The Multinationals Converge On Another Oregon Resou
THE PITS?
Prospects for Oregon’s Cascades

By Phillip Johnson
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Squeezed by dwindling resources and spurred on by technology that makes comparatively low-grade mineral lodes profitable, major mining and oil companies have turned to the western Cascades in their search for copper, lead, zinc and molybdenum.

Keeping their activities almost entirely secret, national and multinational corporations have managed widespread exploration of the western flank of the Cascades and the Klamath Mountains in southern Oregon without attracting the secret, national and multinational attention of the public or of most country, state and federal officials.

Some of the names are highly familiar to those acquainted with the mining industry: Amoco Minerals Company; Cominco American, Inc.; Asarco, Inc.; Freeport Minerals Company; Phelps Dodge Corporation; and Duval Mining Company.

Others among the searchers are familiar to everyone: Exxon Corporation, Chevron Oil Company, Cities Service and Conoco.

Even this is only a partial list, gleaned from a wide variety of sources within the mining industry. “Every major mining company has been in there at one time or another,” says George Atiyeh, president of Shiny Rock Mining Corporation, a small Oregon company that operates on the North Santiam River in Marion County.

“You could take a list of the top 10 Canadian companies and the top 10 American companies, and probably 75 per cent would have had a man or two looking at this area,” adds C.W. Field, a professor of geology at Oregon State University. “I can’t think of one who hasn’t.”

Although there is some debate among geologists about the method of mining that would be employed here should commercial deposits be discovered, the majority of those interviewed believe that the minerals would be extracted through open pit mining, in which the soil of “overburden” is stripped away to a depth of hundreds of feet to expose the ores. The only company willing to reveal its plans to the Observer, Cominco American (the U.S. branch of a Canadian firm, Cominco, Inc., one of the world’s largest metals companies), indicated that it would engage in open pit mining of copper deposits it has claimed near Quartzville in Linn County, should permission to do so be granted.

“tip of the iceberg,” and that “low-grade, large-tonnage, long-term programs” will be started by the mining companies at various points in the Cascades. Aside from already identified areas of mineral concentration, says Mason, “We rather expect ... that there’ll be some new ones in areas that have been bypassed.”

Of Oregon’s 14 known “mineralized areas,” according to Jerry Gray, eight are in Lane County, including the state’s best-established mining area, the 35-square-mile Bohemia district southeast of Cottage Grove. A number of companies have shown an interest in Bohemia: Amoco in particular has done extensive exploration work there, and has done test drilling. “You can’t help feeling the current of excitement up there,” says Ray Nelson, president of the mining of these deposits. Political problems abroad combine in corporate thinking with balance of trade questions and increasingly scarce resources. “We’ve got such a balance of trade problem that if we don’t produce our own minerals—well, if you thought the oil crisis was a crisis, wait till we get to the metallics,” suggests Jerry Gray. The opinion is echoed throughout the industry: Amoco Minerals Company; Cominco American, Inc.; Asarco, Inc.; Freeport Minerals Company; Phelps Dodge Corporation; and Duval Mining Company.
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If there is a copper rush on, it is taking place in slow motion. Most estimates are that the mining of the existing Cascade mines are in production, although digging could commence in five years or less. Time is perhaps needed; the Observer's survey revealed that most regulatory and planning agencies which will be affected are unaware of the presence of the major mining companies in the area.

The extent of Oregon's deposits of commercially valuable minerals is unknown—the last data available is from 1938 and was gathered when mining technology centered on limited, rich veins rather than much larger, widely disseminated "porphyry copper" deposits. "We've certainly got high-grade veins that have copper, lead and zinc in them," says Jerry Gray, an economic geologist with the state's Department of Geology and Mineral Industries.

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As is the case up and down the Cascades, the multinationals are not alone in their interest in Bohemia. Individual prospectors are exploring the hills in increasing numbers, hoping to sell or lease any deposits they may discover to the major companies. Observers report a rapid increase in the trading of Bohemia mine properties during the past two years. "I've noticed a great deal of exploration by new, younger people," says Ray Nelson, "almost a boom, you might say."

Predicts Shiny Rock's George Atiyeh: "We haven't seen the end of it. We won't see the end of it. It's on its way. All we need is for one more person to hit it and it will be on like gangbusters."

The current rush for copper in the Cascades began about four years ago, when Duval Mining located a series of commercially valuable deposits containing copper and other minerals in the Washington Cascades. Since then, led at first by Duval, Exxon, Phelps Dodge due to such inconveniences as revolutions and expropriation.

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Another major factor is the diversification of the oil industry—the reason for the presence of the oil majors among the metals manufacturers searching the Cascade slopes. "They're going to have to go out of the oil business, so they're looking for something to jump to," explains Ewart Baldwin, professor of geology at the University of Oregon. "These days you can't tell an oil company from a mining company." adds OSU's Professor Field.

This is a key development, because the price of copper is at its lowest ebb at the moment. (This might slow development of any Oregon discoveries, although it is unlikely to, since the price is expected to rebound long before new mines begin producing.) "The guys that are dependent on copper don't have the exploration money," is the simple, blunt fact of economic life offered by George Atiyeh. "The oil companies have the exploration money. They're afraid that things are going to clamp down on them.
and they’re starting to diversify.”

Interest has also shifted to this region due to changes in mining exploration and technology. On one hand, prospectors are looking for a different kind of deposit. “There’s been a whole revolution in the way geologists look for ore deposits,” says Jack Feuer of the minerals office of the federal Bureau of Land Management (BLM).

According to Feuer, along with other geologists, interest has turned to “volcanogenic” minerals, “smaller bodies of high-grade ore” dispersed by volcanic activity. “The radical thing that’s happening is they’re looking over these old mining districts with a new model of ore genesis.”

On the other hand, developments in mine technology have also opened up previously inaccessible minerals to exploitation. During the gold rushes of the 1860s, 1890s and 1930s (which focused on the Bohemia region), the miners concentrated on rich veins, and even then achieved only 40 to 60 per cent efficiency in extracting gold from ore. Some mining of copper was done, but the mineral was not deemed worthwhile if intermixed with other minerals.

New methods of “electro-winning,” separating minerals with the aid of electricity through several processes, make it possible to recover commercial quantities of several different minerals at the same time, even though each of the minerals may be present in relatively small quantities. This has made it commercially feasible to mine “porphyry coppers,” zones of minerals bearing not only copper, but molybdenum, lead and zinc, gold and mercury.

Lane County sits in the middle of a vast north/south strip of porphyry deposits. Porphyries are large areas—rather than narrow veins—in which minerals are disseminated through existing “country rock.” Those in the Washington Cascades are of the most immediate interest to the mining companies, because they lie somewhat nearer the surface. At the same time, those to the south, in the Klamath Mountains, are potentially richer, as it is a geological phenomenon that the oldest mineral deposits tend to be the largest. Minerals were lain down in this area some 20 million years ago; those in the geologically more ancient Klamaths are perhaps 100 million years old. A number of major mining and metals corporations—Homestake Mining, Noranda Mines Ltd., Newmont Corporation and Chevron in particular—are consequently devoting their exploration to the Klamaths at present.

Beyond the presence of exploration crews—recorded by numerous eyewitnesses—and a limited amount of test drilling, it is impossible to determine the extent the mining companies have already
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stead, they take options on rights owned by individual prospectors, or simply lease the owner's rights on a royalty basis. Such transactions do not appear on the records.

For instance, Amoco is reliably reported to have taken over a number of claims and done test drilling in the Bohemia district. A.G. Humphrey, the Denver-based multinational's U.S. division manager, denied that the company has an active interest in Bohemia, saying that Amoco's only Oregon holdings are a "claim group" in Marion County. Yet

Observer expressed skepticism about open-pit mining, predicting that other methods such as "block caving"—in which a tunnel is run under the ore body, which is then collapsed downward in sections—are more likely. Professor Field, for instance, believes that ores may lie too deep in this area to make stripping off the "overburden" practicable. There seems to be disagreement on this point: Steven Munts, assistant geologist for Cominco, thinks mineable deposits may be found at 500 to 1500 feet or even less and thus may be accessible to open pit mining.

"The Cascades, I feel, does have a..." I" "edges Delk. "... We'd have to make a..." I" "I guess I could care less—it's not my headache."

"If the local planning people don't start looking at it a little bit, it's going to be a real shock to them," says Gray. "Now is the time to start your planning."

Lane County's Planning Division is at present unapprised of the possible copper rush. "I haven't heard about it," says Senior Planner Vern Delk. "Sometimes you stumble across and hear about it and sometimes you don't."

"None of our plans really foresee any major mineral exploitation," acknowledgment prevent U.S. Pumice Co. from quarrying pumice at Rock Mesa in the Three Sisters Wilderness on the grounds that the minerals being mined are not sufficiently valuable to warrant impairing a wild area.

Many of those active in mining—or actively supporting the industry, as with the state Department of Geology and Mineral Industries—feel that Wilderness designations and other environmental restrictions place too many roadblocks in the way of mining. "Very large areas are being set aside a little too quickly," complains Ralph Mason. Jerry Gray, referring to the Rock Mesa controversy, says with audible bitterness, "Do you think anybody—even with gold nuggets bigger than your head—could bring in a D-9 cat and start mining on Three-Fingered Jack?"

If important discoveries of copper and other minerals are made in the Cascades, a number of agencies will have to sort out their regulatory powers. At present, some are not even certain of their jurisdiction.

The Bureau of Land Management at present has no regulations concerning mineral extraction. "There are no regulations the BLM imposes on a mining claimant," says Jack Feuer. "The only regulations imposed today on a mining claimant are by the state."

The state department of geology is responsible not only for permits on BLM land, but on private property as well. But Acting State Geologist Ralph Mason says that in order to drill, a company must seek a permit "from us or from [the State Department of] Water Resources or from somebody."

Actually, it isn't the water resources department that is responsible for maintaining water and air quality, but the Department of Environmental Quality, which in turn administers standards set forth by the federal Environmental Protection Agency (EPA).

EPA's standards are also in a state of
claims in eastern Oregon. Because of such confusion over records, companies can keep their operations almost secret until they are actually ready to begin mining.

According to veteran Bohemia mine-owner Ray Nelson, Amoco is involved in at least 16 claims in Bohemia. There has been "quite a little money spent there," he asserts. "They're very secretive about the whole thing. They did a couple of years of work up there." Amoco apparently lost a low-key bidding war to Freeport Minerals in the North Santiam area last year, which may account for the company's sensitivity.

Mining, and especially the open pit mining of low-grade ores, requires a great deal of capital. Major companies may have exploration budgets of six to eight million dollars, and may spend hundreds of thousands of dollars on testing a promising claim before determining whether to mine there.

Amoco's A.G. Humphrey estimates that a large open pit mine would require an investment of about $350 million. Underground mining costs considerably more and requires high-grade ore to justify the expense. Since most ores located in Oregon to date are fairly low grade (in the neighborhood of .5 to .7 per cent copper), the clear implication is that Amoco will be open pit mining if at all. (Although most geologists interviewed believe that it would be 10 years before large mines went into production in the Cascades, Humphrey indicated that if Amoco feels it has a workable claim, it can go into production in five years.)

Jerry Gray of the state's geology department agrees that open pit mining is the most likely method. "The veins up there have a lot of other stuff in them [aside from copper], and if you have an open pit mine, you'll get those other goodies too."

Some of the sources contacted by the
The champ!

In the Bohemia Mining District, the old Champion Mine is just one of many sights to see.

1. **KNOX DONATION LAND CLAIM** — On Row River Road, just east of town, is the site of the old Knox donation land claim. The Knox house was located where a gas station now is. Mr. Knox was one of the area’s first settlers and he owned about 3,000 acres.

2. **ALCOHOL SPRINGS** — This spot is located on the old road on the west side of the creek. Freight wagons stopped here on their way to the mines so miners could quench their thirst after a big night in town.

3. **ROCKY POINT** — Just often he wore only long-handled underwear.

8. **ARRASTRA** — At Walker Creek was an arrastra, a Spanish gold mill, that was abandoned about 1900. It was driven by water power and it crushed ore by dragging rocks over it in a circular stone-lined pan.

9. **DEAN’S CABIN** — This was a way-station on the road to the mines up both creeks, and a large placer mine here was worked first by white men, then Chinamen. Part of the original sluice road can be followed on in sluice boxes and the gold recovered.

14. **VESUVIUS MINE** — The Vesuvius veins were first discovered about 1895 and were later owned by the Graber and Ziniker brothers. The Vesuvius Mines Company purchased the mine and had a 10-stamp mill operating by 1908. The patented claim is now owned by Ray Nelson.

15. **BOHEMIA SADDLE** — This spot divides the Willamette River watershed from the Umpqua River watershed. It sits between the two major...
• the upper end of Dorena Lake, a rocky ridge was the scene of a battle between the Calapooya and Klamath Indians. The Klamaths had raided the Calapooya camp and carried off the women. The Calapooya gave chase and caught up with the Klamaths here, rescuing their women.

4. RED BRIDGE — The first bridge at this spot was built in 1879 and it was red and covered. A boarding house and saloon were located on the north side of the Row River. This spot was the turnaround for traffic up Sharps Creek to the mines.

5. PAINTED POST RANCH — The Hawley stage stop was located in the meadow about half a mile northwest of the Sharps Creek recreation area. It was here that the packtrail to the mines started.

6. STAPLES BRIDGE — A hermit, Staples, lived here and the bridge, the remains of which can be seen on the downstream side of the present concrete bridge, was named after him. He was a bridge carpenter and noted for his axe and adz work on huge timbers.

7. BOHEMIA SHARP’S RANCH — Originally from St. Louis, Mo., Bohemia Sharp lived in Bohemia country most of his adult life. He prospected up the creek that bears his name and filed on a homestead selected on the opposite side of Sharps Creek.

10. SAILORS (OR SAYER’S) GULCH — In 1858 on this small tributary of Sharps Creek, the first gold find was made by Adams, Oglesby, Shields and Buoy. They were placer miners, retrieving gold from sand and gravel in the creekbed.

11. MINERAL — This was an overnight stop on the long trip to Bohemia. A large two-story hotel was located here, as was a large barn, general merchandise store, several mining claims and an assay office.

12. HARDSCARBLE GRADE — This steep road was built in 1898 and is six miles long. Early travelers said the trip from Mineral to Bohemia Saddle took between four to eight hours and six or eight horse spans were needed to pull the grade. The road was built by donation labor of miners, aided by $8,000 from the Musick Mining Company and $700 from Lane County.

13. GLENWOOD CAMP — This switchback was the location of a small shelter where mail and supplies were left for those living near Shane Saddle. A hydraulic mining operation here used powerful jets of water to wash down the mountain slopes. The mud that came off the slopes was caught peaks in Bohemia with Fairview on the north and Bohemia on the south.

16. MUSICK MINE — James Musick discovered this vein in 1891. A short side road leads to the mining camp where once was located a post office, store, hotel, some cabins and a stamp mill. This mine was one of the three largest producers in Bohemia country. The old Lundberg stage house here is in the process of being restored by the Cottage Grove Prospectors’ Club.

17. OLD ELECTRIC TRAMWAY — A narrow gauge electric railroad ran on this level stretch from Musick to Champion Mines for processing.

18. KNOTT TRAIL — The old Knott Trail in 1870 followed the ridge top coming down from Fairview peak, crossing here and going on east to the Knott, Annie, Noonday and Helena Mines.

19. CHAMPION MINE — This mine was discovered in 1892 and by 1895 a ten-stamp mill was built there. Later a thirty-stamp mill was built and still later a 150-ton flotation mill, to make the Champion the most highly-developed mine in the district. A large camp existed there and much of the stamp mill and a boarding house remained until just a few years ago. At one time the Oregon Securities Company owned the Champion, Musick and Helena mines.

20. GOLDEN CURRY MINE — It was originally called Gould and Curry, but popular usage corrupted its name. An original pack horse trail can be seen on the creek just below the road.

21. TRIXIE MINE — This mine on the old Champion Trail is a good example of early-day efforts of the first prospectors. First found by Materson, it was later owned by Andy Nelson, an electrician who helped with the electric tramway between the...
Musick and Champion mines.

22. DOWNINGS POINT — Although mining is a hazardous business, only four casualties were reported at the mines. Two deaths occurred at mines and two more happened when two men named Downing and Weaver set out in a snowstorm from the Noonday Mine in the early 1890s. They apparently became separated and lost. Downing’s body was found on a log near this point several months later and Weaver’s body was found the next spring about two miles downstream. A stream was named after him.

23. BOHEMIA SMITH FALLS — A miner nicknamed Bohemia Smith one night started with a jug from Lundpark to Champion. He stepped off the edge of a cliff and fell, landing in a small tree. When he was found, he was sitting in the tree, singing, both he and his jug were unharmed.

24. POWER DAM — When Oregon Securities Company took over the major mines, it did a great deal of development, including building a dam between the two rock walls beneath the bridge across Brice Creek. A flume ran along the north bank and led to Lundpark.

25. TRESTLE CREEK — Every mining area has its lost mines, and Bohemia had four: Trestle Creek, Lost Frenchman, Lost Dutchman, and the Lost Mine of Fiddler’s Green. Legend has it that a hunter found some rich ore along the stream, but he decided to keep the knowledge to himself as he was not alone. He could never find the spot again.

26. LUNDPARK — This spot was another overnight stop to Bohemia and was named after Alex Lundberg and Harry Parker. It was once a bustling place with a hotel, barn, warehouse and two-story log store. Lundpark had its own water and electric system.

27. DISSTON — This town was the easternmost end of the railroad started in 1902 and completed by the Oregon Securities Company. A post office was established here in 1906. The town was named for Disston saws used in the sawmill.

Tour spots 1, 2, and 3, are not shown on the above map, but they are on Row River Road between Cottage Grove and Culp Creek.

Most of the above information came from a brochure, “Tour of the Golden Past,” published by the Umpqua National Forest.