

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

RAN PROPERTY
RAN 1-12 CLAIMS



WATSON LAKE MINING DISTRICT
YUKON TERRITORY, CANADA
NTS MAP SHEET 105G/12

093 853

Centred at Latitude: 61° 39' 25"N; Longitude: 131° 37' 30"W

Work Performed: September 23, 1997

FOR:

PACIFIC BAY MINERALS LTD.
#908-700 West Pender Street
Vancouver, B.C. V6C 1G8

Francis Moyle, B.Sc.

Gary L. Wesa, B.Sc., F.G.A.C.

May, 1998

This report has been examined
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 1200.00.

M. Baker
For Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

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SUMMARY:

The RAN Property comprises 12 claims located approximately 55 km southeast of Ross River, Yukon in the Watson Lake Mining District. The claims were staked in 1994 to protect an area of potentially favourable stratigraphy similar to that hosting Cominco's Kudz Ze Kayah polymetallic volcanogenic massive sulphide deposit located 58 km to the east-southeast. Access to the RAN property is provided via helicopter from the Mink Creek airstrip on the Robert Campbell Highway 18 km to the northeast or directly from Ross River.

This report presents the results of a helicopter supported geological and geochemical sampling survey conducted during September, 1997 by personnel from Pacific Bay Minerals Ltd.

The property is located within the Finlayson Lake map area (104/G) in the Yukon Plateau physiographic region of the northern Cordillera. The claims cover an area of gently north sloping terrain covered by thick forest, low brush and muskeg swamp.

Outcrop exposure is very poor; however, Mortensen (1983) has interpreted the bedrock to comprise mafic metavolcanic rocks with associated metasediments belonging to the "Middle Unit" of the Paleozoic Layered Metamorphic Sequence of Yukon-Tanana Terrane. Float specimens composed of metasedimentary schist, locally mineralized with minor pyrrotite, were found in swampy terrain in the central portion of the property.

A review of all available information indicates that the area has experienced little or no prospecting and there is no record of known showings in this area. Cominco staked the RAN claims in 1994 to cover airborne geophysical targets identified during a Cominco survey conducted in early 1994.

In 1997, Pacific Bay Minerals conducted an exploration program comprised of geological mapping, prospecting and geochemical sampling with the objective of evaluating the property's economic potential and following up on geophysical and geological work by Cominco's personnel in 1994. One float sample was collected; lack of outcrop precluded any lithogeochemical survey.

Geochemical analysis of the single float sample returned low values for all elements tested. Geological mapping and prospecting failed to identify prospective lithologies or economic mineralization. Follow up work is not recommended on the RAN property at this time.

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INTRODUCTION:

This report discusses the exploration procedures and results of a helicopter supported geological and geochemical program conducted by Pacific Bay Minerals Ltd. on the RAN property. Field work was performed by a two member crew during the period of September 23, 1997. Personnel operated out of a trailer situated at the Mink Creek airstrip.

The objective of the 1997 program was to evaluate the property's economic potential through follow up geological mapping, prospecting and sampling. One rock sample was collected. Geological and geochemical data were compiled on 1:10,000 scale contour maps prepared from 1:50,000 scale NTS topographic maps and all final data were produced on 1:10,000 scale hand drafted maps.

All geochemical samples were shipped to ACME Analytical Labs in Vancouver, B.C. for geochemical analysis utilizing 30-element ICP method and gold analysis by wet extraction followed with analysis by graphite furnace AA finish. Analytical procedures are described in Appendix III and analytical results are presented in Appendix IV.

Location and Access:

The RAN property is located in the southeastern Yukon Territory approximately 55 km southeast of Ross River. The claims are situated within NTS map sheet 105G/12 and are centred at 61° 39' 25" North latitude and 131° 37' 30" West longitude. Access to the property is provided via helicopter from the Mink Creek airstrip located 18 km northeast on the Robert Campbell Highway. The claims may also be directly accessed via helicopter from Ross River (Figure 1).

Physiography and Climate:

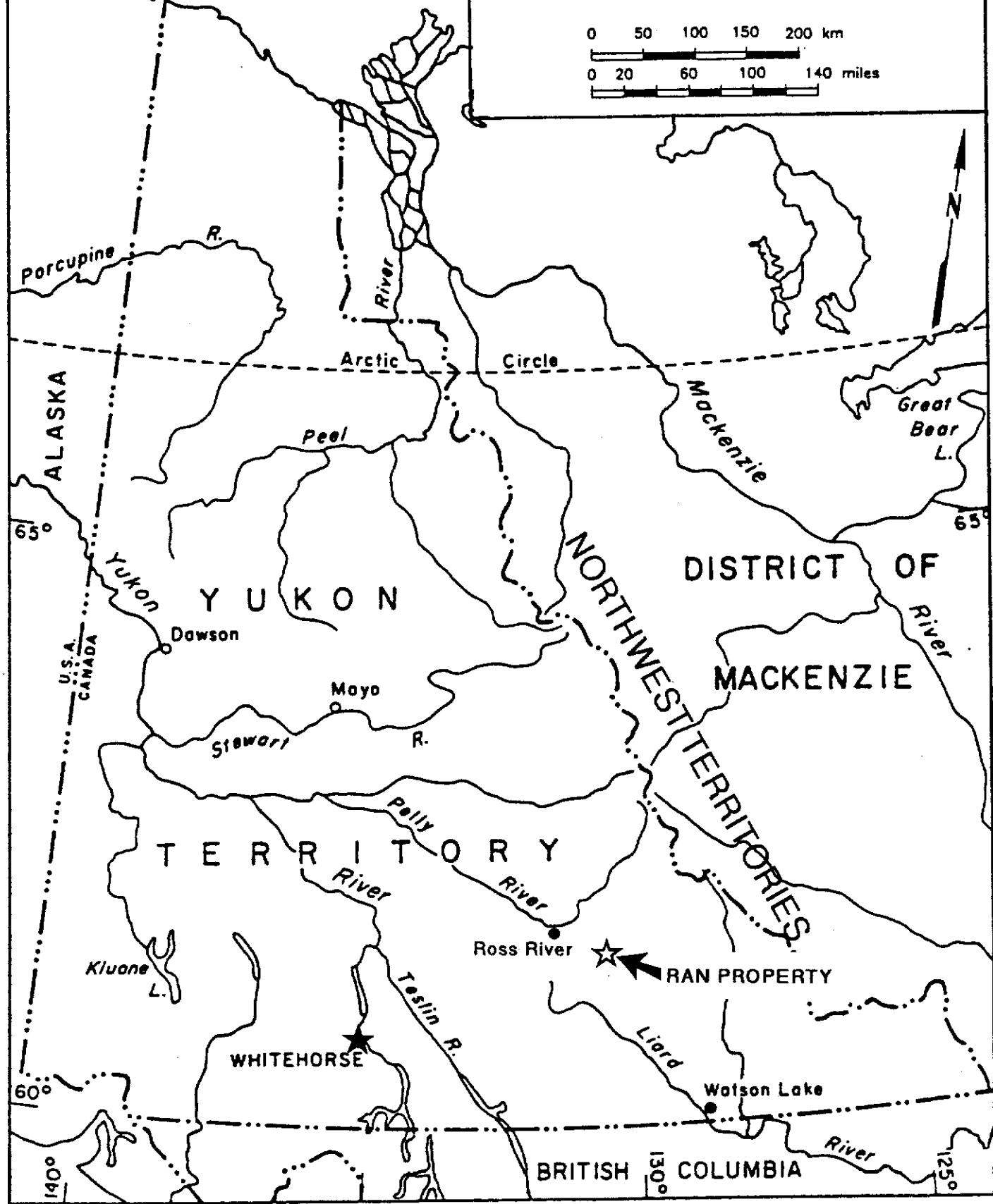
The property is located within the Yukon Plateau physiographic region of the northern Cordillera. Elevations within the claims area range from 945 metres (3,100') to 1052 metres (3,450'). A single, swampy drainage flows diagonally across the property from southwest to northeast. Topography slopes gently to the north.

During the Pleistocene Epoch, ice covered the entire area except for the tops of the highest peaks. McConnell glaciation covered the area during the period from 26,500 to 10,000 years ago. Glaciation has produced isolated, rounded mountains; valleys are occupied by abundant small lakes connected by a network of streams. Valley bottoms are typically underlain with glaciofluvial sediments exceeding five metres in thickness.

PROPERTY LOCATION MAP

Figure 1

0 50 100 150 200 km
0 20 60 100 140 miles



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The regional terrain is covered with a thick growth of "buckbrush" and alder. Slopes also support scattered black spruce and balsam fir. Tree line occurs at roughly 1400 (4,592') to 1500 metres (4,875'). Outcrop is not observed on the property due to overburden cover of undetermined thickness.

Weather records are unavailable for the area; however, general climatic data indicates that precipitation is light, averaging 50cm per annum, and falls mostly as rain during summer months. Snow cover averages approximately 60cm by late winter. The climate is continental type with warm summers and long, cold winters. Annual mean daily temperature is -5°C with ranges from lows of -30° to -50°C in January to 10° to 20°C in July. Permafrost at this latitude is discontinuous but widespread. It is rarely possible to commence surface geological work before the end of June and difficult to continue past September.

Property Status and Ownership:

The RAN property (Figure 2) consists of 12 contiguous claims located within the Watson Lake Mining District. The claims were staked to protect airborne geophysical targets identified during a Cominco survey conducted in early 1994. The claims are currently 100% owned by Cominco; however, an option agreement granted by Cominco to Pacific Bay Minerals permits the latter the right to acquire 60% interest upon completion of a specified work program. Relevant claim data are tabulated in Table 1 below:

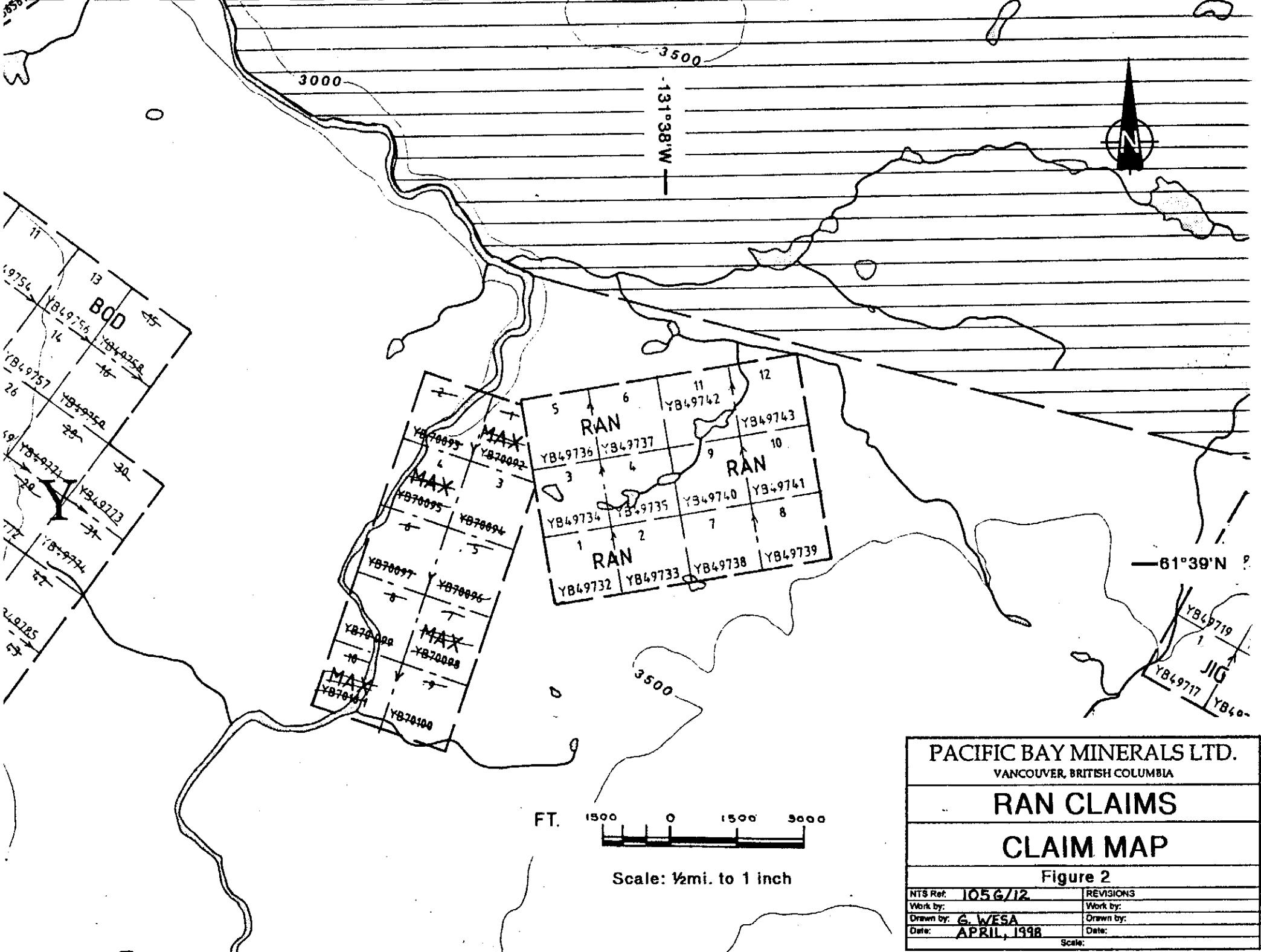
TABLE 1: RAN PROPERTY - CLAIM STATUS

CLAIM NAME	# OF CLAIMS	GRANT #	RECORDING DATE	NEW EXPIRY DATE
RAN	12	YB49732- YB49743	1994/05/15	1999/05/15

HISTORY OF EXPLORATION:

Regional History:

The area was first mapped by Wheeler et al. (1960). Detailed mapping and re-interpretation was subsequently carried out by personnel of the Geological Survey of Canada (Tempelman-Kluit et al, 1975, 1976; Gordey and Tempelman-Kluit, 1976; Tempelman-Kluit, 1977; Gordey, 1977).



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RAN CLAIMS CLAIM MAP

Figure 2

NTS Ref:	105 G/12	REVISIONS
Work by:		Work by:
Drawn by:	G. WESA	Drawn by:
Date:	APRIL, 1998	Scale:

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Finlayson Lake area has experienced reconnaissance exploration by numerous companies at various times since the mid-1960's following discovery and development of the Faro zinc-lead-silver deposits.

Beginning in the early 1970's up to the early 1980's, several companies conducted exploration programs in the area for SEDEX mineralization (HOO) VMS mineralization (PY, FYRE, FETISH, PAK, BEV) and tungsten-bearing skarns (BOOT). In 1973, the FETISH claims were staked by Finlayson Joint Venture over a target 25 km east of the Kudz Ze Kayah deposit. This target exhibited similar geology to Kudz Ze Kayah and was tested by two shallow drill holes. The PY claims were staked in 1975 by Cyprus Anvil Mining Corporation 40 km southeast of Kudz Ze Kayah.

In 1985, J.K. Mortensen and G.A. Jilson published the results of geological mapping conducted in the late 1970's and early 1980's. Their interpretation forms the basis of current knowledge of the regional geology. Mortensen and Jilson recognized the presence of a thick package of Devonian-Mississippian metamorphosed felsic and mafic volcanic rocks in carbonaceous metasediments in the pericratonic Yukon-Tanana Terrane.

In 1988, the G.S.C. released Open File 1648 causing many claims to be staked over gold and arsenic stream sediment anomalies. Many claims were located over allochthonous ophiolitic rocks that appear associated with thrust sheets that border the ultramafic succession.

Current exploration activity in the Finlayson Lake area commenced in late 1993 when Cominco conducted soil geochemical and geophysical surveys in the headwaters of a drainage in which government regional stream sediment survey results delineated strongly anomalous lead, zinc and copper values. Initial Cominco surveys outlined approximately coincident soil geochemical anomalies, electromagnetic conductors and positive magnetic anomalies. The first hole drilled in April, 1994 immediately intersected the deposit. Cominco followed with regional-scale, helicopter-borne magnetic and electromagnetic surveys, diamond drilling and regional staking programs. Exploration and development continued in 1995 with construction of a 23 km access road connecting the Robert Campbell Highway to the discovery site. Published reserves to the end of 1997 are quoted at 13 million tons grading 5.5% Zn, 1.0% Cu, 1.3% Pb, 12 g/t Ag and 1.2 g/t Au.

In 1996-97, D.C. Murphy of the Yukon Geology Program, Department of Indian Affairs and Northern Development conducted detailed 1:50,000 scale geological mapping of the Grass Lakes map sheet (NTS 105 G/7). Cominco's Kudz Ze Kayah massive sulphide deposit occurs in the northeastern corner of this map sheet. Results of this work were released in November, 1997.

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Property History:

A review of government Assessment Report Archives and Archer, Cathro Mineral Inventory files indicates that there is no record of work in the property area and no known showings are documented for this area.

1994 Exploration Program:

During the period of July 21, 1994, 1:10,000 scale geological mapping and prospecting was completed by Cominco personnel. A total of 14 soil samples were collected concurrent with the geological survey.

1997 Exploration Program:

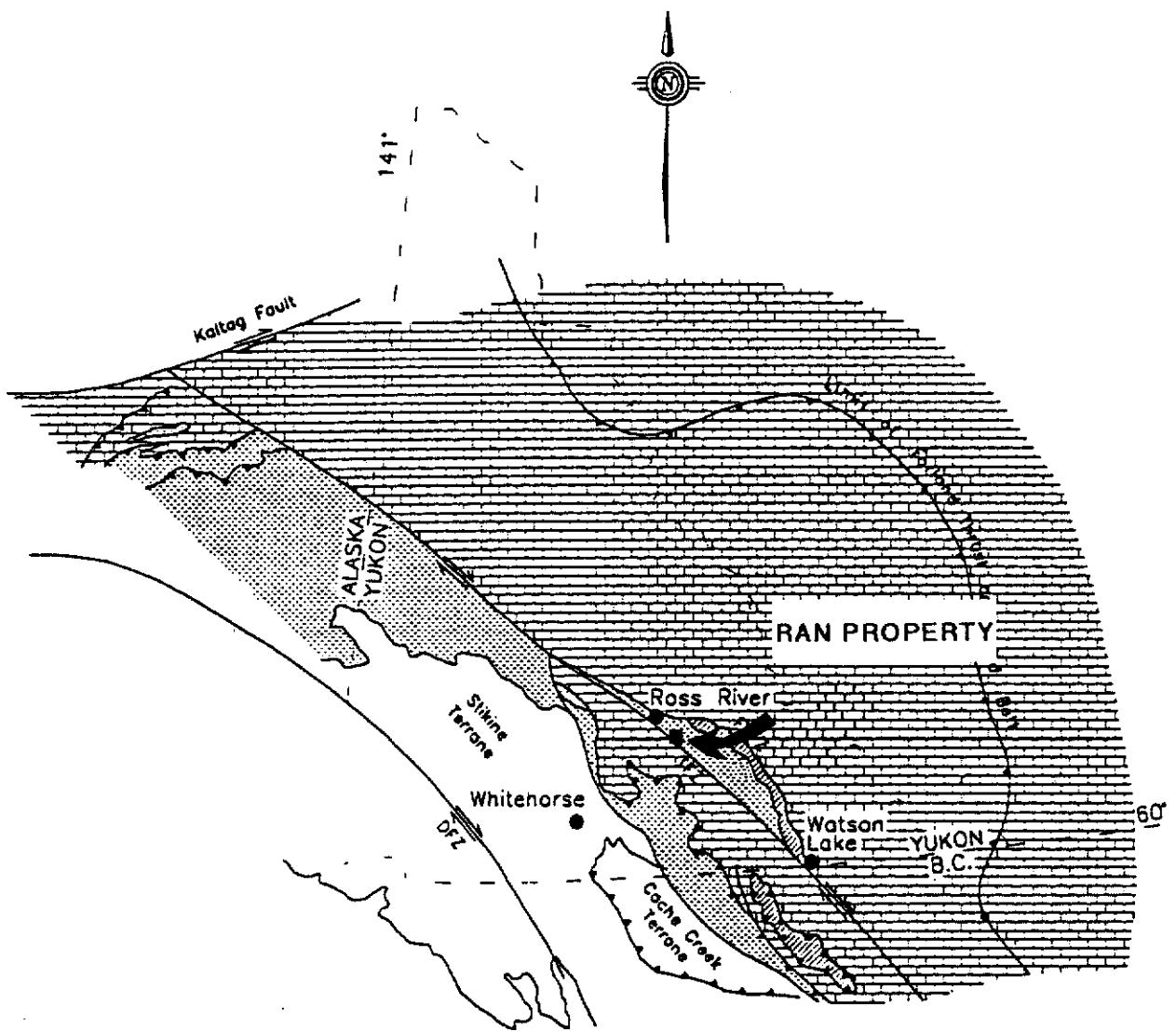
Approximately 75-80% of the property was examined through geological mapping and prospecting at a scale of 1:10,000. One float sample was collected, concurrent with prospecting, from an area of rubble on the north side of the swampy drainage. A veneer of glacial till covers north sloping terrain.

GEOLOGY:

Regional Geology:

A large portion of the western to southeastern Yukon, from the Alaska border to British Columbia, is underlain by a geologically complex terrane composed of polydeformed, dynamothermally metamorphosed sedimentary, volcanic and plutonic rocks. These rocks have been grouped within the Yukon-Tanana and Slide Mountain Terranes and are believed to represent a mid-Paleozoic volcanic-plutonic arc assemblage (Yukon-Tanana Terrane) imbricated with middle and upper Paleozoic ophiolitic sheets (Slide Mountain Terrane); these accreted terranes are believed to be thrust northeastward over the North American Continental Margin (Figure 3). This allochthonous assemblage is preserved in klippen above autochthonous, structurally imbricated Paleozoic and lower Mesozoic North American Shelf strata in the central to southeastern Yukon.

The southwestern side of the allochthon is bounded by the Tintina Fault Zone comprising a series of subparallel transcurrent faults which have produced 450 km of dextral displacement during late Cretaceous and/or early Tertiary times. The northeastern boundary traces a broad arc marking the surface expression of the Finalyson Lake Fault Zone which comprises a complex assemblage of thrust and high angle faults that may, in part, represent a transpressive paleosuture. Both faults juxtapose the allochthonous rocks with autochthonous rocks of the North American miogeocline (Figure 4).



Scale: 1:10,000,000

LEGEND

- [Brick pattern] North American Miogeoclinal Strata
- [Dotted pattern] Yukon - Tanana Terrane
- [Diagonal hatching] Slide Mountain Terrane
- [Wavy line] Thrust Fault
- [Crossed diagonal lines] Strike-Slip Fault, with sense of movement
 - FLFZ - Finlayson Lake Fault Zone
 - TFZ - Tintina Fault Zone
 - DFZ - Denali Fault Zone

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RAN PROJECT

REGIONAL TECTONIC MAP

Figure 3

MTS Ref.	105G/12	REVISIONS
Drawn by:	G. Wesa	Drawn by:
Drawn by:	G. Wesa	Drawn by:
Date:	March, 1998	Date:

Scale

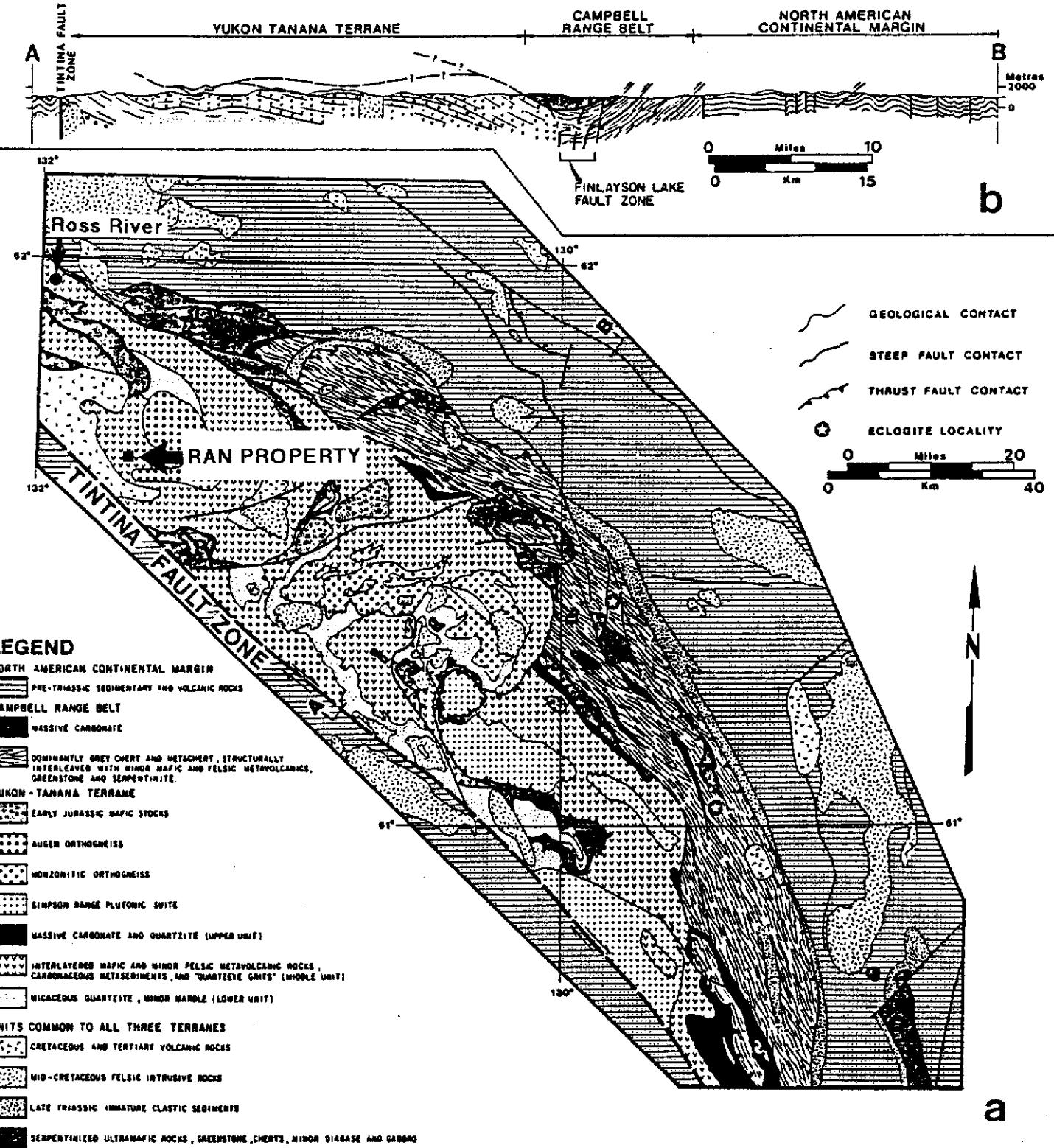


Figure 4: Regional Geology (After Mortensen & Jilson, 1985).

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Rocks of the Yukon-Tanana and Slide Mountain Terranes are believed to have evolved offshore of North America in Paleozoic and early Mesozoic time and were subsequently deformed and metamorphosed in pre-early Jurassic time in a southwest dipping, right-oblique subduction system. These rocks were derived from a basin which formed outboard of present day western North America. This basin was constructed, in part, on oceanic crust locally preserved as ophiolitic assemblages within the Slide Mountain Terrane.

Yukon-Tanana rocks are generally more metamorphosed and contain more felsic metaplutonic suites whereas Slide Mountain Terrane is characterized by the presence of obducted ophiolitic rocks. These lithologies comprise massive to pillow greenstones, basalt, chert and variably serpentinized mafic to ultramafic plutonic rocks. This suite of rocks has been interpreted by Tempelman-Kluit (1979) and Mortensen and Jilson (1985) as fragments of a dismembered ophiolite complex. The rocks range in age from late Devonian to early Permian based upon U-Pb zircon dating methods and fossil ages. Fossil collections made in the Anvil district from ophiolitic rocks of the Anvil Range Group (Tempelman-Kluit, 1972) gave latest Pennsylvanian or earliest Permian ages. These ages were recorded from fusulinids and conodonts recovered from a limestone interfingering depositionally with red and green chert and basalt of the Anvil Range assemblage.

Six principal lithological packages have been identified within the allochthonous rocks in the Finlayson Lake area (Mortensen and Jilson, 1985). These include two metamorphic assemblages that comprise the bulk of Yukon-Tanana Terrane, a relatively unmetamorphosed package belonging to Slide Mountain Terrane and three younger units that are found in both terranes. Descriptions of these lithologies are presented below:

Paleozoic Layered Metamorphic Sequence is the oldest and most abundant lithological package within Yukon-Tanana Terrane. It consists of three distinct stratigraphic units with a total thickness of approximately 3.0 km. The lowest unit contains pre-late Devonian micaceous feldspathic quartzite with minor marble. The middle unit is late Devonian to mid-Mississippian in age and is the focus of volcanogenic massive sulphide exploration in the Finlayson Lake area. It consists of dark siliceous phyllite that becomes increasingly carbonaceous toward the base of the section where it interfingers with widespread mafic metavolcanic schist. Localized felsic metavolcanic centres are found throughout the section. The uppermost unit contains early Pennsylvanian to early Permian white carbonate and quartzite.

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Paleozoic Metaplutonic Rocks are also confined to Yukon-Tanana Terrane. They are subdivided into three suites, all of which are coarse grain and have yielded mid-Mississippian age dates (340 to 359 Ma). The quartz monzonitic to quartz dioritic Simpson Range plutonic suite is slightly older than augen orthogneiss (leucogranite) and monzonitic orthogneiss (quartz monzonite). Most contacts between metaplutonic rocks and the layered metamorphic sequence are foliaform.

Both the layered metamorphic sequence and the metaplutonic rocks underwent intense deformation (F1) during Permian or early Triassic time. This event resulted in pervasive foliation that usually parallels subhorizontal or shallow-dipping compositional layering. The F1 deformation was accompanied by middle greenschist to middle amphibolite facies regional metamorphism. A second phase of deformation (F2) is observed locally but appears to have been a relatively minor event.

Slide Mountain Terrane consists of obducted ophiilitic assemblages that are most abundant within the Campbell Range Belt but also appears as imbricate slices along thrust faults elsewhere in the allochthon. The Campbell Range Belt is up to 25 km wide and forms the northeastern edge of the allochthon. It contains relatively unmetamorphosed but strongly folded and imbricated cherts with mafic and felsic volcanics, massive greenstone and serpentinite. Thrust slices elsewhere in the allochthon are also unmetamorphosed but typically contain a higher proportion of mafic to ultramafic plutonic rocks. Fossils in the cherts have been dated as late Pennsylvanian to early Permian while the mafic and ultramafic rocks are late Devonian. Slide Mountain rocks do not exhibit the F1 foliation characteristic of the Yukon-Tanana layered metamorphic sequence and metaplutonic rocks.

The remaining three units are all younger and unmetamorphosed. They are found in both Yukon-Tanana and Slide Mountain Terranes. Mesozoic Clastic Rocks are late Triassic immature sediments containing cobbles derived from both Yukon-Tanana and Slide Mountain. Mesozoic Plutonic Rocks include a number of early Jurassic mafic to intermediate plutons plus scattered late Cretaceous quartz monzonite stocks. Major thrust faults in the district post-date the early Jurassic plutons but pre-date the late Cretaceous quartz monzonite. This structural event is believed to have occurred during accretion of the allochthon to the North American craton because the thrusts cut the miogeoclinal rocks as well as the allochthonous rocks. Transcurrent movement on the Tintina Fault Zone occurred soon after the thrust faults. Young Volcanic Rocks unconformably overlie the other units and consist of late Cretaceous to Tertiary felsic volcanic flows and volcaniclastic deposits. They are usually found in close proximity to the Tintina Fault Zone.

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Property Geology:

Lithologies:

Outcrop was not observed on the RAN property. Float debris was examined at two locations in the central portion of the property. Rubble in till north of the swampy drainage consists of banded muscovite-quartz-feldspar-biotite schist with minor garnet crystals. Float debris of this lithology was also examined on the south side of the swampy drainage. This area is relatively flat with no water flow at the time of this examination (Map 1).

Mineralization:

Trace to minor quantities of disseminated pyrrhotite occur within metasedimentary schists, described in the previous section, in float debris examined in till on the south side of the swampy drainage.

GEOCHEMISTRY:

Sampling Procedure:

One float sample was collected concurrent with reconnaissance mapping and prospecting. This sample was obtained from material exhibiting evidence of sulphide mineralization. The sample was placed in a numbered plastic bag and the sample site was similarly marked with coded fluorescent ribbon. Swampy and moss covered, low relief terrain precluded obtaining stream silt samples and optimum soil samples.

Ground control for sampling, geological mapping and prospecting, was provided by compass, altimeter and hip chain. Field crews were supplied with 1:10,000 scale contoured base maps for plotting data and navigation. Analytical results are presented in Appendix IV and geochemical values are plotted on Map 1.

Geochemical Results:

Analysis of the single float sample returned low values for all elements tested.

Geochemical background values and anomalous thresholds for Cu, Pb, Zn and Mo mineralization within soil samples collected on the RAN property are presented in Table II. These values were confirmed in a summary report on the Finlayson Lake Properties by M.A. Powers (1996) for Expatriate Resources Ltd. and are valid for geochemical surveys conducted on the RAN property.

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TABLE II - GEOCHEMICAL BACKGROUNDS & ANOMALOUS THRESHOLDS

	Background (ppm)	Weak (ppm)	Moderate (ppm)	Strong (ppm)	Peak Value (ppm)
Copper	25	50	100	200	1720
Lead	30	50	100	200	>4000
Zinc	80	200	500	1000	>4000
Molybdenum	<1	2	5	10	65

CONCLUSIONS:

Geological mapping, prospecting and lithogeochemical sampling was the focus of exploration activity on the RAN claims during examination by Pacific Bay Minerals personnel in 1997.

One float sample was collected; however, analytical results were not encouraging.

Examination of float debris indicates that bedrock in the project area comprises mainly mixed metasedimentary rocks composed of muscovite-quartz-feldspar-biotite schist hosting minor garnet inclusions. This lithology appears correlative to the assemblage of mixed metasedimentary rocks comprising the "Middle Unit" of the Paleozoic Layered Metamorphic Sequence of Yukon-Tanana Terrane.

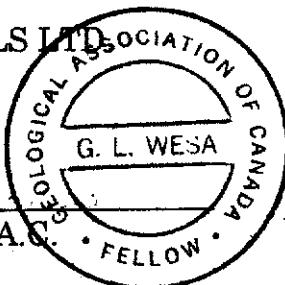
Geological mapping and prospecting failed to identify significant economic mineralization. No felsic metavolcanic rocks or Kudz Ze Kayah VMS style mineralization was detected.

RECOMMENDATIONS:

A review of the data from Cominco's 1994 exploration program, plus a current evaluation of the property by Pacific Bay Minerals, indicates that no additional work is recommended on the RAN property at the present time.

Respectively Submitted

PACIFIC BAY MINERALS LTD.



Gary L. Wesa, B.Sc. F.G.A.C.

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STATEMENT OF QUALIFICATIONS

I, Gary L. Wesa, of #309 - 6669 Telford Avenue, in the City of Burnaby, B.C., do hereby certify that:

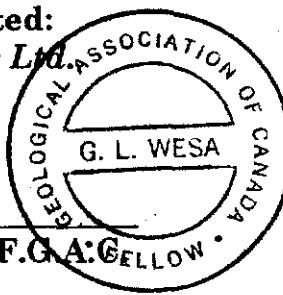
1. I am presently employed as Project Geologist to Pacific Bay Minerals Ltd. with offices at #908-700 West Pender Street, Vancouver, British Columbia.
2. I am a graduate of the University of Saskatchewan with a B.Sc. Degree in Geology (1974) and I have practiced my profession continuously since graduation.
3. I have been employed in mineral exploration in Canada and the U.S.A. since 1970.
4. I am a registered Fellow of the Geological Association of Canada.
5. I am familiar with the regional geology of the Yukon-Tanana and Slide Mountain Terranes and have personally performed work on several properties in this region.
6. I am the author of this report entitled: "Geological and Geochemical Report on the RAN Property", which is based upon researched documents, referenced in this report, and supervision of the 1997 field program.

Dated at Vancouver, British Columbia this 11 day of May, 1998

Respectfully submitted:

Pacific Bay Minerals Ltd.

Gary L. Wesa, B.Sc., F.G.A.:FELLOW



APPENDIX I

Itemized Cost Statement

RAN CLAIM
ITEMIZED COST STATEMENT

FIELD COSTS

Salaries

F. Moyle	1 day @ 200/day	\$200.00
J. Hunt	1 day @ 125/day	\$125.00
	Total	<u>\$325.00</u>

Field Expenses:

Helicopter Transport (Trans North Helicopters)	\$500.00
Helicopter Fuel	\$ 60.00
Truck/Trailer Rental	\$200.00
Trailer Insurance	\$ 25.00
Generator Rental	\$ 50.00
Sat. Phone Rental	\$ 40.00
Gas	\$ 75.00
Meals	\$ 80.00
Misc. Supplies	\$ 50.00
Radio Rental	\$ 15.00
Travel Airfare	\$ 73.00
Freight/Shipping	\$ 10.00
7% GST on Field Expenses	\$ 82.50
	Total
	<u>\$1260.00</u>

GEOCHEMICAL ANALYSIS

Rock Samples	1 @ \$16.00 per sample	\$ 16.00
	Total	<u>\$16.00</u>

OFFICE COSTS

Salaries

F. Moyle	1 day @ 145 per day	\$145.00
	Total	<u>\$145.00</u>

TOTAL EXPENDITURES:

\$1746.00



APPENDIX II

Summary of Personnel

Summary of Personnel

<u>NAME</u>	<u>TITLE</u>	<u>ADDRESS</u>
Gary L. Wesa	Project Geologist	Vancouver, BC
Francis Moyle	Geologist	North Vancouver, BC
John Hunt	Sampler	Watson Lake, BC

APPENDIX III

Analytical Procedure

ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B.C., Canada V6A 1R6

Telephone: (604) 253-3158 Fax: (604) 253-1716

**METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE
GROUP 1D - 30 ELEMENT ICP BY AQUA REGIA**

Sample Preparation:

Soils and sediments are dried (60°C) and sieved to -80 mesh (-177 microns), rocks and drill core are crushed and pulverized to -100 mesh (-150 microns). Plant samples are dried (60°C) and pulverized or dry ashed (550°C). Moss-mat samples are dried (60°C), pounded to loosen trapped sediment then sieved to -80 mesh. At the clients request, moss mats can be ashed at 550°C then sieved to -80 mesh although this can result in the potential loss by volatilization of Hg, As, Sb, Bi and Cr. A 0.5 g split from each sample is placed in a test tube. A duplicate split is taken from 1 sample in each batch of 34 samples for monitoring precision. A sample standard is added to each batch of samples to monitor accuracy.

Sample Digestion:

Aqua Regia is a 3:1:2 mixture of ACS grade conc. HCl, conc. HNO₃ and demineralized H₂O. Aqua Regia is added to each sample and to the empty reagent blank test tube in each batch of samples. Sample solutions are heated for 1 hour in a boiling hot water bath (95°C).

Sample Analysis:

Sample solutions are aspirated into an ICP emission spectrograph (Jarrel Ash Atom Comp model 800 or 975) for the determination of 30 elements comprising: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Th, Ti, U, V, W, Zn.

Data Evaluation:

Raw and final data from the ICP-ES undergoes a final verification by a British Columbia Certified Assayer who then signs the Analytical Report before it is released to the client. Chief Assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.

ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B.C., Canada V6A 1R6

Telephone: (604) 253-3158 Fax: (604) 253-1716

METHOD FOR WET GEOCHEM GOLD ANALYSIS

Sample Preparation:

Soils and sediments are dried (60°C) and sieve to -80 mesh.

Rocks and cores are crushed and pulverized to -100 mesh.

Sample Digestion

1. 10g samples in 250 ml beaker, ignite at 600°C for four hours.
2. Add 40 ml of 3:1:2 mixture HCL:HNO₃:H₂O.
3. Cover beaker with lids.
4. Boil in hot water bath for one hour.
5. Swirl samples 2 to 3 times within the hour.
6. Cool, add 60 ml of distilled water and settle.
7. Pour 50 ml of leached solution using a graduated cylinder into 100 ml volumetric flask.
8. Add 10 ml of MIBK and 25 ml of distilled water.
9. Shake 3 to 4 minutes in shaker.
10. Add additional 25 ml of distilled water to stripe out excess iron.
11. Shake each flask 10 times.
12. Pour MIBK into container for graphite AA finished.

APPENDIX IV

Rock Geochemical Lab Reports

GEOCHEMICAL ANALYSIS CERTIFICATE

Pacific Bay Minerals Ltd. PROJECT MINK CREEK File # 97-5806
908 - 700 W. Pender St., Vancouver BC V6C 1G8 Submitted by: Frank Moyle

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W %	Au* ppb
B 149951	1	13	38	49	<.3	18	8	293	2.07	<2	<8	<2	6	89	<.2	<3	<3	48	1.08	.047	15	40	.63	9	.05	<3	1.32	.04	<.01	3	<1
B 149952	2	19	23	69	<.3	28	12	734	3.22	<2	<8	<2	11	54	<.2	<3	<3	63	3.91	.092	24	64	1.06	185	.17	<3	1.95	.08	.82	<2	1
B 149953	1	17	28	15	<.3	13	7	89	1.41	<2	<8	<2	2	174	<.2	<3	<3	15	1.22	.059	5	17	.11	4	.14	<3	.77	.02	.01	4	<1
B 149954	1	8	19	36	<.3	5	5	320	2.34	<2	<8	<2	24	46	<.2	<3	<3	21	1.12	.033	46	11	.51	41	.01	<3	1.02	.05	.11	2	<1
B 149955	3	18	18	58	<.3	11	14	596	4.08	3	<8	<2	22	16	<.2	<3	<3	102	.27	.052	34	17	1.25	122	.05	<3	1.57	.07	.31	<2	1
B 149956	14	52	21	93	<.3	86	6	386	1.32	3	<8	<2	<2	55	.2	<3	<3	408	1.72	.106	16	42	.32	44	<.01	<3	.65	<.01	.19	9	<1
B 149957	2	180	16	49	<.3	30	36	324	3.77	5	<8	<2	13	17	<.2	<3	<3	92	.72	.062	31	88	1.53	91	.18	<3	1.89	.04	.36	5	<1
B 149958	2	59	116	20	<.3	69	14	99	.93	12	<8	<2	<2	86	<.2	<3	<3	16	1.36	.079	5	29	.13	18	.27	<3	.52	.03	.01	3	1
B 149959	1	89	9	79	.3	49	32	1114	5.24	7	<8	<2	2	281	.4	<3	<3	198	12.68	.203	22	10	1.71	54	.06	<3	1.97	.02	.01	<2	2
B 149960	1	39	9	37	<.3	81	21	971	2.76	4	<8	<2	<2	220	.2	<3	<3	95	8.21	.094	8	197	1.00	191	.03	<3	1.23	.02	.07	<2	2
B 149961	1	8	13	74	<.3	9	10	1258	3.28	2	<8	<2	4	111	<.2	<3	<3	54	2.64	.043	18	16	1.16	237	.02	7	2.87	.20	.13	<2	2
B 149962	4	29	4	124	<.3	17	37	1764	9.70	19	<8	<2	9	292	.2	<3	<3	84	4.71	.397	93	5	2.72	29	.02	<3	3.45	.02	<.01	<2	2
B 149963	3	51	19	66	<.3	31	30	2738	7.80	15	<8	<2	3	287	.8	<3	<3	49	10.20	.204	41	27	2.00	37	.01	<3	1.15	.02	.01	<2	1
RAN B 149965 Rock	1	8	11	46	<.3	17	7	351	1.97	<2	<8	<2	10	35	<.2	<3	<3	23	1.45	.490	32	33	.55	71	.06	<3	1.10	.02	.27	4	1
B 149966	2	20	65	267	<.3	8	30	1339	8.20	5	<8	<2	3	75	.3	<3	<3	174	2.19	.197	8	46	2.36	44	.32	<3	3.27	.02	<.01	<2	1
B 149967	3	52	9	154	.4	17	19	728	8.21	<2	<8	<2	5	36	<.2	<3	<3	187	1.80	.243	38	57	2.18	50	.03	<3	3.64	.02	<.01	<2	1
B 149968	2	14	35	180	<.3	23	28	1858	8.12	<2	<8	<2	7	10	<.2	<3	<3	213	.58	.093	16	69	2.16	15	.33	<3	3.81	.02	<.01	<2	1
B 149969	1	10	<3	63	<.3	153	32	879	6.02	<2	<8	<2	3	221	.4	<3	<3	74	9.20	.114	19	281	1.81	1787	.03	<3	2.50	<.01	.05	<2	1
B 149970	2	10	7	143	<.3	15	38	1161	10.83	<2	<8	<2	3	70	<.2	<3	<3	245	2.17	.206	15	30	2.67	538	.18	<3	3.64	.02	.04	<2	1
RE B 149970	2	10	11	142	<.3	15	38	1147	10.67	<2	<8	<2	3	70	<.2	<3	<3	242	2.14	.204	15	31	2.64	524	.18	4	3.61	.02	.04	<2	1
B 149971	<1	3	6	13	<.3	5	2	1112	1.96	2	<8	<2	2	297	.8	<3	<3	11	32.61	.017	1	4	.97	23	<.01	3	.06	<.01	<.01	<2	<1
B 149972	<1	1624	10	51	.9	64	34	3201	3.21	2	<8	<2	3	265	.7	4	<3	30	16.34	.077	27	41	.77	609	.02	4	.34	.03	.05	2	20
B 149973	<1	52	13	87	.3	37	28	793	5.56	<2	<8	<2	<2	107	.3	<3	<3	152	1.38	.098	8	194	2.42	76	.41	3	2.27	.04	.05	<2	<1
B 149974	<1	76	11	73	<.3	54	27	667	4.86	<2	<8	<2	<2	165	<.2	<3	<3	124	2.40	.174	11	179	2.12	268	.31	6	1.98	.03	.18	<2	7
B 149975	<1	73	<3	79	<.3	108	24	793	3.81	<2	<8	<2	2	211	<.2	<3	<3	81	2.64	.296	27	192	1.81	246	.32	3	1.99	.03	.36	<2	<1
B 149976	1	126	8	104	<.3	125	31	908	5.60	<2	<8	<2	2	105	<.2	<3	<3	100	2.45	.287	21	226	3.00	261	.31	8	2.93	.02	.30	<2	<1
B 149977	1	12	12	65	<.3	59	29	1508	7.06	4	<8	<2	3	1708	1.3	<3	<3	55	10.73	.186	11	28	2.57	100	.01	12	.31	.03	.01	<2	<1
B 149978	<1	17	<3	26	<.3	2265	103	757	5.47	3	<8	<2	<2	12	1.1	<3	<3	31	.29	.002	<1	950	19.86	7	.01	8	.65	<.01	<.01	<2	1
B 149979	1	10	11	46	<.3	36	6	519	3.13	2	<8	<2	4	20	.3	<3	<3	7	.13	.025	13	20	.43	213	<.01	<3	.67	.01	.13	5	<1
C 27901	1	12	16	33	<.3	22	6	413	1.98	<2	<8	<2	13	22	<.2	<3	<3	19	1.30	.020	22	41	.68	61	.04	<3	.96	.04	.12	4	<1
STANDARD C3/AU-R	27	67	38	166	5.6	34	12	727	3.37	55	21	<2	18	30	23.6	13	26	83	.59	.084	18	163	.60	146	.10	15	1.90	.04	.16	23	456
STANDARD G-1	2	4	5	50	<.3	8	4	590	2.21	<2	<8	<2	2	69	<.2	<3	<3	45	.65	.078	7	91	.67	254	.16	<3	1.06	.06	.51	<2	2

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.

THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB

- SAMPLE TYPE: ROCK AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM)

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 3 1997 DATE REPORT MAILED: Oct 9/97 SIGNED BY: *J. Moyle* D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

Date *Oct 9/97* FA

