811592

7/1/70

SPENHO MINES LTD.

Summary of Data

INTRODUCTION

The general features of the property, descriptions of previous work, history and general geology is well summarized in a report by R. Philps dated September, 1969. This report is attached for general reference. The following are points arising from the examination of available data and maps including geochemical and geophysical surveys and diamond drilling.

The present property spread is the result of a long-term accumulation of a number of separate properties, some of which have been under prospective examination for over half a century. However, until fairly recently, little or no modern exploration work was carried out and, even in recent years, exploration was somewhat sporadic.

The present proposal involves a work commitment from Cyprus to an unagreed figure with a fully carried interest to the present owners in any resultant mining venture of an as yet unspecified percentage.

CLAIMS AND LOCATION

The present ground situation comprises 151 contiguous recorded claims and crown grants situated 30 miles south of Princeton astride the Hope-Princeton Highway. The western and northern boundaries of the claims abutt onto the eastern margin of the Manning Provincial Park and no further ground acquisition can be made in this direction. As near as can be ascertained from existing claim maps and reconnaissance geological maps, the property is entirely underlain by Nicola Volcanics and younger Princeton Group rocks in the north and east. It is unlikely that any of the ground covers the Coast Granite Intrusion which occurs just to the west of the property, unless the Nicola is extremely thin on the western margin.

The title and ownership of claims is subject to verification.

PHYSIOGRAPHY

The claims sit astride the Similkameen River; the valley slopes rising to the northwest and southeast. Topographic relief is steep along the lower valley slopes, but is more gentle on the plateau. Elevations vary from 3,200 feet in the valley to approximately 5,000 feet on the plateau. Overburden generally is fairly thin, from five to ten feet, except on the lower valley slopes which are covered with a thick blanket of talus and gravel.

The property is well timbered with jack pine, spruce and fir and there is a general absence of secondary growth and underbrush. Access to and on the property is well served by the #3 Canadian Highway and a well-developed network of bush roads.

HISTORY

The property has a long history of development from 1901 to the present time, although this took place at a number of separate locations within the present property boundary and little or no co-ordinated exploration was attempted until very recent years. Work by the present company consists of geological mapping in a small area aroung the Knobb Hill Claims, extensive trenching and stripping, geochemical and magnetometer surveys of most of the property and electromagnetic surveys over one small area.

The main minerals of interest are copper and zinc with subsidiary gold and silver values giving added interest.

A SUMMARY OF INFORMATION TO DATE

For purposes of description, the property is best divided into three sections: a western section generally known as the Knobb Hill zone; an Eastern section and an area south of the river known as the Dianne group.

KNOBB HILL ZONE

An old adit driven from east to west into Knobb Hill for about 175 feet intersected interesting mineralization. The adit has been sampled a number of times by different people with the following results.

A.C. Richie, 1958 sampled the adit, and noted the presence of two mineral rich zones containing chalcopyrite, smoky chalcocite, pyrite and sphalerite.

		Cu %	
Face to	- 42 feet	0.18 %	
	5 feet	0.46 %	73' - 0.43% Cu
	24.0 feet	0.62 %	
	35 feet	0.13 %	
	4.5 feet	1.55 %	
	4.5 feet	0.75 %	
Portal to	+ 50.0 feet	0.23 %	

The sampling was carried out across strike and appears to represent almost the true width of the intersected zone. In addition to the above figures he also reports the following assays:

		Zn%	Cu%	Ag oz.
Face -70 feet	12' width	5.45%	1.57%	1.00
Portal +50 feet	18' width	2.75%	Tr	0.35

T. Donaldson, 1965, sampled the adit in 5-foot widths and reported 0.27% copper over the best 81 feet.

Spencer Davies, 1965, using identical 5-foot sample widths recorded the following assay figures:

		Cu%
Portal +60 feet	60' width	0.03%
60-135 feet	75' width	0.66%
135-175 feet	40' width	0.10%

The above figures show a wide variation in assay values, but at least indicate an interesting percentage of copper mineralization over zones approaching 100 feet in width. Surface trenches above the adit indicate considerable iron staining, presumably after sulphides, but are thoroughly leached. The country rocks in this vicinity are chloritic and sericitic shists presumably derived as a result of intense deformation of Nicola Volcanics, possibly with some metasediments.

Riley, 1966, gives general information on the Knobb Hill zone and talks of a 500' wide open ended "zone", but does not qualify or describe the zone in any way.

Guy B. Allen, 1966, under the direction of Riley carried out a program of magnetometer survey, geochemical sampling, geology and limited diamond drilling over the Knobb Hill area. The magnetometer survey indicated a generally gently undulating background from just below zero gammas to slightly in excess of 1,000 gammas; magnetic highs and lows did not coincide with the area of known mineralization. The pattern shows elongations in a north-northeastern

direction parallel to the general trend of the country rocks. A notable feature is the increase in steepness of magnetic slopes in the south-western part of the area covered, that is, just to the south and west of the Knobb Hill adit. This may be due to a change in rock type from a dominantly sericitic schist in the vicinity of the adit to chloritic schists derived from basic volcanics and possibly containing disseminated magnetite.

The soil sampling program was carried out over the same area and rubeanic acid tests for copper were carried out in the field. As a result of this, a weakly anomalous zone extending roughly north/south for 6,000 feet and 500 feet in width was established, which covered the adit area. This zone is rather more apparent than real being based on seven samples giving readings of two on a seven figure scale ranging from very low to excellent. On assay, the seven samples gave from 32 to 500 ppm copper. A later geochemical survey over the same area carried out by T. Rolston confirmed a weak copper anomaly running roughly north/south over the adit area; the adit extending into the northern part of this anomaly from the east. Values for the anomalous areas are in the order of 40 ppm copper with local highs slightly in excess of 100 ppm on a background of 10-20 ppm Cu. The main extent of the anomaly extends for 900 feet with a width of about 200 feet; satellite anomalies occurring to the north and northeast.

The surface geology map presented by Allen, covered only a very small area and due to the sparcity of exposures does not give much information outside the immediate area of the adit. Two diamond drill holes were put down on the basis of information gained, Bore hole number one was drilled in an easterly direction, at -55° for 550 feet, and cuts the westerly dipping sericite schist zone encountered in the adit. It is unlikely that it could have missed any southern extension of the adit mineralized zones unless these are affected by major faults not apparent from the surface geology. The diamond drill logs report sericitic schist with sulphides and assays of some sections indicate copper values up to 0.21%. However, the sections assayed are scattered and no information is given in the log as to core recovery and efforts, if any, to take sludge samples in zones of poorer recovery. DDH#2 was rather more exploratory, and was sited some 500 feet to the west of drill hole number 1, and somewhat to the south, inclined at -55° to the east and drilled for 700 feet. An extension of the known mineralized zone in the adit to the south and with a westerly dip direction would only just have been intersected by the last few feet of this hole. Some sphalerite and minor sulphides were reported in the last 50 feet of this drill hole, but no significant copper values are indicated in sections assayed. While the position of DDH #1 is reasonable on the basis of information available at the time,

it is difficult to understand why at least one more hole was not directed to cut the mineralized zone seen in the adit.

Eastern zone

The Eastern zone has a complex history involving partial surveys, a number of adits, percussion and diamond drilling, and more recently magnetometer and geochemical surveys with some electromagnetic work. Little if any of this work, is conclusive and the data is fragmentary and difficult to piece together. It is understood that little if any follow-up work other than trenching has been carried out on the basis of the results of these surveys.

Early work involved the driving of at least four adits. The most southerly adit at an elevation of 3438 feet was largely driven in overburden and no mineralization was apparently observed. In the most northerly or #2 addit, at 3,775 feet, which is still partially open, but badly sloughed, a number of veins containing high percentages of copper and zinc were intersected. Assays from this level were generally taken over short widths and indicate high-grade mineralization. No information is available on values over extensive widths. Some 150 feet to the south of the #2 adit, a drift designated Number 1 adit at 3,875 feet is now completely caved. Previous assays on cross-cut faces indicated an average 10-foot width

over a strike of 150 feet containing 0.58% Copper. The adit was driven along the strike of the country rocks and the cross-cut assays indicate a narrow lens of mineralization which although parallel to the foliation in the adit is at right angles to the general foliation in the nearby #2 adit. Adit #3, somewhat to the southeast at an elevation of 3,325 feet is now also largely collapsed, but is shown as intersecting a number of narrow mineralized veins. Assays in all reports for many of these drifts indicate 4-6 foot widths, with up to 6.05% copper, 2.25% silver, and with zinc, 4%-39%. Traces of cadmium and molybdenum were also reported, the former undoubtedly being associated with high zinc values.

In 1958-59, 6,000 feet of I.P. survey and 2,000 feet of diamond drilling was carried out under the direction of N.H. MacDiarmid, this work was indicated as being ill-planned and poorly executed and did not add significantly to the knowledge of the area.

FIELD NOTES

A one-day visit to the property towards the end of December was made by Messrs, Sawyer and Simpson. The following observations were made, although the area was generally under some twelve to fourteen inches of snow, and it was only possible to visit a part of the eastern section.

The rock types seen were highly sheared volcanics, chloritic & sericitic schists possibly with some intercalated metasediments. In a high trench near the old Bonnivar Shaft, fairly massive andesitic

to acid volcanics have been exposed containing minor pyrite with malachite, presumably after chalcopyrite in shear zones a few inches wide. In a lower cutting named the Ballfield Trench chloritic schists possibly with some intercalated metasediments are highly deformed and contain traces of pyrite.

Trenches above and on the level of #2 adit at 3,775 feet expose narrow, steeply dipping shear zones in the order of a few inches to a foot in width containing pyrite, chalcopyrite and bornite. These shear zones appear to be affected by later open box folds with associated unmineralized shear joints. Above the adit portal, a 6-7 foot wide mineralized shear dipping west at about 45^{o}, extends to the trench above and has a core from 18 inches to 2 feet wide of pyrite, bornite and chalcopyrite in a sericitic matrix. The sugary quartz mentioned in a number of previous reports is fairly obviously the result of leaching of sulphide from associated vein quartz material. A number of samples were taken from the area, for polished sections and further investigation.

RECENT SURVEYS

Since 1966, a number of surveys have been carried out for Spenho Mines by T. Rolston, Esq, involving magnetometer surveys over most of the central claim area covering the three zones of interest: geochemical surveys for copper over the three areas of interest and for both copper and zinc in the Dianne claim area. A limited electromagnetic survey was carried out over a zone in the central area of trenching in the Eastern zone.

MAGNETOMETER SURVEY

The survey was carried out on lines spaced 300 feet apart, readings being taken at 100 foot intervals, and covers the whole of the Eastern and Dianne zones. This work is complimentary to the survey previously carried out over the Knobb Hill zone. The contour pattern is that of a gently undulating background with elongations in a north-northeasterly direction, presumably following the lithological and the structural trend of the underlying rocks. Values vary from 600 to just over 2,000 gammas on the scale of instrumentation used. An elongated high occurs in the vicinity of adit #2. A number of magnetic lows have been apparently investigated by percussion and diamond drilling the results of which indicate that these features are not associated with significant mineralization. The coincidence of magnetometer highs known mineralized zones and geochemical anomalies is not marked.

GEOCHEMISTRY

The three main zones of interest were covered by a soil sampling survey and tested for zinc and copper by hot HNO_3 extraction. Tests for zinc were only available for the area south of the Similkameen River. In the Knobb Hill area the previously mentioned 200 foot wide anomalous zone extends for 900 feet in a north-south direction.

In the Eastern zone an elongated copper anomaly extends from just east of the main trenched area in a northeasterly direction for some 1500 feet and is about 200 feet wide but strongly resembles a contamination anomaly accentuated by drainage. On the second switchback on the main access road there are two small circular anomalies, caused by one or two high readings. In the Dianne area, a widespread area in excess of 50 parts per million zinc with sections in excess of 100 parts per million extends roughly north south from just south of the Similkameen River, for about three claim lengths, and coincides with minor copper anomalies in the southern part of the section.

None of the anomalies described have been investigated in any detail except for the Knobb Hill copper zone. In general anomalies both for zinc and for copper are low, in the order of 40-100 parts per million, but may be significant in an area of otherwise low background values in the order of < 15 ppm for both Cu and Zn.

ELECTROMAGNETIC SURVEYS

A survey carried out over a limited area taking in the main trenched area on the eastern zone and areas to the south indicates a rather zig-zag E.M. anomaly extending for approximately 2,000 feet which as far as is known has not been followed up by drilling or other exploration methods. This interpretation requires verification. The mineralized veins exposed above the portal of the #2 adit did not respond to the instrument used although a battery test indicated

that the core rock was a conductor.

Generally speaking this work constitutes the first logical pattern of exploration on the claim group and together with the information from previous surveys and reports provides the present basis for assessment.

TARGET POTENTIAL

The general picture presented is that of vein type sulphide mineralization with the emphasis on copper and zinc and minor precious metals, in at least two separate areas of the Spenho ground with a possible third zone to the south of the river. The absence of intrusive rock on the property and the impossibility of extending the property to the west and north in the park area disposes of the possibility of a large, low-grade deposit of disseminated sulphides of the true porphyry type. However, the intrusive contact is sufficiently close that marginal mineralization in the Nicola Volcanics can be expected and is indeed the source of a number of mines and mineral prospects in the general area. The situation is not to be compared with that of Copper Mountain, some miles to the north, where later dioritic intrusions are the source of mineralization, all ore bodies in fact being in the mineralized diorites themselves. There is no evidence of this type of intrusion in the area under consideration.

Although the mineralization seen and reported takes the form of fairly narrow vein systems, the present source of interest lies in the possibility of areas containing one or more zones of enrichment giving an average workable grade over widths sufficient for open pit methods. For example, the 100 foot width of 0.4% copper or more and 1% zinc in the Knobb Hill adit, if found to be extensive, may be amenable to open pitting. A similar situation may exist in the Eastern and Dianne zones, but as yet no effort has been made to establish this possibility either by diamond drilling or by systematic surface and underground sampling. On the evidence available to date, a potential of 3-5 million tons to practical mining depths, in each of the three areas, would seem to be a realistic target expectancy. A second potential in the area lies in the possibility of locating an extremely rich zone of copper mineralization of a small to moderate tonnage, of the type indicated by chalcopyrite and bornite in the heavily mineralized material in the vicinity of the #2 adit.

Attractive features of the property lie in its ready accessibility to main transport routes and major smelting facilities. If the ground is in good standing it represents a sizeable block of property, the only limiting factor being the park area to the north and west. A negative feature is possible public objection to open pit mining in the vicinity of a recreational area.

Relatively little importance can be attached to the early work, except in so far as the adits can be reopened and utilized for re-sampling and observation. To date, little or no information is available on the general or detailed geological picture within the area and although outcrops are fairly scarce, the existing trenches, adits and road cuttings should provide sufficient information for a detailed geological study. It is further understood that the present owners would be amenable to a work comittment agreement in exchange for non-participating interest in any final mining venture that may result. On this basis, the property presents a fair exploration target.

SUGGESTIONS FOR FURTHER WORK

Of primary importance is the production of a detailed geological map in order to establish controls of the visible mineralization and the overall structure of the immediate area. This may be combined with further geophysical work, probably including both E.M. and I.P. surveys of selected areas and the rechecking of geochemical anomalies by standard procedures. This work should be followed by an integrated program of diamond drilling, and cleaning and resampling of adits where these are considered to present a source of useful information. Considering the rock types present, diamond drilling should be NX diameter with permanent arrangements for sludge sampling at all sites.

An overall figure of some $200,000 spread over two or three years should be adequate to investigate the potential of this property as a mining prospect.

Respectfully submitted,

J.G. Simpson.