

COMMENCEMENT OF DESKTOP REVIEW OF GEOPHYSICAL DATA FOR DESERT STAR PROJECTS

Highlights

- **Comprehensive Desktop Review Underway:** Bayan has launched a strategic desktop study covering geophysical datasets across the Desert Star Projects in California's prolific eastern Mojave region.
- **Extensive Data Coverage:** Both Desert Star and Desert Star North tenement blocks are fully covered by high resolution airborne magnetic, gravity, and radiometric datasets acquired by the United States Geological Survey (USGS).
- **Integrated Interpretation of Multisource Data:** Advanced analysis underway combining aeromagnetic, gravity, radiometric, regional rock physical properties, and Sentinel 2 satellite imagery to refine geological understanding.
- **Priority Target Generation in Tier-1 Mining Corridor:** A desktop study review identifying high-impact geophysical targets with potential for similarities to the nearby world-class Mountain Pass REE Mine and Colosseum Mine.
- **Synergistic Exploration Strategy:** Desktop study outcomes will be integrated with ongoing geochemical reconnaissance currently underway to define and prioritise drill ready targets for the next phase of exploration.
- **Fieldwork Advancing with Assays Imminent:** Fieldwork is currently underway at Desert Star North, with initial assay results from Desert Star expected in early August to accelerate target definition.
- **Strategic Positioning Aligned with U.S. Policy Shift:** President Trump's new rare earth policy underscores the strategic importance of Bayan's Desert Star Projects, located near the Mountain Pass REE mine, the only operating rare earth mine in the U.S. This follows recent multimillion-dollar investments by both the U.S. Department of Defence and Apple into MP Materials¹, further reinforcing the national priority placed upon securing domestic rare earth supply chains and the relevance of Bayan's proximal assets.

Bayan Mining and Minerals Ltd (ASX: BMM; "BMM" or "the Company") is pleased to announce that it has commenced a comprehensive desktop study of available geophysical and other geological datasets covering its Desert Star Projects, located in California's eastern Mojave Desert.

¹ MP Materials Corp. (NYSE:MP). www.mpmaterials.com

The Desert Star Project comprises two claim blocks, Desert Star and Desert Star North, located in San Bernardino County, California. Together, they cover a combined area of approximately 9.75km² and comprise 117 federal lode claims situated approximately 4.5 km from the Mountain Pass Rare Earth Mine and ~3 km north of the Colosseum Gold Mine. The project lies within a structurally complex corridor prospective for rare earth elements (REE), gold, and antimony mineralisation.

Geophysical Data Coverage

The Desert Star Project benefits from comprehensive coverage by multiple high-resolution geophysical datasets acquired by the USGS. These include airborne magnetic, gravity, and radiometric surveys encompassing both the Desert Star and Desert Star North claim blocks. Additionally, regional gravity data and magnetotelluric (MT) profiles in the broader Mountain Pass/Colosseum corridor provide valuable subsurface context for integrated interpretation and exploration planning.

This integrated dataset provides complete geophysical coverage over the project area, offering an excellent foundation for refining structural interpretation, assessing geological similarities to nearby deposits, and guiding cost-effective follow up exploration work plan.



Figure 1 – Aerial photo looking north-westerly toward outcropping metamorphic and felsic plutonic rocks at the Desert Star Project



Figure 2 – Desert Star North aerial photo looking Southeasterly

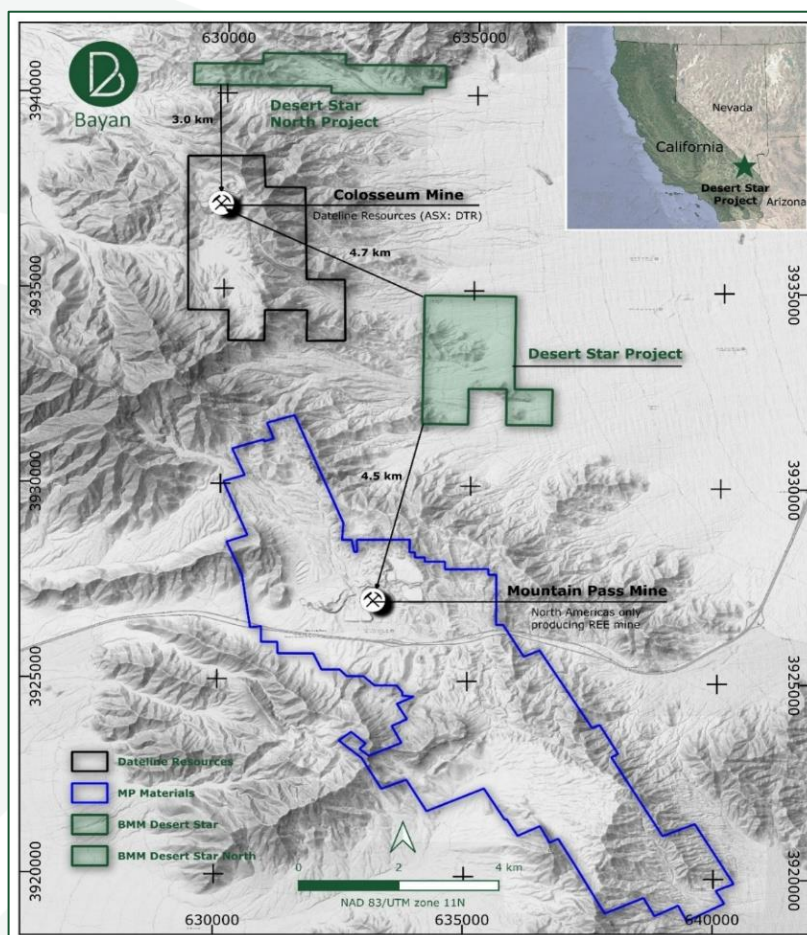


Figure 3 – Desert Star Projects Location Map

Executive Director Fadi Diab commented:

"This desktop review is a key step forward for the Desert Star Project. Leveraging high-quality USGS geophysical data alongside our ongoing geochemical work allows us to refine target areas quickly and cost-effectively. With the project's proximity to major deposits like Mountain Pass and Colosseum, we're well-positioned to identify high-priority targets and advance to the next phase of exploration."

Next Steps

Fieldwork is currently underway at Desert Star North, with initial assay results from Desert Star expected in early August to accelerate target definition. The outcomes of the geophysics data desktop review, in combination with the geochemical results from the reconnaissance program, will be used to define priority targets for detailed follow up geochemical sampling and to guide the design of potential detailed ground or airborne geophysical surveys. These integrated datasets will provide a robust foundation for refining structural interpretation, optimising drill targeting, and planning subsequent exploration programs.

About Desert Star Projects

The Desert Star Project comprises two claim blocks, Desert Star and Desert Star North located in San Bernardino County in California's eastern Mojave Desert. Together, the projects cover a combined area of approximately 9.75 km² and consist of 117 federal lode claims², which have been staked and claim applications submitted to the U.S. Bureau of Land Management for registration.

Strategically located within a globally significant critical minerals corridor, the Desert Star Project lies just 4.5 km from MP Materials' operating Mountain Pass Rare Earth Mine and approximately 4.7 km from the southern extents of the Colosseum Gold Mine.

The area is well supported by infrastructure, including nearby access to Interstate 15, high-voltage power transmission lines servicing the Mountain Pass Mine, and a Union Pacific rail line within 25 km that may support bulk logistics in future development. Additional renewable power infrastructure in the Ivanpah Valley provides further optionality for low-emission energy access.

The Desert Star claim block comprises 72 federal lode claims covering approximately 6 km². Geologically, the area lies within a structurally uplifted block of Paleoproterozoic metamorphic and igneous basement rocks intruded by Mesoproterozoic alkaline and carbonatite intrusives, including shonkinite, syenite,

² Refer to BMM ASX Announcements dated 7 July 2025 and 14 July 2025.

granite, and carbonatite. These intrusions are genetically linked to REE mineralisation in the district, with key alteration assemblages such as barite, fluorite, hematite, phlogopite, and calcite indicating a magmatic-hydrothermal origin. The tenement is bounded by the Ivanpah Fault to the east and the Clark Mountain Fault to the west, both major regional structures associated with mineralisation at Mountain Pass and Colosseum.

The Desert Star North claim block consists of 45 federal lode claims covering approximately 3.75 km². The project spans a geological transition from Paleoproterozoic basement rocks in the west to Cambrian marine sedimentary units in the east, including limestones, quartzites, and shales. These formations are part of the broader stratigraphy that hosts both rare earth and gold mineralisation in the region. Desert Star North is similarly transected by the northwest-trending Ivanpah and Clark Mountain faults, which exhibit vertical displacement in excess of 10,000 feet. These structures are recognised as key controls on regional mineralisation, including at the Mountain Pass REE Mine and the Colosseum Gold Mine, located immediately to the south.

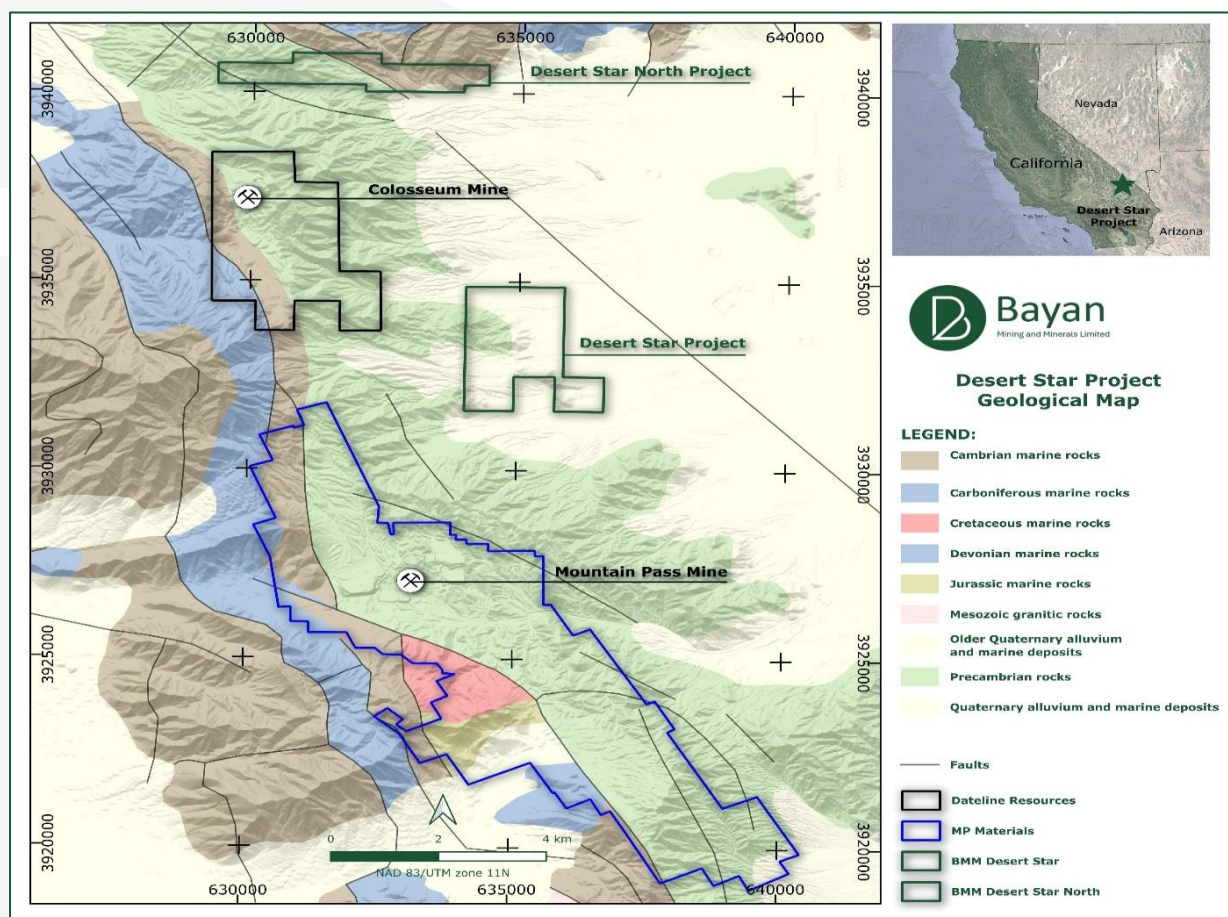


Figure 4 – Desert Star Project Locations Over Regional Geological Map

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Authorised for release by the Board of Bayan Mining and Minerals Limited

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Competent Persons Statement

The information in this report that relates to Exploration Targets or Exploration Results is based on information compiled by Mr Dejan Jovanovic, a Competent Person who is a Member of the European Federation of Geologists (EurGeol). The European Federation of Geologists is a Joint Ore Reserves Committee (JORC) Code 'Recognised Professional Organisation' (RPO). An RPO is an accredited organisation to which the Competent Person under JORC Code Reporting Standards must belong to report Exploration Results, Mineral Resources, or Ore Reserves through the ASX. Mr Jovanovic is the General Manager of Exploration and is a part-time contractor of the Company. Mr Jovanovic has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Jovanovic consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements.

The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original market announcements.

Forward-looking Statements

Certain statements included in this release constitute forward-looking information. Statements regarding BMM's plans with respect to its mineral properties and programs are forward-looking statements. There can be no assurance that BMM's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that BMM will be able to confirm the presence of additional mineral resources, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of BMM's mineral properties. The performance of BMM may be influenced by a number of factors which are outside the control of the Company and its Directors, staff, and contractors.

These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements.

Except for statutory liability which cannot be excluded, each of BMM, its officers, employees and advisors expressly disclaim any responsibility for the accuracy or completeness of the material contained in these forward-looking statements and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in forward-looking statements or any error or omission. BMM undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events other than required by the Corporations Act and ASX Listing Rules. Accordingly, you should not place undue reliance on any forward-looking statement.



ASX ANNOUNCEMENT

4 August 2025

Proximate Statements

This announcement contains references to mineral exploration results derived by other parties either nearby or proximate to the Desert Star Projects and includes references to topographical or geological similarities to that of the Desert Star Projects. It is important to note that such discoveries or geological similarities do not in any way guarantee that the Company will have similar exploration successes on the Desert Star Projects, if at all.