

019099

PROPERTY FILE

JOSH, JOSH 2-4 : 104B 023

GEOLOGICAL REPORT  
ON THE  
JOSH, JOSH 2-4 MINERAL CLAIMS

Located in the Iskut River Area  
Liard Mining Division  
NTS 104B/10W  
56°38' North Latitude  
130°48' West Longitude

- Prepared for -

REDWOOD RESOURCES INC.

- Prepared by -

D.A. CAULFIELD, Geologist  
C.K. IKONA, P.Eng.

May, 1987

## GEOLOGICAL REPORT on the JOSH, JOSH 2-4 MINERAL CLAIMS

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## 1.0 INTRODUCTION

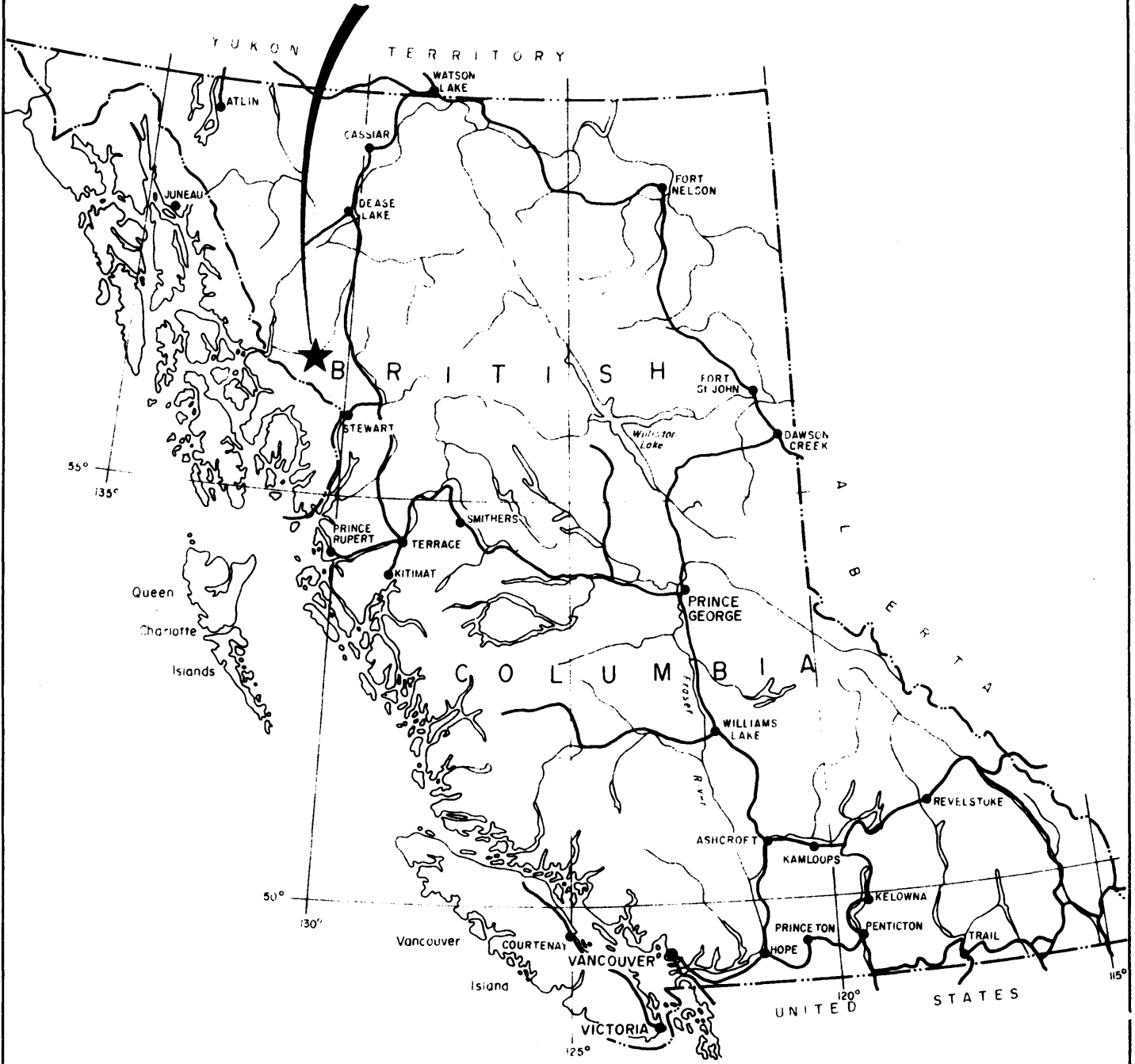
The Josh Mineral Claims were staked in the fall of 1982 on the east side of Snippaker Creek, approximately 6 km southeast of its confluence with the Iskut River in northwestern British Columbia (Figure 1). These claims were staked to explore several known copper-zinc occurrences for their precious metal potential. Skyline Exploration Ltd.'s Stonehouse Gold deposit, which is being readied for production in the fall of 1987, is approximately 15 km west of the Josh Claims and has sparked renewed exploration interest in the Iskut region.

At the request of the Directors of Redwood Resources Inc., the writers have reviewed all the available data and have prepared a compilation report on which to base further exploration. Mr. Caulfield conducted the 1984 exploration program on the Josh Claims for Gulf International Minerals Ltd. (Caulfield and Ikona, 1985). Mr. Ikona is presently coordinating engineering services for Skyline on the Reg Project. In addition, Mr. Ikona has supervised the exploration of a number of prospects in the Iskut and Stikine River areas over a period of twenty-four years, and has acquired a considerable level of familiarity with the types of mineralization found in the region.

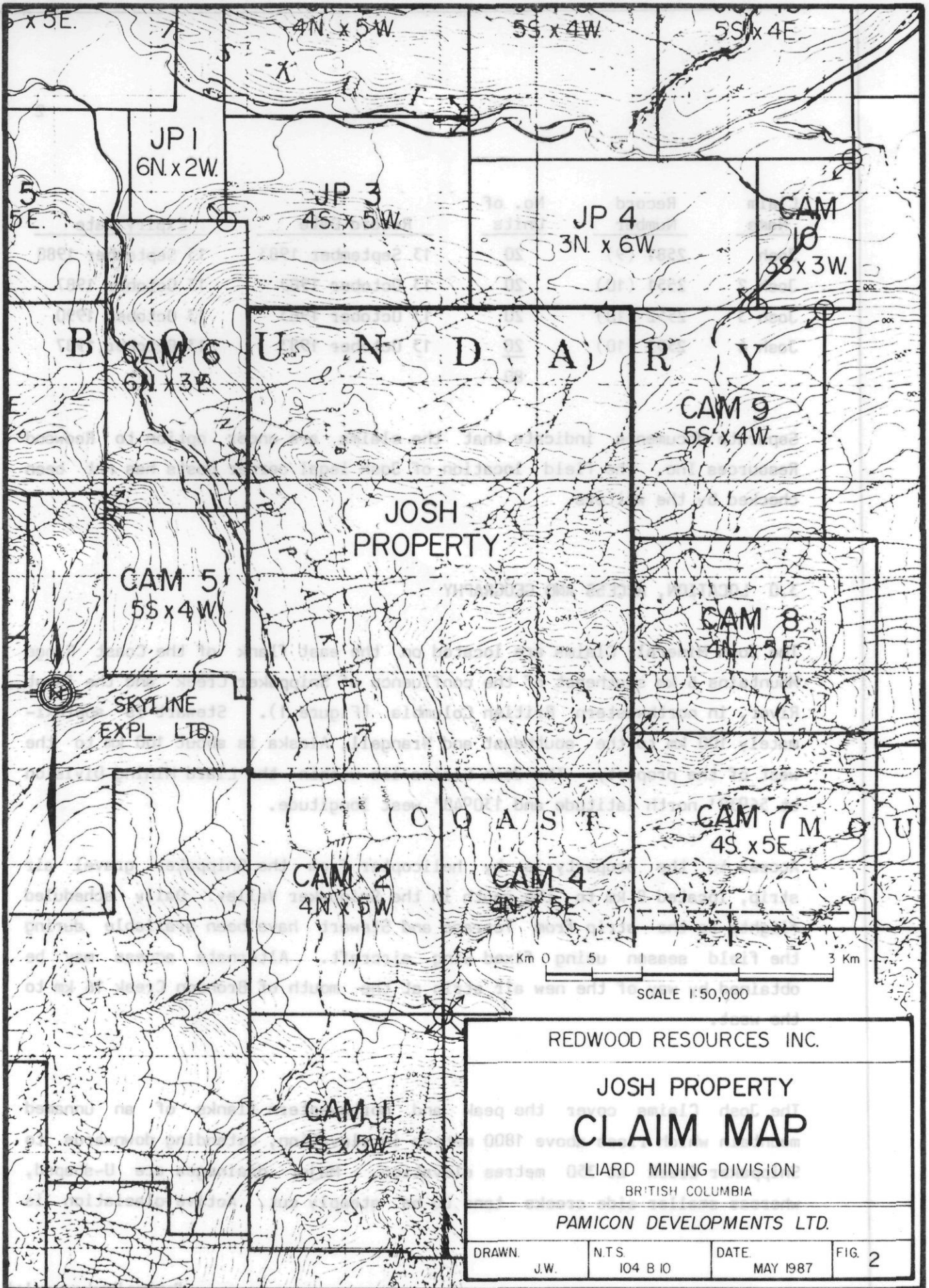
## 2.0 LIST OF CLAIMS

Records of the British Columbia Ministry of Energy, Mines and Petroleum Resources indicate that the following claims (Figure 2) are owned by Gulf International Minerals Ltd.

# PROPERTY LOCATION



REDWOOD RESOURCES INC.			
JOSH PROPERTY			
PROPERTY LOCATION MAP			
<p>0 100 200 MILES 0 100 200 300 KILOMETERS</p>			
PAMICON DEVELOPMENTS LTD.			
DRAWN M	PROJECT M/R/10	DATE MAY 1997	REV 0



JP 1  
6N x 2W

JP 3  
4S x 5W

JP 4  
3N x 6W

CAM 10  
3S x 3W

BUNDARY

CAM 6  
6N x 3E

CAM 9  
5S x 4W

JOSH  
PROPERTY

CAM 5  
5S x 4W

CAM 8  
4N x 5E

SKYLINE  
EXPL. LTD.

COAST

CAM 7 M O U  
4S x 5E

CAM 2  
4N x 5W

CAM 4  
4N x 5E

CAM 11  
4S x 5W

REDWOOD RESOURCES INC.

JOSH PROPERTY  
**CLAIM MAP**

LIARD MINING DIVISION  
BRITISH COLUMBIA

PAMICON DEVELOPMENTS LTD.

DRAWN J.W.	N.T.S. 104 B 10	DATE MAY 1987	FIG. 2
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<u>Claim Name</u>	<u>Record Number</u>	<u>No. of Units</u>	<u>Record Date</u>	<u>Expiry Date</u>
Josh	2581 (9)	20	13 September 1983	13 September 1988
Josh 2	2551 (10)	20	13 October 1983	13 October 1987
Josh 3	2552 (10)	20	13 October 1983	13 October 1990
Josh 4	2553 (10)	<u>20</u>	13 October 1983	13 October 1987
		80		

Separate documents indicate that the claims are under option to Redwood Resources Inc. The field location of Josh legal corner posts has not been checked by the writers.

### 3.0 LOCATION, ACCESS AND GEOGRAPHY

The Josh Mineral Claims are located on the east flank of the Coast Range Mountains 6 km southeast of the confluence of Snippaker Creek and the Iskut River, in northwestern British Columbia (Figure 1). Stewart is approximately 100 km to the southeast and Wrangell, Alaska is about 100 km to the west of the property. The Josh Claims lie within the Liard Mining Division at 56°38' north latitude and 130°48' west longitude.

Access to the property is by helicopter from the Snippaker gravel air strip, located 8 km to the south in the Snippaker Valley. Daily scheduled flights to the strip from Terrace and Stewart have been available during the field season using fixed wing aircraft. Alternate access may be obtained by way of the new air strip at the mouth of Bronson Creek 16 km to the west.

The Josh Claims cover the peak and northwestern flanks of an unnamed mountain which rises above 1800 metres in elevation, extending downwards to Snippaker Creek at 350 metres elevation. Major drainages are U-shaped, whereas smaller side creeks tend to be steeply cut. Active glaciation is

prevalent above treeline which approximates the 1200 metre contour. The upper reaches of the area are covered with alpine vegetation. Lower slopes are generally covered by a variety of conifers with an undergrowth of devil's club. More open areas and steeper slopes contain dense 'slide' alder growth. Both summer and winter temperatures are moderate with over 200 centimetres of annual precipitation.

#### 4.0 AREA HISTORY

General mineral exploration activity in the region dates back to the turn of the century and continued on into the 1930s with interest in precious metals centering on the Stewart Camp. Sporadic placer operations were active along the Unuk River Valley during this time.

In 1954, Hudsons Bay Mining & Smelting located the Pick Axe showing and high grade gold-silver-lead-zinc float on the open upper slopes of Johnny Mountain, which today is part of Skyline Explorations Ltd. Stonehouse Gold deposit. The claims were worked and subsequently allowed to lapse.

At this time, several chalcopyrite-sphalerite skarns were explored by Newmont Explorations on the ground now covered by the Josh Claims.

During the 1960s, several major mining companies conducted helicopter-borne reconnaissance exploration programs in a search for porphyry copper-molybdenum deposits. Several claims were staked on Johnny Mountain and on Sulphurets Creek.

In 1969 Skyline staked the Inel property after discovering massive sulphide float originating from the head of the Bronson Creek glacier.

After restaking the Reg property on Johnny Mountain in 1980, Skyline carried out trenching and drilling for high grade vein and polymetallic massive sulphide mineralization on the Stonehouse Gold and Inel deposits between 1981 and 1985.

In 1986, drilling and underground exploration on the Stonehouse Gold Zone confirmed the presence of high grade gold mineralization with additional values in silver and copper over mineable widths with good lateral and vertical continuity.

Grove (1987) presents the following reserve summary for the Stonehouse Gold deposit:

	<u>Au</u> (oz)	<u>Ag</u> (oz)	<u>Cu</u> (%)	<u>Tons</u>
Total Measured	1.328	1.91	1.50	79,848
Total Drill-Indicated	0.671	0.97	0.78	153,598
Total Inferred	<u>0.670</u>	<u>0.70</u>	<u>0.67</u>	<u>705,000</u>
Total	0.730	0.85	0.76	938,446

Grove also notes the geological potential for substantial additional reserves.

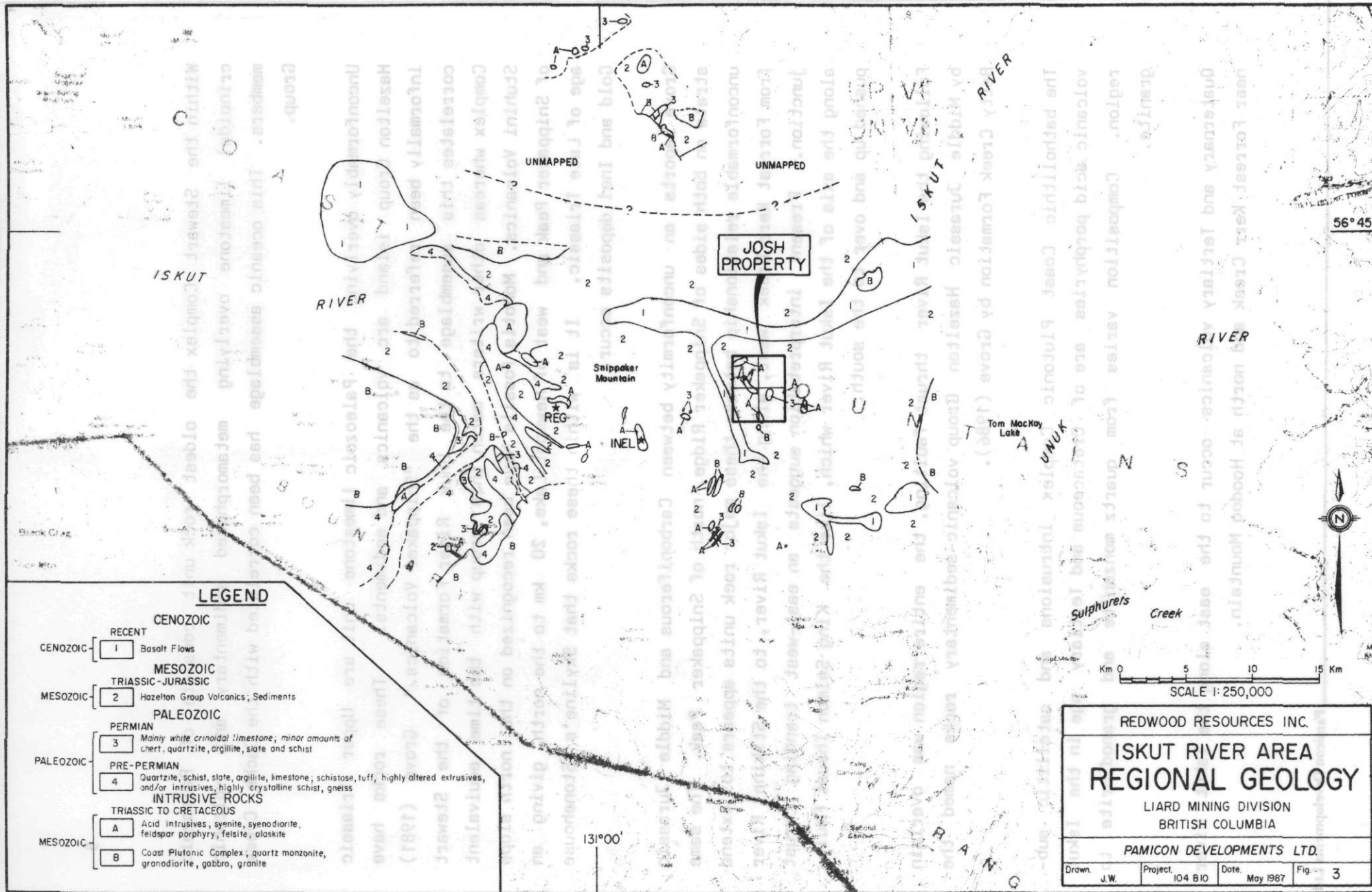
## 5.0 REGIONAL GEOLOGY (Figure 3)

Government mapping of the general geology in the Iskut River area (Kerr, 1929, GSC Maps 9-1957 and 1418-1979) has proved to be incomplete and unreliable. Subsequent mineral exploration studies have greatly enhanced the lithological and stratigraphic knowledge of this geo-entity known as the Stewart Complex (Grove, 1986).

Grove (1986) defines the Stewart Complex in the following manner:

"The Stewart Complex lies along the contact between the Coast Plutonic Complex on the west, the Bowser Basin on the east, Alice Arm on the south and the Iskut River on the north."





REDWOOD RESOURCES INC.

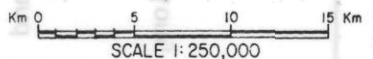
**ISKUT RIVER AREA  
REGIONAL GEOLOGY**

LIARD MINING DIVISION  
BRITISH COLUMBIA

PAMICON DEVELOPMENTS LTD.

Drawn	J.W.	Project	104 B10	Date	May 1987	Fig.	3
-------	------	---------	---------	------	----------	------	---

56°45'



131°00'

Within the Stewart Complex the oldest rock unit consists of Paleozoic crinoidal limestone overlying metamorphosed sedimentary and volcanic members. This oceanic assemblage has been correlated with the Cache Creek Group.

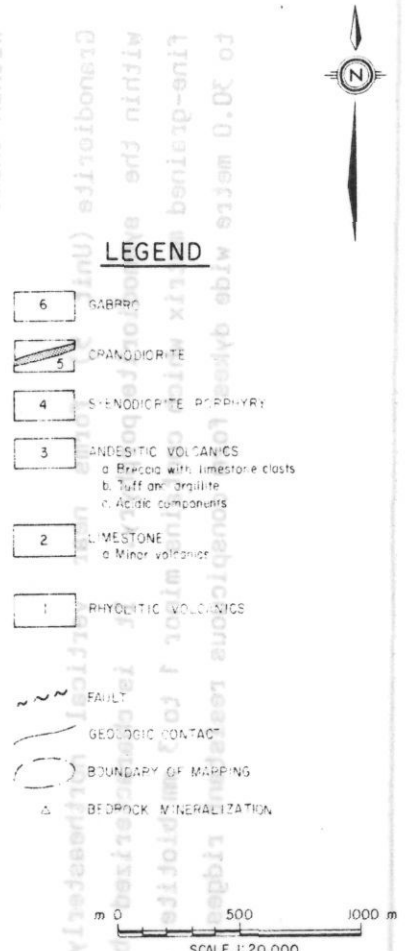
Unconformably overlying the Paleozoic limestone unit are Upper Triassic Hazelton Group island arc volcanics and sediments. These rocks have informally been referred to as the "Snippaker Volcanics." Grove (1981) correlates this assemblage to the Unuk River Formation of the Stewart Complex whereas other writers match this group with the time equivalent Stuhini Volcanics. Monotis fossils have been recognized on the north slope of Snippaker Peak and west of Newmont Lake, 20 km to the north, giving an age of Late Triassic. It is within these rocks that Skyline's Stonehouse Gold and Inel deposits occur.

Grove reports an unconformity between Carboniferous and Middle Jurassic strata on both sides of Snippaker Ridge, north of Snippaker Peak. The same unconformable relationship between these major rock units appears to extend from Forrest Kerr Creek west, along the Iskut River, to the Stikine River junction. Present interpretation suggests an east-west trending thrust along the axis of the Iskut River which, like the King Salmon Thrust Fault, pushed up and over to the south.

Following the Iskut River thrust faulting, the entire region was overlain by Middle Jurassic Hazelton Group volcanic-sedimentary rocks named the Betty Creek Formation by Grove (1986).

The batholithic Coast Plutonic Complex intrusions and satellitic sub-volcanic acid porphyries are of Cretaceous and Tertiary age in the Iskut region. Composition varies from quartz monzonite and granodiorite to granite.

Quaternary and Tertiary volcanics occur to the east along the Iskut River near Forrest Kerr Creek and north at Hoodoo Mountain.



REDWOOD RESOURCES INC.

**JOSH PROPERTY  
GEOLOGY**

LIARD MINING DIVISION  
BRITISH COLUMBIA

PAMICON DEVELOPMENTS LTD.

Drawn J.W.	NTS 104 B 10	Date May 1987	Fig 4
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## 6.0 PROPERTY GEOLOGY

The Josh Mineral Claims are underlain by a succession of limestone, volcanics and related sediments of probable Paleozoic and Mesozoic age which have been intruded by elements of the Coast Plutonic Complex, and extensively deformed (Figure 4).

A thick bed of Permian light grey, banded, crinoidal limestone (Unit 2) provides a marker horizon from the northwest to the southeast across the property. Carbonaceous andesitic volcanics form a minor portion of this unit.

Overlying the limestone is a thick sequence of andesitic volcanic breccias (Unit 3), characterized in part by clasts of limestone up to 10 cm in length, and containing minor tuff and argillite beds. Rare acidic members may be due to intense silicification near intrusives. A conspicuous rhyolitic unit (Unit 1) which occurs on the western boundary of Josh 3 may be a sill or flow representing a differentiated phase of the andesitic volcanism.

A syenodiorite porphyry of the Coast Plutonic Complex (Unit 4) intrudes the volcanoclastics and sediments. It is characterized by 1.0 to 1.5 cm hornblende phenocrysts and 1 to 5.0 cm pink orthoclase phenocrysts in a medium-grained subhedral matrix distinctly lacking in quartz. The main body strikes northeasterly across the Josh and Josh 4 Claims. Both north and south contacts are obscured by overburden but the syenodiorite porphyry appears to crosscut the stratified rock units, forming both sills and dykes within them.

Granodiorite (Unit 5) forms near vertical northeasterly-trending dykes within the syenodiorite porphyry. It is characterized by a leucocratic fine-grained matrix which contains minor 1 to 3 mm biotite grains. The 3.0 to 30.0 metre wide dykes form conspicuous resistant ridges.

## 7.0 GEOPHYSICS AND GEOCHEMISTRY

### 7.1 GEOPHYSICS

An airborne geophysical survey was conducted in 1983 over the Josh Claims by Dighem Limited on behalf of Gulf International Minerals Ltd. (Dvorak, 1983). Several EM conductors were located (Figure 5). Three of these, in the central part of the Josh Claim, were ascribed to weak bedrock conductors and probably correspond to the chalcopyrite-magnetite-sphalerite skarns discovered by Newmont. They are associated with weak southeasterly trending magnetic high and resistivity low anomalies.

The strongest geophysical anomaly uncovered in the 1983 survey occurs along the northern claim boundary of Josh 4, where an EM conductor trends easterly across three flight lines for a distance of 300 metres. Another conductor occurs approximately 150 metres further north. Both are enveloped by a prominent easterly trending resistivity low. There is no associated magnetic anomaly. This type of geophysical signature would be expected of an easterly trending heavy sulphide body.

A weaker EM conductor with an associated resistivity low occurs 1000 metres south in the central portion of Josh 4.

A strong EM conductor trends northeasterly onto the southwestern corner of Josh 2, following a drainage lineament. It is enveloped by a northeasterly trending resistivity low within a larger northwesterly trend.

The magnetic pattern across the Josh property is erratic, reflecting the irregular distribution of magnetite-bearing mineralization and the dislocated stratigraphy.

### 7.2 GEOCHEMISTRY

Stream sediment sampling in 1983 showed anomalous gold, copper, arsenic, lead, zinc and silver values in streams draining the Cu-Au quartz breccia

The youngest rocks appear to be narrow, fine-grained, gabbro dykes which also strike northeasterly across the stratified rocks. These may represent feeders for the Tertiary valley basalts of the region.

Rock alteration consists of propylization, silicification, serpentinization and contact metasomatism. Contact metasomatism has resulted in the formation of actinolite-epidote-garnet skarns within limestone and carbonaceous volcanics in close proximity to the syenodiorite porphyry. Serpentinization is minor, restricted to faults which cut across the limestone units, and may be related to the late gabbroic intrusions. Local zones of silicification within the finer grained volcanics appear to be related to late quartz-epidote veining and alteration of mafic minerals to epidote and chlorite.

The property is structurally complex. The main trend of the layered rocks changes from an easterly strike with moderate northerly dips in the northwest portion of the property to a southerly strike with moderate easterly dips in the southern and southeastern portions. These rocks appear to have been truncated by periodic movements along a major northeasterly fault which allowed the subsequent intrusion of batholithic rocks. While the main mass of syenodiorite porphyry follows this trend, sills and dykes are observed parallel to bedding and crosscutting the layered rocks. The later granodiorite and gabbro dykes, and most quartz veins, also trend northeasterly and display relatively steep dips. Subsequent structural adjustment (occurring contemporaneously to the intrusion of the granodiorite) resulted in the development of two northerly striking fracture directions, which allowed the formation of a weak quartz stockwork within the syenodiorite and the segmentation of some of the granodiorite dykes.

showing on Josh 3 and anomalous copper, lead and zinc values in streams draining skarns along the margin of the syenodiorite porphyry (Scott, 1983).

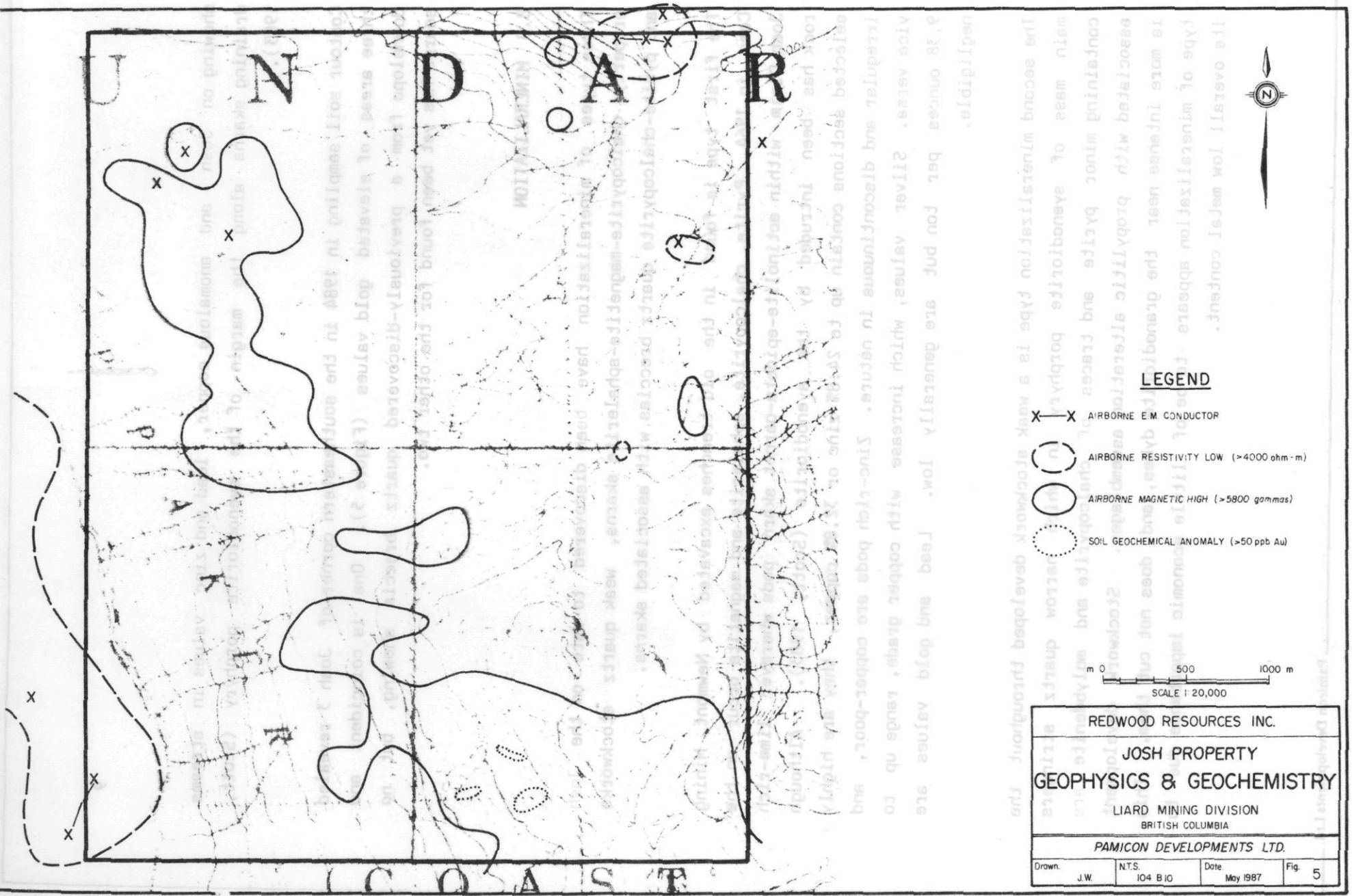
Contour soil sampling in 1984 in the southeastern corner of Josh 3 revealed three areas of elevated gold values (Figure 5). One is coincident and downslope from a previously-discovered quartz breccia showing, but no source has yet been found for the other two.

## 8.0 MINERALIZATION

Three types of mineralization have been discovered to date on the Josh property; chalcopyrite-magnetite-sphalerite skarns, weak quartz stockworks and pyrite-chalcopyrite quartz breccias with associated skarns.

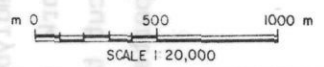
The first type is found in the old trenches excavated by Newmont Mining Corp. in 1964. Pyrite, chalcopyrite, sphalerite and magnetite occur on the Josh Claim within actinolite-epidote-garnet skarn pods wherever lime-rich rock has been intruded by the syenodiorite (Scott, 1983). Although selected sections contain up to 24.8% zinc or 32.8% copper, they are highly irregular and discontinuous in nature. Zinc-rich pods are copper-poor, and vice versa. Silver values, which increase with copper grade, range up to 9.38 ounces per ton but are generally low. Lead and gold values are negligible.

The second mineralization type is a weak stockwork developed throughout the main mass of syenodiorite porphyry in which narrow quartz stringers containing minor pyrite and traces of chalcopyrite and molybdenite are associated with propylitic alteration assemblages. Stockwork development is more intense near the granodiorite dykes, and does not cut them. This type of mineralization appears to be of little economic importance due to its overall low metal content.



**LEGEND**

- X — X AIRBORNE E.M. CONDUCTOR
- ( ) AIRBORNE RESISTIVITY LOW (>4000 ohm·m)
- ( ) AIRBORNE MAGNETIC HIGH (>5800 gammas)
- ( ) SOIL GEOCHEMICAL ANOMALY (>50 ppb Au)



REDWOOD RESOURCES INC.			
JOSH PROPERTY			
<b>GEOPHYSICS &amp; GEOCHEMISTRY</b>			
LIARD MINING DIVISION BRITISH COLUMBIA			
PAMICON DEVELOPMENTS LTD.			
Drawn.	N.T.S.	Date	Fig.
J.W.	104 B10	May 1987	5



## 10.0 RECOMMENDATIONS

### 10.1 PROGRAM

A two phase exploration program is recommended on the Josh Claims. Advancement to the second phase will proceed only if warranted by favourable results from Phase I.

#### Phase I

Heavy concentrate sampling of all streams which drain the property should be undertaken, with analysis for Au, Ag, Cu, Pb, Zn and As.

The LCP for Josh, Josh 2-4 should be located and the property boundary defined, especially in the northeastern corner of Josh 4 and the southwestern corner of Josh 2.

A 600 metre east-west baseline should be cut along the northern claim line of the Josh 4 Claim, along the axis of the strongest airborne EM conductor described in 7.1 above. Crosslines spaced 50 metres apart should be cut for 400 metres south from the baseline. Soil geochemistry on 50 x 25 metre spacings and VLF-EM and magnetometer surveys on 50 x 12.5 metre spacings should be conducted over this grid.

Geological mapping and prospecting should be done over the entire property using an orthophoto topographic map at 1:5,000 scale as a base. Special emphasis should be placed on the northeast trending lineaments and on the areas with airborne geophysical anomalies. Mapping over the soil geochemistry grid should be done at 1:1,000 scale, using the cutlines for control. Rock chip samples should be taken from zones of favourable alteration or mineralization.

Economically, the third category of mineralization represents the most attractive target. Massive pyrite and chalcopyrite with minor amounts of sphalerite, bornite, galena and magnetite occur in quartz vein breccias hosted by gold-bearing epidote-quartz-garnet skarn (Caulfield and Ikona, 1985). Limited trenching has exposed one quartz breccia zone in the north-west corner of Josh 3 over 20 metres of strike length, with trench material assaying up to 4.9% Cu, 4.79 oz/ton silver and 0.098 oz/ton gold. A 1.2 metre chip sample of skarn, associated with quartz veining, along a north-east trending limestone/andesite contact assayed 4.2% copper and 0.108 oz/ton gold. Frost-heaved quartz-barite vein material has been noted in other recessive northeast trending draws which may represent faults. The quartz breccias and their associated skarns appear to be two components of the same process of silicification/metasomatism along structurally favourable limy horizons.

## 9.0 DISCUSSION

Several mineral occurrences on the Josh property have received limited exploration for their base and precious metal contents. All showings discovered to date have been above treeline, in terrain of relative accessibility, while more difficult areas have been bypassed.

The strong coincident airborne resistivity and electromagnetic anomalies discovered by Placer Development Ltd.'s 1983 airborne geophysical survey (Dvorak, 1983) have never been investigated, nor have those areas been covered by prospecting or geochemical sampling.

The source of two soil geochemical anomalies on Josh 3 has not been located.

Northeast-trending draws, possibly fault-controlled, may be important in the localization of mineralization.

Phase II

Contingent upon favourable results from the first phase, the second phase of exploration will consist of hand trenching of mineralized zones and possibly several short diamond drill holes to test the vertical extension of some of the better targets.

## 10.2 BUDGET

Phase I

## WAGES

Project Geologist	1 @ \$300/day for 20 days	\$6,000	
Prospector	1 @ \$200/day for 20 days	4,000	
Samplers	1 @ \$150/day for 20 days	3,000	
Linecutters	2 @ \$200/day for 5 days	<u>2,000</u>	
			\$15,000

## ANALYSES

Soil Geochemical (Au, Ag + 32 element ICP)	220 @ \$20/sample	\$4,400	
Heavy Sediment (Au, Ag + 32 element ICP)	40 @ \$30/sample	1,200	
Rock Geochemical	200 @ \$15/sample	<u>3,000</u>	
			8,600

SUPPORT - 70 man days @ \$50/man day 3,500

EQUIPMENT RENTALS - VLF-EM 10 days @ \$30/day 300

TOPOGRAPHIC MAP PREPARATION 5,000

TRANSPORTATION - Airfares, Fixed Wing, Helicopter 20,000

MATERIALS AND SUPPLIES 500

REPORT 3,000

\$55,900

CONTINGENCY @ 10% 5,600

\$61,500

MANAGEMENT FEE @ 15% on Expenses Only 5,500

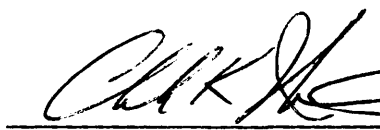
\$67,000

Phase II

The second phase budget will depend on the results of the Phase I exploration program. However, \$75,000 should be made available to cover Phase II expenditures.

Respectfully submitted,

  
\_\_\_\_\_  
David A. Caulfield, Geologist

  
\_\_\_\_\_  
Charles K. Ikona, P.Eng.



Vancouver, British Columbia

May, 1987

**APPENDIX A**

**BIBLIOGRAPHY**

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**APPENDIX B**

**STATEMENT OF QUALIFICATIONS**

STATEMENT OF QUALIFICATIONS AND CONSENT

I, DAVID A. CAULFIELD, of 3142 Gambier Avenue, Coquitlam, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Geologist with offices at Suite 406, 675 West Hastings Street, Vancouver, British Columbia.
2. THAT I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Geology.
3. THAT my primary employment since 1978 has been in the field of mineral exploration.
4. THAT my experience has encompassed a wide range of geological environments and has allowed considerable familiarization with geophysical, geochemical, and diamond drilling techniques.
5. THAT this report is based on data generated from work conducted by myself during 1984 and on reports filed with the Government of British Columbia.
6. THAT I have no interest in the property described herein, nor in securities of any company associated with the property; nor do I expect to acquire any such interest.
7. THAT I consent to the use of this report by Redwood Resources Inc. in any such document as may be required by the Vancouver Stock Exchange or the Office of the Superintendent of Brokers.

DATED at Vancouver, B.C., this 26 day of May, 1987.

  
David A. Caulfield



**APPENDIX C**

**ENGINEER'S CERTIFICATE**

ENGINEER'S CERTIFICATE

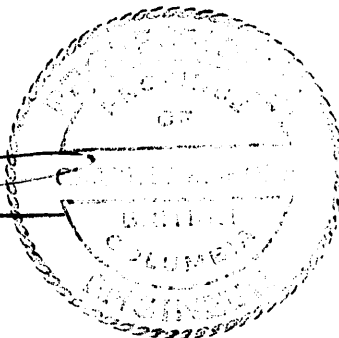
I, CHARLES K. IKONA, of 5 Cowley Court, Port Moody, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Consulting Mining Engineer with offices at Suite 711, 675 West Hastings Street, Vancouver, British Columbia.
2. THAT I am a graduate of the University of British Columbia with a degree in Mining Engineering.
3. THAT I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
4. THAT this report is based on work carried out by David A. Caulfield, Geologist, and on reports filed with the Government of British Columbia. Mr. Caulfield is a geologist with whom I have worked for seven years, and in whom I have every confidence.
5. THAT I have no interest in the property described herein, nor in securities of any company associated with the property; nor do I expect to acquire any such interest.
6. THAT I consent to the use by Redwood Resources Inc. of this report in a Prospectus, Statement of Material Facts or any other such document as may be required by the Vancouver Stock Exchange or the Office of the Superintendent of Brokers.

DATED at Vancouver, B.C., this 26 day of May, 1987.



Charles K. Ikona, P.Eng.



**ADDENDUM TO  
GEOLOGICAL REPORT ON  
THE JOSH MINERAL CLAIMS  
OF MAY 1987**

**Located in the Iskut River Area  
Liard Mining Division  
NTS 104B/10W  
56°38' North Latitude  
130°48' West Longitude**

**- Prepared for -**

**REDWOOD RESOURCES INC.**

**- Prepared by -**

**C.K. IKONA, P.Eng.**

**July, 1988**

ADDENDUM to GEOLOGICAL REPORT on the JOSH MINERAL CLAIMS of MAY 1987

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Appendix IV	Engineer's Certificate

## 1.0 INTRODUCTION

Pamicon Developments prepared a geological report on Redwood's Josh mineral claims located in the Iskut River area of B.C. in May 1987. This report recommended a Phase I exploration program on the property totalling \$67,000. This program was commenced late in the 1987 field season but was not completed due to inclement weather. A progress report on the work accomplished was prepared in the spring of 1988 by T.C. Scott, F.G.A.C. and the writer. This report recommended completion of the 1987 program.

After reviewing the results reported on in the progress report with Redwood it was decided that the results warranted expanding the Phase I program to allow a more detailed assessment of some areas of the property.

This report has been prepared to summarize results of the abbreviated 1987 program and recommends an expenditure of \$59,000 for the program to commence in the 1988 field season.

As this report is intended as an addendum, reference should be made to the 1987 report for background information on the property.

## 2.0 1987 WORK PROGRAM

Redwood requested that work be commenced on the Josh claims in late August 1987. The program was under the direction of Mr. T.C. Scott, F.G.A.C. who mapped and sampled certain areas of the property. Prospecting and geochem sampling crews were provided by Pamicon from our base camp at Bronson Creek 14 km to the west.

Geochemical silting of the creeks draining the west portion of the claim group was found to not be practicable in the lower portions of the creeks due to access difficulties. Additional areas of the property were mapped and 35 samples of mineralized material analyzed with results shown in Table 1 of this report. A start was made both on trenching and grid establishment but both

were terminated due to weather conditions. No geophysical surveying was accomplished.

### 3.0 PROPERTY GEOLOGY

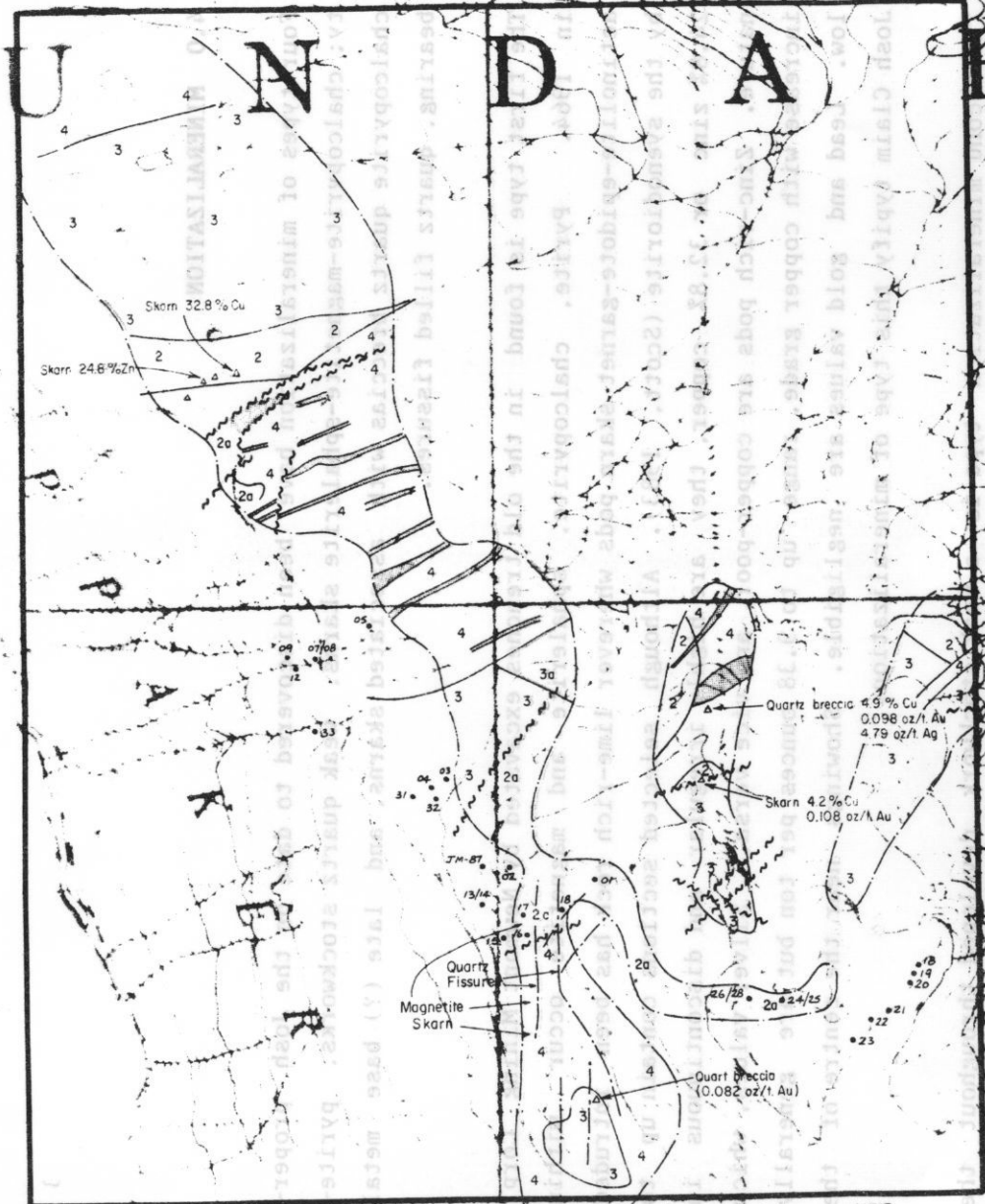
The Josh mineral claims are underlain by a succession of limestone, volcanics and related sediments of probable Paleozoic and Mesozoic age which have been intruded by elements of the Coast Plutonic Complex, and extensively deformed (Figure 4).

A thick bed of Permian light grey, banded, crinoidal limestone (Unit 2) provides a marker horizon from the northwest to the southeast across the property. Carbonaceous andesitic volcanics form a minor portion of this unit.

Overlying the limestone is a thick sequence of andesitic volcanic breccias (Unit 3), characterized in part by clasts of limestone up to 10 cm in length, and containing minor tuff and argillite beds. Rare acidic members may be due to intense silicification near intrusives. A conspicuous rhyolitic unit (Unit 1) which occurs on the western boundary of Josh 3 may be a sill or flow representing a differentiated phase of the andesitic volcanism.

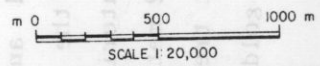
A syenodiorite porphyry of the Coast Plutonic Complex (Unit 4) intrudes the volcanoclastics and sediments. It is characterized by 1.0 to 1.5 cm hornblende phenocrysts and 1 to 5.0 cm pink orthoclase phenocrysts in a medium-grained subhedral matrix distinctly lacking in quartz. The main body strikes northeasterly across the Josh and Josh 4 claims. Both north and south contacts are obscured by overburden but the syenodiorite porphyry appears to crosscut the stratified rock units, forming both sills and dykes within them.

Granodiorite (Unit 5) forms near vertical northeasterly-trending dykes within the syenodiorite porphyry. It is characterized by a leucocratic fine-grained matrix which contains minor 1 to 3 mm biotite grains. The 3.0 to 30.0 metre wide dykes form conspicuous resistant ridges.



**LEGEND**

- 6 GABBRO
- 5 GRANODIORITE
- 4 S-PANODIORITE PORPHYRY
- 3 ANDESITIC VOLCANICS
  - a. Breccia with limestone clasts
  - b. Tuff and argillite
  - c. Acidic components
- 2 LIMESTONE
  - a. Minor volcanics
- 1 PHYOLITIC VOLCANICS
- FAULT
- GEOLOGIC CONTACT
- BOUNDARY OF MAPPING
- BEDROCK MINERALIZATION
- SAMPLING 1987 (RESULTS PRESENTED IN TABLE I)



REDWOOD RESOURCES INC.

**JOSH PROPERTY  
GEOLOGY**

LIARD MINING DIVISION  
BRITISH COLUMBIA

PAMICON DEVELOPMENTS LTD

Drawn JW	NTS 104 B 10	Date May, 1988	Fig 1
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#### 4.0 MINERALIZATION

Four types of mineralization have been discovered to date on the Josh property: chalcopyrite-magnetite-sphalerite skarns, weak quartz stockworks, pyrite-chalcopyrite quartz breccias with associated skarns, and late (?) base metal bearing, quartz filled fissures.

The first type is found in the old trenches excavated by Newmont Mining Corp. in 1964. Pyrite, chalcopyrite, sphalerite and magnetite occur within actinolite-epidote-garnet skarn pods wherever lime-rich rock has been intruded by the syenodiorite (Scott, 1983). Although selected sections contain up to 24.8% zinc or 32.8% copper, they are highly irregular and discontinuous in nature. Zinc-rich pods are copper-poor, and vice versa. Silver values, which increase with copper grade, range up to 9.38 ounces per ton but are generally low. Lead and gold values are negligible. Showings near the centre of the Josh Claim typify this type of mineralization.

The second mineralization type is a weak stockwork developed throughout the main mass of syenodiorite porphyry in which narrow quartz stringers containing minor pyrite and traces of chalcopyrite and molybdenite are associated with propylitic alteration assemblages. Stockwork development is more intense near the granodiorite dykes, and does not cut them. This type of mineralization is common on the southeastern portion of the Josh claim and, at present, appears to be of little economic importance due to its overall low metal content.

Economically, the third category of mineralization represents the most attractive target. Massive pyrite and chalcopyrite with minor amounts of sphalerite, bornite, galena and magnetite occur in quartz vein breccias hosted by gold-bearing epidote-quartz-garnet skarn (Caulfield and Ikona, 1985). Limited trenching has exposed one quartz breccia zone in the northwest corner of Josh 3 over 20 metres of strike length, with trench material assaying up to 4.9% Cu, 4.79 oz/ton silver and 0.098 oz/ton gold. A 1.2 metre chip sample of skarn, associated with quartz veining, along a northeast trending limestone/andesite contact assayed 4.2% copper and 0.108 oz/ton gold. Frost-heaved



TABLE 1  
ROCK SAMPLE SUMMARY  
(T.C. SCOTT, 1987)

Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Sample Type	Length (metres)	Comments
12701	85	77	1.96	1.5	45	Comp. Chip		frothy siliceous float from 1 to 3 m wide frost heave - diss. py
12702	3,521	97	180	.1	nd	Chip	4.0	skarnified agglomerate; cp + mal on fractures; sil'd lst + ep, spec. hem
12703	189	18,471	39,642	6.3	70	Comp. Chip	0.12 to 0.20 @ 3 m intervals	qtz v between lst and aggl; 5% S -, gn, py
12704	56,606	2,754	34,433	100.0	340	Comp. Grab		coarse frothy cp-rich ep skarn adjacent to 12703
12705	467	71	699	.1	135	Comp. Grab		gossan zone; alt'd volc and felsic dykes; py, mal, lm boxwork
12706	100	94	341	.2	nd	Comp. Grab		float; sil'd felsite (?) 2-4% diss. py
12707	51	98	201	1.7	5	Chip	3.50	1.5 m wide qtz vein and bleached limonitic wall rock
12708	426	147	604	2.1	nd	Chip	6.50	flood of qtz stringers with lm box work and alt'd wall rock
12709	112	8	71	.3	10	Channel	0.50	rusty fault
12710	51	29	167	.1	5	Channel	1.00	qtz v and rusty wall rock; tr mal with py
12711	33	11	38	1.4	40	Channel	1.75	frothy qtz v with lm boxwork
12712	228	564	697	45.9	65	Grab		float; frothy qtz with lm boxwork
12713	25	35	103	1.3	nd	Chip	6.0	limonitic metaseds. 2-4% py + pyrr, skarn (?)
12714	9	92	27	2.0	20	Grab		frothy qtz; 8% 2-4 mm euhedral py (from middle of 12713)
12715	137	26	76	.1	240	Chip	2.0	massive magnetite with lm from skarn
12716	2,377	4,625	2,102	5.2	20	Comp. Grab	3.0 x 2.0	qtz fissure zone; cp, gn, mal; sil'd fault breccia (?)
12717	1,556	28,023	292	19.1	5	Channel	0.15	frothy qtz vein; gn, sp, cp, py
12718	36	541	58	.1	15	Grab		subcrop of sugary quartz vein, lm boxwork, py in skarn
12719	411	239	1,063	.5	nd	Grab		coarse cocks comb qtz vs 1-6 cm; cp
12720	467	70	43	.1	5	Grab		py rich skarn, magnetite
12721	89	36	73	.3	50	Grab		2 to 12 cm qtz vs; no visible sulphides
12722	6,062	164	200	6.9	25	Grab		qtz v; cp
12723	650	40,330	351	28.9	70	Grab		frothy qtz v; gn
12724	182	23,655	4,726	8.9	5	Grab		subcrop qtz v with diss. gn, cp, sp
12725	11,895	813	9,178	23.2	25	Grab		qtz in skarn; cp
12726	134	166	284	.3	5	Grab		oxidized shear zone; lm boxwork
12727	75	107	138	.9	nd	Grab		qtz v in volcanics; fine diss. py in sugary qtz
12728	6,697	48	100	6.7	nd	Grab		subcrop qtz v in skarn; cp, py
12729	187	94	653	.1	nd	Grab		oxidized shear zone; lm boxwork
12730	364	26	87	2.7	nd	Grab		qtz v in skarn; py, cp
12731	2,259	1,988	2,818	7.5	5	Grab		qtz v; py, mal
12732	173	32,358	22,977	4.3	5	Grab		qtz v; gn
12733	2,087	272	306	3.5	85	Comp. Grab		15 lbs; ep skarn with cp, py
JM-87	9.0%	--	0.14%	5.0 oz/ton	0.07 oz/ton	Comp. Grab	16.0	qtz breccia in volcanics and limey sediments

quartz-barite vein material has been noted in other recessive northeast trending draws which may represent faults. The quartz breccias and their associated skarns appear to be two components of the same process of silicification/metasomatism along structurally favourable limy horizons (Caulfield and Ikona, 1987). Mineralization of this style is also common within the metasomatized volcanoclastics and calcareous rocks which outcrop on the central boundary area of Josh 2 and 3.

The fourth type of mineralization noted on the Josh property also occurs in the vicinity of the Josh 2 and 3 boundary. It is characterized by patches of galena, sphalerite, chalcopyrite and pyrite within a conjugate (?) set of quartz filled fissures. A near vertical set of fissures trending 000° to 010° forms conspicuous, linear, cuesta-like ridges as previously noted by Caulfield. These appear to crosscut and segment a second set of fissures trending 030° to 040°. The latter structures are on strike and subparallel to the Type 3 mineralization noted by Caulfield. Both the northerly and northeasterly quartz fissures appear to be late in the sequence of geologic events of the property as they crosscut the sedimentary and volcanic units, the intrusive rocks and the metasomatized rock at the intrusive boundaries.

#### 4.1 SAMPLE RESULTS

The locations and results of all samples collected during the 1987 work program are shown on Figure 1. Descriptions of the rock samples collected are contained in Table 1.

#### 5.0 GEOPHYSICAL SURVEYS

In previous years several preliminary geophysical surveys were conducted. the results of these are summarized in Figure 2.



## 6.0 DISCUSSION AND CONCLUSIONS

To date, most of the accessible streams have been sampled and about 40% of the property has been mapped and prospected. This work has resulted in the location of several mineral occurrences which contain varying amounts of copper, lead and zinc, often accompanied by elevated gold and silver values. The most common modes of occurrence are skarns and quartz vein/quartz breccia zones.

The 1987 work disclosed that quartz filled fissures cut through magnetite rich skarns adjacent to the Josh 2 and 3 claim boundary in the vicinity of previously defined areas of anomalous gold in soils. As these deeply oxidized structures often display only limonitic boxwork and occasional remnants of galena grains, blasting and trenching is necessary to obtain meaningful samples for analysis. Nevertheless, the structures represent favourable environments for the concentration of gold and require further investigation.

The heavy concentrate stream sampling attempted in 1987 indicated that most of the streams on the west side of Josh 2 are relatively inaccessible. Of those that were reached the material found in the lower reaches of the 'channels' was not amenable to this method of sampling. However, sampling using this method may be attempted along this side of the property at approximately the 2,500 foot contour level.

In conclusion, the 1987 work program, although curtailed due to inclement fall weather, continued to enhance the Josh property. During the 1988 field season a work program designed to complete and expand the recommended program for 1987 (Caulfield and Ikona, 1987) should be undertaken.

## 7.0 RECOMMENDATIONS

A two phase exploration program is recommended on the Josh claims for 1988. Advancement to the second phase should proceed only if favourable results from Phase I work are obtained.

### PHASE I

1. The heavy metal concentrate sampling of streams draining the property should be continued, with analysis for Au, Ag, Cu, Pb and As.
2. A program of blasting, hand trenching and sampling of quartz veins and breccias in the vicinity of the Josh 2 and 3 claim boundary should be carried out.
3. The strong airborne EM conductor adjacent to the northeast corner of Josh 4 should be delineated on the ground through the construction of a 1000 metre by 500 metre grid on which soil geochemistry is conducted on a 100 x 20 metre spacing and VLF-EM/magnetometer surveys are conducted at a 100 x 12.5 metre spacing.
4. Geological mapping and prospecting should be done in conjunction with the above work.

An expenditure of \$59,000 is recommended for the 1988 Phase I program. Areas in which the program has been expanded from the 1988 progress report include trenching, grid work, prospecting and mapping.

A detailed budget is presented in Appendix I.

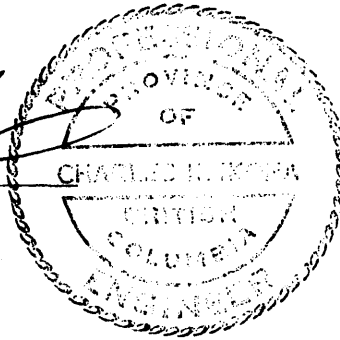
## PHASE II

The second phase work program will be dependent upon obtaining favourable results from Phase I. In all likelihood it should entail continued hand trenching, sampling, geologic mapping and possibly several short diamond drill holes. Expenditures of at least \$75,000 should be anticipated for Phase II.

Respectfully submitted,



Charles K. Ikona, P.Eng.



**APPENDIX I**

**PHASE I BUDGET**

PHASE I BUDGET

WAGES

Project Geologist		
10 days @ \$350/day	\$3,500	
Prospector		
10 days @ \$225/day	2,250	
Helpers (geophysics, soil sampling, trenching)		
2 x 7 days @ \$175/day	2,450	
Cook		
10 days @ \$175/day	<u>1,750</u>	
		\$ 9,950

ANALYSES

Assays		
50 rock chip samples @ \$18/sample	\$ 900	
300 soil samples @ \$15.50/sample	<u>4,650</u>	
		5,550

CAMP CONSTRUCTION

5,000

AIRBORNE GEOPHYSICAL SURVEY

8,500

SUPPORT - 44 man days @ \$125/man day

5,500

TRENCHING SUPPLIES

1,000

EQUIPMENT RENTALS - VLF, magnetometer, drill

1,000

TRANSPORTATION

Vehicle Rental		
4 days @ \$50/day	\$ 200	
Airfares, fixed wing, helicopter	<u>8,000</u>	
		8,200

AIRSTRIP USER FEE

1,000

REPORT

2,500

Subtotal

48,200

Contingency @ 10%

4,800

Management @ 15% (expenses only)

5,700

TOTAL

\$ 58,700

Say \$ 59,000



**APPENDIX II**

**BIBLIOGRAPHY**

## BIBLIOGRAPHY

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- Caulfield, D.A. and C.K. Ikona (1987): Geological Report on the Josh, Josh 2-4 Mineral Claims.
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- Scott, T.C. (1983): Geological, Geochemical and Prospecting Report on the Josh, Josh 2-4 and May 1-4 Mineral Claims, British Columbia Ministry of Energy, Mines and Petroleum Resources, Assessment Report 11306.

**APPENDIX III**

**ASSAY CERTIFICATES**



# VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

REPORT NUMBER: 871422 6A

JOB NUMBER: 871422

PAMICON DEVELOPMENT LTD.

PAGE 1 OF 1

SAMPLE #	Au
16454	ppb 750
16455	30
16456	100
16457	100
16458	105
16459	15

DETECTION LIMIT  
nd = none detected

S  
-- = not analysed

is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE: 1521 PEMBERTON AVE. N.VANCOUVER B.C. V7P 2S3 PH: (604)986-5211 TELEX: 04-352578  
 BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH: (604)251-5656

ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR SN,NI,FE,CA,P,CR,NI,BA,PD,AL,NA,K,V,PT AND SR. AU AND PB DETECTION IS 3 PPM.  
 IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -= NOT ANALYZED

COMPANY: PAMICON  
 ATTENTION:  
 PROJECT: JOSH

REPORT#: 871422 PA  
 JOB#: 871422  
 INVOICE#: 871422 NA

DATE RECEIVED: 87/09/28  
 DATE COMPLETED: 87/10/05  
 COPY SENT TO:

ANALYST *W. J. Smith*

PAGE 1 OF 1

SAMPLE NAME	AG PPM	AL %	AS PPM	AU PPM	BA PPM	BI PPM	CA %	CO PPM	CR PPM	CU PPM	FE %	K %	NI %	NI PPM	NO PPM	NA %	NI PPM	P %	PB PPM	PD PPM	PT PPM	SD PPM	SN PPM	SR PPM	U PPM	V PPM	ZN PPM	
16454	49.4	.08	74	ND	70	47	.09	3.5	1	117	112	2.45	.05	.04	79	13	.28	4	.01	5306	ND	ND	10	ND	3	5	ND	754
16455	.1	.26	29	ND	19	ND	9.23	.1	ND	9	196	11.83	.18	.04	1930	1	.26	ND	.01	190	ND	ND	12	ND	3	ND	ND	139
16456	13.6	.19	60	ND	18	8	.29	.1	2	17	315	9.42	.11	.11	246	15	.49	4	.01	5311	ND	ND	20	ND	2	ND	5	996
16457	2.4	.06	26	ND	27	3	.15	.1	1	4	293	8.05	.09	.58	195	6	.17	5	.01	271	ND	ND	19	ND	ND	ND	ND	86
16458	2.0	.30	26	ND	142	12	.08	.1	1	71	51	4.91	.08	.09	116	8	.12	3	.01	2018	ND	ND	11	ND	4	3	ND	140
16459	1.9	.51	47	ND	1104	7	.15	.1	3	61	9	.81	.05	.20	433	26	.20	4	.04	8188	ND	ND	12	ND	188	ND	ND	568
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	18	5	3	1



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1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L8  
(604) 251-5656

REPORT NUMBER: 871295 GA

JOB NUMBER: 871295

PANICON DEVELOPMENT LTD.

PAGE 1 OF 1

SAMPLE #	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
12701	85	77	196	1.5	45
12702	3521	97	180	.1	nd
12703	189	18471	39642	6.3	70
12704	56606	2754	34433	100.0	340
12705	467	71	699	.1	135
12706	100	94	341	.2	nd
12707	51	98	201	1.7	5
12708	426	147	604	2.1	nd
12709	112	8	71	.3	10
12710	51	29	167	.1	5
12711	33	11	38	1.4	40
12712	228	564	697	45.9	65
12713	25	35	103	1.3	nd
12714	9	92	27	2.0	20
12715	137	26	76	.1	240
12716	2377	4625	2102	5.2	20
12717	1556	28023	292	19.1	5
12718	36	541	58	.1	15
12719	411	239	1063	.5	nd
12720	467	70	43	.1	5
12721	89	36	73	.3	50
12722	6062	164	200	6.9	25
12723	650	40330	351	28.9	70
12724	182	23655	4726	8.9	5
12725	11895	813	9178	23.2	25
12726	134	166	284	.3	5
12727	75	107	138	.9	nd
12728	6697	48	100	6.7	nd
12729	187	94	653	.1	nd
12730	364	26	87	2.7	nd
12731	2259	1988	2818	7.5	5
12732	173	32358	22977	4.3	5
12733	2087	272	306	3.5	85
J -HM- 1	122	76	223	.6	nd
J -HM- 2	65	38	155	.1	10
J -HM- 3	146	50	500	.2	10
J -Si- 1	209	95	304	1.1	100
J -Si- 2	75	36	211	1.6	nd
J -Si- 3	582	235	1394	1.2	nd

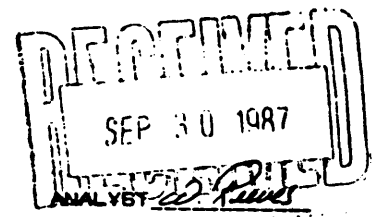
DETECTION LIMIT            1            2            1            0.1            5  
nd = none detected        -- = not analysed        is = insufficient sample

VANGOCHEM LAB LIMITED

MAIN OFFICE: 1521 PEMBERTON AVE. N.V. LOUVER B.C. V7P 2S3 PH: (604)986-5211 TELEX: 04-352578  
 BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH: (604)251-5656

ICAP GEOCHEMICAL ANALYSIS

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 THIS LEACH IS PARTIAL FOR SM, MN, FE, CA, P, CR, MG, BA, PD, AL, NA, K, V, PT AND SR. AU AND PD DETECTION IS 3 PPM.  
 IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -- NOT ANALYZED



COMPANY: PAMICON  
 ATTENTION:  
 PROJECT: JOSH

REPORT#: 871295PA  
 JOB#: 871295  
 INVOICE#: 871295NA

DATE RECEIVED: 87/09/09  
 DATE COMPLETED: 87/09/21  
 COPY SENT TO:

PAGE 1 OF 1

SAMPLE NAME	AG PPM	AL %	AS PPM	AU PPM	BA PPM	BT PPM	CA %	CO PPM	CR PPM	CU PPM	FE %	K %	MG %	MN PPM	MO PPM	NA %	NI PPM	P %	PB PPM	PD PPM	PT PPM	SB PPM	SH PPM	SR PPM	V PPM	W PPM	ZN PPM	
12701	1.5	.25	170	ND	220	ND	.39	.1	10	72	85	5.14	.06	.03	275	10	.16	5	.05	77	ND	ND	15	ND	20	ND	ND	196
12702	.1	2.80	57	3	98	ND	5.17	.1	26	37	3521	5.36	.09	2.03	2191	1	.20	17	.13	97	ND	ND	32	ND	101	ND	ND	100
12703	6.3	.09	34	ND	170	9	1.96	681.8	4	21	189	.38	.03	.05	778	17	11.48	5	.01	18471	ND	ND	19	2	609	ND	64	39642
12704	>100	.13	40	3	60	ND	.93	348.1	15	29	56606	6.10	.03	.05	1545	15	10.53	9	.01	2754	ND	ND	707	2	38	ND	34433	
12705	.1	1.30	8	ND	97	ND	.77	3.7	12	104	467	6.79	.06	1.00	666	24	.39	7	.06	71	ND	ND	13	ND	15	ND	ND	699
12706	.2	.57	4	ND	159	ND	.49	3.1	4	18	100	1.69	.05	.11	124	1	.12	6	.05	94	ND	ND	7	ND	34	ND	3	341
12707	1.7	.32	22	ND	73	9	.14	.4	4	87	51	4.40	.04	.02	91	21	.15	4	.01	98	ND	ND	20	ND	26	ND	ND	201
12708	2.1	.29	10	ND	82	11	.05	3.3	2	14	426	3.57	.04	.04	135	14	.27	2	.02	147	ND	ND	59	ND	9	ND	47	604
12709	.3	.57	ND	ND	100	ND	.14	.1	11	33	112	5.27	.08	.06	367	8	.10	ND	.13	8	ND	ND	8	ND	6	ND	ND	71
12710	.1	1.74	12	3	73	11	.65	.1	15	11	51	13.51	.10	1.07	1367	9	.35	4	.02	29	ND	ND	5	ND	27	ND	ND	167
12711	1.4	.51	8	ND	101	15	.06	.1	3	73	33	4.52	.06	.12	170	23	.09	4	.07	11	ND	ND	8	ND	4	ND	ND	38
12712	45.9	.63	24	ND	35	646	.12	2.0	29	16	228	8.52	.05	.21	234	57	.41	3	.03	564	ND	ND	19	ND	32	ND	ND	637
12713	1.3	1.87	12	ND	37	12	.42	.1	8	72	25	2.92	.02	1.81	733	13	.10	6	.05	35	ND	ND	ND	2	65	ND	ND	103
12714	2.0	.12	16	ND	39	5	.05	.1	6	26	9	3.86	.02	.02	44	17	.08	5	.01	92	ND	ND	8	1	22	ND	ND	27
12715	.1	.11	57	9	94	ND	1.56	.1	ND	13	137	35.93	.25	.14	793	93	.76	ND	.01	26	ND	ND	19	ND	3	ND	22	76
12716	5.2	1.20	6	ND	80	ND	.41	28.2	6	15	2377	3.93	.03	1.00	1884	41	.82	2	.03	4625	ND	ND	9	ND	15	ND	ND	2102
12717	19.1	.26	39	ND	74	4	.02	.1	1	118	1556	4.16	.03	.16	203	23	.19	5	.02	28023	ND	ND	17	ND	7	ND	17	292
12718	.1	.35	4	ND	85	ND	1.27	.1	17	25	36	3.74	.07	.14	2199	5	.09	8	.01	541	ND	ND	5	ND	13	ND	ND	58
12719	.5	.45	13	ND	366	ND	1.47	24.8	36	18	411	1.88	.05	.25	1616	1	.41	14	.01	239	ND	ND	6	ND	18	ND	ND	1063
12720	.1	1.61	7	ND	22	ND	1.19	.1	153	33	467	12.09	.10	.22	252	4	.24	40	.04	70	ND	ND	4	ND	45	ND	ND	43
12721	.3	.41	7	ND	158	ND	2.23	.1	4	22	89	1.59	.06	.21	1695	1	.05	9	.01	36	ND	ND	4	ND	20	ND	3	73
12722	6.9	.42	13	ND	113	ND	4.92	1.8	15	56	6062	2.68	.05	.23	1853	5	.14	11	.01	164	ND	ND	3	ND	58	ND	ND	200
12723	28.9	.19	48	ND	75	20	.04	.1	ND	19	650	3.66	.03	.05	82	11	.19	2	.01	40330	ND	ND	27	ND	35	ND	ND	351
12724	8.9	.27	34	ND	17	5	2.51	98.7	5	95	182	1.44	.06	.10	997	11	1.68	8	.05	23655	ND	ND	13	ND	27	ND	ND	4726
12725	23.2	.70	14	ND	41	ND	2.69	89.1	45	105	11895	2.71	.07	.36	1505	39	3.25	8	.01	813	ND	ND	ND	ND	28	ND	ND	9178
12726	.3	1.85	77	ND	193	ND	.08	.1	47	21	134	10.01	.06	.98	726	5	.31	9	.04	166	ND	ND	7	ND	26	ND	ND	284
12727	.9	.85	9	ND	92	ND	.15	.1	15	95	75	3.49	.03	.63	663	5	.12	9	.01	107	ND	ND	6	ND	25	ND	ND	138
12728	6.7	.23	19	ND	69	ND	1.22	.1	14	21	6697	3.16	.07	.18	1673	3	.11	8	.02	48	ND	ND	45	ND	14	ND	ND	100
12729	.1	.57	24	4	1068	ND	.50	4.2	54	6	187	16.71	.14	.06	1969	28	.56	3	.08	94	ND	ND	14	ND	52	ND	ND	653
12730	2.7	.13	21	ND	219	ND	.45	1.2	8	155	364	1.84	.04	.04	719	9	.06	9	.01	26	ND	ND	136	ND	17	ND	6	87
12731	7.5	1.06	10	ND	47	6	.69	13.1	11	24	2259	2.12	.04	.73	1211	3	1.05	7	.05	1988	ND	ND	6	ND	69	ND	15	2818
12732	4.2	1.55	41	ND	70	6	5.93	634.9	4	42	173	.66	.20	.16	451	166	7.46	5	.03	32358	ND	ND	11	1	307	ND	ND	22977
12733	3.5	.99	22	3	15	ND	2.90	2.1	6	8	2087	9.97	.10	1.04	3230	3	.33	6	.03	272	ND	ND	7	ND	72	ND	ND	306
J-HR-1	.5	1.66	ND	ND	424	ND	1.12	1.0	9	14	122	4.19	.09	.93	1196	5	.15	8	.07	76	ND	ND	7	ND	93	ND	ND	223
J-HR-2	.1	1.69	ND	ND	120	ND	.73	.2	8	21	65	2.93	.08	.83	777	4	.09	9	.06	38	ND	ND	ND	ND	91	ND	ND	155
J-HR-3	.2	2.35	3	ND	179	ND	1.60	3.6	15	77	146	4.52	.10	1.34	1877	9	.27	8	.07	50	ND	ND	ND	ND	124	ND	3	500
J-SI-1	1.1	1.45	8	ND	290	4	1.00	2.5	16	4	209	5.53	.09	.95	1719	12	.20	6	.12	95	ND	ND	ND	ND	53	ND	ND	304
J-SI-2	1.6	1.15	ND	ND	125	ND	1.89	2.1	9	6	75	2.78	.05	.54	1150	9	.11	8	.07	36	ND	ND	ND	3	67	ND	ND	211
J-SI-3	1.2	2.36	8	ND	225	ND	1.12	14.9	51	8	582	7.66	.07	1.43	3926	23	.67	15	.12	235	ND	ND	ND	ND	66	ND	ND	1394
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1	1



# VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 988-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

REPORT NUMBER: 871306 GA

JOB NUMBER: 871306

PANICON DEVELOPMENT LTD.

PAGE 1 OF 1

SAMPLE #	Ac
16451	ppb
16452	240
16453	300
16453	540

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample



**APPENDIX IV**


**ENGINEER'S CERTIFICATE**

**ENGINEER'S CERTIFICATE**

I, CHARLES K. IKONA, of 5 Cowley Court, Port Moody, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Consulting Mining Engineer with offices at Suite 711, 675 West Hastings Street, Vancouver, British Columbia.
2. THAT I am a graduate of the University of British Columbia with a degree in Mining Engineering.
3. THAT I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
4. THAT this report is based on work conducted on the property under my direction.
5. THAT I have no interest in the property described herein, nor in securities of any company associated with the property, nor do I expect to acquire any such interest.
6. THAT I consent to the use by Redwood Resources Inc. of this report in a Prospectus or Statement of Material Facts or any other such document as may be required by the Vancouver Stock Exchange or the Office of the Superintendent of Brokers.

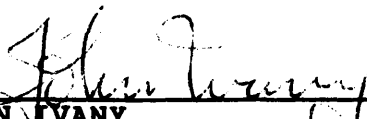
DATED at Vancouver, B.C., this 5<sup>th</sup> day of July, 1988.

  
-----  
Charles K. Ikona, P.Eng.

**CERTIFICATE OF THE DIRECTORS AND PROMOTERS OF THE ISSUER**

The foregoing constitutes full, true and plain disclosure of all material facts relating to the securities offered by this Statement of Material Facts.

DATED: OCTOBER 18, 1988.

  
**JOHN IVANY**  
President and Director

  
**MURDOCH ANGUS SMITH**  
Director

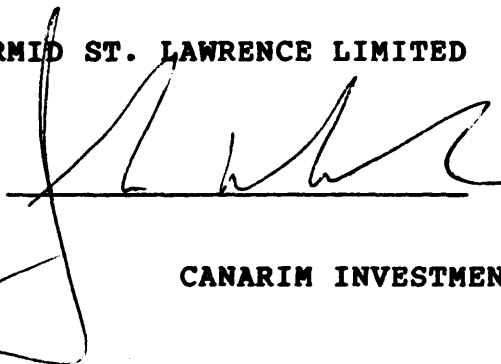
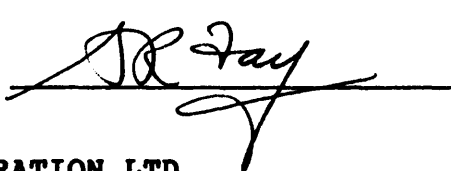
  
**WILLIAM HENRY BRADLEY**  
Director

**CERTIFICATE OF THE AGENTS**

To the best of our knowledge, information and belief, the foregoing constitutes full, true and plain disclosure of all material facts relating to the securities offered by this Statement of Material Facts.

DATED: OCTOBER 18, 1988.

**MCDERMID ST. LAWRENCE LIMITED**      **CONTINENTAL SECURITIES**

Per:  Per: 

**CANARIM INVESTMENT CORPORATION LTD.**

Per: 