the counties surrounding the Bakken oil region.” Moreover, it is well understood through the issue of Missing and Murdered Indigenous People (MMIP) that this type of violence disproportionately impacts Indigenous people as well as increases gender-based violence, such as rape, human trafficking, murder, and domestic assault.

Therefore, since the proposed project would require significant non-local labor in a community with limited existing housing, and research conducted by the federal government clearly shows a connection between worker housing and increases in violence. It is the obligation of the federal government to take a “hard look” under NEPA, and therefore the EIS must analyze this predictable increase in community violence with specificity in terms of impacts to Indigenous communities and along gendered lines.

VII. Impacts to Avi Kwa Ame National Monument Are Inadequately Analyzed

The DEIS fails to adequately analyze the impacts to Avi Kwa Ame National Monument's objects and values within the proposed ROW and fails to explain how the granting of the ROWs would be consistent with the standards of the proclamation, the National Landscape Conservation System, and the National Monument's interim management guidance. To be clear, BLM is not authorized to approve any new ROWs in the Monument.

A. National Conservation Lands Standards

The Avi Kwa Ame National Monument (AKANM) is a unit of the National Landscape Conservation System, which was established by Congress. 16 U.S.C. §7202. As such, it enjoys a special status and has been dedicated to specific uses. Section 302 of the Federal Land Policy and Management Act (FLPMA) states that public lands should be managed under the principles of multiple use and sustained yield "except that where a tract of such public land has been dedicated to specific uses according to any other provisions of law it shall be managed in accordance with such law." 43 U.S.C. §1732(a). The purpose of the National Landscape Conservation System is to "conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations." 16 U.S.C. §7202(a). Uses within AKANM may only be allowed to the extent that they are consistent with Proclamation 10533, establishing the Monument, and in a manner that protects the values for which the monument was designated.16 U.S.C. §7202(c)(2).

The proclamation refers to an array of objects of historic and scientific interest and values, including:

- Tribal cultural landscapes, sacred sites, and archeological resources (Avi Kwa Ame, Spirit Mountain, associated songscapes and trails)
- Outstanding scenic, geologic, and natural quiet, dark sky resources
- Wildlife, wildlife habitat and other ecological resources, including Mojave desert tortoise, bighorn sheep, and Joshua tree forest

BLM confirmed and clarified its duties for managing units of the National Landscape Conservation System in Policy Manual 6220, which sets specific guidance for BLM employees concerning the granting of new ROWs through such units. Policy Manual 6220 creates a presumption that the BLM will not approve new rights-of-ways in National Monuments and National Conservation Areas (NCAs), stating, "To the greatest extent possible, subject to applicable law, the BLM should through land use planning and project-level processes and decisions, avoid designation or authorizing use of transportation or utility corridors within Monuments and NCAs." In considering a new ROW application within a unit of the National Conservation Lands, BLM, to the greatest extent possible, "will… determine consistency of the ROW with the Monument or NCA's objects and values" and "consider routing or siting the ROW outside of the Monument or NCA." The DEIS fails to explain how granting the ROWs would be consistent with this direction and improperly fails to consider an alternative that considers routing or siting the ROWs outside AKANM.

BLM, congressional, and judicial practice illustrate the significance of these limitations. For example, in the 2018 Draft EIS for the San Pedro NCA, BLM asserted, "The BLM considered designating ROW corridors along Highways 82, 90, and 92. The BLM's National Landscape Conservation System policy prevents the BLM from designating new corridors in NCAs and national monuments." And in 2014, BLM initiated a Land Use Plan Amendment to the Resource Management Plan to allow new rights-of-way in the Birds of Prey National Conservation Area. However, it ultimately took an act of Congress to legally designate these new ROWs. Furthermore, only a few weeks ago, Congress authorized and the

president signed into law the Sloan Canyon Conservation and Lateral Pipeline Bill[6], which allowed a new ROW through Sloan Canyon NCA. This was completed after BLM appropriately rejected a proposed ROW under the Omnibus Public Land Management Act for the Sloan Canyon NCA[7]. Finally, in the Red Cliffs NCA (Utah) litigation regarding a proposed ROW through that NCA, a federal judge ordered a preliminary injunction finding the Omnibus Public Land Management Act imposes an overriding management mandate[8].

B. Proclamation Compatibility Standard

While the proclamation references new utility and pipeline facilities, it allows for their construction only when "consistent with the proper care and management" of the objects for which the monument was established :

> "Existing flood control, utility, pipeline, telecommunications, and seismic monitoring facilities, and other water infrastructure… may be expanded, and new facilities of such kind may be constructed, to the extent consistent with the proper care and management of the objects identified above and subject to the Secretary's authorities and other applicable law."

Despite the applicant's claims to the contrary, this clause does not create a blanket authorization for new utility infrastructure. Rather, it provides a conditional, case-specific allowance subject to the proclamation's limitation that it can only be permitted if consistent with the proper care and management of the monument's objects of historic and scientific interest. Furthermore, the language applies to existing ROWs as well and there are no current existing ROWs in the Monument.

Any project applicant must therefore demonstrate that the proposed infrastructure will be consistent with the proper care and management of these objects, including with the protection of the objects and proper provisions for scientific and historic research and education. Furthermore, the proclamation demands that in making management decisions, "the Secretary shall take into account, to the maximum extent practicable, maintaining the undeveloped character of the lands within the monument, minimizing impacts from surface disturbing activities, providing appropriate access for hunting and wildlife management, and emphasizing the retention of natural quiet, dark night skies, and visual resources." The DEIS fails altogether to address and evaluate this management direction.

BLM must also thoroughly document the projected impacts to these objects and protected landscape characteristics, and evaluate alternative routing options, in the final EIS. Below, we highlight objects specifically identified in the monument establishment proclamation and explain why the DEIS fails to analyze why the proposed ROWs would be consistent with the proper care and management of the monument objects and the Avi Kwa Ame landscape as a whole. Unlawfully, the BLM does not even analyze an alternative without a ROW through the Monument.

C. Cultural and Spiritual Landscape Objects

"Yuman Tribes tell that creation began at a towering mountain… The Mojave people call this mountain Avi Kwa Ame, or Spirit Mountain."

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[6] Sloan Canyon Conservation and Lateral Pipeline Act, H.R. 972, 119th Congress, 2025. (Attachment 16)
[7] Bureau of Land Management Final Decision- Sloan Canyon ROW, Signed August 19, 2021 (Attachment 17)
[8] Conserve Southwest Utah, et al., v. U.S. Department of the Interior, civil action No. 26-317 (RDM), (D. Nev. March 1, 2026) (order granting preliminary injunction). (Attachment 18)

"The mountain and the surrounding arid valleys and mountain ranges are among the most sacred places for the Mojave, Chemehuevi, and some Southern Paiute people, and are also significant to other Tribal Nations…"

This cultural landscape functions as an interconnected system of origin places, ceremonial sites, and traditional travel routes. BLM fails to evaluate in the DEIS, or even acknowledge, both direct and indirect effects under Section 106 of the National Historic Preservation Act (NHPA), including those affecting setting, feeling, and association.[9] Transmission-line construction requires infrastructure and excavation for poles, anchors, tensioning sites, and new or improved access roads. Section 106 recognizes ground disturbance as a primary pathway for adverse effects to archeological sites.[10] Furthermore, Section 106 explicitly includes "visual, atmospheric, and audible elements" as components of adverse effect.[11] Within Avi Kwa Ame National Monument, placing a prominent overhead line across undeveloped valleys could interrupt the cultural and spiritual continuity between Spirit Mountain and surrounding sacred geography. Given Avi Kwa Ame's status as the place where "creation began" for Yuman-speaking Tribes and its recognition as one of the most sacred cultural landscapes in the Mojave Desert, the proposed transmission line could constitute an adverse effect under NHPA Section 106 and is incompatible with the proclamation's requirement that any new utility facility must be "consistent with the proper care and management of the objects identified above."

D. Historic and Archaeological Objects

"Projectile points and pictographs … groundstone artifacts, milling artifacts, and ancient quarries …"
"Fluted projectile points … some of the earliest stone tool technologies in North America …"
"Rockshelters … pottery fragments as old as 1,500 years … pine nut caches … a trail, and a residential camp."
"Petroglyphs … pictographs … constructed rock walls … quarrying evidence."

The proposed project corridor (underground water line and overhead 69 kV power line with ~100-ft wide ROW, staging areas, construction access) will traverse the landscape that contains these sensitive archaeological and cultural resources. The increased disturbance (trenching, pole installation, repeated access, staging) threatens to damage or degrade lithic scatter, groundstone caches, rockshelters, rock-art panels, quarry contexts, and trails that are heritage resources requiring protection under the proclamation's "historic … objects of interest" language. As a result, the proposed project infrastructure is incompatible with the obligation to ensure their proper care and management within the monument.

E. Geologic Objects, Scenic Features, and Landscape Characteristics

"Rugged geology, which is unlike the rest of southern Nevada…"
"Plutons, intrusive dikes, and other igneous formations… Tertiary period, especially the Miocene epoch."
"Steep cliffs, rolling foothills and bajadas, and arid valleys with limited water."
"Precambrian schist, gneiss, and granite… felsic plutonic rock… dikes and batholiths… geochronology research."

[9] 36 C.F.R. § 800.5(a)(1)-(2)
[10] 36 C.F.R. § 800.5(a)(2)
[11] 36 C.F.R. § 800.5(a)(2)(v)

The proposed overhead 69 kV power line and its accompanying ~100-ft wide long-term right-of-way, access and maintenance roads, and construction activity will traverse these unique geological landforms. Installing infrastructure of this nature risks degrading the visual and scientific integrity of those features.

For example, it is possible that surface disturbance will take place across bajadas and arid valleys with limited water, intrusion into steep foothills, and interference with outcrops of igneous and metamorphic rock that are among the very assets the monument was created to protect. In short, the project is incompatible with the required proper care and management of the geologic objects and landscape characteristics described in the proclamation.

F. Biological and Ecological Objects and Habitats

"Havens for sensitive and threatened species — including the …. Gila monster"
"Stunning, old-growth Joshua tree forest… trees up to 800 years old… Nevada's largest known Joshua tree… 'Joshua Tree Highway'."

In the very same landscape within the National Monument lies the Wee Thump Joshua Tree Wilderness, described by the BLM as one of the most impressive stands of large, old Joshua trees in Nevada, with individuals more than 900 years old. The Applicant's proposal to install an overhead power line and associated corridor immediately adjacent to or near this old-growth stand is fundamentally inconsistent with the protection of this old-growth Joshua tree forest and associated habitat as objects of historic and scientific interest. Old-growth Joshua tree woodlands are rare, slow-growing, and sensitive to disturbance.[12] The DEIS identifies acres of disturbance but not the impacts to resources, including the number of Joshua Trees that will be removed. The insertion of a prominent utility corridor will degrade the scenic continuity of the woodland, increase edge effects, introduce maintenance traffic, and undermine the "undeveloped character" of the forest that the proclamation implicitly prioritizes. In short, the proposed power line is incompatible with the proper care and management of the old-growth Joshua tree forests of the monument.

"Creosote-bursage scrub… shadscale scrub… blackbrush… piñon-juniper woodland… riparian pockets with catclaw acacia, honey mesquite, sweetbush; cottonwood and canyon grape in wet areas."; "yellow two-tone penstemon… white-margined penstemon… rare bryophytes… biological soil crusts."

The proposed power line corridor would cut directly through habitat known to support the rare white-margined penstemon (*Penstemon albomarginatus*), a species endemic to the Mojave Desert whose survival depends on specific sandy and loamy soils and undisturbed desert terrain.19 Additionally, the landscape supports biological soil crusts which are essential for stabilizing soils, retaining moisture, and facilitating seed germination of desert flora.[13] Disturbance of these crusts (via construction, trenching, grading, maintenance roads) degrades soil habitat and thus threatens not only these crusts themselves, but the very plant communities that rely on them. Because the monument proclamation explicitly references 'rare bryophytes… biological soil crusts' and the rare penstemons, the disturbance necessary to introduce a wide, long-term overhead utility corridor is incompatible with the proper care and management of these ecological and botanical objects.

"Nelson (desert) bighorn sheep" corridors

[12] U.S. Bureau of Land Management, *Wee Thump Joshua Tree Wilderness Fact Sheet*, Southern Nevada District Office. (Attachment 19)
[13] Bi, Y., P. Carpenter, R. Pinassi & S. Potenciano, Mojave Desert biological soil crusts promote grass seed (Attachment 20)

Jahner et al. (2018) found that population fragmentation due to barriers (natural and anthropogenic) can affect genetic diversity in desert bighorn sheep.[14] Additionally, Bartzke et al. (2014) found that power lines can have numerous negative effects on ungulates, including noise, electromagnetic interference, and visual distraction.[15]

The monument proclamation identifies corridors and habitat connectivity for desert bighorn sheep. The above studies show that linear infrastructure (highways, barriers) can reduce passage rates, fragment populations, reduce gene flow, and increase mortality or isolation of bighorn sheep populations. The proposed overhead power line and access roads (≈ 16.2 miles long, with a 100-ft wide ROW and maintenance traffic) would introduce a new linear feature across desert terrain. Even if it does not carry heavy traffic like a highway, the presence of poles, disturbed vegetation, access routes, and maintenance corridors creates a barrier or disturbance corridor analogous to those studied in bighorn research and ungulate studies more broadly. Based on the literature, such infrastructure could reduce connectivity or discourage crossing, in turn undermining the "corridors" and connectivity functions identified in the monument proclamation.

"An incredible array of bat species (including 18 BLM at-risk species)"; raptors (ferruginous hawk, bald and golden eagles, burrowing owl, peregrine falcon); "Phainopepla… gilded flicker (Nevada's only known sightings)."

Froidevaux et al. (2023) found that "power line avoidance by bats could result in large-scale loss, alteration and fragmentation of foraging habitat, as observed with other anthropogenic structures", especially in more arid areas like the Mojave desert.[16] Additionally, the Biodiversity and Infrastructure handbook states "Bats can be also negatively affected by the presence of powerlines, especially due to the lack of vegetation around poles supporting the powerline."[17]

Based on the above studies, it is likely that power line infrastructure could alter bat movement corridors or foraging pathways due to the right-of-way clearing or edge creation while also introducing lighting, electromagnetic fields, poles and wires that could disturb nocturnal flight, roost proximity or navigation. Because bat species are specifically mentioned as protected objects of scientific interest of the monument, these risks mean the proposed line is directly in conflict with the monument's objective of protecting those bat species as "objects … of scientific interest."

Slater et al. (2020) highlights that overhead lines cause mortality in raptors (eagles, etc.), including having caused "at least 21 Bald Eagle mortalities" from collisions, while also calling attention to raptor-specific risks from transmission lines.[18] More broadly, studies have found that collisions from powerlines can

[14] J.P. Jahner et al., The Genetic Legacy of 50 Years of Desert Bighorn Sheep (Ovis canadensis nelsoni) Trans Micromorphology and Pedogenesis, 67 Soil Sci. Soc'y Am. J. 829 (2013) (Attachment 21)
[15] S. Bartzke, M. May, A. Solberg, & J. Røskaft, The Effects of Power Lines on Ungulates and Implications for Conservation and Restoration, 6 Int'l J. Biodiversity & Conservation 647 (2014) (Attachment 22)
[16] Jérémy S.P. Froidevaux, Gareth Jones, Christian Kerbiriou & Kirsty J. Park, Acoustic Activity of Bats at Power Lines Correlates with Relative Humidity: A Potential Role for Corona Discharges, 290 Proc. Biol. Sci. 1995 (2023) (Attachment 23)
[17] "Measures to Reduce Risks Caused by Powerlines," in Biodiversity & Infrastructure Handbook, European Platform on Biodiversity in Transport Infrastructure, Oct. 2023. (Attachment 24)
[18] Steven J. Slater, James F. Dwyer & Megan Murgatroyd, Conservation Letter: Raptors and Overhead Electrical Systems, 54 J. Raptor Res. 198 (2020) (Attachment 25)

have significant "significant population-level impacts" and even cause alterations in migratory patterns and flyways.[19]

The proposed overhead power line (poles up to 52-70 ft tall, ~300 ft spacing, guy wires, maintenance roads/trucks) creates collision risks, electrocution and perching hazards, reduced prey availability, changes to foraging behavior, and declining quality of foraging habitat for sensitive birds. Because the raptors and the special-interest birds like the gilded flicker are explicitly named as part of the monument's biological objects, the proposed linear infrastructure would undercut these objects and associated habitats and thus conflict with the monument's management mandate.

"The Piute and Eldorado Valleys… have long been recognized as the highest priority for desert tortoise habitat conservation and restoration in southern Nevada… critical to scientific studies." and "Havens for sensitive and threatened species — including the Mojave desert tortoise…"

In a GPS-telemetry study of Mojave desert tortoises, Hromada et al. (2023) found that tortoises "made longer movements … near most dirt roads, and near a low-traffic paved road, indicating that tortoises avoid these habitat disturbances."[20] These results show that even linear features that may seem minimal (such as dirt roads) can disrupt tortoise habitat-use and movement behavior.
Populations of ravens have expanded across desert ecosystems, posing an increasing threat to desert tortoises.[21] Additionally, linear infrastructure also contributes to enhanced predation risk via increased access for the common raven. The Edwards Airforce Base Raven Ecology Report found that "raven populations supported by human activities in the West Mojave Desert may inhibit recovery of desert tortoise populations" and that "the impacts of … Common Ravens on desert tortoises can be considered an indirect effect of human developments in the desert."[22] Given that studies have found that raven populations increase within the presence of power lines, the desert tortoise would be exposed to significant predation threats.[23]
Because the monument proclamation identifies the Mojave desert tortoise as a species of special concern in the landscape, these science-based impacts show that the proposed linear infrastructure is inconsistent with the "proper care and management of the objects identified above." In other words, the project would pose unacceptable risks to a key biological object identified in the monument proclamation.

G. Recreation and Public Use and Landscape Characteristics

"World-class outdoor recreation opportunities, including hiking, camping, birdwatching, motorized touring, stargazing, hunting, and pursuing amateur geology, all of which support a growing travel and tourism economy in the region."

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[19] Bernardino, J., Bevanger, K., Barrientos, R., Dwyer, J. F., Marques, A. T., Martins, R. C., Shaw, J. M., Silva, J. P., & Moreira, F. Bird collisions with power lines: State of the art and priority areas for research, 222 Biol. Conserv. 1 (2018). (Attachment 26)
[20] Hromada, Steven J., Todd C. Esque, Amy G. Vandergast, K. Kristina Drake, Felicia Chen, Ben Gottsacker, Jordan Swart & Kenneth E. Nussear, Linear and Landscape Disturbances Alter Mojave Desert Tortoise Movement Behavior, 11 Front. Ecol. Evol. 971337 (2023) (Attachment 27)
[21] U.S. Fish and Wildlife Service (U.S. Fish & Wildlife Service), Raven Management in the Mojave and Colorado Deserts (Attachment 28)
[22] W. I. Boarman et al., Raven Ecology in the Mojave Desert at Edwards Air Force Base: Final Report, U.S. Geological Survey, Western Ecological Research Center, Sacramento, California (2006) p.200 (Attachment 29)
[23] P.S. Coates, K.B. Howe, M.L. Casazza & D.J. Delehanty, Common raven occurrence in relation to energy transmission line corridors transiting human-altered sagebrush steppe, 111 J. Arid Environments 68 (2014) (Attachment 30)

The DEIS fails to analyze the impacts of a prominent utility corridor on the visitor experience tied to natural quiet, dark skies, and viewsheds, which the proclamation emphasizes for the protection of resources within the monument and tourism local economic benefit. Peer-reviewed research affirms that overhead transmission infrastructure diminishes the quality of remote natural landscapes. For example, Stefánsson et al. (2017) found that tourists regarded transmission lines as among the "least desirable" features in wild landscapes where tourism depends on pristine wilderness conditions.[24] Furthermore, night-sky studies have found how artificial lighting and structure intrusion degrade star-viewing experiences in parks, which is explicitly named in the proclamation as a significant characteristic of the monument landscape.[25]

Together, these studies confirm that a utility corridor with recurring operations and maintenance presence in this landscape would reduce visitor satisfaction, erode the region's dark-sky tourism potential, and compromise scenic and acoustic integrity. Since the proclamation mandates preserving the area's "natural quiet, dark night skies, and visual resources," approval of the power line would conflict with those management objectives outlined in the proclamation.

The Avi Kwa Ame National Monument proclamation establishes a narrowly tailored standard for conservation and management: new utility infrastructure may only be permitted if it is consistent with the proper care and management of the protected objects. The DEIS fails to even examine whether it would or would not be consistent. The CMV 69 kV power line's sole purpose is to serve an industrial mine outside of the Monument. BLM must not approve the proposed ROWs through the Avi Kwa Ame National Monument.

VIII. Analysis of Impacts to BLM Conservation Lands in California is Inadequate

A. The Federal Land Policy and Management Act Requires BLM to Protect Areas of Critical Environmental Concern

The Federal Land Policy and Management Act of 1976 (FLPMA) requires BLM to "give priority to the designation and protection of areas of critical environmental concern [ACECs]." 43 U.S.C. § 1712(c)(3) [Emphasis added]. ACECs are areas "where special management is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes." 43 U.S.C. § 1702(a).

Under FLPMA, BLM must develop land use plans for the public lands under its control, 43 U.S.C. § 1712, and all resource management decisions must be in accordance with those plans. Id. § 1732(a), 43 C.F.R. § 1610.5-

[24] Þorkell Stefánsson, Anna Dóra Sæþórsdóttir & C. Michael Hall, *When Tourists Meet Transmission Lines: The Effects of Electric Transmission Lines on Tourism in Iceland*, 34 Energy Res. & Soc. Sci. 82 (2017). (Attachment 31)

[25] Frank Turina, *Protecting Night Skies and Naturally Dark Conditions in National Parks*, in *Visual Resource Stewardship Conference Proceedings, GTR-NRS-P-183* 186 (USDA Forest Service Natural Resources Research Institute ed., 2019). (Attachment 32)

3(a). See Norton v. S. Utah Wilderness Alliance, 542 U.S. 55, 69 (2004) (this requirement "prevent[s] BLM from taking actions inconsistent with the provisions of a land use plan"); Ore. Natural Res. Council v. Brong, 492 F.3d 1120, 1128 (9th Cir. 2007) (holding BLM decision is "inconsistent with the [Land Use] Plan and, consequently, violate FLPMA"); W. Watersheds Project v. Salazar, 843 F.Supp.2d 1105, 1114 (D. Id., 2012) (reversing BLM decisions as inconsistent with land use plans); W. Watersheds Project v. Bennett, 392 F.Supp.2d 1217, 1227 (D. Id., 2005) (same).

If a proposed action is not clearly consistent with the land use plan, the BLM must either rescind the proposed action or amend the plan, in compliance with NEPA and allowing for public participation. See 43 C.F.R. §§ 1610.5-3, 1610.5-5. See also National Parks and Conservation Ass'n v. FAA, 998 F.2d 1523, 1526 (10th Cir. 1993) (nonconforming land use required RMP amendment). The Interior Board of Land Appeals recognizes that this "consistency" requirement reflects the mandatory duty to fully and strictly comply with the governing land management plans. See, e.g., Jenott Mining Corp., 134 IBLA 191, 194 (1995); Uintah Mountain Club, 112 IBLA 287, 291 (1990); Marvin Hutchings v. BLM, 116 IBLA 55, 62 (1990); Southern Utah Wilderness Alliance, 111 IBLA 207, 210-211 (1989).

Courts have applied this "consistency" requirement to mining plans of operations and required that plans of operations adhere to the mandatory requirements of governing land use plans. Mineral Policy Center v. Norton, 292 F.Supp.2d 30, 49 (D.D.C., 2003).

a. Disturbance Caps Assist BLM with Meeting its FLPMA Obligations to Protect Areas of Critical Environmental Concern in California

Two Areas of Critical Environmental Concern (ACEC) located in California will be impacted by the proposed Castle Mountain Mine Phase II Expansion Project: Castle Mountains and Ivanpah. BLM's management of these ACECs is dictated by the California Desert Conservation Area (CDCA) Plan and all amendments thereto, including the 2016 Desert Renewable Energy and Conservation Plan (DRECP).

The DEIS acknowledges that the proposed rights-of-way (ROWs) will result in ground disturbance within both the Castle Mountains and Ivanpah ACECs. The DEIS states, "The Proposed Action would result in approximately 2 acres of short-term disturbance and 1 acre of long-term disturbance within the Castle Mountains ACEC," and "The Proposed Action would result in approximately 16 acres of short-term disturbance and 7 acres of long-term disturbance within the Ivanpah ACEC," at 97.

The DEIS' statement that there will be three (3) acres of disturbance to the Castle Mountains ACEC may seem de minimis at first glance. However, the ACEC consists of 3,270 BLM acres, which means that the proposed disturbance, alone, is almost 1/10th of the ACEC's disturbance cap.

The DRECP LUPA states that the calculation of the existing ground disturbance shall include existing ground disturbance in addition to the estimated ground disturbance from the proposed activity (future) determined at the time of the individual proposal for:

- Authorized/approved ground disturbing activities – built and not yet built
- BLM identified routes – all routes, trails, etc., authorized and unauthorized, identified in the Ground Transportation Linear Feature (GTLF) and/or other BLM route network database (i.e., BLM local databases that contain the best available data on routes and trails, replacement for GTLF, etc.), following applicable BLM standards and policy for identification of routes (authorized and unauthorized)
- Known and documented patterns of ground disturbance

- Other documented site-specific factors that limit or play a role in ground disturbance, such as topography, geography, hydrology (e.g. desert washes obliterating authorized routes on a regular basis), historical and predicted patterns of use
- Any unauthorized disturbance that can be seen at a 1:10,000 scale using the best available aerial imagery

- Ground disturbance from wildfire, animals, or other disturbances that can be seen at a 1:10,000 scale using the best available aerial imagery.

(DRECP LUPA at 32)

As a quick side note, ground disturbance, especially on fragile desert land, is not "short-term". Once the ground is disturbed, it remains that way, even after "reclamation". In fact, the very act of reclamation also creates ground disturbance. In addition, the DRECP does not make any distinction between "long-term" and "short-term" disturbance. The project proponent's attempt to make such a distinction is not based in reality or in the applicable BLM land use plan.

b. BLM Must Require Ground Disturbance Calculations for Castle Mountains and Ivanpah ACECs

Despite the project proponent's proposed ground disturbance in two ACECs within the DRECP planning area, the DEIS does not provide a baseline ground disturbance calculation, as required by the DRECP. The DRECP LUPA states:

> *Ground disturbance will be calculated on BLM managed land at the time of an individual proposal, by BLM for a BLM initiated action or by a third party for an activity needing BLM approval or authorization, for analysis in the activity-specific National Environmental Policy Act (NEPA) document. Once BLM approves/accepts or conducts a calculation for a California Desert National Conservation Lands and/or ACEC, that calculation is considered the baseline of past and present disturbance and is valid for 12 months … at 31. [Emphasis added.]*

The DEIS fails to mention if a baseline ground disturbance was calculated for Castle Mountains or Ivanpah ACECs for this project or in the 12 months prior to the proposed DEIS being released, and if so, what the calculations are for each ACEC.

If a baseline has never been calculated, BLM must make that determination so that it can adequately analyze if the disturbance cap for each ACEC has already been met and whether the proposed disturbance will cause either of the ACECs to reach or exceed its disturbance cap. This would require BLM to prepare a Supplemental DEIS that addresses this deficiency.

c. The DEIS Conflates ACEC Disturbance Caps and Mitigation

The DEIS incorrectly states that the Ivanpah ACEC "may be subject to disturbance caps and associated mitigation established under the DRECP and the Consolidated CDCA Plan," at 97. The 32,020-acre portion of the Ivanpah ACEC in which the ROWs are being proposed is, in fact, subject to a disturbance cap, which is 0.1 percent. DRECP LUPA, Appendix B at 268. 0.1 percent of 32,020 is only 3.2 acres. Despite the fact that the DEIS does not provide a disturbance cap baseline calculation (which it was required to provide), it is clear that the proposed disturbance of 23 acres would put the ground disturbance well over the cap and thus trigger the associated mitigation.

The Castle Mountain ACEC is subject to a 1 percent disturbance cap, despite the fact that the DEIS fails to mention this fact. DRECP LUPA, Appendix B at 621. However, the DEIS does state, at page 97, that, "[M]itigation may be required for portions of the ROWs within the Castle Mountain ACEC," which is an apparent acknowledgment that a DRECP disturbance cap is applicable.

The DRECP LUPA explains the difference between a disturbance cap and the potential associated mitigation. It states that the ground disturbance cap is to be implemented as follows:

> *Limitation: If the ground disturbance condition of the California Desert National Conservation Lands and/or ACEC is below the designated ground disturbance cap … the ground disturbance cap is a limitation on ground disturbing activities within the California Desert National Conservation Lands and/or ACEC, and precludes approval of future discretionary ground disturbing activities … above the cap.*
>
> *Objective, triggering disturbance mitigation: If the ground disturbance condition of the California Desert National Conservation Lands and/or ACEC is at or above its designated cap, the cap functions as an objective, triggering the specific ground disturbance mitigation requirement. Ground disturbance mitigation is unique to ground disturbance cap implementation and a discrete form of compensatory mitigation, separate from other required mitigation in the DRECP LUPA …. The ground disturbance mitigation requirement remains in effect for all … activities until which time the California Desert National Conservation Lands and/or ACEC drops below the cap, at which time the cap becomes a limitation and the ground disturbance mitigation is no longer a requirement.*
>
> (DRECP LUPA at 30)

It is clear that the DRECP ACEC disturbance caps of 1 percent (Castle Mountains) and 0.1 percent (Ivanpah) apply to the ACECs in which the project proponent has proposed ROWs, and as such, as part of this DEIS, must cause ground disturbance calculations to be prepared for each ACEC, in accordance with DRECP requirements, so that BLM can determine disturbance cap mitigation that would be triggered by the proposed ROWs within the California ACECs.

d. The DEIS Does Not Address Applicable Conservation and Management Actions for the ACECs in California

As is noted in the DEIS, BLM's requisite management of the Castle Mountains and Ivanpah ACECs is set forth in Conservation and Management Actions (CMAs) in the DRECP. The DEIS briefly mentions that CMAs exist but does not specifically address the applicable CMAs or how or why the project proposal should be approved in its present form, given the applicability of those CMAs.

1. Castle Mountains ACEC

The overarching goals for BLM's management of the 3,270-acre Castle Mountain ACEC are as follows:

> Protect biological values, including habitat quality, populations of sensitive species sensitive natural communities, and landscape connectivity while providing for compatible public uses. Conserve cultural values, especially obsidian source sites.

> Where the CMAs in this Special Management Plan conflict with the CMAs included the LUPA, the more restrictive CMA would be applied (i.e. management that best supports resource conservation and limits impacts to the values for which the conservation unit was designated), unless otherwise specified.
>
> (DRECP LUPA, Appendix B at 621)

In addition, the ROW CMA for the Castle Mountains ACEC states:

> Objective: Protect resource values of the ACEC
>
> Management Action: Land use authorization proposals (new, renewal, and amendment) will be analyzed on a case-by-case basis to assess whether they are compatible with the ACEC and its management goals.
>
> (DRECP LUPA, Appendix B at 623)

Based on the foregoing, BLM should not authorize the proposed utility line or water pipeline ROWs within the Castle Mountain ACEC even if the ACEC's 1 percent disturbance has not been met. The ROWs, which the project proponent claims will be a maximum of 100 feet wide within and/or along Walking Box Ranch Road (the DEIS and attached maps do not make the exact locations clear), are still at least five (5) times the existing width of Walking Box Ranch Road. The ROWs are not compatible with the ACEC or its management goals of protecting biological values, including habitat quality, populations of sensitive species, sensitive natural communities, and landscape connectivity, and conserving cultural values. Rather, the proposed ROWs will impair habitat quality and landscape connectivity and desecrate cultural values.

2. Ivanpah ACEC

As noted above, the relevant disturbance cap for the 32,020-acre portion of the Ivanpah ACEC in which the ROWs are being proposed is 0.1 percent. The overarching goals for BLM's management of the Ivanpah ACEC are as follows:

> Manage area in accordance with the Desert Tortoise Recovery Plan. Protect biological values, including habitat quality, populations of sensitive species, and landscape connectivity while providing for compatible public uses. Provide protection and special management attention for sensitive cultural resources that will enhance their status and condition while providing for uses that are compatible with the protection and enhancement of sensitive resources.
>
> Where the CMAs in this Special Management Plan conflict with the CMAs included the LUPA, the more restrictive CMA would be applied (i.e. management that best supports resource conservation and limits impacts to the values for which the conservation unit was designated), unless otherwise specified.
>
> Portions of this area are included in the California Desert National Conservation Lands. The BLM will manage this area to protect the Nationally Significant Values above. Appropriate multiple uses will be allowed, consistent with this Special Unit Management Plan and the CMAs in the LUPA. If an activity is not specifically covered by the CMAs,

> it will be allowed if it is consistent with the Nationally Significant Values, but prohibited if the uses conflict with those values.
>
> (DRECP LUPA, Appendix B at 267-8)

The Nationally Significant Values of the California Desert National Conservation Lands that overlap the Ivanpah ACEC are as follows:

> The Ivanpah Valley is a dry lake valley with Creosote shrub dominating the landscape. It is a highly rich ecosystem with a high density of Desert tortoise (Gopherus agassizii) The 2002 Northern and Eastern Mojave Desert plan designated the original Ivanpah Valley Tortoise Management Area which provides Desert tortoise habitat and encompassed designated desert tortoise critical habitat. This area provides critical tortoise habitat linkage between the Mojave National Preserve and land managed by the Las Vegas BLM Field Office.
>
> Ecological: The area provide habitat and supports important populations of several BLM sensitive plants, including San Bernardino milk-vetch (Astragalus bernardinus), polished blazing star (Mentzelia polita), and Rusby's desert-mallow (Sphaeralcea rusbyi var. eremicola). The area provided habitat and supports regionally important populations of desert bighorn sheep, desert tortoise, American badger, and Bendire's thrasher.
>
> Cultural: The shoreline of Ivanpah Dry Lake was heavily used by native American tribes and contains extensive evidence of prehistoric aboriginal occupation spanning over a period of 4000 years.
>
> Scientific: The area has outstanding research opportunities related to desert tortoise, species adaptations to arid environments, "island mountain" ecosystems, climate change, and ethnographic studies.
>
> (DRECP LUPA, Appendix B at 267)

In addition, the ROW CMA for the Ivanpah ACEC states:

> Objective: Protect resource values of the ACEC
>
> Management Action: Land use authorization proposals (new, renewal, and amendment) will be analyzed on a case-by-case basis to assess whether they are compatible with the ACEC and its management goals.
>
> (DRECP LUPA, Appendix B at 271)

Based on the foregoing, BLM should not authorize the proposed utility line or water pipeline ROWs within the Ivanpah ACEC (or overlapping California Desert National Conservation Lands), even if the relevant portion of the ACEC's 0.1 percent disturbance has not been met. The ROWs, which the project proponent claims will be a maximum of 100 feet wide within and/or along Nipton Road (the DEIS and attached maps do not make the exact locations clear), are still about four (4) times the existing width of Nipton Road, which is a standard two-lane rural highway with an overall paved width of approximately 24-28 feet wide.

> The proposed ROWs conflict with the Nationally Significant Values of the California Desert National Conservation Lands that overlap the ACEC where the proposed ROWs would be. The ROWs would be destructive to the designated desert tortoise critical habit as well as to the continued viability of the relatively dense population of desert tortoise in this ACEC as well as their scientific study. The proposed ROWs would also conflict with the protection of habitat for important populations of several BLM sensitive plants.
>
> The proposed ROWs are also not compatible with the ACEC or its management goals of protecting the desert tortoise and its designated critical habitat and habitat for BLM sensitive plants. Rather, the proposed ROWs will impair habitat quality and landscape connectivity and would have negative impacts on nearby cultural values.

B. BLM Must Uphold Castle Mountain ERMA Management Objectives as Outlined in the DRECP

The entirety of the Castle Mountain Mine project area is located within the Castle Mountain Mine Extensive Recreation Management Area (ERMA). The DRECP states that the objective of this ERMA is to "Manage for outstanding views and dispersed recreational use," DRECP Appendix C at 196. In addition, the DRECP requires BLM to manage the ERMA as VRM Class II. Id at 197.

Through the DRECP LUPA process, BLM inventoried and designated VRM Classes to all BLM-managed public lands in the CDCA. The DRECP LUPA defines VRM Class II as follows:

> The objective of this class is to retain the existing character of the landscape. **The level of change to the characteristic landscape should be low**. Management activities and uses can be seen, but should not attract the attention of the casual observer. **Any changes must repeat the basic elements of form, line, color, and texture in the predominant natural features of the characteristic landscape, at 88.**

These objectives are relevant both to the operations phase of the proposed mine expansion and the long-term reclamation plan which should include backfill of all pits, recontouring, and revegetation. The proposal to "Creat[e] an open pit lake, which will remain as a permanent land feature," Notice of Preparation of a Draft EIS/EIR and Scoping Meeting, San Bernardino County (Oct. 17, 2025) at 3, would permanently change the visual landscape. The reclamation plan must require that there are no permanent large-scale changes to this protected landscape, including the creation of an open pit lake that would cause both "unnecessary or undue degradation of the lands," 43 U.S.C. §1732(b), and "undue impairment", 43 U.S.C. § 1781(f), and violate both FLPMA and the DRECP ERMA CMAs.

Given that the existing land use plan requires BLM to manage the entirety of the ERMA, and thus the entirety of the Mine project area, to protect its "outstanding" visual resources in a manner that limits the level of change to "low" with all changes "repeating the elements and texture" found in the landscape's predominant natural features, BLM should carefully analyze the proposed mining operations, and in particular, the proposed additional 1,800 acres of BLM-managed lands that would be disturbed with this proposed expansion, to ensure that any changes are not beyond the level of "low". Given that the proponent has stated its intent to quadruple the annual mining rate, which will involve the realignment of two roads and the installation of a water pipeline, among other things, the proposed level of change is likely to be more than "low".

BLM's second management objective for the Castle Mountain ERMA is to manage the area for "dispersed recreational use." DRECP Appendix C at 196. The DRECP states that activities in the ERMA

include, “Back Country Touring, Equestrians, Hunting, Photography, Star gazing, Camping, Hiking, Permitted commercial and organized events” and that the experience(s) that the BLM needs to manage the ERMA for is, “Enjoyment of Horseback Riding.” Id.

It does not seem possible for BLM to manage the area for the enjoyment of horseback riding while simultaneously allowing the Mine to quadruple its annual mining rate, which includes a proposal to increase the crushing rate from 6.25 million tons per year to 19 million tons per year (i.e., 52,000 tons per day). This dramatic increase in vehicle traffic and noise (undoubtedly, primarily large, heavy trucks), and the constant ear-piercing reverberations from non-stop crushing and other mining activities will make horseback riding virtually impossible, given that it is a well-known fact that horses are easily frightened by loud noises and strong vibrations. Most of the other dispersed recreational activities that BLM must manage the area for, especially stargazing, would also be dramatically impacted, likely forcing recreationists who enjoy visiting the area, including history buffs who want to explore the historic Hart Mine, to go elsewhere to find the experience that they had previously been afforded by the Castle Mountain ERMA.

The BLM must also meet its duty to manage visual resources, by the application of specific management prescriptions and mitigation measures in the Draft Environmental Impact Statement (DEIS) to manage the area as VRM Class II and protect this important resource. Some examples of ways to manage visual resources (other than dark night skies) would include requiring:

- Siting of facilities and equipment away from visually prominent landscape features
- Siting of facilities and equipment in previously developed or disturbed landscapes
- Requiring that site and design of facilities repeat the form, line, color, and texture of the existing landscape
- Minimizing the number of facility structures
- Avoiding the siting of linear features in the centers of valley bottoms and on ridgetops
- Requiring the siting of linear features along natural lines within the landscape
- Avoiding siting or realigning roads on side slopes
- Siting facility components to minimize cut and fill
- Minimizing use of signs and making signs visually unobtrusive
- Using rounded road cut slopes
- Implementing dust and erosion control measures

IX. Tailings and Subsequent Impacts Are Not Fully Addressed

A. It is unclear whether or not the proposed project will include a filtered tailings facility.

It is unclear whether or not the proposed mine expansion project will include a mill and filtered tailings facility. Tailings are the waste materials from mining that consist of crushed rock, water, metals, and processing additives such as cyanide. Conventional tailings are a wet slurry of waste stored behind earthen dams. Filtered tailings, also sometimes called “dry-stack” tailings, involve reducing water content from tailings through mill processing. The result is tailings like a moist soil that can be stacked and

compacted. Filtered tailings, though not without risk, are considered industry best practice because they minimize the risk of tailings dam failures.[26]

The 2021 Technical Report on the Feasibility Study, which is published as EIR Appendix 8, includes plans for a filtered tailings facility.[27] However, the 2022 Mine Plan and Reclamation Plan Amendment September 2025 Revision (MPO) being considered by BLM and the County appears to have been revised to eliminate the filtered tailings facility. Instead, the MPO proposes continuing to use a comminution plant with pulp agglomeration, and then conveying waste to be stored permanently on the heap leach pad, without needing a tailings impoundment (MPO at 4-1). There is no description, analysis of impacts, alternatives or mitigation measures related to a filtered tailings facility in the DEIS or DEIR.

In the attached technical expert memo, Emerman notes that it is possible that the Mine Plan of Operations may have changed substantially since the technical report, but no explanation of this is provided in the DEIR.[28] In fact, EIR Appendix 8 is cited multiple times in the DEIR as the basis for impact assessment methodology related to geology and soils (DEIR at 4.7-13), hydrology and water quality (DEIR at 4.10-14). It is also cited to support findings that mine waste is not expected to affect surface or groundwater quality (DEIR at 4.14-5) and that the project will comply with all federal, state, and local statutes and regulations related to solid waste (DEIR at 4.14-28).

An accurate, stable, and finite project description remains the *sine qua non* of an informative and legally sufficient EIR. (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.) But here the DEIS and DEIR's project description lacks clarity and falls short of accurately describing this aspect of the proposed project. The DEIR's project description therefore violates CEQA because it creates "conflicting signals to decision makers and the public about the nature and scope of the project." (*Washoe Meadows Community v. Department of Parks & Recreation* (2017) 17 Cal.App.5th 277, 287.)

B. The DEIS/DEIR fails to analyze and mitigate significant impacts from tailings, including risk of collapse of the heap leach facility, and discharge of hazardous materials during storm events.

Tailings produced from the Castle Mountain Mine Phase II Expansion Project, and stored permanently at the site, will have significant environmental impacts and safety risks that have not been analyzed in the DEIS/DEIR.

If the filtered tailings facility has indeed been eliminated from the project, it appears that CMV is instead proposing to store tailings (referred to as spent ore) in perpetuity on the heap leach pad. According to the

[26] Morrill, J., Chambers, D., Emerman, S., Harkinson, R., Kneen, J., Lapointe, U., Maest, A., Milanez, B., Personius, P., Sampat, P., and Turgeon, R. (2022), Safety First: Guidelines for Responsible Mine Tailings Management, Earthworks, MiningWatch Canada and London Mining Network (Attachment 33)
[27] M3 Engineering & Technology Corporation (M3). 2021. *Technical Report on the Castle Mountain Project Feasibility Study*. Appendix 8 to the EIR. (Attachment 34)

[28] Emerman 2026 p. 7

MPO, to accommodate the mine expansion, the heap leach pad will roughly double in size and height, from 430 acres to 841 acres, and from 150 feet tall to 300 feet tall. It will accommodate up to 332 million tons of ore. CMV states that this project does not need a "tailings impoundment" (MPO at 4-1). Furthermore, CMV states that it is a signatory to the Towards Sustainable Mining Initiative (TSM) which includes tailings management protocols, but states these are "not applicable at CMM" (MPO at 8-6). However, as Emerman finds in the attached expert memo, "the spent ore that is left on the pad of a heap leach facility completely fulfills every definition of mine tailings." (Emerman 2026 p. 5.) As such, the MPO, EIR, and EIS must be revised to define the spent ore left on the heap leach as tailings, and regulatory and industry standards must be applied.

CMV's proposal to store tailings permanently on the heap leach facility carries risk of collapse, which could injure or kill workers, and lead to pollution of soil, surface, and groundwater. Neither the DEIR nor DEIS have analyzed the risk of heap leach collapse, proposed alternatives to avoid that risk, or included mitigation measures to reduce that risk. Emerman finds that "If the heap leach facility were regarded as a tailings storage facility, an analysis of the consequences of failure would be mandatory under nearly any tailings regulations or guidance document" (Emerman 2026 p. 6). As such, the EIR/EIS must be revised to analyze the consequences of heap leach failure. The EIR/EIS must analyze alternatives that would avoid this risk, such as building a separate filtered tailings facility as originally contemplated in the feasibility study, and backfilling the pits with tailings (spent ore) from the heap leach, instead of the current proposal to backfill only with waste rock from the overburden piles. As discussed in detail previously in these comments, the project must fully backfill all pits in accordance with California statute and regulations, and the revised EIR/EIS should analyze the environmental risks and benefits of backfilling with spent ore from the heap leach.

Storing tailings in perpetuity on the heap leach pad may also cause discharge of hazardous materials, such as cyanide solution or metals present in the spent ore, into surface and groundwater during storm events. The DEIS states that diversion structures would re-route ephemeral drainage to minimize impacts on natural drainages, and that Best Management Practices and a Stormwater Pollution Prevention Plan would be implemented to prevent accidental release of hazardous materials (DEIS at 125). The DEIS states: "Stormwater that falls on lined areas would be directed to emergency storage and stormwater basins, which are sized to handle a 100-year, 24-hour storm event" (DEIS at 125). However, Emerman finds that if the heap leach facility were defined as a tailings facility, as it should be, this design does not meet regulatory and industry standards. Instead, at a minimum, the heap leach facility should be designed to withstand a 200-year storm event during operation, and a 10,000-year storm event after closure. (Emerman 2026 p. 6-7.)

C. DEIR findings of less than significant impacts related to the heap leach facility are not based on substantial evidence

This fundamental flaw in the heap leach facility design leads to several faulty findings in the DEIR. The DEIR finds that the project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones (Impact Hyd-4 is less than significant, EIR at 4.10-21). However, there is no discussion of potential impacts from heap leach collapse. Furthermore, the analysis is based on the inadequate modeling of a 24-hour, 100-year storm event. As such, this finding is not based on substantial

evidence and must be revised. Updating this model is especially important, taking into account climate change impacts that may lead to more frequent large storms in the region, such as from Hurricane Hilary in 2023.

Likewise, the DEIR finds that the project will not result in cumulatively considerable impacts related to hydrology and water quality (Impact Hyd-6 is less than significant, DEIR at 4.10-23). The DEIR bases this finding on the fact that no special flood areas are present in the project area, and that the project will implement Best Management Practices (BMP) to prevent hazardous releases into stormwater, such as the heap leach pad sited on gentle slopes to reduce impacts on natural drainage and flood plains (DEIR at 4.10-24). However, the heap leach pad has been designed only to accommodate stormwater from a 100-year event, which does not meet regulatory or industry standards. As such, this finding is not based on substantial evidence and must be revised.

The DEIR also finds that the project would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (Less than significant Impact for GE-6 – Collapse, DEIR 4.7-18). In justifying this finding, the DEIR cites the 2021 Technical Report on the Castle Mountain Project Feasibility Study, Appendix 8 which incorporated design plan measures to reduce stress to unstable soil conditions and "reduce the potential for lateral spreading" of the heap leach pad (DEIR at 4.7-18). However, the cited Technical report is based on the likely outdated assumption that a portion of the tailings would be stored in a separate filtered tailings facility rather than on the heap leach. As such, this finding of less than significant impact is not based on substantial evidence because it cites outdated and factually incorrect and conflicting information in the documents that must be revised. Any analysis of potential collapse of the heap leach facility must be based on an accurate understanding of the volume and water content of tailings (spent ore) that will be stored on the heap leach pad and a current assessment of storm events that takes into account a changing climate.

X. Analysis of Impacts to Biological Resources is Insufficient

A. Impacts to Federally Listed Mojave Desert Tortoise

The analysis conducted in the EIS/R for the threatened Mojave desert tortoise (*Gopherus agassizii*) fails to establish proper baseline conditions for the impacted wildlife habitat. Presence/absence surveys were conducted in "during the fall, but were not conducted on October 26 and 27, 2020 as a result of cold daytime temperatures and projected overnight low temperatures between 30 and 40°F." The survey timing is inadequate to establish proper baseline conditions for analyzing the desert tortoise. Generally desert tortoises are most active in mid spring and late summer conditions[29]. The EIS/R relies on a survey that does not account for seasonal variability in desert tortoise activity, nor is it aligned with the best available scientific protocols for pre-project surveys.[30] As a result this EIS/R likely underestimates the presence of desert tortoise in the project area. Furthermore this untimely survey does not meet the CEQA

[29] Mojave Desert Tortoise Pre-Project Survey Protocol V2 2019, US Fish and Wildlife Service (Attachment 38)
[30] Ibid.

requirement for substantial evidence for the impact analysis on the desert tortoise for the proposed project.

Despite several decades of state and federal coordination, the desert tortoise populations remain under threat. According to CDFW, "Collectively, the available data show that despite 30 years of state and federal protection, in the critical habitat units (which were established to encompass the best tortoise habitat), most tortoise populations have continued to decline and do not show consistent signs of recovery. In regularly surveyed areas, tortoise densities are below the thresholds considered to represent population viability."[31] It is essential that proper baseline conditions are found for this project in order to maintain a viable population of desert tortoise in the region.

In addition proper baseline conditions for this project, further analysis on the survival and recovery of the desert tortoise in the Ivanpah Valley TCA, the Eastern Mojave Recovery Unit, or rangewide should be conducted. For example, if BLM had conducted an analysis of the impacts from the proposed Project on the survival and recovery of the tortoise, it should have included as part of the analysis the following information:

- The Eastern Mojave Recovery Unit had a 67 percent decline in tortoise density from 2004 to 2014.
- Tortoise populations in both TCAs in this recovery unit have densities that are below viability .[32]
- The population in the Ivanpah Valley TCA experienced declines in densities of 56 percent from 2004 to 2014 with further declines documented in 2021[33].
- The Eastern Mojave Recovery Unit had a decline in abundance of adult tortoises of 67 percent between 2004 and 2014[34].

This is the baseline information for the desert tortoise on its demographic status. Further analysis of the impacts to the TCA, recovery unit, and rangewide are necessary because of the criteria identified by the USFWS for survival and recovery of the desert tortoise.

The BLM does not adequately demonstrate how it has complied with BLM's Manual on Special Status Species Management – 6840, which establishes a proactive, scientifically informed approach to species with special status (like the desert tortoise). The DEIS must address how the proposed mitigation protocols align with this manual and promote the long term landscape level health of the desert tortoise. Furthermore, the DEIS fails to properly account for cumulative impacts on the desert tortoise in its proposed 30-year timeline. For example, impacts associated with the establishment of unpermitted recreational activities from the creation of new roads adjacent to the water pipeline and transmission lines, the disturbance of mature vegetation and introduction of and potential for spread of non-native plants into

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[31] Status Review for Mojave Desert Tortoise (Gopherus agassizii) CDFW 2024 (Attachment 39)

[32] U.S. Fish and Wildlife Service. 2022b. Range-wide Monitoring of the Mojave Desert Tortoise (*Gopherus agassizii*): 2021 Annual Reporting. Report by the Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service, Reno, Nevada. https://www.fws.gov/sites/default/files/documents/USFWS.2022%20report.%20Rangewide%20monitoring%20report%202021.pdf

[33] Allison L.J. and A.M. McLuckie. 2018. Population trends in Mojave desert tortoises (*Gopherus agassizii*). Herpetological Conservation and Biology. 2018 Aug 1. 13(2):433–452. http://www.herpconbio.org/Volume_13/Issue_2/Allison_McLuckie_2018.pdf

[34] Ibid.

the landscape, the introduction of new lighting, fencing and powerlines (including an analysis of newly created perching sites for predatory birds (ex. ravens that predate on desert tortoise), the permanent removal of vegetation and habitat for wildlife, and the fragmentation of habitat are just a few examples of impacts that were not properly analyzed. Because of the proposed project's need for water in this arid Mojave Desert landscape, the impacts to the desert tortoise from potentially reduced surface water due to groundwater pumping needs to be carefully and fully analyzed.

B. Impacts to rare plant species throughout the Castle Mountains Landscape

a. Study Area Surveys

The list of species targeted in the surveys of the Study Area is missing several special-status species with the potential to occur. Our 9-quad query the CNPS RPI for the project area included the Hart Peak (referred to as 'Hart' in the DEIR/EIS), Crescent Peak, West of Juniper Mine, East of Grotto Hills, Grotto Hills, Castle Peaks, Pinto Valley, Ivanpah, and Nipton quads indicates that the following 36 taxa have the potential to occur in the project area[35] but were not targeted in surveys or considered for analysis in the EIR: *Ageratina herbacea* 2B.3, *Argyrochosma limitanea* ssp. *limitanea* 2B.1, *Astragalus allochrous* var. *playanus* 2B.2, *Bahia neomexicana* 2B.3, *Berberis fremontii* 2B.3, *Bouteloua trifida* 2B.3, *Cirsium arizonicum* var. *tenuisectum* 1B.2, *Digitaria californica* var. *californica* 2B.3, *Elymus salina* 2B.3, *Eremogone congesta* var. *charlestonensis* 1B.3, *Eremothera boothii* ssp. *boothii* 2B.3, *Eremothera boothii* ssp. *intermedia* 2B.3, *Erigeron utahensis* 2B.3, *Eriogonum umbellatum* var. *juniporinum* 2B.3, *Erioneuron pilosum* 2B.3, *Escobaria chlorantha* 2B.1, *Escobaria vivipara* var. *rosea* 2B.2, *Frasera albomarginata* var. *albomarginata* 2B.2, *Galium proliferum* 2B.2, *Galium wrightii* 2B.3, *Hedeoma drummondii* 2B.2, *Hymenopappus filifolius* var. *eriopodus* 2B.3, *Juncus interior* 2B.2, *Lithospermum incisum* 2B.3, *Muhlenbergia arsenei* 2B.3, *Muhlenbergia pauciflora* 2B.3, *Myriopteris wootonii* 2B.3, *Nama demissa* var. *covillei* 1B.3/BLM S, *Nama dichotoma* var. *dichotoma* 2B.3, *Oenothera longissima* 2B.2, *Opuntia* x *curvispina* 2B.2, *Penstemon thompsoniae* 2B.3, *Rhinotropis acanthoclada* 2B.3, *Stipa arida* 2B.3, *Thysanocarpus rigidus* 1B.2/BLM S, and *Woodsia plummerae* 2B.3.

The survey report (ECORP Consulting, Inc. 2021b. Addendum Report for Focused Rare Plant Survey (Spring 2021) for the Castle Mountain Mine Expansion Project. (Attachment 40)) includes a *Cirsium* sp. that was not identified to the minimum-rank taxon level to determine if this could have been *Cirsium arizonicum* var. *tenuisectum* (1B.2). As mentioned above, this taxon was not targeted in the surveys. The survey report also includes *Phacelia* sp. that were not identified to a level to ensure that they were not *Phacelia anelsonii* or *coerulea*, *Astragalus* sp. that were not identified to a level needed to determine if they were *Astragalus allochrous* var. *playanus* (2B.2, not targeted in surveys), *Astragalus bernardinus* (1B.2/BLM S), *Astragalus cimae* var. *cimae* (1B.2), or *Astragalus nutans* (4.3), *Mirabilis* sp. not identified to a level to determine if they could be *Mirabilis coccinea* (2B.3), and *Eriastrum* sp. not identified to a level to determine if they could be *Eriastrum hardwoodii* (1B.2/BLM S). The survey report

[35] California Native Plant Society, Rare Plant Program. 2026. Rare Plant Inventory (online edition, v9.5.1). Website https://rareplants.cnps.org/Search/result?frm=T&sl=1&quad=3511543:3511542:3511533:3511532:3511531:3511523:3511522:3511521:3511428:&elev=:m:o [accessed 8 May 2026]. (Attachment 41)

should include justification for these not being special status species, or should assume that these are special status species.

Additional protocol level surveys targeting these species, following the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (Protocols), and analysis of potential impacts to these species must be included in a supplemental or revised DEIR/EIS to be circulated for public review prior to the preparation of the Final EIR/EIS.

b. Proposed Water Pipeline and Utility ROW Surveys

While surveys for BLM sensitive species occurred along the proposed water pipeline/utility ROW, no studies were done for the California portion of the ROW heading east out of Nipton to identify species considered rare under CEQA Section 15380 or for CNPS California Rare Plant Ranked species to satisfy CEQA analysis for this portion of the project. Protocol level surveys following CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities[36] (Protocols) targeting species identified by querying the CNDDB and the CNPS RPI for the Nipton, Crescent Peak, Desert, Ivanpah Lake, Mineral Hill, Joshua, Ivanpah, and Castle Peaks USGS 7.5-minute quadrangles must occur for this portion of the project to satisfy CEQA requirements. Our 9-quad query of the CNPS RPI for this portion of the project indicates that the following 72 taxa have the potential to occur along this section of the ROW[37]: *Abutilon parvulum* 2.3, *Acmispon argyraeus* var. *multicaulis* 1B.3/BLM S, *Agave simplex* 2B.3, *Ageratina herbacea* 2B.3, *Aliciella triodon* 2B.2, *Allium nevadense* 2B.3, *Androstephium breviflorum* 2B.2, *Arctomecon merriamii* 2B.2, *Argyrochosma limitanea* ssp. *limitanea* 2B.1, *Asclepias nyctaginifolia* 2B.1, *Astragalus allochrous* var. *playanus* 2B.2, *Astragalus bernardinus* 1B.2/BLM S, *Astragalus cimae* var. *cimae* 1B.2, *Astragalus tidestromii* 2B.2, *Astrolepis cochisensis* ssp. *cochisensis* 2B.3, *Bahia neomexicana* 2B.3, *Berberis fremontii* 2B.3, *Bouteloua trifida* 2B.3, *Cirsium arizonicum* var. *tenuisectum* 1B.2, *Cordylanthus parviflorus* 2B.3, *Cymopterus gilmanii* 2B.2, *Cymopterus multinervatus* 2B.2, *Elymus salina* 2B.3, *Enneapogon desvauxii* 2B.2, *Eremogone congesta* var. *charlestonensis* 1B.3, *Eriastrum harwoodii* 1B.2/BLM S, *Erigeron utahensis* 2B.2, *Eriodictyon angustifolium* 2B.2, *Eriogonum thornei* 1B.2, *Eriogonum umbellatum* var. *juniporinum* 2B.3, *Erioneuron pilosum* 2B.3, *Escobaria chlorantha* 2B.1, *Escobaria vivipara* var. *rosea* 2B.2, *Euphorbia abramsiana* 2B.2, *Euphorbia exstipulata* var. *exstipulata* 2B.1, *Frasera albomarginata* var. *albomarginata* 2B.2, *Galium wrightii* 2B.3, *Grusonia parishii* 2B.2, *Hedeoma drummondii* 2B.2, *Hymenopappus filifolius* var. *eriopodus* 2B.3, *Juncus interior* 2B.2, *Linum puberulum* 2B.3, *Lithospermum incisum* 2B.3, *Menodora scabra* var. *scabra* 2B.3, *Mentzelia polita* 1B.2/BLM S, *Mirabilis coccinea* 2B.3, *Monardella eremicola* 1B.3/BLM S, *Muhlenbergia appressa* 2B.2, *Muhlenbergia arsenei* 2B.3, *Muhlenbergia fragilis* 2B.3, *Muhlenbergia pauciflora* 2B.3, *Myriopteris wootonii* 2B.3, *Nama demissa* var. *covillei* 1B.3/BLM S, *Nama dichotoma* var. *dichotoma* 2B.3, *Oenothera cavernae* 2B.1, *Oenothera longissima* 2B.2, *Opuntia* x *curvispina* 2B.2, *Panicum hirticaule* ssp. *hirticaule* 2B.1, *Pellaea*

[36] California Department of Fish and Wildlife (CDFW). 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. State of California, California Natural Resources Agency. March 20, 2018. (Attachment 43)

[37] California Native Plant Society, Rare Plant Program. 2026. Rare Plant Inventory (online edition, v9.5.1). Website https://rareplants.cnps.org/Search/result?frm=T&sl=1&quad=3511543:3511542:3511553:3511554:3511544:3511534:3511533:3511532:&elev=:m:o [accessed 8 May 2026] (Attachment 44)

truncata 2B.3, *Penstemon thompsoniae* 2B.3, *Penstemon utahensis* 2B.3, *Phacelia anelsonii* 2B.3, *Phacelia coerulea* 2B.3, *Phacelia pulchella* var. *gooddingii* 2B.2, *Physalis lobata* 2B.3, *Rhinotropis acanthoclada* 2B.3, *Sanvitalia abertii* 2B.2, *Scleropogon brevifolius* 2B.3, *Sphaeralcea rusbyi* var. *eremicola* 1B.2/BLM S, *Stipa arida* 2B.3, *Thysanocarpus rigidus* 1B.2/BLM S, *and Woodsia plummerae* 2B.3.

The results of protocol level surveys of the ROW and evaluation of potential impacts to species requiring analysis under CEQA must be included in a supplemental or revised DEIR/EIS to be circulated for public review prior to the preparation of the Final EIR/EIS.

c. Joshua tree surveys, misidentification, and lack of analysis

The survey reports cited in the DEIR/EIS (ECORP Consulting, Inc. 2021a. Focused Fall Rare Plant and Desert Bighorn Sheep Survey and Habitat Assessment Report, Castle Mountain Mine Expansion Project (Attachment 42) , and ECORP Consulting, Inc. 2021b. Addendum Report for Focused Rare Plant Survey (Spring 2021) for the Castle Mountain Mine Expansion Project.) indicate that western Joshua tree (*Yucca brevifolia*) was encountered during surveys of the study area. However, these plants were likely misidentified by the consultant conducting the surveys. The only species of Joshua tree known from this area is the eastern Joshua tree, *Yucca jaegeriana*. The western Joshua tree is a CESA candidate and is protected under the Western Joshua Tree Conservation Act and the DEIR/EIS should justify why it did not discuss impacts to a species requiring CEQA analysis by clarifying that the survey reports used to inform the DEIR/EIS have inaccurately identified *Yucca jaegeriana* as *Yucca brevifolia.* This misidentification also raises concerns with the identification of other special status species, especially given that several plants encountered during the surveys could be taxa requiring CEQA analysis but were not identified to the taxonomic level to determine rarity.

d. Mitigation Measures

Avoidance of sensitive botanical resources should be prioritized or any sort of compensatory mitigation. When compensatory mitigation is needed, the acquisition and preservation of habitat containing existing populations of impacted species is much more likely to be effective than transplanting individuals or attempting to recreate habitat. According to research commissioned by CDFW, most mitigation efforts for special status species fail, showing that ~15% of transplantation, relocation, or reintroduction efforts reviewed in the study were considered successful[38]. Many perennial and shrub species in desert ecosystems have deep, extensive root systems that cannot be easily extracted or transplanted. Specific mitigation plans should be developed on a species-by-species basis, and these plans need to be supported by sufficient scientific evidence to show that these plans are likely to be successful. Any plans involving the transplantation, seeding, or the out planting of cultivated individuals need to include specific guidelines and management and monitoring requirements.

[38] Fiedler, P.L., 1991. *Mitigation-related Transplantation, Relocation and Reintroduction Projects Involving Endangered and Threatened, and Rare Plant Species in California, Final Report*. California. Department of Fish & Game. Endangered Plant Program. (Attachment 45)

MM-BI-1.1

- Section a) of this measure should be amended to require that preconstruction surveys follow CDFW Protocols.
- In section e) a salvage and translocation plan needs to be developed prior to project approval as required by § 15126.4 (a)(1)(B) of CEQA which states that "mitigation measures shall not be deferred until some future time," unless "it is impractical or infeasible to include those details during the project's environmental review." This plan should be included in a supplemental or revised DEIR/EIS and be circulated for public review prior to the development of a Final EIR/EIS. Receiver sites must be identified prior to project approval to ensure that sufficient suitable habitat for anticipated mitigation needs is available. While additional individuals of special status species may be discovered during preconstruction surveys there is a significant amount of information on the locations of special status species where avoidance will be infeasible to develop plans for the individuals anticipated to need compensatory mitigation. Maintenance and monitoring of any transplanted individuals should follow these guidelines:

    - Avoidance of impacts to special status species and sensitive vegetation communities should be prioritized over any form of restoration or compensatory mitigation.
    - Species-specific restoration plans should be developed for all special status plants with the potential to be impacted, including detailed criteria for determining the success of restoration or compensatory mitigation.
    - Restoration plans should be developed for all sensitive plant communities with the potential to be impacted, including detailed criteria for determining the success of restoration or compensatory mitigation.
    - Areas identified as potential recipient sites must be surveyed following CDFW Protocols to ensure that compensatory mitigation sites would be suitable for target species or vegetation communities and that mitigation efforts would not cause harmful impacts to existing botanical resources. Low conflict areas that have been degraded by previous land uses should be prioritized for restoration, leaving intact natural habitat undisturbed by restoration efforts.
    - While onsite mitigation is preferred, if contiguous acreage to achieve mitigation needs is not present on the project site restoration activities may be implemented offsite.
    - Maintenance and monitoring of compensatory mitigation and restoration sites should occur each year for the first five years of the mitigation term. After five years of maintenance, yearly monitoring of the site should demonstrate a self-sustaining area of occupation and population numbers with no management actions for years 6-8.
    - If monitoring shows stable populations after three years (following the initial 5-year period of annual monitoring) with no maintenance, the populations should be monitored every two years throughout the life of the project.
    - If the populations do not demonstrate stability/adherence to species specific success criteria after the initial five year maintenance and monitoring period, after three years without maintenance, or if subsequent monitoring shows loss or decline of

populations, as determined by the required mitigation ratio and/or performance standards for compensatory mitigation and/or restoration, then yearly maintenance and monitoring shall be resumed for a five year period, again requiring that yearly monitoring show self-sustaining populations for three years post maintenance before returning to a two year monitoring cycle.

MM-BI-1.2

- BMPs for special status plant species should be fully developed as required by § 15126.4 (a)(1)(B) of CEQA which states that "mitigation measures shall not be deferred until some future time," unless "it is impractical or infeasible to include those details during the project's environmental review." This information should be included in a supplemental or revised DEIR/EIS and be circulated for public review prior to the development of a Final EIR/EIS. as required by § 15126.4 (a)(1)(B) of CEQA which states that "mitigation measures shall not be deferred until some future time," unless "it is impractical or infeasible to include those details during the project's environmental review."

MM-BI-2.1

- There are no measures included to mitigate for the permanent impacts to 37.21 acres of Desert Wash System (*Hymenoclea salsola* Desert Wash Shrubland Alliance) and 567.78 acres of Joshua Tree (*Yucca brevifolia* Woodland Alliance). Additional compensatory mitigation is needed for these permanent impacts to become "less than significant with mitigation."

MM-BI-2.2

- The Temporary Disturbance Revegetation Plan and Monitoring and Reporting Plan cannot be deferred until after project approval as required by § 15126.4 (a)(1)(B) of CEQA which states that "mitigation measures shall not be deferred until some future time," unless "it is impractical or infeasible to include those details during the project's environmental review." There is very specific information in the EIR/EIS defining the number of acres of each vegetation type that will be disturbed, given the known level of impacts there is no justification for deferring the development of the plans that this mitigation measure relies on for success. These plans should be included in a supplemental or revised DEIR/EIS and be circulated for public review prior to the development of a Final EIR/EIS. Any material used for seeding and/or planting in temporally disturbed areas shall consist of genetically appropriate native material collected from the disturbed area or adjacent to the disturbed area and/or propagated from material collected from the disturbed area or adjacent to the disturbed area.
- Sections a) and b) should require that no non-native species not previously found in the area be observed.
- Section c) should require that cover and density of non-native species be no more than the cover and density of comparable adjacent lands that have not been disturbed by the project.

MM-BI2.3

- The Integrated Weed Management Plan should not be deferred until after project approval as required by § 15126.4 (a)(1)(B) of CEQA which states that "mitigation measures shall not be deferred until some future time," unless "it is impractical or infeasible to include those details during the project's environmental review." This plan must be fully developed and be included in a supplemental or revised DEIR/EIS and be circulated for public review prior to the development of a Final EIR/EIS.
- Section a) should explicitly define requirements and measures to prevent the spread of weeds, including inspection of clothing, boots, hand tools, vehicles, and other vectors that could transport weeds, in addition to equipment, and designating areas to clean clothing, boots, hand tools, vehicles, equipment, and other vectors that could transport weeds.
- Section b) must include explicit control measures.
- Section c) must include explicit monitoring and reporting standards, management guidelines, and success criteria. Section d) must include criteria for ongoing weed prevention, monitoring, management, reporting, and success criteria throughout the life of the project to be overseen by BLM.

MM-BI-2.5

- The Vegetation Resources Management Plan should not be deferred until after project approval as required by § 15126.4 (a)(1)(B) of CEQA which states that "mitigation measures shall not be deferred until some future time," unless "it is impractical or infeasible to include those details during the project's environmental review." This plan must be fully developed and be included in a supplemental or revised DEIR/EIS and be circulated for public review prior to the development of a Final EIR/EIS.

Cumulative Impacts

Impact BI-7

- The Project would lead to cumulative impacts to sensitive vegetation given the permanent loss of Desert Wash System (*Hymenoclea salsola* Desert Wash Shrubland Alliance) and Joshua Tree (*Yucca brevifolia* Woodland Alliance) on the site of the current mining operation and the additional un-mitigated losses to these vegetation types proposed in this project. Compensatory mitigation through the permanent conservation of existing Desert Wash System (*Hymenoclea salsola* Desert Wash Shrubland Alliance) and Joshua Tree (*Yucca brevifolia* Woodland Alliance) at a minimum of a 2:1 ratio should be included to offset the cumulative impacts of this project.

XI. Conclusion

After careful review of the Draft Environmental Impact Statement and Draft Environmental Impact Report, we find that the analysis is inadequate for the Bureau of Land Management and San Bernardino County to make a final decision. As outlined in this public comment, further analysis is required to evaluate the impacts of the Castle Mountain Mine Phase II Expansion project. Furthermore, environmental review of this project must meet the requirements of both; these have not been met. The BLM and the County have not fully analyzed the impacts that the expansion alone would have on the landscape, as well as the long-term impacts of increased mining activity for decades to come, and in perpetuity post-closure. In addition, reasonable alternatives that would avoid or reduce significant impacts of this project have not been analyzed, studies of the impacts to federally listed species have not been conducted, and a complete analysis of the hydrology of the region has not been evaluated. Our public lands, treasured for their recreational opportunities, cultural and biological value, and immense beauty, including Avi Kwa Ame National Monument, Castle Mountains National Monument, and Mojave National Preserve are at stake. We urge the BLM and the County to conduct further supplemental analysis, as outlined above, to fully address the impacts of the Proposed Castle Mountain Mine Phase II Expansion to federally managed lands in the Mojave desert.

Sincerely,

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Basin and Range Watch

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Jora Fogg
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Ronni Flannery
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The Wilderness Society

Edward L. LaRue Jr.
Ecosystems Advisory Council, Chairperson
Desert Tortoise Council

Organizational Statements (who we are):

Basin and Range Watch is a 501(c)(3) non-profit working to conserve the deserts of Nevada and California and to educate the public about the diversity of life, culture, and history of the ecosystems and wild lands of the desert. We visit the Castle Mountains regularly and have worked to protect what is now Avi Kwa Ami National Monument from large, sprawling energy projects.

The California Native Plant Society (CNPS) is a non-profit environmental organization with over 13,000 members in 35 Chapters across California and Baja California, Mexico. CNPS's mission is to protect California's native plants and their natural habitats, today and into the future, through science, education, stewardship, gardening, and advocacy. We work closely with decision-makers, scientists, and local planners to advocate for well-informed policies, regulations, and land management practices.

CalWild, is a nonprofit public benefit corporation organized in 1976 under the laws of the State of California, with approximately 8,000 members and supporters. CalWild works to protect national public lands and waters in California with important ecological, cultural, historical, and recreational values. CalWild was actively involved in the campaign that resulted in the 2016 designation of Castle Mountains National Monument, supported the campaign that designated the Mojave National Preserve in 1994, and has been actively involved in advocating for appropriate management of BLM-managed lands in the CDCA for decades. CalWild's staff, members and supporters visit and recreate on BLM-managed lands in the Castle Mountains area as well as in the adjacent Castle Mountains National Monument and nearby Mojave National Preserve.

The Center for Biological Diversity ("Center") is a nonprofit public interest organization with offices located across the country, including in Oakland California, representing more than 1.8 million members and online activists nationwide dedicated to the conservation and recovery of species at-risk of extinction and their habitats. The Center has a longstanding interest in protecting and preserving the desert ecosystem in California andNevada, specifically, the public lands and water resources in and near the Castle Mountains, in Lanfair Valley, the Mojave National Preserve, Ave Kwa Ame National Monument and Ivanpah Valley that are directly impacted by this action. Center staff and members have visited the public lands in this area and intend to continue to do so in the future. To date, thousands of Center supporters submitted scoping comments and DEIS/DEIR comments to the BLM and the County regarding this proposed mining project and the proposed ROWs.

The Conservation Lands Foundation (CLF) is a non-profit organization that promotes environmental conservancy through support of the National Landscape Conservation System (National Conservation Lands) and preservation of the outstanding historic, cultural, and natural resources of those public lands. CLF works to protect, restore, and expand the National Conservation Lands through education, advocacy, and partnerships. CLF achieves its mission by working with and supporting the Friends Grassroots Network (FGN). The FGN consists of 91 organizations located in 13 states.

The Desert Tortoise Council is a non-profit organization comprising hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and northern Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

Earthworks protects communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions. We're driven by our commitment to collaborate with communities on the frontline, using science in innovative ways, and building people power to ensure a more just and livable future. Earthworks fights for clean air, water and land, healthy communities, and corporate accountability. We work for solutions that protect the Earth's resources, our climate, and our communities.

The National Parks Conservation Association (NPCA) is the only national nonprofit organization that works to advocate for our national parks and monuments. Founded in 1919, NPCA has over two million members nationwide and operates out of more than two dozen field offices across the country.

The Sierra Club was founded in 1892 and is the nation's oldest grass-roots environmental organization. It is a national nonprofit organization of 3.3 million members and supporters. Sierra Club's purpose is to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and use all lawful means to carry out these objectives. Many of our members visit and enjoy the Castle Mountains landscape and surrounding public lands in California and Nevada for hiking, camping, photography, and other uses.

Western Watersheds Project is a non-profit environmental conservation group that works to influence and improve public lands management throughout the western United States in order to protect native species and conserve and restore the habitats they depend on.

The Wilderness Society is dedicated to uniting people to protect America's wild places. We see a future where people and wild nature flourish together, meeting the challenges of a rapidly changing planet. To accomplish that vision, we work to ensure that public lands are a solution to the climate and extinction crises and that all people benefit equitably from public lands. We focus our work in landscapes across the country that we have identified as the most biologically rich, large-scale landscapes to protect and connect, working in partnership with communities, tribes, state and federal agencies, conservation organizations, and many others to advance habitat conservation, connectivity, ecological resilience, and equitable access to nature.

Attachments:

Attachment 1: "Tech Memo"- Andy Zdon, Roux Associates, Technical Memorandum to the National Parks Conservation Association and the Center for Biological Diversity, May 29, 2026

Attachment 2: State Mining and Geology Board, n.d- California Code of Regulations (CCR) §3704.1. Metallic Mine Backfill Regulations Explained

Attachment 3: Bureau of Land Management Needles Resource Area & County of San Bernardino- *Castle Mountain Mine Expansion Project Draft Environmental Impact Statement, 1997*

Attachment 4: Kendrickson, 2012- RE: Status of Final Reclamation and Closure of Castle Mountain Mine

Attachment 5: Arceo 2020- RE: San Bernardino County Review and Approval of 2019 Amendment to Mine and Reclamation Plan No. 90M-013 for Castle Mountain Venture (CMV) Project

Attachment 6- Lund and Blanchette 2023- *Closing Pit Lakes as Aquatic Ecosystems: Risk, Reality, and Future Uses*

Attachment 7- Kempton et al., 2010- *Policy guidance for identifying and effectively managing perpetual environmental impacts from new hardrock mines*

Attachment 8- State Mining and Geology Board, 2007- *Report on Backfilling of Open-Pit Metallic Mines in California*

Attachment 9- Emerman, S. H. (2026).*Comments regarding Water and Mine Waste Issues in the Castle Mountain Mine Project Phase II Expansion Draft Environmental Impact Statement (DEIS), Draft Environmental Impact Report (DEIR), and Mine Plan of Operations (MPO)*. Malach Consulting.

Attachment 10- Overpeck and Udall, 2020- *Climate Change and the Aridification of North America*

Attachment 11- California Water Boards, PFBS Notification Level Issuance, March 5, 2021

Attachment 12- California Water Boards, PFHxA Notification Level Issuance, October 29, 2025

Attachment 13- California Water Boards, PFHxS Notification Level Issuance, October 31, 2022

Attachment 14- California Water Boards, PFOA Notification Level Issuance, February 6, 2020

Attachment 15- California Water Boards, PFOA Notification Level Issuance, October 29, 2025

Attachment 16- Sloan Canyon Conservation and Lateral Pipeline Act, H.R. 972, 119th Congress, 2025

Attachment 17- Bureau of Land Management Final Decision- Sloan Canyon ROW, Signed August 19, 2021

Attachment 18- Conserve Southwest Utah, et al., v. U.S. Department of the Interior, civil action No. 26-317 (RDM), (D. Nev. March 1, 2026) (order granting preliminary injunction)

Attachment 19: Wee Thump Joshua Tree Wilderness Fact Sheet

Attachment 20: “Mojave Desert biological soil crusts promote grass seed germination via surface structure” (California Ecology and Conservation Research)

Attachment 21: *The Genetic Legacy of 50 Years of Desert Bighorn Sheep (Ovis canadensis nelsoni) Translocations*

Attachment 22: The Effects of Power Lines on Ungulates and Implications for Conservation and Restoration

Attachment 23: *Acoustic Activity of Bats at Power Lines Correlates with Relative Humidity: A Potential Role for Corona Discharges*

Attachment 24: *“Measures to Reduce Risks Caused by Powerlines,”* in Biodiversity & Infrastructure Handbook, European Platform on Biodiversity in Transport Infrastructure

Attachment 25: *Conservation Letter: Raptors and Overhead Electrical Systems*

Attachment 26: *Bird Collisions with Power Lines: State of the Art and Priority Areas for Research*

Attachment 27: Linear and Landscape Disturbances Alter Mojave Desert Tortoise Movement Behavior

Attachment 28: Raven Management in the Mojave and Colorado Deserts

Attachment 29: Raven Ecology in the Mojave Desert at Edwards Air Force Base

Attachment 30: Common Raven Occurrence in Relation to Energy Transmission Line Corridors Transiting Human-Altered Sagebrush Steppe

Attachment 31: When Tourists Meet Transmission Lines- The Effects of Electric Transmission Lines on Tourism in Iceland

Attachment 32: Protecting Night Skies and Naturally Dark Conditions in National Parks

Attachment 33: Morrill, J., Chambers, D., Emerman, S., Harkinson, R., Kneen, J., Lapointe, U., Maest, A., Milanez, B., Personius, P., Sampat, P., and Turgeon, R. (2022), Safety First: Guidelines for Responsible Mine Tailings Management, Earthworks, MiningWatch Canada and London Mining Network

Attachment 34: M3 Engineering & Technology Corporation (M3). 2021. Technical Report on the Castle Mountain
Project Feasibility Study. Appendix 8 to the EIR.

Attachment 35- Applied Analysis. (2025). p.3 Castle Mountain Mine Phase 2 Project: Analysis of Economic, Fiscal, and Social Effects. Appendix A to the Mine Plan of Operations.

Attachment 36- Gold Price Today. (2026, May 15). APMEX. https://www.apmex.com/gold-price

Attachment 37- JP Morgan. (2025). A new high? Gold price predictions from J.P. Morgan Global Research. https://www.jpmorgan.com/insights/global-research/commodities/gold-prices

Attachment 38- Mojave Desert Tortoise Pre-Project Survey Protocol V2 2019, US Fish and Wildlife Service

Attachment 39- Status Review for Mojave Desert Tortoise (Gopherus agassizii) CDFW 2024

Attachment 40- ECORP Consulting, Inc. 2021b. Addendum Report for Focused Rare Plant Survey (Spring 2021) for the Castle Mountain Mine Expansion Project

Attachment 41- CNPS Rare Plant Inventory, Study Area

Attachment 42- ECORP Consulting, Inc. 2021a. Focused Fall Rare Plant and Desert Bighorn Sheep Survey and Habitat Assessment Report, Castle Mountain Mine Expansion Project

Attachment 43- California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. State of California, California Natural Resources Agency. March 20, 2018.

Attachment 44- CNPS Rare Plant Inventory, ROW

Attachment 45- Fiedler, P.L., 1991. Mitigation-related Transplantation, Relocation and Reintroduction Projects Involving Endangered and Threatened, and Rare Plant Species in California, Final Report. California. Department of Fish & Game. Endangered Plant Program.