

MINNOVA INC.

DATE: April 27, 1990
TO: Ian Pirie.
COPIES TO: Alex Davidson, Al Hill.
FROM: Dave Heberlein.
SUBJECT: **1990 CANA WORK PROPOSAL**

General:

The Cana claims, located at the northern boundary of the Samatosum property, consists of 24 two-post mineral claims that cover the northerly extension of the Samatosum stratigraphy. The claim area is covered by thick deposits of glacial sediments (to 100m in thickness) that are underlain in the north and central parts of the property by Tertiary volcanics and sediments (to +200m in thickness) of the Skull Hill Fm. These deposits completely mask the Paleozoic stratigraphy, thus making conventional exploration techniques ineffective.

Exploration programs by Esso Minerals Canada (1986-1988) and Homestake Mining Canada Limited (1989) included a total of 19 diamond drill holes that were drilled to explore the Eagle Bay stratigraphy along strike from the Samatosum and Rea Zones. The drilling indicated that the Tertiary cover is thin or absent at the south end of the property and that highly altered sediments (sericitized chert and argillite and carbonatized mafic fragmentals) identical to those associated with the Sam and Rea zones are present. Although no economic mineralization was encountered, one hole (C86003) penetrated a two metre thickness of semi-massive to massive pyrite. In addition to this, quartz-dolomite veins containing trace quantities of galena, sphalerite, chalcopyrite and tetrahedrite were intersected in many of the holes.

Despite the drilling to date, no direct geological correlation has been made with the sequence on the Samatosum property. On Cana, there seems to be a significant difference in the arrangement of geological units. The mafic units are notably thinner, finer grained and tend to be more finely interdigitated with sedimentary lithologies (chert, argillite and wacke). Also, the pronounced mafic contacts that mark the position of the "Sam and Rea Horizons" in the mine area are not seen.

These observations imply that there is a significant change in the overall distribution of rock units north of Sam. This may be due to folding, faulting or facies change (or a combination of the three), either one of which may significantly change the geometry and lithological make-up of the Sam and Rea zones, and make them unrecognizable. It is unlikely that there is a significant fault in the Johnson Creek valley. Geophysical data on the Sam property indicates that conductors are continuous across the valley.

The areas of intensely altered sediment and mafic volcanic noted in the Cana drill holes possible represent the facies equivalents of the target zones and should therefore be the focus of future exploration programs.

1990 Work Proposal:

The presence of a variably thick, often conductive overburden and the consequent inefficiency of surface exploration techniques has resulted in the past in the use of the diamond drill as a mapping tool on the Cana property. This has proven to be an expensive and fairly unproductive method of exploration. The use of the reverse circulation drill to map bedrock and obtain geochemical samples of the basal till has proven to be an effective way of exploring areas with thick overburden cover on the adjacent Samatosum property. This technique provides information about the subcrop geology (lithology, alteration and lithochemical trends)

and secondary metal dispersion at the bedrock surface. The main advantage over diamond drilling is the ability to essentially take a "soil" sample at the base of the overburden and be able to detect accumulations of metals that are hydromorphically and mechanically dispersed along the bedrock surface.

A 1500m reverse circulation drilling program is recommended to test the southern part of the Cana property (south of the Tertiary cover) in the areas where significant alteration has been defined by the earlier diamond drilling. To achieve sufficient coverage, three sections (lines 102N, 104N and 106N) across the altered areas are proposed. These are shown on the attached map. Approximately 50 holes, spaced at 50m intervals are required. An average depth of overburden of 35m is anticipated in this area (based on the diamond drilling). From each hole, a bedrock sample and two basal till samples will be collected. On the till samples, a -150 mesh heavy mineral concentrate will be run for trace metals, gold and barium. The bedrock sample will be identified (from chips) and analyzed for major and trace metals.

A limited follow-up diamond drilling program (1000m) is also recommended to test anomalies generated by the R-C drilling. The estimated cost of the total program will be \$170,000. A break down of the budget is attached.

**1990 CANA EXPLORATION PROGRAM
ESTIMATED COSTS**

Drilling:

Reverse Circulation Drilling - 1500m @ \$54.00/m	\$ 81,000
Diamond Drilling - 1000m @ \$65.00/m	\$ 65,000
Drill Site Preparation -	\$ 2,000
Analytical Costs -	\$ 6,000
Geologist - 50 days @ \$300/day	\$ 9,000
Assistant - 20 days @ \$150/day	\$ 3,000

Logistics:

Food and Accommodation - 40 days @ \$ 25.00/day	\$ 1,000
Vehicle - 20 days \$50.00/day	\$ 1,000
Freight -	\$ 1,000
Field Expenses -	\$ 500
Miscellaneous Costs (Sample Bags etc.)	\$ 500
TOTAL	\$170,000

CANA 2-26 CLAIMS

CANA 17 4904(11)	CANA 16 4903(11)	4912(11) 4911(11)
CANA 15 4902(11)	CANA 14 4901(11)	CANA 23 4908(11)
CANA 13 4900(11)	CANA 12 4899(11)	CANA 21 4908(11)
CANA 11 4898(11)	CANA 10 4897(11)	CANA 19 4906(11)
4895(11) 4896(11)	4893(11) 4894(11)	4894(11) 4890(11)

