826089

SUMMARY OF EXPLORATION ACTIVITIES

MAGGIE OPTION

Vancouver Mining Division

NTS 92G/10W,11E

Owner: International Maggie Mines Ltd.

Operator: Minnova Incorporated

by: Colin Burge

February 19, 1988

Claims

Jarmilla Fr.	Celeste	Janette
Harold Fr.	Jody	Clarke
Mar	Falcon	War Eagle
Bob	Santanna	

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1987 DRILL PROGRAM

INTERNATIONAL MAGGIE OPTION

1. INTRODUCTION

This report summarizes 1987 diamond drilling designed to test the downdip potential of the Slumach quartz - sulphide vein and stratigraphy considered to have the potential to host volcanogenic massive sulphide mineralization. The drill program was conducted in October 1987 and the drilling was done by Frontier Drilling Ltd. of Kelowna, B. C.

a) Location and Access

The property is located approximately 10 kilometres southeast of Squamish, B. C. A rough 4 wheel-drive logging road provides access to the Slumach area near the headwaters of the Indian River (see Figure 1).

The Slumach project area is on the very steep north facing valley wall and is covered with original growth douglas fir (see Figure 4).

b) Property Status

The International Maggie Option consists of 11 claims (84 units) covering 2100 hectares as shown in Figure 2.

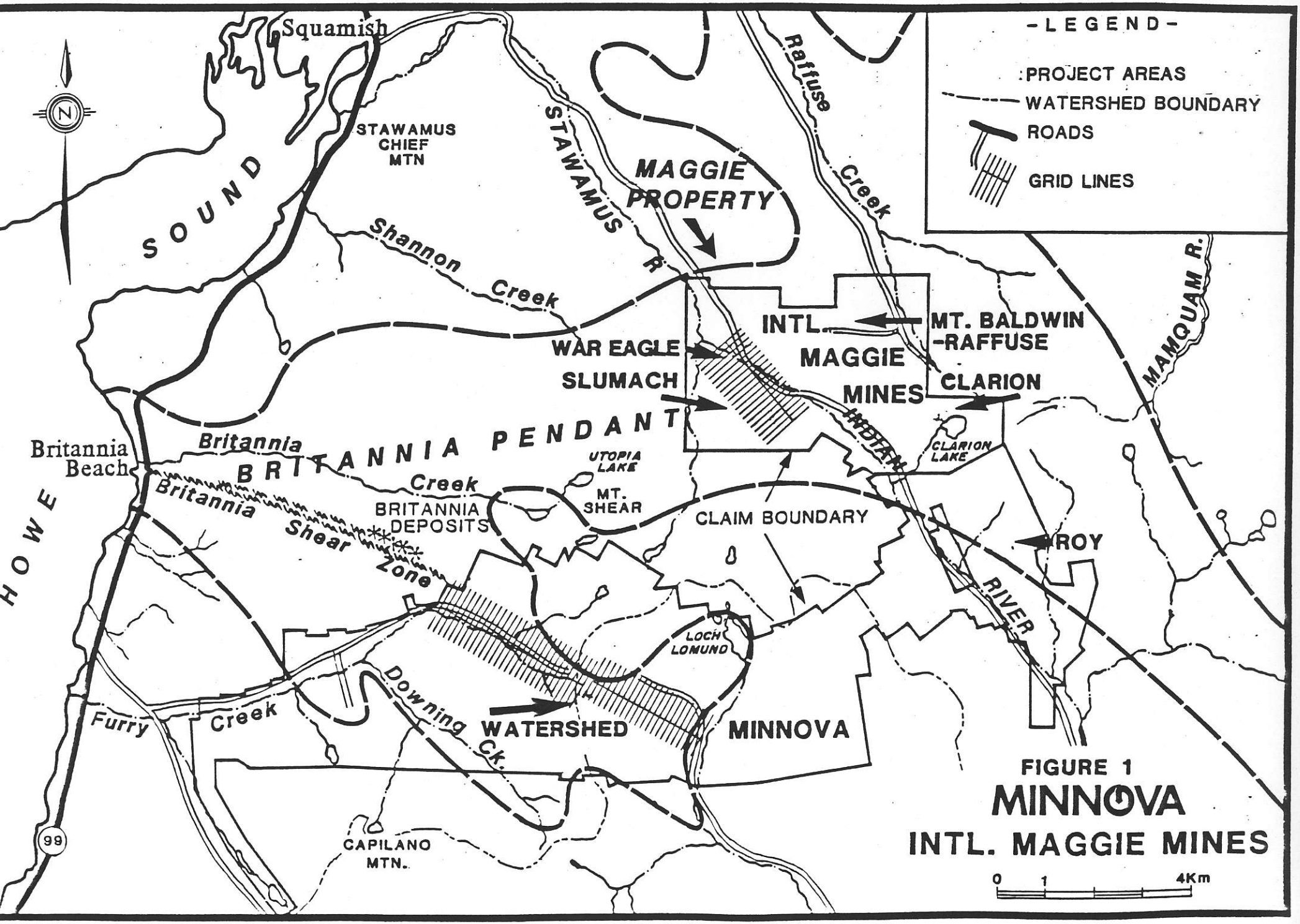
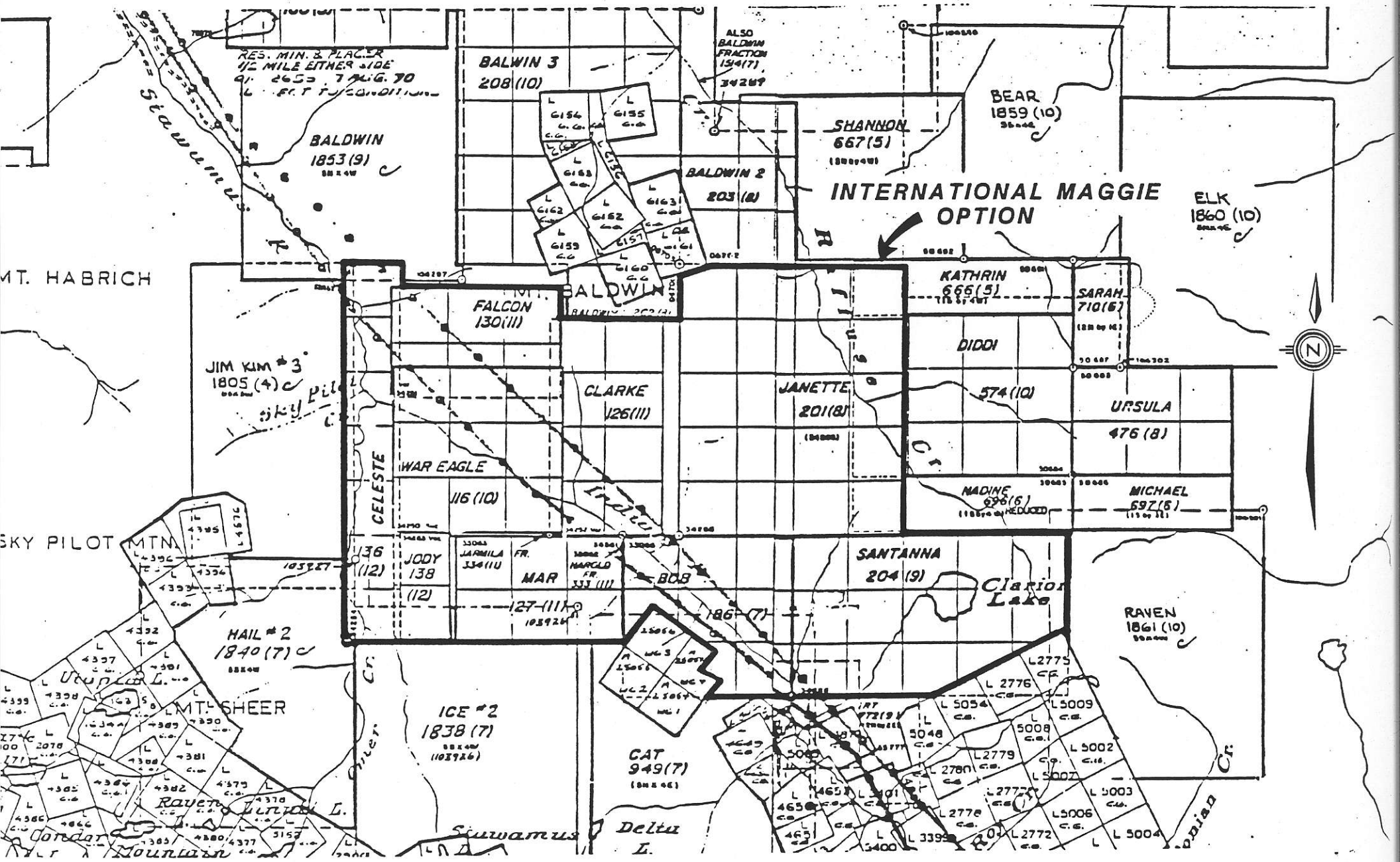


FIGURE 1

MINNOVA

INTL. MAGGIE MINES



NTS 92G/10W,11E

INTERNATIONAL MAGGIE OPTION

CLAIM MAP

MINNOVA

0 1 2km

1: 50,000

FIGURE 2

c) History

The Indian River - Stawamus River area has long been recognized as having good potential to host economic concentrations of ore similar to the nearby Britannia orebodies. Unfortunately drill testing targets did not begin until 1978 when Placer Development Ltd. optioned the property from Maggie Mines. In 1978 and 1979 Placer drilled 10 holes totalling 1310 metres in the area of the War Eagle adit (a 35 metre development by Maggie Mines) (see Figure 4). Placer terminated their option in 1980 and over the next two years Maggie Mines drilled 37 holes (4500 metres) almost entirely in the War Eagle area. Although well mineralized zones were frequently encountered no ore grade material was defined (Archibald, 1982). In April of 1987 Minnova Inc. reached an agreement with International Maggie Mines and immediately began an aggressive program of geological mapping, geophysics and soil sampling in the Indian River - Stawamus River valleys.

2. GEOLOGY

a) Regional Geology

The International Maggie Option is underlain by lower Cretaceous meta-volcanic/sedimentary rocks of the Britannia pendant, one of the many volcano-sedimentary "belts" within the Coast Plutonic Complex (CPC). The CPC consists of pre, syn and post tectonic plutons of granite to gabbro composition.

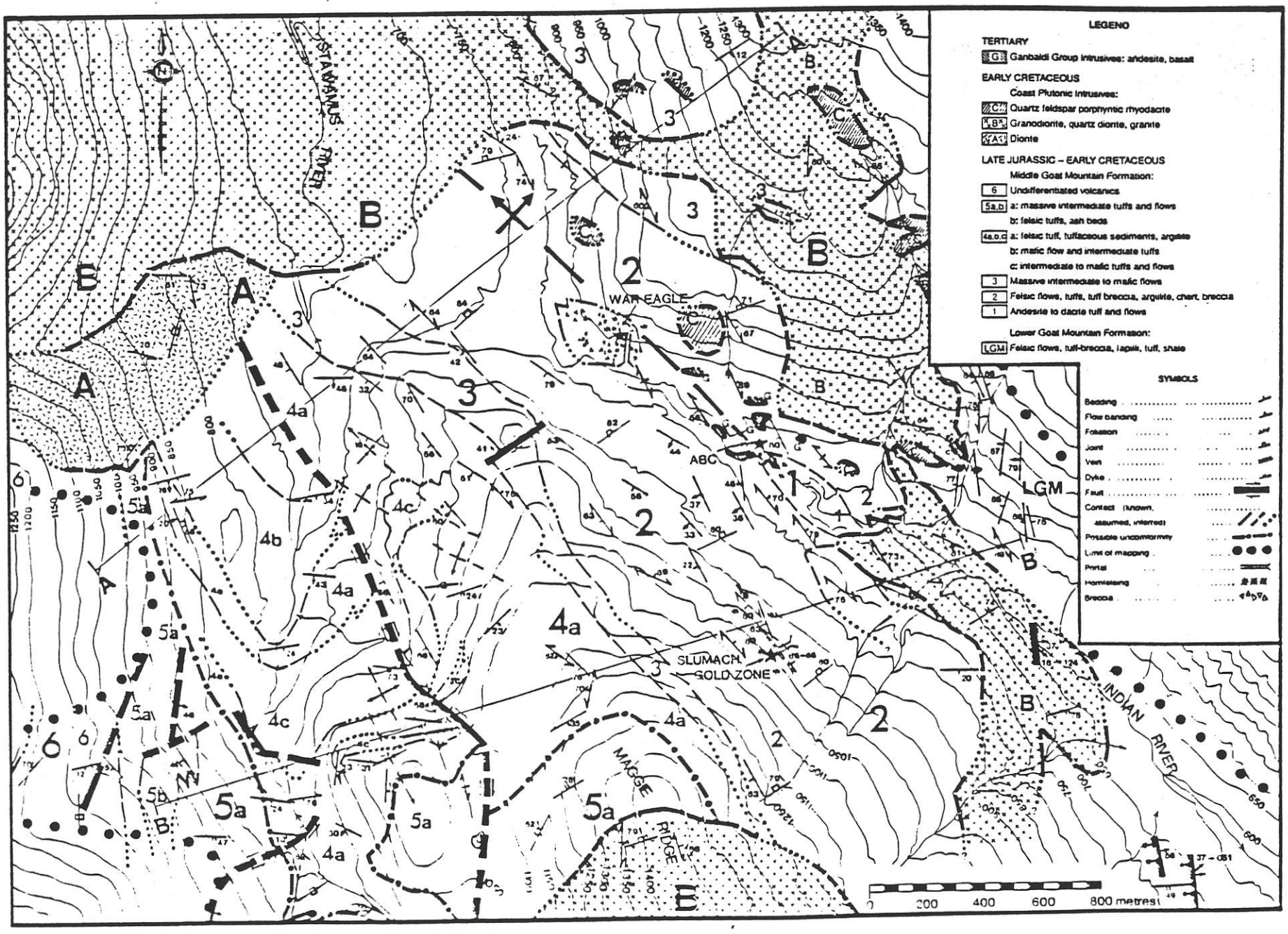
The project area is part of the Indian River volcano-sedimentary sequence which comprises of intercalated rhyolite flows, coarse andesitic and dacitic pyroclastic rocks and argillites. James (1929) assigned these rocks to the Lower and Middle Goat Mountain formation which lie stratigraphically below the Britannia Mine sequence. The Britannia orebodies yielded some 55 million tons of copper ore including a massive portion of 2.1 million tons grading 1.5% Cu, 4.4% Zn, 0.3 oz/T Ag and 0.28 oz/T Au.

b) Geology of the Maggie Property

The Indian River - Stawamus River area is underlain by volcanic and sedimentary rocks of the Britannia pendant Lower and Middle Goat Mountain formation. Medium to coarse grained plutonic rocks of the CPC disect and disrupt the volcano-sedimentary package. The metamorphic grade is typically lower greenschist facies to locally amphibolite facies in the contact aureole of later intrusions (see Figure 3).

Volcano-sedimentary units form a complex succession of mafic to felsic flows, pyroclastic and volcaniclastic sediments interbedded with argillite, chert, felsic ash and crystal tuffs.

The structure of the Indian River is dominated by a broad northwesterly trending and plunging anticline. The Slumach stratigraphy occurs on the southwest limb of this anticline and units dip moderately (45-60 degrees) to the southwest.



GENERAL GEOLOGY OF THE MAGGIE PROPERTY FROM REDDY (1987)

FIGURE 3

3. WORK COMPLETED

Six diamond drill holes were completed for a total 658 metres and approximately 450 metres of access road was constructed. Lithogeochemical samples were taken routinely throughout the holes and analysed for major and trace elements (SiO_2, TiO_2, Al_2O_3, CaO, Na_2O, K_2O, MgO, MnO_2, Fe_2O_3, Pb, Ba, Cu, Zn) at Min-En Laboratories in North Vancouver. Mineralized sections were analysed for Cu, Pb, Zn, Ba, Ag and Au. The drill core is stored at Irly Bird Lumber Ltd., 37870 Cleveland Avenue, Squamish, B. C.

4. DRILL HOLE SUMMARY AND RESULTS

The 1987 drill program was divided into two phases with the first part of the program designed to evaluate the Slumach veins while the second phase assessed the volcanogenic massive sulphide potential of the Slumach stratigraphy. Drilling by International Maggie Mines had shown the Slumach vein system to extend for 50 metres to the northwest and 25 metres downdip. The downdip and southeast strike potential remained unexplored.

Appendix II contains detailed drill logs with a preceding summary log. Drill core assays are included and can be found at the end of each drill log. All pyroclastic rocks have been classified according to Fisher as shown in Appendix I.

5. CONCLUSIONS

Diamond drill holes MM-01 to MM-04 failed to intersect Slumach type quartz-sulphide mineralization. In MM-02 and MM-03

mafic and felsic dykes occur in place of the mineralization while MM-01 and MM-04 did intersect quartz veining however no significant quantities of base metal were realized. The gold in the Slumach veins is tied to the chalcopyrite content. These results indicate the high grade Slumach vein system is a local phenomena with limited strike and dip potential. However further drilling should be done to investigate the possibility of fault offsets or reappearance of gold mineralization down dip and along strike away from the influence of dykes.

After a disappointing first phase of the program our attention turned to evaluating the stratigraphy in the Slumach area. The summer mapping program had delineated a highly anomalous rhyolite package of quartz phyric flows, lapilli tuffs, cherty ash that provided an exciting target. A broad biotite-cordierite alteration zone which hosts the Slumach veins and forms the footwall to this rhyolite package was also mapped out during the summer program. The biotite-cordierite hornfels is derived from an andesite lapilli and crystal tuff and is interpreted to be a contact metamorphosed equivalent of the pipe like alteration zones which accompany many volcanogenic massive sulphide deposits. The following is a list of stratigraphy as it was encountered:

1. Sediments
2. Rhyolite tuff-breccia
3. Andesite
4. Rhyolite flows, flow breccia, lapilli tuff
5. Andesite (biotite-cordierite hornfels)

(A number of mafic dykes interrupt this succession.)

The hanging wall sediments and Rhyolite tuff breccia units were unaltered suggesting they were deposited after the hydrothermal system, evident in footwall units, was active.

Unit 3 (Andesite) and Unit 4 (Rhyolite) both gave geochemically anomalous barium, zinc and lead values throughout. In MM-07 a 0.60 metre section graded 1.63% Zn, 1.39% Pb and 1.02% Ba with the adjacent sample returning 2.34% Ba and 0.51% Zn over 1.40 metres. The mineralization occurs as disseminations within siliceous veinlets flooding the matrix of a monolithic rhyolite lapilli tuff.

The footwall andesite shows considerable Na_2O depletion (<1.5%) and K_2O enrichment (>4.5%) in MM-08. MM-07 was drilled into a dyke swarm with fresh mafic units accounting for over fifty percent of the hole.

The results of the second phase of the program were extremely encouraging and road building work was done to provide access for further drill locations along strike and downdip.

REFERENCES

Archibald, G. F. (1982): "Summary Report on Work Peformed on the Janette, Mar and War Eagle Claims by Maggie Mines for period July, 1981 to July, 1982" unpublished report.

Fisher, R. V., Schmincke, H.U.: "Pyroclastic Rocks", Springer-Verlag, Berlin, 1984, Pg. 92.

James, H.T., 1929, Britannia Beach Map Area, B. C., GSC Memoir 158, 139p.

Reddy, D. G., Toss, J. V., and Godwin, C. I., British Columbia Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, 1987, Paper 1988-1, Pg. 296.

ITEMIZED COST STATEMENT

1987 DRILLING

Contractor: Frontier Drilling Ltd.		
657.5m at $59.86/metre		$39,354.96
Machine, Man, Cat hours		4,060.00
Materials		7,952.84
Mob - Demob		2,340.00
Road Building - Coast Valley Contracting		
Excavator 225 @ $85/hour		11,690.00
Blasting - Pacific Blasting Co. Ltd.		2,110.55
Salaries		
C. Burge	17 days @ $300/day	5,100.00
M. Shelbourne	17 days @ $150/day	2,550.00
Field Expenses		
4WD Truck	17 days @ $50/day	850.00
Food/Accommodation	34 days @ $50/day	1,700.00
Analyses		
68 core samples @ $22/sample		1,496.00
Report Preparation		
C. Burge	3 days @ $300/day	900.00
Drafting, typing, materials, etc.		1,000.00
	TOTAL	$81,104.35

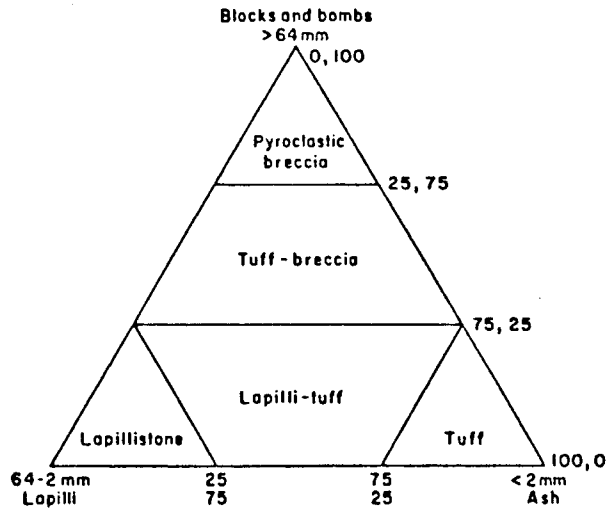
STATEMENT OF QUALIFICATIONS

I, Colin Burge, hereby certify that I hold a Bachelor of Science Degree (1981) from the University of Waterloo, Ontario, and that I have based conclusions contained in this report on knowledge of the area, my previous experience, and the results of the fieldwork conducted on the property.

Colin Burge
Exploration Geologist
Vancouver, BC

APPENDIX I

Classification of Pyroclastic Rocks



Classification of rocks formed from pyroclastic material (Fisher, 1966).

APPENDIX II

Drill Logs

PHASE I

SUMMARY LOG

Metres	MM-01
Purpose:	To intersect the Slumach quartz sulphide vein approximately 40 metres east and 100 metres downdip of the discovery outcrop.
0 - 1.5	Casing (pulled)
1.5 - 79.5	Andesite crystal-lapilli-tuff - moderate-strong biotite and cordierite hornfels - 1-2% disseminated pyrite and pyrrhotite from 24.8-41.7m hosts Quartz-sulphide stringers (veins) 55.75-56.10 Quartz with 3-5% pyrite and pyrrhotite, biotite dusting 69.1-69.6 Quartz with 3-5% pyrite and pyrrhotite, biotite dusting 74.6-74.9 Quartz with 3-5% pyrite and pyrrhotite, trace sphalerite
79.5 - 94.8	Rhyolite Dyke - massive, aphyric, very blocky - chlorite on fracture planes no mineralization
Result:	Slumach vein type mineralization not intersected.

MINNOVA INC.

HOLE NUMBER: MM-01 DRILL HOLE RECORD IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: MAGGIE
PROJECT NUMBER: 323
CLAIM NUMBER: MAR
LOCATION:

PLOTTING COORDS GRID: MAGGIE
NORTH: 150.00S
EAST: 1100.00E
ELEV: 927.00

ALTERNATE COORDS GRID: FIELD
NORTH: 11+ 0E
EAST: 1+50S
ELEV: 0.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 94.80m
START DEPTH: 0.00m
FINAL DEPTH: 94.80m

COLLAR GRID AZIMUTH: 180° 0' 0" COLLAR ASTRNONIC AZIMUTH: 225° 0' 0"

DATE STARTED: October 8, 1987
DATE COMPLETED: October 9, 1987
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: YES
HOLE SIZE: NX

CONTRACTOR: FRONTIER
CASING: 10 FT (PULLED)
CORE STORAGE: SQUAMISH

PURPOSE: TO TEST DOWNDIP EXTENT OF SLUMACH VEINS

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
30.50	-	-44° 0'	ACID	ok		-	-	-	-	-	
79.20	-	-43° 0'	ACID	ok		-	-	-	-	-	
94.80	-	-43° 0'	ACID	ok		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 3.01	CASING «OB»					
3.01 TO 10.00	AND XT-LT «AND XT-LT»	Pale blue spots brownish grey matrix C.g. and fine grained 3.3 - 5.9 Upper portion appears to be faintly feldspar porphyritic while lower section contains numerous pale blue cordierites with reaction rims. average size 3-5mm - elliptical 4.6 - 5.4 silicified zone - abundant 2-3mm vorny quartz veins |3.3-5.9| «RHY DYKE»		«mod-s cord,bio» Moderate-strong cordierite moderate-strong biotite	Nil	Poor recovery bad ground 10 - 10.5
10.00 TO 12.70	MAFIC DIKE «DYK»	CTC ground Dark green Fine grained and medium grained - a few carbonate filled amygdules as well as mafic filled elliptical ones. - also a few large siliceous amorphous looking things with alteration halos includes 10.0 - 11.2 fine grained brown rock likely a dike 11.2 possible fault - 2cm of mud CTC at	60	nil	nil	
12.70 TO 23.60	AMB. XT-LT «AND XT-LT»	Pale blue spots in brown grey matrix C.g. and fine grained Pale blue siliceous looking cordierites 30% of rock in fine grained biotitic matrix - numerous concentrations of lath shaped felsic xtls 1 x 4mm (feldspar?) - appear to co-exist with cords. - abundant vorny quartz veins and disseminations 1-2 mm thick. Weak foliation of lapilli CTC sharp	45	«s bio,cord» Strong biot. cord. development	«tr py, po» Trace py/pyh 22.2 - 1 x 3cm py/pyh sulphide clot pyrrhotite is magnetic variety	Geochem: 8226 17.8 - 20.8

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
23.60 TO 24.80	MAFIC DIKE «DYK»	Grey green Fine grained Good chill margin at upper CTC - massive - carbonate filled amydules - lower CTC lost		Nil	Nil	
24.80 TO 41.70	AND-LT «AND LT»	Lt blue to black spots in brownish matrix Medium grained Bluish almost black cordierites usually 2-3mm in size, jelly bean shaped 30% of rock in some places 37.2 vague felsic fragments		«s cord, bio» Intense cordierite development. Biotite strong to intense in lower few meters. Chlorite commonly on fracture planes.	«1-2% py/po» 1-2% phy/py disseminated in clots and a few 1-2mm veinlets	Spectacular dalmationite!
41.65 TO 43.00	MAFIC DYKE «DYK»	ctc sharp Green Fine grained Occasional carbonate filled flecks and possible amygdules. Chill margins.	70	Nil	Nil	
43.00 TO 79.50	AND XT-LT «AND XT-LT»	Blue black spots in brownish matrix Fine grained matrix, medium grained cords. Numerous concentrations of what appear to be feldspar crystals coexist with cordierite crystals Includes following veins ctc lost		«mod-s cord, bio» Moderate to str. cordierite, moderate biotite to str. 43 - 55 - weak alteration	«tr-1% py/po» Trace -1% diss. py/pyh	58.5 - 62.0 spots approaching giant size jelly bean shape 1 cm long axis Geochem: 8227 64.1 - 67.1 thin section 65.1
55.75 TO 56.10	MINERALIZED ZONE (?) «QTZ»	Quartz-sulph. stringer - transluscent to milky cross cuts at	55	Intense cord. and biotite bracket stringer for 20 - 30cm	«3-5% py/po tr cp» 3-5% py/po m.g. trace cp? 10% fine grained biotite Best described as a light dusting of brown-red colour, very fine grained py po	May have underestimated sulphides BCD 8077 55.6 - 56.1

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
69.10 TO 69.60	MINERALIZED ZONE (?) «QTZ»	Quartz-sulphide stringer - transluscent to milky with sulphide band or bed up to 20% py/po over 5 cm at	25	to c.a.	«3-5% py/po» 3-5% py/pyh over section 10-15% light dusting of fine grained biotite	BCD 8080 68.5 - 69.0
74.60 TO 74.90	MINERALIZED ZONE (?) «QTZ»	Quartz sulphide stringer Vuggy transluscent quartz			«3-5% py/po» 3-5% py/po. Biotite? dusting to 30% resembles chill margin.	BCD 8083 74.4-74.9
79.50 TO 94.80	RHY DYKE (?) «RHY DYK»	ctc at Light grey green - extremely massive - numerous hairline fractures - silicification may be fracture controlled END OF HOLE	45	chlorite on fracture planes 90.8 - 94.9 abundant elliptical siliceous looking lapilli (2-3 mm) possible cords.	nil nil	Very blocky difficult to drill Geochem 8228 80.3 - 83.3 Geochem 8229 91 - 94.0

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Zn %	Pb %	Ag g/T	Au g/T	Ag opt	Au opt	GEOCHE Ba %		COMMENTS
B077	55.60	56.10	0.50	.01	.02	.01	1.8	.04					

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	Zr %	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	Ba ppm
8226	17.80	20.80	3.00	60.2	17.87	.86	4.86	4.64	1.74	6.37	.29	.58	.005	13	119	23	1.3	5	560
8227	64.10	67.10	3.00	58.1	19.15	1.36	4.71	3.96	1.94	6.94	.26	.65	.005	20	121	15	1.2	5	330
8080	68.50	69.00	0.50	66.7	12.15	.70	3.22	3.65	.85	9.72	.17	.40	.005	62	163	28	1.0	5	190
8083	74.40	74.90	0.50	68.25	10.06	2.64	4.27	1.91	.89	8.99	.36	.33	.005	521	146	32	2.4	5	120
8228	80.30	83.30	3.00	74.6	12.97	.36	.58	1.87	5.53	1.46	.03	.16	.007	23	37	21	.4	10	1280
8229	91.00	94.00	3.00	73.87	13.14	.56	.43	2.96	4.95	1.47	.03	.20	.012	62	29	10	.5	5	1220

SUMMARY LOG

Metres	MM-02
Purpose:	To intersect the Slumach quartz sulphide vein 20 metres west and 70 metres downdip of the discovery showing.
0 - 1.5	Casing (pulled)
1.5 - 27.1	Andesite crystal-lapilli tuff Network silicification and flooding with strongly developed biotite - cordierite hornfels Weakly mineralized
36.8 - 39.0	Rhyolite dyke massive aphyric unaltered - no mineralization
39.0 - 55.2	Andesite (mainly) crystal-lapilli tuff moderate-strong biotite-cordierite hornfels pyrite 1-3% locally
Result:	Rhyolite dyke encountered where vein was projected to.

HOLE NUMBER: MM-02

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: MAGGIE
PROJECT NUMBER: 323
CLAIM NUMBER: MAR
LOCATION:

PLOTTING COORDS GRID: MAGGIE
NORTH: 173.00S
EAST: 1040.00E
ELEV: 934.00

ALTERNATE COORDS GRID:
NORTH: 1+73S
EAST: 10+40E
ELEV: 934.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 55.20m
START DEPTH: 0.00m
FINAL DEPTH: 55.20m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRNOMIC AZIMUTH: 225° 0' 0"

DATE STARTED: October 9, 1987
DATE COMPLETED: October 11, 1987
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: YES
HOLE SIZE: NX

CONTRACTOR: FRONTIER DRILLING
CASING: 1.5M PULLED
CORE STORAGE: SQUAMISH

PURPOSE: TEST DOWN DIP EXTENT OF SLUMACH VEINS

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
33.80	-	-42° 0'	ACID	OK		-	-	-	-	-	
55.20	-	-42° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 1.50	CASING «OB»					
1.50 TO 27.10	AND. XT-LT? «AND XT-LT»	Light grey to brownish grey Medium grained and fine grained Weak if any foliation developed in orientation of cordierites. Cordierites vague however most visible on dry core No crystals or fragments have survived this intense alteration. ctc lost		«s cord,bio» - Very impressive network sil'n - Myriads of 1-2mm silica veins as well as si flooded zones where wall rock appears to have been incorporated in vein as sharp angular fragments - resembles hydrofracturing. Cordierite development intense usually 4-5mm in size sometimes clustering and appearing larger not as clear as usual due to sil'n. Biotite strongly developed in matrix becomes intense toward lower CTC	«tr py» Trace py associated with occas. qtz vein	Geochem 8230 5.5 - 8.5 Geochem 8231 22.3 - 25.3
27.10 TO 36.80	RHY DYKE «RHY DYK»	Creamy white and purple Fine grained - extremely massive - numerous hairline fractures - homogeneous ctc lost			«tr py» Trace py.	Purple may be caused by hematization around hairline fractures.
36.80 TO 39.00	AND LT «AND LT»	Grey black Fine grained and medium grained Abundant cordierites in a fine grained biotitic matrix 37.5 - bad ground possible fault		«s cord,bio»	No sulphides visible	Spotted hornfels
39.00 TO 39.20	FAULT «FLT»	3 cm of gouge, the rest is a rubble zone ctc lost			None visible	Poor recovery Geochem 8232 38.7 - 39.7

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
39.20 TO 39.80	RHY DYKE (?) «RHY DYK»	Purple Mottled calicoe - vague fragments (?) of various size and compositions - massive looking ctc lost				Possible silicified fragmental. Poor recovery
39.70 TO 41.00	MAFIC DYKE «DYK»	Grey Fine grained - very fine grain - massive - homogeneous				
41.00 TO 41.60	RHY (?) + QTZ DYKE «RHY DYK»	White to transluscent green Medium grained and fine grained Quartz - vuggy and indistinct - more like a flooding - fragments could be from adjacent units but very vague		Silica	Trace py	Geochem 8233 41.0 - 41.5
41.60 TO 45.20	AND-DAC LT «AND-DAC» «LT»	Purple grey Medium grained 3-4 cm size very vague porphyritic (pyrite flecks) fragments in some places while others exhibit intense cordierite hornfels		«mod-s cord,bio» Cordierite ranges from moderate to strong Biotite moderate to strong	«1% py» 1% py	Some siliceous looking lapilli could be cordierite, some larger ones are more likely frags with diffuse boundaries, possible pumice fragments
45.20 TO 46.20	MAFIC DYKE «DYK»	ctc sharp at ------ Green Fine grained - good chill margins - massive - carbonate filled squashed vesicles in middle. lower ctc diffuse	60		Nil	
46.20 TO 55.20	AND-DAC LT «AND-DAC» «LT»	Purplish grey Medium grained Moderate foliation at 70 when fragments visible as described in 41.6 - 45.2 END OF HOLE	70	«mod cord,bio» Cordierite with some chlorite/ sericite? moderate cord/biotite locally	«1-3% py» 1-3% py locally	Geochem 8234 50.4 - 53.4

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	Zr %	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	Ba ppm
8230	5.50	8.50	3.00	65.06	15.48	.61	4.34	2.54	2.05	6.52	.27	.48	.005	13	129	17	1.5	5	300
8231	22.30	25.30	3.00	67.08	14.53	.77	3.93	2.02	2.17	6.42	.23	.45	.005	21	127	19	1.3	10	280
8232	38.70	39.70	1.00	71.12	14.81	.97	.58	4.23	2.56	2.95	.07	.35	.020	111	286	11	1.3	5	960
8233	41.00	41.50	0.50	70.41	14.66	2.06	.84	3.30	3.13	2.82	.14	.31	.022	42	116	19	0.3	5	850
8234	50.40	53.40	3.00	55.96	21.89	.14	4.05	.14	5.76	8.18	.24	.88	.008	60	153	17	0.8	10	1040

SUMMARY LOG

Metres	MM-03
Purpose:	To intersect the Slumach quartz sulphide vein approximately 40 metres east and 50 metres downdip of the discovery outcrop.
0 - 28.4	Andesite Textures lost in alteration Strong silica flooding, veins and clots. Strong cordierite, moderate to strong biotite development.
28.4 - 44.6	Dyke Swarm includes: Rhyolite Dyke massive, aphyric homogeneous, unaltered fresh block unit with numerous hairline fractures. No mineralization. Mafic Dykes A feldspar porphyritic and an aphyric variety both containing carbonate filled amygdules, weakly developed chill margins, trace pyrite.
44.6 - 58.2	Andesite Strong to intense cordierite development with biotite matrix. Trace pyrite.
58.2 - 61.6	Mafic Dyke and faults.
61.6 - 91.4	Andesite Intense cordierite development, weak to moderate biotite, 2-3% pyrite. Alteration restricted to definite intervals within unit.
Result:	A dyke swarm occurs at the postulated intersection depth. Slumach type mineralization not seen.

HOLE NUMBER: MM-03

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: MAGGIE
PROJECT NUMBER: 323
CLAIM NUMBER: MAR
LOCATION:

PLOTTING COORDS GRID: MAGGIE
NORTH: 183.00S
EAST: 1100.00E
ELEV: 950.00

ALTERNATE COORDS GRID: FIELD
NORTH: 1+83S
EAST: 11+ 0E
ELEV: 950.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 91.44m
START DEPTH: 0.00m
FINAL DEPTH: 91.44m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRNOMIC AZIMUTH: 225° 0' 0"

DATE STARTED: October 11, 1987
DATE COMPLETED: October 13, 1987
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: YES
HOLE SIZE: NX

CONTRACTOR: FRONTIER
CASING: NONE REQUIRED
CORE STORAGE: SQUAMISH

PURPOSE: TO TEST THE EXTENT OF SLUMACH VEIN SYSTEM

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
24.70	-	-45° 0'	ACID	OK		-	-	-	-	-	
52.10	-	-45° 0'	ACID	OK		-	-	-	-	-	
72.50	-	-45° 0'	ACID	OK		-	-	-	-	-	
91.40	-	-45° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 17.00	ANDESITE XT-LT «AND XT-LT»	Pale blue spots on brown. Fine grained and medium grained Fairly massive. Cordierite development dominate where present feldspar crystals occur in chaotic random manner. Occasional vorny transluscent silica veinlet 1-3mm. Contact lost.		«mod-s cord,bio» Cordierite moderate to strong biotite moderate to strong. Crystal visible in some section as alter'n not as intense.	Nil 45.0 - 45.5 Quartz vein 1-2% pyrite in clusters. Limonite stain? 14.90 - 15.45 Quartz vein 3-5% py. Transluscent to grey quartz.	 Geochem 8235 13.7 - 14.2 Geochem 8236 14.9 - 15.45
17.00 TO 19.40	MAFIC DYKE «DYK»	Olive green. Distinctly feldspar porph. and pitted. Very massive. Lower contact lost.				Flat lying type
19.40 TO 28.40	AND. LT? «AND LT»	Grey Fine grained. Vague blue black cordierites barely discernible through alteration (silicification)		«s cord.bio» Strong silica flooding - some vorny veining, some clots. Strong cordierite/biotite.	«tr py» Trace pyrite.	 Good candidate to host vein. Geochem: 8237 24.4 - 27.4
28.40 TO 30.30	MAFIC DYKE LT (?) «DYK»	Grey green Fine grained. Massive amorphous looking vague round-elliptical blebs very faint, lighter green. Are they fragments? Possible chill at lower 10 cm. Lower contact	 45	«wk bio» - weak biotite	«tr py» Trace pyrite	 Could this be the culprit that dykes out the vein at end of the adit. Geochem 8238: 28 - 30.
30.30 TO 32.65	RHY. DIKE «RHY DYK»	White to pale grey Very fine grained. Extremely massive. Numerous veinlets with white selvages. Blocky, homogenous		Fresh		Note lower contact has xenoliths.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
32.65 TO 35.60	DYKE (?) and/or AND. XLT-T «DYK or» «AND XLT-T»	Grey green Fine grained. Massive Faintly feldspar porph. 33.2 Fault loss H20 marked by drillers		«wk bio» Comparitively fresh. Weak biotite in matrix		Note upper contact has xenoliths or rip-ups of above.
35.60 TO 39.00	RHY. DYKE «RHY DYK»	Purple grey and white Fine Grained Extremely massive, blocky. Hairline fractures pitted look				As previously described 30.3 to 32.65
39.60 TO 40.65	MAFIC DYKE «DYK»	contact lost Fine grained Feldspar porph. - chaotically arranged. Massive, 7% xlts 1-2mm resembling flecks. Lower contact ----------	55	«wk bio» Weak biotite in matrix.	«tr py» Trace pyrite	Geochem 8239 39.6 - 40.6 Fragmental look (xlt-tuff?)
40.65 TO 41.40	RHY. DYKE «RHY DYK»	White grey Very fine grained Extremely massive As described 30.3 - 32.65 Sharp lower contact	70			
41.40 TO 42.70	MAFIC DYKE «DYK»	Grey greeen Fine grained. Massive Carb. infilled amygdule variety 42.7-42.73 «FLT» 42.7 - fault, 3cm rubble zone.				
42.70 TO 44.60	MAFIC DYKE (?) «DYK»	Grey green Fine grained Massive. Vague mafic flecks Couple of silica filled amydules homogeneous		«wk bio» Weak biotite		Possible tuff? XTL-t

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
44.60 TO 50.00	AND LT «AND LT»	Pale Cordierites up to 1 cm along long axis, some zones up to 50% cordierites		«i cord,bio» Intense cordierite hornfels. Strong biotite in matrix.		Giant spots developed throughout zone
50.00 TO 51.10	MAFIC DYKE «DYK»	upper contact --- Green Fine grained Carb. infilled aayg. Good chill margins lower contact ground	60			
51.10 TO 58.60	AND. LT? «AND LT?»	Light grey and dark blue black spots. Medium grained, fine grained Abundant cordierite to 35% of rock as large as 1 cm. Minor si. veining.		«i cord,bio» Intense cordierite and biotite.	«tr py» Trace pyrite Quartz vein parallel to core axis. 56.7 - 56.9 and silicified volcanic contains trace pyrite.	51.0 - 53.3 Poor recovery Giant spots 54.9 - 56.6 Geochem split 8240 56.7 - 57.3
58.20 TO 58.60	FAULT «FLT»	40 cm of muddy gouge, no visible sulphides.				Geochem 8241 58.2 - 58.6
58.60 TO 61.50	MAFIC DIKE «DYK»	Grey green Massive looking Occasional screens of crystal tuff but predominately amorphous non-descript. unit. Quartz and carb. veins 1-3mm occasionally.		Fresh by comparison to neighbouring units.	Nil	Possible tuff Geochem 8242 59.0 - 61.0
61.50 TO 61.60	FAULT «FLT»	10 cm gouge				
61.60 TO 73.90	AND LT? (ALTERED) «ALTD. AND» «LT»	Black and light brown to light grey Siliceous-looking to blue black cordierites dominate the rock. Some silica veining. Some cordierites approaching 1cm size.		«i cord» Intense cordierite development. Up to 40% of rock black cordierites - white silica veining	«tr-1% py» Trace -1% pyrite	71.9 mislatch. Giant spot zone. Geochem 8243 63 - 66.0 Thin section 70.8 possible altered

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
						and-dac
73.90 TO 91.40	AND LT «AND LT»	ctc gradational Light purple grey Fine grained Weak to moderate foliation at ---------- Vague siliceous looking shapes - possibly remnant fragments. Occasional silica veinlets < 2 cm 76.9 1 cm band of cordierites or spherulites? softer than quartz? ---------- Includes possible finer biotite rich bed 91.3 - 91.4 fine tuff? ---------- END OF HOLE	55 45 25	«vk-mod cord, mod bio» Moderate biotite in matrix. Weak to moderate cordierite development - seems to be restricted to certain zones	«2-3% py» 2-3% py. disseminated and very fine grain. 82.0 Quartz vein 5cm, 3% py.	Could be the same unit seen in the bottom of MM-02 Geochem 8244 79.0 - 82.0

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	Zr %	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	Ba ppm
8235	13.70	14.20	0.50	71.27	11.86	.32	3.02	3.38	1.05	6.15	.17	.39	.005	229	109	34	1.0	5	420
8236	14.90	15.45	0.55	82.98	5.02	.06	1.29	.53	1.27	6.16	.08	.17	.005	290	158	22	1.2	30	600
8237	24.40	27.40	3.00	73.27	11.04	.75	3.55	1.05	1.75	5.51	.18	.36	.005	13	106	11	0.8	5	350
8238	28.00	30.00	2.00	48.58	18.4	9.78	6.56	1.85	1.51	9.48	.29	1.01	.005	68	81	10	2.1	5	280
8239	39.60	40.60	1.00	49.21	19.39	7.17	4.93	3.38	2.23	9.66	.30	1.16	.005	147	104	14	2.8	5	260
8240	56.70	57.30	0.60	76.19	11.03	.56	2.34	.75	2.40	3.66	.11	.57	.005	36	77	18	0.7	5	670
8241	58.20	58.60	0.40	55.97	17.53	2.97	6.46	1.86	2.80	8.65	.38	.84	.005	84	147	14	3.2	5	320
8242	59.00	61.00	2.00	50.13	18.75	7.66	5.87	2.58	1.56	9.48	.31	1.11	.005	57	100	15	2.0	10	460
8243	63.00	66.00	3.00	67.13	14.8	.35	5.32	1.14	2.80	5.32	.24	.54	.005	9	196	22	0.9	5	440
8244	79.00	82.00	3.00	61.98	16.5	.18	4.3	.24	5.65	7.56	.34	.70	.005	129	192	24	1.9	5	1840

SUMMARY LOG

Metres	MM-04
Purpose:	To intersect the Slumach quartz sulphide vein 80 metres east along strike and 50 metres downdip of the discovery outcrop.
0 - 19.4	Andesite moderate silicification Strong to intense cordierite and biotite development trace pyrite
19.4 - 30.8	Rhyolite Dyke extremely massive, aphyric homogeneous, numerous hairline fractures no mineralization
30.8 - 48.5	Andesite strong to intense cordierite contains quartz flooded zone from 37.8 to 45.3 with trace to 1% pyrite
Results:	Quartz - flooded zone with no base metal values, could be the strike extension of Slumach.

MINNOVA INC.

DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: MAGGIE	PLOTTING COORDS GRID: MAGGIE	ALTERNATE COORDS GRID: FIELD	COLLAR DIP: -45° 0' 0"
PROJECT NUMBER: 323	NORTH: 190.00S	NORTH: 1+90S	LENGTH OF THE HOLE: 48.50m
CLAIM NUMBER: MAR	EAST: 1150.00E	EAST: 11+50W	START DEPTH: 0.00m
LOCATION: SLUMACH	ELEV: 955.00	ELEV: 0.00	FINAL DEPTH: 48.50m

COLLAR GRID AZIMUTH: 180° 0' 0"   COLLAR ASTRNOMIC AZIMUTH: 225° 0' 0"

DATE STARTED: October 13, 1987	COLLAR SURVEY: NO	PULSE EM SURVEY: YES	CONTRACTOR: FRONTIER
DATE COMPLETED: October 14, 1987	MULTISHOT SURVEY: YES	PLUGGED: YES	CASING: NONE REQUIRED
DATE LOGGED: 0, 0	RQD LOG: YES	HOLE SIZE: NX	CORE STORAGE:

PURPOSE: TO TEST EASTERN EXTENT OF SLUMACH VEIN SYSTEM

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
37.80	-	-45° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 14.00	AND LT «AND LT»	Pale blue spots in grey matrix coarse to fine grained Intense cordierite.		«s cord,bio» Cordierite strong to intense cord and biotite. Moderate silicification in wormy	«tr py» tr py	
		The pale blue rounded siliceous looking clasts occasionally show weak fol'n. Cords up to 40% of rock. Usually 5-6mm size. Contact lost	70	veinlets (transluscent) 11.5 - 14.0 Str. silica veining and flooding, biotite strong no cords. Silica has formed the matrix of a pseudo breccia with angular frags. of wall rock making up the framework - weaker version of the hydrofracturing described in the top of MM-02		Geochem 8245 11.5 - 14.0
14.00 TO 15.00	MAFIC DYKE «DYK»	Green Fine grained Faintly feldspar (?) porph. Massive. No si. veining lower contact	50	Nil	Nil	Certainly a dyke. May be similar to faintly porph. ones seen in MM-03
15.10 TO 19.40	AND LT(?) «AND LT?»	Light green to reddish brown Fine grained and medium grained Difficulty in detecting rock type through alteration. Strong silicification forming pseudo-breccia between 17.2 to 17.5 18.3 - 19.14 Pale green very blocky Contact ground		Silica veining remains. Strong crosscutting veinlets and disseminations. 16.2 - 16.8 Biotite strong	«1-2% py» 1-2% py 2% py	Geochem 8245 15.3 - 18.3 18.3 - 19.4 Poor recovery very blocky.
19.40 TO 30.80	RHY. DYKE «RHY DYK»	Grey to light purple and white Extremely massive, blocky, brittle Numerous hairline fractures. 20.3 - 20.7 Rubble zone possible fault. 26.1 - 26.4 Two 5cm spherulitic (?) zones and screen of		Nil	Nil	Begins with spherulitic (?) zone as seen in surface mapping at exposure near C.Z. Blocky ground difficult drilling - 2 ft. runs frequent Geochem 8247 22.9 - 25.9

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		biotite altered andesite between them Contact ground				
30.80 TO 32.50	MAFIC DYKE «DYK»	Dark Grey to black Fine grained Massive homogeneous No silica veining 32.4 Fault gouge -2cm, contact lost		Nil	«tr py» Trace py.	Could be And.
32.50 TO 33.00	AND. T (?) «AND T?»	Light green Fine grained Silica veined and si. blebs inm.		Nil	Nil	
33.00 TO 37.40	MAFIC DYKE «DYK»	Olive green Fine grained and medium grained Feldspar porph., 2-3 mm Crystal size make up 7% of rock		Nil	Nil	Garibaldi type
37.40 TO 45.80	AND (?) TUFF «AND T?»	Abundant silica masking any texture vuggy and porous 40.4 - 10cm Fault zone, rubble Faulted contact 10 cm rubble and gouge		«s cord» Silica veining and flooding where silica is not prevalent cordierite intense	«tr-1% py» Trace -1% ov.	Could be AND-DAC unit. *Could represent the east extension of the Slumach zone. Very difficult drilling Reasonable recovery considering approx. 80% Geochem 8248 37.8 - 39.3 Geochem 8249 39.3 - 40.8 Geochem 8250 40.8 - 42.3 Geochem 8251 42.3 - 43.8 Geochem 8252 43.8 - 45.3 Poor recovery approx. 60%

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
45.80 TO 47.20	MAFIC DYKE <DYK>	Green Fine grained Massive. Fine carbonate flecks showing preferred orientation at ----------	50	Nil	Nil	
47.20 TO 48.50	AND ? <AND?>	Blue black spots. Medium grained, coarse grained Cordierites to 6-8mm size in biotite matrix. END OF HOLE		<s cord.bio> Intense cordierite minor si. veining. Str. biotite in matrix.		Decision taken to shut hole down as we appear to be through silicified zone with still no base metal.

SUMMARY LOG

Metres	MM-07
Purpose:	To test the baritic, zinc-rich rhyolite intersected in M-24 for VMS mineralization 50 metres downdip.
0 - 12.2	Overburden
12.2 - 85.4	Rhyolite lapilli tuff, tuff breccia heterolithic 20% mafic dykes (2-3m thick) occasional silicified zones no sulphides
85.4 - 150.1	Rhyolite lapilli tuff, minor ash monolithic, 2-3% py 89.0-95.4 Up to 1% galena, 1% sphalerite and 1% pyrite includes: 91.0-91.6 2-3% galena, 1-2% sphalerite Sulphide horizon, 10-25% pyrite 113.8 to 114.4 60% of unit is mafic dyke up to 10 metres thick.
150.1 - 195.4	Andesite crystal lapilli-tuff moderate biotite alteration 1-2% pyrite 60% of unit is mafic dyke 189-195.4 Intense cordierite, strong biotite
Results:	Disseminated and vein-type mineralization at the top of the anomalous rhyolite package returned values of 1.5% Zn and 1.4% Pb over .6 metres. Numerous dykes interupt stratigraphy in this hole.

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	Zr %	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	Ba ppm
8245	11.50	14.00	2.50	65.97	14.74	.65	3.99	1.79	3.85	5.94	.22	.44	.005	8	145	17	1.5	5	1260
8246	15.30	18.30	3.00	64.7	15.39	1.29	3.84	2.84	2.51	6.32	.27	.45	.005	30	178	19	1.8	5	720
8247	22.90	25.90	3.00	74.75	12.94	.37	.55	2.06	5.44	1.28	.03	.16	.005	13	60	13	.1	10	1340
8248	37.80	39.30	1.50	61.97	15.20	.34	6.70	.18	2.61	9.47	.36	.68	.005	61	210	16	1.7	5	200
8249	39.30	40.80	1.50	65.58	14.33	.25	5.78	.14	2.36	8.16	.30	.67	.005	39	180	13	1.2	5	210
8250	40.80	42.30	1.50	70.28	12.43	.28	4.66	.27	2.18	6.73	.26	.55	.005	29	187	19	1.3	5	220
8251	42.30	43.80	1.50	64.67	15.22	.22	5.16	.24	2.65	8.35	.34	.69	.005	32	200	18	1.4	5	250
8252	43.80	45.30	1.50	63.61	15.57	.24	6.06	.14	2.93	8.03	.37	.70	.005	71	237	22	1.7	5	310

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: MAGGIE
PROJECT NUMBER: 323
CLAIM NUMBER: MAR
LOCATION:

PLOTTING COORDS GRID: MAGGIE
NORTH: 312.00S
EAST: 900.00E
ELEV: 1048.00

ALTERNATE COORDS GRID: FIELD
NORTH: 3+12S
EAST: 9+ 0E
ELEV: 1048.00

COLLAR DIP: -85° 0' 0"
LENGTH OF THE HOLE: 195.40m
START DEPTH: 0.00m
FINAL DEPTH: 195.40m

COLLAR GRID AZIMUTH: 360° 0' 0"
COLLAR ASTRNOMIC AZIMUTH: 45° 0' 0"

DATE STARTED: October 21, 1987
DATE COMPLETED: October 25, 1987
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NX

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 12.2M
CORE STORAGE: SQUAMISH

PURPOSE: TO INTERSECT POSSIBLE EXHALITIVE HORIZON ENCOUNTERED IN M-24 50M DOWNDIP

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
32.90	-	-83° 0'	ACID	OK		-	-	-	-	-	
69.20	-	-82° 0'	ACID	OK		-	-	-	-	-	
100.90	-	-82° 0'	ACID	OK		-	-	-	-	-	
132.50	-	-82° 0'	ACID	OK		-	-	-	-	-	
148.10	-	-81° 0'	ACID	OK		-	-	-	-	-	
160.02	-	-81° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 12.20	CASING <OB>					
12.20 TO 12.65	MAFIC DIKE <DYK>	Olive green. Fine to medium grained. Fsp porph. Numerous 1-2mm euhedral fsp xtls.		Nil	Nil	flat-lying variety?
12.65 TO 18.10	DAC XT & FAULTS <DAC XT> <+ FLT>	Brown and grey. Fine and medium grained. Several 10cm slugs of what appear to be volcanic separated by gouge and blocky rubble zones.		Nil	Nil	
18.10 TO 22.40	DAC XT <DAC XT>	Purple and grey. Fine grained. Vague poss. fsp phenocrysts visible in some places. Poss. larger fragments very vague or individual beds. Weak silica veining 1-2mm barren.		Weak biotite	Nil	Geochem 8126 18.0 - 21.0
22.40 TO 22.70	FAULT <FLT>	30 cm gouge				
22.70 TO 29.40	RHY LT. TBX <RHY TBX >	Marbled purple and white. Coarse grained. Large nebulous felsic fragments commonly 4-6cm as well as small 1-2cm in purple matrix. Poor sorting. Felsic fragments resemble quartz veining in colour.		Silicified?	Nil	Geochem 8127 26.0 - 29.0 Vapour phase alteration? Could this be the Maggie version of the green and white?
29.40 TO 32.10	MAFIC DIKE <DYK>	ctc sharp Dark green. Fine & medium grained. Fsp porph. variety.	35	Nil	Nil	
32.10 TO 48.30	RHY LT <RHY LT>	Marbled purple and white. Vague nebulous siliceous lapillistone (?) fragments of various sizes. Some faint lapilli appear to be porphyritic poss. pumice fragments. A few vague possible spherulitic screens. 38.1 - 42.3 Purplish matrix.		<si> Strong silica.	Nil	Could be an alteration phenomena Geochem 8128 44.1 - 47.1 Densely packed recrystallized welded tuff. Thin section - 38.1 Look for high temperature Si minerals

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
						Tridymite Cristobalite
48.30 TO 50.80	DIKE «DYK»	ctc sharp approx. White with green spots. Intrusive looking. Qtz matrix with numerous pyroxene or hornblende flecks 1-2mm. Occasional nebulous lapilli suggest this may be some altered form of above unit. 32.1 - 48.3 Fol'd at ----------	50 20	«si» Silica. Minor light green minor epidote?	Nil	Geochem 8130 48.3 - 50.3
50.80 TO 54.00	MAFIC DIKE «DYK»	Light grey, brown. Medium to fine grained. Numerous light grey to transparent 1-2mm phenos.		«vk bio» Very fine grained biotite in matrix.	«tr py» Tr py in veinlets	
54.00 TO 54.30	RHY LT «RHY LT»	Marbled purple and grey. Medium to fine grained. Possible lapilli as described 32.1 - 48.3				
54.30 TO 55.20	MAFIC DIKE «DYK»	Grey. Fine grained. As previously described 50.8 - 54.- Lower ctc -----	 10			
55.20 TO 65.90	RHY LT «RHY LT»	Marbled purple and grey unit. Medium grained. As previously described 32.1 - 48.3 Number and % of smaller 2-3mm lapilli increases down hole. Below 64.0 able to see fragments quite easily - sub angular- heterolithic nature mostly less than 1cm.		Silica becomes weaker towards base.	Nil	Geochem 8129 60.1 - 63.1
65.90 TO 67.50	MAFIC DIKE «DYK»	Green. Fine grained. Few smaller white poss. amygdules otherwise fine grained. Lower ctc. Lower ctc --	 45	Carbonate reaction	Nil	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
67.50 TO 74.10	RHY LT <RHY LT>	Purple and white. Medium to coarse grained. Abundant sub-angular lapilli felsic lithics dominate. Mottled purplish matrix, frag-rich Ctc broken		Nil	Nil	
74.10 TO 75.10	MAFIC DIKE <DYK>	Grey, green. Fine grained. Fine grained homogeneous variety, quite massive terminated by fault				
75.10 TO 75.60	FAULT <FLT>	Rubble zone				40 cm core lost
75.60 TO 76.90	RHY LT <RHY LT>	White and green. Medium grained. Fragment rich sub-angular felsic lapilli Lower ctc.	30	Nil	<1-2% py> 1-2% py	
76.90 TO 84.50	MAFIC DIKE <DYK>	Brown and grey Medium and fine grained. Fsp phenocrysts (?) abundant sizes 1-2mm Chaotic arrangement. Massive. Second dike below 81.1 has chills of about 30 cm with no phenocrysts. |78.1| <FLT> 78.1 Fault 5cm gouge 83.1 Fault Rubble zone |83.1| <FLT>		Nil	<3-5% py> 3-5% py f.g from 76.9-78.5m	Geochem 8131 76.9-78.4 Actually two dikes Ctc at 45 deg. at 81.1m
84.50 TO 87.40	RHY LT <RHY LT>	White, purple Fine and medium grained. Vuggy, stippled with fine grain ooss, ashy bed with diss py between 87.0 - 87.4 Lower ctc. |86.0-86.2| <FLT> Fault - rubble zone 20cm	45		<3-5% py, tr ga> 3-5% py (87.0 - 87.4) Tr. ga	Geochem 8132 85.9 - 87.4 30cm lost

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
87.40 TO 89.00	MAFIC DIKE «DYK»	Grey, green. Fine and medium grained. Fsp porph. variety contains large xenolith of felsic material 2 x 3cm. Ctc vanders at low angle to C.A.		Nil	Nil	
89.00 TO 95.40	RHY LT «RHY LT»	White. Fine to medium grained. Fragment supported sub-angular felsic lithics up to 4cm in size Vague greenish spots possibly original cordierites?		«si» Strong - moderately silicified.	«tr ga,py,sph» Tr-1% ga Tr-1% py Tr sph Sulphides occur in silica veinlets within matrix of rock	Geochem 8133 89.6 - 91.0 Assay 8134 91.0 - 91.6 2-3% ga Tr - 1% sph in matrix silicification Geochem 8135 91.6 - 93.0
95.40 TO 99.90	MAFIC DIKE «DYK»	Dark green. Faintly fsp porph. Massive, homogenous		Epidote mantles Pyrite veinlet	«tr py» Pv tr	
99.90 TO 100.10	RHY (?) «RHY ?»	White and yellow brown. Fine grained. heterogenous mix			«1% py» 1% pv	
100.10 TO 102.70	MAFIC DIKE «DYK»	Grey, green. Fine grained. Massive, faintly fsp porph. contact at ----	05	Nil	Nil	
102.70 TO 103.90	RHY LT «RHY LT»	Grey to white. Fine and medium grained. Numerous felsic lithics dominate. Commonly 2-3cm size.		Silica, limonite stain	«3-5% py» Py 3-5% fine grained,in matrix	101.7 - 102.1 Ctc runs along core axis Geochem 8136 102.7 - 103.7
103.90 TO 110.20	MAFIC DIKE «DYK»	Grey, green. Fine grained. Homogeneous. Massive, occasional si veinlets.		Epidote veins at base.	«tr py» Tr. py	Geochem 8137 105.7 - 108.7 Dike?

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
110.20 TO 114.40	RHY? LT? or ASH «RHY? LT?» «or ASH»	White, grey. Fine grained. Strongly fol'n. Thin lensey laminae of a white material possibly stretched out felsic fragments Silica veinlets appear to be injected parallel to fol'n.	30	Strong soots possibly condierites.	[113.8 - 114.4] «10-25% py» 10-25% fine grain sulphides (py) including massive pyrite frags.	Correlates with faulted pyritic mud zone in MM-06? Geochem 8138 112.9 - 114.4
114.40 TO 116.10	MAFIC DIKE «DYK»	Green. Fine grained. Massive nondescript.		3 or 4 epidote veins 2-3cm thick containing silica.	«tr py» Tr py in epi veins	
116.10 TO 117.00	FAULTED PYRITIC «FLT PY»	3cm gouge Mud volc'c.			«3-5% py» 3-5% py	
117.00 TO 129.30	MAFIC DIKE «DYK»	Grey, green Fine grained. Very faintly fsp porphyritic otherwise homogeneous and nondescript. No chill apparent. Lower ctc sharp at	40	121.7 Epidote vein 3-4cm.	Nil	Blocky ground Geochem 8139 122.4 - 125.4
129.30 TO 131.60	RHY (?) «RHY ?»	White with dark patches. Fine grained. Massive, white, siliceous zones and brown biotite patches. Ctc at	20	Large 2cm biotite patches	«tr-1% ga» Tr-1% ga	Geochem 8140 129.3 - 130.8
131.60 TO 135.00	MAFIC DIKE «DYK»	Grey, green. Fine grained. Slightly chilled margins - lt brown. Fsp porph. variety, quite massive. Lower ctc ----	40	Nil	Nil	Are these dikes/sills? Geochem 8141 131.6 - 134.6
135.00 TO 135.90	RHY ? FAULTED «RHY + FLT»	Gouge and rubble mainly RHY as described in 129.3 - 131.6				
135.90 TO 138.50	MAFIC DIKE «DYK»	Green. Fine grained. Ctc sharp. Numerous carbonate filled <1mm poss. amygdules. Good chill margin.	70			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
138.50 TO 139.00	RHY (?) «RHY ?»	Siliceous rock with biotite nmerous silica veinlets				
139.00 TO 140.80	MAFIC DIKE «DYK»	Black. Very fine grained. Massive, faintly fsp porph. No veining to speak of. 140.2 10cm band of siliceous material, chert or chill?		«vk bio» Weak biot		Possible andesite tuff?
140.80 TO 143.10	«RHY»	Mottled purple and white. Medium grained. Unit described in section 129.3 - 131.6 - less silica and more patches of biotite?		«vk-mod bio» Weak - moderate biotite	«tr-1% sph» Tr - 1% sph	
143.10 TO 144.50	RHY and MAFIC DIKE «RHY+DYK»	Various colours. Medium grained. Fragments of Rhy and dike? Occur in jumbled up sequence with ctcs running along C.A.				Blocky ground
144.50 TO 150.10	MAFIC DIKE «DYK»	Green. Fine grained. Massive. No veining, faintly porph. with whitish crystals. Ctc lost.		Minor epidote veining	«1% py» 1% py	
150.10 TO 152.40	«AND XTL-T»	Brown. Fine grained. Fine crystal tuff, quite massive. Crystals and/or lapilli show grading sequence. Silica veinlets rare.		«s bio» Str biotite		Overall fining uphole through unit. Geochem 8142 150 -152
152.40 TO 157.40	MAFIC DIKE «DYK»	Grey, green. Fine grained. Faintly fsp porph. Massive, small tabular greenish mineral chloritoid? Lower ctc indistinct.		«vk bio» Weak biotite at lower end. Epidote vein at top.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
157.40 TO 163.00	«AND XT-LT»	Brown and white. Fine and medium grained. Both xtl of fsp (?) and faint rounded large lapilli make up the framework. Numerous transparent silica veinlets.		«s bio» Str.biotite	«1-2% py» 1-2% py	Geochem 8143 159.0 - 162.0
163.00 TO 165.20	MAFIC DIKES «DYKS»	Green. Fine grained. Two dikes; chill at 164.4, fsp porph. variety. Massive.				
165.20 TO 170.40	AND XT-LT? «AND XT-LT»	White, light brown. Siliceous rock with partchy concentrations of biotite. Fsp porph. zones in biotite matrix. Weak si veining.		«mod-s bio, wk cord» Mod-str biotite, poss. wk cord.	«2% py» 2% py.	Geochem 8144 167.0 - 170.0 Appears dike-like in places.
170.40 TO 188.90	MAFIC DIKE «DYK»	Grey, green. Fine grained. Massive, faintly fsp porph. in places. Otherwise homogenous. Wk. silica veining. CTC has qtz - epi vein		Occasional 1-2cm epidote veins	«tr-1% py» Tr - 1% py in epi - si veinlets 5mm thick.	XT? Geochem 8145 174.0 - 177.0 Geochem 8146 184.0 - 187.0
188.90 TO 195.40	«AND(?)»	Red brown Medium and fine grained. Large cordierites dominate unit. Numerous wandering silica veinlets 1mm to 1cm in size. 188.0 Qtz vein translucent, 5cm, 1% py 188.9 15cm. qtz vein - translucent, tr py. END OF HOLE		«I cord, s bio» Intense cordierite development to 5-7mm size. Strong biotite.	«1-2% py, tr sph,ga» Tr - sph Tr - ga 1-2% py	Geochem 8147 190.0 - 193.0

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Zn %	Pb %	Ag g/T	Au g/T	Ag opt	Au opt	GEOCHE Ba %		COMMENTS
8134	91.00	91.60	0.60	.071	1.63	1.39	12.3	0.02	.36	.001	1.02		

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	Zr %	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	Ba ppm
8126	18.00	21.00	3.00	63.06	16.33	3.73	3.55	2.14	1.84	5.89	.13	.58	.005	45	99	17	1.3	5	430
8127	26.00	29.00	3.00	75.52	12.45	2.11	1.39	2.87	1.21	1.85	.05	.14	.005	8	79	20	0.3	5	300
8128	44.10	47.10	3.00	75.58	12.83	1.33	2.08	1.33	2.67	1.54	.09	.15	.005	1	42	10	0.4	5	560
8130	48.30	50.30	2.00	65.21	13.89	8.10	3.39	1.73	1.22	3.57	.39	.17	.005	1	65	29	0.9	5	560
8129	60.10	63.10	3.00	71.12	14.23	1.93	4.20	.56	3.25	1.94	.09	.18	.005	1	80	14	0.7	5	710
8131	76.90	78.40	1.50	50.13	19.34	5.66	6.50	3.43	1.09	9.83	.17	1.13	.005	54	136	32	2.9	5	450
8132	85.90	87.40	1.50	62.32	20.00	1.90	3.20	1.59	3.96	3.28	.07	.34	.004	3	315	29	0.3	10	4690
8133	89.60	91.00	1.40	76.14	9.59	.72	.45	.76	2.82	1.57	.01	.17	.013	115	5080	1214	1.6	5	23400
8135	91.60	93.00	1.40	78.89	9.46	.85	.38	.54	3.48	1.42	.01	.16	.011	71	1386	125	0.6	5	10600
8136	102.70	103.70	1.00	70.48	12.83	1.38	.97	2.76	2.26	6.12	.03	.18	.016	269	153	38	1.5	5	3870
8137	105.70	108.70	3.00	49.17	19.29	7.30	6.21	2.23	1.09	10.53	.26	1.1	.005	85	136	9	21	5	230
8138	112.90	114.40	1.50	48.36	18.59	8.76	9.57	2.16	.51	9.17	.99	1.0	.005	27	201	34	2.0	5	500
8139	122.40	125.40	3.00	68.36	16.19	.75	2.43	1.39	4.36	2.27	.06	.32	.008	80	2466	945	4.8	5	5720
8140	129.30	130.80	1.50	50.70	18.73	8.69	5.10	3.37	.64	8.68	.29	1.06	.005	39	85	9	1.4	5	590
8141	131.60	134.60	3.00	50.39	18.84	8.88	5.04	3.32	.64	8.74	.29	1.07	.006	38	79	7	1.5	10	590
8142	150.00	152.00	2.00	54.62	18.83	1.67	5.11	3.44	2.55	9.40	.34	1.27	.007	55	214	18	2.2	5	970
8143	159.00	162.00	3.00	54.6	19.18	2.31	5.53	2.35	3.30	8.99	.16	.90	.005	63	113	14	1.9	5	350
8144	167.00	170.00	3.00	59.11	16.38	2.89	4.80	2.57	2.05	8.54	.15	.81	.005	82	123	22	1.9	5	310
8145	174.00	177.00	3.00	49.75	17.67	8.25	6.59	3.42	1.10	9.52	.26	.85	.005	49	73	13	1.6	5	330
8146	184.00	187.00	3.00	49.25	17.61	8.70	7.41	2.95	1.01	9.28	.27	.83	.005	54	55	18	1.5	5	220
8147	190.00	193.00	3.00	57.9	17.04	.86	4.90	.65	7.37	6.96	.21	.78	.006	26	217	17	1.7	5	4320

SUMMARY LOG

Metres	MM-08
Purpose:	To test the baritic rhyolite approximately 50 metres downdip of sphalerite mineralization on surface for V.M.S. mineralization.
0 - 6.1	Casing
6.1 - 78.1	Sediments includes: 6.1-45 predominately felsic ash, minor argillite, minor crystal tuff 45-78.1 Argillite with minor ash and crystal tuffs, trace to 1% pyrite. Tops uphole.
78.1 - 82.7	Rhyolite - crystal lapilli tuff, fragment supported 3-5% pyrite disseminated in the matrix
82.7 - 99.5	Andesite - lapilli tuff, well developed foliation - strong to intense biotite - 3-5% py, trace sphalerite, trace galena
99.5 - 110.6	Rhyolite - lapilli tuff - massive looking - strong biotite alteration, 1-2% galena in fracture-fill veinlets <1mm. Some disseminated clots.
110.6 - 122.2	Mafic dykes
122.2 - 137.0	Rhyolite - crystal lapilli tuff - moderate silicification - moderate-strong biotite 123.4-124.1 1% sphalerite - lower part of unit is spherulitic rhyolite with 2-3% fine pyrite
137.0 - 141.0	Mafic dyke
141.0 - 142.0	Andesite - dacite - lapilli - tuff - heterolithic, siliceous clasts - poorly sorted - contains significant massive sulphide fragment 1 X 1 cm

142.0 - 186.8	Andesite - weak to moderate cordierite - moderate to strong biotite - moderate silica veining - trace to 1% pyrite
Results:	Occurrence of a massive sulphide fragment at the critical rhyolite - andesite contact is extremely encouraging.

HOLE NUMBER: MM-08 | MINNOVA INC. DRILL HOLE RECORD | IMPERIAL UNITS: | METRIC UNITS: X

PROJECT NAME: MAGGIE
PROJECT NUMBER: 323
CLAIM NUMBER: MAR
LOCATION:

PLOTTING COORDS GRID: MAGGIE
NORTH: 315.00S
EAST: 833.00E
ELEV: 1042.00

ALTERNATE COORDS GRID: FIELD
NORTH: 3+15S
EAST: 8+33E
ELEV: 1042.00

COLLAR DIP: -62° 0' 0"
LENGTH OF THE HOLE: 186.80m
START DEPTH: 0.00m
FINAL DEPTH: 186.80m

COLLAR GRID AZIMUTH: 360° 0' 0"
COLLAR ASTRNOMIC AZIMUTH: 45° 0' 0"

DATE STARTED: October 26, 1987
DATE COMPLETED: October 29, 1987
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NX

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 6.1M
CORE STORAGE: SQUAMISH

PURPOSE: TO INTERSECT SLUMACH MS HORIZON DOWNDIP OF SPH SHOWING IN AND TBX

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
25.60	-	-62° 0'	ACID	OK		-	-	-	-	-	
47.90	-	-61° 0'	ACID	OK		-	-	-	-	-	
149.70	-	-60° 0'	ACID	OK		-	-	-	-	-	
180.10	-	-59° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 6.10	CASING «OB»					
6.10 TO 22.80	ASH, XT ARGILLITE «ASH + XT» «+ ARG»	Light purplish grey to black. Fine and medium grained. Rhythmically bedded clastic material fine crystal tuffs and ash grading into argillaceous fine tuffaceous material. Average bed size is approximately 1 m. CTC are gradational More arg. 7.3 - 7.9 Beds 10.0 - 11.3 More arg. 26.0 - 26.5 Beds 26.7 - 27.4 22.8 - 23.5 17.8 - 18.6 12.0 - 13.0 15.3 - 15.8	75	«wk bio» Limonite stained fracture planes. Weak biotite hornfels	«tr-1% py» Tr - 1% py on fol'n planes	Good graded sequences fining uphole. Blocky ground. Geochem 8151 19 - 22
22.20 TO 22.80	MAFIC DIKE «DYK»	Brown. Fine and medium grained. Fsp porph. near margins, massive.				
22.80 TO 47.80	ASH XT ARGILLITE «ASH XT + » «ARG»	Light purplish grey to black. Fine to medium grained. As described 6.1 - 22.8 Bedding at Coarsest material 1-2mm in size well sorted and usually in thin beds. Up to 15cm thick ASH,XT predominate. 46.1 - 47.0 Argillite, fine grained black. XTL more coarse with occasional poss. lapilli toward base.	75	«wk bio» Weak biot hornfels	«tr py» Tr py on fracture planes.	36.8 Grading: fining uphole
47.80 TO 50.40	MAFIC DIKE «DYK»	Light green, dark green. Fine and medium grained. Massive, weakly fsp(?) phyric. Occasional carbonate filled amygdules toward centre. 15cm chill manifested by light almost olive green		HCl reaction.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		matrix. Lower ctc approx.	40			
50.40 TO 52.90	ARGILLITE «ARG»	Dark grey. Fine grained. Massive, homogeneous, non descript Faulted Ctc	60	«wk bio» Weak, biot hornfels	«tr py» Tr py on fol'n planes	
52.90 TO 56.70	DACITE DIKE(?) «DAC DYK»	Grey. Fine to medium grained. Fairly massive, 20-30% faint 1-2mm siliceous lapilli, elliptical in shape, possible squeezed amygdules. Ctc appears to chill underlying argillite Approx.	40	Nil	Nil	Poss flow?
56.70 TO 74.40	ARGILLITE W/ minor ASH/XT «ARG +» «ASH/XT»	Dark grey to black. Fine grained. Massive, homogenous, probably thick bedded. Minor ash/XT screens at 57.6 - 57.7 62.3 - 63.4 Well bedded to laminated, ash, cherty ash, XT. Small rounded <1mm most likely a hornfelsing feature. 61.4-62.0 «FLT» rubble zone fault? 71.9 - 72.9 Blocky zone, minor dacite. Ctc - broken gnd.		«wk bio» Weak biotite hornfels noteably in tuffaceous units. 59.3 - 59.9 Fractures filled with soft white mineral, no HCl reaction.	«tr-1% py» Tr to 1% py on fol'n planes. 58.0 Very fine 2cm pyritic mud bed 25%? Py at approx 70 deg to C.A. 62.3-63.4 2-3% py in some tuffaceous units. 70.5 Py bed 2-3cm and sulph? frags very fine grained diss.	Fairly blocky. Geochem 8152 56.8 - 59.8 62.8 Good cut and fill grading etc. indicating tops up hole.
74.40 TO 76.00	DACITE(?) «DAC ?»	Creamy white. Fine grained. Fol'd in lower part. Possible lapilli tuff.		Weak ser.	«1-2% py» 1-2% py.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
76.00 TO 78.10	MAFIC DIKE «DYK»	Black to dark green. Fine grained. Massive, faintly porphyritic homogenous. 76.7 - 77.0 Blocky gnd - ground argillite and cave in.		Nil	Nil	
78.10 TO 80.50	«RHY XT-LT»	Light grey, white. Medium grained. Fragments range from 1-2mm size fsp xtls to 1cm nebulous lithics, frag-rich moderate fol'n at 78.4 - 78.5 Limonite and clay gouge ┤79.7-80.2├ «FLT» Faulted material.	60	«wk-mod ser» Weak to moderate sericite.	«3-5% py» 3-5% fine grained py, generally in matrix.	Immediate hanging wall (?)
80.50 TO 82.70	FAULT «FLT»	80.5 - 82.7 1m core loss rubble and limonite gouge.				Core recovery 50% 79.9 - 82.9
82.70 TO 99.50	AND LT «AND LT»	Fragments up to 1.5 cm - siliceous indistinct boundaries occasional 6-10cm fragments. Some 10cm bands of more siliceous looking material. Biotite rich matrix. Well developed foliation at Not seen in footwall andesites. Noticeable lack of si veining prevalent in footwall andesites. 99.2-99.3 Fault 99.4 Fault 3cm gouge	45	«S-I bio» Str to intense biotite	«3-5% py, 1% ga. tr sph» 3-5% fine grain py in matrix. 1% ga finely disseminated in matrix, tr sph. 90.5 - 92.0 1-2% fine grained ga diss, ooss.sph.	TARGET HORIZON Occasional breccia size fragments. Geochem 8153 90.5 - 92.0 Geochem 8154 92.0 - 93.5 Geochem 8155 95.6 - 97.1 Geochem 8156 97.1 -98.6
99.50 TO 110.60	RHY LT (?) «RHY LT»	White and black. Weak - mod fol'n at ---------- with 95% of the rock appearing siliceous between 99.5 - 105.2 From 104.2 - 110.6 biotite accounts for 50% of rock, has an intrusive look to it.	45	Silicification? 99.5 - 104.2 104.2 - 110.6 Biotite Pale green soft mineral on fracture surfaces 104.5 talc?	«tr-1% py, tr-2% ga» Ga 1% diss in 1mm size clots 101.0 - 102.0 1-2% ga in fracture-fill veinlet <1mm at 30 deg to C.A. Below 104.2 Tr - 1% py	Assay 8157 101.0 - 102.0 1-2% ga. Occurs at same stratigraphic interval as MM-07 galena rich zone. Geochem 8158 105.5 - 108.5

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
110.60 TO 122.20	MAFIC DIKE «DYK»	Ctc not present - preceded by gouge poss. fault. Light green. Fine grained. Massive, homogeneouss, faint poss. phenos 113.4 Broken gnd poss fault 118.1 - 122.2 Very fine grained with faint poss. phenos.			Pv in epidote veinlet parallel to core axis 120.0	
122.20 TO 124.40	«RHY XT-LT»	ctc sharp at ---------- White to purple, black Fine to medium grained. Siliceous zones in matrix of fine, biotite ratios vary. Section with sph, has stronger biot. Siliceous zones sometimes reseable lapilli. Weakly qtz phyric.	20	«mod-s bio» Silica moderate. Mod - strong biotite	«1% sph» 123.4 - 124.1 Large (1-2mm) size sph. Crystals disseminated 1% sph	Geochem 8159 123.4 - 124.4
124.40 TO 125.00	MAFIC DIKE «DYK»	Green. Fine grained Massive, homogenous, jumbled up sequence. Rocks not in proper place?				
125.00 TO 127.80	«RHY»	White and purplish black. Medium grained. As in 122.2 - 124.4 Siliceous zones with biotite patchy matrix. 127.3 Fault ctc broken at about ---	90		«tr sph» Tr sph	
127.80 TO 128.80	MAFIC DIKES «DYKS»	Green. Fine grained. 128.2 - 129.5 Fine grained carbonate filled amygule, good chills. Cuts pitted dike with epidote veinlets.				
128.80 TO 129.90	«RHY»	White and black. Medium grained. Siliceous zones in biotite rich matrix. Weakly quartz phyric		«mod-s bio» Biotite mod.-str.	«tr py» Tr. Pv.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
129.90 TO 130.10	MAFIC DIKE <DYK>	Green. Fine grained. Carb. filled amygdules, good chill margin. Lower ctc	50			
130.10 TO 133.00	<RHY>	White and black. Siliceous zones in biotite rich matrix. Weakly quartz phyric. ctc gradational		<mod-s bio> Biotite mod - str.	<tr py> Tr. Py.	
133.00 TO 137.00	RHY SPHERULITIC <RHY SPHER>	Numerous silicous lapilli usually 1-2mm in size, sometimes flattened at Spherulites compose 30% of rock. Siliceous matrix.	55		<tr-3% py> Top of unit has 2-3% very fine py. diss. in fine grain bands at 60deg. otherwise tr - 1% py.	Geochem 8160. 133.0 - 135.0 135.2 peculiar orange tabular soft mineral or fol'n planes.
137.00 TO 141.00	MAFIC DIKE <DYK>	Green - grey. Fine grained Ctc broken massive. Homogenous. Si veinlets <1mm		Occasional epidote veinlet		
141.00 TO 142.00	DAC LT <DAC LT>	Numerous fragments poorly sorted heterolithic. Siliceous clasts dominate. Frag. rich.		Nil!	<MS frag> 141.3 noteable 1cm x .5cm sulphide fragment f.g. massive pyrite.	Possibly coarser TBX?
142.00 TO 142.50	MAFIC DIKE <DYK>	massive ctc Dark green Fine grained homogenous Brown chill margin	10			
142.50 TO 145.30	AND DAC TUFF <AND-DAC T>	Grey to red brown. Fine grained. Fine lapilli tuff interrupted by occasional veinlets.		<vk-mod bio> Weak - moderate biotite. Moderate silica veining.	<tr py> Tr. py. in si. veinlets.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
145.30 TO 147.60	MAFIC DIKE «DYK»	Dark green Fine grained Massive. Homogenous. No si. veining		Nil	Nil.	And tuff? Geochem 8161 145.5 - 147.5
147.60 TO 175.00	AND LT TUFF «AND LT-T»	Grey green to light brown. Fine grained Fine grain biotite-cord. hornfels with moderate silica veining. Vague possible fragments. 157.3 - 160.3 str. silica veining.		«mod-s bio, wk-mod cord» Biotite moderate to strong. Cordierite weak to moderate in some small sections. Si veining moderate thru-out. Strong biot/cord 161.8 - 164.0 157.3-160.3 «s si»	«tr-1% py» Tr. to 1% py.	Fleshy coloured mineral on fol'n planes and in some veins possibly barite? Geochem 8162 149.0 - 152.0 Geochem 8163 165 - 168.0.
175.00 TO 183.40	AND ASH/ TUFF «AND ASH/T»	faulted upper ctc Green Fine grained Occasional cherty disseminations otherwise homogenous poss. fine lapilli. Numerous hairline fractures filled with light green sericite(?). Ctc sharp at 179.5 fault 183.1 fault	40	«ser» Sericite	«tr py» Tr. Py.	Possible flow hyaloclastite? Geochem 8164 177. - 180.
183.40 TO 186.80	DAC DIKE ? «DAC DYK»	Fine grained. Medium grained. Fsp. porph., massive. Poss. chill margin. V.f.g. matrix END OF HOLE				Poss. flow. Geochem 8165 184-186.0

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Zn %	Pb %	Ag g/T	Au g/T	Ag opt	Au opt	GEOCHE Ba %		COMMENTS
B157	101.00	102.00	1.00	.004	.14	.06	9.8	0.21	.29	.006	.37		

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	Zr %	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	Ba ppm
8151	19.00	22.00	3.00	58.11	18.26	5.43	3.38	3.04	1.13	7.04	.25	.88	.005	30	83	10	1.5	5	320
8152	56.80	59.80	3.00	60.28	18.84	1.21	2.64	1.80	3.7	7.42	.05	.74	.008	75	98	32	1.2	5	670
8153	90.50	92.00	1.50	48.52	17.12	1.22	9.56	.26	3.64	13.65	.64	.92	.005	65	256	44	4.0	5	3700
8154	92.00	93.50	1.50	50.96	16.15	1.85	9.62	.36	4.39	11.23	.54	.86	.005	71	461	158	5.4	5	4600
8155	95.60	97.10	1.50	51.65	17.78	1.29	8.85	.56	4.41	10.04	.33	.94	.005	92	208	46	6.1	5	5430
8156	97.10	98.60	1.50	52.49	16.61	1.97	9.09	.41	4.19	9.93	.39	.89	.005	83	245	76	5.1	5	5260
8158	105.50	108.50	3.00	72.96	12.79	.70	2.67	.70	3.18	2.16	.10	.25	.005	6	153	31	0.7	15	1630
8159	123.40	124.40	1.00	72.93	12.81	.92	2.43	1.77	2.60	2.65	.07	.26	.007	15	1192	126	1.0	10	1050
8160	133.00	136.00	3.00	71.80	15.59	.18	1.35	.48	4.54	3.08	.06	.31	.006	12	152	45	0.6	35	950
8161	145.50	147.50	2.00	51.32	18.41	3.92	6.09	2.76	3.18	9.69	.37	.99	.005	57	190	33	3.3	5	790
8162	149.00	152.00	3.00	65.14	15.23	.69	3.28	1.16	5.64	5.18	.15	.67	.006	15	156	24	1.4	10	2090
8163	165.50	168.00	3.00	66.01	14.72	.56	3.89	.39	5.34	5.56	.17	.63	.006	21	164	20	1.7	20	1610
8164	177.00	180.00	3.00	59.03	16.65	1.14	4.83	.81	6.55	6.62	.21	.71	.007	53	201	33	2.6	15	2111
8165	184.00	186.00	2.00	67.97	16.02	2.35	.92	4.05	1.86	3.03	.14	.18	.013	6	64	21	0.9	10	550

CLARKE

FALCON
WAR EAGLE

WAR EAGLE
ADIT

STAWAMUS
RIVER

INDIAN
RIVER

JODY

JARMILA Fr.

MAR

JANETTE

BOB

SANTANNA

SLUMACH VEIN
1987 PROJECT AREA

HAROLD Fr.

CELESTE

PROPERTY BOUNDARY
(approximate)

NOTE: CLAIM BOUNDARIES ARE APPROXIMATE
(FROM 1:50,000 GOVERNMENT CLAIM MAPS)

MAP
AREA

MINNOVA Inc.

MAGGIE OPTION

1987 PROJECT AREA

SCALE 1:5000

DRAWN BY: CB/sg

DATE FEB.1988

FIG. NO. 4

WAR EAGLE

JARMILA Fr.

CLARKE

MAR

BASELINE

BASELINE

MM-87-01

MM-87-02

MM-87-03

MM-87-04

Creek Zone
(9.2%Zn, 0.05optAu/0.8m)

Slumach Discovery Outcrop
(10.0%Zn, 1.0optAu/0.7m)

MM-87-07

MM-87-08

L 5+00 E

L 6+00 E

L 7+00 E

L 8+00 E

L 9+00 E

L 9+50 E

L 10+00 E

L 10+50 E

L 11+00 E

L 11+50 E

L 12+00 E

L 13+00 E

L 14+00 E

L 15+00 E

LEGEND

- Topographic contour (metres)
- Creeks
- Existing road
- Constructed road (1987)
- Underground development
- MINNOVA 1987 drill holes
- Claim boundary

MINNOVA Inc.

MAGGIE OPTION

SLUMACH AREA

1987 DRILL LOCATIONS AND CONSTRUCTED ROAD

0 50 100m

SCALE: 1:1000

N.T.S. 92G/10

DRAWN BY: CB/sg

DATE: FEB.1988

MAP. 5