

MEMORANDUM OF AGREEMENT
BETWEEN THE
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT, WINNEMUCCA DISTRICT OFFICE
AND NEVADA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE
VALMY DEVELOPMENT PROJECT
HUMBOLDT COUNTY, NV

WHEREAS, the United States Department of the Interior, Bureau of Land Management, Winnemucca District Office (BLM) is proposing to permit the Valmy Development Project (Project) for the Marigold Mining Company (MMC) located in Humboldt County, Nevada thereby making the Project an undertaking subject to review under 54 U.S.C. § 306108; and its implementing regulations at 36 CFR Part 800; and

WHEREAS, the Project will consist of MMC's Plan of Operations Amendment on public and private lands to expand mining operations and infrastructure within the footprint of the existing Plan boundary. This includes development of new pits and expansion of current pits; partial or complete backfilling of new pits; modification to and elimination of waste rock storage areas; installation of an additional above-ground powerline; modification of haul road routes and configurations; the addition of a stock water rough and access road; the addition of infill disturbance; development of new leach pads and modification to current leach pads; the addition of a process pond; and changes to ancillary facilities such as growth media stockpiles, stormwater diversions, and fencing (see Appendix A for further detail from the Preliminary Environmental Assessment). Total new disturbance proposed is approximately 1,092 acres. This would result in a total disturbance within the existing Plan Boundary of 9,236.4 acres, with 4,357.7 on public land administered by the BLM and 4,878.7 on private land (see Appendix B for a map of the proposed disturbance); and

WHEREAS, the BLM has defined the Project's area of potential effects (APE) as the 1,092.4 acres of disturbance, which includes all or parts of Sections 5 and 6, Township 32 North (T32N), Range 43 East (R43E), and Sections 8, 9, 16, 20, 28, 29, 31, 32, and 33, Township 33 North (T33N), Range 43 East (R43E), Mount Diablo Base and Meridian; and

WHEREAS, the BLM, in consultation with the Nevada State Historic Preservation Officer (SHPO), has determined there will be adverse effects from the Project to historic properties; and

WHEREAS, BLM has determined that the implementation of the Project will adversely affect four historic properties:

1) a toolstone quarry (CrNV-22-06243/26HU3385); 2) a reclaimed lithic scatter (CrNV-22-04698/26HU3543); 3) a lithic scatter (CrNV-22-08981/26HU4626); and 4) a lithic scatter

(CrNV-22-08988/26HU4633); eligible for the National Register of Historic Places (NRHP) under the Secretary's Significance Criterion D; and

WHEREAS, in accordance with 36 CFR § 800.8(c), BLM has notified the Advisory Council on Historic Preservation (ACHP) that it intends to use the process and documentation required for the preparation of its Environmental Assessment to comply with Section 106 in lieu of the procedures set forth in 36 CFR §§ 800.3 through 800.6; and

WHEREAS, the BLM has notified the following Native American tribes in the area about the Project: Battle Mountain Band Colony, Elko Band Colony, Te-Moak Tribe of Western Shoshone, and Winnemucca Indian Colony (collectively referred to as the Tribes). No specific resource concerns were identified. The BLM will continue coordination and consultation with the tribes who express interest in the project area. BLM has offered the Tribes the opportunity to be concurring parties to this Memorandum of Agreement (MOA); and

WHEREAS, the BLM has consulted with MMC regarding the effects of the Project on historic properties and invited MMC to sign this MOA as an invited signatory; and

WHEREAS, the BLM has coordinated public participation for this MOA through the process set forth in the National Environmental Policy Act of 1969 and has addressed comments made by interested members of the public who had concerns regarding the effect of the Project on historic properties; and

WHEREAS, jointly the BLM, the SHPO, and MMC shall be called the signatories and individually as signatory or by their name; and

NOW, THEREFORE, it is mutually agreed by the BLM and the SHPO that the Project shall be implemented in accordance with the following stipulations in order to take into account the effects of the Project on the historic properties identified above.

STIPULATIONS

BLM shall ensure that the following stipulations are implemented:

1. Historic Properties Treatment Plan (HPTP) Implementation

- a) The BLM, in consultation with the SHPO, has developed an HPTP (Appendix C) for the historic properties that cannot be avoided by the Project and that will be adversely affected.
- b) BLM shall ensure that a qualified cultural resource management (CRM) firm completes the treatments and data recovery as outlined in the HPTP. All deliverables will be written or reviewed by a Principal Investigator qualified for the resource type and location according to the CRM firm BLM cultural resource use permit. All monitoring will be conducted by a Principal Investigator or Crew Chief qualified for the resource type and location according to the CRM firm's BLM cultural resource use permit.
- c) The schedule for completion of tasks and deliverables will be developed by MMC and the CRM firm and approved by the BLM, to accurately reflect the start dates, weeks of

fieldwork, archival research, report completion. MMC shall submit the schedule to the BLM for review and approval. If changes are needed after the start date due to any unforeseen circumstances associated with the Project and the schedule, the dates will be revised accordingly by MMC and the CRM firm and submitted to the BLM for review and approval by the BLM. The BLM shall provide the revised schedule to all signatories to this MOA within five (5) days calendar of receipt and incorporate it into Appendix B. This revision will not require an amendment to the MOA per Stipulation below.

d) MMC shall provide a bond to ensure completion of implementation of the HPTP. The value of the bond will be based on and not exceed the budget agreed upon by MMC and the BLM for completion of all NHPA-related mitigation, including curation of any collected artifacts. The purpose of the bond is to provide funding to complete the mitigation and curation as described in the HPTP.

2. Progress Reports and Notices to Proceed

a) MMC shall ensure that the CRM firm they hire will provide fieldwork summaries to the BLM and MMC as each task in the HPTP is completed. The BLM has five (5) business days to review and comment on the progress reports. MMC shall ensure that the CRM firm addresses any comments raised by the BLM within five (5) business days of receipt.

b) The BLM may issue a Notice to Proceed (NTP) to MMC after the BLM, in consultation with the SHPO, has had the opportunity to review the following to ensure conformance with the HPTP. MMC shall not begin any ground-disturbing activity within fifty (50) meters of historic properties CrNV-22-06243/26HU3385, CrNV-22-04698/26HU3543, CrNV-22-08981/26HU4626, or CrNV-22-08988/26HU4633, until the BLM issues an NTP. In the event that all proposed ground-disturbing activities do not occur concurrently, BLM may issue separate NTPs specifying the locations where ground disturbing activities may occur.

- 1) MMC, through its CRM firm, shall provide a summary of the fieldwork (i.e., surface reconnaissance, photo-documentation, detailed mapping, and site recordation when appropriate) and request an NTP for each historic property as it is completed. MMC shall submit the fieldwork summary and NTP request to the BLM within five (5) business days of completion of fieldwork.

- 2) BLM shall complete its review of the fieldwork summary and NTP request within five (5) business days of receipt. The BLM Project archeologist will determine if the fieldwork satisfies the requirements of the HPTP. MMC shall ensure that the CRM firm addresses any comments raised by the BLM within five (5) business days of receipt.

- 3) BLM will forward the fieldwork summary to the SHPO and the BLM's intention to issue an NTP and request review by the SHPO.

4) The SHPO will review the draft documents within fifteen (15) calendar days of receipt. If the SHPO does not respond within fifteen (15) calendar days from date of receipt, the BLM may issue the NTP.

5) The BLM will address SHPO comments on the fieldwork summaries.

3. Review of HPTP Mitigation Documents

a) The BLM shall ensure that MMC, or the CRM, submits drafts of all mitigation documents (e.g., data recovery documentation, updated IMACS forms; hereinafter referred to as mitigation documents) described in the HPTP to BLM either individually or as a single submission in accordance with the approved schedule.

b) The BLM shall review the draft mitigation documents within sixty (60) calendar days of receipt. BLM will notify MMC and the CRM firm that BLM either accepts or rejects the draft mitigation documents. BLM may provide comments to the CRM firm to update the draft mitigation documents.

c) MMC, through its CRM firm, will revise the draft mitigation documents to address the BLM comments. The BLM shall provide the draft documents to the SHPO for review and comment.

d) The SHPO will have forty-five (45) calendar days from receipt to provide comments on the draft mitigation documents. If the SHPO does not respond within forty-five (45) calendar days of receipt, BLM may finalize the draft mitigation documents.

e) The BLM will address the SHPO comments on the draft mitigation documents and will make any necessary changes.

f.) BLM will submit the revised draft mitigation documents to the SHPO for review and comment. The SHPO will review and comment on the revised draft mitigation documents within thirty (30) calendar days from date of receipt. If the SHPO does not respond within thirty (30) calendar days from date of receipt, BLM may finalize the mitigation documents.

g) BLM will submit the final mitigation documents to the SHPO.

4. Post-Review Discoveries

a) In the event that inadvertent discoveries are made, or unanticipated adverse effects are determined, then the processes outlined in 36 CFR§ 800.13(b)(2) or the Native American Graves Protection and Repatriation Act regulations at 43 CFR§ 10.4, as appropriate, shall be implemented.

b) Human remains and associated grave goods discovered on private land will be handled according to the provisions of Nevada Revised Statutes Chapter 383. This MOA is intended to meet the terms found in NRS 383.121 as amended for an "existing agreement with a federal agency that was executed pursuant to federal law and that relates to the discovery of prehistoric native Indian human remains or a funerary object". Execution of

this MOA means that the provisions for notification found in NRS 383.121, as amended, do not apply. Standard notification requirements found in NRS 383.150 to NRS 383.190, amended, do apply.

5. Dispute Resolution

Should any signatory or concurring party to the MOA object to any proposed actions or to the manner in which the terms of this MOA are implemented, the BLM shall notify all signatories and consult with the objecting party to resolve the objection. If either the objecting party or the BLM determines the objection cannot be resolved, the following actions may be taken:

- a) The BLM shall forward all of the documentation relevant to the dispute to the ACHP. The ACHP shall provide the BLM and the objecting party with its advice on resolution of the objection within 30 days of receipt of adequate documentation. Prior to reaching a final decision on the dispute, the BLM shall prepare a written response that takes into account any timely advice provided by the ACHP, the signatories, and concurring parties to this MOA. The BLM shall provide the written response to all signatories and concurring parties. The BLM shall then proceed according to its final decision.
- b) If the ACHP does not provide advice regarding the dispute within thirty (30) days, the BLM may make a final decision on the dispute and proceed accordingly provided it has taken into account the timely comments provided by the signatories and concurring parties. The BLM shall provide all parties and ACHP with the final written decision and proceed accordingly.
- c) BLM's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of a dispute will remain unchanged.

6. Amendments

This MOA may be amended with the written consent of the signatories. The amendment shall be effective on the date a copy is signed by all of the signatories.

7. Termination

- a) If any signatory to this MOA determines that its terms will not or cannot be carried out, that signatory shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation 6, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatory and invited signatory.

Once the MOA is terminated, and prior to work continuing on the undertaking, the BLM must either (a) execute an MOA pursuant to 36 CFR§ 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800. 7. The BLM shall notify the signatories as to the course of action it will pursue.

8. Transfer

If the Project is sold or otherwise transferred to another operator or entity, all provisions of this MOA will remain in effect unless the MOA is amended or terminated following the stipulated processes. BLM shall notify the SHPO of any sale or transfer within sixty (60) days of the event.

9. Duration

This MOA shall become effective upon execution by the BLM and the SHPO and shall expire if its stipulations are not carried out within five (5) years from the date of full execution or unless it is terminated under Stipulation 7, whichever is sooner.

At such time, and prior to work continuing on the Project, BLM shall either (a) execute a MOA pursuant to 36 CFR § 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR. § 800.7.

Prior to such time, BLM may consult with the SHPO and MMC to reconsider the terms of the MOA and amend it in accordance with Stipulation 6 above. BLM shall notify the SHPO and MMC as to the course of action it will pursue.

EXECUTION of this MOA by the BLM and the SHPO and implementation of its terms evidence that the BLM has taken into account the effects of the Project on historic properties.

This MOA may be executed in counterparts, each of which shall constitute an original, and all of which shall constitute one and the same agreement.

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SIGNATORIES

Department of the Interior, Bureau of Land Management, Winnemucca District Office

 4/3/2023

By: Sam Burton, Winnemucca District Office District Manager

Date:

Nevada State Historic Preservation Officer

 April 4, 2023

By: Rebecca L. Palmer, Nevada State Historic Preservation Officer

Date:

INVITED SIGNATORY

Marigold Mining Company

By: Date:

CONCURRING PARTIES

Battle Mountain Band

By: Clarinda Guzman, Chair

Date:

Elko Band

By: David Gonzalez, Chair

Date:

Te-Moak Tribe of Western Shoshone

By: Joseph Holley, Chair

Date:

Winnemucca Indian Colony

By: Judy Rojo, Chair

Date:

APPENDICES

APPENDIX A:
PROPOSED ACTION AND ALTERNATIVES

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative A – Proposed Action

MMC currently operates the Marigold Mine located approximately three miles south of Valmy, Nevada. MMC is authorized to conduct open-pit gold mining operations within a 26,447-acre Plan boundary for up to 8,144 acres of surface disturbance (BLM 2019a). MMC was previously authorized to create three open pits by combining up to seven smaller pits, process ore via standard heap leach practices, and stack waste rock in overburden piles (BLM 2019a). Authorized mine features are shown on **Figure 2**.

The Project would be located entirely within the previously authorized Plan boundary. Total new disturbance proposed is approximately 1,092 acres. This would result in a total disturbance within the Plan boundary of 9,235.8 acres, with 4,163.7 on public land and 5,072.1 on private land. A complete breakdown of surface disturbance acreages, including authorized and proposed, is provided in **Table 4**.

Under Alternative A – Proposed Action, MMC proposes the following developments and changes in the Project POA:

- Development of the Mud Pit, as an expansion of the existing Northwest 29 and Mud pits.
- Expansion of the Valmy Pit.
- Development of the New Millennium Pit as an expansion of the existing Antler and Basalt pits.
- Partial or complete backfilling of the new pits.
- Modification of the Northwest WRSA and the Valmy WRSAs.
- Incorporation of the Northeast WRSA into the Northwest WRSA.
- Elimination of the South WRSA.
- The installation of an additional above-ground powerline.
- Modification of haul road routes and configurations.
- The addition of a stock water trough and access road as a mitigation measure.
- The addition of infill disturbance.
- Development of the Cell 23D and Cell 25 heap leach pads, with alterations to a portion of authorized existing Cell 23, referred to as Cell 23C.
- The addition of one process pond.
- Changes to ancillary facilities including growth media stockpiles, stormwater diversions, and fencing.

Areas proposed for surface disturbance associated with the Proposed Action are shown on **Figure 3**, and the Proposed Action with the authorized mine features is shown on **Figure 4**. The Proposed Action would not extend the mine life or change personnel numbers. The Proposed Action would provide additional operational flexibility for the currently authorized mining activities through 2037.

2.1.1 Open-Pit Facilities

MMC proposes to expand and combine the existing Northwest 29, Mud Pit, and V2 WRSA into an open pit referred to as the Mud Pit (with resource areas Mud Pit 1 and Mud Pit 2); expand the Valmy Pit and a portion of the V2/V3 WRSA into an open pit referred to as the Valmy Pit (with resource areas Valmy North, Valmy South, Crossfire, and Crossfire South); and expand the Antler and Basalt pits, consuming the South WRSA and a portion of the Northwest WRSA to create the New Millennium Pit (with resource areas East Basalt, Antler, and Battle Cry). Proposed pit design parameters, dimensions, and ore amounts are in the POA (MMC 2022).

2.1.2 Pit Dewatering

The Valmy, Mud, and New Millennium pits have been designed to not intercept modeled groundwater surface levels (Piteau 2021a, 2022). MMC would continue to conduct ongoing monitoring of groundwater levels in the area, but no additional dewatering beyond what has been previously authorized at the Marigold Mine is anticipated.

MMC proposes to mine the New Millennium Pit to 5,080 feet above mean sea level (AMSL), which is below the previously identified pre-1992 groundwater level but above the more recently identified groundwater level. The pre-1992 groundwater level includes the estimated groundwater level prior to Lone Tree Mine dewatering and the expected groundwater level after Lone Tree Mine dewatering recovery. Recent data indicates that water levels at the New Millennium Pit are lower than previously identified and current groundwater levels appear unaffected by Lone Tree and previously authorized Marigold Mine dewatering activities (Piteau 2022). MMC proposes to mine the New Millennium Pit at least 50 feet above the naturally occurring groundwater level.

2.1.3 Waste Rock Storage Areas

MMC proposes the following changes to the WRSAs: Construction of the Valmy WRSA, which would consume all or portions of the existing and proposed Northeast, V1, V2, V3, V5, and V6 WRSAs; reduction of the Northwest WRSA; incorporation of the Northeast WRSA into the Northwest WRSA; elimination of the South WRSA due to development of the New Millennium Pit; and capacity changes for the Northwest WRSA resulting from bench design alterations.

Waste rock would generally be placed in the WRSA area nearest to the source. As needed, waste rock would be diverted for berm or other construction uses. The WRSAs would be constructed as described in the authorized Plan by end-dumping onto the active bench face at the angle of repose with average bench heights between 50 and 100 feet and an overall slope of between 2.5H:1V and 3H:1V. Proposed disturbance acreage changes for each WRSA, WRSA design parameters, and WRSA dimensions are provided in the POA (MMC 2022).

Table 4 Surface Disturbance by Mine Component

Mine Component	Existing/Authorized			Proposed Action												Full Build-Out Total (Existing/Authorized and Proposed Action)		
				New Surface Disturbance			Reclassified (Addition)			Reclassified (Subtraction)			Proposed Change					
	Public Land (acres)	Private Land (acres)	Total Disturbance (acres)	Public Land (acres)	Private Land (acres)	Total Disturbance (acres)	Public Land (acres)	Private Land (acres)	Total Reclassified (acres)	Public Land (acres)	Private Land (acres)	Total Reclassified (acres)	Public Land (acres)	Private Land (acres)	Total Change (acres)	Public Land (acres)	Private Land (acres)	Total Full Build-Out (acres)
Exploration	177.0	232.4	409.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	177.0	232.4	409.4
Roads	153.8	135.5	289.3	37.5	26.1	63.6	10.8	10.0	20.8	-35.3	-22.4	-57.7	13.0	13.7	26.7	166.8	149.2	316.0
Pits	1,025.7	1,340.5	2,366.2	319.4	185.7	505.1	155.8	329.3	485.1	-65.9	-201.6	-267.5	409.3	313.4	722.7	1,435.0	1,653.9	3,088.9
Process Ponds Area	24.5	15.0	39.5	0.0	0.0	0.0	6.3	9.7	16.0	-5.3	-1.0	-6.3	1.0	8.7	9.7	25.5	23.7	49.2
Processing Pad Facility ¹	542.7	520.4	1,063.1	0.0	0.0	0.0	96.0	0.0	96.0	0.0	0.0	0.0	96.0	0.0	96.0	638.7	520.4	1,159.1
Waste Rock Storage Areas	1,066.9	1,403.5	2,470.4	230.6	206.2	436.8	89.0	220.4	309.4	-156.1	-330.7	-486.8	163.5	95.9	259.4	1,230.4	1,499.4	2,729.8
Tailings Facility	0.0	184.5	184.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	184.5	184.5
Buildings with Foundations	6.4	5.7	12.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	5.7	12.1
Yards Storage- Ancillary	475.0	451.7	926.7	66.2	10.6	76.8	1.2	0.6	1.8	-91.6	-11.8	-103.4	-24.2	-0.6	-24.8	450.8	451.1	901.9
Water Management – Diversions	227.9	154.9	382.8	4.1	6.0	10.1	0.0	0.0	0.0	-4.9	-2.5	-7.4	-0.8	3.5	2.7	227.1	158.4	385.5
Total ²	3,699.9	4,444.1	8,144.0	657.8	434.6	1,092.4	359.1	570.0	929.1	-359.1	-570.0	-929.1	657.8	434.6	1,092.4	4,357.7	4,878.7	9,236.4

Source: MMC 2022
¹ Referred to as Heap Leach Facility in the reclamation permit.
² Differences in totals are due to rounding.

2.1.4 Open-Pit Backfill

MMC proposes to completely backfill the Mud Pit to elevations above the pit crest and to partially backfill the Valmy Pit and the New Millennium Pit. Backfilling within the Mud Pit, Valmy Pit, and New Millennium Pit would occur above the groundwater table.

Backfilling would be completed in accordance with the previously approved flexible backfill process (BLM 2001, 2003), which requires the following documentation to be submitted to the NDEP and BLM prior to backfilling: source of the material to be used as backfill; geologic information for the backfill material; bottom elevation of the pit that would be backfilled; and elevation of the pre-1992 pre-dewatering water table beneath the pit.

2.1.5 Waste Rock Management

It is anticipated that the waste rock material types encountered would be similar to those encountered in the authorized pits and addressed in the approved waste rock management plan (WRMP) (SSR 2019; Piteau 2021b). Specifically, the material types would have similar constituent release and low potential to generate acid. If potentially acid-generating material is encountered, it would be handled in accordance with the WRMP.

MMC would also implement a waste rock geochemical characterization program based on the work plan (Piteau 2021b). The work plan includes additional static and kinetic testing within the new pit areas to supplement the available geochemistry and meet the following objectives: characterize representative waste rock within the proposed pits, including additional static testing on each geochemical unit and additional kinetic testing using humidity cell tests (HCTs) on rock types with higher uncertainty to corroborate low potential to generate acid and quantify constituent release rates; develop a static sample population to corroborate (or differentiate) geochemical characteristics of the Project and the Mackay Pit to validate the application of district scale geochemical characterization at the Marigold Mine; and select confirmatory meteoric water mobility procedure (MWMP) and HCT samples for the Project.

2.1.6 Processing Pad Facility

Processing pad Cells 23D and 25 would be constructed to accommodate the increased ore mined from the new pit footprints. Both Cells 23D and 25 would be constructed in the same manner as the other more recently authorized Cells 20, 21, 22, and 24. In addition, the capacity of a portion of the previously approved Cell 23, referred to as Cell 23C, would be increased. Cell design parameters are provided in the POA (MMC 2022).

2.1.7 Processing Ponds

To handle the increased quantity of solution from the additional cells, it is anticipated an additional solution pond would be constructed. Pregnant Pond 7 would be connected to the existing ponds through synthetic-lined channels. The pond would be constructed and operated in accordance with NAC 445A.433(c) and (d) and would be fenced with eight-foot-tall chain-link wildlife fencing. Processing pond dimensions, acreages, and volumes are provided in the POA (MMC 2022).

2.1.8 Ancillary Facilities

2.1.8.1 Growth Media Stockpiles and Alluvium

Prior to construction of proposed facilities, suitable growth media would be removed and stockpiled for later use during reclamation. Suitable alluvial material from the pits would also be salvaged as growth media and stored on WRSAs or in stockpiles. Interim reclamation measures would be implemented to protect the stockpiles from wind and water erosion as well as invasive or noxious weeds. The existing/authorized growth media stockpile GMS-8 is located within the footprint of the New Millennium Pit; therefore, GMS-8 would be relocated to the top of a WRSA to be used during reclamation.

2.1.8.2 Infill Disturbance

An infill disturbance area would be added east of the heap leach facilities. The area would be cleared of vegetation and leveled, and may be used as a laydown yard and to provide an open working area in the vicinity of the heap leach pads.

2.1.8.3 Stormwater Diversion Structures

The authorized Valmy area stormwater diversion structures VP-D1, VP-D2, and VP-D3 would be consumed by the proposed pit expansions. Two new diversion structures, Upper Valmy and Millennium, would be constructed upgradient of the proposed pit areas. The Upper Valmy Diversion structure would route stormwater to an unnamed natural drainage to the northeast while the Millennium Diversion structure would route stormwater to an unnamed natural drainage to the southwest.

The Millennium Diversion structure would be designed to withstand the 500-year, 24-hour stormwater event and would remain as a post-reclamation feature. The Upper Valmy Diversion structure would be designed to contain the 100-year, 24-hour storm event during operations. This diversion structure would be reclaimed at closure and an additional stormwater diversion structure would be constructed within the footprint of the Valmy Pit, designed to withstand the 500-year, 24-hour stormwater event.

To reduce the incidence of ponding within the Millennium Catchment Area, a coffer dam would be constructed in the Trout Creek drainage to the west of the New Millennium Pit. Water would be conveyed via two 36-inch high-density polyethylene (HDPE) pipelines north where the water would outlet back into the existing Trout Creek Diversion below the existing Trout Creek Dam. Cofferdam overflows would follow the natural Trout Creek drainage into the Millennium Catchment Area.

2.1.8.4 Stock Water Trough

A proposed haul road would restrict access to Mud Spring, Double Source Spring, and Unnamed Springs. Access would be limited for the duration of the haul road existence, which is anticipated to be about 10 years, after which the haul road would be reclaimed and access to the springs would be restored. MMC has coordinated with the private water right holder to Mud Spring (claimed/unadjudicated vested right) to provide livestock water while access to the spring is limited. A trough would be located along a proposed road disturbance area south of Cell 25. MMC would provide water to the trough via an above-ground HDPE pipeline from the mine water system

or dewatering system. Water provided would meet livestock water quality parameters per NAC 445A.1236.

2.1.8.5 Roads

Haul roads measuring 150-feet in width would be constructed around the southern edges of the New Millennium Pit and north of Mud Pit. These roads would be constructed in the same manner as the existing roads with on-site sourced material. Berms would be constructed to Mine Safety and Health Administration (MSHA)-required specifications. Haul road routes would change throughout the Marigold Mine life as the WRSAs are developed. Additionally, a 12-foot-wide road would be used to access the stock water trough (Section 2.1.8.4), occurring along the eastern property boundary, south of the East Stormwater Diversion Structure.

2.1.8.6 Transmission Lines

An above-ground transmission line would be installed within the proposed Northwest WRSA disturbance area. The 25-kilovolt single pole overhead transmission line would consist of 60- to 80-foot treated wood poles. Design and construction of the transmission line would follow Avian Power Line Interaction Committee guidance. From the terminal end of the transmission line, a mobile power cable would be routed to the active pits to power electric shovels. As mining is completed within each pit, the mobile power cable would be routed to the next active pit area.

2.1.8.7 Fencing and Site Security

The existing facility boundary fence would be moved and/or expanded to encompass the proposed facility footprints. The new boundary fence would be constructed to match the existing fence and would be a BLM-approved four-strand fence with three strands of barbed wire and one strand of smooth wire at the bottom.

2.1.9 Reclamation

The Reclamation Plan has been prepared to meet federal and state regulations and includes descriptions of the equipment, devices, and practices proposed to perform land reclamation activities at the Marigold Mine under the proposed Project (MMC 2022). The authorized Reclamation Plan would be updated to include the POA. Post-reclamation topography is shown on **Figure 5**.

2.1.9.1 Facilities Not Subject to Reclamation

Facilities that would remain as post-reclamation features not subject to post-mining reclamation are listed in **Table 5**. Of the 2,519.2 acres that would remain unreclaimed, 2,235.7 acres are from previously authorized disturbance and 283.5 acres are associated with the Proposed Action.

Table 5 Facilities Remaining as Post-Reclamation Features

Facilities Not Subject to Reclamation	Authorized	Proposed Action	Authorized and Proposed Total
Public access road from the Buffalo Valley Road	11.6	0	11.6
NV Energy 120-kilovolt power line reroute	5.0	0	5.0
Pits (including the approximately 119 surface acre post-mining pit lake)	2,106.0	276.8	2,382.8
Millennium Catchment Area	24.9	0.0	24.9
Millennium Catchment/Trout Creek Reservoir	21.3	2.1	23.4
Lower Trout/Cottonwood Diversion	44.9	0.0	44.9
East Stormwater Diversion Structure	17.6	1.0	18.6
Valmy Diversion Structures	4.4	-4.4	0.0
Upper Valmy Diversion	N/A	1.1	1.1
Millennium Diversion	N/A	6.9	6.9
Total	2,235.7	283.5	2,519.2

N/A = Not Applicable

2.1.10 Project Schedule

Pre-stripping and construction of proposed facilities associated with the Project would be anticipated to occur soon after the acquisition of requisite authorizations and permits. The Project would not alter the currently authorized mine life of active mining through the year 2037. Leaching would continue for three years after mining has ended. Concurrent reclamation would be carried out where feasible.

2.1.11 Applicant-Committed Environmental Protection Measures and Monitoring

Applicant-committed Environmental Protection Measures (EPMs) for the Project are detailed below. These EPMs include applicable existing applicant-committed EPMs for the authorized Marigold Mine (BLM 2019b) and EPMs proposed in the POA (MMC 2022).

2.1.11.1 Air Quality

MMC maintains Air Quality Operating Permits that require control of fugitive dust due to mine operations. To control fugitive dust, water or mineral stabilizers are applied to haul and access roads within the Plan boundary. Speed restrictions are enforced to further minimize particulate emissions from roadways. Concurrent reclamation during the life of the operation, as mine components are completed, would reduce the acreage of disturbed lands, thereby reducing fugitive dust. Enclosures, baghouses, binder chemicals, and water sprays are used as appropriate to control dust emissions from existing crushers, screens, crusher transfer points, and dry material transfer points (lime).

2.1.11.2 Archaeological and Paleontological Resources

MMC has developed the existing mining operation to avoid archaeological resources known to be eligible for inclusion on the National Register of Historic Places (NRHP). MMC has a Cultural Resources Protection Program for the Marigold Mine that includes the following:

- Mining activities, facilities, and employee and equipment access within the Plan boundary and its vicinity are prohibited within 100 feet of archaeological resources eligible or unevaluated for the NRHP in order to prevent impacts to resources;
- Mine exploration and operations equipment are limited outside of the Plan boundary;
- MMC conducts education programs for employees;
- Employee access to known archaeological and paleontological sites on public and private land in the vicinity of the mine is prohibited;
- Per the 2003 Final Supplemental Environmental Impact Statement (EIS) (BLM 2003), a 100-foot buffer zone around the boundary of any archaeological resources eligible or unevaluated for the NRHP would be established by installing a two-strand smooth wire fence with signage “No Off-Road Travel.” The 100-foot buffer zone would be established by a qualified, third-party archaeologist approved by the BLM;
- Archaeological sites evaluated and recommended eligible for the NRHP and affected by the Project would be mitigated through data recovery prior to disturbance. A Treatment Plan would be developed and approved by the BLM, State Historic Preservation Office (SHPO), MMC, and the Advisory Council on Historic Preservation, prior to site mitigation or disturbance;
- If previously undocumented or unidentified archaeological (cultural or historical) resources, subsurface components of documented sites, human remains, burial sites, or vertebrate paleontological resources are discovered during exploration, construction, operation, or reclamation activities, MMC would immediately cease activities within 300 feet of the discovery, ensure that the discovery is appropriately protected, and immediately notify the BLM by telephone followed with written communication. Work would not resume until a BLM Authorized Officer issues a notice to proceed. If resources are identified as eligible for the NRHP, impacts would be mitigated through consultation, a memorandum of agreement, or through site avoidance;
- If fossiliferous deposits, specifically vertebrate fossil deposits, are located during exploration construction, operation, or reclamation activities, the BLM would be notified, and measures would be taken to identify and preserve or avoid the fossils;
- Should damage, destruction, or vandalism to archaeological or paleontological resources occur within, in, or near the Proposed Action during the period of construction, operation, or rehabilitation due to unauthorized, negligent, or inadvertent actions of MMC, its employees, or contractors, or other mine personnel, MMC would be responsible for costs of rehabilitation, resolution, or mitigation;
- Secondary effects to eligible archaeological resources resulting from road and drill site construction and use would be minimized through the implementation of erosion control measures, such as waterbars, double sumps for drill water, and appropriate road design; and
- The entire Plan boundary has been inventoried at the Class III level.

With this Proposed Action, four archaeological sites, which have been evaluated and recommended eligible for the NRHP, would be affected by surface disturbance. These sites would be mitigated through data recovery prior to disturbance and as approved by the BLM, SHPO, MMC, and the Advisory Council on Historic Preservation, prior to site mitigation or disturbance.

2.1.11.3 Drill Hole Abandonment

Mineral exploration, hydrogeologic, and development drill holes, subject to Nevada Division of Water Resources (NDWR) regulations, would be abandoned in accordance with Nevada Revised Statute (NRS) 534 et seq.

2.1.11.4 Employee Training

MMC provides site-wide environmental management education for employees. This training includes information on management practices incorporated into the operation of the facility to minimize impacts to the environment and ensure compliance with environmental permit criteria. MMC also provides annual hazardous materials and waste management training for select employees.

2.1.11.5 Fire Management

MMC would comply with all applicable state and federal fire laws and regulations, and reasonable measures would be taken to prevent and suppress fires in the Plan boundary. Smoking would only be permitted in areas that are free of flammable materials and only if allowed by state law or federal regulations. If smoking is allowed, smokers would position themselves in such a manner that burning material falls within cleared areas. Smoking materials would be extinguished by pressing said materials into mineral soils. When completely extinguished, debris associated with smoking would then be put into containers designed solely for this purpose and properly disposed. The mine buildings are equipped with fire extinguishers and fire hydrants. Mobile equipment on the mine site would be equipped with fire extinguishers as required by MSHA. In the event the proposed activities start or cause a wildland fire, MMC would be responsible for all the costs associated with suppression and rehabilitation. The following precautionary measures would be taken to prevent and report wildland fires:

- All vehicles would carry fire extinguishers;
- Adequate fire-fighting equipment (i.e., shovel, Pulaski, extinguishers), and a minimum 10 gallons of water would be kept at each drill site if a water truck is not readily available;
- Vehicle catalytic converters would be inspected often and cleaned of brush and grass debris;
- Welding operations would be conducted in an area free from or mostly free from vegetation. A minimum of 10 gallons of water, if a water truck is not readily available, and a shovel would be on hand to extinguish any fires created from the sparks. Extra personnel would be at the welding site to watch for fires created by welding sparks. Welding aprons would be used when conditions warrant (i.e., during red flag warnings);
- Wildland fires would immediately be reported to the BLM Central Nevada Interagency Dispatch Center at (775) 623-3444. Information reported would include the location

(latitude and longitude if possible), fuels involved, time started, who or what is near the fire, and the direction of fire spread.

2.1.11.6 Geochemistry

Mitigation Measure WQ-1: If waste rock material from the Mackay North and 5-North pits is not tested, it would not be used as backfill material below the water table and will be treated as potentially acid generating per the WRMP. Only material that has been tested and meets NDEP criteria can be used as backfill below the water table in any of the on-site pits (BLM 2019b).

2.1.11.7 Lands and Realty

Prior to any construction of the rapid infiltration basins (RIBs) area and infrastructure, MMC would prepare final design plans. The design, construction, and use of the RIBs would avoid the existing rights-of-way or MMC would execute an agreement with right-of-way holders to gain access, if possible.

2.1.11.8 Migratory Birds and Raptors

MMC would continue to use a qualified biologist to conduct breeding bird surveys within all suitable habitats prior to ground disturbance, if construction activities occur from March 1 to August 31. These surveys identify either breeding adult birds (i.e., by territorial defense behavior) or nest sites within the areas to be disturbed. If active nests are present, MMC would coordinate with the BLM to develop appropriate protection measures for these sites, which may include avoidance, construction constraints, buffer establishment, etc. An option to conducting breeding bird surveys also includes avoidance of ground disturbance activities between March 1 and August 31, allowing construction to proceed outside of the breeding season without clearance surveys.

In addition, MMC would implement its existing Bird and Bat Conservation Strategy (Stantec 2018) and is in the process of developing an updated Eagle Conservation Plan (SSR 2022a) (**Appendix C**) as part of its application for a Take Permit from the USFWS.

2.1.11.9 Mining Claims

Survey monuments, claim markers, witness corners, reference monuments, bearing trees, etc., would be protected against destruction, obliteration, or damage. When operations are concluded, the operator would remove survey markers, stakes, flagging, etc., for which the operator has no further need. Prior to destruction or damage during surface-disturbing activities, MMC would contact the BLM to develop a plan for necessary restoration or re-establishment activity of the affected monument in accordance with Nevada Instruction Memorandum No. NV-2007-003 and Nevada law. MMC would bear the cost for the restoration or re-establishment activities including the fees for a Nevada professional land surveyor.

For valid unpatented mining claims that are held within the Plan boundary, but where MMC is not the owner or operator (via lease agreement), MMC would place a 100-foot buffer around these features to avoid impacts to these claimants. In the event a valid unpatented mining claim is inadvertently impacted by the Project, a settlement with the claimant would be negotiated.

2.1.11.10 Noxious Weeds

MMC would continue active management of noxious weed controls at the site as described in MMCs Integrated Weed Management Plan. Preventative measures include the education of key employees for the identification of weed species and the implementation of best management practices (BMPs). Noxious weed BMPs include timing of disturbance, timing of weed control activities, controlling weeds prior to disturbance, gear cleaning, proper disposal of weeds, use of weed-free materials, and the establishment of competing vegetation. Treatment or control of weeds may be done through mechanical, biological, or chemical controls. Chemical applications would be carried out by trained personnel.

Noxious weed occurrences within the reclaimed areas would be reported to the BLM, and an appropriate eradication plan would be developed. If herbicides are used to control noxious weeds, the application rates and methods would conform to BLM standards, thereby avoiding potential risks to human health and the environment. Noxious weed occurrences on public lands adjacent to the Plan boundary would be reported to the BLM.

2.1.11.11 Reclamation

The post-mining land use for the area disturbed by the expansion is expected to be similar to the pre-mining land uses. The uses include mineral exploration, mining, livestock grazing, wildlife, and recreation. Reclamation would be in conformance with the BLM and Nevada state reclamation regulations (Attachment B of the Nevada Guidelines for Successful Revegetation for the NDEP, the BLM, and the United States Forest Service). Experience from past reclamation efforts would be considered for designing reclamation of the proposed disturbance.

2.1.11.12 Sedimentation and Erosion

Revegetation of disturbed areas would reduce the potential for wind and water erosion. Following construction activities, areas such as cut and fill embankments and growth media stockpiles would be seeded as soon as practical and safe. Concurrent reclamation would be maximized to the extent practical to accelerate revegetation of disturbed areas.

Surface waters would be managed to avoid excessive sediment loading to runoff outside of the Plan boundary. Temporary diversions would be employed under the site Stormwater General Permit and would be maintained and modified on an annual basis. Permanent diversion structures would be completed when a component, such as a tailings facility or a waste rock facility, are at final design limits, to ensure the structure is appropriately sized and located.

Stormwater diversions are designed to contain the 100-year, 24-hour storm event. A typical ditch is about 10 feet in width and four feet in depth; however, the dimensions vary based on topography and watershed size.

Post-reclamation diversions would be constructed to withstand the 500-year, 24-hour storm event, as discussed in Section 2.7.9.2 of the POA.

Sediment control would be provided by a combination of EPMs at each facility:

- The processing pad and chemical/petroleum storage areas would be contained within an exclusionary berm;

- The WRSAs would have stormwater containment berms and sediment basins to reduce runoff impacts to receiving waters; and
- The WRSAs would be reclaimed concurrently to reduce sediment loss. This would include ripping compacted surfaces and application of growth media to increase permeability to the vegetation root zone. Temporary stormwater diversions would be installed where appropriate.

2.1.11.13 Stability of Facilities

The WRSAs, dam structures, and processing pad facilities are designed and constructed to ensure stability during construction, operation, and post-closure. Stability modeling results for the processing pad and dam structures are included in applications for the NDWR Dam Safety Branch and the NDEP Bureau of Mining Regulation and Reclamation (BMRR) permits. These facilities are monitored on a regular basis during operations to identify any visible stability problems.

2.1.11.14 Vegetation

MMC would continue to use established EPMs to prevent impacts to vegetation. During reclamation, facilities would be ripped and/or scarified to produce a rough surface for anchoring of reapplied growth media and/or seeded with the approved seed mix described in Section 3 of the Reclamation Plan in the POA. Growth media would be placed at a minimum depth of six inches. Seed bed preparation may be performed immediately prior to seeding to allow seed placement prior to soil re-compaction. Seed bed preparation and seeding would typically be conducted in the fall to take advantage of winter and spring moisture.

A Desert Flora Harvest Registration Form and Desert Flora tags would be completed for relocation of State-protected cacti, as per NRS § 527.500.

2.1.11.15 Visual Resources

During reclamation activities, the WRSAs would be graded to eliminate the benches between lifts, reduce the side slopes to an approximate 3H:1V grade, and round-off top benches to approximate more natural contours. After slopes are stabilized and graded, growth media would be applied and the WRSAs seeded. These efforts would reduce moderate contrasts in landforms and lines associated with the Marigold Mine to weaken contrasts as vegetation establishes and matures.

MMC has prepared a Lighting Management Plan to document its lighting needs at the mine site as well describe BMPs that are used to reduce light pollution (SSR 2017).

Mitigation Measure VR-1: MMC will paint or stain buildings, structures, and pipelines to produce flat-toned, non-reflective surfaces using the BLM color chart for color selection to blend with the existing environment (BLM 2019b).

2.1.11.16 Waste, Hazardous or Solid

Management of solid waste and hazardous materials are managed under MMC's Solid and Hazardous Waste Management Plan (SHWMP) and integrated Emergency Response Plan (ERP), to address release of fluids from mine facilities. The sections of the SHWMP and ERP that addresses chemical releases contains procedures for the control of leaks or spills. Continued

operation in accordance with these documents would assist in keeping spills localized and contained to allow for efficient cleanup. MMC has the necessary spill containment and cleanup equipment and trained personnel available at the site to quickly respond to minor releases.

Hazardous materials storage tanks require secondary containment sufficient to hold 110 percent of the volume of the largest tank within the containment system. Management of tanks and vessels comply with manufacturer's recommendations, state and federal regulations, and BMPs. Hazardous substances would be handled in accordance with applicable MSHA or Occupational Safety and Health Administration regulations (Titles 30 and 29 of the CFR).

Non-hazardous solid waste generated on the site would be disposed in an approved Class III waived on-site landfill. Used tires would be either recycled by the suppliers or buried in the WRSAs. Used equipment, such as batteries, alternators, starter motors, etc., would be recycled for remanufacture.

Slag from the on-site laboratory would be recycled. Crucibles and cupels from the laboratory would be sent to a licensed hazardous waste landfill for disposal. Used petroleum products, antifreeze, and Freon would be transported off site to approved recycling facilities. Cyanide on-site transportation, storage, handling, and use would continue to be carried out in accordance with the International Cyanide Management Code. Other hazardous waste that is generated would be managed in accordance with the applicable Resource Conservation and Recovery Act and Department of Transportation regulations.

2.1.11.17 Water Quality

EPMs used to control sediment in precipitation runoff from Project facilities and disturbed areas during construction and mine operations include, but are not limited to, diversion and routing of stormwater using accepted engineering practices, such as diversion ditches, sediment traps, and rock and gravel cover.

Temporary stormwater diversions would be installed where appropriate. Temporary diversions are employed under the site's Stormwater General Permit (NVR 300000) and Stormwater Pollution Prevention Plan. They are maintained and modified on an annual basis or as needed. Permanent diversion structures are completed when a component, such as a tailings facility or a WRSA, are at final design limits, to ensure the structure is appropriately sized and located.

Surface water would continue to be managed to avoid excessive sediment loading to runoff outside of the Plan boundary.

The various stormwater diversion and sediment control structures are monitored by visual inspection to ensure integrity. If necessary, precipitation accumulated within process component containment areas after major storm events is removed by pumping and disposing of in the heap leach processing facilities. Stormwater diversion structures at the WRSAs are visually inspected after major storm events and during spring snowmelt to verify the integrity of the diversion structures, to remove accumulated debris that could impede water flow, and to make repairs, as necessary. These monitoring efforts comply with the requirements in the General Stormwater Permit (NVR 300000). Monitoring data are reported to the NDEP Bureau of Water Pollution Control on an annual basis. Other monitoring and control technologies are further specified as part

of state permitting activities (i.e., General Stormwater Permit), which include applications and reviews for the Stormwater General Discharge Permit and the Water Pollution Control Permit (WPCP) (NEV88040).

Groundwater monitoring would continue to be conducted on a quarterly basis in compliance with the WPCP. Water quality samples are collected from the monitoring points specified in the WPCP and are analyzed for the constituents listed in the site's WPCP. Monitoring data is submitted to NDEP and BLM on a quarterly and annual basis.

Samples would continue to be collected from the freshwater production wells on an annual basis. The samples are analyzed for the constituents specified in the site's WPCP. Monitoring data is submitted to the NDEP BMRR and BLM on an annual basis.

Monitoring of the processing pad facilities includes daily inspection to verify the liner containment system is functioning properly. Flow rates for the processing pad leak detection, and pregnant pond and barren pond leak detection sumps, are monitored weekly. If fluid is present at the monitoring ports, then the sumps must be evacuated, and monitoring must be conducted on a more frequent basis. The daily, weekly, and quarterly monitoring and sampling are documented in the quarterly monitoring report submitted to NDEP BMRR and BLM. Samples from the pregnant ponds, barren ponds, tailings solution, and tailings reclaim water must be collected and analyzed annually for the constituents specified in the WPCP.

The petroleum fueling area has its own concrete containment pad for incidental spills. The tailings and WRSA have stormwater diversion ditches to prevent runoff from entering the facilities. The WRSA would be reclaimed concurrently to reduce sediment loss. This would include ripping compacted surfaces to increase permeability to the vegetation root zone.

Monitoring and control technologies are specified as part of state-permitted activities such as the General Storm Water Permit, which includes review of stormwater general discharge and WPCPs.

MMC shall be responsible for all costs associated with releases of subsurface fluids resulting from exploration drilling operations and practices. Protection measures shall be taken to control groundwater including potential artesian groundwater flows. In the event an uncontrollable artesian flow occurs, the artesian flow shall immediately be brought to the attention of the BLM Authorized Officer (BLM 2019b).

The site's WPCP would be updated to include monitoring points required for the proposed facilities and for the dewatering, RIBs, and water management procedures included in the updated reports.

MMC has obtained water rights for dewatering, as required, as well as water rights to address evaporation from the proposed pit lake at full capacity as determined by NDWR.

Mitigation Measure WQ-2: If the monitoring results indicate the need for the treatment of the water, submittal and approval of a treatment plan design would be required two years prior to commencing dewatering operations (BLM 2019b).

2.1.11.18 Wildlife and Livestock

To prevent access by wildlife and livestock, fencing that meets the BLM and NDOW requirements would be installed around solution ponds, stormwater ponds, and open conveyance solution channels.

A BLM-approved range control fence would be placed around the perimeter of mine facilities as needed to prevent access by wildlife and livestock to mining operations.

MMC currently manages livestock access to water by providing troughs outside the fenced mine boundary, which is supplied by the mine supply well. Livestock and livestock herders would continue to have access to the troughs for a water supply or to fill their water trucks. There are currently three troughs in use. Additional troughs may be added as the mine develops, through consultation with livestock managers.

Monitoring wells located outside the fenced area would be clearly marked and locked. Additional fences and controls would be installed, as necessary.

MMC would manage potential ponding of cyanide solution on the processing pads to prevent wildlife access by the following:

- Identify areas of ore with high fines content and blend with rockier material to promote drainage, as appropriate;
- Survey and level benches on the processing pads to ensure a level surface with minimal low spots that can contribute to solution collection and ponding;
- Visually inspect cells under active leach;
- Manage solution flow to the pad to limit ponding or reduce it if it has occurred;
- As needed, use chemicals, such as surfactants, to promote drainage;
- As needed, use technology such as drones to perform extensive visual inspections;
- As needed, use auditory or physical deterrents to discourage wildlife in the area;
- Use temporary netting to eliminate access for wildlife for limited/small-scale ponding; and
- Cease leaching, re-rip the pad, or discontinue leaching and stacking of the next bench.

Other EPMs that are currently implemented include:

- Installation of fencing, netting, and/or bird balls around or over any open solution conveyance channels and ponds containing process solutions to prevent access by birds and bats;
- Monitoring and managing cyanide concentrations of the process solutions;

- Enforced speed limit of 10 miles per hour around facilities and 35 miles per hour on haul roads;
- Proper management of the Class III waived landfills; and
- Formalized procedures for verbal and written reporting of wildlife mortalities to the BLM and NDOW.

2.2 Alternative B – No Action Alternative

Under the No Action Alternative, MMC would continue to construct, operate, and close the Marigold Mine as analyzed in the NEPA actions listed in **Appendix A** and as authorized most recently in the 2019 Mackay Optimization Project (BLM 2019a), May 12, 2020 Minor Modification (BLM 2020b), July 2, 2020 Minor Modification (MMC 2020), 2020 revised Reclamation Permit 0108 (NDEP 2020), January 18, 2022 Minor Modification (BLM 2022a), and July 2, 2022 revised Reclamation Permit 0108 (NDEP 2022).

Authorized activities include active mining through 2037 followed by mine closure activities. MMC is authorized to and would continue to conduct surface disturbance associated with the facilities and acreages provided under Existing/Authorized column in **Table 4**.

2.3 Alternatives Considered but Eliminated from Detailed Analysis

To be considered for detailed analysis in this EA, potential alternatives had to meet the definition of a “reasonable alternative” in the CEQ regulations at 40 CFR 1508.1(z), i.e., they had to meet the Purpose and Need for the Proposed Action and be technically and economically feasible. Alternatives were also reviewed to determine if they were environmentally reasonable or provided an environmental benefit over the Proposed Action. Input from both internal and external scoping helped to inform and develop the considered alternatives. Based on the criteria for reasonable alternatives, through internal scoping discussions and the input from public scoping comments, additional alternatives were developed, but no other action alternatives were identified to carry through full analysis in the EA. As required by regulation, the No Action Alternative is included in this EA (40 CFR 1502.14(d)); therefore, the alternatives analysis in detail in this EA include Alternative A – Proposed Action (Section 2.1) and Alternative B – No Action Alternative (Section 2.2).

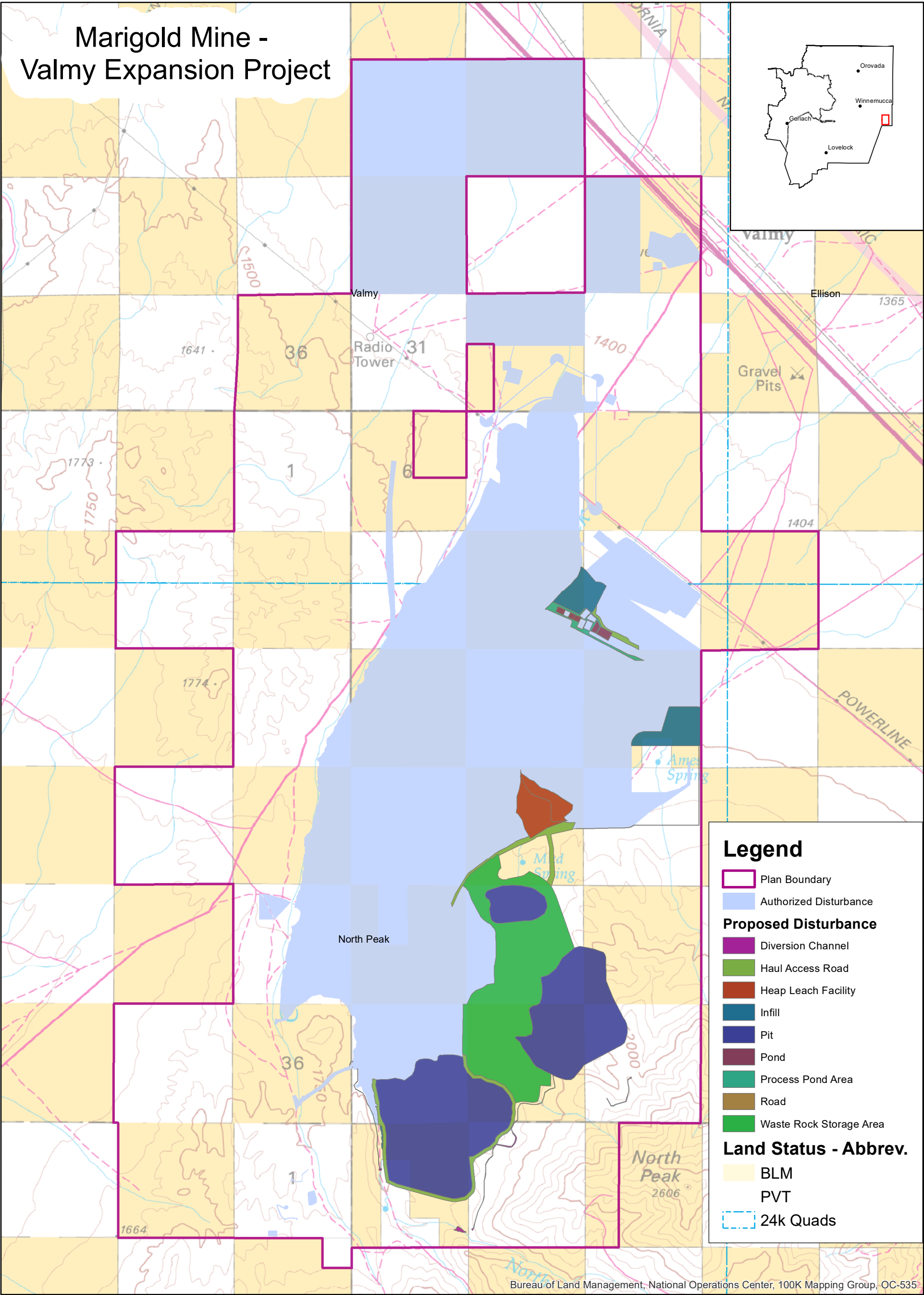
Potential alternatives to the Proposed Action are limited by the geologic resources and the existing mining infrastructure. The alternatives considered but eliminated from detailed analysis are described in **Table 6**.

Table 6 Alternatives Considered but Eliminated from Detailed Analysis

Alternative	Elimination Rationale
Valmy WRSA Design Alternative	This alternative would result in the Valmy WRSA being sited to avoid impacts to archaeological sites. This alternative is not feasible because the WRSA design to avoid archaeological resources would form a sink/depression that would hold water. This WRSA design would also be constructed on and cover Unnamed Springs, Double Source Spring, and Mud Spring. Due to the technical, safety, and environmental concerns, this alternative was eliminated from further consideration and analysis.
Pit Backfill Alternative	This alternative was considered to reduce the size of the WRSAs and reduce the total disturbance remaining post-reclamation from open pits. This alternative would result in full backfill of the Valmy and Millennium pits. The pits would be backfilled with material stored in a WRSA upon completion of mining or backfilled concurrently as mining progresses. It was determined that backfilling of all pits would not be economically feasible as it would require additional mobilizations to move waste rock from the WRSA where it is stored and back to a pit following mining (i.e., it would need to be loaded and trucked multiple times) (BLM 2019c). Therefore, waste rock would be mined and transported to a WRSA to minimize the mobilizations needed for waste rock handling. This alternative is considered economically infeasible due to the additional mobilizations that would be required to transport waste rock, and was eliminated from detailed analysis.

Source: SSR 2022b

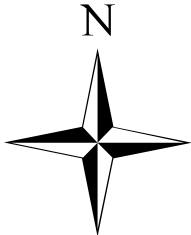
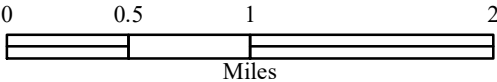
APPENDIX B:
PROPOSED DISTURBANCE MAP



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Winnemucca District
Bureau of Land Management
5100 E. Winnemucca Blvd
Winnemucca, NV. 89445

Marigold Mine
7.5" Quad: Valmy, Ellison,
North Peak, Snow Gulch
USGS 100k: Winnemucca



1:50,000
Date: 5/9/2022

APPENDIX C:
HISTORIC PROPERTIES
TREATMENT PLAN

This attachment contains information that may be considered privileged and that may be exempt from Freedom of Information Act (FOIA) requests.

Please consult the appropriate federal agency concerning this attachment for further information.