

Thacker Pass Open Pit Lithium Mine Project Fact Sheet

Most of the information described here comes directly from the Final Environmental Impact Statement (FEIS) prepared by Lithium Nevada Corp. (LNC) and approved by the Bureau of Land Management (BLM). For quick reference, the page number in the FEIS where you can find this information is listed at the end of each factual statement made in this fact sheet. Other documents are cited where appropriate. The FEIS and other documents filed with BLM can be found here: <https://eplanning.blm.gov/eplanning-ui/project/1503166/570>

How long would the project last?

At least 46 years. (FEIS, pg. ES-1).

The project would be developed in three phases. Phase 1 would include construction of the mine facilities and mining and processing for the first 4 years of the mine's life. Phase 2 would occur from years 5 to 41. Then, the mine would enter a reclamation and closure period for a minimum of 5 years. (FEIS, pg. ES-1).

How big would the mine be?

The project area includes 17,933 acres of land. (FEIS, pg. ES-1).

The mine, chemical processing facilities, and stockpiles would destroy 5,694.8 acres of land in Thacker Pass. (FEIS, pg. 2-3).

The mine pit would be roughly 400 feet deep. (FEIS, Appendix A, Figure 2-3).

What other infrastructure would the mine construct?

The Thacker Pass project isn't just a mine. The project would also include a lithium processing plant (FEIS, pg. 2-7), sulfuric acid plant (pg. 2-9), a new electric substation (pg. 2-11), a seven-mile-long powerline that would be constructed from the new electric substation to the Quinn Production Well (pg. 2-11), and a seven-mile-long water pipeline construction from the Quinn Production Well and Quinn Backup Well to a raw water storage tank located in the sulfuric acid plant (pg. 2-13).

How much water would the mine use?

For the first four years, the mine would use 2,600 acre-feet per year. (FEIS, pg. 4-7).

Then, for the next 37 years, the mine would use 5,200 acre-feet per year. (FEIS, pg. 4-7).

Where would the water come from?

The Quinn-Production well. (FEIS, pg. 4-7).

Isn't Orovada's water already overallocated?

Yes. The Quinn River Valley, Orovada Subarea Hydrographic Basin is currently overallocated by 30,271 acre-feet per year. (FEIS, pg. 2-13).

Would the mine pollute groundwater?

Yes, it is expected that the mine will pollute groundwater. Lithium Nevada's own tests found that aluminum, arsenic, antimony, beryllium, cadmium, chromium, copper, fluoride, iron, lead, magnesium, mercury, nickel, sulfate, thallium, TDS, and zinc were leached at concentrations above Nevada Resource Values. (FEIS Appendix B, LNC Mine Plan, pg. 41).

LNC also found that for their clay tailings sample uranium, gross alpha and radium 226/radium 228 exceed Nevada Resource Values. (FEIS Appendix B, LNC Mine Plan, pg. 41).

Would the mine pollute the air?

Yes. Mining would produce dust, combustion emissions from blasting and tailpipe emissions from mining equipment, trucks, and other mobile equipment. (FEIS, pg. 4-78). Mineral processing would produce particulate matter emissions from crushers and the scrubbing process used to extract lithium from ore. The processing of lithium-bearing ore, operation of the sulfuric acid plant, and operation of ancillary equipment would produce emissions of what the Environmental Protection Agency characterizes as

criteria pollutants, hazardous air pollutants, and greenhouse gases. (FEIS, pg. 4-78).

What are “criteria pollutants”?

Criteria pollutants include ground-level ozone, particulate matter, carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide. These pollutants can harm your health and the environment, and cause property damage. (<https://www.epa.gov/criteria-air-pollutants>).

What are “hazardous air pollutants” (HAPs)?

Hazardous air pollutants are those known to cause cancer and other serious health impacts. (<https://www.epa.gov/haps>). These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory and other health problems. In addition to exposure from breathing air toxics, some toxic air pollutants such as mercury can deposit onto soils or surface waters, where they are taken up by plants and ingested by animals and are eventually magnified up through the food chain. Like humans, animals may experience health problems if exposed to sufficient quantities of air toxics over time.

What hazardous materials would be used or produced in the proposed mine and plant operations?

Hazardous materials include soda ash, molten sulfur, sulfuric acid, caustic soda, potassium chloride, aluminum powder, lithium chloride, sodium hypochlorite, limestone, and industrial polymers known as SNF Hyperfloc AF-307 and SNF Hyperfloc CP-624. (FEIS, pg. 4-109).

Would there be radiological hazards?

Yes. Radiological hazards associated with operation of the project include potential exposure to Technologically Enhanced Naturally Occurring Radioactive Material (TENORM). (FEIS, pg. 4-115).

TENORMs have been found to raise the risk of lung cancer in oil and gas maintenance workers. (<https://www.epa.gov/radiation/tenorm-oil-and-gas-production-wastes#tab-3>).

Early testing of the proposed mine's waste rock has found uranium concentrations above NDEP Profile I-R reference values. (FEIS, pg. 4-115).

How would the mine affect local traffic?

For the first four years, between 60 to 100 trucks on one-way trips from Winnemucca, through Orovada, to the Thacker Pass project site. These trucks would run 24-hours a day. (FEIS, pg. 2-14).

For the next 37 years, the truck traffic would increase to between 120-200 one-way trips from Winnemucca, through Orovada, to the Thacker Pass project site. (FEIS, pg. 2-14).

What would these trucks carry?

The trucks would carry molten sulfur, soda ash, quicklime, caustic soda, and fuels (FEIS, pg. 2-14).

Sulfur would be transported to the site in molten form in closed tank cars. Sulfuric acid solution produced in the sulfuric acid plant would be shipped from the site in liquid form in road tankers during periods of excess acid production. Sodium hypochlorite solution (chlorine bleach) would also be shipped from the site in liquid road tankers. (FEIS, pg. 4-109).

Would explosives be transported and used?

Explosives may be required for removing basalt rock from the pit. (FEIS, pg. 4-109). Explosives would be transported to the site on SR 293 from the Highway 95 junction and on access roads to the site, the same transportation route as for other hazardous materials. (FEIS, pg. 4-110).

How would the mine affect wildlife in Thacker Pass?

The mine would disturb at least one golden eagle breeding pair. (FEIS, 4-56). There are also 7 golden eagle nests within 1 mile of the proposed project boundary, and 12 golden eagle nests within 2 miles of the project boundary. (FEIS, 4-57)

The mine would also disturb approximately 852 acres of year-round mule deer habitat. (FEIS, pg. 4-38). It would directly affect 427 acres of pronghorn summer range and 4,960 acres of winter range over the life of the mine. (FEIS, pg. 4-38). Many special-status species and their habitat including bighorn sheep, pygmy rabbit, western burrowing owl, greater sage grouse, spotted bats, red bats, little brown bats, Lahontan cutthroat trout, and desert horned lizard would be harmed by the project. (FEIS, pg. 4-40 to 4-48).

What are other government agencies saying about the mine?

The Environmental Protection Agency (EPA) has strongly criticized LNC's and BLM's analysis of impacts to water quality. EPA has stated: "As explained in the Final EIS, adverse effects to groundwater quality are expected from all action alternatives. Without mitigation, a plume of groundwater exceeding the Nevada Division of Environmental Protection Profile I Reference Values for antimony is expected to flow uncontrolled from the backfilled pit." (EPA's January 4, 2021 letter to BLM).

The EPA is also concerned about the plans to mitigate groundwater contamination. EPA has stated: "...the plans are not developed with an adequate level of detail to assess whether or how groundwater quality downgradient from the pit would be effectively mitigated." (EPA's January 4, 2021 letter to BLM).

Who are the companies pushing the Thacker Pass Project?

Canadian company Lithium Americas Corp. and its American subsidiary Lithium Nevada Corp. Lithium Americas is headquartered in Vancouver, British Columbia.

Does Lithium Americas operate other mines?

Yes. Lithium Americas has formed a company in Argentina with the Chinese company Ganfeng Lithium.

The company – named Minera Exar – operates the Cauchari-Olaroz lithium mine in Argentina. An investigation by an Argentine non-governmental organization found that Minera Exar failed to provide free, prior, and informed consultation with local communities where the lithium project is

located. (https://goodelectronics.org/wp-content/uploads/sites/3/2019/05/DOC_LITHIUM_ENGLISH.pdf).

The *Washington Post* published a story in 2016 titled “Tossed Aside in the ‘White Gold’ Rush: Indigenous people are left poor as tech world takes lithium from under their feet.” It was estimated in the story that Minera Exar would make about \$250 million annually from the Cauchari-Olaroz mine. Despite this, Minera Exar’s contracts with six local communities promised only tiny amounts of money once production had started.

For example, while Minera Exar was likely to make \$250 million a year from the mine, they would only pay \$9,000 to the local town of Catua; \$12,000 to Susques; \$25,000 to Puesto Sey and Huancar; \$47,000 to Olaroz Chico; and \$59,00 to Pastos Chicos.

(<https://www.washingtonpost.com/graphics/business/batteries/tossed-aside-in-the-lithium-rush/>).