ERICKSEN-ASHBY PROPERTY

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SUMMARY.

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Geologist.

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STOKES EXPLORATION MANAGEMENT CO. LTD.

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ERICKSEN-ASHBY PROPERTY.

INTRODUCTION.

The Ericksen-Ashby property is on the north slope of Ericksen Mountain over-looking the Taku-Tulsequah river valley at N58^{o}36', W133^{o}30', and at an elevation range from 550 to 1400 meters. It is accessible from Atlin, 130 km to the north, by helicopter or by fixed wing to a gravel airstrip on the Tulsequah River and from there to the property by helicopter.

PREVIOUS WORK.

The original discovery was made in 1929 by Ericksen and Ashby; assessment work was carried out until 1950 when the property was optioned by Cominco, who at the time were operating the Big Bull and Tulsequah Chief mines just north of the Taku River. These mines are volcanogenic massive sulfide deposits associated genetically with quartz-pyrite-sericite-altered rhyolite volcanic rocks of the Trassic Stuhini group. Combined production from 1951 to 1957 yielded 1.0 x 10^6 million tons grading 0.08 oz/T Au, 3.3 oz/T Ag, 1.32% Cu, 1.45% Pb, 6.05% Zn.

At Ericksen-Ashby, Cominco did minor surface work and started a drill program which was abandoned prematurely.

From 1963 to 1965 the Ericksen-Ashby Mining Company did much surface work including trenching and minor drilling, drove a 140-meter adit and drilled nine holes from a station at the end of the adit. Self-potential surveys were done over showings in the north end of the property, outlining several zones containing pyrrhotite.

In 1976 the property was restaked by Gerry Rayner. In 1979 Semco Mining Corporation mapped the property and formulated a new model to guide further underground exploration.

GEOLOGY.

1. The Ericksen-Ashby property occurs in Permian to Upper Triassic rocks; the stratigraphic section contains four major andesitic volcanic units and two interlayered "sedimentary" units of chert, limestone, and minor rhyolite. All sulfide deposits of economic interest are in the upper sedimentary unit.

2. Rocks are moderately deformed; regional studies indicate at least two major periods of uplift and deformation. Units trend northwest and dip moderately to steeply southwest. Local deformation, particularly obvious in the bedded limy rocks is complex, with abundant minor folds and faults with no recognizable regional symmetry.

3. Scattered massive sulfide bodies, containing high values of Ag, Pb and Zn occur in and on the upper contact of thin discontinuous rhyolite lenses along the footwall of the upper sedimentary unit. Most exposures of massive sulfide bodies have dimensions of the order of several meters across or smaller.
   The rhyolite may have originated along a topographic high marked by the presence of rhyolite breccias. The topographic high was flanked by two basins in the underlying andesite surface; these basins are loci for accumulation of massive sulfide and are the main targets for further exploration. Lateral to the rhyolite and separated from it by a topographic high, in the basement andesite surface, is a thick wedge of barren chert of exhalative origin.

4. The rhyolite and chert are overlain by limestone with abundant thin andesite flows, subsurface intrusions, and irregular pyroclastic debris. Scattered patches contain chert, skarn, and minor massive sulfides. These formed at small centers of exhalative activity.

5. The upper part of the sedimentary section contains abundant chert, chert breccia, and skarn with lesser limestone. Chert formed from exhalative solutions by replacement of limestone in vent areas and by precipitation from solutions at the seawater interface. Brecciation of chert occurred shortly after its formation. During continued exhalative activity, sphalerite and galena were deposited in fractures and in irregular replacement patches in chert breccia. Elsewhere chert and chert breccia were replaced irregularly by skarn assemblages. Skarn is composed predominantly of rhodonite with lesser pyrrhotite, and with locally abundant amphiboles, pyroxene, and garnet. Sphalerite and galena are minor components of most skarns, and are abundant locally.

6. Following are average assays from massive sulfide zones.

1)

Zone	Exposed Size (Average)	Au oz/T	Ag oz/T	Pb%	Zn%
Zone 2	2x5 meters	0.005	3.7	2.0	7.7
" 1	5x6 meters	0.005	15.3	8.1	30.5
"13-1	1x4 meters	0.010	6.7	3.8	13.9

2) <u>Chert breccia replacement zones</u>.

Zone 3	5x5 meters	0.01	7.6	0.9	0.8
" 8A	2x6 meters	0.01	1.5?	0.5?	2.0
" 6	1x2 meters	0.005	1.6	2.7	1.9
" 9	1.50x40 "	0.005	5.1	1.3	2.9
" 5-7	3.5 m trench	0.010	3.0	0.8	0.9

7. The rhyolite, associated massive sulfide chert, and skarn deposits probably are of the same age as the deposits at the Big Bull and Tulsequah Chief mines. The lower Cu-values at Ericksen-Ashby suggests that the main volcanic center was to the north near the other deposits.

CONCLUSIONS.

1. Massive sulfides were formed from exhalite solutions related genetically to the footwall rhyolite in the upper sedimentary unit. Most massive sulfides occur near the upper stratigraphic contact of the rhyolite, and probably were formed by precipitation at the seawater interface. Several important lenses occur in the rhyolite and may have formed by replacement of rhyolite.

2. Assays of massive sulfides associated with rhyolite vary widely; a conservative estimate of their average value would be as follows:

   Au - 0.005 oz/T; Ag - 5.0 oz/T; Pb - 2.5%; Zn - 8%

3. In volcanic terrain, topographic depressions, commonly of tectonic origin, are loci of formation of numerous economic massive sulfide deposits, e.g. some deposits in the Shasta district, California and some of the Kuroko of Japan. Formation of some of these basins is contemporaneous with the exhalative event, producing a deepening basin into which a thick section of massive sulfides may be deposited. Despite the discontinuous nature of the massive sulfide deposits at Ericksen-Ashby, the nature of the environment is such that larger, more continuous bodies might be expected to occur in depressions in the original topographic basins. The grades of the massive sulfides are sufficient to warrant exploration for a larger body.

ERICKSEN - ASHBY PROPERTY,

PROPOSAL FOR 1980 PROGRAM.

Following is a proposal for further evaluation of the Ericksen-Ashby property, based on the results of the 1979 field program conducted by SEMCO. A discontinuous zone of Pb-Zn-Ag massive sulfide mineralization genetically associated with discontinuous rhyolite flows and breccias was mapped on surface in 1979, and the following program aims to evaluate this zone at depth.

The zone will be tested by surface drilling from two main sites, and by underground drilling from the end of the pre-existing adit. Because of the rugged nature of the surface, fans of drill holes are planned from the most favorable topographic sites.

The following drill holes are planned (See Figure 1).

SITE 1. (Elevation 3900 ft.) To test the downward extension of high-grade Zn mineralization in Zone 1.

Hole.	Bearing.	Dip.	Length.
DH 1	020°	-45o	250'
DH 2	060°	-45°	270'
DH 3	045°	-60°	280'
DH 4		-90°	400'
	TOTAL AT SITE 1.		1200'

SITE 2. (Elevation 4330 ft.) To test the downward extension of Zone 2 and Zone 2N.

Hole.	Bearing.	Dip.	Length.
DH 5	045°	-45°	420'
DH 6	085°	-45°	400'
DH 7 (possibly drilled from higher up hill).	125°	-45°	550'
DH 8 ? (or drilled from SITE 3? elevation 4000' if this site is possible).	005°	-45°	450'
DH 8 ?	045°	-45°	450'
	TOTAL AT SITES 2 & 3		1820'

THE SITE 3 location is preferred because the drill hole from it would intersect the target zone at a higher angle than from Site 2, and also will intersect the down-dip extension of Zone 6.

SITE 4. UNDERGROUND - End of ADIT. Elevation 3200'

Hole.	Bearing.	Dip.	Length.
DH 9	060°	0°	300'
DH 10	090°	0°	440'
DH 11	060°	+45°	340'
	TOTAL FROM SITE 4		1080'
	TOTAL LENGTH from all SITES		4100 feet.

Holes will be monitored during drilling, and may be stopped short of projected targets if warranted by geology.

If significant mineralized zones are intersected, the holes should be surveyed especially those over 400 feet long and those at a low angle to the attitude of the units because of possible deflections from linearity.

Water will be recovered in a series of storage pools either near the sites of drill stations or near the campsite at 3050 feet elevation. This may be required for drilling in August and September.

Based on an estimated drilling rate of 100 feet per day (based on two shifts per day), the drill program should take 41 days exclusive of times for moving and breakdown.

The following budget outlines the projected costs of the drill program and related geology and surveying control.

DIAMOND DRILLING.

4100' (1250.5m)BQ core at $30 per foot($102 per meter) $123,000 (includes costs of mobilization and demobilization, water reservoirs, hoses, pumps, camp costs for drill crew).

PERSONNEL.

1 Senior geologist, PhD.	2 months	@ $250/day	$15,000	
1 Senior geologist	2 months	@ $150/day	9,000	
1 Field assistant	3 months	@ $ 80/day	7,200	
1 Cook	3 months	@ $ 80/day	7,200	
1 Surveyor	1 week	@ $150/day	900	
				$39,300

AIR SUPPORT and CREW MOBILIZATION.

Helicopter 150 hrs. @ $335/hour	$50,250	
Fixed Wing	4,000	
Air Fares (Vancouver-Whitehorse)	2,000	
Hotels, Cabs, etc.	500	
		$56,750

CAMP COSTS.

Camp rental	3 months @ $1000/month	$ 3,000	
Groceries	310 man days @ $14/m.d.	4,340	
Camp supplies	310 man days @ $ 5/m.d.	1,550	
Radios		1,000	
			$ 9,890

OTHER.

Assays, including shipment	$ 5,000	
Preparation (Spring 1980)	4,000	
Drafting	1,000	
Telephone	400	
Office supervision and services	2,000	
Contingencies	8,660	
		$21,060

TOTAL $250,000

If this program were carried out in conjunction with the regional program to evaluate the Stuhini volcanic rocks, considerable reductions could be made in the composite budget from those of the programs if they were done individually.

John G Payne