

Mountain Pass Technical Report

Mineral Resource Estimate

The Mineral Resources are reported in accordance with the S-K regulations (Title 17, Part 229, Items 601 and 1300 until 1305). Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resource will be converted into Mineral Reserves. The Mineral Resource modelling and reporting was completed by SRK Consulting (U.S.) Inc.

The mineral resource estimate has been constrained by a geological model considering relevant rock types, structure, and mineralization envelopes as defined by TREO content within relevant geological features. This geological model is informed principally by diamond core drilling and multiple phases of geological mapping. Sectional interpretation based on the combination of these data were used to influence implicit modeling of the geological data with manual controls where appropriate.

SRK has dealt with uncertainty and risk at Mountain Pass by classifying the contained resource by varying degrees of confidence in the estimate. The mineral resources at the Mountain Pass deposit have been classified in accordance with the S-K 1300 regulations. The classification parameters are defined by both the distance to composite data, the number of drillholes used to inform block grades and a geostatistical indicator of relative estimation quality (kriging efficiency). Density is based on average density measurements collected from the various rock types over the years, and carbonatite density in particular is supported by extensive mining and processing experience with the materials.

A cut-off grade (COG) of 2.28% TREO has been developed to ensure that material reported as a mineral resource can satisfy the definition of reasonable potential for eventual economic extraction (RPEEE). Mineral resources have been constrained within an economic pit shell based on reserve input parameters. For mineral resources, a revenue factor of 1.0 is selected which corresponds to a break-even pit shell. SRK notes that the pit selected for mineral resources has been influenced by setbacks relative to critical infrastructure such as the tailing storage and the rare earth oxide (REO) concentrator.

The September 30, 2021, mineral resource statement is shown in Table 1-2. The reference point for the mineral resources is in situ material.

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Table 1-2: Mineral Resource Statement for the Mountain Pass Rare Earth Project, September 30, 2021

Category	Resource Type	Cut-Off TREO%	Mass (million sh. ton)	Average Value					
				TREO ⁽¹⁾ (%)	La ₂ O ₃ ⁽²⁾ (%)	CeO ₂ (%)	Pr ₆ O ₁₁ (%)	Nd ₂ O ₃ (%)	Sm ₂ O ₃ (%)
Indicated	Within the Reserve Pit	2.28-2.49	0.9	2.38	0.78	1.19	0.10	0.29	0.02
	Within the Resource Pit	2.28	0.5	3.61	1.18	1.80	0.16	0.44	0.03
Total Indicated			1.4	2.82	0.92	1.41	0.12	0.34	0.03
Inferred	Within the Reserve Pit	2.28-2.49	7.1	5.48	1.78	2.73	0.24	0.66	0.05

	Withing the Resource Pit	2.28	2.1	3.81	1.24	1.90	0.16	0.46	0.03
Total Inferred			9.1	5.10	1.66	2.54	0.22	0.62	0.05

Source: SRK 2021

(1): TREO% represents the total of individually assayed light rare earth oxides on a 99.7% basis of total contained TREO, based on the historical site analyses.

(2): Percentage of individual light rare earth oxides are based on the average ratios; La₂O₃ is calculated at a ratio of 32.6% grade of TREO% equivalent estimated grade, CeO₂ is calculated at a ratio of 49.9% of TREO% equivalent estimated grade, Pr₆O₁₁ is calculated at a ratio of 4.3% of TREO% equivalent estimated grade, Nd₂O₃ is calculated at a ratio of 12.1% of TREO% equivalent estimated grade, and Sm₂O₃ is calculated at a ratio of 0.90% of TREO% equivalent estimated grade. The sum of light rare earths averages 99.7%; the additional 0.3% cannot be accounted for based on the analyses available to date and has been discounted from this resource statement.

General Notes:

- Mineral Resources are reported exclusive of Mineral Reserves.
- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves estimate.
- Mineral Resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, any apparent errors are insignificant.
- Mineral Resource tonnage and grade are reported as diluted.
- The Mineral Resource model has been depleted for historical and forecast mining based on the September 30, 2021, pit topography.
- Pit optimization cut-off grade is based on an average TREO% equivalent concentrate price of US\$7,059/st of dry concentrate (60% TREO, net of the incremental benefits and costs related to REE separations), average mining cost at the pit exit of US\$1.825/st mined plus US\$0.018/st mined for each 15 ft bench above or below the pit exit, combined milling and G&A costs of US\$69.90/st milled, concentrate freight of US\$177/st of dry concentrate, and an average overall pit slope angle of 42° including ramps.
- The mineral resource statement reported herein only includes the rare earth elements cerium, lanthanum, neodymium, praseodymium, and samarium (often referred to as light rare earths). While other rare earth elements, often referred to as heavy rare earths, are present in the deposit, they are not accounted for in this estimate due to historic data limitations (see Section 9.2.6).

1.6 Mineral Reserve Estimate

SRK developed a life-of-mine (LoM) plan for the Mountain Pass operation in support of mineral reserves. For economic modeling, 2022 production was assumed to be bastnaesite concentrate. From 2023 onward, it was assumed that MP Materials will operate a separations facility at the Mountain Pass site that will allow the Company to separate bastnaesite concentrate into four individual REO products for sale (PrNd oxide, SEG+ oxalate, La carbonate/La oxide, and Ce chloride). Forecast economic parameters are based on current cost performance for process, transportation, and administrative costs, as well as a first principles estimation of future mining costs. Forecast revenue from concentrate sales and individual separated product sales is based on a preliminary market study commissioned by MP Materials, as discussed in Section 16 of this report.

From this evaluation, pit optimization was performed based on an equivalent concentrate price of US\$6,139 per dry st of 60% TREO concentrate (net of the incremental benefits and costs related to REE separations). The results of pit optimization guided the design and scheduling of the ultimate pit.

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SRK generated a cash flow model which indicated positive economics for the LoM plan, which provides the basis for the reserves. Reserves within the new ultimate pit are sequenced for the full 35-year LoM. There is a partial year of stockpile processing after mining of in situ reserves is completed.

The costs used for pit optimization include estimated mining, processing, sustaining capital, transportation, and administrative costs, including an allocation of corporate costs. Processing and G&A costs used for pit optimization were based on 12-month rolling average actual costs from August 2020 – July 2021. Processing and G&A costs used for economic modeling were updated subsequent to pit optimization and are based on January 2021 – September 2021 actual costs.

Processing recovery for concentrate is variable based on a mathematical relationship to estimate overall TREO recovery versus ore grade. The calculated COG for the reserves is 2.49% TREO, which was applied to indicated blocks contained within an ultimate pit, the design of which was guided by economic pit optimization.

The optimized pit shell selected to guide final pit design was based on a combination of the revenue factor (RF) 0.45 pit (used on the north half of the deposit) and the RF 1.00 pit shell (used on the south half of the deposit). The inter-ramp pit slopes used for the design are based on geotechnical studies and range from 42° to 47°.

Measured resources in stockpiles were converted to proven reserves. Indicated pit resources were converted to probable reserves by applying the appropriate modifying factors, as described herein, to potential mining pit shapes created during the mine design process. Inferred resources present within the LoM pit are treated as waste.

The mine design process results in in situ open pit mining reserves of 30.45 million st with an average grade of 6.35% TREO. Table 1-3 presents the mineral reserve statement, as of September 30, 2021, for the Mountain Pass mine (MP Materials' mining engineers provided a month-end September 2021 topography as a reserve starting point). The reference point for the mineral reserves is ore delivered to the Mountain Pass concentrator.

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Table 1-3: Mineral Reserves at Mountain Pass as of September 30, 2021 - SRK Consulting (U.S.), Inc.

Category	Description	Run-of-Mine (RoM)	TREO%	MY%	Concentrate
		Million Short Tons (dry)			Million Short Tons (dry)
Proven	Current Stockpiles	0.05	9.45	10.88	0.01
	In situ	-	-	-	-
	Proven Totals	0.05	9.45	10.88	0.01
Probable	Current Stockpiles	-	-	-	-
	In situ	30.4	6.35	6.74	2.05
	Probable Totals	30.4	6.35	6.74	2.05
Proven + Probable	Current Stockpiles	0.05	9.45	10.88	0.01
	In situ	30.4	6.35	6.74	2.05
	Proven + Probable Totals	30.45	6.36	6.75	2.05

Source: SRK, 2021

General Notes:

- Reserves stated as contained within an economically minable open pit design stated above a 2.49% TREO COG.
- Mineral reserves tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding. A small difference of approximately 0.3% between the reserve tonnage and the ore tonnage used in the cashflow model is not considered to be material.
- MY% calculation is based on 60% concentrate grade of the product and the ore grade dependent metallurgical recovery. $MY\% = (TREO\% * Met\ recovery) / 60\% \text{ concentrate TREO grade}$.
- Indicated mineral resources have been converted to Probable reserves. Measured mineral resources have been converted to Proven reserves.

- Reserves are diluted at the contact of the 2% TREO geological model triangulation (further to dilution inherent to the resource model and assume selective mining unit of 15 ft x 15 ft x30 ft).
- Mineral reserves tonnage and grade are reported as diluted.
- Pit optimization COG is based on an average TREO% equivalent concentration price of US\$6,139/st of dry concentrate (60% TREO, net of the incremental benefits and costs related to REE separations), average mining cost at the pit exit of US\$1.825/st mined plus US\$0.018/st mined for each 15 ft bench above or below the pit exit, combined milling and G&A costs of US\$69.90/st milled, concentrate freight of US\$177/st of dry concentrate, and an average overall pit slope angle of 42° including ramps.
- The topography used was from September 30, 2021.
- Reserves contain material inside and outside permitted mining but within mineral lease.
- Reserves assume 100% mining recovery.
- The strip ratio was 6.1 to 1 (waste to ore ratio).
- The mineral reserves were estimated by SRK Consulting (U.S.) Inc.

The reserve estimate herein is subject to potential change based on changes to the forward-looking cost and revenue assumptions utilized in this study. It is assumed that MP Materials will produce and sell bastnaesite concentrate to customers in 2022. It is further assumed that MP Materials will ramp its on-site separations facilities (currently undergoing modification and recommissioning) as discussed in Section 10.4 and will transition to selling separated rare earth products starting in 2023.

Full extraction of this reserve is dependent upon modification of current permitted boundaries. Failure to achieve modification of these boundaries would result in MP Materials not being able to extract the full reserve estimated in this study. It is MP Materials' expectation that it will be successful in modifying this permit condition. In SRK's opinion, MP Materials' expectation in this regard is reasonable.

A portion of the pit encroaches on an adjoining mineral right holder's concession. This portion of the pit only includes waste stripping (i.e., no rare earth mineralization is assumed to be extracted from this concession). The prior owner of Mountain Pass had an agreement with this concession holder to allow this waste stripping (with the requirement that aggregate mined be stockpiled for the owner's use). MP Materials does not currently have this agreement in place, but SRK believes it is reasonable to assume that MP Materials will be able to negotiate a similar agreement.