

RESUME - AXE GROUP

CONCLUSIONS

At present three zones have significant copper values. All tonnage figures are preliminary and certainly require more drilling before they are classed as positive ore. Future drilling should be NQ size in order to improve recovery. I am sure this will result in a grade increase and hence a tonnage increase.

At present it would appear that the north zone was mostly pyrite and hence is of no value.

Following is the indicated tonnage and grade based on diamond drilling and percussion drilling.

Diamond Drilling

	<u>Tons</u>	<u>Grade</u>
South Zone	21,000,000	0.345% Cu
West Zone	9,800,000	0.425% Cu

Percussion Drilling

	<u>Tons</u>	<u>Grade</u>	<u>Factored Grade</u>
South Zone	41,000,000	0.32% Cu	0.48% Cu
West Zone	6,400,000	0.32% Cu	0.48% Cu

It is quite probable the above tonnages will be increased when deep holes are completed.

More drilling is required on the Adit zone before any calculations can be completed.

It would appear there are other interesting anomalies on the magnetometer map. These should also offer an excellent potential.

In conclusion, it would appear that tonnages will increase over what is shown and grades should increase when good ore recovery is obtained.

GENERAL

The report by P. E. Fox and J. C. Christoffersen cover the Amax work and findings to May 1970. It is an excellent report and I have used it to prepare the following general summaries on some of the main items.

PROPERTY

The original 133 claims group is situated about twelve miles north of Princeton, B. C.. An additional 200 claims have been staked mostly to the north.

OPTION

Amax optioned the property from Adonis Mines on June 11th 1969. Work commitments are \$100,000.00 per year until April 1st 1974 when the property is to be in production with Adonis having a 30% interest. Advances of \$100,000.00 per year against net profits (future) to Adonis are allowed if the property is not producing by the 1974 date. A \$25,000.00 over expenditure may be carried over one year. All commitments are fulfilled to date.

GEOLOGY

The property's location in relation to regional geological setting is excellent. It lies in the Princeton - Aspen Grove copper belt along the Summers Creek and Allison fault structures. The Granby mine and now the new Ingerbelle deposit are to the south. The Regal and Primer claims are to the north.

The deposits are in the Nicola Group (Triassic volcanic rocks) and are bounded on the west by the Pike mountain intrusive of granodiorite, and on the east by the Okanagan Pluton.

This setting as indicated in the Amax report - "It is believed that early volcanism, doming and arching of the Nicola rocks along the belt of satellitic bodies between the Okanagan pluton and Pike Mountain, and the movement along the Summers Creek fault, has produced the overall crystal environment and local structural preparation of the Nicola required for a large copper deposit" - sets up an excellent mine potential.

LOCATION

All the factors for an efficient and low cost operation are present - power, water, townsite, labour supply and excellent access.

PREVIOUS WORK

Approximately \$44,000.00 was spent by Meridian Syndicate in 1967 and \$133,000.00 by Quintana Minerals Ltd. in 1968.

This work outlined some anomalous areas in the present South and Adit zone locations.

Adonis drilled two holes prior to the Amax option.

AMAX PROGRAM 1969

Based on the old work and with a view of examining the total property, approximately 45 miles of line was cut. Mapping of the claims was completed with detailed work centered on three areas. Podon and magnetic surveys were completed. A 21.2 line mile I.P. survey was completed. About 8000 feet of trenching was done. Eight diamond drill holes were drilled (4351 ft of BQ and 500 ft of NQ core). The northern area was covered by Geochem.

This work plus previous programs outlined four zones, the South zone, the Adit zone (previous zones), the North zone and the West zone (new finds).

It is my understanding that from this previous work various ore estimates have been talked about, such as 20,000,000 tons of 0.40% Cu plus molybdenum (Mo) and silver (Ag).

AMAX PROGRAM - 1970

The main part of the 1970 program was percussion drilling. It would appear that approximately 47 holes were drilled with maximum depth of 350 feet (several reached this depth). I would estimate that 200 feet was an average length making the total program about 10,000 feet.

With this new data Amax will spend the 1970-71 winter plotting and mapping.

The 1971 summer program should consist of NQ diamond drilling on a grid pattern so that final ore reserves, grade, pit planning and stripping ratios can be calculated.

ORE ESTIMATES - General Discussions

Ore estimates are based on assay values obtained by core and percussion drilling. Many factors influence the actual assayed values and as a result, making a preliminary ore estimate must call on a great deal of past experience in similar situations.

In core drilling, the larger the core the more representative the sample since there is less tendency for the core to break up and grind out the more friable portions, usually the sulphide minerals. Low core recovery could mean the lost portions were the friable portions.

Percussion drilling relies on air or water to bring the ground material to surface. Here it is collected and split to a representative sample of that section of the hole. It has been proven by tests on the percussion cuttings that the fines (below 200 mesh) will run at least two to three times the hole average. These fines could be retained in the cracks in the hole, then could be discharged into the atmosphere in a dry pick up system, or they could float off in a wet pick up system - all resulting in a total lower value for the hole.

In checking values obtained between a closely spaced diamond drill hole and a percussion hole, the percussion values can vary from 25% to 100% less than the diamond drill values. Usually the higher grade the greater the difference. One must remember that the core values cannot be considered the true value on which the adjusted percussion results are made unless the core recovery is 100%.

ESTIMATED ORE RESERVES

South Zone

The South zone indicated mineralization area measures about 8000' x 2000'. The ground magnetometer indicates a zone about 2300' x 1000' with a similar I.P. area.

The average elevation of this area is around 4300 feet and mineralization above the 0.25% Cu cutoff has been intersected down to 3500 feet. From the plotted sections it would appear the north end will be shallower than the south end. Assay results also show that the Mo is more abundant in the quartz diorite intrusive than in the volcanics. But hole DDH C-1 shows Cu values in the 0.2 - 0.3 range in the quartz diorite. This value coupled with the Mo and Ag could make it economic. Hole A-1 also carries reasonable values in the intrusive.

The core drilling by Adonis and Amax totals 3016 feet in 5 holes. There are 1030 feet of intersections with the average value being 0.345% Cu plus Mo and Ag. The tonnage in the area covered by the drill holes is:-

$$\frac{800 \times 1800 \times 500}{12} = 60,000,000 \text{ tons}$$

The ore zone portion would be:-

$$\frac{1030}{3016} \times 60,000,000 = 21,000,000 \text{ tons}$$

with a grade of 0.345% Cu and an internal stripping ratio of about 2/1.

The 1970 percussion drilling had 10 holes in significant mineralization in the south zone with 22 holes being drilled in the area. Total footage was 2830 giving an average depth of 283 feet. The area drilled by these holes contains

$$\frac{2800 \times 1000 \times 283}{12} = 106,000,000 \text{ tons}$$

The grade is 0.20% copper. By selecting all 10' sections from 0.20% Cu and up, and assuming lower material could be sorted out, we obtain the following. One sections in 10 holes total 1100 feet and the tonnage would be:-

$$\frac{2300 \times 1600 \times 110}{12} = 41,000,000 \text{ tons}$$

Grade would be 0.32% Cu as sampled but could be 0.48% Cu when a 50% factor is applied. There is only a 89% core recovery in the South zone.

West Zone

The west zone has had five diamond drill holes in the area - three have significant ore intersections. Two would appear to be outside the zone. Hole length in the zone is 1665 feet with the ore sections totalling 277 feet. The grade is 0.425% Cu in the 277 feet. The drilled tonnage is:-

$$\frac{1600 \times 800 \times 555}{12} = 59,000,000 \text{ tons}$$

The ore portion would be:-

$$\frac{277}{1665} \times 59,000,000 = 9,800,000 \text{ tons}$$

grading 0.425% Cu with an internal sorting ratio of 5/1. Core recovery in this zone was between 25% - 50% which is very poor. It would appear there is no Mo.

The 1970 percussion drill program put down 17 holes in the west zone area of which only eight have significant mineralization. These eight holes had a total length of 1990 feet with an average grade of 0.183% Cu. The volume indicated is:-

$$\frac{600 \times 1600 \times 248}{12} \text{ giving } 20,000,000 \text{ tons}$$

By sorting at a cut off of 0.2% Cu, it would appear the 8

holes have an ore section length of 640 feet grading 0.318% Cu. Tonnage in this volume would be:-

$$\frac{600 \times 1000 \times 80}{12} = 6,400,000 \text{ tons}$$

The factored grade at a 50% increase could be 0.478% Cu which puts it slightly above the core average of 0.425% Cu. With the low recovery it would appear the higher grade is more reasonable.

Adit Zone

A total of 11 percussion holes were drilled in the adit zone and between the adit and south zone. Only three obtained interesting intersections - not because of lack of copper, but due to deep overburden and highly fractured ground.

More work is required before any reasonable tonnage grade estimate can be made. Following are the results:-

PA 22-	120 ft of 0.3%
PA 20 -	100 ft of 0.31% (50' - 0.40%)
PA 17 -	70 ft of 0.20

In general more drilling is required in order to delimit the Adit and South zones in lateral extent and to delimit all three zones at depth.

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