824306

MINNOVA INC.
SAMATOSUM JOINT VENTURE

1990 EXPLORATION PROGRAM SUMMARY

BUDGET: $1,100,000 (Minnova 70%, Rea Gold 30%)

OBJECTIVES: To continue drill testing the mineralized Samatosum, Rea Gold, and "266 Zone" stratigraphic package to establish additional reserves. An allowance is also made for a short drill program on the Victory property to the north. Planned non-drilling activities include: a relogging program for some selected Sam/Rea holes, a soil sampling program over the Twin Mountain Shear Zone, down-the-hole Pulse EM, selected geological mapping, and continuing structural studies and analysis of the Sam Deposit with the objective of resolving the structural history of the entire property.

1989 EXPLORATION SUMMARY

Exploration work on the Samatosum property in 1989 consisted almost entirely of a diamond drill program which began in March and is still ongoing. By the end of August, approximately 9000 meters have been drilled out of 12,000 meters allowed.

This years drilling began with deep testing the Sam and Rea stratigraphy in the Sam Deposit area. No economic mineralization was encountered; however, typical "noisy" mineralization was common. Also, some insight was gained into the overall structural picture of the Deposit area when RG-254 failed to intersect the Rea Horizon even though stratigraphic projections were consistent down to the hangingwall contact of the Rea mafic pyroclastics at -500 meters. The hole then continued entirely in mafics to its final depth of 998 meters. The lack of a Rea Horizon suggests it becomes contained within an overturned synformal structure somewhere up-dip from RG-254, with a resulting overthickening of the Rea mafics in the vicinity of the hole. Of additional interest, is the existence of a very strong down-the-hole Pulse EM conductor up-dip from RG-254 at the contact of the "middle sediments"/Rea mafic pyroclastics at about -500 meters. This conductor is being tested with a drill hole (RG-292) which began at the time of writing this report.

The Barite Zone on the Sam Horizon around Section 102+00mW failed to develop into anything significant after several holes were drilled in an attempt to delineate it further. Apparently, it is a very localized occurrence.

Drill testing the Sam Horizon to the north was completed to Section 107+20mW with no economic intersections; however, a drill fence across the entire Sam and Rea stratigraphy intersected a massive sulfide occurrence up to 2.3 meters thick in the "middle sedimentary unit"--a package of highly deformed, conductive, sericitic, laminated cherts/argillites mid-way between the Sam and Rea Horizons. As of the end of August, this zone has been intersected eight times over a strike length of about 225 meters and contains an average of 10% combined copper, lead, and zinc, with silver values ranging from 50g/t to 229g/t and gold values to 0.43g/t. Although the strike length has proven to be quite consistent, it has been very difficult to delineate any substantial dip length to the zone--perhaps due to a complex fold style accompanied by early and late faulting. Nonetheless, this is the most significant mineralization located outside the Sam and Rea Deposits and still holds promise as it remains open along strike.

Drill testing the Rea horizon was completed between Sections 105+20mW - 110+20mW. No economic mineralization was encountered in the 8 holes drilled, although the Rea Horizon was always present as a slight to moderately pyritic, often brecciated sedimentary unit. The footwall argillite/wake sequence was always present--generally in fault contact with the Rea Horizon.

Also of interest was the reappearance of the pyritic Muddy Tuff in RG-290--the last hole drilled in the Rea Horizon on line 110+20mW.

Approximately 15 kilometers of grid was established at the southeastern end of the property in order that geological, geochemical, and geophysical work could be undertaken to establish the exact nature and potential of the stratigraphy up to the Tshinikan Limestone contact. The linecutting was completed in August with all the field surveys due to be completed by mid-September.

On the Victory Property to the immediate north of the Samatosum Property, geological mapping, soil sampling, trenching (approximately 700 meters), and diamond drilling (3 holes totalling 457 meters) were completed on the property. So far, no significant mineralization or alteration has been encountered in the stratigraphy which consists of mafic volcanics, cherts, argillites, limy sediments, and limestones. The numerous electromagnetic anomalies previously located striking across the property are undoubtedly due to the presence of graphitic argillites and cherts. The northern portion of the property (New Volcano) was not worked this year.

PROPOSED 1990 WORK PROGRAM--SAMATOSUM JOINT VENTURE

As with this year, virtually all the work recommended for the Samatosum Property in 1990 is to consist of diamond drilling. A small amount of relogging, down-the-hole Pulse EM, soil sampling, mapping, and interpretation is also planned.

Diamond Drilling (13,600 meters, $1,020,000):

Sam Horizon from Line 110+00mW to 126+00mW: 4000 meters

This will complete the coverage of the Sam Horizon to the northern property boundary. This coverage was scheduled to be completed this year; however, the discovery of the "266 Zone" at the end of June required extra drilling.

The estimate of 4000 meters is based on sixteen holes averaging 250 meters deep; drilled at 100 mater spacing.

"266 Zone" follow-up: 3600 meters

This new massive sulfide zone has been traced for at least 225 meters along strike. It is a thin (maximum thickness intersected so far = 2.3 meters), probably very highly contorted and faulted zone which will be very difficult to accurately delineate. The highly contorted nature of this zone is the probable reason it is very difficult to obtain a 30 meter down-dip intersection on the same section. However, with grades generally averaging around 10% combined copper, lead, and zinc; with silver values to 229 g/t and gold values to 0.4g/t; plus the fact that it is still open along strike, there is definite potential for eventual development into an economic deposit.

The above drill estimate is based on eighteen drill holes averaging 200 meters each.

Rea Horizon north of Line 110+20mW: 2500 meters

It is proposed to continue tracing the Rea Horizon northwards to the property boundary in the same fashion as for the Sam Horizon. Ten holes averaging 250 meters each will be required.

Rea Concession Area--down-dip from the L98 Lens: 1000 meters

Three holes totalling 1000 meters are proposed to test the down dip stratigraphy of the Rea Gold Horizon in the vicinity of the L98 Lens.

Sam Horizon--RG-85 Area: 1500 meters

Several years ago an uneconomic but significant massive sulfide deposit was intersected in hole RG-85 down dip from the Sam Deposit on Section 97+20mW. The intersection averaged 0.28% Cu, 2.60% Pb, 2.89% Zn, 43.5g/t Ag, and 0.34g/t Au over 11.05 meters (252.7m-263.75m). Because of the lack of significant silver or gold values, there was limited follow-up drilling; thus there is considerable room for further testing the deposit (especially along strike to the north) on the chance that the zone may persist and improve in grade. The mineralization bears considerable resemblance to the "266 Zone" mineralization located over 800 meters to the north.

At least three holes are planned to test this zone along strike to the north and down-dip.

Victory Property: 1000 meters

An allowance for 1000 meters of drilling is proposed in the event follow-up work is warranted from the results of next years field work. This is in anticipation of establishing a drill target(s) in the northern portion of the property (New Volcano), scheduled for next year.

Other Proposed Programs ($80,000)

Relogging Sam and Rea Holes

Drilling over the past couple of years has shed much new light on the geology of the deposit area and caused a more consistent pattern of rock identification and nomenclature to evolve. In order that we can effectively utilize previous drilling to continue developing our geological interpretation of the area, it is proposed that we select several sections across the property and relog all the pre-1989 holes to match the current nomenclature.

Consultant for Structural Study

In 1989, we began using the services of a geological consultant to assist in the interpretation of the structural history of the Deposit area. It is proposed this program proceed into 1990 in the same fashion as this year to ensure that sufficient data is collected during mine development and diamond drilling.

Geophysics

As with 1989, down-the-hole Pulse EM will be carried out on selected holes during the 1990 drill program.

Soil Sampling the Twin Mountain Shear Zone

The potential exists for the Twin Mountain Shear Zone to host an economic base metal and/or precious metals deposit. The zone has been traced northwards across southern half of the Samatosum property by mapping and drilling, lying approximately 300-400 meters east of and parallel to the Sam Horizon. South of the property, the shear zone is very extensive, running for at least 8 kilometers to the southeast where previous exploration has shown the zone to be anomalous in base and precious metals.

Initially it is proposed that we begin exploration of the shear zone on the Samatosum property with a soil sampling program which would consist of obtaining approximately 500 samples over an area of approximately 2500 meters by 300-600 meters. Follow-up work such as diamond drilling may be recommended, depending on the sample results.

Geological Mapping

A minor amount of geological mapping will continue to be required as new accesses are developed and ideas are generated.

B. Fraser

6/9/89

SUMMARY OF PROPOSED 1990 EXPLORATION PROGRAM

1) DIAMOND DRILLING

a) Extension of Sam Horizon: 4000 meters X $75/m = $300,000

b) RG-85 Area: 1500 meters X $75/m = $112,500

c) "266 Deposit" Area: 3600 meters X $75/m = $270,000

d) Extension of Rea Horizon: 2500 meters X $75/m = $187,500

e) Rea Concession Area: 1000 meters X $75/m = $75,000

f) Victory Property: 1000 meters X $75/m = $75,000

TOTAL = $1,020,000

2) MISCELLANEOUS FIELD WORK

a) Relogging Sam/Rea drill holes: $10,000

b) Consultant for Structural Analysis: $18,000

c) Down-the-hole Pulse EM: $10,000

d) Soil Sampling the Twin Mountain Shear Zone: $25,000

e) Geological Mapping: $10,000

f) Miscellaneous,contingencies: $8,000

TOTAL = $80,000

GRAND TOTAL = $1,100,000

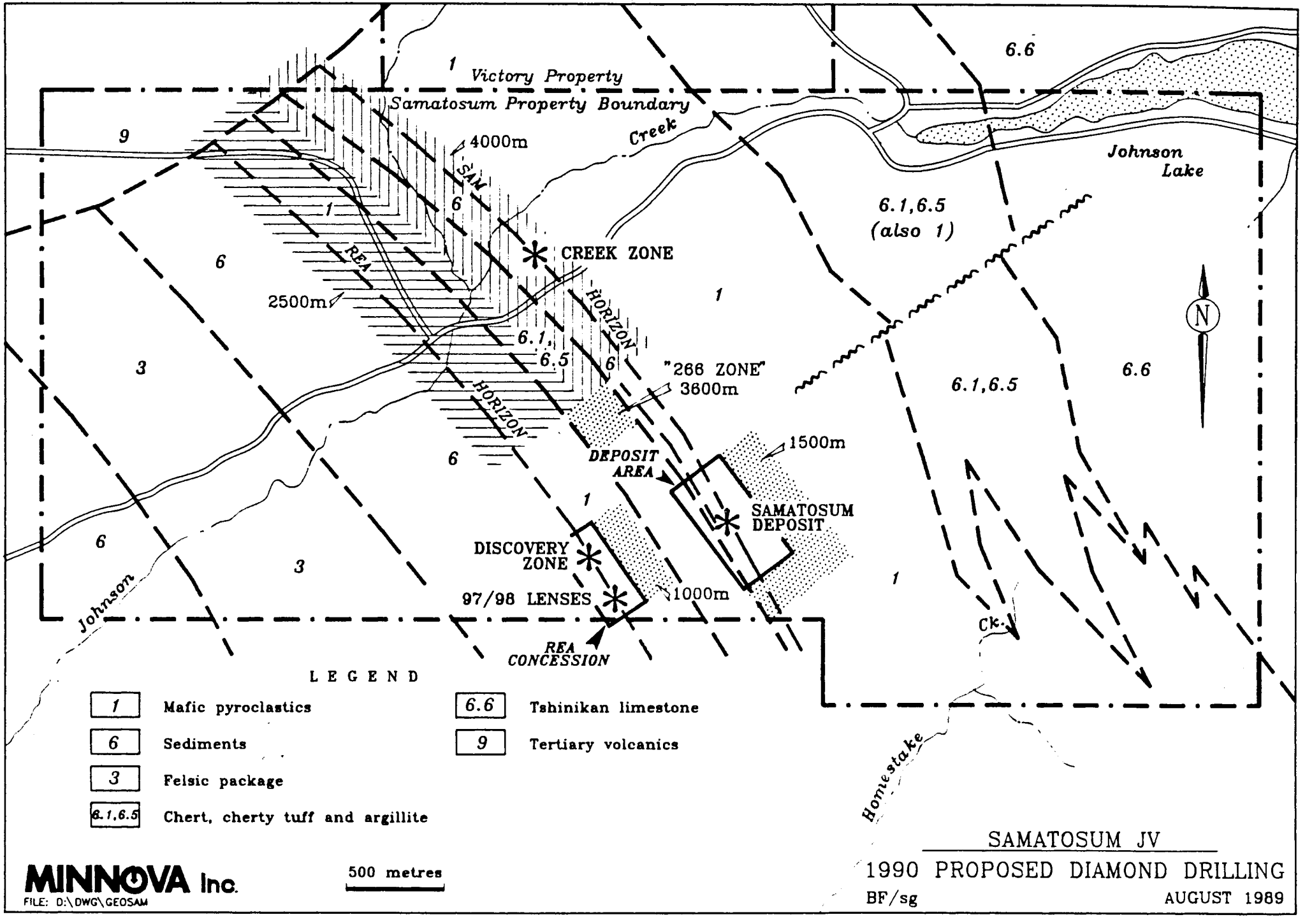
MINNOVA SHARE = $770,000

REA GOLD SHARE = $330,000

plus REA GOLD MANAGEMENT FEE = $23,280

CALCULATION OF MANAGEMENT FEE:

a) Direct cost of diamond drilling 13,600 meters @ $55/m	=	$748,000
b) 10% on first $100,000	=	$10,000
c) 5% on balance ($648,000)	=	$32,400
d) 10% on balance of $1,100,000 - $748,000 = $352,000	=	$35,200
TOTAL (b, c, d)	=	$77,600
MINNOVA SHARE @ 70%	=	$54,320
REA GOLD SHARE @ 30%	=	$23,280


1
Victory Property
Samatosum Property Boundary
9
4000m
Creek
6.6
Johnson
Lake
SAM
6
1
6.1,6.5
(also 1)
REA
CREEK ZONE
6
2500m
HORIZON
1
6.1,
6.5
6
"266 ZONE"
3600m
3
6.1,6.5
6.6
N
HORIZON
6
1500m
DEPOSIT
AREA
1
SAMATOSUM
DEPOSIT
6
DISCOVERY
ZONE
3
1
Johnson
97/98 LENSES
1000m
Ck.
REA
CONCESSION
LEGEND
1 Mafic pyroclastics
6 Sediments
3 Felsic package
6.1,6.5 Chert, cherty tuff and argillite
6.6 Tshinikan limestone
9 Tertiary volcanics
Homestake
MINNOVA Inc.
500 metres
FILE: D:\DWG\GEOSAM
SAMATOSUM JV
1990 PROPOSED DIAMOND DRILLING
BF/sg
AUGUST 1989