

MINING JOURNAL PINK SHEET

Phoenix, Arizona

September 7, 1943

Oregon

The Red Flats Mining Company has resumed activity and expects to be in production by October. The company is backed by Carl Smedberg, John Shoff, and L. H. Garrison, 315 Sutter Street, San Francisco, California. Holdings consist of 1,440 acres of cinnabar-bearing ground near Gold Beach, Oregon. About 50 tons of ore will be handled daily by open-pit methods. Diesel-powered shovels, retorts, and McCartney concentrator tables are being installed. The company was organized in 1939.

Cal Nickel joining race to develop cobalt mine

By RICK HOWELL
Correspondent, The Oregonian

CRESCENT CITY, Calif. — California Nickel Corp. near Gasquet, Calif., has joined the race of competitors hoping for an Air Force award for cobalt mine development.

"The Gasquet Mountain Project is among a handful of competitors for this Air Force Award," said Cal Nickel spokeswoman Cindy Stockly.

The Air Force will select by April 30 "at least two sites for the construction of demonstration plants," said Stockly. Although the Air Force will provide a market for the cobalt, the companies must finance construction of their own plants.

The government will evaluate the product and operation of demonstration plants before selecting one full-scale mine where it will purchase its cobalt.

Stockly is optimistic of the project's chances of winning the award. "We believe financial and technical considerations will strongly favor the Gasquet Mountain Project," she said.

The corporation's intent to mine cobalt, nickel, chromite and magnesium oxide give it "an inherent financial advantage over those which produce only cobalt," she said.

"That financial advantage is further increased by Cal Nickel's innovative, high technology processing system," Stockly said.

The demonstration plant, she said, will provide Cal Nickel a "more precise engineering design as we scale up to a larger facility. Also, "It will produce metals that can be qualified by defense and aerospace users."

She said the \$5 million demonstration plant would provide 30 jobs and further documentation of environmental impacts.

The initial environmental impact statement for the mine from the U.S. Forest Service and Del Norte County in California was attacked by environmentalists and various government agencies for being incomplete.

Stockly said opposition persists "among a minority of citizens of this area" and added that "the issues raised by them are environmental in nature, and the company is striving in good faith to answer all legitimate concern."

California Nickel is planning a \$300 million operation to mine 2,700 acres of an 8,000-acre site for strategic metals.

The 20-year operation would employ about 540 persons, mostly from Crescent City, Calif., to Brookings, Ore., and pay about \$3 million in property taxes annually.

The company has spent more than \$16 million for exploration, environmental and engineering studies, and process development since 1977, it said.

Associated Press

Albany team draws nickel from low-grade ore

By ANDREW MERSHON
of The Oregonian staff

ALBANY — The U.S. Bureau of Mines' metallurgical research center here has developed a process for the extraction of nickel from low-grade ores. Research Director Rollien (Ray) Wells believes the process could revolutionize the industry, reduce the U.S. balance of payments deficit and cut energy consumption in nickel production from "hundreds of kilowatts per pound of metal" to two.

The process, which has no name, has been covered under several patents filed by the bureau.

It involves chemical processing of ores down to one-half of 1 per cent nickel and produces as an end product the purest metal available in the industry, along with byproducts of pure copper and/or cobalt.

The big breakthrough, the bureau said, was in low-temperature roasting of the ore in the presence of carbon monoxide. Most production of nickel utilizes heat of up to 1,600 degrees Celsius; the Albany process roasts the ore at no more than 600 degrees.

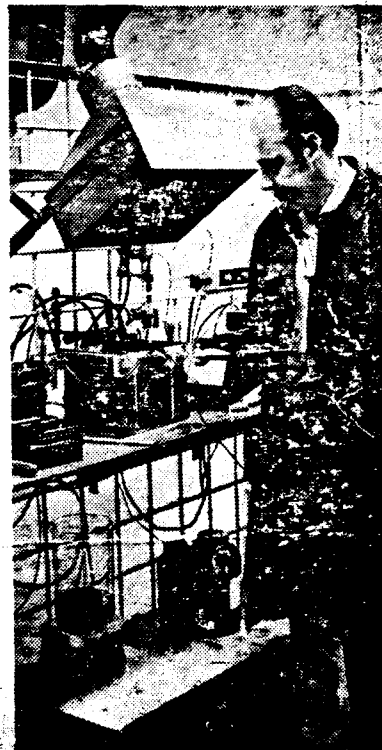
Through a series of ion exchanges, the metallic nickel, copper and cobalt ends up in a petroleum-based solvent solution, from which they are electrostatically extracted.

The solvents are recycled, and losses in processing by evaporation, are minimal, the bureau said.

Oregon has the only commercial nickel production facility in the United States at Riddle, where the Hanna Mining Co. makes ferronickel for the steel industry.

Richard E. Siemens, the principal scientist working on the nickel project,

said the only waste produced by the process is "essentially the same dirt that was mined. It is just returned to the



Staff Photo By DAVID FALCONER

NICKEL PLANT — Bureau of Mines scientist Richard Siemens checks electro-winning tank which is end of new nickel processing system developed by Albany laboratory. Albany process allows use of low-grade ore, dramatically cuts power requirement, and produces highest-grade metal.

ground as fill, minus the metals we recover."

So far, interest in the process has been limited to two Canadian companies that are prospecting in Southern Oregon and Northern California, Wells said.

"We have known for years that there was this low-grade ore down there; what we didn't know, until they started trenching, was the extent of the deposits." Wells believes there is sufficient reserve in the area now to justify building a processing plant based on the laboratory work.

An eastern consulting firm is studying the bureau's preliminary figures to come up with an economic analysis, but in Albany they believe the process will be economically feasible down to, at least, per cent ore.

Hanna is working ores at Nickel Mountain near Riddle that range from 1.2 to 1.4 per cent, and are using higher grades to bring the mix being fed into the plant up to 1.5 per cent.

U.S. consumption of nickel, according to Siemens, is about 165,000 tons per year, 90 per cent of which must be imported. Hanna production is about 13,000 tons per year of ferronickel; another 30,000 tons is produced from scrap reclamation plants, and copper refineries get about 500 tons per year as a byproduct.

The Canadians have uncovered reserves estimated by the Bureau at 100 million to 150 million tons of 1.5 per cent ore.

"We're almost positive this process will handle that ore economically," Wells said.

Recovery of Nickel and Cobalt from Low-Grade Domestic Laterites.

R. E. Siemens, P. C. Good, and W. A. Stickney.
Bureau of Mines, Albany, Oregon. Albany Metallurgy
Research Center. Mar 75, 19p BuMines-RI-8027
PB-241 218/7WN PC\$3.25/MF\$2.25

A process is being developed by the Bureau of Mines to selectively recover nickel and cobalt from low-grade domestic laterites. In laboratory evaluation of the process, the oxides in the laterite were selectively reduced with carbon monoxide at temperatures from 350 to 600C. For material containing more than about 5 percent magnesia, pyrite additions or post reduction heat treatments were necessary to achieve satisfactory nickel and cobalt extraction for this range of reduction temperatures. Multistage leaching of the reduced material at ambient temperature and pressure in the presence of oxygen, ammonium sulfate, and ammonium hydroxide extracted up to 92 and 87 percent of the contained nickel and cobalt, respectively. The nickel was selectively recovered from the leach solution by solvent extraction and was then stripped from the loaded organic with dilute sulfuric acid to provide a nickel-rich electrolyte. Treatment of the raffinate with hydrogen sulfide, resulted in the recovery of cobalt as a sulfide. The only contaminant in solution was magnesium which was removed by ion exchange or precipitation.

CURRY COUNTY REPORTER

5-4-67

Red Flats Corp.

Elects New Officers

The Red Flats Nickel Corp. elected new officers Tuesday.

Dennis Winn was named president, filling the vacancy left by the death of Harry Hedderly. Winn was formerly secretary of the group.

Betty Hedderly was elected secretary and Charles Skinner of Portland retained the office of vice president.

A mining company field drilling crew is moving into the Red Flats area for the third year. John Murphy of the Hanna Mining Co. is the engineer in charge of the crew.

NICKEL LAND
UNDER OPTION

Tracts in Curry
12,000 Acres

GOLD BEACH (Special) -- Options have been taken on \$1,000,000 worth of Curry County land to develop low grade nickel ore.

The options were purchased by Pacific Nickel corporation, Los Angeles, on about 12,000 acres in the Red Flats area, located in the Hunter Creek mining district south of Gold Beach between Hunter Creek and Pistol River.

The options were filed this week in the county clerk's office at Gold Beach. Sellers include I. R. Edwards, H. S. Hedderly, Mary Smedberg, Phil R. Adams and others.

Core Testing Due

According to Rose Nunemacher, representing Pacific Nickel, if core testing expected to begin in June warrant, payments in excess of \$1,000,000 will be made for the property.

Tom Lyon, San Diego engineer for Southwestern Engineering of Los Angeles, is in charge of development work. His firm took about 1500 samples from the area last summer and is the licensee for the Krupp-Renn process, considered the best process for the low grade ore in the region.

Further plans will depend on the outcome of the core drilling, Lyon said.

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