



Mining in Nevada: prospective for gold and lithium

Nevada is the fourth largest gold producer in the world and the number one gold producing state in the United States, but its rich history in silver mining is what coined its nick-name, “The Silver State”. A decade after the California gold rush began in 1849 a silver rush began in Nevada with the discovery of the Comstock Lode in 1859. Would be miners, could shovel this “horn silver” right off the ground from heavy grey crusts that had been polished by dust and wind to the dull luster of a cow horn. It had formed on the surface after millions of years of desert conditions and rain water slowly weathered the silver sulfides out of their volcanic host rocks. In any one place, these large silver beds could have been tens of metres wide and more than a kilometre long.

Thanks to the silver rush, the population of Nevada surged. The trans-continental railway came through in 1862 and in 1864 during the ongoing American Civil War, Abraham Lincoln declared Nevada the 36th state in the Union, giving the state its second nick-name “Battle Born” still proudly sewn into the state flag.

The Comstock Lode supported mining until 1890 after Nevada’s “surface bonanzas” were picked clean. By the mid-1890s, one in three Nevadans left the new state in search of jobs. However, this lull in Nevada mining would prove to be short lived. At the turn of the century, silver was once again discovered at Tonopah, gold at Goldfield and copper at White Pine.

By 1912, the Nevada Mine Operators Association was established as the collective body for the state mining industry; just in time for Nevada mines to begin selling millions of dollars-worth of copper, silver, and lead for weapons and equipment used in World War I. This production peak in base metals was followed by a post-war crash in 1919. From 1924 to



Mike Ressel, Economic Geologist with the Nevada Bureau of Mines, and David Freedman from the University of Nevada, check out Viscount Mining’s Cherry Creek gold prospect 90 km north of Ely, Nevada. Photo courtesy Viscount Mining Corp.

the early 1960s, the industrial expansion provided incentive for Nevada to produce significant amounts of copper, lead, zinc, iron and tungsten. At the same time, Nevada’s precious metals industry slowly sank to a near low in 1961, only 1894 recorded less gold and silver production since the start of the Comstock boom.

During the 1930s, exploration brought about the discovery of “invisible gold” in historic claims including the Standard Mine in Pershing County, the Getchell Mine in Humboldt County, Northumberland Mine in Nye County and Gold Acres Mine in Lander County. These mines were the first of their kind, and stretched across an area later to be known as the Carlin Trend. It was along this trend in 1962, that the most important discovery in Nevada’s mining history since Comstock

was made. Today, there are more than 20 mines along the Carlin Trend making it one of the largest gold-producing regions in the world. In 1964, copper made up 60% of the total mineral production in Nevada. In May 1965, **Newmont Mining** [NEM-NYSE] poured their first gold bar at the Carlin Mine signaling a start to a new era of precious metals production.

By the end of the year, the Carlin Mine was the largest producer of gold in Nevada and the second largest in the nation. By the end of 1992, copper and base metal mining slowed considerably as more industrial minerals were in demand. The state produced a variety of products including barite, gypsum, lithium carbonate, magnesite, perlite, building stone, limestone for cement production, sand and gravel.

Today, almost all the gold mined in

Nevada comes from large open pit mining using cyanide heap leaching recovery. Total gold production in Nevada from 1835 to 2008 totaled 152,000,000 troy ounces. In 2014, the Battle Born state produced 4,940,540 ounces representing 73% of gold produced in the US and 6% of the world's production.

The town of Silver Peak, in Nevada's Clayton Valley was founded in 1864 after silver was discovered nearby making it one of the state's oldest mining communities. Today, it is home to **Albemarle Corp.**'s [ALB-NYSE] Silver Peak Mine, the only lithium brine operation in North America. The mine has been in production since 1966.

When **Tesla Motors** [TSLA-NYSE] announced that it would build a massive lithium-ion battery gigafactory in Nevada, there was a renewed interest in lithium exploration, particularly in the Clayton Valley where a number of important geological and climatic factors are present such as a closed, tectonically active basin flanked by lithium-bearing source rocks, an arid climate and elevated heat flow due to hot springs or young volcanoes.

Such notable juniors to stake ground in the immediate area of the Silver Peak mine are: **Pure Energy** [PE-TSXV] the only company so far to complete a resource estimate on their Clayton Valley Project and who have secured a conditional agreement with Tesla; **Lithium X Energy** [LIX-TSXV]; and **Nevada Sunrise Gold** [NEV-TSXV].

The Lida Valley, 60 km south of Tonopah, is another potential lithium discovery area with the right combination of elements including strong, recently obtained satellite imagery, showing the presence of lithium bearing clays leaching from the surrounding ranges into the valley basins below. Strategically located is the Gemini property shared by Nevada Sunrise and **Eureka Resources** [EUK-TSXV].

Goldman Sachs recently called lithium the "new gasoline". *The Economist* calls it "the world's hottest commodity". They talk about a global scramble to secure supplies of lithium by the world's largest

battery producers, and by end-users such as carmakers. Even Apple, Google and start up Faraday Future all have plans for electric cars. Nevada has become ground zero in the race to find enough lithium to feed the growing demand. As a result, the next few years promises to be another historic era for mining in Nevada.

Gold exploration continues in Nevada. **Viscount Mining** [VML-TSXV; VLMGF-OTCQB] has started its 2016 work program on the Cherry Creek property 90 km north of Ely. The program is being conducted by **Sumitomo Corp.** which can earn a 75% interest. This program follows up on the successful 2015 work program in the Flint Canyon area. ■

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