Who owned vanadium

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Industry trade reports currently list Dalian Rongke Power Co. Ltd. as the top manufacturer of vanadium redox flow batteries worldwide. Skievaski also worries about whether China will stop making...

Before ore was first dug out of Minas Ragra, vanadium had sold for $4,000 per pound. Soon after the mine closed for the first time, vanadium was selling for only $1.80 per pound. In 1919 the mine was sold again, to Jacob L. Replogle and Charles M. Schwab, who had established the Vanadium Corporation of America.

AMG Vanadium has a very rich history, dating back to 1952, that has shaped the Company into what it is today: the global leader in environmentally responsible management and recycling of spent refinery catalysts. Our history propels our mission, vision, and purpose to improve the environmental footprint of our world.

Vanadium is a metal which was discovered by the Swedish scientist Sefstrom in 1831. He named it after Vanadis the Swedish Goddess of Beauty and Fertility because of the attractive brilliant colours of the chemical compounds in which it was first found.

The Science History Institute is closed through Saturday, November 30, for the Thanksgiving holiday.

Vanadium was a rare metal, but for 100 years after its first discovery in 1801 no one cared—until a chemist discovered it strengthened steel.

That day, Antenor Rizo Patr?n Lequ?rica and Eulogio E. Fernandini de la Quintana rode their horses to Minas Ragra, a windswept, barren area on the edge of the Andes about 100 miles (161 kilometers) north of the capital, Lima, and more than 25 miles (40 kilometers) from the nearest railway. The high altitude, 3 miles (5 kilometers) above sea level, turned even a short amble into an exhausting proposition. But the two had made the grueling journey for a reason. Fernandini owned a nearby lead, silver, and copper mine, as well as a smelter to refine the ores. Rizo Patr?n managed the smelter laboratory. In search of fuel to power the smelter, they collected samples of any rock that looked burnable. After filling their packs they got on their horses for the return journey.

As night approached and temperatures dropped below freezing, the two men lodged at Hacienda Hayarragra, about 12 miles (19 kilometers) from Minas Ragra. To warm their icy room they burned one of the samples--a shiny lump of what looked like coal. Though the samples did not appear to contain pyrite or any other familiar sulfide minerals, the burning lump produced a surprisingly large amount of poisonous sulfurous gas. Rizo Patr?n analyzed the sample on his return to the lab and discovered a new mineral, one that contained vanadium. While Rizo Patr?n got naming rights--he called it patronite (VS4), after himself--Fernandini applied for mining property rights.

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Fernandini had no objection to selling: he knew he lacked the resources to develop the mine. He sold it to Flannery for 2,000 Peruvian pounds (approximately U.S. $10,000) and 10% of the stock in the new company, the American Sales Company. Flannery then established the American Vanadium Company, and the mine opened for business the very next year.

Equipment had to be lugged to the remote site, local miners hired, and lodging built for them. Only 201 metric tons of vanadium ore were mined in 1907, for a total of 28.2 metric tons of vanadium pentoxide (V2O5). Between the mining in Peru and the smelting in Pennsylvania, the ore traveled almost 3,800 miles (6,120 kilometers), first on the backs of llamas and then via rail and ship. Production quickly ramped up; by 1910 output had increased to 3,130 metric tons containing 702.4 metric tons of V2O5. The extremely high-grade ore contained up to 40% V2O5, consisting of patronite and its various oxide minerals.

The vanadium from Minas Ragra changed the world"s steel industry. Before Flannery"s purchase of the mine vanadium steel-alloy production in the United States was less than 1,000 tons per year; after the Minas Ragra mine and the Bridgeville smelter began operating, production increased to 800,000 metric tons in 1916, reaching an annual rate of 1,100,000 metric tons in 1919. Vanadium steel became a player in some of the major advances of the era: it appeared in parts of the Panama Canal lock gates and in the first plane-mounted cannon in World War I, as well as in Ford"s Model T.