

GEOPHYSICAL DESKTOP STUDY IDENTIFIES MULTIPLE PRIORITY TARGET AREAS AT DESERT STAR PROJECTS, CALIFORNIA, USA

Highlights

- **Four high-priority REE target zones identified:** Targets ST1, ST2, ST3 and NT1, defined by coincident magnetic, gravity, radiometric, geochemical, and spectral anomalies.
- **Desert Star, Targets (ST1, ST2 and ST3):** Strong gravity anomalies, elevated Th/U ratios, radiometric highs and structural intersections consistent with REE-bearing carbonatite systems, akin to the nearby Mountain Pass deposit.
- **Desert Star North, Target (NT1):** Target zone exhibits moderate radiometric anomalies, gravity highs, and fault intersections, highlighting potential for structurally controlled REE mineralisation.
- **Multi-disciplinary data integration:** USGS airborne magnetics, gravity, radiometric, MT, remote sensing (Sentinel-2, ASTER) and surface geochemistry combined to define and prioritise target zones.
- **Strategic Location of Desert Star Projects:** The Desert Star Project is strategically located just 4.5 km northeast of MP Materials' Mountain Pass REE Mine¹ one of the largest and highest-grade rare earth operations globally. Desert Star North Project lies only 3 km north of the Colosseum Gold Mine, which hosts a JORC-2012 compliant Mineral Resource of 27.1 Mt @ 1.26 g/t Au for 1.1 million ounces². Both properties are located within the same regional corridor and share structural and geological characteristics with the globally significant Mountain Pass Rare Earth Mine.
- **Exploration Advancing:** The Company is planning to commence detailed ground magnetic and radiometric surveys, along with a detailed gravity survey. These work programs are designed to define high priority drill targets and fast-track the project towards scout drilling.
- **Downstream Evaluation:** Initiation of downstream evaluation is underway to secure U.S. supply chain.

¹ MP Minerals Corp. (NYSE:MP) www.mppminerals.com

² Dateline Resources Ltd (ASX:DTR) ASX Announcement titled 'Colosseum Scoping Study Delivers Positive Outcomes' dated 23 October 2024.



Bayan Mining and Minerals Ltd (ASX: BMM; "BMM" or "the Company") is pleased to announce the results of a geophysics-led desktop study across its 100% owned Desert Star Projects, located in California, USA.

The study successfully identified four coherent and high-priority rare earth elements (REE) targets across the Desert Star and Desert Star North claim blocks. These targets were defined through the integration of USGS airborne geophysical data (magnetics, radiometrics, gravity and magnetotelluric (MT)), satellite spectral analysis (Sentinel-2 and ASTER) and reconnaissance radiometric data.

Priority Target Areas

The integrated desktop study has defined four priority target areas within the Desert Star Project with three targets (ST1–ST3) located in the southern claim block and one target (NT1) located in the Desert Star North Project. All targets are supported by coincident geophysical and geochemical anomalies and are located in structurally favourable positions along the regional corridor that also hosts the Mountain Pass Rare Earth Mine and the Colosseum Gold Mine. While further ground validation is required, the targets represent the highest-priority areas for follow-up exploration and provide a clear focus for the next phase of work.

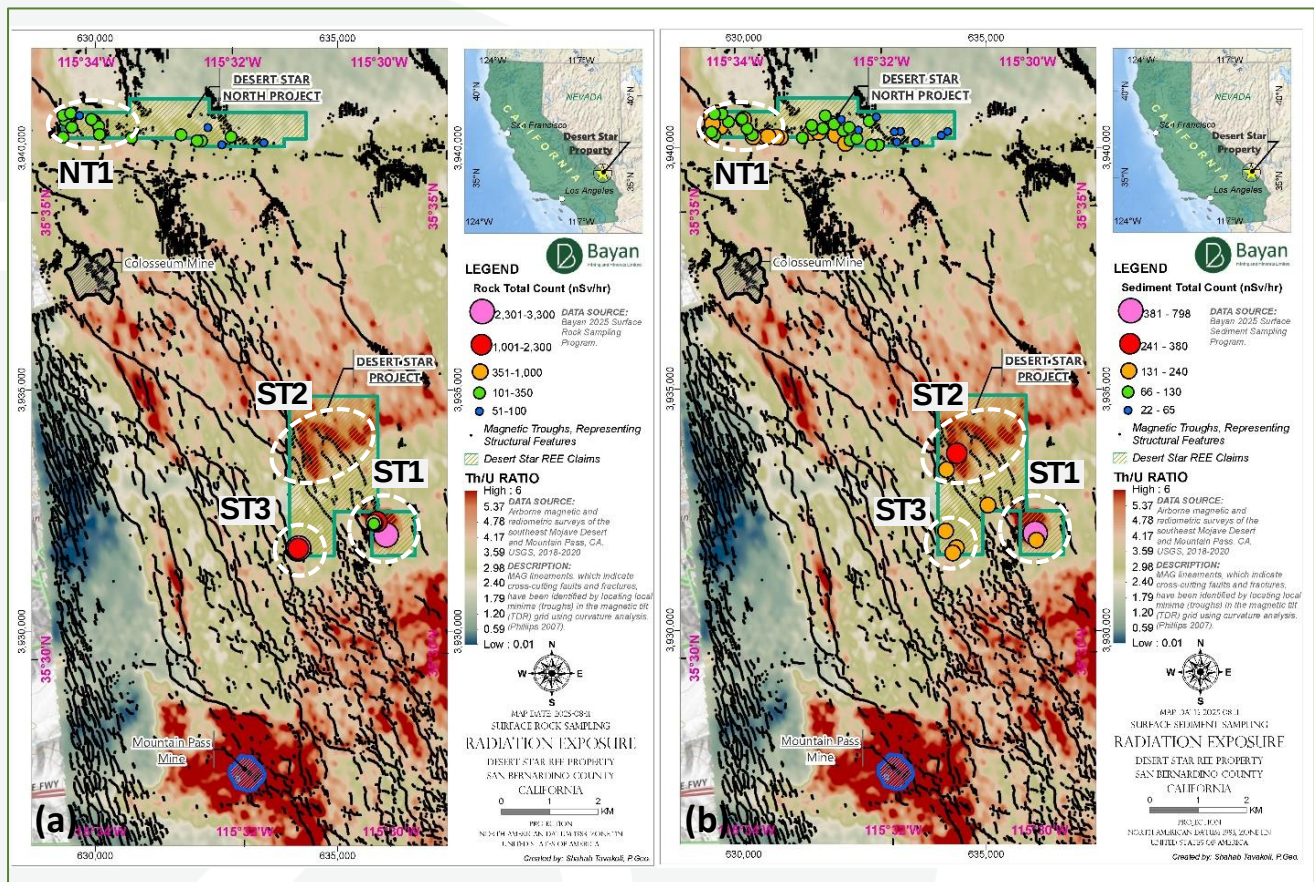


Figure 1: Priority Target Areas Overlain on Th/U Ratio Radiometric Data

Target ST1: Located in the southeastern portion of the Desert Star claim block, this target is defined by a gravity high coincident with a magnetic low and elevated Th/U radiometric ratio. The anomaly measures approximately 400 m by 300 m and is situated at the intersection of dominant NW–SE and NNW–SSE trending structures, with subordinate NE–SW trending faults. The combination of gravity, magnetic and radiometric criteria is consistent with a dense carbonatite or alkaline intrusive body and supports its classification as a priority REE target.

Target ST2: Located in the northwest of ST1 and is delineated by a discrete gravity high associated with coincident radiometric anomalies and mapped structural corridors. The target area measures approximately 350 m by 250 m and lies within a zone of intersecting NW–SE structures. Elevated Th/U ratios further enhance the potential of this anomaly as an expression of REE-bearing intrusives or structurally controlled alteration.

Target ST3: Located in the southwestern portion of the Desert Star claim block and is characterised by a broad gravity high, reduced magnetic intensity and anomalous Th/K and Th/U radiometric ratios. The anomaly extends over an area of approximately 500 m by 300 m. Its spatial association with mapped faults and its geophysical expression are analogous to the signatures observed at the Mountain Pass carbonatite system, making it a compelling target for follow-up work.

Target NT1: Located along the western margin of the Desert Star North claim block. It is defined by moderate radiation anomalies, a gravity high and localised fault intersections. The target covers approximately 400 m by 250 m and lies within a transition zone from basement gneiss to Cambrian sedimentary units. The structural setting and geophysical characteristics suggest potential for REE mineralisation in a similar structural environment to the Colosseum breccia-pipe system to the south.

Regional Structural Setting

The Desert Star Projects are located within NW–SE trending regional faults, part of the same structural corridor that hosts the Mountain Pass REE Mine and the Colosseum Gold Mine.

Remote sensing and geophysical interpretation confirm these structures extend through both the northern and southern claim blocks. ST1–ST3 are localised at intersections of dominant NW–SE and NNW–SSE trending structures and subordinate NE–SW faults, while NT1 coincides with the western margin of the northern block where multiple fault splays converge. The coincidence of structure with geophysical anomalies strongly supports their classification as priority targets.

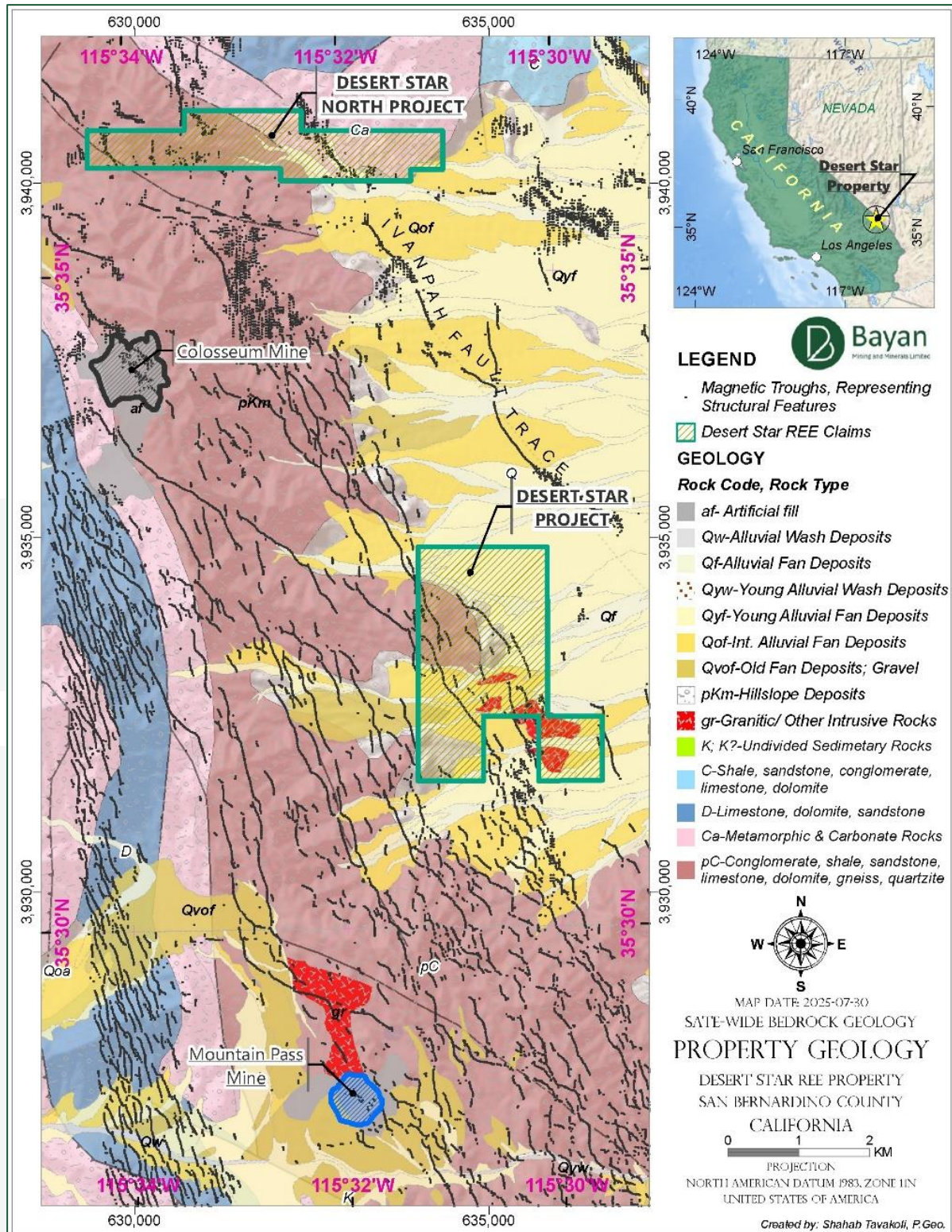


Figure 2: Geological Map (source: Geologic Compilation of Quaternary Surficial Deposits in Southern California - 2012 Revision)

Regional Magnetic Survey Data

The magnetic dataset highlights zones of reduced magnetic intensity within the Desert Star claim block. These magnetic lows are spatially associated with NW–SE trending structures and coincide with areas of high gravity response. The signature is consistent with alkaline intrusive complexes in the district and provides a critical vector for locating potential carbonatite-related REE mineralisation.

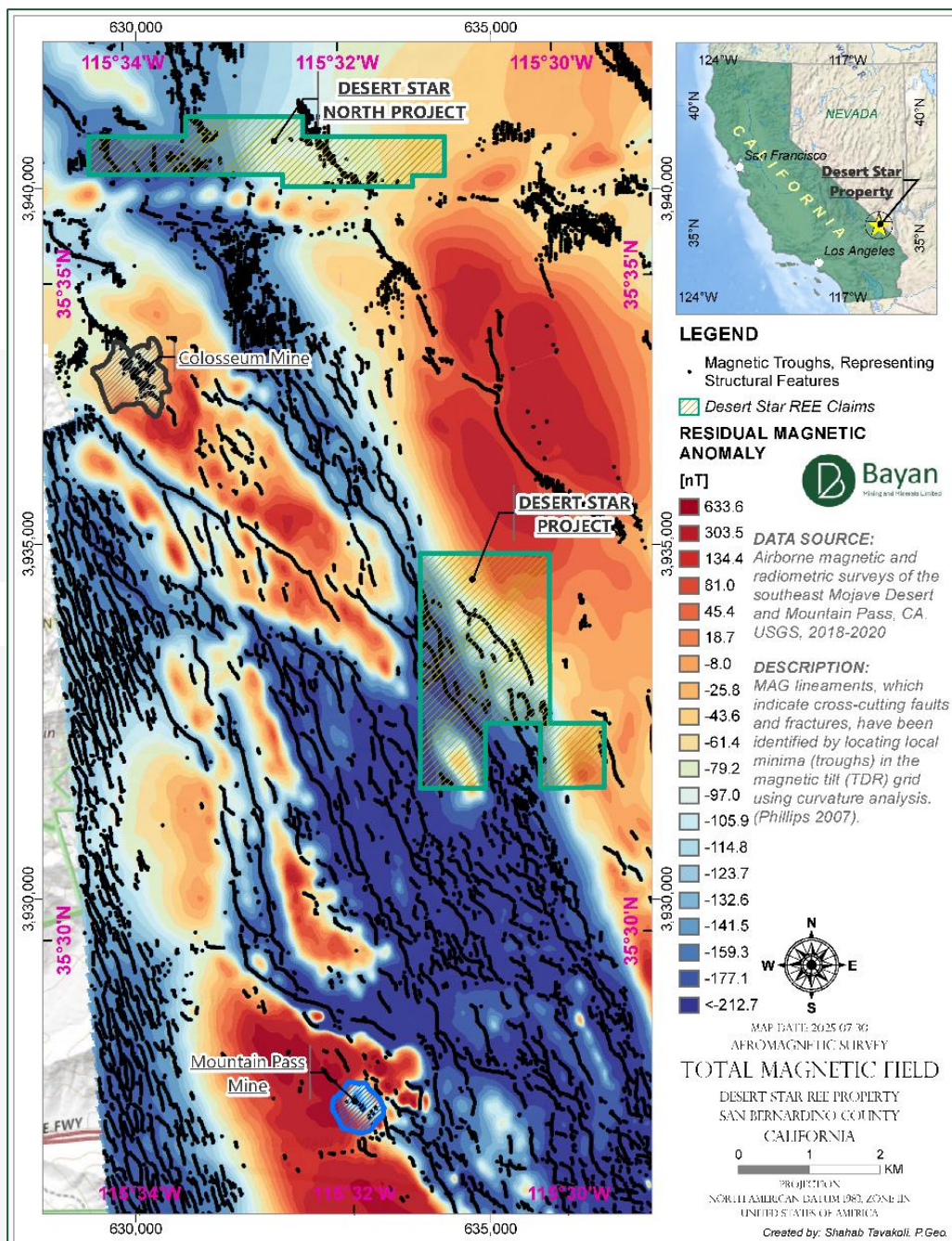


Figure 3: The residual magnetic domains, reflecting differences in the magnetic properties

Regional Gravity Survey Data

Gravity data reveal discrete gravity highs coincident with mapped fault intersections and magnetic lows. The most significant anomalies occur in the southern tenement (ST1-ST3), spatially aligned with elevated Th/U ratios and reduced magnetic response. These signatures are consistent with dense intrusive bodies such as carbonatites, which typically form gravity highs due to density contrasts with surrounding gneisses and schists.

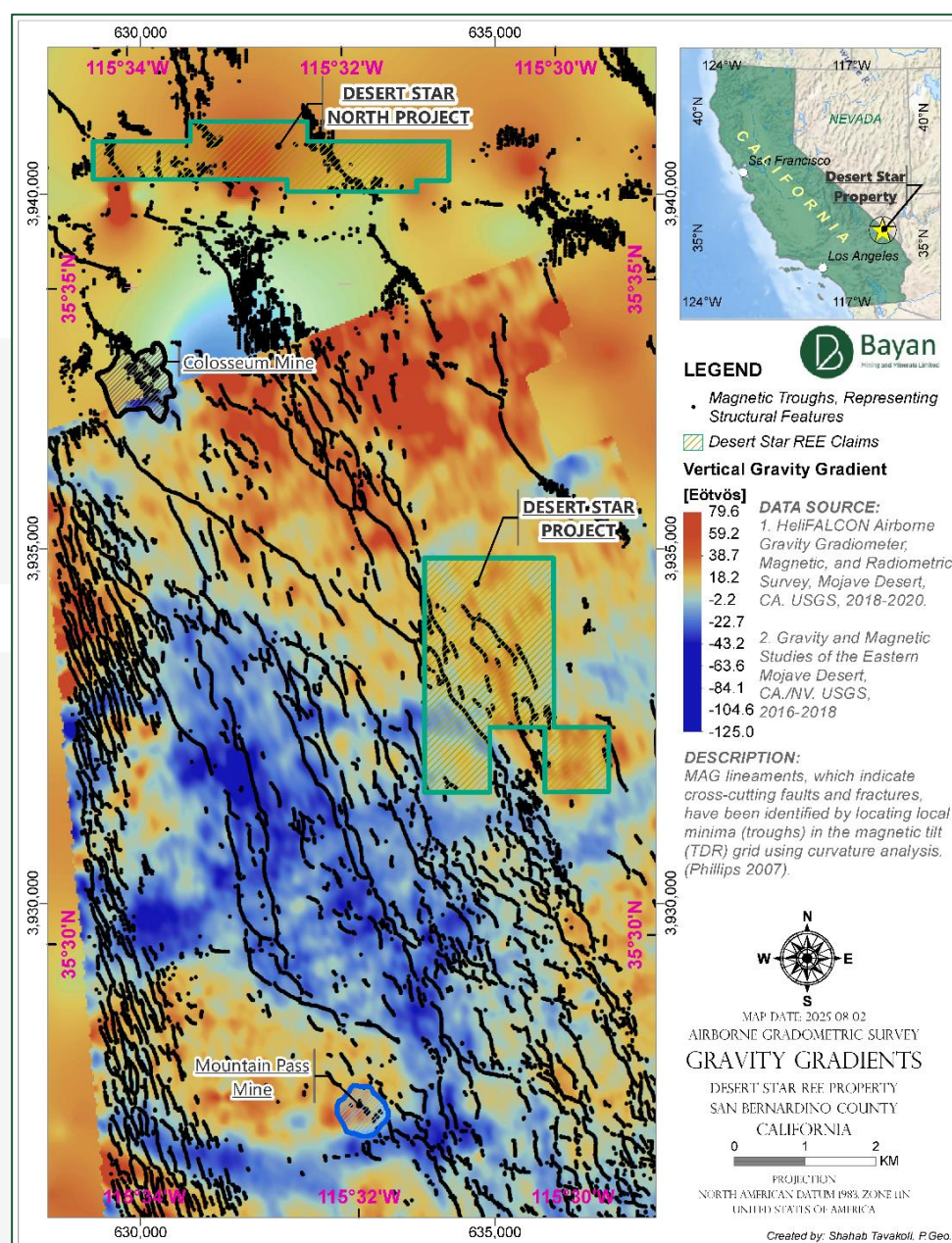


Figure 4: HeliFALCON vertical gravity gradients in correlation with the negative extrema of the magnetic Tilt derivative (TDR), reflecting the probable location of low magnetic structural lineaments

Regional Radiometric Survey Data and Ratio Analysis

Interpretation of airborne radiometric ratios (Th/K, U/K and Th/U) has proven effective in mapping REE-related alteration. Elevated Th/U ratios are evident within the Desert Star claim block, coincident with gravity highs and structural intersections (ST1–ST3). These anomalies are analogous to responses observed at the Mountain Pass REE Mine, where bastnaesite mineralisation is associated with high thorium relative to uranium.

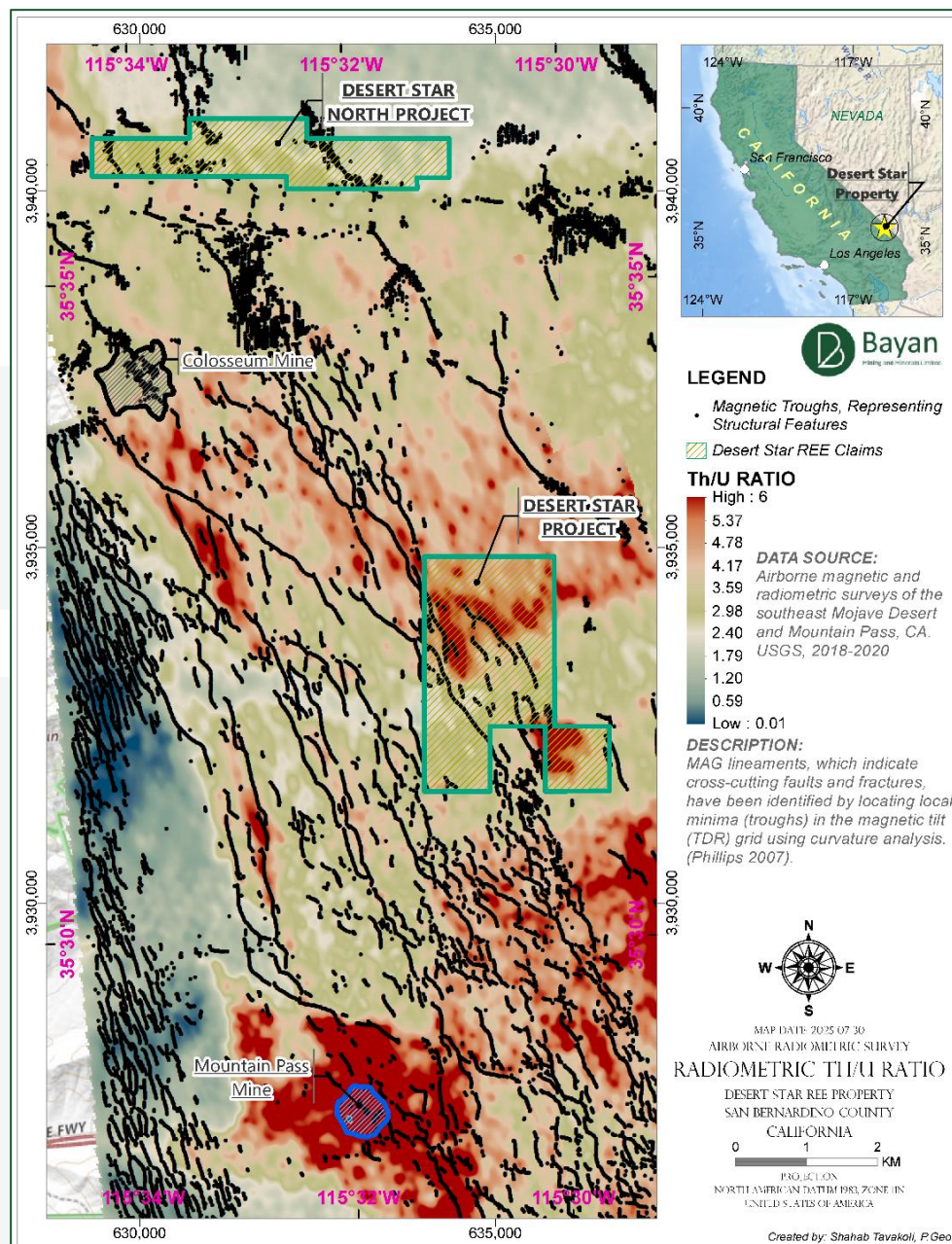


Figure 5: Radiometric Th/U ratio representing relative radioelement abundance Th and U in correlation with the negative extrema of the magnetic Tilt derivative (TDR), reflecting the probable location of lineaments

Executive Director Fadi Diab commented:

"The geophysical desktop study has delivered standout results, confirming four priority REE targets across the Desert Star Projects. The strong alignment between gravity, magnetic, and radiometric anomalies, combined with structural interpretation and surface geochemistry, provides a robust and predictive exploration model.

The project's strategic location, just kilometres from North America's only operating rare earth mine, combined with favourable geology and compelling structural controls, positions Desert Star as a potential cornerstone REE asset for Bayan in the U.S.

With detailed ground surveys planned, we're entering a critical phase of field-based target definition. Desert Star projects are ideally located in a world-class mineral corridor, and we're excited about the potential to make a significant REE discovery in this underexplored region of California."

Next Steps

The Company is planning to commence detailed ground magnetic and radiometric surveys across the Desert Star Project, and a detailed gravity survey will shortly commence. These datasets will be integrated with the results of the desktop study and the previously reported surface geochemical sampling to refine the geometry of the defined target areas. The combined information will provide a robust basis for prioritising zones for follow-up exploration ahead of scout drilling.

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 claims³, which have been staked and claim applications were 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 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, 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.

³ Refer to BMM ASX Announcements dated 7 July 2025 and 14 July 2025.

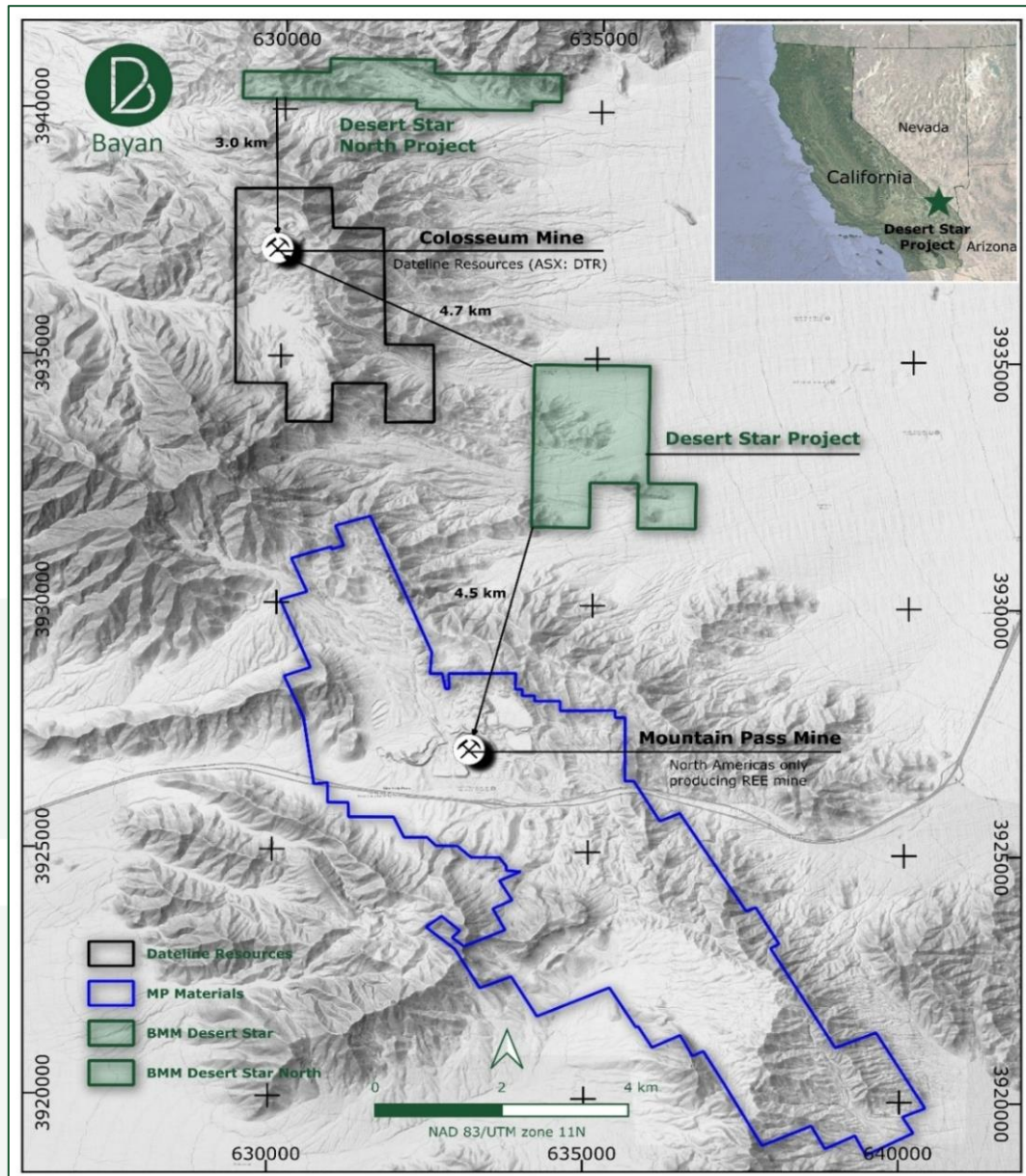


Figure 6: Desert Star Projects Location Map

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

-ENDS-

Competent Persons Statement

The information in this release that relates to Exploration Targets or Exploration Results is based on information compiled by Mr Shahab Tavakoli a Competent Person who is a Member of Engineers and Geoscientists British Columbia (EGBC), a Recognised Professional Organisation (RPO) under the JORC Code 2012. 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 Tavakoli is an independent contractor of the Company. Mr Tavakoli 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 Tavakoli consents to the inclusion in the release 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.

Proximate Statements

This release 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.

Appendix 1: JORC Table 1

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	- Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. - Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. - Aspects of the determination of mineralisation that are Material to the Public Report. - In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	- This announcement reports the results of a desktop study. No new physical sampling or drilling was undertaken. Data sources included publicly available datasets: - USGS airborne magnetics and radiometrics (flown 2019–2020 at 100–200 m line spacing, ~60 m terrain clearance); - airborne gravity surveys (HeliFalcon AGG, 2016 and 2021, ~200–400 m station spacing); - magnetotelluric (MT) profiles (2015, regional lines at 1–2 km spacing); - regional USGS whole-rock geochemistry; and - Sentinel-2 and ASTER satellite spectral datasets.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	No drilling results are being reported.
Drill sample recovery	- Method of recording and assessing core and chip sample recoveries and results assessed. - Measures taken to maximise sample recovery and ensure representative nature of the samples. - Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No drilling results are being reported.
Logging	- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. - Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. - The total length and percentage of the relevant intersections logged.	No drilling results are being reported.



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Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• Data processing included re-gridding and filtering of airborne geophysical datasets as per USGS metadata. ASTER and Sentinel-2 data were processed using band ratio and spectral unmixing techniques to map alteration minerals.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	• Datasets were acquired by the USGS and contractors (CGG, EDCON-PRJ) using industry-standard equipment and procedures. Radiometric surveys employed standard calibration against known thorium and potassium pads. Gravity surveys were tied to regional base stations. MT data was quality-checked using rho+ synthetic models for consistency between apparent resistivity and phase curves. All datasets are publicly available and peer-reviewed.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• All interpretations were independently reviewed by consulting geoscientists during the desktop study.
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control.	• Survey flight lines, gravity stations and MT profiles were located by GPS (WGS84, NAD27, NAD83 projections depending on survey). Positional accuracy is typically ± 5 m for airborne surveys. • All the maps are tight in NAD83 / UTM Zone 11N.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	• Airborne magnetics and radiometrics flown at 100–200 m line spacing with 1,000–2,000 m tie-lines; gravity stations at ~200–400 m spacing; MT survey stations at ~1–2 km spacing. Adequate for regional interpretation of structural and intrusive features but not suitable for resource estimation.
Orientation of data in relation to	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering	• Airborne surveys flown east–west (N70°E) to crosscut the dominant NW–SE structural grain, with N160°E tie-lines. This

geological structure	- the deposit type. - If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	orientation is appropriate for defining major structural corridors.
Sample security	The measures taken to ensure sample security.	Not applicable – no physical sampling was undertaken.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	USGS datasets are peer-reviewed and released under public data reporting standards. Interpretation has been reviewed by independent geophysicists as part of this desktop study.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	- Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. - The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Desert Star Project comprises 117 federal lode claims (~9.75 km²) in San Bernardino County, California. Claims are held 100% by BMM Nevada LLC, a wholly owned subsidiary of Bayan Mining and Minerals Ltd.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Previous work includes USGS airborne radiometric surveys (2018), district and regional scale magnetic and gravity survey, and regional geological mapping. No prior REE-focused exploration is recorded within the BMM's project areas.
Geology	Deposit type, geological setting and style of mineralisation.	- The Desert Star Projects overlaying a Paleoproterozoic metamorphic and igneous basement uplift bounded by major normal faults. The target mineralisation is rare earth element (REE) hosted in Mesoproterozoic carbonatite and associated ultrapotassic intrusives (shonkinite, syenite, granite), analogous to Mountain Pass. Alteration assemblages and geochemical associations suggest a magmatic to hydrothermal REE system with associated barite, fluorite, and calcite. - Regional NW-SE faults are major structural controls, also associated with mineralisation at Mountain Pass and Colosseum.
Drill hole Information	- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length. - If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	No drilling results are being reported.
Data aggregation methods	- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. - Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	Not applicable – no assays or other sampling results being reported.



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	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	- These relationships are particularly important in the reporting of Exploration Results. - If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. - If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	No drilling results are being reported.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Supporting figures (regional magnetics, radiometric ratios, gravity, structural interpretation, and defined target areas ST1-ST3 and NT1) are included in this release.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	This report summarises desktop interpretations only. No new assay results are presented. Representative datasets and target zones are described to provide context without selective reporting.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Reconnaissance sampling and mapping results were used to support geophysical interpretation. Sentinel-2 and ASTER satellite datasets provided additional mineralogical and alteration mapping.
Further work	- The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). - Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	The Company is planning to commence detailed ground magnetic and radiometric surveys and will shortly commence a detailed ground gravity survey. These programs will be integrated with the desktop study to refine target areas ahead of scout drilling.