

LOG NO: 0111  
ACTION:  
FILE NO:

GEOLOGICAL ASSESSMENT REPORT  
ON THE  
OK CLAIM GROUP

TRIPLE LAKES - CANYON CREEK AREA  
GREENWOOD MINING DIVISION

NTS: 82E/7W  
LATITUDE: 49° 27.5'N  
LONGITUDE: 118° 54.3'W

BY  
MOHAN R. VULIMIRI, M.S. F.G.A.C.

FOR  
CARMAC RESOURCES LTD.

January 1990

SUB-RECORDER  
RECEIVED  
JAN 8 1990  
M.R. # ..... \$.....  
VANCOUVER, B.C.

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

19,525

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SUMMARY AND CONCLUSIONS

Mineralization consisting of mainly pyrrhotite, pyrite, magnetite, arsenopyrite and chalcopyrite, with gold values occurs along the contact of andesitic volcanic rocks and quartz diorite intrusive rocks. The andesitic volcanic rocks belong to the Late Paleozoic Wallace Formation, and the plutonic rocks are Jurassic in age.

The district has a long history of sporadic mining exploration. Mineralization in the area was discovered in 1870's.

The author conducted the property evaluation with the purpose of designing a program for systematic mining exploration in the area. Preliminary mapping, chip sampling and evaluation of all existing data, suggests that the property and the area has a very limited potential for the occurrence of a significant sized mineral deposit.

INTRODUCTION

The author, accompanied by Grant Crooker, conducted property evaluation on the OK Group from October 17 to October 18, 1989. The evaluation consists of geological mapping, representative chip sampling, sampling of the dumps and grab sampling.

Extensive geochemical surveys, geophysical S.P. and magnetometer surveys, trenching, diamond drilling were performed during early 1980's.

The OK Claim Group consists of 5 reverted crown grants. The claim group is located approximately 50 kilometres east of Penticton and 6 kilometres west of Kettle River.

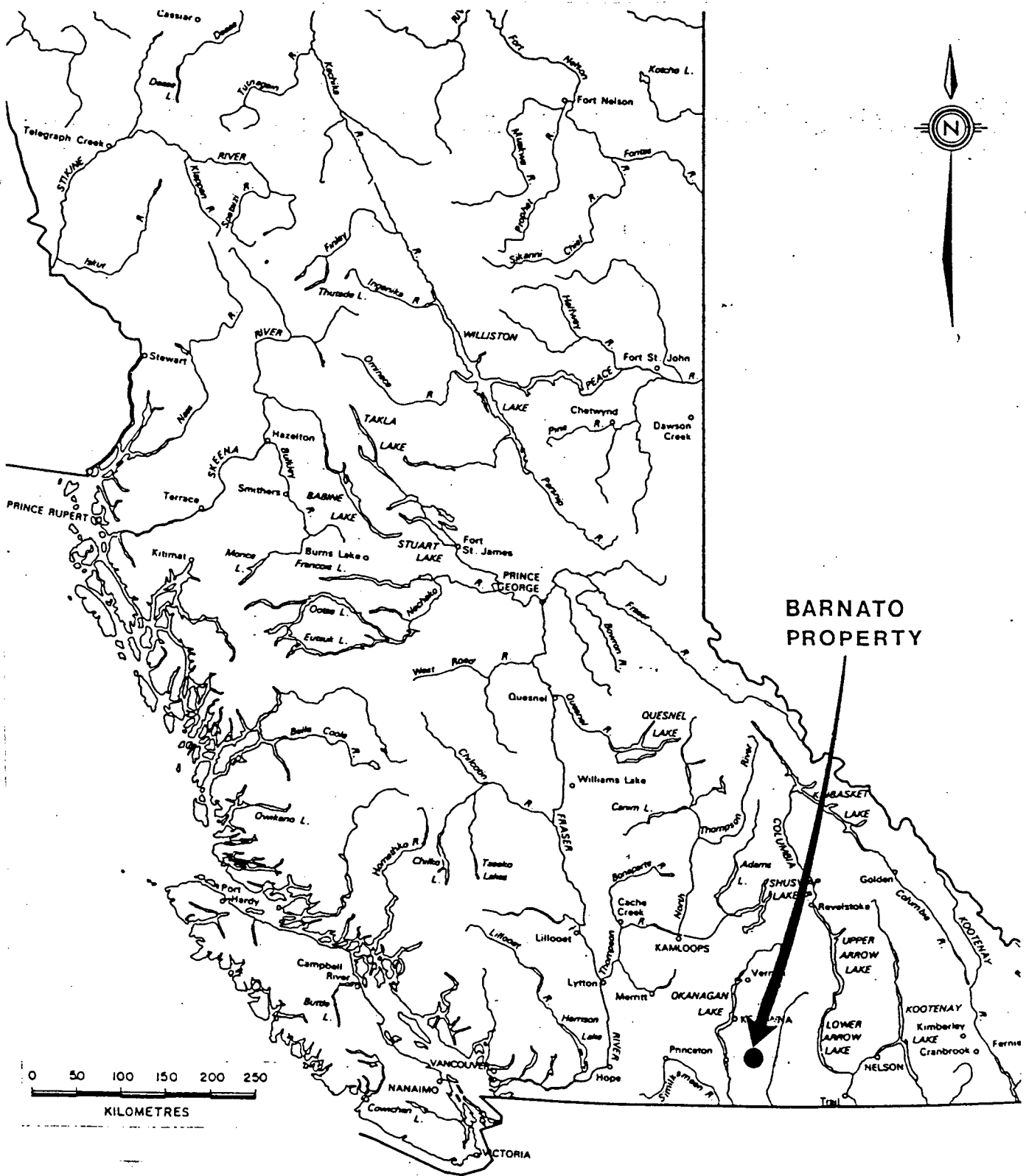
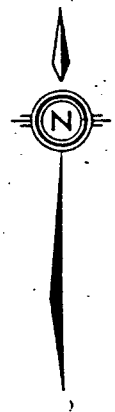
PROPERTY DESCRIPTION

The OK Claim Group consists of 5 reverted crown grants (Figure 2). The claims data is given in Table 1 below. Expiry dates given are valid on acceptance of this report.

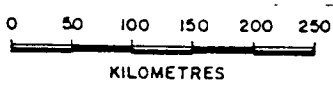
TABLE 1

<u>CLAIMS</u>	<u>UNITS</u>	<u>TITLE NO.</u>	<u>EXPIRY DATE</u>
Boston	1	1828	22/10/1990
OK	1	1596	22/ 5/1991
Ivanhoe	1	1829	22/10/1990
Mona	1	1830	22/10/1990
Mexico	1	1832	22/10/1990

Carmac holds 100% interest in the above reverted crown grants.



**BARNATO  
PROPERTY**



**CARMAC RESOURCES**  
**BEAVERDELL - CHRISTIAN VALLEY AREA**  
GREENWOOD MINING DIVISION  
**LOCATION MAP**  
OK GROUP

Fig. 1



### LOCATION, ACCESS AND PHYSIOGRAPHY

The property is located in southeastern British Columbia, 33 kilometres north of Westbridge (Figure 1). Access to the property is via a logging road from the main Kettle River road, or from Beaverdell located towards the west.

Topography is moderate to steep with elevations ranging from 760 metres to 1220 metres. Vegetation cover is approximately 90% and consists of fir, spruce and pine.

Average precipitation consists of 24 centimetres of rain and 100 centimetres of snow. Average temperatures range from 1°C in winter to 15°C in summer. The property is snow-free from June to October.

### HISTORY AND PREVIOUS WORK

Many of the claims in the area were staked and considerable surface work was completed by 1878. Gold mineralization was discovered in the area between 1896 and 1897. In 1937 - 1938, two cars of sorted ore, totalling approximately 84.9 tons, grading 1.58 oz/ton gold, 0.23 oz/ton silver and 10.17% arsenic were shipped to Tacoma smelter. Subsequently in 1938, Cominco optioned the OK Claim, and conducted a trenching and drilling program.

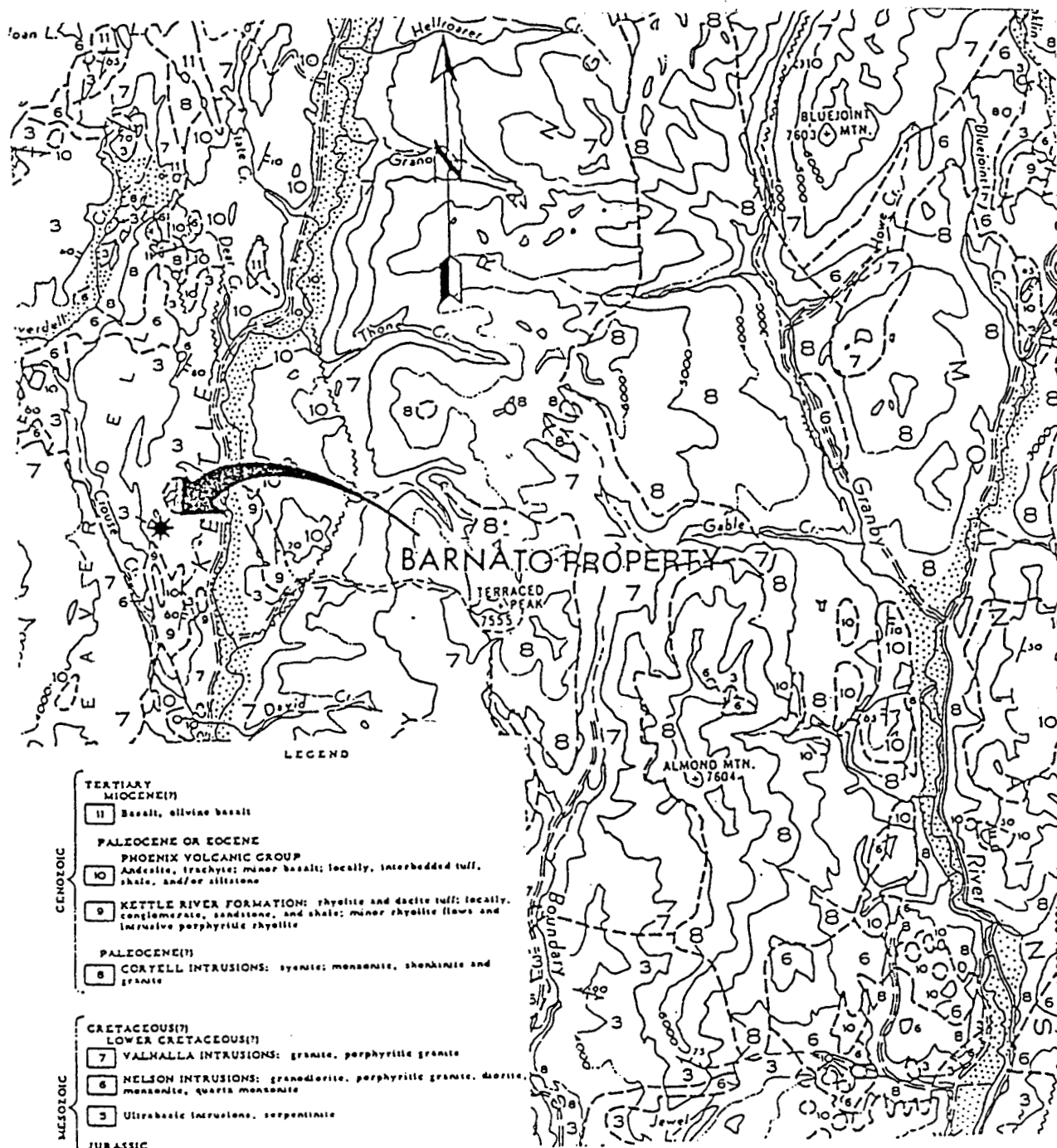
In 1965 - 1966, Amcana Gold Mines carried out road improvements, claim survey, trenching and diamond drill program consisting of four short holes.

During 1978 - 1981, Carmac Resources Ltd. conducted VLF Survey, geochemical survey, Airborne VLF-EM magnetometer survey, trenching, reconnaissance mapping, prospecting and diamond drilling (4 NQ holes) on the Barnato group. Several pits and trenches were dug on the Boston and OK claims.

In 1986, Golden Seal Resources carried out a small percussion drilling program on the neighbouring Barnato claim.

### REGIONAL GEOLOGY

The Barnato area is mainly underlain by mostly andesitic volcanic rocks of the Wallace (Anarchist) Formation of late Paleozoic and Early Mesozoic age. These rocks consist of metamorphosed andesitic tuffs, cherts, flows and volcanic derived sedimentary rocks. The Wallace Formation is intruded by diorite plugs and dykes belonging to Jurassic Westkettle Pluton (Figure 3).



LEGEND

- |                 |                                 |  |
|-----------------|---------------------------------|--|
| GENEOLOGIC      | TEIARY<br>MIOCENE(?)            | 11 Basalt, olivine basalt  |
|                 | PALEOCENE OR EOCENE             |  |
|                 | PHOENIX VOLCANIC GROUP          | 10 Andesite, trachyte; minor basalt; locally, interbedded tuff, shale, and/or siltstone  |
|                 | KETTLE RIVER FORMATION:         | 9 rhyolite and dacite tuff; locally, conglomerate, sandstone, and shale; minor rhyolite flows and intrusive porphyritic rhyolite |
| MESOZOIC        | PALEOCENE(?)                    |  |
|                 | CORYELL INTRUSIONS:             | 8 syenite; monzonite, shonkinite and granite   |
|                 | LOWER CRETACEOUS(?)             |  |
| MESOZOIC        | VALMALLA INTRUSIONS:            | 7 granite, porphyritic granite   |
|                 | NELSON INTRUSIONS:              | 6 granodiorite, porphyritic granite, diorite, monzonite, quartz monzonite  |
|                 |                                 | 5 Ultrabasic intrusions, serpentinite  |
|                 | JURASSIC                        |  |
| PALAEOZOIC      | ROSLAND GROUP                   | 4 Andesite, latite; agglomerate and flow breccia, minor graywacke  |
|                 | PERMIAN(?)                      |  |
|                 | ANARCHIST GROUP                 | 3 Greenstone, graywacke, limestone; paragneiss   |
| PALAEOZOIC      | PENNSYLVANIAN AND/OR PERMIAN    |  |
|                 | MOUNT ROBERTS FORMATION:        | 2 graywacke, greenstone, limestone; paragneiss   |
| PROTEROZOIC (?) |                                 |  |
|                 | MONASHEE AND GRAND FORKS GROUPS | 1 Paragneiss; minor crystalline limestone and pegmatite  |

0 .5 1 Km

**CARMAC RESOURCES**  
**BEAVERDELL - CHRISTIAN VALLEY AREA**  
 GREENWOOD MINING DIVISION  
**REGIONAL GEOLOGY**  
 OK GROUP

Fig. 3



The volcanic rocks trend approximately north - northwest.

Details with regards to Regional Geology can be referred to in G.S.C. Memoir 79 (Reinecke, 1910, 1915), Geological Series and Geology, No. 65 (Little, 1953, 1956).

#### PROPERTY GEOLOGY

Rock exposures in trenches and outcrops on OK and Boston claims were examined (Figure 4). Mainly two dominant rock types were observed.

1. Quartz diorite or granodiorite plugs and dykes. Texture is medium to coarse-grained, and in places porphyritic. The mafic content varies rich to poor.
2. Andesitic volcanic rocks. Texture is fine-grained and foliated in places. Composition varies from felsic to mafic.

Other rocks documented on the property include a calcareous unit interbedded within the andesitic unit. Porphyritic dykes were observed to cross-cut all the units in the area. These dykes are medium to coarse-grained, light to dark green in colour, and partly porphyritic.

The andesitic rocks are intensely hornfelsed along the contact with quartz diorite and/or granodiorite plugs.

#### MINERALIZATION

Mineralization, consisting of mainly pyrrhotite, pyrite, minor magnetite, arsenopyrite and chalcopyrite with some gold values, occurs sub-parallel to bedding within the andesitic rocks. Minor quartz veining was also observed.

Several zones of significant mineralization were outlined by pits and trenches. Sample locations are shown in Figures rand 4a.

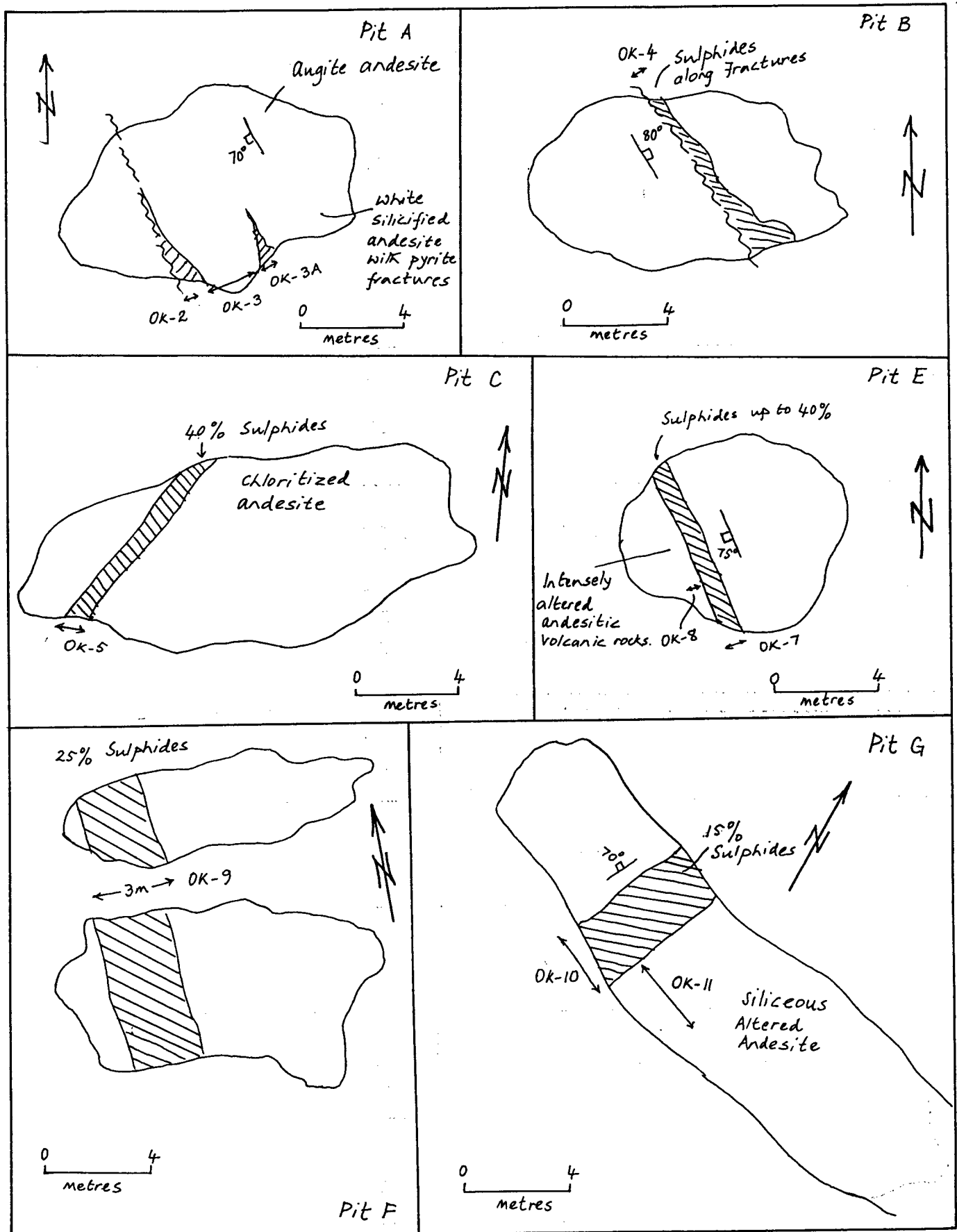


Fig 4a: Pits and Trenches with chip samples and Geology - OK Group  
 For Locations see Fig. 4.

Sample assays and descriptions are given below:

Sample No	Type	Au oz/ton	Location	Description
OK 1	Grab	0.022	Outcrop A	1 to 2 cm wide quartz veins. Wallrock intensely altered to chlorite and clay. Quartz pyrite.
OK 2	Chip 15cm	0.002	Pit A	20% pyrite + pyrrhotite.
OK 3	Chip 2cm	0.001	Pit A	5% pyrite.
OK 3A	Chip 50cm	0.019	Pit A	Silicified andesite with pyrite fracture fillings.
OK 4	Chip 30cm	0.004	Pit B	Sulphides along fractures.
OK 5	Chip 1.0m	0.002	Pit C	40% pyrite + pyrrhotite.
OK 6	Chip 50cm	0.001	Pit D	20% pyrite + pyrrhotite.
OK 7	Chip 1.0m	0.035	Pit E	40% pyrite + pyrrhotite.
OK 8	Chip 50cm	0.002	Pit E	5% sulphides.
OK 9	Chip 2.5m	0.001	Pit F	25% pyrite + pyrrhotite.
OK 10	Chip 2.5m	0.007	Pit G (Trench)	15% pyrite + pyrrhotite + arsenopyrite.
OK 11	Chip 3.0m	0.001	Pit G (Trench)	5% sulphides.
OK 12	Grab	0.001	Pit I	Gossanous rock with boxworks.
OK 13	Grab/Dump	0.002	Shaft A	60% pyrite + pyrrhotite + arsenopyrite.

### RECOMMENDATIONS

Evaluation of all previous data, and examination of rock types and associated mineralization, suggests that the area underlain by OK group has limited potential. The massive sulphide mineralization may be zoned with respect to base metals and gold. Detailed and systematic sampling is necessary to delineate metal zonation.

January, 1990

*Mohan R. Vulimiri*  
Mohan Vulimiri

REFERENCES

- B.C. Minister of Mines Annual Reports; 1901 to 1905, 1938 A and D  
O.K., Mogul and Barnato Claims.
- B.C. Department of Mines, 1966: Report on the Barnato Group. P. 193.
- B.C. Department of Mines, 1967: Report on the Barnato Group. P. 225.
- Crosby, R.O. and Von Rosen, G., 1978: Report on Geochemical and  
Geophysical Survey over a portion of the Barnato Group, Kettle  
River Area, B.C.
- Gewargis, W.A., 1981: Interim Report on the Barnato Group.
- ., 1983: Geological, Geochemical and Geophysical Report on  
Kettle #3, Go #1 and #2 claims, Westbridge, B.C.
- ., 1986: Assessment Report, Percussion drilling on the  
Barnato Claim Group.
- Hewett, F., 1983: Report on the Barnato Group.
- Hogarth, R.D., 1982: 1981 Diamond Drilling Report on the Barnato Claim  
Group.
- Howard, D.A. and Seraphim, R.H., 1983: Report on the Kettle #3, Go #1 and  
#2 located claims and Reverted Crown Granted Claims.
- MacLeod, J.W., 1980: Geochemical Report on the Barnato Group.
- Pezzot, T. and White, G., 1980: Airborne VLF-EM and Magnetometer Survey on  
the Kettle #1 and Kettle #2 Claims.
- Seraphim, R.H., 1977: Report on the Barnato Group.
- ., 1980: Report on the Kettle River Claim.

DETAILED COST STATEMENTWages \*

Grant Crooker	> 1.5 days at \$350.00/day	\$ 525.00	
Mohan Vulimiri	Report writing 1 day at \$350.00/day	\$ 350.00	
	Xeroxing, drafting, typing	\$ 100.00	
		<u>\$ 975.00</u>	\$ 975.00

Assays

14 Samples Au (9.25 + 3.25)	\$ 175.00	\$ 175.00
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Transportation

Vehicle rental 4 x 4 at \$60.00/day (1 day)	\$ 60.00	\$ 60.00
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Board and Lodging

1.5 days at \$60.00/day	\$ 90.00	<u>\$ 90.00</u>
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TOTAL		\$1300.00
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\* Wages include office overhead and administration costs.

CERTIFICATE OF QUALIFICATIONS

I, Mohan R. Vulimiri, hereby certify that:

I am a Consulting Geologist, with business address at 822 East 12th St., North Vancouver, B.C. V7L 2L1.

I am a graduate of Indian Institute of Technology, Kharagpur, India with a B.Sc., Honours in Geological Sciences.

I received a Master of Science degree in Economic Geology from the University of Washington, Seattle, U.S.A.

I am a Member of Society of Economic Geologists, Member of Society of Mining Engineers and a Fellow of the Geological Association of Canada.

I have practised my profession as a Geologist since 1970, and in responsible positions since 1974, in British Columbia, Yukon; Saskatchewan, and South Western U.S.A.

The information, conclusions and recommendations in this report are based on a field examination of the property.

I have no interest, direct or indirect, in the property or in the securities of Carmac Resources Ltd.

Dated at Vancouver, British Columbia, this 1st day of January, 1990.

Mohan R. Vulimiri

Mohan R. Vulimiri

APPENDIX 1

R. SSBACHER LABORATORY LTD.

2225 S. Springer Ave., Burnaby,  
British Columbia, Can. V5B 3N1  
Ph: (604)299-6910 Fax: 299-6252

CERTIFICATE OF ANALYSIS

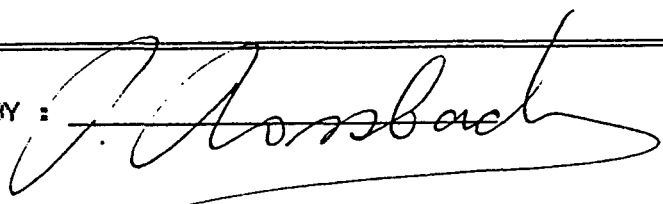
TO : CARMAC RESOURCES  
860-625 HOWE STREET  
VANCOUVER, B.C.  
PROJECT :  
TYPE OF ANALYSIS : ASSAY

CERTIFICATE # : 89437  
INVOICE # : 10109  
DATE ENTERED : 89-11-08  
FILE NAME : NAG89437  
PAGE # : 1

PRE FIX	SAMPLE NAME	oz/t Au	oz/t Ag
A	B 1	0.001	0.01
A	B 2	0.001	0.01
A	B 3	0.007	0.01
A	B 4	0.007	0.02
A	B 5	0.375	0.04
A	B 6	0.030	0.01
A	B 7	0.001	0.01
A	B 8	0.176	0.01
A	B 9	0.003	0.01
A	B 10	0.001	0.01
A	B 11	0.189	0.04
A	B 12	0.002	0.01
A	B 13	1.960	0.10
A	B 14	0.060	0.02
A	B 15	0.003	0.01
A	B 16	0.002	0.01
A	B 17	0.091	0.02
A	B 18	0.001	0.01
A	HM 1	0.323	0.13
A	HM 2	0.001	0.01
A	HM 3	0.550	0.17
A	HM 4	0.349	0.04
A	HM 5	0.001	0.01
A	HM 6	0.502	0.06
A	HM 7	1.770	0.14
A	OK 1	0.022	
A	OK 2	0.002	
A	OK 3	0.001	
A	OK 3 A	0.019	
A	OK 4	0.004	
A	OK 5	0.002	
A	OK 6	0.001	
A	OK 7	0.035	
A	OK 8	0.002	
A	OK 9	0.001	
A	OK 10	0.007	
A	OK 11	0.001	
A	OK 12	0.001	
A	OK 13	0.002	

OK Group

CERTIFIED BY :





ROSSBACHER LABORATORY LTD.

2225 S. Springer Ave., Burnaby,  
British Columbia, Can. V5B 3M1  
Ph: (604)299-6910 Fax:299-6252

CERTIFICATE OF ANALYSIS

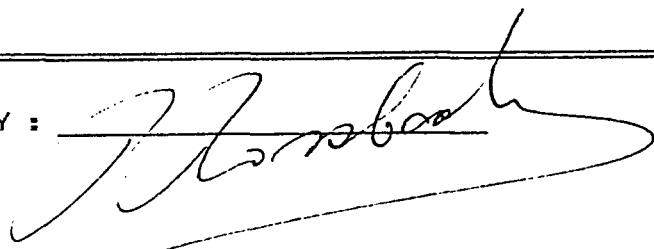
TO : CARMAC RESOURCES  
860-625 HOWE STREET  
VANCOUVER, B.C.

CERTIFICATE # : 89437  
INVOICE # : 10109  
DATE ENTERED : 89-11-08  
FILE NAME : NAG89437  
PAGE # : 2

PROJECT :  
TYPE OF ANALYSIS : GEOCHEMICAL

PRE FIX	SAMPLE NAME	FPB Au
A	A 1	5
A	A 2	5
A	A 3	5
A	M 1	130
A	M 2	90
A	M 3	10

CERTIFIED BY :



OK  
LOT 5735

(OK-13) grab  
.002  
SHAFT A

(OK-11) .001 PIT G  
(OK-10) .007

PIT D .001 (OK-6)  
PIT C .002 (OK-5)  
.001  
PIT F (OK-9)

PIT E  
.035 (OK-7)  
.002 (OK-8)

PIT B  
.004 (OK-4)

PIT A  
.001 (OK-3)  
.002 (OK-2)

OUTCROP-A  
.022  
(OK-1) grab

BOSTON  
LOT 2845

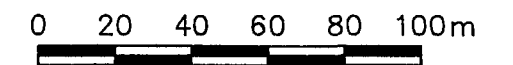
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

19,525

LEGEND

- Claim boundary
- .002 Rock chip assay Au (oz/ton)

\*Note: All samples are chips unless otherwise noted



grab (OK-12)  
PIT-I  
.001

PIT-H

CARMAC RESOURCES

BEAVERDELL - CHRISTIAN VALLEY AREA

GREENWOOD MINING DIVISION  
SAMPLE LOCATION & WORKINGS

O.K. GROUP

O.K. - BOSTON CLAIMS  
(REVERTED CROWN GRANTS)

DATA BY: MOHAN VULIMIRI | Fig. 4  
GRANT CROOKER

