

LOG NO: 0920	RD.
ACTION:	
FILE NO:	

**ASSESSMENT REPORT**  
 -ON THE-  
**RAM GROUP OF MINERAL CLAIMS**

**ATLIN MINING DIVISION**

**N.T.S. 104 0/13**

**NORTH LATITUDE: 59° 49'**  
**WEST LONGITUDE: 131° 45'**

**FILMED**

-FOR-

**ARNICA RESOURCES LTD.**

**SUB-RECORDER  
 RECEIVED  
 'SEP 11 1989  
 M.R. # ..... \$ .....  
 VANCOUVER, B.C.**

-BY-

**KATHERINA ROSS, B.Sc.**

**AMBER MINERALS LTD.**

**1209 - 510 West Hastings Street,  
 Vancouver, B.C.**

**GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**

**19,082**

**TABLE OF CONTENTS:**

**PAGE #**

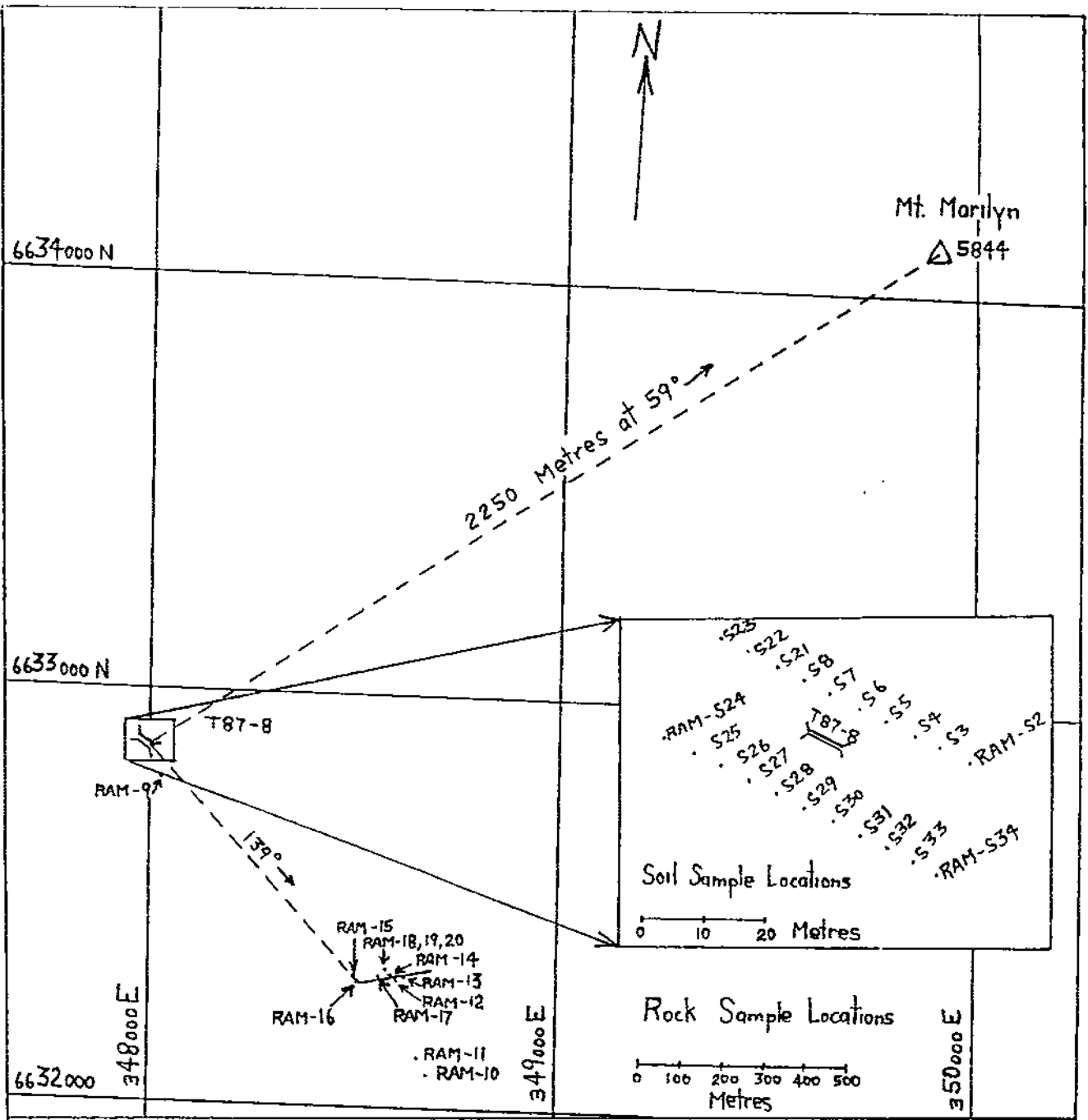
Summary . . . . .	1
Introduction. . . . .	2
Property Status . . . . .	2
Location, Access, and Physiography. . . . .	3
History . . . . .	3
Regional Geology . . . . .	4
Local Geology . . . . .	5
Conclusions and Recommendation. . . . .	6
References. . . . .	7

**APPENDICES:**

Appendix A	Certificate
Appendix B	Cost Breakdown
Appendix C	Sample Descriptions
Appendix D	Analytical Results

**ILLUSTRATIONS:**

Figure 1	Location
Figure 2	Claim Status and Regional Geology
Figure 3	Rock and Soil Location Map

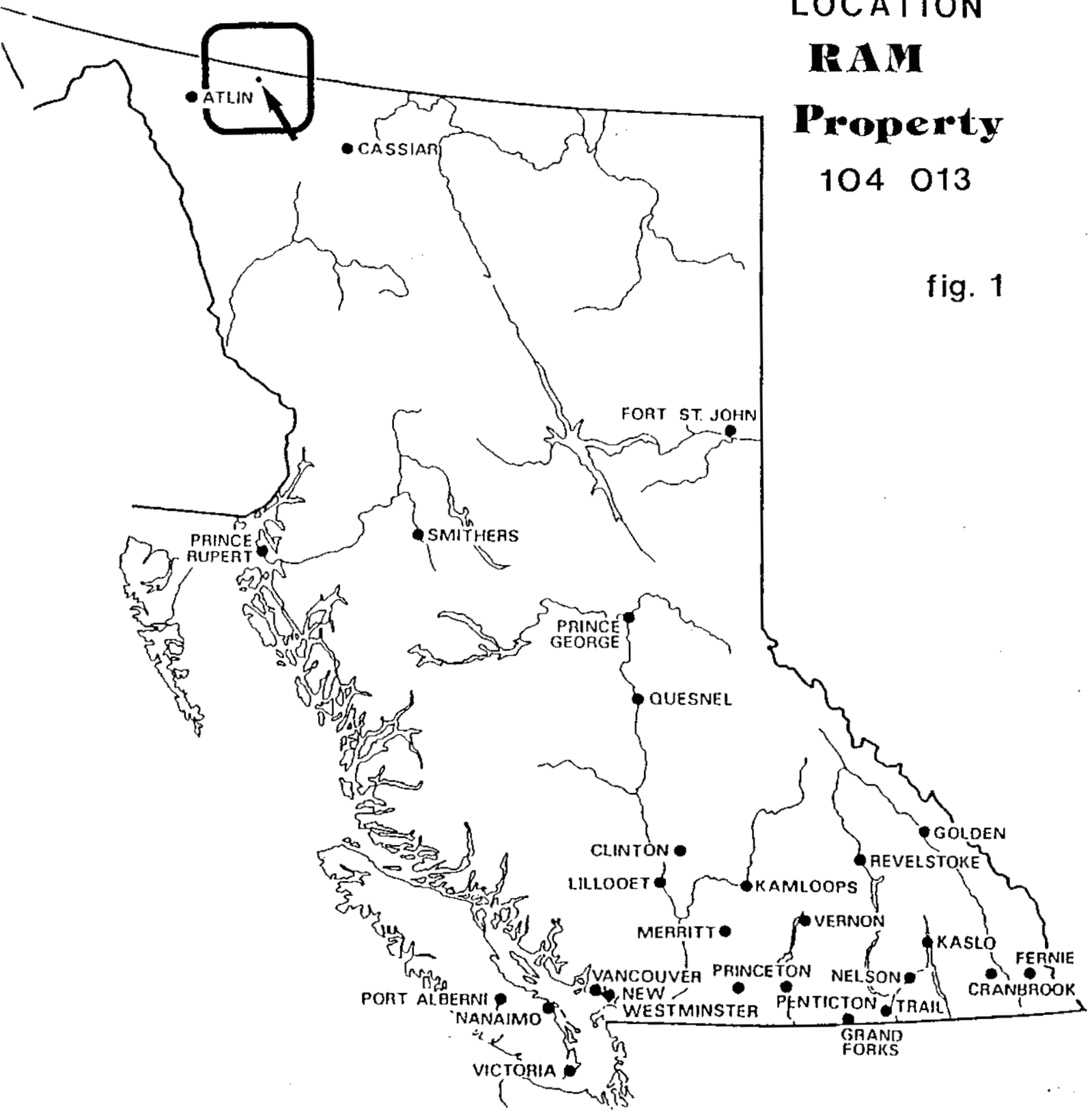


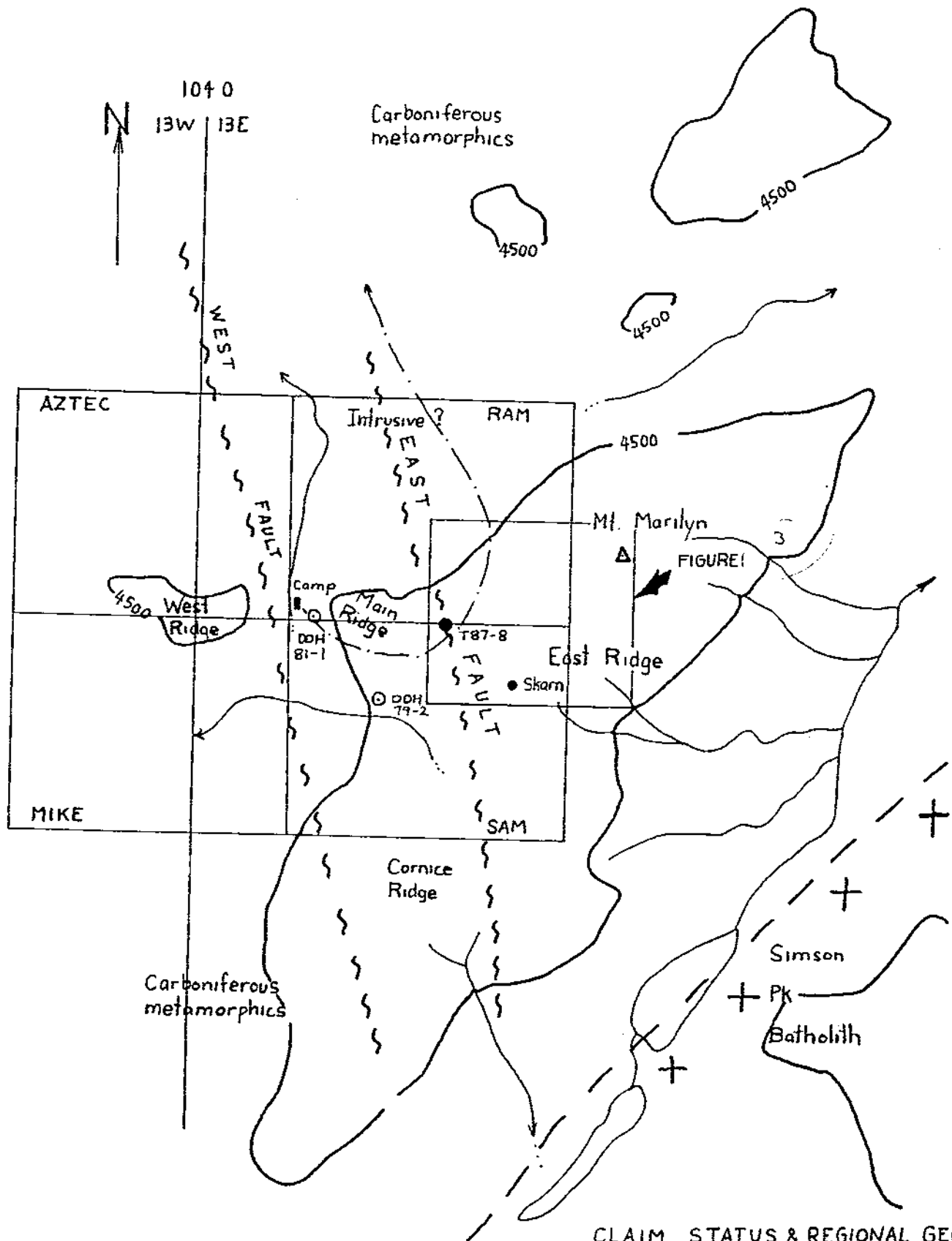
Rock and Soil Location Map  
for Arnica Resources Ltd.  
by Mountainside Management Ltd.

Figure 3

LOCATION  
**RAM**  
**Property**  
104 013

fig. 1





CLAIM STATUS & REGIONAL GEOLOGY  
 FIGURE 2

1:50,000

### Summary

- 1) The **AZTEC, MIKE, RAM and SAM CLAIMS** are located in Northwestern British Columbia at North Latitude 59° 49', West Longitude 131° 45' (fig. 1). Access is currently by helicopter from Atlin.
- 2) In 1987, previous to this visit by **MOUNTAINSIDE MANAGEMENT LTD., ARNICA RESOURCES LTD.** carried out extensive work including trenching, mapping, soil sampling, prospecting and VLF-EM.
- 3) A total of 21 soil samples were collected during the 1989 work program. The results indicate that the bornite mineralization discovered by ARNICA RESOURCES in 1987 is clearly reflected by anomalous copper values.
- 4) A significant re-location of the skarn zone, described by J.B.P. Sawyer in 1967 (B.C.D.M. assessment report 1149), was done during the 1989 work program. The highest values returned from this area are >10,000 ppm Cu, 240 ppb Au and 5870 ppm Cu, 340 ppb Au from samples RAM-15 and RAM-16 respectively.
- 5) The host rocks are part of the **BIG SALMON COMPLEX** of Mississippian age. They are highly deformed in places, displaying classic chevron folding on some of the small bluffs just west of the old camp.
- 6) Future work should also include prospecting and sampling at least two other copper showings also described by J.B.P. Sawyer in 1967 (B.C.D.M. assessment report 1149). These two showings apparently can be found in the Southeast corner of the **SAM CLAIM** and the other about 1.5 km East of the Northeast corner of the **RAM CLAIM**.
- 7) Assessment credit for one year on all claims is discussed in this report.

**INTRODUCTION:**

From June 9 to June 13, 1989, a brief investigation was carried out consisting of prospecting the claim group and re-locating old showings from previous work. The work was carried out by **MOUNTAINSIDE MANAGEMENT LTD.** at the request of **ARNICA RESOURCES LTD.**

**PROPERTY STATUS:**

The **RAM GROUP** is comprised of four contiguous modified grid system mineral claims, located in the **ATLIN MINING DIVISION**. Particulars are as follows:

<b>NAME</b>	<b>RECORD NO.</b>	<b>EXPIRY DATE</b>	<b>NO. OF UNITS</b>
SAM	2955	12 June, 1990	20
RAM	2956	12 June, 1990	20
AZTEC	2981	29 June, 1990	20
MIKE	2982	29 June, 1990	20

#### LOCATION, ACCESS, AND PHYSIOGRAPHY:

The RAM GROUP mineral claims are located in northwestern British Columbia. The claims are 30 km east of Teslin Lake, and 12 km south of Mile 755 on the Alaska Highway, between Watson Lake and Whitehorse.

A four-wheel drive road and bridges across the Swift River constructed in 1970, provide access to the RAM GROUP property from Mile 753 of the Alaska Highway are in disrepair. Present access is by helicopter from Watson Lake, Yukon Territories or from Atlin, B.C.

Topography on the property is relatively gentle. Elevations range from 1,000 to 1,675 M.A.S.L. Approximately 1/4 of the property is above treeline, which is at about 1,370 m. The property is drained by small creeks flowing west and north.

#### HISTORY:

Copper mineralization was first discovered on the property under discussion in the early 1940's by Hudson Bay Mining and Smelting Ltd., but there are no records available concerning any follow-up work by Hudson Bay. In 1967, a program of geochemical work, geological mapping and trenching was carried out. The claims were owned by K.J. Springer at that time.

Between 1967 and 1972, Bolivar Mining Corporation (a subsidiary of Cyprus Mines Corporation Ltd.) carried out a program consisting of airborne EM, magnetometer, geochemical work, geophysical work (Induced Polarization), geological mapping and



diamond drilling. The four holes drilled, totalling 1,080 metres, all intersected sulphides containing copper and zinc values - but not of commercial grade.

No further work was carried out until 1979 when one drill hole was put in to a depth of 442 metres by Rebel Developments Ltd. In 1981, Rebel Developments, who at that time owned and operated the claims, drilled another single hole.

Early in 1987, AMBER MINERALS LTD. staked and sold all interest in the claims to ARNICA RESOURCES LTD. ARNICA carried out a program of geochemical work, geophysical work (VLF-EM), geological mapping and trenching.

Early in 1989, ARNICA RESOURCES LTD. carried out a very small program designed to locate two old trenches, one of which is reported to contain native gold and tellurides (BCDM GEM, 1972) and one excavated in 1967 which contained gold values of 0.1 oz/ton over ten feet (3.04 m).

#### REGIONAL GEOLOGY:

A review of the Jennings River map-area (104-0), G.S.C. Paper 68 - 55, indicates the area is mainly underlain by pre-Carboniferous metamorphic rocks, predominantly gneisses and schists, with less abundant quartzites, limestones and dolomites.

The rocks underlying the property are members of the Big Salmon Complex. The Big Salmon Complex rocks are part of a regionally metamorphosed belt bounded to the West by the Teslin lineament and extending northward into the Teslin and Laberge Map areas, where it is mapped as the Yukon Group. The rocks of the Big

Salmon Complex are distinctly shistose or gneissic. The granite Simpson Peak Batholith lies southeast of the **RAM GROUP** property.

**LOCAL GEOLOGY:**

The brief visit during 1989 was mainly concentrated in the northwestern corner of the **SAM CLAIM** in order to locate an old trench reported to contain 0.1 oz/ton gold over ten feet. The discovery was made by **Mastodon - Highland Bell Mines Ltd.**, in 1967. The results of earlier mapping on the area covered by the **RAM GROUP** are also discussed.

J.B.P. Sawyer (BCDM. assessment report 1149) reported, "A representative chip sample over an area of approximately 60 feet by 25 feet on claim 92 returned an assay of 0.69 % copper." Within this area, a value of 0.1 oz/ton gold over 10 feet was also described by Sawyer. This area was successfully re-located, although the old trenches were filled in with talus debris and accurate re-sampling wasn't possible. Re-sampling this same area, however, verified the interesting copper and anomalous gold values. The highest value returned >1% copper and 340 ppb gold from Sample **RAM 16**.

The rock types observed on the **SAM CLAIM** were interbedded and folded limestone, shist, quartzite and chlorite schist. This sediment pile has a gentle southwesterly plunge and features a major north-south trending fault. There is also a prevalent quartz feldspar porphyry dyke system that strikes approximately north-south on the northern part of the **SAM CLAIM**.

Previous work indicates that the "Sulphide mineralization

was probably contemporaneous with the enclosing rocks, (and) had been remobilized during subsequent deformation and is presently concentrated around small fold structures", (BCDM Assessment Report 10,411) Subsequent drilling proved the existence of impressive widths of moderate to heavy sulphides (27.6 metres) with an apparent 1,200 metre strike length (as indicated with I.P. results by P. Walcott in 1971).

#### **CONCLUSIONS AND RECOMMENDATIONS:**

The re-location of the trenches described by J.B.P. Sawyer (BCDM Assessment Report 1149) are worthy of further investigation based on both previously reported assays (0.1 oz/ton gold over 10 feet) and recent re-sampling of the skarn zone (sample RAM-16 returned > 1% copper and 340 ppb gold).

The old trench reported to contain native gold and tellurides was not found.

Soil sampling around the bornite showing, found in 1987 by ARNICA RESOURCES LTD., proved to be an effective tool in outlining the known mineralization.

It is recommended that the trench of interest within the skarn zone be re-excavated and sampled. In addition, other copper occurrences, located along the East Ridge should be prospected.

**REFERENCES:**

BCDM GEM 1972 P559

- Di Spirito, F., 1988 - Geological, Geophysical and Geochemical report on the Ram Property for Arnica Resources Ltd.
- Phendler, R.W., 1982 - Report on Assessment Work (Diamond Drilling) on the Arsenault #1, #2, and #3 Claims, BCDM Ass. Rpt. 10411
- Sawyer, J.B.P., 1967 - Geological and Geochemical and Geophysical Report for Assessment Credit on the Top Claim Group. BCDM Ass. Rpt. 1149.
- 1979 - Report on the 1979 Drilling Program on the Arsenault Claims Copper Prospect, BCDM Ass. Rpt. 8022.

A P P E N D I X A

I, **Katherina Ross**, of the City of Vancouver in the Province of British Columbia, do hereby certify:

- 1) I am a graduate of the University of Waterloo (1988), and hold a Honours B.Sc. (Earth Sciences);
- 2) I have been involved in exploration programs in Ontario, B.C. and the Yukon since May, 1988;
- 3) This report is based on a review of Public and Private files. I only briefly visited the field location and have relied upon **Mountainside Management Ltd.** insofar as the validity of the claims is concerned;
- 4) I have no direct or indirect interest in the property herein described, nor do I expect to receive any.



**KATHERINA ROSS, B.Sc.**

A P P E N D I X B

STATEMENT OF COSTS

RAM CLAIM GROUP, SWIFT RIVER AREA  
- ARNICA RESOURCES LTD. -

WAGES AND BENEFITS:

Katherina Ross, B.Sc. @ \$350.00/day x 4 days	\$ 1,400.00
Michael Renning, Prospector @ \$175.00/day x 5 days	1,750.00

TRANSPORTATION:

Jet Flight, Canadian Airlines, Vancouver-Whitehorse Return 2 @ \$684.00	1,368.00
----------------------------------------------------------------------------	----------

Helicopter - Yukon Airways, 2.6 hrs. @ \$630.00/hour + fuel	1,724.00
----------------------------------------------------------------	----------

Truck rental, Budget Rent-a-car	341.68
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Fuel	57.05
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Freight, Camp gear and samples	264.21
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Airport parking, Vancouver International Airport	28.06
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ACCOMMODATION AND MEALS:

Hotel and meals, 2 persons, 2 nights	342.20
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ANALYTICAL COSTS:

Chemex Labs	595.00
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REPORT PREPARATION

300.00

DRAFTING

50.00

WORDPROCESSING

100.00

REPRODUCTION

32.50

**TOTAL**

**8,484.70**



A P P E N D I X C

Assay Values of all Rock Samples Collected

Sample Number	Description	Sample Interval in Metres	Copper in ppm	Gold in ppb	Silver in ppm
RAM-1	Pyritized - dark green chlorite shist-silicified	1.0	1140	115	2.5
RAM-9	Chloritic sediment with disseminated Chalcopyrite	Angular float	3490	90	<0.5
RAM-10	Silicified, thinly bedded shistose sediment. Silicified	0.7	64	15	0.5
RAM-11	Silicified, thinly bedded shistose sediment. Silicified	0.5	168	35	<0.5
RAM-12	Argillite, shistose containing chalcopyrite and malachite.	Angular float	4330	110	2.5
RAM-13	Pink-medium grained diopside-garnet skarn. Malachite and Azurite present.	1.0	6240	65	<0.5
RAM-14	Highly oxidized shist and fine-grained skarn. Qtz. epidote veins in places. Minor malachite.	2.5	2610	20	0.5
RAM-15	Pinkish-brown mottled impure limestone. Qtz-carbonate veining. with pyrite and minor bornite.	Angular float/ talus	5870	340	4.5
RAM-16	Medium grey limestone. Qtz-carbonate veining. 2-3% diss. pyrite. Limonite weathering.	Angular float/ talus	>10,000	240	1.5

Assay Values of all Rock Samples Collected - Con't

Sample Number	Description	Sample Interval in Metres	Copper in ppm	Gold in ppb	Silver in ppm
RAM-17	Dark green massive fine grained chlorite rich, altered volcanic. 3-4% disseminated pyrite and minor bornite.	Angular trench material Grab	4260	190	5.5
RAM-18	Dark green medium grained skarn with white Qtz. 2-3% Molybdenum sulphide.	0.6	1480	20	0.5
RAM-19	Dark green skarn with carbonate veinlets. 5-6% finely disseminated pyrite.	1.0	6830	50	1.5
RAM-20	White Qtz vein limonite staining with minor epidote.	0.4	358	5	<0.5
RAM-35	Blue-grey re-crystalized quartzite, moderately shistose with sericite and mariposite on foliation planes.	1.0	33	<5	<0.5
RAM-36	Sericite, pyrite in silicified shist	0.75	34	<5	<0.5
RAM-37	Small felsic dyke? Diss. pyrite	0.3	12	<5	<0.5
RAM-38	Re-crystalized white quartzite, sericite along weakly developed shistosity planes.	0.4	12	<5	0.5

A P P E N D I X D



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: AMBER MINERALS  
ATTN: MICHAEL RENNING  
1209 - 510 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1L8

Project: ELDEN 07186

Comments:

Page No.: 1  
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Date: 29-JUN-89  
Invoice #: I-8918673  
P.O. #: NONE

## CERTIFICATE OF ANALYSIS A8918673

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
RAM-S2	201 298	15	<< 0.5	14	168	2.89	305	1	35	< 5	62
RAM-S3	201 298	15	<<< 0.5	16	206	3.31	300	2	36	5	132
RAM-S4	201 298	10	<<< 0.5	14	161	3.32	315	2	33	5	68
RAM-S5	201 298	10	<< 0.5	12	60	2.89	250	1	30	5	58
RAM-S6	201 298	10	<< 0.5	11	56	2.81	260	< 1	28	5	58
RAM-S7	201 298	140	<< 1.0	13	3730	3.13	565	< 1	27	< 5	72
RAM-S8	201 298	10	<<< 0.5	13	70	3.55	500	3	28	5	62
RAM-S21	201 298	<< 5	<<< 0.5	12	52	3.33	345	1	29	5	64
RAM-S22	201 298	<<< 5	<<< 0.5	9	38	2.91	240	1	22	10	48
RAM-S23	201 298	<< 5	<< 0.5	12	44	3.21	300	< 1	31	5	56
RAM-S24	201 298	< 10	<<< 0.5	15	149	2.99	305	1	25	5	44
RAM-S25	201 298	20	<<< 0.5	11	436	3.26	345	2	19	25	80
RAM-S26	201 298	15	<<< 0.5	15	479	2.93	670	< 1	31	5	78
RAM-S27	201 298	5	<<< 0.5	13	190	3.50	310	1	28	5	70
RAM-S28	201 298	< 10	<< 0.5	12	144	3.27	230	2	24	5	56
RAM-S29	201 298	5	<<< 0.5	15	94	3.35	350	1	33	5	68
RAM-S30	201 298	10	<<< 0.5	13	75	3.59	365	2	24	5	68
RAM-S31	201 298	5	<<< 0.5	13	46	2.79	270	1	32	5	62
RAM-S32	201 298	<< 10	<<< 0.5	9	96	3.27	230	2	21	10	52
RAM-S33	201 298	<< 10	<< 0.5	6	30	2.35	170	2	11	5	30
RAM-S34	201 298	< 5	< 0.5	7	31	2.72	215	1	15	10	38

CERTIFICATION :

*B. Coughlin*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1  
PHONE (604) 984-0224

To: AMBER MINERALS  
ATTN: MICHAEL RENNING  
1209 - 510 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1L8

Project: ELDEN 07385  
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## CERTIFICATE OF ANALYSIS A8918561

SAMPLE DESCRIPTION	PREP CODE		Au ppb AFS	Pd ppb AFS	Pt ppb AFS	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
	RAM-17	205	298	190	< 2	< 5	5.5	1	4260	0.72	275	< 1	1	< 5

CERTIFICATION :

*B. Coughlin*



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

112 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: AMBER MINERALS  
ATTN: MICHAEL RENNING  
1209 - 510 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1L8

Project: EIDEN 07385  
Comments:

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P.O. #: NONE

## CERTIFICATE OF ANALYSIS A8918560

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
RAM-01	205 298	115	< 2.5	30	1140	7.62	500	< 5	15	< 5	90
RAM-09	205 298	90	< 0.5	5	3490	1.21	510	< 1	7	< 5	38
RAM-10	205 298	15	< 0.5	8	64	2.42	335	< 6	20	10	28
RAM-11	205 298	35	< 0.5	8	168	1.52	355	< 1	19	55	106
RAM-12	205 298	110	< 2.5	11	4330	1.28	240	< 2	6	< 5	60
RAM-13	205 298	65	<< 0.5	11	6240	6.61	820	< 4	7	< 5	70
RAM-14	205 298	20	<< 0.5	10	2610	9.63	1585	< 15	7	< 5	80
RAM-15	205 298	340	< 4.5	1	5870	3.43	1155	<< 1	4	< 5	96
RAM-16	205 298	240	< 1.5	2	>10000	6.53	1190	<< 1	9	< 5	120
RAM-18	205 298	20	< 0.5	7	1480	4.46	1255	1305	3	< 5	30
RAM-19	205 298	50	< 1.5	20	6830	5.03	1145	< 32	7	< 5	130
RAM-20	205 298	5	<< 0.5	1	358	0.67	110	< 9	4	< 5	8
RAM-35	205 298	< 5	<<< 0.5	6	33	1.47	380	< 16	10	15	28
RAM-36	205 298	< 5	<< 0.5	13	34	1.89	845	< 1	22	20	36
RAM-37	205 298	< 5	<< 0.5	1	12	0.36	90	< 1	3	20	18
RAM-38	205 298	< 5	< 0.5	3	12	0.63	135	< 1	7	5	6

CERTIFICATION :

*B. Coughlin*