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GURADON
WHAT DO YOU
RECOMMEND?

Sept. 14, 1971

TO: H. Lanier
FROM: G. Jackson
SUBJECT: U.S. Smelting Refining & Mining Co.
Bayard, New Mexico Property

On Sept. 8 and 9, 1971, meetings were held with U.S. Smelting personnel at Salt Lake City, Utah. The purpose of the meeting was to discuss a possible joint venture or acquisition of the Bayard, New Mex. properties of U.S. Smelting. The following U.S. Smelting people were contacted:

J.V. Neuman, Jr., V.P. of Mining & Oil Operations
Andrew Sather, Exec. Asst.
W.R. Kastelic, Industrial Development Director
J. Morrow Elias, Chief Geologist, Metal Operations
Clyde Gillam, Engineer of Mines

Neuman's main proposal was the sale of 1/2 interest in the Bayard property for \$40 million. The property consists of about 7500 acres of mineral claims with several shafts and underground mines, one open pit mine scheduled for 6,000 TPD operation, three mills plus a new 6,000 TPD concentrator, still under construction but scheduled for completion by mid-1972. Neuman claims they have invested nearly \$47 million there.

Current copper production is from the underground Continental Mine with the ore being processed in the new 3,000 TPD mill and the old Hanover Mill (900 TPD). The open pit mine is not now in operation but does have about 2,000,000 tons of 0.60% Cu. ore stockpiled.

One reserves per U.S. Smelting estimates are as follows:

Underground - 15,900,000 tons @ 2.20% Cu.
Open Pit - 16,000,000 tons @ 1.10% Cu.

These reserves also carry 0.60% Zn and about 15 to 20% Fe recoverable as magnetite. The above reserve calculations are considered to be very conservative after reviewing their data.

Mining costs for the first seven months of 1971 averaged:

Open Pit - \$1.81/ton plus \$1.00/ton prepaid
development cost.
Underground - \$6.81/ton ^{INCL} plus \$1.00/ton prepaid
development cost.

Operating profits are currently estimated at about \$450,000 per month before depreciation, depletion, or taxes. In August they produced 6330 tons of concentrate averaging 25% Cu.

Neuman disclosed that operating profits for the oil and gas division should total nearly \$75 million over the next 15 years, having a present worth of about \$36 million.

A cash flow study shows that the discounted cash flow return on investment averages about 7% if the \$40 million is paid out over four years as suggested by Neuman.

GJ:td

G. Jackson
G. Jackson

Conclusion

U.S. SMELTING REFINING & MINING COMPANY
PROPERTIES
BAYARD, GRANT COUNTY, NEW MEXICO

September 20, 1971

Introduction

From information obtained by Howard Lanier and a visit to U.S. Smelting Refining & Mining Company offices in Salt Lake City on September 8 and 9 by Guerdon Jackson and Paul Eimon, it appears that there could be an investment opportunity involving all or part of the mining properties of USSR&M. The annual report of USSR&M, a location map, and a geologic map showing the property outlines of USSR&M are attached to this report. These data will cover only the properties of USSR&M in the Bayard area, New Mexico.

Location

These mining properties of USSR&M are located in the Central Mining District, Grant County, New Mexico. This mining district is 10 miles due east of Silver City, the county seat of Grant County. The area is served by highway, railroad, and the Silver City airport as shown on the attached location map.

General

The USSR&M holdings consist of over 7,000 acres in the Central Mining District west and northwest of Kennecott's Chino open pit copper mine. These holdings are in a northwest trending belt from Bayard and including the Hanover and Fierro mining sub-districts. About 2/3 of this property is patented mining claims. The holdings of USSR&M include a number of mine shafts, operating and inoperative mills, company housing, and the more recently developed underground and open pit copper mines in the Continental-Fierro area.

The mines of the Central District began in 1858 and have a long history of mining for silver, copper, gold, lead, zinc, iron, and other metals. The mining history of the district is colorful and USSR&M has gradually acquired the land position that it now holds. Their holdings represent a significant land position in one of the major base metal mining areas of the western United States.

Geology and Ore Reserves - Copper

The Continental and Hanover orebodies of USSR&M occur in tactite replacements of Paleozoic sedimentary rocks adjacent to the northwest end of the Hanover-Fierro granodiorite porphyry stock. The two orebodies presently known are situated about 3,000 feet apart. The northeastern orebody underlies the southwest flank of Hanover Mountain at depths of 700 to 1500 feet below the surface. The southwestern orebody is somewhat nearer the surface, and 16 million tons at a grade of 1.06% copper above a depth of 600 feet are considered to be amenable to open pit mining at a stripping ratio of 3 to 1. Ore at a depth greater than 600 feet is considered by present operators to be underground ore. Underground ore in the two orebodies is reported to be 16 million tons at 2.2% copper. In addition to copper, ore mined in 1968 and 1969 contained 0.01 ounce in gold, 0.12 to 0.16 ounce in silver, and 0.30 to 0.50% zinc per ton. Combined underground and open pit ore reserve is 32 million tons at 1.6% copper.

On the basis of a brief review of available data it seems probable that additional development would significantly expand present copper ore reserves, possibly by a factor of 2 or 3 times. It would also appear probable that a higher proportion of the known ore reserve than planned could be mined by relatively low cost open pit methods.

Exploration Potential

The holdings of USSR&M contain (1) the above mentioned copper ore related to present mining development; (2) lead zinc reserves in the older mines of the Fierro, Bayard, and central sub-mining districts; (3) iron-copper ore surrounding the Fierro stock (4) buried, untested exploration potential below the mined lead-zinc orebodies and in the Paleozoic sedimentary series; and (5) deep breccia pipe potential north of Kennecott's Chino open pit. Kerr-McGee is presently drilling the deeper westward down-dip extensions of the Continental orebodies.

Conclusions and Recommendations:

Based on a rapid review of USSR&M data and a study of Essex file and library information on the Central Mining District, the USSR&M Bayard holdings represent an initial target of 100

million tons of proven and anticipated underground and open pit copper ore (1 to 1½% copper) and other untested but favorable mineralized ground. Capital assets include operating and closed mines, mine camp facilities, two copper mills, and many years of geologic and mining data.

If these properties are available to Essex at terms that are rational, an examination to ascertain worth and a basis for an offer to USSR&M should be undertaken using qualified consultants and Essex staff personnel. This would be a major undertaking, and eventual investment could range between \$25 and \$100 million depending on which properties were involved and what percentages Essex could acquire.

P.Eimon
9/20/71

USSR Continental Mine

SLC Sept 8, 1971

CF - 79 1000' SW of Continental Pit

0 - 1037 shale & siltstone
1037 - 1102 Min. shale, hornfels .5% Cu
1102 - 1161 shale & sandstone
1161 - 1182 tactite .5% Cu
1182 - 1230
1236 - 1245 .5% Cu
1245 - 1500 ls.
1500 - 1750 Diorite, ls. & shale.

CF 73 - under Hanover Mtn - 52°
N 65° W

0 - 434 - shale
434 - 484 .12% Cu
484 - 883 siltstone, diorite, quartzite
883 - 902 tactite .21% Cu
902 - 1295 ls & diorite
1295 - 1330 2.59% Cu tactite
1330 - 1348 .75% Cu
1348 - 1614 (bot) shale, ls, bx

CF 70

776 - 895

776
780