

March 7, 2023

EMERGING COMPANY

SPECULATIVE BUY (initiation)

Stock code:	RXM AU
Price:	A\$0.30
12-month target price:	A\$0.49
Previous target price:	A\$
Up/downside to target price:	63.1%
Dividend yield:	0.0%
12-month TSR*:	63.1%
Market cap:	A\$177.8m
Average daily turnover:	A\$0.40m
Index inclusion:	N/A

* Total stock return – Up/downside to target price + 12-month forward dividend yield.

Price performance

(%)	1M	3M	12M	3Y
Absolute	9.1	27.7	42.9	376.2
Rel ASX/S&P200	11.9	27.2	39.8	358.3



Source: Bloomberg

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– N/A

Rex Minerals

Major copper play in attractive jurisdiction

- Rex Minerals (RXM) has two projects: (1) Hillside copper-gold project on Yorke Peninsula, South Australia with a funding solution imminent; and (2) the Hog Ranch gold project in Nevada, USA.
- The wholly-owned Hillside project has a Resource, to JORC Code (2012) standards, of 337Mt @ 0.56% copper and 0.14g/t gold containing over 4bn pounds of copper and over 1.5m oz of gold.
- With a projected capital cost of A\$854m, Hillside has received all primary approvals for Stage 1 development (92Mlbs of copper and 30,000oz of gold p.a.) on land owned by RXM, 15km from the regional centre of Ardrossan.
- A Final Investment Decision (FID) is scheduled for mid-2023, with projected commissioning by end 2025, a realistic period to commissioning in our view.
- While Hog Ranch is already a large (2.26Moz) low grade gold deposit, exploration along strike and to depth is designed to better define the resource potential.
- We initiate coverage with a Speculative Buy rating and A\$0.49 target price, a discount to our valuation of A\$0.70, itself valuing copper in Resource at US5 cents per pound and gold in Resource at US\$20/oz.

Macquarie Capital to manage partnering

- Macquarie Capital will manage RXM's partnering process for development of the proposed A\$854m Hillside project with average life-of-mine (LOM) annual production of 42,000t of copper and 30koz of gold over the 11-year project life.
- The capital component of up to 50% is anticipated to be funded by equity investment in RXM and/or partnership(s) at the asset level, with funding from equipment suppliers and off-takers, and traditional and non-traditional lenders.

Hillside – a major copper-gold resource

- The proposed Hillside Stage 1 open pit resource is open along strike and to depth, and captures 26% of the current resource. With proposed initial mining at 6Mtpy of ore, coarse particle flotation is expected to enable the process plant to process 8Mtpy, with output 50,000tpy of copper and 40,000ozpy of gold in concentrate.
- Hillside is well located 15km from Ardrossan, 1.5 hours by road from Adelaide. Grid power is available from the Ardrossan West 132kV substation, and water from SA Water. It is anticipated that the workforce will live in the Yorke Peninsula towns.

Funding and the FID

- On wholly-owned land, and with all primary approvals, we see funding of this A\$854m development by RXM, which has a market capitalisation of A\$175m at A\$0.295ps, as the immediate hurdle. We anticipate the FID will be contingent on achieving satisfactory funding.
- The project is conventional in size, with a strategic but non-binding agreement with Thiess Mining, and Ausenco Limited for the Engineering Procurement and Construction Management (EPCM) services.

A strong copper thematic

- With the move to renewable energy, investor/trader interest is on those commodities expected to benefit from the evolution – lithium, Rare Earth Elements (REEs), and to a lesser extent (for investor interest) graphite, nickel and cobalt. While commentary identifies copper (and tin) as beneficiaries, the market has not driven investor interest to the same degree.

Share price catalysts

- The resolution of funding for Hillside, projected by RXM for mid-2023, and the subsequent FID, should focus investor attention on the valuation of Hillside shown by the financial modelling.

Risks

- As with all resource projects, the share price will move with the relevant commodity prices, in this case copper and gold. With operations in Australia, the share price is expected to move inversely with the AUD/USD exchange rate.
- Funding and the FID are the initial risks. Construction, commissioning, ramp-up and operational risk come with the territory.

Rex Minerals

SPECULATIVE BUY

as at March 7, 2023

Price (A\$):	0.30	12-month target price (A\$):	0.49
Market cap (A\$m):	177.8	Up/downside to target price (%):	63.1
Free float (%):	100.0	Dividend yield (%):	0.0
Index inclusion:	N/A	12-month TSR (%):	63.1

Rex Minerals is moving to fund the wholly-owned Hillside copper-gold project, South Australia. This A\$854M project is projected to produce 42kt of copper and 30koz of gold in copper concentrate per year over an 11 year life from a resource containing over 4 Billion pounds of copper and 1.5 Million ounces of gold. RXM also has the wholly owned Hog Ranch gold project, Nevada, with a resource of 2.26Moz of gold.

Hillside Copper-Gold Project - Resources

Zone	Resource Category	Tonnes (Mt)	Copper (%)	Gold (g/t)	Contained Copper (kt)	Contained Gold (koz)
Oxide Copper	Measured	16	0.54	0.22	88	114
	Indicated	4.4	0.49	0.12	21	17
	Inferred	0.2	0.76	0.22	1.6	1.5
Secondary Sulphide	Measured	8.8	0.62	0.20	55	58
	Indicated	3.0	0.57	0.13	17	13
	Inferred	0.1	0.61	0.07	0.7	0.3
Primary Sulphide	Measured	47	0.54	0.16	253	248
	Indicated	143	0.59	0.13	837	596
	Inferred	114	0.55	0.13	623	479
Total		337	0.56	0.14	1,897	1,528

Source: Rex Minerals - ASX Release, December 2022

Processing - low US\$7.50/t cost

Process Plant Designed at 6Mtpa

- 27% copper concentrate @ 92% Cu recovery
- Very low arsenic <45ppm, low halides (F <100ppm & Cl <100ppm), low Uranium <45ppm

Conventional Copper Flotation

- Flotation feed P80 125µ (first 2 years), 150µ subsequent years
- Utilising the regrind, stage flotation and uranium kinetics to minimise uranium in final concentration
- Coarse grind testwork underway; provides optionality for further optimisation at minimal capex

Processing Metallurgy De-risked

- Extensive batch, locked cycle and pilot plant testwork

Saline Groundwater

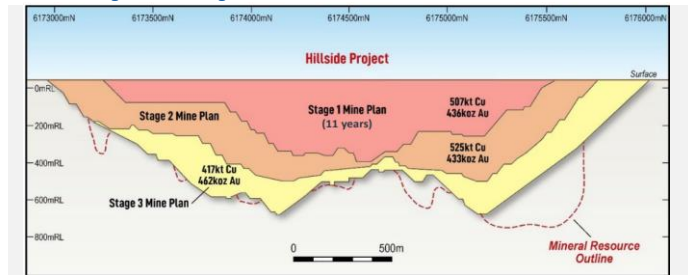
- Saline groundwater supplemented by seawater used in the flotation circuit
- Filtered concentrate washed with potable water to remove vestigial seawater

Tailings Dam

- Down stream construction, integrated into the rock storage facility

Source: Rex Minerals - ASX Release, July 2021

Hillside Stage 1 Pit - long section



Source: Rex Minerals - ASX Release, December 2022

Hillside indicative funding & development schedule



Source: Rex Minerals - ASX Release, December 2022

Bull points

Copper thematic

Copper demand will benefit from the Electrification of Everything, to reduce CO2 emissions. Demand for battery metals will lift significantly, although these markets remain immature and opaque. Copper will also lift, much as in the gold rushes of the 1800s, the providers of picks and shovels to the miners enjoyed more stable prosperity than the prospectors themselves with copper required for electricity generation, transmission, and in use electric motors.

Fully permitted for development

Rex owns the land for the Stage 1 development, and has all primary approvals. South Australia is a stable jurisdiction for resource development. Hillside is well located for infrastructure including local accommodation for the workforce in Ardrossan and the immediate area.



Bear points

Finance and the FID

Financing the ~A\$900m development and making the Final Investment Decision (FID) are the immediate challenge for Rex, with a market capitalisation of A\$174m.

Construction and operational risk

With all mine development there is a risk of cost and time over-runs in construction and in the ramp-up to projected production. While RXM has all primary approvals all resource projects face the risk of delay through "lawfare".

Commodity price and exchange rate risk

A weaker copper price -could provide an obstacle to funding and would reduce projected cashflow and profit. A stronger A\$/US\$ rate would be expected to reduce cashflow and profit in A\$ terms.



Environmental, Social and Governance

ESG

Exposure

Management

Operational and sovereign risk

South Australia is ranked 10th in the 2021 Fraser Institute survey of 84 jurisdiction for investment, in Australia behind only WA (No1). The recent commencement of production from Ozminerals' (ASX:OZL) Carrapateena, the current development of Boss Energy's (ASX:BOE) Honeymoon uranium mine and BHP's (ASX:BHP) evaluation programs of copper-gold deposits such as Oak Dam indicate that properly evaluated projects can be developed for the benefit of all stakeholders in SA. Government departments have the appropriate processes, standards, and monitoring for development and operations to meet stringent ESG standards.

Community and traditional owners

The Stage 1 development is centred on the historic Hillside mine, on freehold land owned by Rex Minerals, which has been cropped for close to a Century. From our site visit, and discussion with Rex Mining site staff, our understanding is that Rex has broad local support from the Ardrossan community, and broader Yorke Peninsular, despite some limited, if vocal, opposition.

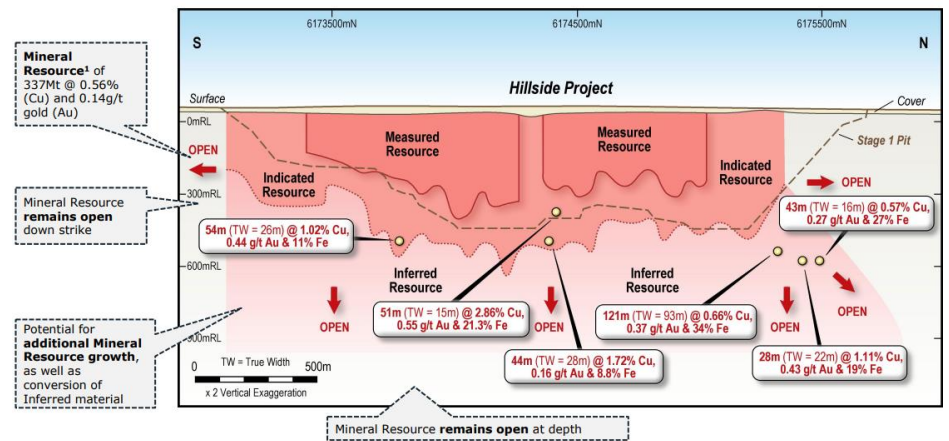
Source: RXM, Morgans

Hillside copper-gold

Infrastructure for Hillside includes an existing electricity grid, roads, water and a skilled labour pool. The regional centre of Ardrossan, with a population > 1,100, services a large section of the Yorke Peninsula. The regional high school, which has a capacity for 300 students, has an enrollment of 150, with the amalgamation of farms and the general move from the country reducing regional population.

RXM owns the land required for Stage 1, which has been repeatedly cropped over many years. All primary permits for development and production are in place. Contracts will be let to move the public roads affected by the development. Thiess Pty Ltd was selected as the preferred tenderer for mining services, dependent on pricing. The Stage 1 development modelled a 54Mt pre-strip, and a LOM strip ratio of 6.8:1 (waste to ore). The final pit depth projected is 440m below surface.

Figure 2: Long section of Hillside deposit and proposed open pit



Source: Rex Minerals Corporate Presentation – ASX Release, February 2023

Processing Hillside ore is by conventional crushing, grinding and flotation, to produce a copper-gold concentrate. RXM has partnered with Ausenco for the provision of engineering and design services. The updated 2022 study evaluated a nominal plant feed rate of 6Mtpy at start-up, with primary crushing and stockpile reclaim capability for up to 8Mtpy.

Figure 3: Hillside Stage 1 Capex

Pre-Production Capital	Unit	
Processing Plant & Associated Infrastructure	A\$M	347
Mining Fleet	A\$M	160
Non-Processing Infrastructure	A\$M	179
Contingency & Growth	A\$M	87
Total Pre-Production Capital	A\$M	773
Mine Development Operating Costs (including pre-strip)	A\$M	81
Total Pre-Production Costs	A\$M (US\$M)	854 (598)

Source: Rex Minerals Corporate Presentation – ASX Release, December 2022

Ausenco has assessed further equipment de-bottlenecking and updated design margins on mechanical equipment to achieve flow rates equivalent to 8Mtpy. Under this strategy, Stage 1, beginning at 6Mtpy, can be significantly increased to approximately 8Mtpy once the pre-strip and early stages of mining are underway.

In addition, successful coarse particle flotation test work has demonstrated that Hillside ore is amenable to HydroFloat coarse particle flotation technology. With the Stage 2 expansion factored into the Stage 1 initial designs, there may be scope to increase the production rate from around 8Mtpy to closer to 10Mtpy, maintaining copper recoveries and increasing production of copper and gold in concentrate.

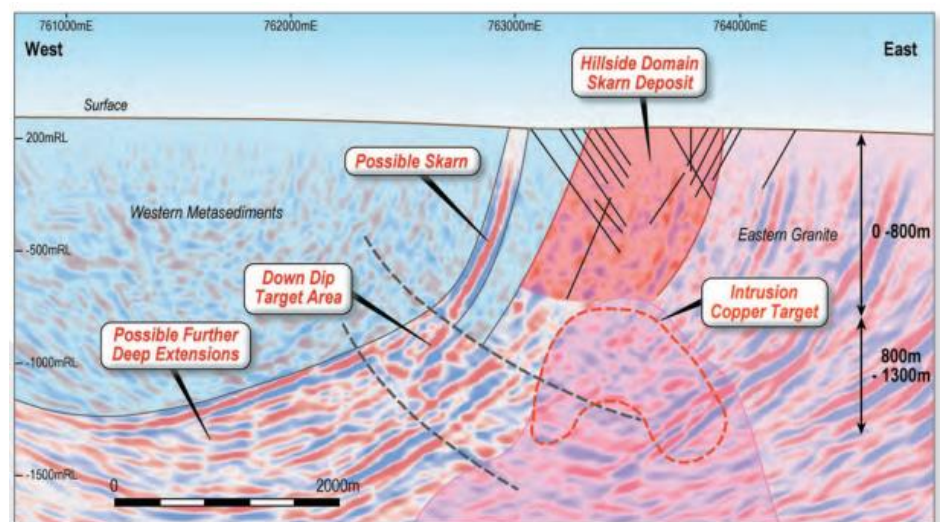
Figure 4: Hillside Stage 1 Operating Cost

Operating Cost Summary	Unit	
Strip Ratio (after initial pre-strip)	waste:ore	6.9:1
Average Mining Cost per tonne (LOM)	A\$/t	2.08
Average Mining Cost per ore tonne (LOM) (after initial pre-strip)	A\$/t	16.86
Processing Cost per tonne	A\$/t	10.32
Other Operating (G&A) Costs per tonne	A\$/t	2.27
Average Total Operating Costs per tonne (excluding pre-strip)	A\$/t	29.45

Source: Rex Minerals Corporate Presentation – ASX Release, December 2022

Copper recovery of 92% is projected, with the copper grade of the concentrate 27% copper. Copper concentrate prices may suffer price penalties with elevated levels of some elements. Uranium in concentrate is an issue for some South Australian producers, and arsenic and halides (fluorine and chlorine) are common penalty elements in copper concentrates. RXM reports that, based on locked cycle and pilot plant studies, Hillside concentrate will contain low arsenic (<45ppm), low halides, and low uranium (<45ppm). Concentrate will be trucked to Port Adelaide for shipment, adding a small increment in road traffic, with highway already carrying significant traffic of agricultural commodities. Tailings will be stored in a dedicated tailings storage facility, engineered to the current high standards.

Figure 5: Interpretation of 3D seismic data



Source: Rex Minerals Corporate – Annual Report 2022

Environmental, Social and Governance (ESG) at Hillside

In its Annual Report for 2022, RXM reports (Page 2): *Positive relations with local indigenous groups, surrounding land holders, regional communities and government agencies are at the forefront of how we go about our business and are ingrained in our core understanding of how we develop sustainable projects that deliver positive outcomes for all stakeholders.*

Hillside's approved Mineral Lease and Program for Environment Protection and Rehabilitation (PEPR) set out the project's licence conditions and the plans to mitigate the environmental and social impacts. As noted previously, the land has been cropped over many years, and the land required for Stage 1 is owned by RXM.

The community consultative group, "Hillside Mine Community Voice" (HMCV) is an independently chaired group that has been working with RXM through to the development phase. An independent review of the group was conducted by South Australian-based strategic advisory group, Consentium. This recommended the formation of a new community consultative group, as RXM enters the construction and development stage of the Hillside Mine.

From our site visit, we assess that RXM has broad support for the Hillside development. There is isolated local opposition (BANANA – Build Absolutely Nothing Anywhere Near Anybody), and as with all resource developments, there is potential for "lawfare" to hinder timely development, despite meeting the appropriate standards and undertaking the relevant monitoring.

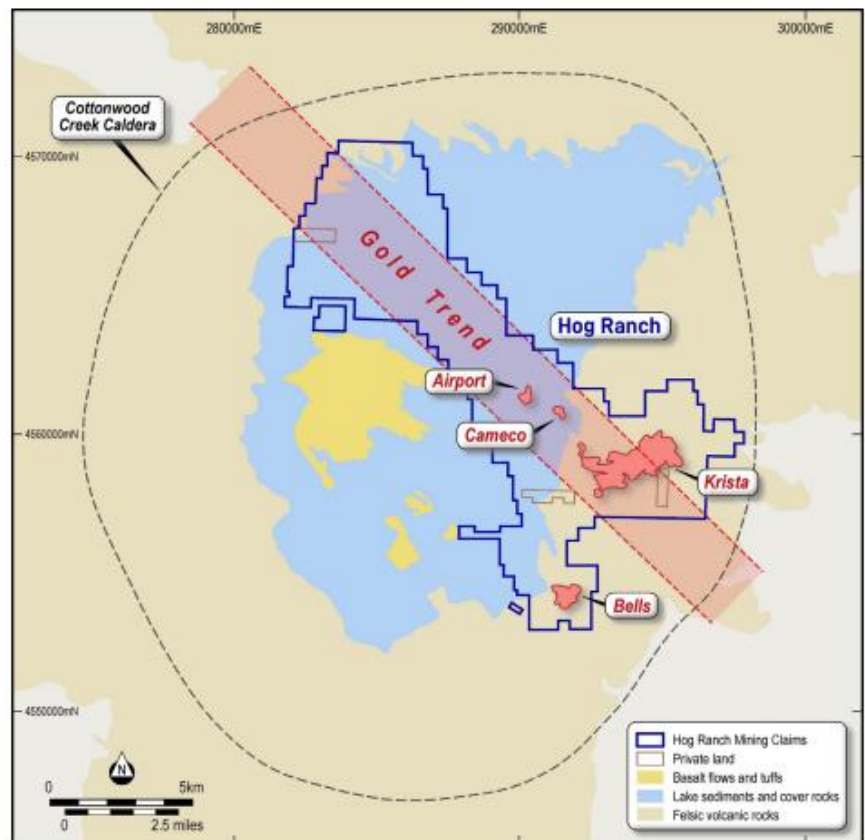
Hog Ranch, Nevada, USA

Hog Ranch is located in Washoe County, north-west Nevada, approximately 270km north of Reno by road. Local year-round access is via gravel road off county road 34N. The two nearest towns are Gerlach to the south and Cedarville to the north-west, both of which are 1 hour's drive from Hog Ranch, which comprises 1,035 unpatented mining claims on Federal Land for a total area of approximately 8,572 hectares (21,182 acres).

Mined by then ASX-listed Western Mining Corporation from 1988 to 1992, Hog Ranch was acquired by RXM in 2019. A number of prospects hold a total of 2.26Moz of gold, with Krista, shown on the plan below (Figure 6) holding 1.58Moz. The resource to JORC Code (2012) standards is 165Mt @ 0.43g/t gold for the 2.26Moz.

Drilling at Hog Ranch was completed over a number of target locations focused on Krista, including testing for down dip extensions of historical drilling and previously untested structures and breccias. RXM is looking for higher grade feeders for the extensive shallow gold mineralisation, as part of a large scale epithermal gold system.

Figure 6: Plan of Hog Ranch, Nevada



Source: Rex Minerals – ASX Release, July 2022

Valuation and risk

For projects with a Resource to JORC Code (2012) standards, we assign a value of US5c/lb copper and US\$20/oz gold in resource, which generates our valuation of A\$0.70ps at an AUD/USD exchange rate of 0.70. Discounted by 30% to account for financing, execution and macro/timing risks, this generates our target price of A\$0.49ps.

RXM had A\$29.6m in cash and liquids at 31 December 2022. Funding the projected A\$854m development of Hillside and the FID are immediate risks to realisation of shareholder value.

Commodity price fluctuation and investor attitudes to copper and gold, and to junior resource stocks, are both threats and opportunities.

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