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1978 PROSPECTING REPORT

on the

HESS MOUNTAIN - LANSING AREA

by

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and

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N.T.S. Sheets: 105N-9, 10 & 12
105O-5 & 12
Latitudes: 63° 28' - 63° 43'
Longitudes: 131° 31' - 133° 59'
Dates: July 3 to Sept. 12, 1978

APPENDIX I LOGISTICS

FIGURE 1 Location Map 1" = 40 miles

MAPS in POCKET

105N-9, 10 & 12	Geology	1:50,000
1050-5 & 12	Geology	1:50,000
PLATA CLAIM GROUP	Geology	1" = 400'

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SUMMARY and CONCLUSIONS:

The Hess Mountain - Lansing area lies in the northern portion of the Selwyn basin. In this area, Devonian to Mississippian clastic sedimentary rocks predominate. These rocks unconformably overlies or are in fault contact with Proterozoic sediments. Northeast-southwest compression resulted in northwest trending folds and thrust faults. A northeast trending set of faults was also recognized. (Roberts, 1974)

A two man crew spent the period July 3rd to 15th examining showings on the PLATA and INCA Claims. This survey was conducted to see if similarities (other than grade) existed between these deposits and those of the Keno Hill area, and to determine whether United Keno should attempt to option the property.

The PLATA and INCA Claims occur in a remote and rugged part of the Yukon. Apart from constructing about 80 miles of new road, transportation costs would be excessive.

In 1974, Roberts estimated that at grades of less than 80 oz per ton silver, ore reserves of 32,000 tons would not be economic. Extensive diamond drilling and trenching would be required to prove ore reserves of this size. His estimate included approximated underground mining costs of \$35.00 per ton for a 100 ton per day operation. Due to the incompetency of the host rocks, timber would have to be used and mining costs would be at least three times this figure. It is unlikely that areas will be found where timber is not necessary since the thickest quartzite (most favourable host) unit observed was less than 100 feet thick.

B.S. I believe I mentioned 80 oz per ton

Silver was only \$4.00 + 4% inflation

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The open pit potential was also investigated because much lower mining costs could be anticipated. Unfortunately, most zones are narrow and occur in areas of precipitous talus slopes which would make open pit mining extremely difficult, if not impossible. Showing No. 12 on the INCA Claims, however, does occur on flatter terrain. Given the width (1-3 ft), and silver to lead ratio (1.6 to 1) of this zone, it is unlikely that sufficient tonnage could be obtained to warrant a mining operation. Even if one were to ignore the topographic and winter operation hazards, the known zones aren't of sufficient density to consider large pits.

Thus, inaccessibility, narrow mineralized zones, high cost to develop reserves, and anticipated high mining costs make this property unattractive. Possible graduated option payments to, and carried interest by the present owners would make it even less attractive.

INTRODUCTION:-

During the period July 3 to August 7 a two man party prospected the Hess Mountain area for Keno Hill-type silver-lead-zinc deposits. This area lies within a southeast trending Phanerozoic sedimentary basin (Selwyn basin) which is flanked by Proterozoic sediments to the northeast and southwest.

Initially, work was carried out on the PLATA and INCA Claims since reported grades from this area were similar to those at Keno Hill. An attempt was made to examine all the major showings. However, close examination was prevented in some areas because talus and overburden had partly filled some trenches.

After completing this work, the area of investigation was expanded to include a narrow belt extending 10 miles east-southeastward from the INCA and 20 miles westward from the PLATA.

Between August 14 and September 11, both placer and lode prospecting was carried out in the area east of the Stewart River between the Hess and Lansing Rivers. Six creeks were prospected for a total distance of 20 miles. Minor arsenopyrite, pyrite, and scorodite mineralization was observed in a gorge on one of the creeks.

LOCATION and ACCESS:-

The Hess Mountain - Lansing area lies about 220 miles northeast of Whitehorse (Figure 1). This area is covered by N.T.S. Sheets 105N-9, 10 & 12 and 105O-5 & 12. It lies within the area defined by latitudes 63° 28'N and 63° 43'N, and longitudes 131° 33'W and 133° 55' W.

The PLATA and INCA Claims are located in the Bostock Range of the Hess Mountains, about 110 miles north of Ross River. The property lies approximately 60 air miles northwest of a point on the North Canol road about 20 miles southwest of Macmillan Pass. The Canol road is open for summer traffic only.

Access during the 1978 season was by Hughes 500D and Bell 206B helicopters. Since the last camp was situated adjacent to the Stewart River, a single engine Otter aircraft was used to bring the crew in to Mayo.

CREW MOBILITY:-

Eleven campsites were used to prospect this area. Camp moves varied from 3 to 32 miles. These moves were accomplished with Hughes 5000 and Bell 206B helicopters using standard procedures.

GEOLOGICAL SURVEY

GENERAL:-

The Hess Mountains are located in the northern portion of the Selwyn basin. This is a southeast trending Phanerozoic sedimentary basin with Proterozoic sediments on the northeast and southwest flanks. In this particular area, Devonian and Mississippian clastics unconformably overlie or are in fault contact with these Proterozoic sediments. Northeast-southwest compression produced northwest trending fold axes and thrust faults. Northeast and northwest trending faults offset earlier features.

DETAILED:-

Cambrian or Older -

Maroon and green shales and slates (Unit 1) are the most common rocks of this age. These rocks are readily weathered and form precipitous talus slopes in several areas. Since both this unit and unit 3C (described below) have abundant green slate, some mapping difficulties were encountered.

Quartzites (1a) vary considerably in this area. At PLATA, INCA, and vicinity, the quartzites are fine-grained and light brown to orange in colour. Foliation is poorly developed in these rocks. Numerous quartz-filled fractures were noted, and, in places, minor brecciation was apparent. Lesser amounts of calcite, siderite and limonite were present in these fractures. East of the Stewart River, however, exposed quartzites vary from schistose micaceous quartzites to immature quartzites. The maximum thickness of any observed quartzite horizon was less than 100 feet.

Limestone (1b) was generally blue-grey to dark grey in colour. On weathered surfaces it varied from buff grey to orange-brown. Quartz-filled fractures were commonly observed in the limestone.

Sandstone (1c) occurs in the southeast corner of N.T.S. Sheet 1050-12. This blue-grey to grey rock contains few chert fragments.

Roberts (1974) recognized three major fault trends in the area. The major fault trend is northwest and has right-lateral offset. Displacement at one location is roughly 2,000 feet. The second set is northeast trending and has left-lateral movement. Offsets along these faults are generally less than along the northwest trending faults. A west-northwest trending thrust fault was offset by faults with northwest and northeast trends.

MINERALIZATION:-

Silver-lead mineralization occurs in two main settings on the PLATA Claims. Galena, with silver and gold values, occurs in a thrust zone. This zone is composed of gouge along the hanging wall and foot wall contacts and a central quartz zone. The other setting is in the northeast and northwest trending faults in the vicinity of thrust faults. These contain high-grade silver-lead mineralization in quartz and siderite veins. All mineralization observed on the INCA Claims occurs in the latter setting. The best host on both claim groups appears to be the Cambrian or Earlier quartzites. Comments on the major mineralized zones (numbers are those used by Roberts, 1974) are given below.

PLATA CLAIMS -

No. 1 Zone - Lenses of galena occur in a northeast trending fault zone. This zone is very narrow and offers little economic potential.

No. 2 Zone - This zone occurs in a northeast trending fault which dips at 55 to 70° northwest. According to Roberts 1974, samples from the northern zone gave a grade of 2% lead, 1 oz per ton silver, and 5% zinc. A grade of 34% lead with 84 oz per ton silver across mineable widths was reported for the southern zone. Where this fault passes into the limestone (1b), the limestone is replaced by vein material for a distance of 50 ft. Disseminated galena was noted in this area. An assay sample taken across 7 ft yielded 3.6% lead and 3.21 oz per ton silver. The southern zone appeared to have been selectively mined. Sloughing of talus prevented close examination of this area. The mineralization pinches out as the fault passes from quartzite into chert. This contact dips at 45° and it can probably be assumed that the mineralization contact will also.

No. 3 Zone - This zone occurs along the thrust fault. Strongly gouged material occurs along the foot wall and hanging wall contacts. Limonite and scorodite, with minor galena, occurs in a central zone of crushed quartz. A chip sample assayed 1.38% lead and 26.7 oz per ton silver.

Showing No. 9 & 10 - Both these showings occur in shear zones. Mineralization consists of oxidized zones of argentiferous jarosite and sheared galena. Grades are good but widths are narrow.

Showings No. 11 & 13 - These are minor shear zones in quartzite and slate. Galena occurs in gouge zones which are less than 1 ft. wide. These are of no interest.

Showing No. 12 - This is also a fault zone in quartzite and slate. A 1 to 3 ft. vein of massive to coarse grained galena was found to have dimension of about 95 ft. vertically and 130 ft. horizontally. Over a five foot mining width, grades of 47 oz per ton silver and 30% lead could be expected. Because of sloughing conditions, this showing could not be closely examined. However, with a silver:lead ratio of 1.6:1, substantially higher tonnage than appears to be available would be required to make this showing economically viable.

OTHER AREAS -

Two samples collected from a pronounced limonitic gossan on the BOB Claims (lapsed) assayed 0.06 and 0.09 oz per ton silver, 0.01 and 0.06% lead, and 0.25 and 0.27% zinc, respectively.

Arsenopyrite, pyrite, and scorodite mineralization was observed on Lost Creek (east of Stewart River, N.T.S. 105N-12). Assay results for samples of this material were all low (0.01-0.02 oz/ton Au, 0.26 oz/ton Ag, 0.01% Pb and 0.01% Zn).

PLACER PROJECT -

All placer prospecting was confined to the area east of the Stewart River between the Hess and Lansing rivers. Minor magnetite and pyrite were present at several localities on Canyon, Lost, and Congdon Creeks. No other heavy minerals were observed. Most samples were taken from active creek beds. However, samples from directly above bedrock, bould^{er}clay, and blue clay were also panned.

GEOCHEMISTRY

GENERAL:-

Some twenty-two stream sediment samples were collected. Most streams contained adequate inorganic material. Samples 30915 and 30916 contained some organic muck. All samples were analysed for silver and lead. Zinc determinations were also carried out on samples 30911 through 30917.

Silver -

Low order silver values (.2 to 2.4 ppm) were returned for all the samples.

Lead -

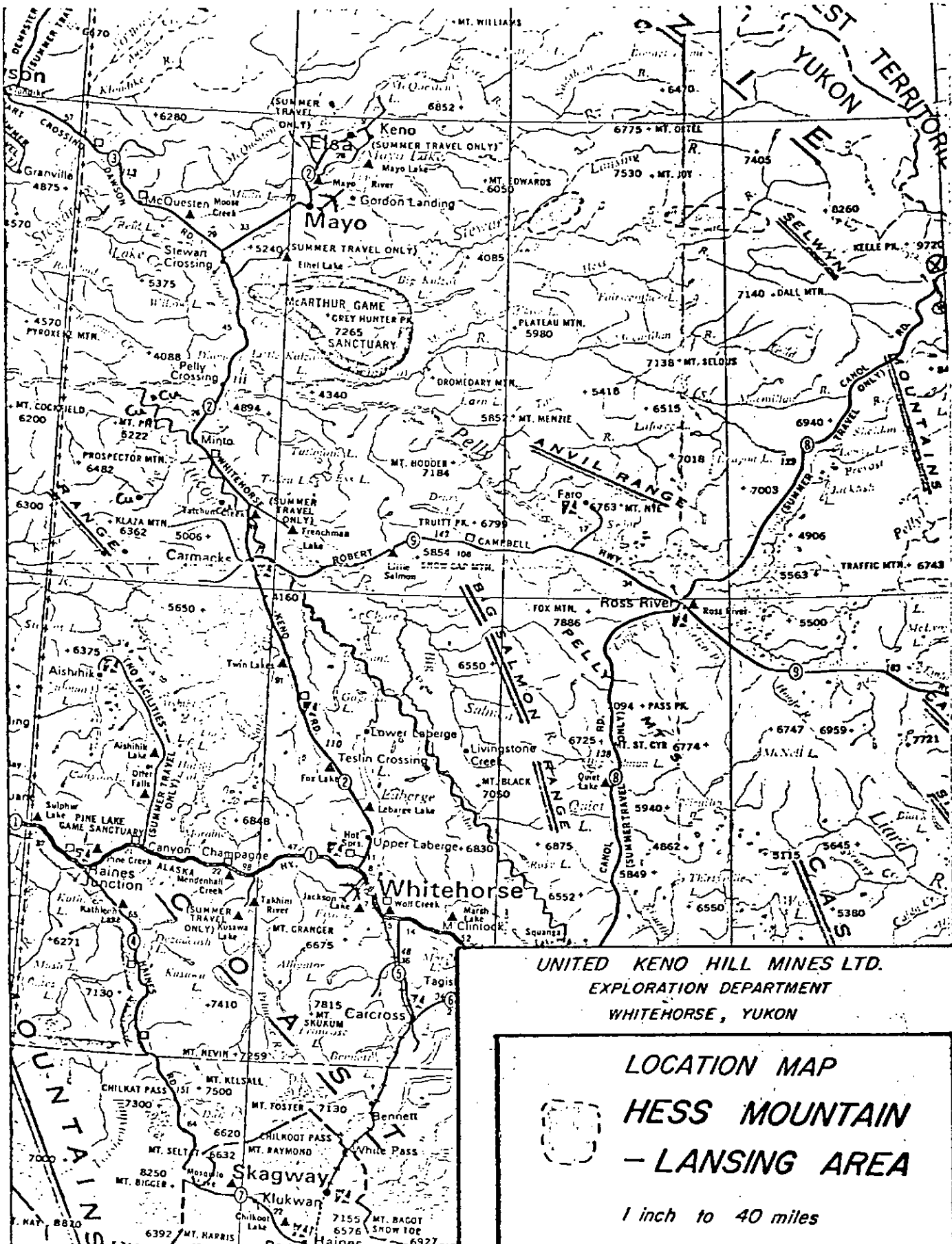
Most lead values were less than 35 ppm. One sample returned a value of 52 ppm. This sample has anomalous zinc (660ppm) and was collected in a possible cross-fault zone where it offsets an east trending thrust fault. It may be indicative of weak mineralization along this fault.

Zinc -

Most of the zinc values returned were less than 350 ppm. Three samples yielded anomalous values. Two of these samples yielding 800 and 2920 ppm zinc, respectively, were collected from the creek on the BOB Claims (lapsed). These claims were probably staked to cover anomalous sediment sample sites by Atlas Exploration in 1967. Samples collected in this area by Atlas crews returned values of 2000, 1200, and 1300 ppm zinc. However, no mineralization was discovered by Atlas crews. Rock samples from a pronounced limonitic gossan just upstream from where these samples were collected assayed 0.25 and 0.27% zinc. This limonitic gossan probably resulted from an iron-rich cold spring. According to a report by Atlas Exploration, several such gossans occur throughout this area. The other anomalous value was 4500 ppm zinc. This sample may have contained some organic material. The sample was collected about 1/4 mile east of Camp 11 (105N-10). There, outcrops of black slate account for less than one percent of the surface area. Silver and lead values are low (2.3 and 14 ppm, respectively).

REFERENCES:-

- Keats, H. F., 1977; 1976 Assessment Report on the Keno Hill-Hess Mountains - Selwyn Mountains Area, U.K.H.M. Report.
- Keele, J., 1906; Upper Stewart River Region, Yukon. Geol. Survey of Canada Report No. 943.
- Roberts, W. J., 1974; Geological, Geochemical, Cat Trenching and Engineering Evaluation Report on the PLATA Claim Group, N.T.S. 105N-9 and 1050-12.



UNITED KENO HILL MINES LTD.
 EXPLORATION DEPARTMENT
 WHITEHORSE, YUKON

LOCATION MAP
 HESS MOUNTAIN
 - LANSING AREA
 1 inch to 40 miles