

Newsletter Second Edition on LinkedIn

US Government takes stake in Thacker Pass

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View of the Thacker Pass site. <https://www.lithiumamericas.com/thacker-pass/>

Welcome to the second issue of the Lithium Briefing from thelithiumreport.com.

Today, let's look at the big news this week. It is reported that the US DoE has taken a 5% stake in Lithium Americas and another 5% in their JV with General Motors, developing the Thacker Pass lithium deposit in Nevada.

Thacker Pass is one of the **Big Three clay deposits in Nevada**, along with **McDermitt Caldera** and **Bonnie Claire**. They each have a total resource of about 20 Mt LCE but Thacker Pass has the **best grade, averaging ~3200 ppm**. It also has the highest actual reserve of 3.7 Mt, followed by McDermitt at 2.3 Mt. Rhyolite Ridge is another important lithium clay in Nevada, being developed by Loneer but is much smaller with a total resource of ~4 Mt LCE.

Thacker Pass is well ahead of the rest of the pack. Construction is underway. In 2024, General Motors invested \$625 M and DoE agreed to a \$1.97 billion loan. In March 2025, a private fund put in \$250 M and the Final Investment Decision was made to proceed.

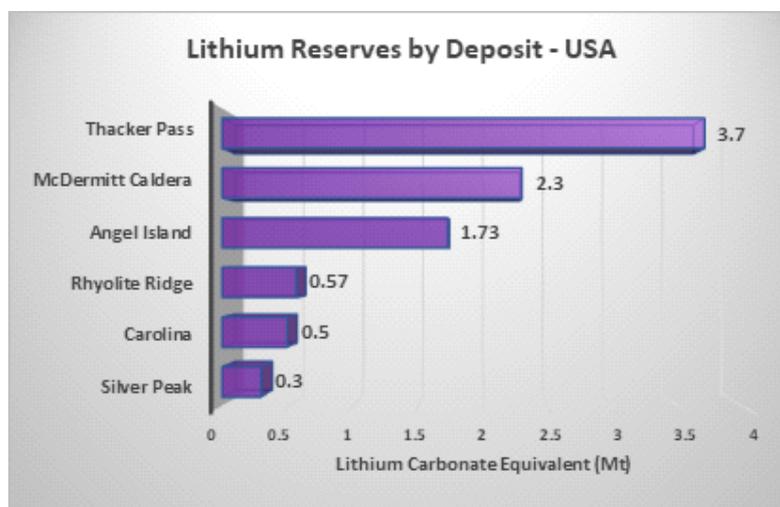
In comparison, McDermitt and Bonnie Claire are only exploration stage and in February 2025 Rhyolite Ridge stalled when the FID was due. Their partner South African mining conglomerate **Sibanye Stillwater decided instead to pull out** of the project, even though DoE had given it a loan guarantee.

The CEO of Lithium Americas used to be the head of FMC Lithium, which became Livent in October 2018. This also gives the company significant credibility.

The **key strength** of Thacker Pass is its **grade** and the fact that the material is directly accessible from the surface. While the average grade is about 3,000 ppm, there is a wide central band of over 6,000 ppm (1.28% Li₂O equivalent), ranging as high as 8,000 ppm. This is similar to the grade of many spodumene deposits but processing will be much less energy intensive since the ore does not need to be calcined in a kiln at 900 °C. LAC claim a 40% reduction in GHG emissions over hard rock resources which seems reasonable.

In comparison, Bonnie Claire has an average grade of only 1013 ppm. There is a region containing 3000 – 5000 ppm but it is 300 – 800 m deep under the surface.

McDermitt is 40 km north of Thacker Pass. The ore also lies on the surface going down only 10 – 70 m, grading 1500 – 2000 ppm but no regions of really high grade have been found yet.



Lithium reserves by deposit in the USA. From “The Lithium Report 2025 – 2035: The Next 10 Years”.

Co Products

Rhyolite Ridge has the advantage that it can produce boric acid as a co-product. Loneer intend to produce 22,340 tpa of Lithium Carbonate and 174,000 tonnes of boric acid per year. So we can see it is really a **boric acid plant with lithium tacked on** as a higher value co-product.

The current price of boric acid is around \$1,200 per tonne. So at a lithium carbonate price of US\$10,000/t, Loneer's boric acid and lithium carbonate revenues would be about equal (\$209 M and \$223 M respectively). The logistics of operating an industrial plant of that size in such a remote location are another matter.

Thacker Pass does not have any potential co-products.

Bonnie Claire recently announced they had found rubidium and caesium, which are very high value and in high demand. It also has boron so boric acid production may be a possibility.

What has become clear is that lithium prices are so volatile that **lithium pure players** are at a

major **disadvantage** to diversified mining groups that have other revenue streams. So if a lithium deposit can produce viable co-products, this greatly improves the feasibility of developing it.

Context of US DoE stake

LAC planned to draw their first tranche from the DoE loan in 3Q 2025 but wanted to renegotiate the terms. The DoE have in fact agreed to defer debt service on \$182 M for the first five years, so LAC will have less interest to pay initially, but in return DoE has taken no-cost warrants on 5% of LAC and on 5% of the JV between LAC and General Motors. When the warrants have to be exercised is not known.

As DoE point out, this is not the first time they have used this arrangement. In 2010 when they gave Tesla a \$465 M lifeline, they took warrants on 3 million Tesla shares.

Therefore it is not really controversial that DoE has basically asked for more collateral in return for easier repayment terms. Any bank would do the same.

Economics

The main concern with this project is its **high costs**. With Phase One CAPEX of US\$2.93 billion for production of 40,000 tpa LCE, the **capital intensity** is over **\$73,000 per tonne** of production. Even the expensive Keliber hard rock project in Finland only has a capital intensity of €50,000/t. Or the new Centenario Ratones DLE project in Argentina: \$31,500/t. Only the Vulcan DLE project in Germany is more expensive at €107,000/t, but they are building geothermal power plants as well.

In terms of operating costs, Thacker Pass predicts OPEX of around \$7,000 per tonne LCE. Jindalee will be at least \$8,000 per tonne since the grade is lower. Bonnie Claire predicts \$6,000/t, using borehole mining but that will definitely increase.

In their 2018 PFS, LAC predicted OPEX of \$4,088/t, promoting it as a “low cost” project. The **OPEX has therefore gone up 65%** and will probably double that 2018 estimate when the mine enters production.

Thacker Pass might be able to reduce costs if they used an **alternative approach to sulphuric acid** leaching (e.g. limestone-gypsum process with a solar thermal kiln) but it is not known if they are considering it. Given that the cost of **liquid sulphur alone accounts for \$2,254 of costs** per tonne of lithium carbonate produced, a staggering amount, it seems the obvious candidate for cost reduction.

Since these are all pre-production estimates, they will definitely all increase. For instance, costs at the brine operations in Argentina and Chile are all now running at \$6,000/t or more, having particularly ballooned since 2022.

Thacker Pass uses a baseline price of \$24,000 per tonne LCE. If we take OPEX of \$7,000/t and annual output of 40,000 t, it will take **4.3 years to recoup the capital costs** in today's dollars. That makes a strong business case. However, if we take a baseline price of \$10,000/t, which is more compatible with EV affordability, it would take **24.4 years just to recoup the capital costs** (today's

dollars) and even longer of course if we include the time value of money. But over the long term, looking ahead to the 2030s, a base price of \$20,000/t could become the norm.

This simple arithmetic illustrates why development of new lithium projects has slowed down so much. It has simply become very expensive to build and operate lithium mines, at the same time as prices have fallen to unprofitable levels for existing mines. Only companies with deep pockets and preferably diversified revenue streams – or government support - can risk the investments.

Conclusion

Therefore at the moment it looks like Thacker Pass is **on track to enter production in 2027**, becoming the **largest lithium producer in the USA overnight**. By that time Silver Peak is also set to have doubled production to 12,000 tpa and we forecast that two of the Smackover brine projects will also start up in the South West Arkansas sector that year.

2027 is set to be a **banner year** for US lithium production.