

NEW MINE DEVELOPMENTS IN IDAHO

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By  
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Mr. Chairman, fellow panelists, ladies and gentlemen:

When I received the invitation to discuss new mine developments in Idaho at this big annual meeting of the Northwest Mining Association I felt highly honored and was happy to accept.

In Idaho we're proud of and grateful for the vast mineral resources with which our state has been blessed. We like to talk about them and maybe boast just a little about what we're doing in the mining industry in trying to convert these mineral resources into usable materials for our nation's industrial economy.

I knew at the time I accepted the invitation that exploration and development activity in Idaho had picked up substantially in the past few years. But, until I started putting together the material for this talk, I didn't realize how extensive and widespread these activities really were.

Perhaps I shouldn't admit that. I guess it's part of my job as secretary of the Idaho Mining Association to try to keep abreast of what's happening in our state in the minerals field. But that's not as easy as it might sound. Anyone familiar with the mining industry knows that when an exploration team comes into an area, they don't advertise the fact with a lot of publicity and fanfare. In fact, they're about as quiet and unobtrusive as a bachelor at a PTA meeting.

When I started making inquiries about new exploration activities and checking up on rumors that had come to my attention, I found that I was apparently sharing the fate of the guy whose gal was stepping out on him. I got the feeling I was among the last to know.

Frankly, I'm very glad I took on this assignment, even though it turned out to be a far bigger job than I anticipated. I'm glad, because I learned a lot.

And what I learned leads me to the conclusion that there is more mineral exploration and development activity in Idaho at the present time than there has been at any previous time in the history of the State.

Thousands of new claims have been staked in Idaho in the past couple of years.

From the beginning of 1967 through November of this year, there have been 133 mining corporations registered with the Secretary of State in Boise - either new Idaho corporations or outside corporations which decided to register and qualify to do business in Idaho. In the previous two years there were only 65 new or foreign corporations registered - less than half as many.

Since Idaho "Blue Sky" law was amended by the 1967 legislature to permit special, simplified registration of small intrastate public offerings of mining stock, there have been 21 companies which have taken advantage of this provision to raise funds for exploration work. Several others - I don't have the exact number - have taken the SEC route for interstate public offerings under the Regulation A exemption of the SEC law.

These, of course, were all smaller companies seeking the funds necessary to get their projects off the ground - the main object being, in most cases, to do enough exploration work and demonstrate sufficient ore potential to attract the interest of established companies which have the financial capacity and technological talent to develop that potential.

There are a great number of such companies looking around and seeking to get established in Idaho. The list is very impressive - and I can't be sure that I have them all. It reads like a roster of "Who's Who" in the mining industry in this country:

Kennecott Copper Corporation

Cyprus Mines

Phelps Dodge

Hanna Mining Company

Utah Construction and Mining

Cominco, American

W. S. Moore Company of Duluth, Minn.

Cordero Mining Company, the mining subsidiary of Sun Oil,  
and Duval Corporation, the mining branch of Pennzoil United, Inc.

Other oil interests, including Phillips Petroleum and Gulf Oil, have become increasingly active in mineral exploration in Idaho in recent years.

And that's not the whole picture, by any means. There have also been a lot of geological and mining consultants prowling around the State, but it is often impossible to ascertain whom they are representing. Like the migrating birds, they arrive with the advent of temperate weather and they depart when the snow begins to creep down from the high country. What they report to their principals is highly confidential and necessarily so. We Idahoans can only hope they like what they find and recommend that it be fully explored and evaluated.

Another feature that has impressed me greatly about Idaho's current revival of mineral exploration is the extensive area over which it is spread. Only a few sections of the State are being by-passed and most of the new interest is concentrated in districts which have a record of past production -

Lemhi County in the northeastern part of the State, Blaine and Custer Counties in central Idaho, the Silver City area of Owyhee County in the southwest, and - most important - the Panhandle, with its fabulous Coeur d'Alene district. This, of course, is in keeping with the familiar old adage - If you want to shoot elephants, you hunt where they've been found before.

In preparing this talk I had considerable difficulty in making up my mind how to go about the task at hand. Time doesn't permit more than a brief mention of much of the new activity. But where should I start?

I finally decided I'd begin with the best "elephant country" we have in Idaho and work out from there.

So let's talk about the Coeur d'Alene district first. That's where the major action is - in terms of new claims located, new companies organized, established companies involved, and - most importantly - new major exploration, development and expansion projects, either underway or with adequate financing assured and committed.

Some of you may have wondered earlier - when I was reciting the roster of established companies now active in Idaho - why I neglected to mention such major factors in Idaho's mining industry as The Bunker Hill Company, Hecla Mining Company, American Smelting and Refining Company, Sunshine Mining Company, Callahan Mining Corporation and Day Mines, Inc.

The reason is that I intended to get around to them in my discussion of the Coeur d'Alene district because that's where their Idaho operations are concentrated and that's where they are devoting major attention and investment in exploration and development activity. It isn't their "elephant preserve" by any means, but it is familiar ground and any hunter has an advantage where he knows his way around.

This little district occupies only about one-third of one per cent of the total land area of Idaho, but it has been contributing new mineral wealth to the state and the nation's economy for nearly 100 years - since the discovery of gold on the north side of the district near Prichard in the early 1870's. The total value of its mineral production to date is in excess of two and a quarter billion dollars, - most of it since 1885 in the form of silver, lead and zinc.

I'm not going to recite a lot of production figures to substantiate the record of this little jewel in the North Idaho mountains. Its reputation as one of about a dozen billion-dollar mining districts in the world is long-established and well-known.

What is most significant, at this point, I think, is the fact that this small area contains the three largest silver mines in the nation - the Sunshine, the Galena and the Lucky Friday, in that order. In addition it has several other important silver producers. It yields nearly half of the nation's entire silver production each year. And, most important of all, it is the only district in the world where silver ore has been found to extend to great depth - as much as 2,500 feet below sea level, with no bottom limit yet in sight.

This unique feature is largely responsible for the tremendous increase in exploration and development activity that has taken place in this district in the past few years. As many of you probably know, world silver consumption has exceeded world production by a substantial margin for a number of years. Currently the ratio is about 2 ounces used for every one produced. About half of the deficit is now being met from U. S. Treasury stocks, but this supply is expected to run out in the not-too-distant future. Estimates range from 18 to 30 months at the present disposal rate of 2 million ounces a week. Since

May of 1967 the silver price has increased about 60 per cent - the recent range has been from about \$1.90 to \$2.10 per ounce - in midsummer it reached a high of \$2.56. It is confidently anticipated that this price will have to move up substantially more in order to achieve a viable balance between consumption and production.

So, what's been happening in the Coeur d'Alenes? Well, more than 3,000 new claims have been located in the past two years. That amounts to about 60,000 acres or roughly one-third of the entire district. The principal areas of new location are the southern sector of the so-called Silver Belt along the major Placer Creek fault, and the large sector north of the Osburn fault extending roughly from Moon Creek on the west to Nine-Mile Canyon on the east. Both of these areas have been largely neglected over the years, but have taken on new significance as the exploration fever has mounted.

New and major deep exploration projects are becoming commonplace throughout the district, but particularly in the main Silver Belt between Big Creek and Wallace.

The most advanced of these new projects is American Smelting and Refining Company's multi-million dollar Coeur Project on Coeur d'Alene Mines Company property. Day Mines and Callahan each have a one-twelfth share of Asarco's 60 per cent interest in this development. Here a new shaft has been completed to a depth of more than 4400 feet in Shields Gulch about a mile west of the Galena mine. A crosscut has been driven on the 3100 level to connect with old workings which Hecla Mining Company opened from its Silver Summit shaft during the 1950's and from which a small amount of silver ore was mined. Within the past few weeks another heading on the 3100 level has encountered silver ore of minable grade and width in a new area previously indicated by diamond drilling from the Hecla workings. Drifting on this new ore is now

in progress, with other target areas ahead, and a crosscut is being run on the 3400 level to provide access for deeper exploration along the new structure.

Whether this is a new mine in the making remains to be determined, but to give you some idea of the time and cost involved in a project of this magnitude, I think it should be mentioned here that this Coeur development was started in August, 1964, and the cost to date has exceeded \$4 million. Even if the recent ore strike develops into a substantial ore body, - as we're hoping it does - it will take at least a couple of years to establish a fully operative mine and mill complex.

As I said, this is the most advanced of the new, deep exploration projects. Most of the others are still in the planning stage, so I'll just run through them briefly.

The most recent - Caladay Silver Mines Corporation - was organized just a few weeks ago to explore the area adjoining the Galena mine on the east. Callahan Mining Company is the majority stockholder and will be the operating company. The project will involve a deep shaft to explore adjoining properties of Callahan, Day Mines and Asarco in the area south and southwest of Wallace.

Another major Silver Belt project - to the west of the Coeur project - involves the merger of the properties of eleven companies into a new corporation called Consolidated Silver, Inc. This large block of ground will be explored and developed by deepening the Silver Summit shaft to the 5500 foot level. Hecla will be the operating company, and financing will be supplied by Hecla and Asarco.

Still farther west in the Silver Belt another well-advanced project is the long south crosscut from the 2700 level of Sunshine Mining Company's

Jewell shaft into the Bismarck property. This exploration tunnel has been advanced to the 5020 foot mark and diamond drills have cored more than 1000 feet beyond this face.

Most of the major companies in the district have substantial development programs in progress.

Bunker Hill is deepening its Crescent mine in the Silver Belt. The new offset shaft has progressed from the 3100 to about the 3500 level and present plans provide for an eventual depth of 6600 feet.

At the Sunshine Mine a new auxiliary hoist has been installed to serve the 4000-foot level in the third compartment of the Jewell shaft and the No. 10 shaft in the eastern part of the mine has been deepened to below the 5600 level, with 6000 feet the present target depth. Development of the ore zones on 5200 is now underway. That level is about 2500 feet below sea level.

~~Also under consideration by Sunshine is the construction of a \$1.5 million solar reflecting at the property. A feasibility study has been under way for several months. Sunshine officials estimate that such a facility would save the company more than \$2 million a year in transportation and handling charges.~~

At the Galena mine, Asarco is currently completing a second shaft and is expanding the mill capacity by more than 50 per cent - from 500 to 800 tons per day.

Outside the Silver Belt, the most important deep development project in the Coeur d'Alene district is the Hecla-Bunker Hill program for sinking the No. 4 shaft at the Star-Morning unit in the Mullan area. Present plans provide for extending this shaft to the 9100 foot level, if the ore persists to that depth. This would be 2000 feet below the present deepest workings and would make it the second deepest shaft in the North American continent. Cost

of this program, including a new hoist manufactured in Scotland, is estimated at more than \$3 million.

Also in the Mullan area, plans and contracts have been consummated for two other deep exploration ventures. One will involve exploration of the West Independence area from a deep level of the Star-Morning mine. The other - known as the DIA project - calls for the driving of a long crosscut from the 4050 level of the Lucky Friday mine into the Gold Hunter, East Independence and Abot properties.

This brief resume covers only the major exploration and development projects currently underway or contemplated in the Coeur d'Alene district. In addition, there is a substantial amount of surface and near-surface exploration being carried out on the properties of smaller companies, either by the companies themselves or by larger companies under profit-sharing agreements.

Bunker Hill has acquired several such interests - in the Silver Belt, in the eastern end of the district and in the area of most recent interest north of the Osburn fault. Also in this latter area, Hecla and Day Mines are collaborating on surface examination and diamond drilling of a large block of ground under the jointly-owned Nine Corporation. Sunshine is exploring a number of properties under profit-sharing deals - in the Silver Belt and more recently in the Pine Creek area. Cordero and Phillips Petroleum have also taken a piece of the action under contract with local companies.

In the time allotted me I can't begin to name all the companies and properties involved in this exploration boom. In fact, I couldn't if I had all day. I don't know them all. But they add up to a tremendous amount of new and valuable exploration work - the kind of work that is absolutely essential if new ore deposits are to be discovered and developed.

No report of new developments in the Coeur d'Alenes would be complete without some mention of the progress that is being made in the big modernization and expansion program that has been underway for several years at the Bunker Hill complex at Kellogg. During the past year a \$13 million phase of that program at the electrolytic zinc plant was completed. Another important feature, involving the installation of new sintering facilities and a sulphuric acid plant at the lead smelter, is now underway.

Also deserving of mention is the progress that has been made in removing mill tailings from the streams of the districts. Facilities for ponding these tailings have been completed for all the mills. Unfortunately what that leaves is a stream that is an open running sewer carrying the municipal wastes that still flow into it. But that's another problem, the solution of which will have to be announced in some future report.

Well, so much for the Coeur d'Alene district.

What about the rest of the State? Let's start up North and work our way around.

In the Pend Oreille area, Silver Butte Mining Company is exploring a property near Mirror Lake and recently reported ore intercepts in diamond drill cores. Duval Corporation, under an operating agreement with Conjecture Mines, is reported to have completed an extensive examination of the property near Lakeview and is expected to resume development next year. Cominco American has been examining old properties in the Talache area. Elsewhere in the northernmost counties, exploration activity has been resumed at several old prospects, according to local reports.

Moving on south, I hear from reliable sources that Texas interests, otherwise unidentified, are showing substantial interest in the extensive high-alumina clay deposits in Latah and Clearwater counties and are investigating

the possibility of an aluminum reduction plant in this area. The U. S. Bureau of Mines credits this area with some 8.8 billion tons of such clay resources.

Along the Salmon River below Riggins a small suction-type dredge for gold recoveries has been operating for several months without noticeable turbidity or damage to the river. I mention this only because this is one of the operations which caused so much consternation among sportsmen and self-styled conservationists early this year when the operator applied for a mineral lease on the river bed. The lease was nevertheless approved and none of the adverse affects on the river and the fishery that were predicted have materialized. Elsewhere in Idaho County gold exploration has picked up considerably. Center Star Gold Company has stepped up exploration and development with funds from a public stock offering.

In the Mineral Mountain area of Washington County, Cyprus Mines has been drilling a copper prospect for several months. Canadian interests which drilled nearby ground in previous years did not resume a full-scale program this year, but did enough work to meet assessment requirements, I am told.

Still farther south, Gulf Oil Company has acquired mineral leases on some 14,700 acres of state land in the lower drainage of the Payette and Boise Rivers. The basis for these leases, I understand, is a geologic theory that they may be underlain by uranium deposits which eroded from the Idaho batholith in the upper drainage of these rivers and settled in pockets and basins where the rivers flattened and the speed of flow diminished. These ancient river beds were subsequently covered over by basaltic flow which will have to be penetrated by drilling to test the theory.

In Gem County, Nevada interests have taken over operation of the Gem State Consolidated property in the old Pearl district.

Moving south again, we find a very gratifying increase in exploration interest and activity in the Silver City and Delamar areas of Owyhee County. Undoubtedly the excellent outlook for silver is a major factor.

For several years Sidney Mining Company of Kellogg has been exploring a substantial block of ground between Florida Mountain and Delamar by surface trenching and geochemical analyses. A recent geophysical survey has disclosed several anomalies indicating large bodies of disseminated sulphides which may be suitable for open-pit mining. Sidney's claim and lease holdings have been expanded to more than 3500 acres and test drilling is scheduled as snow conditions permit.

Other unexplored ground west of Delamar has been acquired by North American Silver Corporation. My reliable sources haven't come up with anything yet on plans for exploration and financing.

Most of the old prospects and producers on War Eagle Mountain have reportedly been consolidated under a single management. Such a large block of proven mineralized ground should be an excellent target for extensive exploration at greater depth, but so far no such program has been disclosed.

Future potential for the old South Mountain area is being evaluated by oil interests, but again that's all I've heard to date.

Blaine and Custer counties in central Idaho are also sharing in Idaho's increased mineral exploration and development. In the Hailey-Bellevue area Federal Resources Corporation is operating three properties, with more than 100 employees and a monthly payroll of approximately \$75,000. Most of the employees work at the Silver Star Queen mine where deeper development on the New Queen vein has produced gratifying results. About 14 men are engaged in development of the old Eureka mine. Results have been very encouraging and some ore is being mined. The Star mine is being developed by leasers and some marginal ore has been encountered.

In this same area, New Jersey Lead Company of Spokane has recently re-activated the old Homestake mine. Underground operations are progressing and

a sink-float plant is being installed. Both the Liberty Gem property and Russco Silver's Buttercup mine in neighboring Camas County are now being operated under contracts with the W. S. Moore Company of Duluth, Minnesota. At the Liberty Gem, an ore zone disclosed in the present surface tunnel is being tested at greater depth by diamond drilling. At the Buttercup underground exploration is progressing and within recent weeks has disclosed good silver-lead ore in a mineralized structure more than 10 feet wide.

In Custer County, Cyprus Mines has been drilling a molybdenum prospect north of Clayton. Phillips Petroleum has reactivated its uranium holdings in the Basin Creek area and has been prospecting and staking new claims near Sunbeam. Hoodoo Mining Company is reported to be building a mill in the Clayton area.

The most unusual exploration project in the state during the 1968 season was carried out by Asarco at a molybdenum prospect in the high country of the White Cloud mountains near the head of Little Boulder Creek. It was unusual because the entire project was manned and serviced by helicopter. All personnel, equipment, supplies, and camp facilities were flown in. The target area was tested by exploratory drilling and results are now being evaluated.

When this project was publicly disclosed early this fall, there were some adverse repercussions from the preservationist cult, even though the company had made a very conscientious effort to minimize the surface evidence of its exploration efforts. It seems some of these wilderness purists would have us revert to the Stone Age. But that's another story - for another time.

Moving now to Lemhi County, the major new development has been Hanna Mining Company's project at the Blackbird copper-cobalt mine near Cobalt. A 750-foot shaft has been completed and diamond drilling on this horizon has

yielded some encouraging results. Relocation of the surface plant to a site more favorable for tailings and waste disposal and construction of a smelter in the Salmon area are reported to be under consideration. The company has also taken an option on another copper property near Shoup.

Local interest in the thorium prospects east and north of Salmon continues high and some well-known companies, including Cordero, Sawyer Petroleum and Union Pacific, have acquired significant interests. However, the prospects for development of any sizeable market for thorium as a fuel in breeder reactors appear to be rather dim for some years ahead. For some of these prospects, however, the associated rare earths content might possibly justify development at an earlier date.

Much of the renewed interest in Lemhi County has so far been demonstrated only by preliminary reconnaissance. Three geophysical surveys were made this past summer and several companies, including Phelps Dodge and Utah Construction, had geologists in the area making detailed investigations.

In the phosphate industry new developments have been rather scarce this past year. The fertilizer business has been pretty rugged because product prices have been depressed by overcapacity and costs continue to mount steadily. This squeeze is being alleviated by reducing costs through the use of larger equipment operated with greater efficiency. New mining problems are also being encountered, such as changes in the ore character and in high-wall stability as the pits get deeper. Solutions for these are being sought through more selective mining and the development of new methods.

In Fremont County an oil company is reported to be experimenting with underground mining of phosphate by the long wall method.

One final item -

The study of the mineral potential of the Selway-Bitterroot Wilderness by the Idaho Bureau of Mines and Geology was continued during the 1968 summer

season for the fourth consecutive year. Reconnaissance geologic mapping was completed, but a considerable amount of analytical work remains to be done on the samples taken for geochemical evaluation. So far the study has disclosed no surface evidence of mineralization of possible commercial value, but future work will include a geophysical survey and a study of the geochemical results for possible anomalies indicative of subsurface mineral deposits.

Well, that concludes my report. I'm sure there are other new mine developments in Idaho that I haven't mentioned, but I've probably told you much more already than you wanted to hear.

In any event, I hope it warrants my conclusion that things are looking up for the mining industry in Idaho.

Thank you.