MINNOVA

MEMORANDUM

DATE: September 29, 1988

A TO: A. J. Davidson

827238

COPIES À COPIES TO: D. H. Watkins, file

DE FROM: G. S. Wells

SUJET SUBJECT: Fall Drill Program - Mt. Sicker Projects PN 305

Introduction

A total of 14 holes (4550 m) are proposed to evaluate the economic potential of the Lenora-Tyee stratigraphy which has been defined over a strike length of 4.5 km. This zone hosts the old Lenora-Tyee massive sulphide deposits which were discovered at the turn of the century and yielded approximately 300,000 tons of ore at a grade of 3.31% Cu, 7.5% Zn, 2.75 oz/T Ag and 0.13 oz/T Au.

Geology

The Spring drill program and continuing evaluation and re-interpretation of geological, geophysical and lithogeochemical data has helped resolve the stratigraphic picture in the vicinity of the old mines and in the southern part of the property. The Lenora-Tyee deposits occur as 2 mineralized zones - the North and South zones. Previous interpretations had the South zone occurring as a fault-bounded horizon which was thought to correlate with the North zone. The Spring drill program suggested that there is little or no movement along the Mine fault and that the South zone is a distinct sulphide horizon which occurs at the contact between andesitic crystal tuffs and intermediate ashes. The zone has a southerly dip of 70° to 75° in the vicinity of the old mines and is defined down-dip as thin, well-bedded, barium and zinc-enriched cherts, argillites and pyritic tuffs. The North zone is a second mineralized zone which occurs 30 to 40 meters lower in the stratigraphy. It is hosted in felsic ashes and tuffs and consists of interlayered graphitic argillite and fine-grained pyritic tuffs.

The down-dip testing of the Lenora-Tyee deposits helped define the stratigraphy but did not intersect economic massive sulphides. Footwall sodium depletion and pyritic stringer mineralization was noted

down-dip of the eastern portion of the L-T orebodies. Follow-up drilling is scheduled in this area in 1989 as the 1988 fall program will concentrate on other targets along strike.

As has been noted in recent month-end reports, the Lenora-Tyee stratigraphic package, has been traced over a strike length of 4.5 km. The old Key City shaft is located near the western end of this zone. In 1986, Minnova drilled 6 holes in the vicinity of this old showing to test for the strike extent of the Lenora-Tyee mineralization. Recent relogging of these holes has indicated that none of the holes were drilled deep enough to test the proper stratigraphy. Hole MTS-23 ended in a sequence of intermediate ashes and cherts which occur in the immediate hanging wall to the massive sulphide horizons.

The Mona area is located 1.2 km east of the old Tyee mine shaft. Interest in the area has been maintained due to lithogeochemical anomalies, abundant pyrite-chalcopyrite stringer mineralization and the intersection of pyritic tuffs during the 1987 drill program (MTS-38, 43). During the Spring program, 2 holes tested for the extent of these pyritic tuffs and stringer mineralization beneath a thick, flat-lying diorite (B.C. Tel diorite). Both holes intersected a sequence of intermediate ashes and sulphide-rich cherts which are underlain by sodium depleted felsic tuffs. Hole MTS-48 intersected 2 zones of semi-massive pyrite with traces of chalcopyrite and sphalerite. The upper zone occurs near the base of the intermediate ash/chert sequence. This stratigraphic package is considered to be identical to the Lenora-Tyee sequence. In fact, the sulphides intersected in MTS-48 may be the virtual strike extension of the L-T zone. The MTS-48 intersection only occurs at a deeper level due to dilation of the felsic volcanic package by the B.C. Tel diorite.

Hole MTS-46 tested an excellent IP anomaly in the Gap area. Sulphide-rich felsic tuffs and pyritic tuffs similar to those identified in the Mona area were intersected in the upper part of the hole. A complete section of the volcanics was not obtained due to the presence of a thick (300+ m) diorite dike which was intersected in the lower part of MTS-46. The presence of the L-T stratigraphy in the "Gap" area has opened up a 1.5 km section beneath the B.C. Tel diorite where there has been no exploration

work what-so-ever. The presence of excellent IP and lithogeochemical anomalies in both the Mona and Gap area makes the area beneath the B.C. Tel diorite a very attractive exploration target.

Proposed Drilling

The 1988 Fall drill program on Mt. Sicker will focus on evaluating the Lenora-Tyee stratigraphic package in the Key City, Mona and Gap/B.C. Tel areas. In the Key City area, 3 new holes will be drilled and 2 old ones deepened for a total of 1050 meters. In the Mona area, 4 new holes are proposed and 1 hole will be deepened for a total of 2550 m. Four new holes will be drilled in the Gap/B.C. Tel area for a total meterage of 1200 m. Specific details for each of these drill holes are given in the attached table. The projected intersections of the Lenora-Tyee horizon are plotted on a vertical longitudinal section (Figure 1).

The estimated all-inclusive cost of this drill program is $341,250 (4550 m @ $75/m). It is scheduled to start in early to mid-October.

Table 1: 1988 Fall Drill Program - Mt. Sicker

Area	Hole #	Location	Collar dip	Azimuth	Meters of Drilling	Purpose	Comment
1. Key City	K-1	8+85W, 7+20S	-51°	360°	150	To test the extent of of the Lenora-Tyee horizons in the vicinity of the old Key City shaft.	deepening of MTS-23
	K-2	9+00W, 8+40S	-53°	360°	150	as above	deepening of MTS-20
	K-3	8+00W, 5+90S	-46°	360°	150	as above	
	K-4	8+00W, 6+35S	-58°	360°	250	as above	
	K-5	8+00W, 6+35S	-80°	360°	350	as above	
				Subtotal	1050		
2. Mona	M-1	8+86E, 9+40S	-90°	360°	325	To test the extent and significance of massive sulphides intersected in hole MTS-48.	deepening of MTS-41
	M-2	11+00E, 9+90S	-70°	020°	475	as above	
	M-3	11+00E, 9+90S	-82°	020°	600	as above	
	M-4	12+00E, 10+00S	-63°	020°	400	as above	
	M-5	12+50E, 10+50S	-71°	020°	500	as above	
				Subtotal	2300		

Table 1 (cont)

Area	Hole #	Location	Collar dip	Azimuth	Meters of Drilling	Purpose	Comment
3. Gap/ B.C. Tel.	G-1	16+00E, 15+75S	-62°	035°	350	To test the Lenora-Tyee stratigraphic sequence beneath the B.C. Tel diorite.	
	G-2	16+00E, 15+75S	-75°	035°	450	as above	
	G-3	22+40E, 21+00S	-60°	045°	250	To test an excellent IP anomaly which is correlated with the Lenora-Tyee horizon in an area of anomalous copper content (lithos)	
	G-4	21+80E, 19+75S	-45°	045°	150	as above	
				Subtotal	1200		
				Total	4550 m		

15+00W
10+00W
5+00W
0+00
5+00E
10+00E
15+00E
20+00E
25+00E

800m
600m
400m
200m
00m
-200m
-400m
-600m
-800m

Cu CANYON SHAFT
VICTORIA ADIT
KEY CITY SHAFT
Lenora Fault
TYEE SHAFT
RICHARD III SHAFT
Fortuna Fault
LENORA-TYEE SOUTH OREBODY
LENORA-TYEE NORTH OREBODY
B.C.Tel diorite
Strong IP anomaly
1m barite/sulphides (65m S of shaft)
CANAMERA
PEPPA

CM-8
CM-7
CM-10
MTS-22
MTS-21
K-3 150m
K-4 250m
MTS-23
K-1 150m
MTS-18
K-5 350m
MTS-20
K-2 150m
MTS-17
MTS-5
MTS-4
MS-74-2
MTS-55
MTS-57
MTS-56
MTS-53
MTS-54
MS-74-1
SRM-1
MTS-52
SRM-3
SRM-2
SRM-4
SRM-12
MTS-43
MTS-38
MTS-49
MTS-48
M-1 325m (deepen MTS-41)
M-3 600m
M-5 500m
M-2 475m
M-4 400m
G-1 350m
G-2 450m
G-3 250m
G-4 150m
MTS-46

inches
0 1
0 1 2
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

LENORA-TYEE Horizon
Did not reach target
Proposed drill holes (Fall 1988)

300 metres

MT. SICKER PROPERTY
VERTICAL LONGITUDINAL SECTION
LENORA-TYEE HORIZON

GW/sg

SEPTEMBER 1988

MINNOVA Inc.
FILE: D:\DWG\SICDP88