

Miners wary of wolves on two legs

□ Atlas Precious Metals Inc. is hoping to extract up to 1 million ounces of gold from federal land south of Vale that it claimed in 1986

By DICK COCKLE
Correspondent, The Oregonian

VALE — Geologist Chris Broili stands atop a windswept bluff and gazes out over southeastern Oregon's high desert, fretting about wolves.

Not real wolves, of course, explains Broili, 40, shoving big hands deep into his coat pockets to escape the bitter wind. He is employed by the Princeton, N.J.-based Atlas Precious Metals Inc., which has discovered geologic gold reserves 25 miles south of Vale totaling an estimated 1 million ounces — worth a tidy \$400 million at today's prices.

The wolves he has misgivings about are of the human variety — corporate geologists

who show up around major gold strikes hoping to find something overlooked to claim for their own companies.

Below Broili, an exploratory drilling rig hammers at the frozen ground, and its bang and clangor reverberate deafeningly along the edge of the pain threshold.

Gold underlying Atlas' 60-acre Grassy Mountain site was borne up from deep underground by ancient geothermal hot springs, now inactive. That happened perhaps 10 million years ago, during the Pliocene Epoch, at roughly the same time the first apelike men made their appearance on Earth.

Atlas Precious Metals staked its first claim in the area in 1986, on federal land administered by the U.S. Bureau of Land Management. Broili and Greg French, 30, senior geologist on the project, estimate the snow-covered ground beneath their heavy-soled boots could yield .062 ounces per ton of disseminated "micron gold" — specks invisible under an ordinary microscope and recoverable only by the most technological-advanced mining techniques.

"We may not be able to mine all of it, metallurgically," French said. "But that's what's in the rock."

Despite the apparent wealth of yellow metal, the site remains in the exploratory phase. Broili and French have not outlined the limits of the mineralization; they still don't know for certain if extraction would be economical, or if mining the gold-laden ore should be attempted with "hardrock" shafts and tunnels or an open-pit cyanide leaching operation.

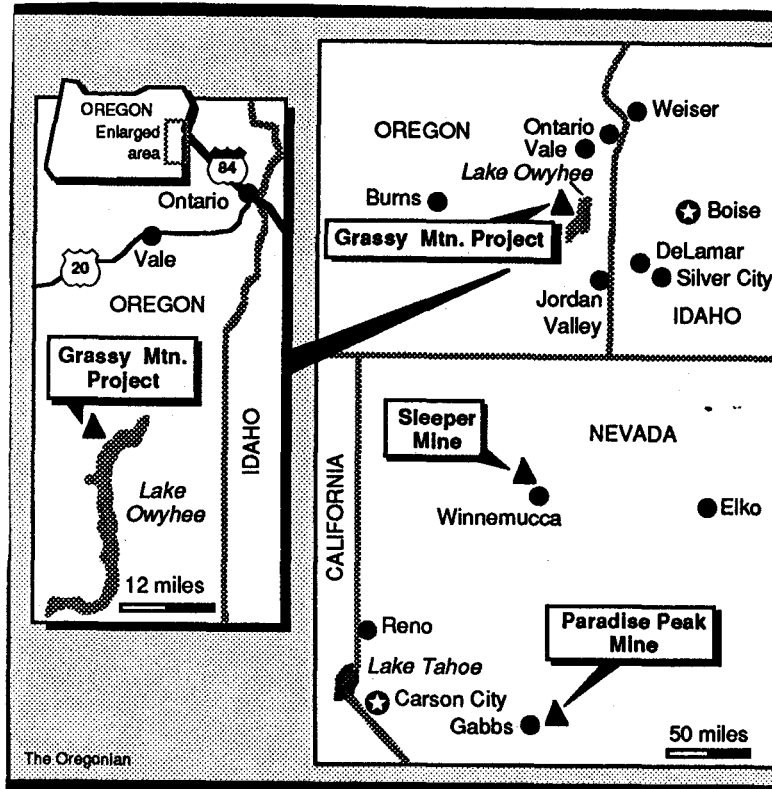
Only one factor is clear at this point: If mining does commence, it will be a significant operation.

"If it ever makes it into a mine, it'll be the largest gold mine in the state of Oregon," Broili predicted.

BLM officials tend to concur. One million ounces of gold would amount to fully one-sixth of Oregon's total gold production to date, the agency says.

"Greg and I are modern-day prospectors,"

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GOLD, Page B6



SOURCE: THE (PORTLAND) OREGONIAN

DATE: FEBRUARY 12, 1989

COMMODITY SECTION: NON FERROUS

STATE ARTICLE CONCERNS: OREGON

2/17 (MORE)

Gold: Atlas plans study on feasibility of project

■Continued from Page B1

said Broili, a miner by temperament, heritage and education. The holder of a master's degree in economic geology, the Port Orford native had a great-uncle who worked on Nevada's legendary Comstock Lode near Virginia City in the late 19th century.

Atlas Precious Metals' next step, expected to begin soon, is a 6- to 12-month feasibility study. The geologists will determine whether mining should indeed commence and which process should be used to extract the gold. French insists mining can be accomplished without long-term ecological damage.

Nevertheless, to protect the environment — should the company decide to begin extracting ore — permits will be necessary from two state agencies and the federal government, said Allen Throop, of Environmental Quality and the BLM, he said.

"All three of those somewhat overlap, and we work to see that they say the same thing," Throop said.

Atlas is putting together a program to collect baseline data on the environment, including underground water, at the Grassy Mountain site, he said.

And before extracting any ore, the company must post a bond of up to \$500,000 to ensure that chemicals will be removed or detoxified when the operation ends. In addition, a reclamation bond will be required to guarantee that waste dumps are rounded off and covered with topsoil, that buildings are torn down and that vegetation is re-established over roads, he said.

Much of the environmental plan-

ning will involve techniques for handling and recovering cyanide should the company decide to "leach" gold from the ore in an open-pit operation, he said.

"Although cyanide is very toxic, it is short-lived in the environment," Throop noted. "It doesn't build up in the body like lead and PCBs do. It breaks down very quickly."

Cyanide in "working strength" solutions used in mining tends to break down and become a fertilizer,

**"We always worry.
Did we miss
anything?"**

— Chris Broili,
geologist

he said.

Ordinarily, a gold strike like the one underlying the 3,800-foot elevation Grassy Mountain site would have been kept quiet, but that wasn't possible in this case.

"Being a publicly held company, we had to announce our discovery, and when you do that, the wolves come," Broili said.

Atlas is in transition, a former uranium producer shifting to gold mining. The corporation expects to increase its production of gold this year by 75 percent, to 80,000 ounces. Last year, Atlas announced new gold discoveries at Gold Ridge and Gold Pick in Eureka County, Nev.

"The president of Atlas is a geologist just like us; a lot of mining companies are run by accountants and

lawyers," Broili said. "We're a small company, and if we miss something (gold deposits in an area explored), it really hurts. If we find something, it has a major impact on the whole corporate business."

In recent weeks, some wolves have shown up on snowmobiles at the Grassy Mountain Project, he said, "and we've been buzzed a couple of times by a helicopter."

To safeguard the discovery, Broili and French have staked claims to 2,000 acres around the main 60-acre site.

"We're not going to mine it all; it's to give us a buffer zone," French explained. "That's to keep the wolves off our backs."

Their unease is based on a single elemental fear: What if they guessed wrong and passed over a rich lode near the mine site that they haven't staked for Atlas?

"We always worry," acknowledged Broili. "Did we miss anything? If they make a discovery, I'll kick myself until the day I die. We think we're ahead of the wolves, but you never know."

SOURCE: THE (PORTLAND) OREGONIAN

DATE: FEBRUARY 12, 1989

(END)

News

FOR IMMEDIATE RELEASE

Contact: Joele Frank
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**ATLAS CORPORATION ANNOUNCES 2-FOR-1 STOCK SPLIT;
INCREASES GOLD RESERVES BY 19 PERCENT;
DOUBLES CAPACITY OF GOLD BAR MILL**

PRINCETON, N.J., March 1, 1989 — Atlas Corporation (NYSE:AZ) announced that its Board of Directors today approved a 2-for-1 Common Stock split to be effected in the form of a 100 percent stock dividend and a related 2-for-1 split of the Company's Option Warrants to purchase Common Stock, distributable on April 24, 1989 to stockholders and warrant holders, respectively, of record on April 5, 1989.

Atlas also announced today that the Company's gold reserves have increased 19 percent to 2,680,000 ounces as certified by Pincock, Allen & Holt, Inc., an independent consulting engineering firm.

Atlas's total in-place reserves on its four Nevada gold deposits in Eureka County, Nevada are 1,490,000, of which 869,000 ounces are proven reserves, 538,000 ounces are probable reserves, and 83,000 ounces are possible reserves.

Total in-place reserves on the Company's Grassy Mountain gold deposit in Malheur County, Oregon are 1,190,000 ounces, of which 169,000 ounces are proven reserves, 758,000 ounces are probable reserves, and 263,000 ounces are possible reserves. (See attached table.)

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Atlas has also defined the outer boundaries of the Grassy Mountain deposit. The Company has commenced pre-development drilling on 100-foot spacings and plans to begin metallurgical and engineering feasibility studies shortly.

In addition, Atlas also reported that it has completed expansion of its Gold Bar Mill in Eureka County, Nevada, doubling the daily processing capacity of the mill to 3,000 tons of ore. As a result of this expansion, Atlas expects to produce more than 60,000 ounces of gold in Fiscal 1989 and over 80,000 ounces of gold in Fiscal 1990. Cash production costs for the first six months of Fiscal 1989 were \$145.

Atlas also announced that it has entered into an amended and restated revolving credit agreement with the Bank of America National Trust and Savings Association for up to \$15,000,000 of borrowings. Atlas plans to use these borrowings to finance the capital expenditures associated with the development of its Goldstone, Gold Ridge, and Gold Pick deposits, the ore from which will be processed through its Gold Bar Mill.

"Our intent with the stock split is to develop a deeper and more accessible market for Atlas stock. The lower market price per share and the increased number of shares outstanding resulting from the split should improve the interest of investors in Atlas and benefit the Company and its stockholders," said Richard R. Weaver, President and Chief Executive Officer of Atlas Corporation. "We are very encouraged by the significant and rapid progress Atlas continues to make in building a profitable mining company through gold exploration and development. The increase and overall upgrade of Atlas' gold reserves, the expansion of our Gold Bar Mill, and the bank loan, demonstrate the Company's active commitment to building value for its stockholders and remaining a low cost gold producer."

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ATLAS GOLD DEPOSITS

DEPOSIT	TOTAL OUNCES	PROVEN	PROBABLE	POSSIBLE	GRADE
Gold Bar	237,000	235,000	2,000		.10
Goldstone	143,000	137,000	6,000		.07
Gold Ridge	263,000	177,000	78,000	13,000	.05
Gold Pick	<u>842,000</u>	<u>320,000</u>	<u>452,000</u>	<u>70,000</u>	<u>.05</u>
Total Nevada	<u>1,490,000</u>	<u>869,000</u>	<u>538,000</u>	<u>83,000</u>	
Grassy Mountain	1,190,000	169,000	758,000	263,000	.06
Total In-place Reserves	<u>2,680,000</u>	<u>1,038,000</u>	<u>1,296,000</u>	<u>346,000</u>	<u>.06</u>

Notes:

- (1) Reserves are in-place reserves as of January 1, 1989, based on a cut-off grade of 0.02 ounces of gold per ton, certified by Pincock, Allen & Holt, Inc. and Associates.
- (2) Proven geological reserves have drill holes spaced approximately on 100-foot centers or less.
- (3) Probable gold reserves have drill holes spaced between 100 and 200 feet apart.
- (4) Possible reserves have drill holes spaced greater than 200 feet apart.
- (5) Gold Bar reserves reduced by 38,000 ounces to 237,000 ounces since last reporting at June 30, 1988 reflects Atlas' gold production.

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Atlas Lets Contracts For Studies On Nevada And Oregon Gold Properties

DENVER — Pincock, Allen & Holt, Inc. (PAH) has been awarded two major gold mining industry consulting contracts by Atlas Corporation. The unrelated projects entail feasibility studies on Atlas gold properties in Nevada and Oregon.

In Nevada, PAH will conduct a feasibility study on the

Gold Pick, Gold Ridge, and Goldstone open pit gold mines adjacent to Atlas' Gold Bar project near Eureka. The feasibility study will entail the development of an in-depth economic analysis including minable reserves, mine production schedules, processing, and a review of previously-completed metal-

lurgical studies.

In Oregon, PAH will provide ore reserve estimation, mine planning, and deposit modeling expertise as part of a feasibility study on Atlas' Grassy Mountain project near the town of Vale, Oregon. The study is being conducted jointly with Kilborn Engineers, Inc., the prime contractor, and Steffen Robertson & Kirsten of Denver.

"These major industry contracts illustrate PAH's ability to work effectively with other consultancies on industry projects," says PAH President and Chairman Ernie Bohnet. "PAH's background, experience, and expertise will assure Atlas Corporation of exceptional quality in each phase of the study."

PAH's address is 12345 W. Alameda Pkwy., Suite 112, Lakewood, Colorado 80228, (303) 986-6950.

SOURCE: THE MINING RECORD

DATE: SEPTEMBER 27, 1989

COMMODITY SECTION: NONFERROUS

STATE ARTICLE CONCERNS: OREGON, ETAL.

10/13

Cyanide leach gold mining: state faces difficult choices

By STUART G. GARRETT

The Oregon gold rush of 1990 is under way.

Gold production in the United States has increased 600 percent since 1980, and Oregon is about to contribute its share. In the next year or two, our state will probably see its first major cyanide leach gold mine. It is important that Oregonians understand the bittersweet choices associated with this mining on our public lands.

In the last few years more than 30,000 new gold claims have been filed in Oregon. These cover the Blue Mountains to the Siskiyou. The most likely candidates are the Grassy Mountain and Farewell Bend proposals on Bureau of Land Management land in Malheur County and the Quartz Mountain site in Lake County on U.S. Forest Service land.

The gold-seekers look for ancient hydrothermal systems in which the "invisible gold" has been deposited by circulating geothermal waters. These deposits are then stripmined, which leaves deep pits. The ore is crushed and piled in heaps many tens of feet high on plastic sheets that cover many acres.

Highly alkaline fluids containing cyanide are sprinkled over the heaps through irrigation pipes and sprinklers. The fluids leach down through the ore, dissolving and capturing the gold. Other heavy and potentially toxic elements such as mercury, cadmium and arsenic can also be picked up. The resulting solution is collected in ponds, and the gold is chemically extracted and refined.

Very low concentrations of gold (down to a fraction of an ounce per ton of ore) can be economically mined with this fairly new technology.

Cyanide leach mining uses large amounts of water and energy. A typical operation might consume eight to 10 megawatts of electricity, which is the equivalent of the average usage of Vale and its vicinity. Large amounts of water are needed to operate the mines. In several of the proposed sites, water is already a scarce

Stuart S. Garrett is a Bend physician interested in resource issues. He is president of the Native Plant Society of Oregon.

IN MY OPINION

commodity. The proposed Farewell Bend mine sits on a drainage that runs directly into the Snake River.

Fortunately, Oregon can look to its neighbors to learn what to expect from this type of mining. Unfortunately, the record is not good.

In Nevada, thousands of birds and scores of deer have died in the toxic waters of the mining ponds. Mine employees were told to shoot the floating dead birds to make them sink and cause less of a public relations problem. Half of the more than 30 mines in Montana recorded cyanide spills in 1988. In Idaho, both ground and surface waters have been polluted from multiple leaks from many of its mines.

A typical cyanide leach mine will use more than 3 million pounds of cyanide a year. It isn't if a leach-pad will leak cyanide solutions, but only how much. Tragically for Oregon, salmon, trout and steelhead are especially sensitive to cyanide poisoning.

Regulating this industry has been fraught with problems. Lack of manpower and money for inspection has meant that the mining companies are responsible for their own monitoring and reporting. A situation arose in Montana where Pegasus Gold released cyanide into the groundwater, which local residents only learned when they noticed a funny smell in their tapwater. In Oregon, only two inspectors will oversee more than 500 mines, including these gold mines. Idaho and Nevada both had to change their mining laws to protect themselves from problems of cyanide leach mining.

Oregon law does not require restoration of the topography or impose a severance tax as most Appalachian states do, after years of their heartbreaking experience with strip-mining. The large pits to be created in our state do not have to be filled in under current Oregon law, and replanting is often done with non-native plant species.

Individual counties can control mining through their siting and zoning processes. However, rural counties that lack strong economies perceive these mines as sources of increasing employment and tax revenue.

SOURCE: THE (PORTLAND) OREGONIAN

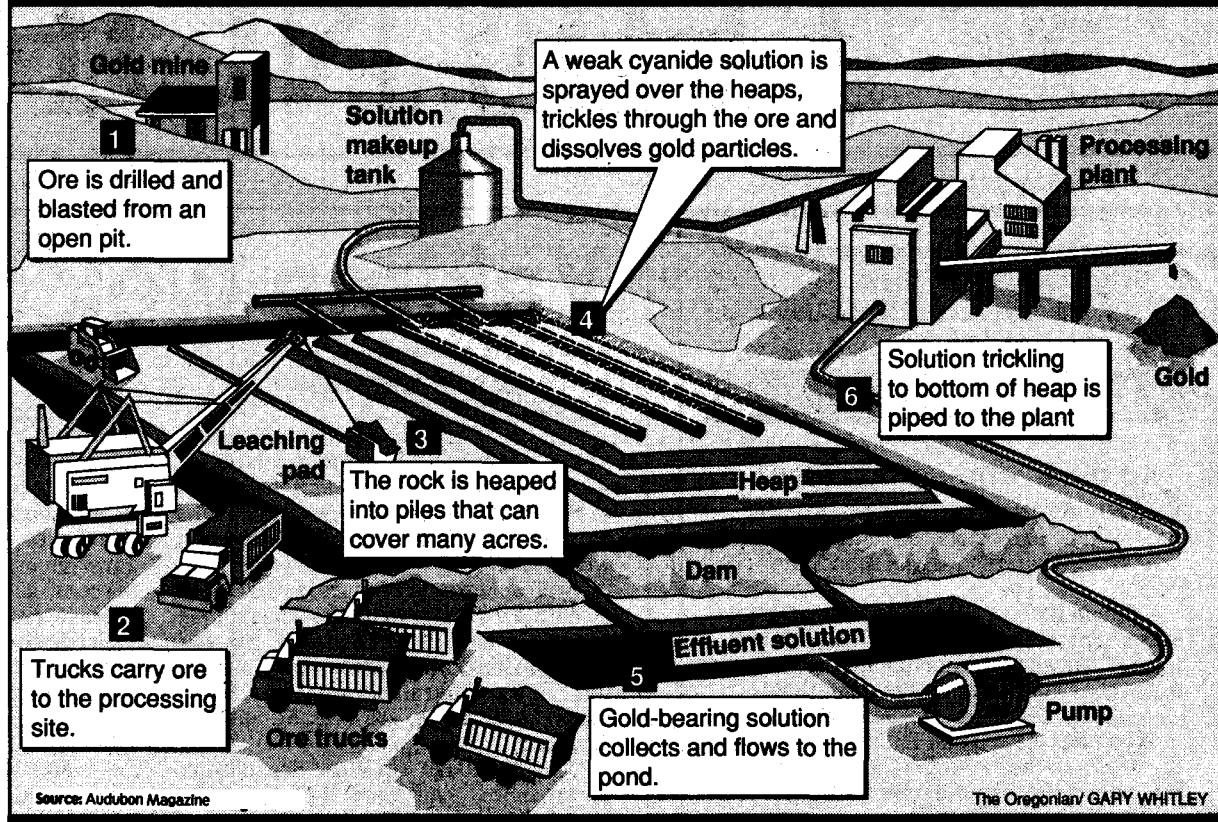
DATE: NOVEMBER 14, 1989

COMMODITY SECTION: NONFERROUS

STATE ARTICLE CONCERNS: OREGON

1117 (MORE)

CYANIDE LEACH GOLD PROCESSING



When the economic boom is anticipated, no one considers the bust and its effects.

The economic return to the local communities is low compared to the immense profits made by the mine's corporate owners, who are frequently foreign investors. The Amax Sleeper mine in Nevada returned its \$27 million exploration and development cost to its owners in the first six months of operation.

There is no need to oppose these mines indiscriminately. However, there is an obvious need to make certain that county, federal and state agencies protect the people's rights to the land, clean water and wildlife. The following guidelines would allow Oregon to benefit from the mistakes made in other states:

- A zero-tolerance policy should be adopted toward toxic spills.
- Absolute protection of people and wildlife should

be guaranteed.

- Stricter mining and reclamation laws should be passed at the state level, drawing from the experience of other states.

If reasonable reclamation is not feasible, then mining shouldn't occur.

- Mining should be banned from certain areas having outstanding geologic, wildlife or cultural values.

- A beefed-up state inspection program should be instituted.

- A severance tax, similar to that in other states, should be passed to cover the long-term economic consequences of this mining to the Oregon taxpayer.

- The 1872 Mining Law should be reformed. It carries inadequate economic and environmental protection, as proved by the problems at the Oregon Dunes National Recreation Area.

SOURCE: THE (PORTLAND) OREGONIAN

DATE: NOVEMBER 14, 1989

(END)

Gold rush on in Oregon using open pit

EUGENE, Ore. (AP) — It may be the biggest gold rush since '49.

According to a copyright report published Sunday in The Register-Guard newspaper in Eugene, more than 10,000 mineral claims have been filed in Oregon in the past year. State officials say with new methods to extract low-deposit ore, big-time open-pit gold mines could open here within the next two years.

Such mines already are operating in Nevada, Idaho, Montana, Washington, California and Colorado.

The Sleeper Mine, which produces about \$250,000 in gold each day for Nevada Gold Mining Inc., is just south of the Oregon border in Nevada's high desert. It's a huge ever-growing pit on a 2,000-acre site.

Next to the pit, irrigation sprinklers squirt diluted cyanide over the earth dug from the pit. The cyanide leaches minute bits of gold from the rock.

Geologists say cyanide heap leaching is a relatively cheap and effective method of extracting gold from low-grade ore deposits, but conservationists warn cyanide could poison water, wildlife and cattle.

Now, the miners are rushing to Oregon.

They have left a trail of drill holes and white PVC pipe claimstakes through the high desert in Oregon's remote southeast corner, where they already have invested millions of dollars in modern-day prospecting.

"To geologists, the low-grade deposits offer new targets for exploration," said Allen Throop, reclamationist with the Mined Land Reclamation Program, Oregon Department of Geology and Mineral Industries.

"To state residents, the mines offer increased employment in parts of the state that have chronic high-unemployment problems.

"To the regulatory agencies, the use of cyanide offers a challenge to develop adequate controls that protect the environment while not being overly restrictive to the mining companies."

Most of the claims have been filed on federal land adminis-

tered by the Bureau of Land Management in Malheur County, where mining companies hit pay dirt near Farewell Bend and Grassy Mountain. Gold explorers struck another promising deposit at Quartz Mountain in Lake County.

At Grassy Mountain, geologists for Atlas Precious Metals Inc. of Denver examined rocks, geologic formations and geothermal systems, and figured they'd find gold. They couldn't see it, but the assays proved it was there.

Geologists expect the site will yield \$370 million.

"The gold business is risky," said Atlas geologist Christopher Broili. "We might look at 1,000 sites, 50 to 100 turn into projects, and out of those maybe one would make a mine."

Although the companies exploring Oregon's three hot gold sites have yet to start mining — their presence already has prompted a flurry of activity.

Small communities that stand to benefit economically from the gold rush are vying for the mining companies' attention. Environmentalists are bracing to oppose mining practices they believe could endanger the desert.

"I feel very, very sad that in the 20th century this can happen," said Gary Brown, founder of Concerned Citizens for Responsible Mining and resident of Ontario, which sits in the middle of the southeastern Oregon gold rush.

"These mining companies are getting away with murder. Although this mining process produces less gold than underground mining, it excavates and disturbs nearly 50 times as much earth."

Brown's view is not shared by the companies, which see themselves as environmentally responsible.

"We all feel the same way — you leave the land as close as possible to the same condition as you approached it in," said Alan Glaser, partner of Malheur Mining Inc., which is exploring for gold near the Snake River north of Ontario at Farewell Bend. "We don't want to get a bad reputation here or we won't be able to do what we do anywhere else."

"To understand the scope of

SOURCE: WENATCHEE (WA) WORLD

DATE: OCTOBER 9, 1989

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STATE ARTICLE CONCERNS: OREGON

(MORE)

10/13

the mining operations, one would need to see the scope of the county we're talking about," said Jerry Hubbard, BLM Vale District public affairs specialist.

"We're looking at Malheur County, of which BLM manages approximately 70 percent of the surface, amounting to about 4.5 million acres," he said. "The population is about 20,000 people, mostly concentrated in the northernmost part.

"We're talking wide open spaces. That's not to mean we don't have an environment to protect out there, but indications are that the impacts at the surface are not going to be substantial impacts."

Oregon has already chalked up one bad experience with its first large cyanide heap leach gold mine in Baker County.

The operators of the Minexco Mine went out of business in the

mid-1980s, failed to reclaim the land and to detoxify concentrated cyanide on the site, and left the state holding a bond inadequate to pay for a complete cleanup.

Oregon's mine regulators learned a lesson from the experience, and the 1987 Legislature passed a law requiring miners to post a bond of between \$25,000 and \$500,000 for detoxification or cleanup of cyanide at each site.

In spite of the state's colorful mining history, Oregon has never been much of a gold producer. According to the U.S. Bureau of Mines, the state's gold production peaked at 113,402 ounces in 1940 and dropped to 322 ounces in 1983, the last year that Oregon's gold production information is available.

Oregon contributed little to the nation's total production of about 6.5 million ounces of gold in 1988. Nevada contributed about 3.7 million ounces.

Domestic production has soared since 1979 because of an unprecedented surge in gold prices — which were relatively stable at about \$35 an ounce for about 100 years and then jumped to \$850 an ounce in the early 1980s.

"The large increase in the price had a considerable impetus on production," said John Lucas, U.S. Bureau of Mines gold specialist. "In 1985, we produced almost 2.5 million ounces, the highest level since 1942, and it's been up above that ever since. We're at an all-time high."

By comparison, miners in the 1849 gold rush panned a mere 1.9 million ounces.

SOURCE: WENATCHEE (WA) WORLD

DATE: OCTOBER 9, 1989

(END)

Nevada biochemist warns of cyanide leaching

□ The process makes gold recovery from low-grade ores practical

By **DICK COCKLE**

Correspondent, The Oregonian

A relatively new technique of using toxic cyanide to dissolve microscopic gold out of the Earth is revolutionizing the mining industry in the West — and alarming environmentalists.

Glenn Miller, a professor of biochemis-

try at the University of Nevada at Reno, warned this week in a telephone interview that if cyanide leaching becomes widespread on Southeast Oregon's high desert, the region's waterfowl, surface water and ground water could be at risk.

Miller, 38, who describes himself as an environmental toxicologist, will address environmentalists Saturday at the 11th annual Desert Conference at the Malheur Field Station on the Malheur National Wildlife Refuge near Burns.

Currently, corporate mining geologists are examining at least two dozen potentially

rich mineral sites in a huge high desert region of southeastern Oregon, extending from Jordan Valley to Burns Junction and from Burns to Weiser, Idaho.

In the leaching process, miners use farm irrigation sprinklers to wet ground containing gold ore with a weak cyanide solution. The cyanide percolates through huge ore piles and dissolves out microscopic particles of gold. The industry says the cyanide is caught and recycled to prevent it from

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MINING, Page D2

Oregonian 4-21-89

Mining: Birds killed in Nevada

■ Continued from Page D1

entering the environment.

The mining industry claims cyanide, though toxic, is short-lived in the environment. Spokesmen also say cyanide actually breaks down and becomes a fertilizer in the working strength of solutions used in mineral recovery.

Most of the exploration is on territory controlled by the federal Bureau of Land Management. Ralph Heft, an area manager in the Vale district, said operators would have to submit specific plans for dealing with cyanide before mining permits would be granted.

"That's an area of concern," Heft said of use of cyanide.

Miller cautioned that the substance is capable of migrating into ground water, where some data suggests it can survive in the absence of oxygen for more than 40 years. In addition to gold, cyanide "liberates" heavy metals including lead, cadmium, arsenic and mercury from rocks. Those elements are reintroduced into the natural environment in highly toxic forms, he said, where they have the potential to contaminate surface and ground water and be absorbed by plants.

"Great care has to be taken that (cyanide leaching) doesn't affect ground or surface water," Miller said. "What I've seen of the federal agencies and the industries, they have not taken a very good look at this, particularly in Nevada where they've had this massive mining boom."

An estimated 6,000 birds have been killed during the past three years in Nevada after drinking the poison in cyanide recovery ponds, he said.

And Miller said far more birds probably have died as a result of doses of cyanide that were not immediately lethal. For example, a duck that ingests cyanide during migration could be weakened and fall prey to a predator or a related illness hundreds of miles away, he said.

"I don't think the long-term toxicology of cyanide has been established on avian species, particularly," he said.

Heft said he understood that Nevada companies were now put-

County welcomes gold boom

VALE, Ore. (AP) — Most of the more than 10,000 mining claims filed in Oregon during the past year have been on federal lands in Malheur County in the state's southeast corner, where officials say they welcome a boom town.

Malheur County, at 9,926 square miles, is larger than the states of New Jersey, New Hampshire, Massachusetts, Delaware, Connecticut, Hawaii or Vermont. It is 94 percent rangeland, two-thirds of it controlled by the U.S. Bureau of Land Management. Its largest industry is agriculture.

Its population of about 23,500 is clustered in small communities at the northern end, leaving plenty of room to accommodate the impact of a large mining facility, said county economic development coordinator ZaDean Auyer.

"We would definitely welcome mining," Auyer said. "We're realistic that mining is probably to some degree boom and bust, but there's nothing stable, not really. You have to keep trying to find things."

About 500 to 600 slots are available in existing schools, and at least 290 houses are for sale because of the flight of people who couldn't find jobs, she said. Most county residents are so eager to improve the local economy, they are lobbying to build a new Oregon prison there, she said.

One mining company that has found a promising ore deposit in Malheur County has indicated that it may start a mine operation with more than 100 people; another projects a smaller operation of about 30 employees.

"Our per capita income is the second-lowest in the state — \$10,260 in 1986," Auyer said. "If we have a few jobs at \$20,000 to \$25,000, it's going to make a difference, and that's what you get with mining jobs. They figure 2½ times turnover on a paycheck, so that \$25,000 is going to be worth \$75,000."

In neighboring Nevada, for instance, mining is the highest-paying industry in the state, averaging about \$33,000 per employee.

"I think the impact on the local community would be good because it will fill homes and help our businesses in town," said Ed Jabs, president of the Vale Chamber of Commerce. "You always have

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BOOM

CONTINUED from Page B-1

that small group of people who declare themselves environmentalists, but that's been very, very minimal. We feel good about that (mining) activity being here."

Conservationists believe images of prosperity are blinding dis-

tressed communities, such as Vale, Ontario and Nyssa, to the environmental threats posed by big-time gold mining.

However, Gary Brown, a lifelong Ontario resident who has formed a small activist group called Concerned Citizens for Responsible Mining, believes the towns themselves are threatened by something else.

"Greed," Brown said. "The people that are going to benefit from this are your business people. You're going to have businesses pop up here and there. I would love to see some industry come in that's going to stay here, but the mining won't last. What's going to happen when the miners are gone in six to 10 years is you're going to have empty buildings."

"When the economic boom is anticipated, no one considers the bust and its effects," said Stuart Garrett, president of the Native Plant Society of Oregon.

Across the border in Idaho, the communities of Wallace and Challis stand as testimony to what can happen when towns fail to prepare for the shutdown of local mines. These two cities were hit hard by the bust that came when nearby mines curtailed or closed. Property values plummeted, and costly school buildings and newly built houses were left empty.

In Humboldt County, Nev., government officials and merchants have been riding the boom for three years. Seven gold mines employing between 150 to 200 people each have been established in Humboldt County, and the county has been scrambling to provide housing and classroom space for new residents.

However, county officials say they have tried not to overbuild, hoping to avoid a crash when the surrounding gold mines reach the end of their projected lives in 10 to 15 years.

Big-time open-pit gold mines move into Oregon seen in next two years

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"To the regulatory agencies, the use of cyanide offers a challenge to develop adequate controls that protect the environment while not being overly restrictive to the mining companies."

Most of the claims have been filed on federal land administered by the Bureau of Land Management in Malheur County, where mining companies hit pay dirt near Farewell Bend and Grassy Mountain. Gold explorers struck another promising deposit at Quartz Mountain in Lake County.

At Grassy Mountain, geologists for Atlas Precious Metals Inc. of Denver examined rocks, geologic formations and geothermal systems, and figured they'd find gold. They couldn't see it, but the assays proved it was there.

Geologists expect the site will yield \$370 million.

"The gold business is risky," said Atlas geologist Christopher Broili. "We might look at 1,000 sites, 50 to 100 turn into projects, and out of those maybe one would make a mine."

Although the companies exploring

Oregon's three hot gold sites have yet to start mining — their presence already has prompted a flurry of activity.

Small communities that stand to benefit economically from the gold rush are vying for the mining companies' attention. Environmentalists are bracing to oppose mining practices they believe could endanger the desert.

"I feel very, very sad that in the 20th century this can happen," said Gary Brown, founder of Concerned Citizens for Responsible Mining and resident of Ontario, which sits in the middle of the southeastern Oregon gold rush.

"These mining companies are getting away with murder. Although this mining process produces less gold than underground mining, it excavates and disturbs nearly 50 times as much earth."

Brown's view is not shared by the companies, which see themselves as environmentally responsible.

"We all feel the same way — you leave the land as close as possible to the same condition as you approached it in," said Alan Glaser, partner of Malheur Mining Inc., which is exploring for gold near the Snake River north of Ontario at Farewell Bend. "We don't want to get a bad reputation here or we won't be able to do what we do anywhere else."

"To understand the scope of the mining operations, one would need to see the scope of the county we're talking about," said Jerry Hubbard, BLM Vale District public affairs specialist.

"We're looking at Malheur County, of which BLM manages approximately 70 percent of the surface, amounting to about 4.5 million acres," he said. "The population is about 20,000 people, mostly concentrated in the northernmost part."

"We're talking wide open spaces. That's not to mean we don't have an environment to protect out there, but indications are that the impacts at the surface are not going to be substantial impacts."

Oregon has already chalked up one bad experience with its first large cyanide heap leach gold mine in Baker County.

The operators of the Minexco Mine went out of business in the mid 1980s, failed to reclaim the land and to detoxify concentrated cyanide on the site, and left the state holding a bond inadequate to pay for a com-

plete cleanup.

Oregon's mine regulators learned a lesson from the experience, and the 1987 Legislature passed a law requiring miners to post a bond of between \$25,000 and \$500,000 for detoxification or cleanup of cyanide at each site.

In spite of the state's colorful mining history, Oregon has never been much of a gold producer. According to the U.S. Bureau of Mines, the state's gold production peaked at 113,402 ounces in 1940 and dropped to 322 ounces in 1983, the last year that Oregon's gold production information is available.

Oregon contributed little to the nation's total production of about 6.5 million ounces of gold in 1988. Neva-

da contributed about 3.7 million ounces.

Domestic production has soared since 1979 because of an unprecedented surge in gold prices — which were relatively stable at about \$35 an ounce for about 100 years and then jumped to \$850 an ounce in the early 1980s.

"The large increase in the price had a considerable impetus on production," said John Lucas, U.S. Bureau of Mines gold specialist. "In 1985, we produced almost 2.5 million ounces, the highest level since 1942, and it's been up above that ever since. We're at an all-time high."

By comparison, miners in the 1849 gold rush panned a mere 1.9 million ounces.

Claim-staking activity means increased pipe sales, other economic benefits

The local market for PVC pipe may seem an unlikely beneficiary of all the interest in Malheur County's land and potential minerals. Yet, except for the government recordkeeping offices, that pipe market may be experiencing the biggest impact as a result of the claim-staking activity.

PVC pipe is used in the field to mark corners and boundaries of the mining claims.

"We have seen a few other economic benefits, too. But things are still in the early stages," said Zadeen Auyer, economic development coordinator for Malheur County.

"So far, I think it's mainly the companies who are selling PVC pipe that are doing really well," she added.

A check of area pipe dealers revealed they had each done business with claim-stakers in the past year. One company, Standard Plumbing and Lighting, located in the town of Ontario, was selling "3600-feet of pipe every four or five days" to one mining customer, according to manager Ken Gregg.

While sales of the pipe dropped off during the mid-winter months and most managers said they would have to wait and see how this year shaped up, Gregg's firm was already seeing some benefit early this spring. In March, Standard's sales were up 102 percent over the same month last year.

"And it wasn't because the plumbers were so busy. There isn't much building going on to speak of and I would have had a slow year without the mining people," Gregg said. "They have helped me out a lot."

Auyer said another benefit they have seen is Atlas' hiring of some local people to do some road work. "They kept a few people working through the winter and that's always good," she said.

Malheur County covers a large land area but is sparsely populated by 28,000 people. According to one estimate, that population swelled by about 1,000 people during last year's field season and could be more this year. Auyer said there was no way to confirm or deny that estimate but said one benefit to the local economy was the increased business at other establishments.

She added, however, that most of the economic benefits they've seen so far have been more temporary than lasting. "Right now there are people coming and going. I think we'll see more permanent economic benefits when a mine is developed and families come in. We have a lot of hope that it will happen," she said.

While there are some concerns about the impact mining might have in the county, most people have welcomed Atlas' discovery and are confident that any mining - by Atlas or others - would be done in a conscientious manner.

While the mining industry is not a complete stranger to Malheur County and in particular, Vale -- Eagle Picher opened a non-metallic mineral processing plant there in 1984 -- the recent advent of precious metals explorers and interest in the area is unprecedented in the county.

--by Randy Eardley

6/89

Boise (FD) Miner's News

Land Rush:

Claim-staking activity flourishes in Oregon's Malheur County

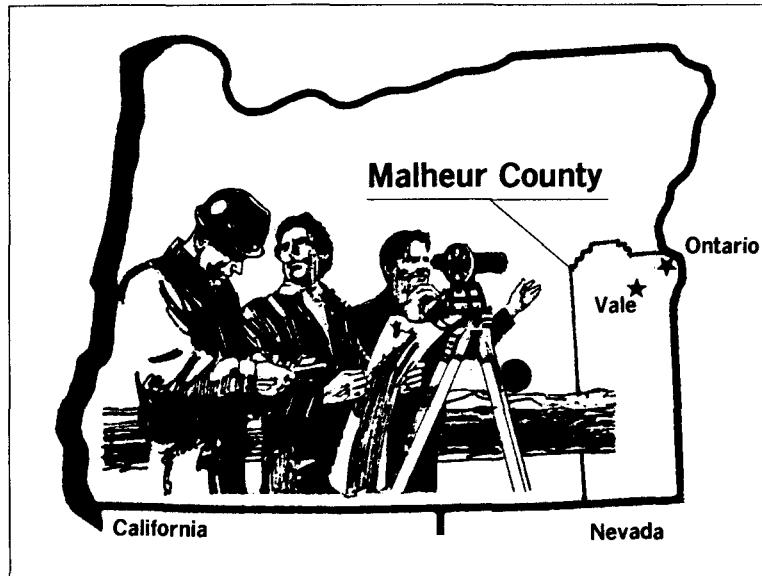
Somewhere in the annals of history are the stories of pioneers lining up their horses and wagons at a starting point, waiting for the sound of a starting gun and then racing off to stake their homestead; each of them vying for a prime piece of the vast, newly-opened land in the West.

Today, in Malheur County of southeastern Oregon, the horses and wagons have been replaced by 4-wheel-drive trucks in the field and paperwork at the courthouse, and it's mining claims being staked rather than homesteads, but there is no less of a land rush in progress.

"The mud is flying. I don't know who all is doing what but if everything I'm hearing is true, it's gotten pretty crazy there," said one state official, describing the flurry of activity as winter turned to spring this year.

All of it is true, according to Bill Holsheimer, district geologist for the Bureau of Land Management in Vale. Vale is the county seat and at the center of all the activity.

"There is no history of mineral activity here and the county has never had this much attention before now," said Holsheimer, whose office, along with the county, must record all the claims filed.



"We're constantly getting calls for information and so many people are filing so many claims that it's hard to keep up with it. We can't get information into the computers fast enough to stay on top of who's doing what and where," he added.

The county also is finding it difficult to keep up with the filings but an official in the clerk's office confirmed there had been more than 2,000 new claims filed in the county in the first three months of this year. That compares with 4,100 claims filed in all of 1988, which was described as "absolutely the biggest year ever," by the clerk's office.

"We may be just on the leading edge of a tsunami. We're already seeing a flood of activity, but if Atlas is successful in their efforts to develop a mine here, the dam will really break."

-- Bill Holsheimer
BLM - Vale

The claims filed last year, combined with those filed in just the first quarter of this year, has nearly doubled the number of claims in Malheur County, bringing the total to more than

see Land Rush next page...

SOURCE: BOISE (ID) MINER'S NEWS

DATE: JUNE 1989

COMMODITY SECTION: NONFERROUS

STATE ARTICLE CONCERNS: OREGON

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Land Rush...

Continued from page 10A

14,000. That trend of rapid growth is expected to continue in the foreseeable future.

"Right now, they (claim-stakers) are essentially covering the north half of the county. But it's a big county and I don't think the activity is going to slow down any time soon," Holsheimer said.

Several factors contribute to heighten interest in Malheur minerals

From the time it was settled, Malheur County has been a relatively isolated, quiet area with agriculture and ranching as its economic base. Miners and prospectors largely passed over the area in favor of the rich vein systems in the Owyhee Mountains of Idaho to the east and placer deposits around Baker and Sumpter to the north. So why all the interest in the area now?

"There is a variety of reasons," said Mark Ferns, a geologist at the Baker Field Office of the Oregon Department of Geology and Mineral Industries (DOGAMI). "The interest began to build a few years ago when people started to see that the geological structures of northern Nevada extend into southern Oregon. I think Nevada is about staked out which also drew some interest up this way, but then it was Atlas that really triggered it."

Atlas Corporation announced last year that it had discovered geologic reserves totaling more than one million ounces of gold in material having an average grade of 0.065 ounces of gold per ton. Atlas' property is 20 miles south of Vale at Grassy

ued to drill through the winter to further define the deposit along with conducting metallurgical work on the material.

"Prior to the discovery by Atlas, it was believed there might be large, low-grade deposits in the area. After Atlas' find, people are thinking those deposits may be a lot larger and higher grade than what they thought before," Ferns said.

Holsheimer also said there are a number of factors contributing to the new-found interest in Malheur County and he credited Oregon's DOGAMI with the geological work that initially spurred the interest.

"I don't know who will make it or where it will be but I think we'll see another discovery this year."

-- Mark Ferns
DOGAMI - Baker

"They did a lot of work in the mid 1980's that showed the geology of Nevada doesn't stop at the border. Plus, a modern re-

covery processes have helped. Nothing could be done with these microscopic ores before recent years," Holsheimer said.

Like Ferns, however, he attributed the start of the current land rush to the discovery by Atlas. "That definitely kicked everything into warp speed," he said.

Other companies that have been drilling in Malheur County the past couple of years include Chevron Resources Company, Manville Corporation and American Copper & Nickel Company. Malheur Mining Company has been drilling on property it holds with Western Epithermal just north of the county along the Snake River.

This spring, Battle Mountain Gold Company, based in Houston, Texas, said it was negotiating to obtain positions on some property in the area.

"We think it's a very attractive area and we're interested in property opportunities. We're going to be players up there," said Dr. John I. Sharpe, vice president of exploration for BMG.

"So many people are filing so many claims that it's hard to keep up with it. We can't get the information into the computers fast enough to stay on top of who's doing what and where."

--Bill Holsheimer
Vale District - BLM

Several other companies are expected to join in the staking and drilling foray this summer. With all of the exploration activity anticipated during the field season, Ferns said he expects to see another announcement of a discovery before long.

"I don't know who will make it or where it will be but I think we'll see another discovery this year," he said.

"A geologist from one of the major companies who's been working in eastern Oregon for 15 years recently told me he thinks this will be the first year

that Oregon has really been prospecting. It's an exciting time for us," Ferns added.

Holsheimer said the current rush of activity may only be a prelude to what will happen if another discovery is made or if Atlas proves successful in developing a mine at Grassy Mountain.

"We may be just on the leading edge of a tsunami. We're already seeing a flood of activity, but if Atlas is successful in their efforts to develop a mine here, the dam will really break," Holsheimer said.

--by Randy Eardley

SOURCE: BOISE (ID) MINER'S NEWS

DATE: JUNE 1989

(END)

Mine company discovers gold in E. Oregon

A New Jersey-based mining company announced Monday that its field crew had turned up promising signs of recoverable gold deposits on Grassy Mountain, southwest of Ontario in Malheur County.

The announcement by Atlas Corp. of Princeton said about 25 test drillings indicated "at least 450,000 ounces of possible geological gold reserves" in an area of the mountain where it holds mineral rights from the U.S. Bureau of Land Management.

Boundaries to the deposit, which Atlas has been exploring for more than two years, have not been located, said Mimi Nicolaides, a spokeswoman for Atlas in New York.

Nicolaides said further engineering and metallurgical studies were being conducted to determine the deposit's gold concentration and whether mining it would be feasible.

The Grassy Mountain site is about 40 miles southwest of Ontario and just west of Lake Owyhee.

Nicolaides said if the studies show mining would be feasible, extraction of the gold would begin "as soon as possible."

However, before digging, the company would face at least a year of preparation, including gaining approval of necessary mining reclamation plans and filing environmental impact statements with state and federal agencies, said Mark Ferns, district geologist with the Oregon Department of Geology and Mineral Industries in Baker.

Ferns said Atlas' gold exploration was one of several being conducted by private companies along the state's eastern edge.