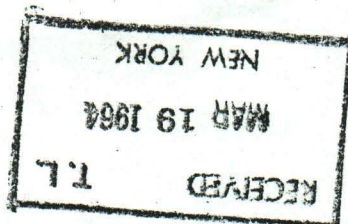


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Northumberland,
Nye County

PETER JORALEMON
315 MONTGOMERY STREET
SAN FRANCISCO 4



March 17, 1964

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Mr. Thayer Lindsley
230 Park Avenue - Room 1545
New York 17

Dear Mr. Lindsley:

In a previous letter I mentioned the Northumberland mine in Nye County, Nevada, which I feel still may have some promise. Last spring I directed a rather extensive exploration there on behalf of Alan Christensen, but disappointing results as well as Mr. Christensen's growing financial commitments on the Midpsa phosphate deposit in Peru forced the somewhat premature cessation of the program. Mr. Christensen has notified me that he is out of the picture and I am free to turn over all our results to any interested group.

The following notes will summarize the information I have on the Northumberland mine.

Location and Ownership

The Northumberland mine is near the top of Northumberland canyon in the Toquima range at an elevation of about 8000 feet. It is 30 miles north of Belmont and 70 miles north of Tonopah, and is accessible over an excellent graded road that follows Monitor Valley.

The mine, consisting of 63 unpatented mining claims, is owned by J. C. Perkins, D. W. Haggerty, and C. F. Madden.

History

Silver ores were discovered in the Northumberland district over 50 years ago and some ore was shipped at that time. The total silver production probably did not exceed \$100,000 and the district was soon abandoned.

In the mid-30's a prospector found some low grade gold ore and called the district to the attention of J. C. Perkins, then manager of the Weepah mine. The Weepah owners financed a drilling program that developed about 500,000 tons of \$8.00 open pit gold ore. When the Weepah ore body was exhausted the 300 ton mill was moved to Northumberland and production began.

Some 250,000 tons were mined before the mine was closed by L-208. In the early 50's the mill was sold to Wah Chang and moved to Tempiute. Except for sporadic exploration attempts the mine has been idle since then.

In the spring of 1963 I took an option on the property on behalf of

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Mr. Christensen and carried out an extensive geochemical sampling program followed by over 1000 feet of churn and rotary drilling.

This option has now expired but Mr. Perkins has granted me first right of refusal on a renewal of the option.

Geology

The mine area is underlain by a granodiorite or diorite stock about a mile in diameter. The stock intrudes relatively flat lying black argillite or argillaceous quartzite, overlain by a soft black shale and capped by a dolomitic limestone.

Mineralization

The silver deposits of the Northumberland district were narrow but rather continuous quartz veins occurring entirely within the granodiorite. Much of the granodiorite has been intensely altered but there appears to be little chance that the stock contains any silver veins not now known.

The gold ore bodies occur near the eastern contact of the granodiorite as disseminated replacement deposits in the black quartzite. Seven separate ore bodies were discovered in this area, ranging in horizontal dimension from 50 to 600 feet and having a maximum thickness of about 60 feet.

The ore is intensely silicified and contains pyrite, arsenopyrite, barite, and calcite. The normal dark color of the quartzite has been accentuated by the introduction of a black, vanadium-bearing hydrocarbon. This black material spreads upwards into the overlying shale beds which contain up to 1% V_2O_5 over substantial areas.

The gold ores average between 0.2 and 0.3 oz. Au with little or no recoverable silver.

Past Exploration

During the operating period at the mine Perkins carried out a continuing churn drilling program based largely on a wildcat approach since most of the area is overlain by the dark shale. No ore was found by this program outside the known ore area.

When I first looked at the property I felt that blind gold ore bodies could have leaked some associated elements upward into the overlying rock, and that a systematic soil testing program could lead to the discovery of hidden ore bodies. Since arsenic is everywhere closely associated with gold in the known ore I used this element as the key in the geochemical program.

Known ore is restricted to a belt in the sediments extending less than

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500 feet from the granodiorite and it appeared likely that other ore bodies would also be close to the stock. As the first stage in my program I sampled the soils in the 500 foot band surrounding the stock at 50 foot intervals along lines spaced at 300 feet. The only area of anomalous arsenic values in the entire periphery of the stock was a belt lying southeast of and along the projected trend of the known gold ore.

In the second stage I sampled the anomalous area at 50 foot intervals along lines spaced 100 feet apart. An interesting anomaly pattern was developed by this work and is shown on the accompanying map.

You will see that in the northern part of the area the arsenic-rich soils occur in irregular shapes and sizes and with rather even gradation from low to high content.

Further to the south, however, the anomaly becomes distinctly elongate with an extremely sharp break between low and high values. This long narrow form strongly suggests a southeasterly trending vein type deposit. My drill hole 261, drilled to a depth of 175 feet, was in well pyritized quartzite and interfingered granodiorite for its entire length. No appreciable gold values were found.

Possible Future Exploration

Two fairly long shot exploration bets remain at Northumberland. Despite the high risk I believe they are attractive gambles, first, because they can be done with absolutely no expenditure for preliminary studies; second, because they can be tested at a total cost of less than \$10,000; and third, because we have a head start of 250,000 tons of ore already blocked out on the property.

First Exploration Area

In developing ore in the pit areas, Perkins drilled his holes on a 50 and sometimes a 100 foot grid. This wide spacing was adequate to test the flat lying ore beds, but could easily have missed a vertical "feeder vein" leading from below to the replacement ore.

Drill hole 112 was drilled by Perkins in the center of what was to become the No. 2 ore body (shown on the index map). This is the deepest ore body known in the district. The drill log is given below:

<u>Footage</u>	<u>Oz. Au</u>	<u>Remarks</u>
0-40	0.03	Quartzite and shale
40-44	0.23	Present pit floor at 44'
44-52	0.13	
52-68	0.42	
68-70	0.45	
70-72	0.28	
72-74	0.20	

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<u>Footage</u>	<u>Oz. Au</u>	<u>Remarks</u>
74-76	0.16	
76-78	0.32	
78-80	0.43	
80-86	0.40	
86-88	0.41	
88-90	0.37	
90-92	0.32	Tongue of granite cut at 92'
92-94	0.26	
94-96	0.34	
96-98	0.61	
98-100	0.69	Hole cased to 100'
100-102	0.30	These values could have sloughed from above around casing.
102-104	0.97	Re-entered quartzite
104		Bottom of hole

These values are not only the deepest but also the best in the mine, averaging 0.345 for the 60 feet below the present pit floor. Most of the values were confirmed by a Canadian group who drilled a second hole seven feet away. The latter hole lost values at 90 feet, however.

It is possible that this ore may represent the top of the main feeder for the bedded ore. If there is such a thing, the feeder probably trends northwesterly with the long direction of the ore zone. One inclined diamond drill hole not more than 500 feet long could probe for the downward extension of this "feeder" vein with the goal of discovering a high grade vein type deposit rather than the lower grade replacement ore.

It could be drilled at a total cost of no more than \$5000.

Second Exploration Area

Despite the negative findings of my drillhole 261, I still am impressed by the long narrow arsenic anomaly at the southeastern end of the property, and by the surface signs of intense silicification for several hundred feet west of the drillhole.

In this area the ground slopes down rather steeply to the northeast and rises to the silicified ridge crest 400 feet to the south. If the soil containing my strong arsenic anomaly had crept just a few feet down slope, or if the anomaly represents a vein dipping to the south, drill hole 261 would have missed the vein entirely.

The pyrite, arsenic, and silicified material cut in the drill hole indicate that the drilled area has been mineralized and could be close to a vein type ore body.

I believe that one vertical drill hole, collared about 100 feet up slope

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to the south of hole 261 and drilled to a depth of no more than 500 feet would represent an excellent exploration gamble.

Terms

My last option with the owners of Northumberland granted me a year's free option, at the end of which period I could elect to purchase the mine. Specified payments are either two annual \$50,000 payments or five annual \$25,000 installments. The property is now available under the same terms.

In return for the work already done I would ask for a 5% interest in any profits that could come from this program.

I will be most interested to hear any ideas you may have on this venture.

Sincerely,

Peter Joralemon

PJ:B
Enc.

cc: Mr. G. W. Tower