

LOG NO: <i>May 16/91</i> RD.
ACTION:
FILE NO:

ASSESSMENT REPORT  
OF THE  
JO #1 CLAIM  
SLOCAN MINING DIVISION  
BRITISH COLUMBIA  
CANADA

FOR:

Jopec Resources Lt.d  
Suite 100-200 Granville St.  
Box 25, Vancouver, B. C.  
V6C 1S4

COVERING:

JO #1 Claim

16 units

Record No.  
6402(6)

LOCATED:

Latitude 50°00'N

Longitude 117°38.5'W

NTS 82K4E

Elevation 4000 feet (1219 meters) - 6500 feet (1981 meters)

Prepared by:

P. J. Santos, P. Eng.  
ANGINEL RESOURCES LTD.  
626 - 9th Avenue  
Castlegar, B. C.  
V1N 1M4

March 20, 1991

**GEOLOGICAL BRANCH** Copy No. 1  
**ASSESSMENT REPORT**

21,290

## TABLE OF CONTENTS

	Page
1. Summary and Conclusion	1 - 2
2. Introduction	3
3. Property Description, Location, Access, History, and Recent Work	4 - 5
4. Regional Geology	5 - 6
5. Local Geology and Mineralization	7 - 12
6. Recommendations	12 - 13
7. Statement of Expenses and Days Worked	14 - 15
8. Certificate of Qualifications	16
9. Bibliography	17 - 20
10. Appendix	21 - 49
(a) Maps and Illustrations	22 - 27 & 49
(b) Assay Certificates	28 - 42
(c) Photographs	43 - 44
(d) Table of Samples	45 - 48

TABLE OF MAPS AND ILLUSTRATIONS

Plate		Page
1	Index Map	22
2	Claim Map JO #1, Ice, and SC Claims	23
3	Geology and Sampling Map, JO #1 Claim	24
4	Geologic Map, Tillicum Mtn. Area	25
5	Proposed 1991 Exploration Map, Jopec Property	26
6	Old Claim Map, Tillicum, Mtn. Area	27
7	Economic Potential Map	49
Figure		
1	Photograph Of A Section Gold-Bearing Quartzites And Calc-Silicates On The JO# 1 Claim	43
2	Photograph Of The Continuation Of The Section On Fig. 1	43
3	Photograph Of A Section Of Gold-Bearing Meta-Sediments (Milford Group) On The West Limb Of An Anticline In JO# 1 Claim	44

1. SUMMARY AND CONCLUSION

On September 1 - 7, 1990 inclusive, geologic mapping and sampling were conducted by P. J. Santos, P. Eng. and a crew on the JO #1 mineral claim located in the Slocan Mining Division of British Columbia.

Twenty two rock-geochem samples were collected and twenty rock-type samples were taken in 1990. The rock-geochem samples were fire-assayed for gold and silver and geochemically assayed for 30 metals by ICP. Five of the samples that showed gold by ICP were tested further by cyanidation to determine the significance of the assays. Three substantially thick zones in the meta-sediments which are significantly mineralized in the gold were identified by the reconnaissance rock-geochemical sampling.

Exploration work in 1990 showed that the claim is entirely underlain by rock units of the Milford Group, Silver King Porphyry and the Nelson Intrusive. The mapping in 1990 showed that the meta-sedimentary sequence (Milford) is folded into a north plunging anticline, intruded by a sill of andesite prophyry (Silver King Porphyry) and east by a north trending fault.

Previous aerial geophysical work on the area (1983) including the area which is now the JO #1 claim indicated magnetic highs and VLF-EM conductors that extend from the known gold mineralization of the Tillicum Mountain area to the JO #1 claim where the three

gold-bearing zones were identified. The magnetic high in the meta-sediment is due to the presence of abundant pyrrhotite which is a magnetic iron sulfide in the mineralized horizons of the Milford Meta-sediments. The VLF-EM conductor is due to the presence of pyrrhotite and pyrite in the mineralized horizons which render these horizons conductive. Previous work in the area has shown that the gold is intimately associated with the pyrrhotite.

The JO #1 claim therefore has the same gold mineral potential as the adjoining gold properties (Tillicum and Caribou) which has published reserves of 515,000 ounces of gold from 9 gold-bearing zones.

An expenditure of \$ 5,784.28 was spent on this exploration program on the JO #1 claim.

A program of further exploration work is recommended to assess further the mineral potential of the property.

2. INTRODUCTION

This report was prepared at the request of Jack Overdorff, a of the director of Jopec Resources Ltd., the company that has obtained the JO #1 claim through an option agreement, whose registered office is at Suite 100-200 Granville St., Box 25, Vancouver, B. C., Canada, V6C 1S4.

Geologic mapping and rock geochemical sampling were conducted by P. J. Santos and a crew consisting of Jack Overdorff and John Schneider on the JO #1 claim during the period Sept. 1 - 7, 1990 (inclusive). The results of this work is the subject of this report including an evaluation of the mineral potential of the property.

The rock-geochemical samples were fire assayed for gold and silver and wet assayed for lead and zinc and then geochemically analyzed by ICP (induced Coupled Plasma) for 30 metals and analyzed for gold by Fusion-AA for a more sensitive analysis of the gold content.

3. PROPERTY, LOCATION, ACCESS, HISTORY AND RECENT WORK

Jopec Resources Ltd., a private company with offices in Vancouver and Castlegar, British Columbia, Canada and Spokane, Washington, USA has recently acquired the JO #1 claim which consists of 16 modified grid claim units with an area of approximately 400 hectares (988 acres) located in the Slocan Mining Division of British Columbia, Canada (see Plate 1). The details of the claim are as follows:

<u>Claim Name</u>	<u>Record No.</u>	<u>Area</u>		<u>Expiry Date</u>
		<u>Units</u>	<u>(Hectares)[Acres]</u>	
JO #1	6402(6)	16	(400) [988]	June 18, 1997

This claim is plotted on Plate 2. There are no legal surveys conducted on the claim and the claim may overlap some of the existing claims in the area and the total area stated above is approximate only and is the maximum total area.

The JO #1 claim has geographical coordinates of Latitude 50° 00'N and Longitude 117° 38.5'W and is plotted on NTS 82 K/4E (see Plate 2). The claim lies northeast of Hailstorm Peak at elevations between 4000 feet (1219 meters) and 6500 feet (1981 meters) above sea level. The topography is moderate and is drained by Caribou Creek. Most of the property has been logged but some merchantable timber still remain.

Access to the JO #1 claim is by way of the Shannon Creek road which joins Highway 6 at Hills, B. C. 24 kilometers from the property. The claim is adjacent to the Tillicum Gold Property to the west and the Strebe Gold Property to the south.

The JO #1 claim was originally staked as the Pal claim but no work was done on it and the claim lapsed and was re-staked as the JO #1. Previously the area was staked as the Hat 2 and Hat 3 claims (see Plate 6) but these claims lapsed leaving a kilometer-wide gap between the Hail and Goat claims to the west and the Car 1 and Hat 4 claims to the east. The Pal claim was then staked to cover this gap. A regional airborne geophysical survey (magnetometer and VLF-EM) was conducted over the Tillicum Gold Property and over the area of what is now the JO #1 claim. In 1990, personnel of Jopec Resources Ltd. conducted geologic mapping and rock geochemical sampling over a portion of the property.

#### 4. REGIONAL GEOLOGY

The region is underlain by Mississippian metamorphosed sedimentary rock units of the Milford Group, by Triassic slates and argillites of the Slocan Group and metamorphosed volcanic intrusive sills and dykes of the Silver King Porphyry, and by Cretaceous intrusives of the Nelson and Valhalla Plutonic Rocks, as shown on Plate 4.



The Slocan Group and the Rossland Formation are exposed on the northern part of the region while the underlying Milford Group form a relatively limited occurrence as a narrow belt that trends to the northeast. Three episodes of intrusive activity invaded the pre-existing rocks. In the first intrusive episode the Silver King Porphyry (quartz diorite porphyry, grading to andesite porphyry) intruded the Rossland and Milford formations in the form of sills and some dykes during Jurassic time forming parallel zones with porphyry sills. The second intrusive episode occurred during the Cretaceous wherein granodiorite to monzonite plutonic rocks invaded all the above rock units. The granitic intrusives are widely distributed in the region and where exposed contain "islands" of the intruded pre-existing rocks. The third intrusive episode is a minor one which occurred during the Tertiary period involving dacite and lamprophyre dykes cutting all the pre-existing rocks.

In general the Slocan Group are host rocks to lode-type massive sulfide silver-lead and zinc deposits and to some syngenetic type silver-bearing lead and zinc deposits. The Rossland and Milford groups in proximity to the Silver King Porphyry have recently been found to be host rocks to gold and silver deposits.

The granitic intrusives are hosts to gold-bearing quartz veins.

5. LOCAL GEOLOGY AND MINERALIZATION

The JO #1 claim is almost entirely underlain by rock units belonging to the Milford Group intruded by Silver King Porphyry sills and by a granodiorite of the Nelson Intrusive at the south-east corner of the claim.

The Milford Group consists of para-gneiss (gneiss derived from sedimentary rocks), quartzites, pelitic (argillaceous or clayey) schist, calc-silicates (silicified limestones), argillites, re-crystallized limestone. Pyrrhotite and pyrite are contained within these rock units as disseminations, concentrations, streaks, and semi-massive aggregates so that distinctive rusty-colored outcrops are formed where the rocks are exposed to oxidation. Gold and silver mineralization occur in close association with the sulfides. Reconnaissance sampling of outcrops of this formation ranged from 10 ppb to 350 ppb on a very consistent nature. Assay results from diamond drilling and trenching of the same formation in the adjoining properties have been very good and published ore reserves are 440,000 ounces of gold in the Tillicum Gold Property and 75,000 ounces of gold in the Strebe (Caribou) Gold property. These gold properties are on the verge of becoming mines.

The Rosslund Formation consists of altered volcanics such

as tuffs and greenstones that are underlain by the Milford Group. This formation appears to be gradational to the Milford Group and its occurrence in the property is relatively inconsequential.

The Silver King Porphyry is dioritic (or andesitic) in composition and range in texture to an andesite porphyry to a dioritic porphyry. The intrusion occurs in the form of sills following the general trend of the bedded Milford Formation. The Silver King Porphyry pre-dates the Upper Cretaceous granitic intrusive (Nelson) and intrudes only the Milford and is in turn intruded by the Upper Cretaceous intrusives. In the Tillicum area this porphyry is closely associated with the gold mineralization while in the Nelson area the porphyry is related to silver-copper mineralization.

The Milford and Rosslund formations form a series of anticlines and synclines with the axes trending to the northwest north of Grey Wolf Mountain. The axes trend east-west south of Grey Wolf Mountain. Nine gold-bearing zones were identified in the adjoining Tillicum Property, seven in the Strebe property. Due to folding these zones are repeated elsewhere and in the JO #1 property, three of these gold-bearing zones so far have been identified.

The ubiquitous presence of sulfides and gold in geochemically detectable quantities in the Milford sediments indicate that these

metals are syngenetic, that is they were deposited with the sediments during the Triassic period. Subsequent intrussive activity, in particular the intrusion of the Silver King Porphyry re-mobilized these sulfides and gold to form economically viable concentrations. Therefore, the most desirable areas for finding gold deposits are areas underlain by the Milford Group and the Rossland Volcanics which have been intruded by the Silver King Porphyry.

Other workers consider an epigenetic, skarn-type origin for the gold, the gold mineralization being derived from the granitic intrusions in the area. The gold is not confined to the skarns and calc-silicates but are found in the mudstones, quartzites, and schists also. The more spectacular free gold usually occurs in skarn and quartzites in association with calcite and pyrrhotite.

The stratigraphic sequence in which the gold-bearing horizons are included contain disseminations, seams, and semi-massive to massive concentrations of pyrrhotite giving rise to rusty outcrops, cliffs and gossans.

On the JO #1 claim, reconnaissance rock geochemical sampling by personnel of Jopec Resources Ltd. identified three gold-bearing horizons (see Plate 3).

The first gold-bearing horizon is a gray, massive-bedded, carbonaceous sequence of siltstone and fine grained sandstone. A chip sample gave a geochemical assay of 350 ppb in gold.

The second horizon is a sequence of green calcareous, medium grained quartzite with abundant disseminations of pyrite and interbeds of white and gray marble. The green color is an indication of the alteration the carbonates underwent (calc-silicates). The rock geochemical assay of a chip sample taken from this horizon gave 30 ppb in gold.

The third gold-bearing horizon is a series of thinly interbedded very fine grained quartzite and silty quartzite with some of the beds more pyritic than others giving a characteristically banded sequence. Chip sampling over a stratigraphic thickness of over 400 feet gave rock geochemical values that ranged from 30 ppb to 90 ppb in gold.

Five of the samples that assayed gold by ICP (Induced Coupled Plasma) were further tested by cyanidation. The tests showed that the gold content of these samples are significantly anomalous and can be used as a guide for further exploration.

Samples taken from the known gold mineralization at the adjoining Caribou (Strebe) property were also geochemically analyzed.

The high grade gold samples usually have elevated values in zinc, silver, arsenic, calcium, and iron. The sample from the JO #1 claim show essentially the same pattern but the values are considerably more subtle.

It should be pointed out that the reconnaissance rock geochemical sampling was done on the easily accessible outcrops in the JO #1 claim to identify rapidly the gold-bearing horizons in the cheapest possible way. The next step is to conduct a detailed program of channel sampling of the zones that were identified as gold-bearing.

In November, 1982, Western Geophysical Aero Data Ltd. conducted a regional, low level airborne magnetometer and VLF-electromagnetometer survey over the Tillicum Mountain area which included the Tillicum gold prospect and the surrounding areas now covered under the Strebe gold property and the area now staked as the Ice, SC, and JO #1 claims.

The magnetometer used was a Barringer Proton Precession airborne magnetometer Model Nimbin M-123 and the VLF instrument was a Sabre Airborne VLF System using the Seattle and Annapolis channels.

A detailed survey was conducted on March 16, 1983 over the

area of known mineralization which showed that a magnetic high and a VLF conductor were associated with the Heino-Money Pit, a zone of high gold content. The magnetic and VLF responses are due to the fact that the gold mineralization is associated with disseminations and massive to semi-massive concentrations of pyrrhotite, a magnetic mineral, and other sulfides such as pyrite and galena which increase the conductivity of the host rocks. Visually, the mineralized zones form distinctive rusty colored gossans exposed on cliffs and outcrops.

The area now covered by the JO #1 claim was included in the regional aeromagnetic and aero-electromagnetic surveys conducted for Esperanza Explorations Limited by Western Geophysical Aero Data Ltd.

The airborne survey indicates a zone of magnetic high that extends from Grey Wolf Mountain to the northeast side of Hailstorm Peak clear through the Caribou claims into the JO #1 claim as shown on Plate 7. This zone more or less coincide with a conductive zone over the area underlain by the Milford sediments which contain abundant pyrrhotite and pyrite.

## 6. RECOMMENDATIONS

In view of the excellent exploration potential of the JO #1

mining claim and the discovery of initial targets, a comprehensive exploration program is recommended which will continue exploration on these targets already identified and to explore further the overall exploration potential of the property. This program should include the following items, arranged in the order in which they should be done. The priority is determined not only by the logical sequence of exploration but also by weather and accessibility in order to attain the optimum utilization of the company's financial resources.

Phase 1 (JO #1 Claim) .

- (a) Layout an exploration grid as shown on Plate 7 and conduct detailed geologic mapping, magnetic and VLF-EM surveys and soil sampling.
- (b) Channel sample the outcrops exposed on the access road, this time at 5-foot intervals.

Phase 2 (JO #1 Claim)

- (a) Conduct a diamond drilling program on the targets identified by the Phase 1 program.

The locations of the proposed work on the Jopec Property are shown on Plate 6.



7. STATEMENT OF COSTS AND DAYS WORKED

Geologist		
Field work (3 @ 250)	\$ 750.00	
Report Writing (3 @ 250)	750.00	
Research (1 @ 250)	250.00	
(Includes Travel)	<u>\$1,750.00</u>	\$ 1,750.00
Labour		
Samples (3 X 2 X 100)	600.00	
Drafting	800.00	
Typing & Secretarial	<u>400.00</u>	
	\$1,800.00	1,800.00
Assays & Freight		
Kamloops Research & Assay Lab.	901.56	
Casmyn Labs (5 X 130.68)	<u>522.72</u>	
	\$1,424.28	1,424.28
Truck Rentals (Includes gas & oil)		
4 X 4 w/ Small Camper (3 @ 60)	180.00	
4 X 4 w/ Big Camper (3 @ 70)	<u>210.00</u>	
	\$ 390.00	390.00
Groceries (3 X 4 X 10)	\$ 120.00	120.00
Miscellaneous Expenses		
Field Supplies	\$ 144.16	
Office Supplies	<u>155.84</u>	
Photocopying	\$ 300.00	<u>300.00</u>
		\$ 5,784.28

Days Worked

P. J. Santos (Geologist, P. Eng.)

July 10, 1990

Sept. 1, 2, 3, 1990

Dec. 1, 2, 3, 1990

John Schneider (Sampler, geologic aide, drafting)

Sept. 1, 2, 3, 1990

Jack Overdorff

Sept. 1, 2, 3, 1990

Ginny Santos (Typing, secretarial, drafting)

Nov. 1 - 5, 1990 Inclusive

Dec. 4 - 10, 1990

8. CERTIFICATE OF QUALIFICATIONS

I, Perfecto J. Santos, of 626 - 9th Avenue, of the City of Castlegar, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geological Engineer with the firm of Anginel Resources Ltd. whose offices are located at 626 - 9th Avenue, Castlegar, British Columbia, Canada,

That I am a registered Professional Engineer in the Province of British Columbia, Canada,

That I am a graduate of the College of Engineering, University of the Philippines with a Bachelor of Science degree in Mining Engineering (Geology Option),

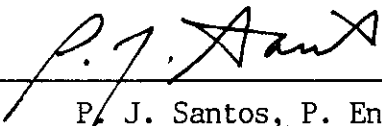
That I have been practicing my profession continuously for the past thirty years,

That I have prepared this report based on personal work on the property as described in this report on the JO #1 Claim owned by Jopec Resources Ltd. of Vancouver, British Columbia, Canada,

That in addition, pertinent available literature and maps were studied prior to the preparation of this report, and

That I am a shareholder of Jopec Resources Ltd.,

DATED AT Castlegar, British Columbia, this 20th day of March, A. D. 1991.

  
\_\_\_\_\_  
P. J. Santos, P. Eng.

9. BIBLIOGRAPHY

- Beaty, R. J. and  
Muir, A. E.  
1983  
Geological and geochemical investigations of the Park-Snowslide claim group, Tillicum mountain region, Slocan mining division, British Columbia NTS 82K/4 and 82F/13 Lat. 50°00'N, Long. 117°37'W; B. C. Assessment Report No. 11,870, 18 pp.
- Crooker, G.  
1984  
Geological and geochemical report on the AU-2 claim, Tillicum mountain area, Slocan mining division, B. C. 82F-13E, (49°56'N, 117°40'W) for Kilembe Resources Ltd.; B. C. Assessment Report No. 12,690, 16 pp.
- Dewonck, B., McClintock, J.,  
and Roberts, W.  
1986  
Summary of the exploration and pilot mining program, Esperanza gold property, Snow Lakes area, southeast British Columbia, Slocan mining division, Lat. 49°59'N, Long. 117°43'W, NTS 82F/13 & 82K/4; B. C. Assessment Report No. 15,700, 109 pp.
- Ettlinger, A. D. and  
Ray, G. E.  
1989  
Precious metal enriched skarns in British Columbia, an overview and geological study; B. C. Ministry of Energy, Mines, and Pet. Res. Paper 1989-3, 128 pp.
- Godwin, C. I.  
1983  
Assessment report of King Midas Mineral claim groups, Burton, B. C. for Condaka Metals Corp., and Esperanza Explorations Limited; B. C. Assessment Report No. 11,727, 55 pp.
- Guild, J. D.  
1981  
Trenching project and bulk sampling on the Til claim group (Til 1-4, Age 1-4, Wolf & Hacgh claims), Slocan mining division, NTS 82F/13, Lat. 49°59'N, Long. 117°43'W for Welcome North Mines Ltd.; B. C. Assessment Report No. 9455, 18 pp.

- Gustafson, E. E.  
1980  
Prospecting 1979-1980 consequential to staking of Sandy and Near claims, Slocan mining division NTS 82F/13E, Lat. 47°52.5'N, Long. 117°42.5'W; B. C. Assessment Report No. 7909, 23 pp.
- Hicks, K.  
1984  
Falconbridge Limited, Nakusp property, S. E. British Columbia, Report No. 147-096-84, Parts 1, 2, & 3; B. C. Assessment Report No. 13787.
- Hyndman, D. W.  
1968  
Petrology and structure of Nakusp map-area, British Columbia; GSC Bulletin 161.
- Little, H. W.  
1960  
Neson map-area, west half, British Columbia (82FW/2); GSC Memoir 308, 205 pp.
- Mulligan, R.  
1952  
Bonnington map-area, British Columbia; GSC Paper 52-13, 37 pp.
- Ostensoe, E. A.  
1984  
Report of surveys and geological mapping, Olga, Olga 1, Ruza and AU-3 claims, Snow creek area, Slocan mining division, British Columbia, 49°58'N, 117°43'W, NTS 82F/13E; B. C. Assessment Report No. 12,939, 10 pp.
- Pezzot, E. T. and  
White, E. W.  
1983  
Braemar Resources Corp., geophysical report on an airborne VLF-electromagnetometer and magnetometer survey, Olga 1, Olga, Ruza, AU-3 claims Slocan mining division Lat. 49°57'N, Long. 117°43'W, NTS 82F/13; B. C. Assessment Report No. 11,206, 16 pp.
- 1983  
Esperanza Explorations Ltd., Le Teko Resources Ltd., geophysical report on an airborne VLF-electromagnetometer and magnetometer survey, Til 1-4, Juanita, Wolf, Goat, Halifax, Hail claims, Slocan mining division, Lat. 49°59'N, Long. 117°42'W, NTS 82F/13 82K/4; B. C. Assessment Report No. 11,161, 22 pp.

- Roberts, W. J.  
1988
- Report on the Strebe property, Caribou claims for Esperanza Explorations Ltd., Slocan mining division, Caribou creek area, British Columbia NTS 82F/13E, Lat. 49°60'N, Long. 117°39'W; unpublished report, 71 pp.
- 1989
- Report on the Strebe property, Caribou claims, Slocan mining division, Caribou creek area, British Columbia NTS 82F/13E Lat. 49°60'N, Long. 117°39'W for Esperanza Explorations Ltd., unpublished report, 23 pp.
- Roberts, W. and  
McClintock, J.  
1983
- 1983 Exploration report on the Tillicum gold property, Slocan mining division, British Columbia, NTS 82F/13 & 82K/4 Lat. 49°59'N, Long. 117°43'W for Esperanza Explorations Ltd.; B. C. Assessment Report No. 12,269, 211 pp.
- Schroeter, T. G., Lund, C.,  
and Carter, G.  
1989
- Gold production and reserves in British Columbia; B. C. Min. of Energy, Mines, & Pet. Res. Open File 1989-22, 85 pp.
- Stokes, T. R.  
1983
- Geological and geochemical report on the Caribou claims 3 and 4, Slocan mining division, NTS 82F/13 117°39'W, 49°60'N for Megaline Resources Inc. and Seymour Resources Ltd.; B. C. Assessment Report No. 12,355, 44 pp.
- Wahl, H.  
1983
- Exploration report (preliminary) on the Trib mineral claim (Record #2964), Slocan mining division, British Columbia (82F/13E) for Silver Princess Resources Inc.; B. C. Assessment Report No. 11,682, 9 pp.

Willoughby, N. O., and  
Lebel, J. L.  
1983

Report on geological, geochemical,  
and geophysical surveys, Doc-Hero  
property, Doc,Gold 1 and 2 and Hero  
1 and 2 claims, Slocan mining division,  
NTS 82F/13W, Lat. 49°57'N, Long.  
117°47'W for Wildcat Petroleum Inc.;  
B. C. Assessment Report No. 11,747,  
38 pp.

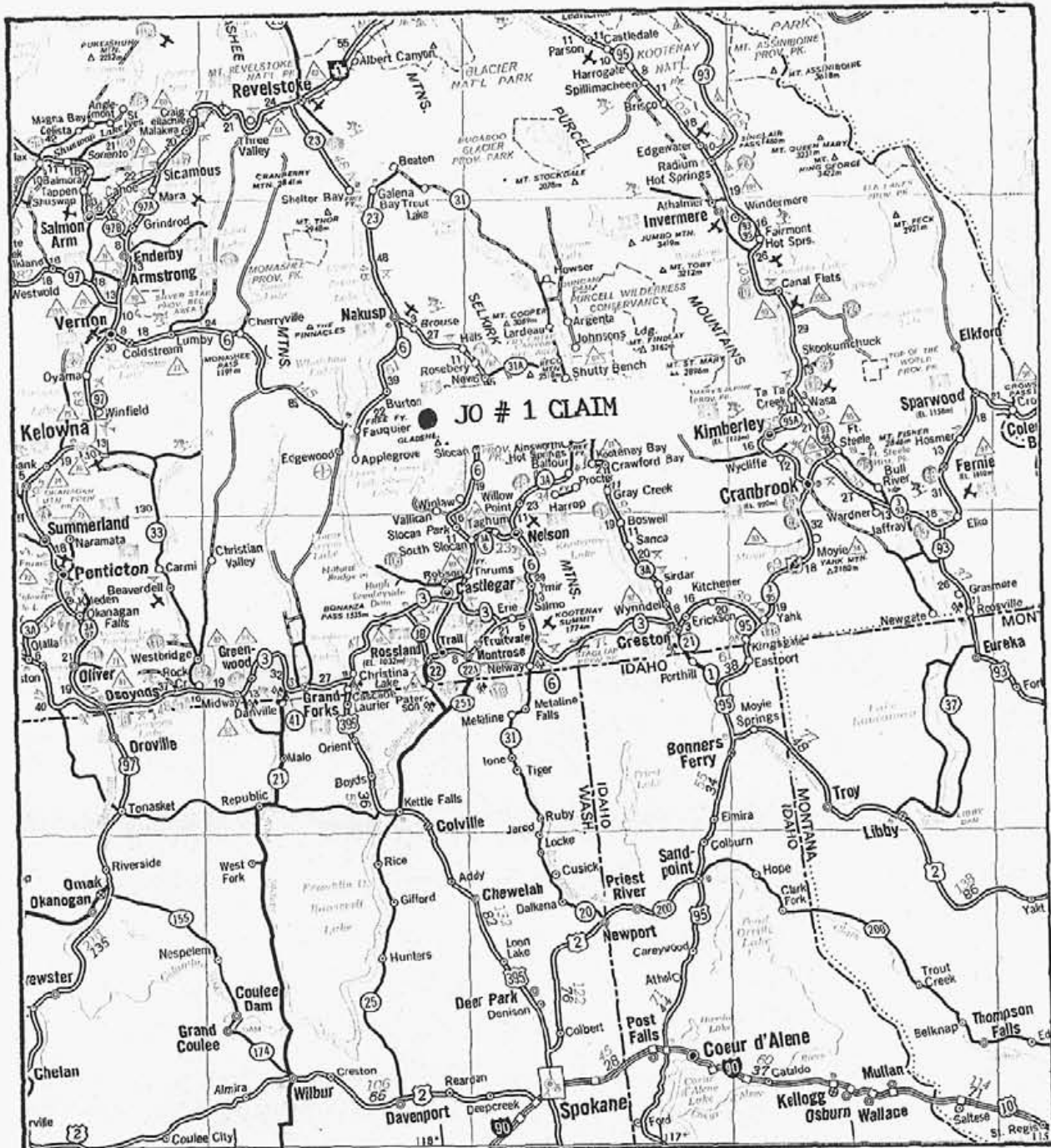
White, G. E.  
1983

Leader Resources Inc., airborne  
magnetometer and VLF electromagne-  
tometer survey Park 5, 6, 7 claims,  
Tillicum Mtn. area, Slocan mining  
division, B. C., Lat. 49°58'N,  
Long. 117°37'W NTS 82F/13E; B. C.  
Assessment Report No. 11,574, 13 pp.

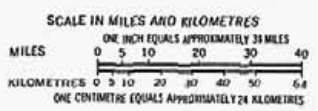
10. APPENDIX

- (a) Maps and Illustrations
- (b) Assay Certificates
- (c) Photographs .
- (d) Table of Samples





● JO # 1 CLAIM



JOPEC RESOURCES LTD.

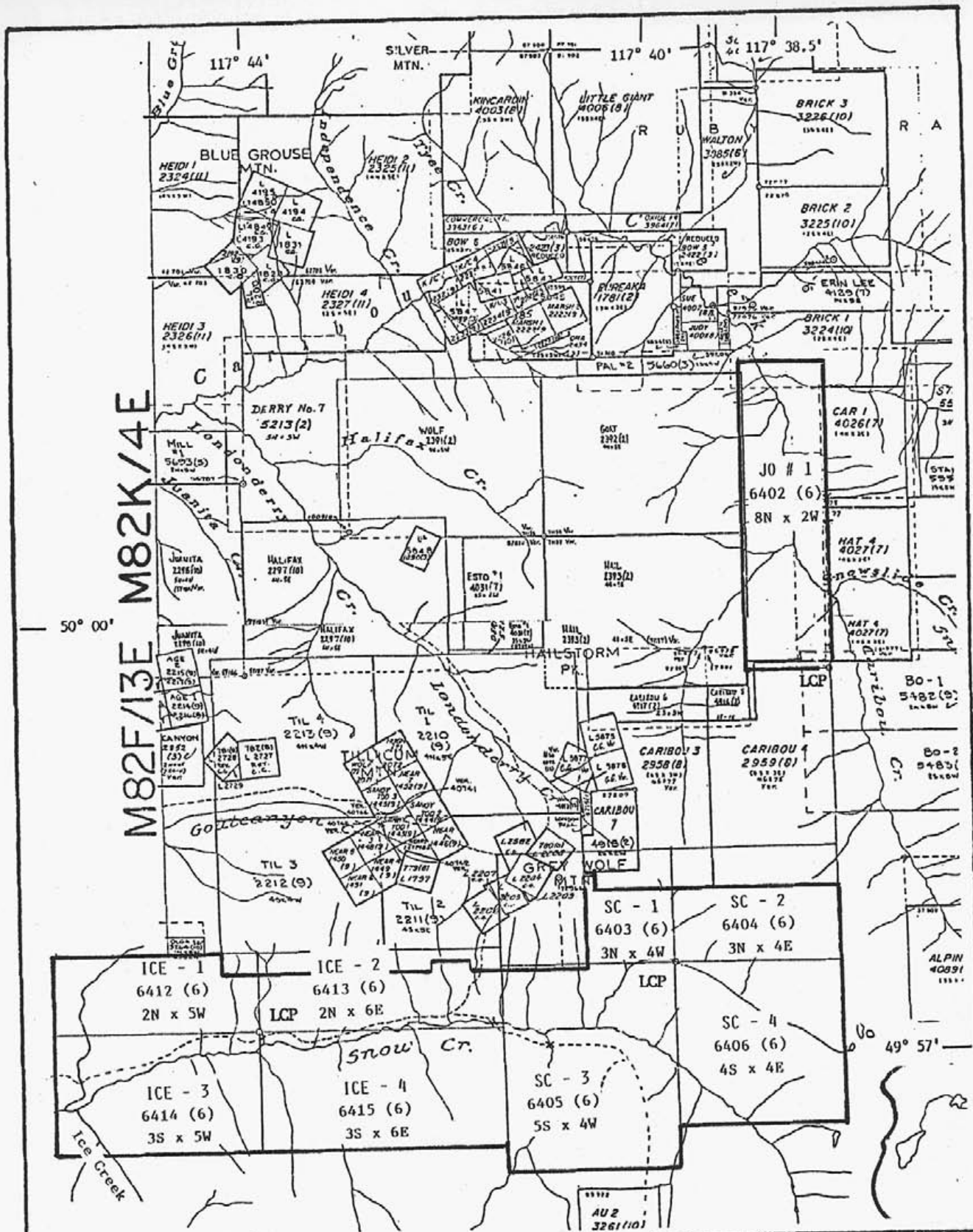
INDEX MAP  
 JO # 1 CLAIM  
 Slocan M.D., British Columbia  
 CANADA

Date: January 1991

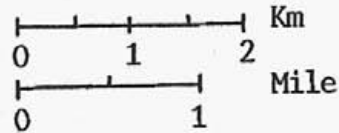
Scale: As Shown

Drawn By: P. J. Santos

PLATE No. 1

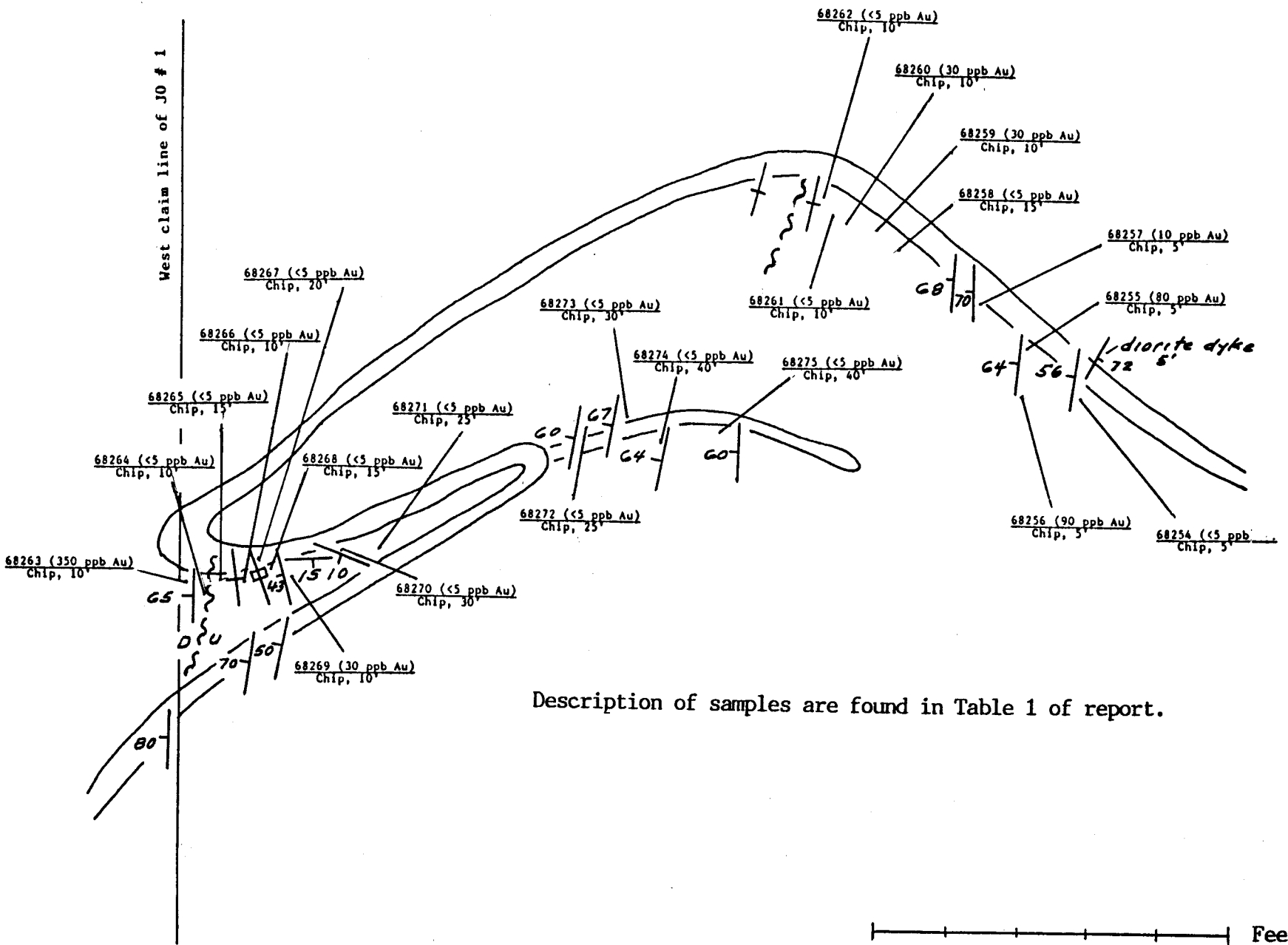
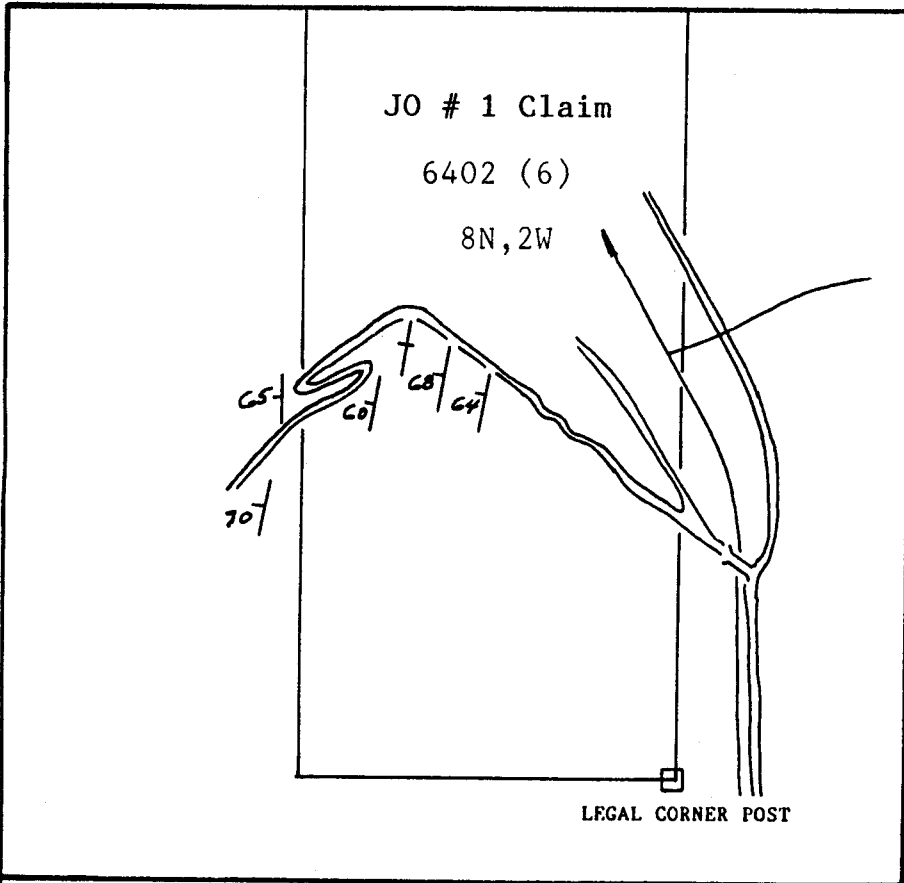


M82F/13E M82K/4E

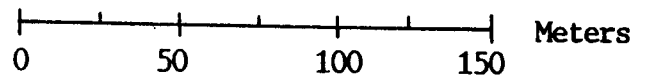
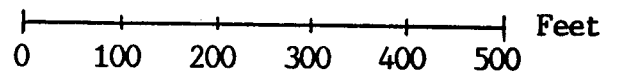


○ LCP Legal Corner Post

JOPEC RESOURCES LTD.	
CLAIM MAP	
JO # 1, Ice, and SC Claim Groups Slocan M.D., British Columbia CANADA	
Date: January, 1991	Scale: As Shown
Drawn By: P.J. Santos	PLATE No. 2



Description of samples are found in Table 1 of report.



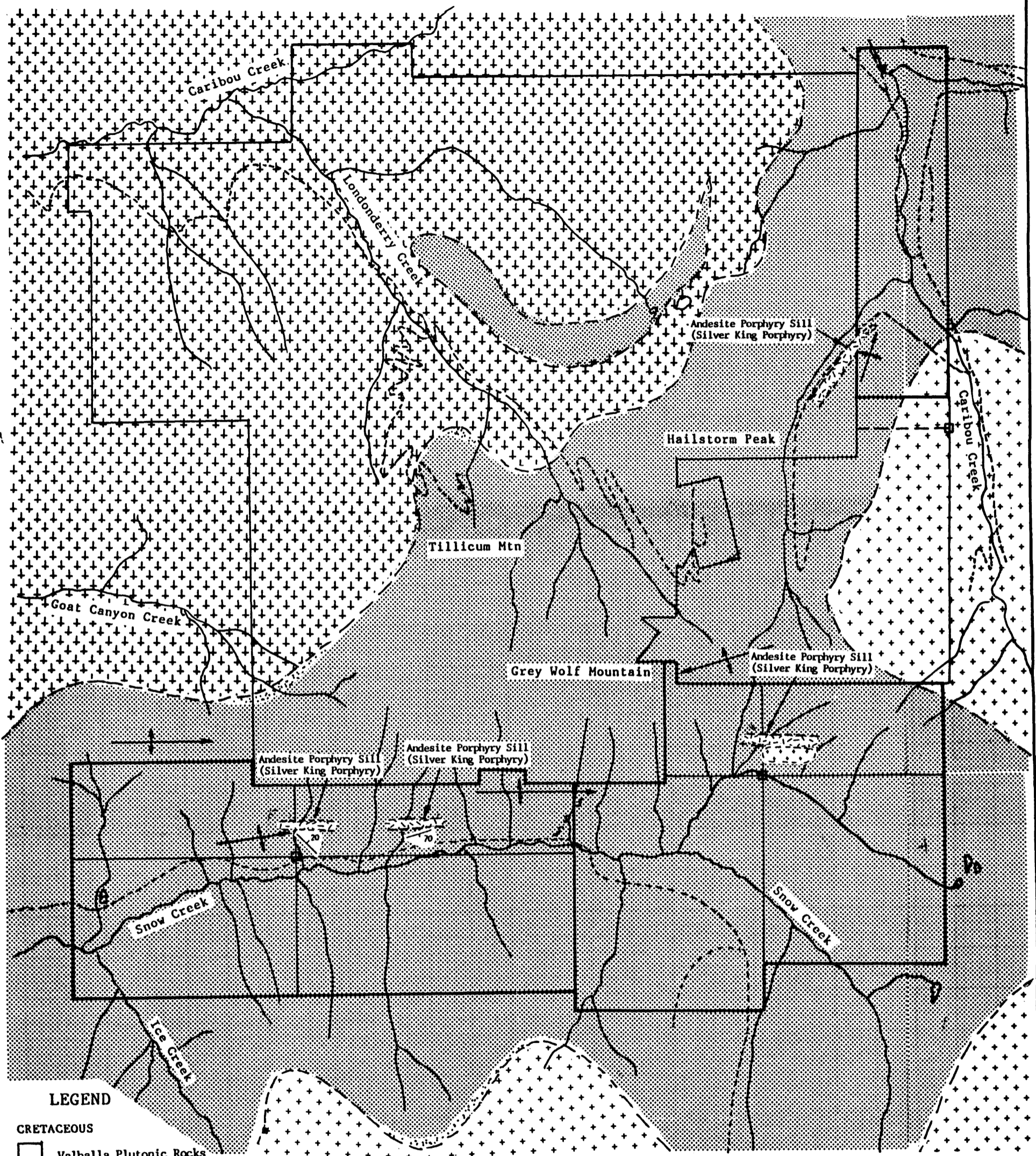
- Attitude of beds, sills
- Attitude of faults
- Attitude of joints

68616 (60 ppb Au) Sample No. (Au in ppb)  
Chip, 50' Sample type, Thickness

NOTE: Surveyed by Brunton compass and hip chain.



JOPEC RESOURCES LTD.	
GEOLOGY AND SAMPLING MAP JO # 1 CLAIM Slocan M.D., British Columbia CANADA	
Date: January, 1991	Scale: As shown
Drawn by: P. J. Santos, P. Eng.	Plate No. 3



**LEGEND**

**CRETACEOUS**

- Valhalla Plutonic Rocks (Granite, alaskite)
- Nelson Intrusives (Monzonite, granodiorite)

**JURASSIC**

- Silver King Porphyry (Quartz diorite porphyry, Andesite Porphyry, Syenite porphyry)

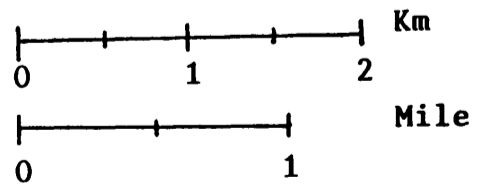
**TRIASSIC**

- Rossland Formation (Greenstones, altered basalt and altered andesite)
- Slocan Group (Phyllite, shale, argillite)

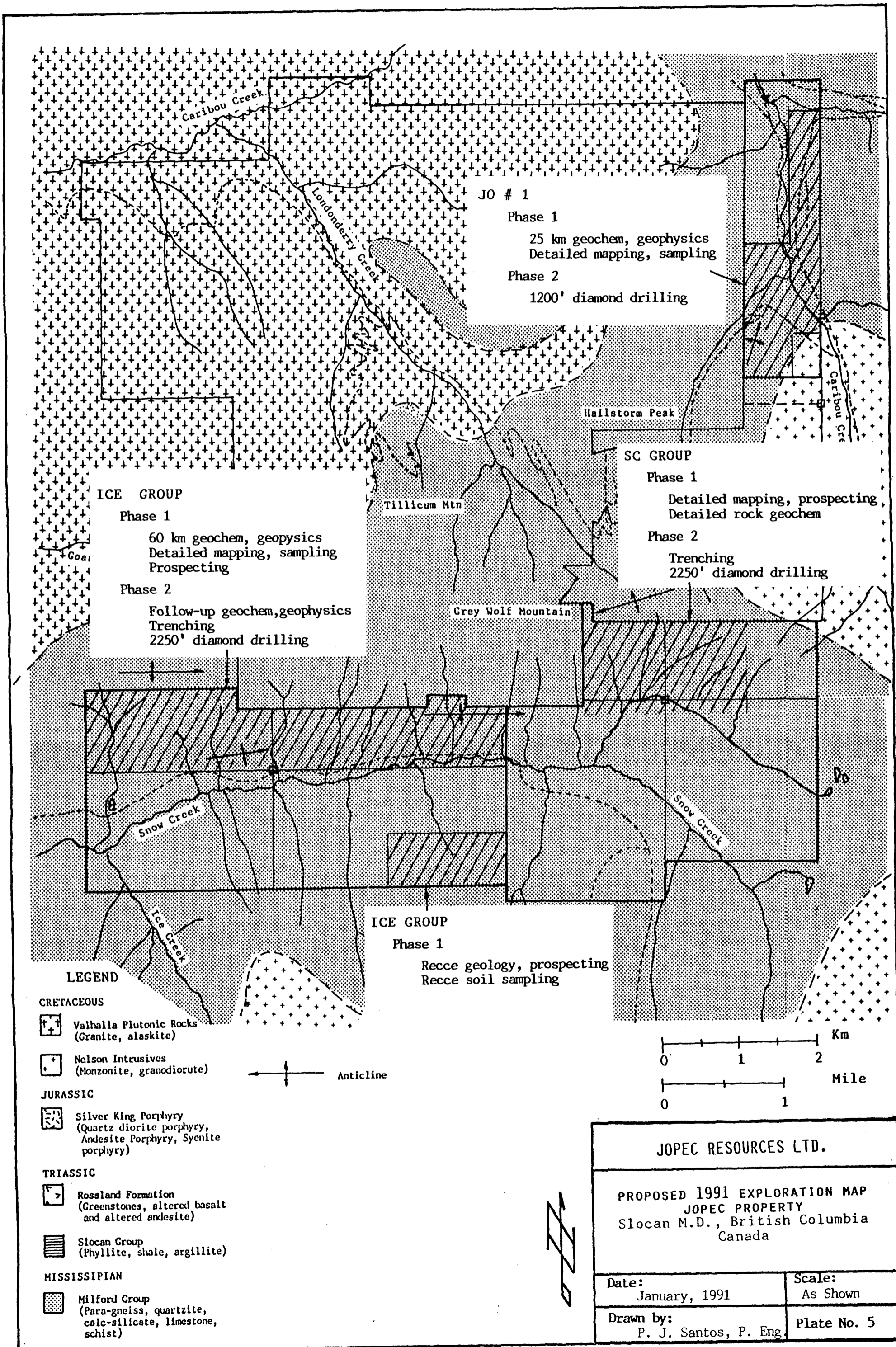
**MISSISSIPPIAN**

- Milford Group (Para-gneiss, quartzite, calc-silicate, limestone, schist)

- Anticline
- Attitude of beds, sills
- Fault



<b>JOPEC RESOURCES LTD.</b>	
<b>GEOLOGIC MAP OF TILLICUM MTN. AREA</b> Slocan M.D., British Columbia Canada	
Date: January, 1991	Scale: As shown
Drawn By: P. J. Santos, P. Eng.	Plate No. 4



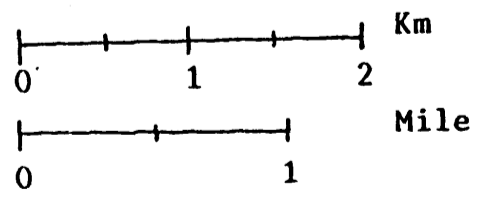
**ICE GROUP**  
 Phase 1  
 60 km geochem, geophysics  
 Detailed mapping, sampling  
 Prospecting  
 Phase 2  
 Follow-up geochem, geophysics  
 Trenching  
 2250' diamond drilling

**JO # 1**  
 Phase 1  
 25 km geochem, geophysics  
 Detailed mapping, sampling  
 Phase 2  
 1200' diamond drilling

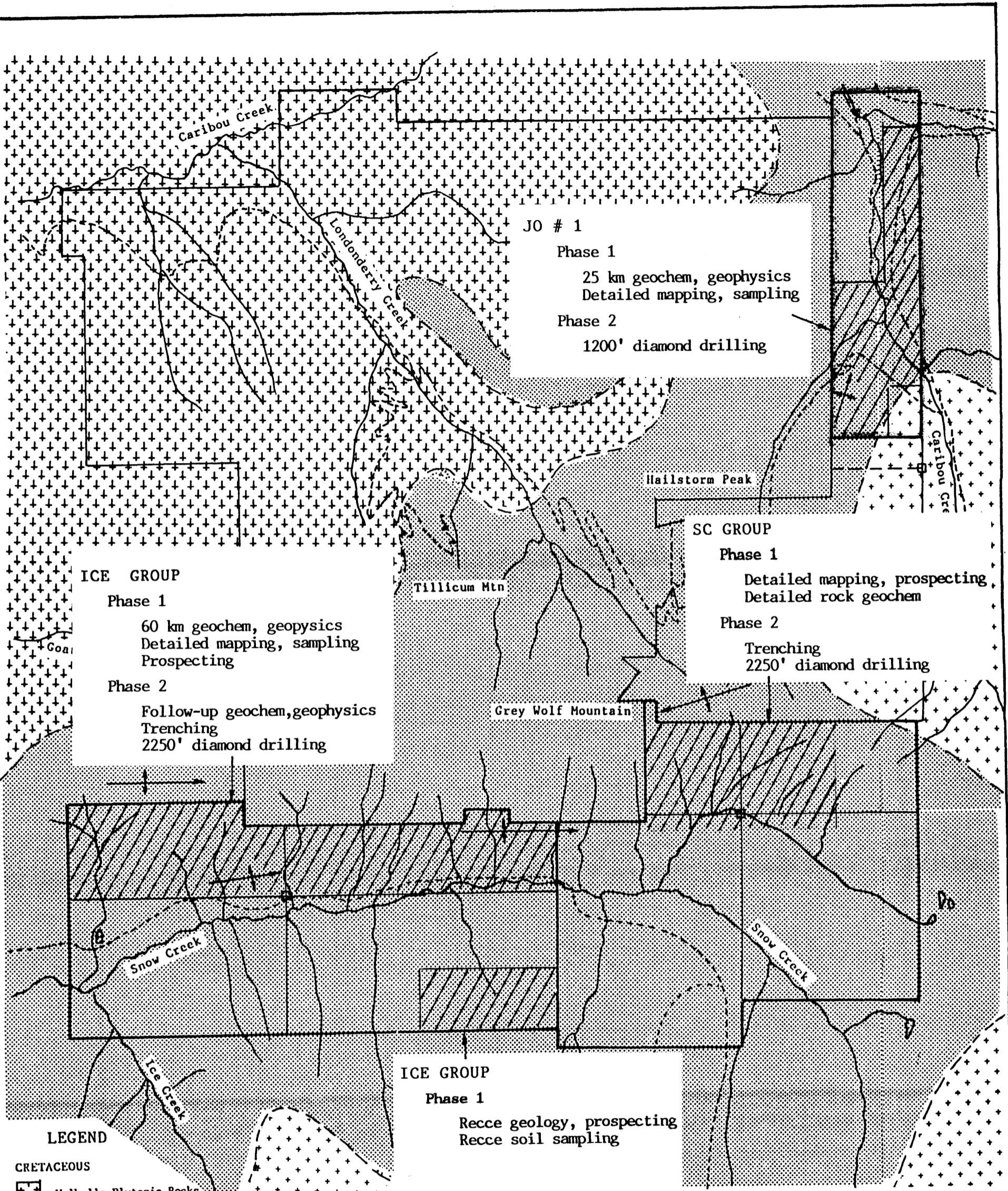
**SC GROUP**  
 Phase 1  
 Detailed mapping, prospecting  
 Detailed rock geochem  
 Phase 2  
 Trenching  
 2250' diamond drilling

**ICE GROUP**  
 Phase 1  
 Recce geology, prospecting  
 Recce soil sampling

- LEGEND**
- CRETACEOUS**
- Valhalla Plutonic Rocks (Granite, alaskite)
  - Nelson Intrusives (Monzonite, granodiorite)
- JURASSIC**
- Silver King Porphyry (Quartz diorite porphyry, Andesite Porphyry, Syenite porphyry)
- TRIASSIC**
- Rossland Formation (Greenstones, altered basalt and altered andesite)
  - Slovan Group (Phyllite, shale, argillite)
- MISSISSIPPIAN**
- Milford Group (Para-gneiss, quartzite, calc-silicate, limestone, schist)



<b>JOPEC RESOURCES LTD.</b>	
PROPOSED 1991 EXPLORATION MAP JOPEC PROPERTY Slocan M.D., British Columbia Canada	
Date: January, 1991	Scale: As Shown
Drawn by: P. J. Santos, P. Eng.	Plate No. 5



JO # 1  
 Phase 1  
 25 km geochem, geophysics  
 Detailed mapping, sampling  
 Phase 2  
 1200' diamond drilling

ICE GROUP  
 Phase 1  
 60 km geochem, geophysics  
 Detailed mapping, sampling  
 Prospecting  
 Phase 2  
 Follow-up geochem, geophysics  
 Trenching  
 2250' diamond drilling

SC GROUP  
 Phase 1  
 Detailed mapping, prospecting  
 Detailed rock geochem  
 Phase 2  
 Trenching  
 2250' diamond drilling

ICE GROUP  
 Phase 1  
 Recce geology, prospecting  
 Recce soil sampling

LEGEND

CRETACEOUS

- Valhalla Plutonic Rocks (Granite, alaskite)
- Nelson Intrusives (Monzonite, granodiorite)

JURASSIC

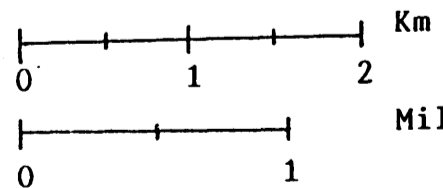
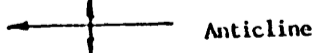
- Silver King Porphyry (Quartz diorite porphyry, Andesite Porphyry, Syenite porphyry)

TRIASSIC

- Rossland Formation (Greenstones, altered basalt and altered andesite)
- Slocan Group (Phyllite, shale, argillite)

MISSISSIPPIAN

- Milford Group (Para-gneiss, quartzite, calc-silicate, limestone, schist)



JOPEC RESOURCES LTD.

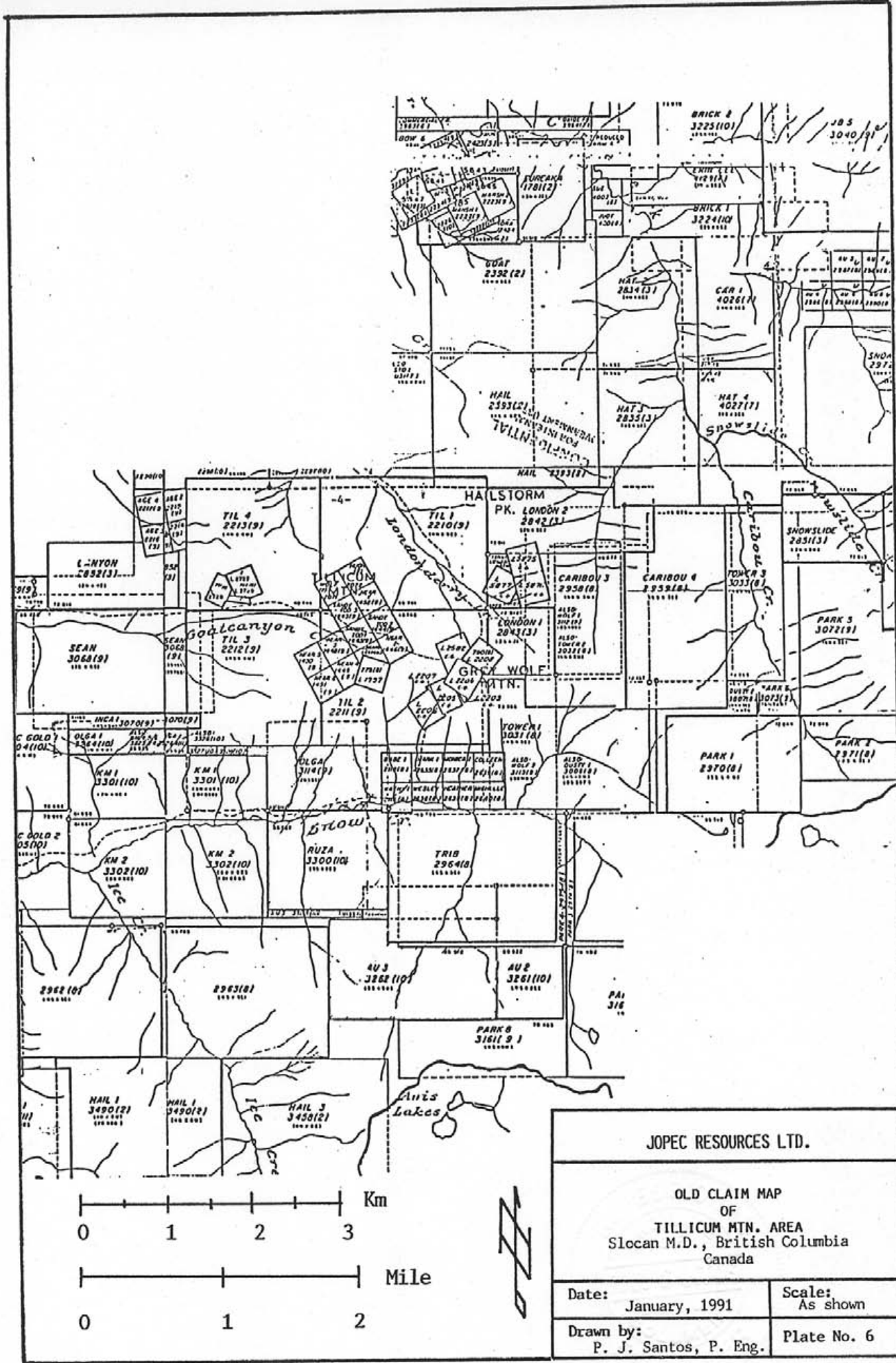
PROPOSED 1991 EXPLORATION MAP  
 JOPEC PROPERTY  
 Slocan M.D., British Columbia  
 Canada

Date:  
 January, 1991

Scale:  
 As Shown

Drawn by:  
 P. J. Santos, P. Eng.

Plate No. 5



JOPEC RESOURCES LTD.

OLD CLAIM MAP  
OF  
TILLICUM MTN. AREA  
Slocan M.D., British Columbia  
Canada

Date:	January, 1991	Scale:	As shown
Drawn by:	P. J. Santos, P. Eng.	Plate No. 6	

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

**B.C. CERTIFIED ASSAYERS**

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112

**\*\* ASSAY CERTIFICATE \*\***



To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: K 10291

Date: Nov. 14, 1990

Proj.: JO #1

Attn:

No.	Description	Au ozs/ton	Ag ozs/ton	Pb percent	Zn percent
1	68254	<.001	.05	.01	.01
2	68255	.003	<.01	<.01	.01
3	68256	.003	.03	<.01	<.01
4	68257	.002	<.01	<.01	<.01
5	68258	<.001	.05	<.01	.01
6	68259	.001	<.01	<.01	.01
7	68260	.001	.03	<.01	.01
8	68261	<.001	.05	<.01	.01
9	68262	<.001	.03	<.01	.01
10	68263	.011	.05	<.01	.08
11	68264	<.001	<.01	<.01	.02
12	68265	<.001	<.01	<.01	.01
13	68266	<.001	<.01	<.01	.01
14	68267	<.001	.05	<.01	.04
15	68268	<.001	.03	<.01	.04
16	68269	.001	.05	<.01	.01
17	68270	<.001	.05	<.01	.09
18	68271	<.001	.10	<.01	.09
19	68272	<.001	.05	<.01	.01
20	68273	<.001	.05	<.01	.04
21	68274	<.001	.05	<.01	.04
22	68275	<.001	.05	<.01	.03



**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



\*\* ICP ANALYSIS \*\*

To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: K 10291

Date: Nov. 22, 1990

Proj.: JO #1

Attn:

Element	Reported In	Sample No. 68254	Sample No. 68255	Sample No. 68256	Sample No. 68257
Mo	ppm	3	4	2	2
Cu	ppm	55	48	48	99
Pb	ppm	12	13	7	3
Zn	ppm	100	68	38	50
Ag	ppm	0.4	0.8	0.6	0.8
Ni	ppm	29	17	19	49
Co	ppm	10	6	6	10
Mn	ppm	479	171	70	133
Fe	percent	3.71	2.37	1.18	1.77
As	ppm	8	7	3	6
U	ppm	5	5	5	5
Au	ppm	ND	ND	ND	ND
Th	ppm	10	7	4	5
Sr	ppm	17	66	81	54
Cd	ppm	0.7	0.2	0.3	0.7
Sb	ppm	2	2	2	2
Bi	ppm	2	2	2	5
V	ppm	60	48	22	38
Ca	percent	0.28	0.66	0.81	0.90
P	percent	0.043	0.051	0.056	0.092
La	ppm	14	10	7	10
Cr	ppm	86	79	39	90
Mg	percent	1.63	0.85	0.31	0.53
Ba	ppm	181	40	17	42
Ti	percent	0.24	0.17	0.09	0.17
B	ppm	3	2	2	2
Al	percent	2.47	1.59	1.31	1.31
Na	percent	0.06	0.12	0.17	0.20
K	percent	1.37	0.34	0.15	0.28
W	ppm	1	1	1	1

ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



\*\* ICP ANALYSIS \*\*

To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: K 10291

Date: Nov. 22, 1990

Proj.: JO #1

Attn:

Element	Reported In	Sample No. <del>68258</del>	Sample No. <del>68259</del>	Sample No. <del>68260</del>	Sample No. <del>68261</del>
Mo	ppm	3	4	3	5
Cu	ppm	61	48	64	63
Pb	ppm	4	7	6	2
Zn	ppm	94	82	102	93
Ag	ppm	0.4	0.4	0.5	0.1
Ni	ppm	25	17	23	21
Co	ppm	6	6	8	10
Mn	ppm	235	271	353	338
Fe	percent	2.69	2.74	3.13	2.80
As	ppm	10	3	4	4
U	ppm	5	5	5	5
Au	ppm	ND	ND	ND	ND
Th	ppm	5	4	4	1
Sr	ppm	39	40	57	61
Cd	ppm	0.3	0.3	1.0	0.7
Sb	ppm	2	2	2	2
Bi	ppm	2	2	2	2
V	ppm	42	65	60	62
Ca	percent	0.56	0.51	0.88	0.85
P	percent	0.064	0.063	0.081	0.074
La	ppm	9	9	8	5
Cr	ppm	90	108	125	55
Mg	percent	0.84	1.08	1.26	1.14
Ba	ppm	68	199	147	108
Ti	percent	0.18	0.18	0.19	0.15
B	ppm	2	5	4	2
Al	percent	1.45	1.91	2.52	2.38
Na	percent	0.11	0.13	0.16	0.11
K	percent	0.44	0.61	0.62	0.68
W	ppm	1	4	1	1

ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



**\*\* ICP ANALYSIS \*\***

To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: K 10291

Date: Nov. 22, 1990

Proj.: JO #1

Attn:

Element	Reported In	Sample No. 68262	Sample No. 68263	Sample No. 68264	Sample No. 68265
Mo	ppm	3	21	6	4
Cu	ppm	61	87	39	51
Pb	ppm	5	13	8	34
Zn	ppm	87	778	206	126
Ag	ppm	0.4	1.4	0.1	0.4
Ni	ppm	31	74	17	4
Co	ppm	9	12	8	4
Mn	ppm	367	317	755	239
Fe	percent	2.52	2.98	2.84	2.53
As	ppm	3	11	3	2
U	ppm	5	5	5	5
Au	ppm	ND	ND	ND	ND
Th	ppm	5	7	2	7
Sr	ppm	76	163	137	38
Cd	ppm	0.7	13.3	2.1	0.6
Sb	ppm	2	2	2	2
Bi	ppm	3	4	2	2
V	ppm	64	147	63	3
Ca	percent	0.99	2.64	4.08	0.27
P	percent	0.079	0.079	0.075	0.046
La	ppm	9	9	8	17
Cr	ppm	157	105	41	47
Mg	percent	1.06	0.93	0.96	0.22
Ba	ppm	100	60	94	54
Ti	percent	0.18	0.14	0.14	0.07
B	ppm	2	2	2	3
Al	percent	2.46	2.90	1.83	0.85
Na	percent	0.20	0.25	0.16	0.09
K	percent	0.62	0.49	0.37	0.17
W	ppm	1	1	1	1

ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

**B.C. CERTIFIED ASSAYERS**

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



\*\* ICP ANALYSIS \*\*

**To:** Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

**Number:** K 10291

**Date:** Nov. 22, 1990

**Proj.:** JD #1

**Attn:**

Element	Reported In	Sample No. 68266	Sample No. 68267	Sample No. 68268	Sample No. 68269
Mo	ppm	4	7	15	4
Cu	ppm	55	94	56	46
Pb	ppm	32	8	7	7
Zn	ppm	162	372	428	168
Ag	ppm	0.6	0.9	1.0	0.7
Ni	ppm	5	51	32	22
Co	ppm	5	12	10	8
Mn	ppm	238	258	447	601
Fe	percent	2.51	3.79	3.35	3.08
As	ppm	4	8	6	4
U	ppm	5	5	5	5
Au	ppm	ND	ND	ND	ND
Th	ppm	9	6	5	3
Sr	ppm	37	187	64	74
Cd	ppm	1.0	5.9	9.3	1.7
Sb	ppm	2	2	2	2
Bi	ppm	2	2	4	2
V	ppm	5	155	100	65
Ca	percent	0.28	2.10	0.75	2.89
P	percent	0.046	0.077	0.082	0.084
La	ppm	17	7	10	7
Cr	ppm	73	90	48	37
Mg	percent	0.22	1.31	0.95	0.92
Ba	ppm	48	49	69	76
Ti	percent	0.07	0.14	0.11	0.12
B	ppm	2	2	3	2
Al	percent	0.83	3.98	2.01	1.46
Na	percent	0.09	0.32	0.12	0.07
K	percent	0.14	0.40	0.38	0.27
W	ppm	1	1	1	1

ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



\*\* ICP ANALYSIS \*\*

To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: K 10291

Date: Nov. 22, 1990

Proj: JO #1

Attn:

Element	Reported In	Sample No.	Sample No.	Sample No.	Sample No.
		68270	68271	68272	68273
Mo	ppm	33	22	10	12
Cu	ppm	86	83	92	78
Pb	ppm	11	18	10	9
Zn	ppm	882	928	155	396
Ag	ppm	0.9	0.8	0.5	0.8
Ni	ppm	83	65	21	34
Co	ppm	10	10	9	9
Mn	ppm	209	335	451	201
Fe	percent	2.50	2.99	4.23	3.53
As	ppm	7	2	3	5
U	ppm	5	5	5	5
Au	ppm	ND	ND	ND	ND
Th	ppm	7	5	3	7
Sr	ppm	163	244	60	84
Cd	ppm	18.9	14.7	1.2	10.9
Sb	ppm	2	2	2	2
Bi	ppm	2	4	2	2
V	ppm	128	151	200	194
Ca	percent	2.68	2.12	0.52	0.74
P	percent	0.067	0.076	0.079	0.074
La	ppm	9	8	4	10
Cr	ppm	67	83	57	107
Mg	percent	0.64	0.73	1.15	0.93
Ba	ppm	67	46	50	50
Ti	percent	0.12	0.14	0.09	0.13
B	ppm	2	2	2	4
Al	percent	2.86	3.50	1.91	1.91
Na	percent	0.27	0.31	0.06	0.13
K	percent	0.22	0.20	0.18	0.26
W	ppm	1	1	1	1

ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

**B.C. CERTIFIED ASSAYERS**

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



**\*\* ICP ANALYSIS \*\***

**To:** Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

**Number:** K 10291

**Date:** Nov. 22, 1990

**Proj.:** JO #1

**Attn:**

Element	Reported In	Sample No.	Sample No.
		<del>68274</del>	<del>68275</del>
Mo	ppm	15	19
Cu	ppm	78	105
Pb	ppm	3	4
Zn	ppm	391	337
Ag	ppm	0.7	1.1
Ni	ppm	40	31
Co	ppm	9	11
Mn	ppm	253	234
Fe	percent	3.11	3.32
As	ppm	.3	7
U	ppm	5	5
Au	ppm	ND	ND
Th	ppm	6	5
Sr	ppm	144	155
Cd	ppm	7.6	5.7
Sb	ppm	2	3
Bi	ppm	2	2
V	ppm	177	110
Ca	percent	1.12	1.20
P	percent	0.074	0.090
La	ppm	9	6
Cr	ppm	118	72
Mg	percent	0.86	0.69
Ba	ppm	59	69
Ti	percent	0.14	0.11
B	ppm	5	6
Al	percent	2.39	2.42
Na	percent	0.17	0.16
K	percent	0.31	0.30
W	ppm	1	1

**ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED**

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

**B.C. CERTIFIED ASSAYERS**

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112

**\*\* GEOCHEMICAL ANALYSIS \*\***



To: Mr. P. J. Santos  
626 9th. Ave.,  
Castlegar, B.C.  
VIN 1M4

Number: G 2307 D

Date: Dec. 4, 1990

Proj.: JO #1

Attn:

No.	Description	Au ppb
1	68254	<5
2	68255	80
3	68256	90
4	68257	10
5	68258	<5
6	68259	30
7	68260	30
8	68261	<5
9	68262	<5
10	68263	350
11	68264	<5
12	68265	<5
13	68266	<5
14	68267	<5
15	68268	<5
16	68269	30
17	68270	<5
18	68271	<5
19	68272	<5
20	68273	<5
21	68274	<5
22	68275	<5

PROJECT NO. : C-91-111  
 CLIENT : PAT SANTOS

STATUS PRELIMINARY

	SOLIDS WEIGHT g	SOLUTION WEIGHT g	SOLUTION ASSAY ppm	SOLIDS ASSAY ppb	CALC HEAD ASSAY g/T	CALC HEAD ASSAY oz/T
68255	2447	2500	0.01	1	0.0112	0.0003
68256	1854	2500	0.01	6	0.0195	0.0005
68263 A	2287	2500	0.01	16	0.0269	0.0007
68263 B	2056	2500	0.08	32	0.1293	0.0037
	4343	5000			0.0754	0.0022
68269 A	1859	2500	0.01	4	0.0174	0.0005
68269 B	1871	2500	0.01	4	0.0174	0.0005
68269 C	1789	2500	0.01	8	0.0220	0.0006
	5519	7500			0.0189	0.0005
68610	1729	2500	0.01	1	0.0155	0.0004
68611	2569	2500	0.01	5	0.0147	0.0004
68612 A	1854	2500	0.01	3	0.0165	0.0004
68612 B	1894	2500	0.01	2	0.0152	0.0004
68612 C	1809	2500	0.01	2	0.0158	0.0004
	5557	7500			0.0158	0.0004
68616 A	1628	2500	0.02	14	0.0447	0.0013
68616 B	1638	2500	0.01	21	0.0363	0.0010
68616 C	1781	2500	0.01	16	0.0300	0.0008
	5047	7500			0.0368	0.0010
68617 A	1880	2500	0.01	3	0.0163	0.0004
68617 B	1870	2500	0.01	1	0.0144	0.0004
68617 C	1911	2500	0.01	12	0.0251	0.0007
	5661	7500			0.0186	0.0005
68622	1487	2500	0.03	5	0.0554	0.0016
68629	2112	2500	0.03	48	0.0835	0.0024
	3599	5000			0.0719	0.0021

The above results suggest anomalous gold values at a preliminary level. They can be used as a guide for further exploration planning.



**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912-1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



**\*\* ASSAY CERTIFICATE \*\***

To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: K 10289

Date: Nov. 16, 1990

Proj: Caribou

Attn:

No.	Description	Au ozs/ton	Ag ozs/ton	Pb percent	Zn percent
1	58051	3.66	2.93	.02	.54
2	58052	.91	.82	.10	.76
3	58416	* .027	.08	.01	.03
4	58417	* .047	1.59	.80	.52
5	58418	.002	.17	.01	.05
6	58419	.008	.10	.02	.04
7	58420	.001	.05	<.01	.01
8	58421	.001	.17	<.01	.04
9	58422	.015	1.95	.30	.21
10	58423	* .053	.10	.01	.07
11	58424	.021	.03	<.01	<.01
12	58425	* .100	.27	.08	.08
13	68253	.052	.15	.01	.01
* Sample has been screened & found to contain coarse gold. See below					
		Percent Weight	Au ozs/ton	Combined Au ozs/ton	
3	58416	-100 mesh	91.26	.023	.027
		+100 mesh	8.74	.064	
4	58417	-100 mesh	95.42	.035	.047
		+100 mesh	4.58	.292	
10	58423	-100 mesh	99.45	.051	.053
		+100 mesh	0.55	.406	
12	58425	-100 mesh	99.53	.068	.100
		+100 mesh	0.47	6.76	

Note: Costs of these assays and geochem analyses were not charged to to this assessment report.

*Derek A. Stender*  
-----  
B.C. Certified Assayer

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112

**\*\* ICP ANALYSIS \*\***



To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
VIN 1M4

Number: K 10289

Date: Nov. 22, 1990

Proj: Caribou

Attn:

Element	Reported In	Sample No. 58051	Sample No. 58052	Sample No. 58416	Sample No. 58417
Mo	ppm	2	3	2	1
Cu	ppm	160	157	167	403
Pb	ppm	138	782	112	7201
Zn	ppm	4804	6845	281	5005
Ag	ppm	* 85.4	25.9	2.5	* 49.4
Ni	ppm	16	23	23	29
Co	ppm	13	11	26	39
Mn	ppm	3781	4478	990	2248
Fe	percent	6.56	5.50	5.32	6.99
As	ppm	6824	3419	6070	7865
U	ppm	17	9	14	10
Au	ppm	111	28	ND	ND
Th	ppm	2	2	1	1
Sr	ppm	175	216	132	176
Cd	ppm	70.4	102.2	3.5	65.9
Sb	ppm	7	4	2	42
Bi	ppm	5	3	2	4
V	ppm	46	45	120	59
Ca	percent	3.82	6.96	2.03	6.47
P	percent	0.044	0.045	0.111	0.059
La	ppm	4	3	2	2
Cr	ppm	66	43	35	33
Mg	percent	0.65	0.64	1.24	0.40
Ba	ppm	69	44	33	20
Ti	percent	0.04	0.05	0.06	0.03
B	ppm	3	2	2	2
Al	percent	1.58	1.99	4.54	1.80
Na	percent	0.07	0.08	0.26	0.09
K	percent	0.20	0.27	0.96	0.15
W	ppm	10	3	4	1

\* Assay recommended

ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED

Note: Costs of these assays and geochem analyses were not charged to this assessment report.

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (804) 372-2784 FAX 372-1112



\*\* ICP ANALYSIS \*\*

To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: K 10289

Date: Nov. 22, 1990

Proj.: Caribou

Attn:

Element	Reported In	Sample No. 58418	Sample No. 58419	Sample No. 58420	Sample No. 58421
Mo	ppm	11	2	1	17
Cu	ppm	187	182	66	118
Pb	ppm	133	151	40	26
Zn	ppm	499	356	111	444
Ag	ppm	4.5	2.1	1.4	4.0
Ni	ppm	43	20	2	43
Co	ppm	20	15	9	12
Mn	ppm	663	1150	667	422
Fe	percent	4.80	5.13	3.82	3.30
As	ppm	194	1196	106	310
U	ppm	5	5	6	5
Au	ppm	ND	ND	ND	ND
Th	ppm	3	1	4	1
Sr	ppm	84	128	169	109
Cd	ppm	7.5	4.1	1.8	7.4
Sb	ppm	5	2	2	2
Bi	ppm	2	2	2	2
V	ppm	187	134	55	198
Ca	percent	0.69	1.52	1.51	0.88
P	percent	0.114	0.111	0.092	0.069
La	ppm	5	2	8	5
Cr	ppm	50	52	24	103
Mg	percent	1.36	1.28	0.89	.099
Ba	ppm	26	40	28	56
Ti	percent	0.15	0.10	0.12	0.14
B	ppm	6	2	2	2
Al	percent	2.59	3.98	3.72	2.92
Na	percent	0.13	0.16	0.43	0.29
K	percent	0.54	0.34	0.17	0.45
W	ppm	1	1	1	1

ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED

Note: Costs of these assays and geochem analyses were not charged to this assessment report.

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



\*\* ICP ANALYSIS \*\*

To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: K 10289

Date: Nov. 22, 1990

Proj.: Caribou

Attn:

Element	Reported In	Sample No. 58422	Sample No. 58423	Sample No. 58424	Sample No. 58425
Mo	ppm	9	1	6	1
Cu	ppm	92	67	35	142
Pb	ppm	3025	58	12	541
Zn	ppm	2015	589	38	684
Ag	ppm	* 65.4	2.8	0.9	9.1
Ni	ppm	19	3	6	14
Co	ppm	9	6	2	20
Mn	ppm	553	1972	1161	3202
Fe	percent	3.02	2.75	0.57	3.83
As	ppm	1495	4402	155	6730
U	ppm	5	5	5	5
Au	ppm	ND	ND	ND	3
Th	ppm	3	2	1	2
Sr	ppm	55	135	216	293
Cd	ppm	37.3	9.6	0.5	9.6
Sb	ppm	6	2	2	10
Bi	ppm	84	5	2	2
V	ppm	124	30	2	76
Ca	percent	0.60	5.85	11.01	8.44
P	percent	0.074	0.066	0.040	0.066
La	ppm	7	4	3	2
Cr	ppm	61	11	10	17
Mg	percent	0.81	0.57	0.11	0.82
Ba	ppm	56	11	3	34
Ti	percent	0.10	0.06	0.04	0.06
B	ppm	2	2	4	4
Al	percent	1.82	2.78	1.07	2.79
Na	percent	0.13	0.17	0.04	0.19
K	percent	0.29	0.34	0.08	0.68
W	ppm	1	3	1	1

\* Assay recommended

ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED

Note: Costs of these assays and geochem analyses were not charged to this assessment report.

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



**\*\* ICP ANALYSIS \*\***

To: Mr. P. J. Santos  
626 9th Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: K 10289

Date: Nov. 22, 1990

Proj.: Caribou

Attn:

Element	Reported In	Sample No.
		68253
Mo	ppm	11
Cu	ppm	81
Pb	ppm	63
Zn	ppm	146
Ag	ppm	3.7
Ni	ppm	21
Co	ppm	5
Mn	ppm	2516
Fe	percent	1.85
As	ppm	4780
U	ppm	5
Au	ppm	ND
Th	ppm	3
Sr	ppm	196
Cd	ppm	2.1
Sb	ppm	3
Bi	ppm	2
V	ppm	23
Ca	percent	8.36
P	percent	0.093
La	ppm	5
Cr	ppm	16
Mg	percent	0.33
Ba	ppm	8
Ti	percent	0.05
B	ppm	2
Al	percent	2.05
Na	percent	0.06
K	percent	26
W	ppm	1

**ANOMALOUS RESULTS:  
FURTHER ANALYSES  
BY ALTERNATE  
METHODS SUGGESTED**

**Note: Costs of these assays and geochem analyses were not charged to this assessment report.**

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

**B.C. CERTIFIED ASSAYERS**

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (804) 372-2784 FAX 372-1112

**\*\* GEOCHEMICAL ANALYSIS \*\***



To: Mr. P. J. Santos  
626 9th. Ave.,  
Castlegar, B.C.  
V1N 1M4

Number: G 2307 B

Date: Dec. 4, 1990

Proj.: Caribou

Attn:

No.	Description	Au ppb
1	58416	825
2	58417	1175
3	58418	20
4	58419	165
5	58420	30
6	58421	30
7	58422	505
8	58423	1440
9	58424	700
10	58425	2275
11	68253	2125
12	58051	>4000
13	58052	>4000

Note: Costs of these assays and geochem analyses were not charged to this assessment report.



Fig. 1 Photograph of thinly banded quartzite and calc-silicates of the Milford on the east flank of a north-trending anticline on the JO#1 claim. A section of over 400 feet of these is mineralized with gold.



Fig. 2 Continuation of the section shown on Fig. 1.

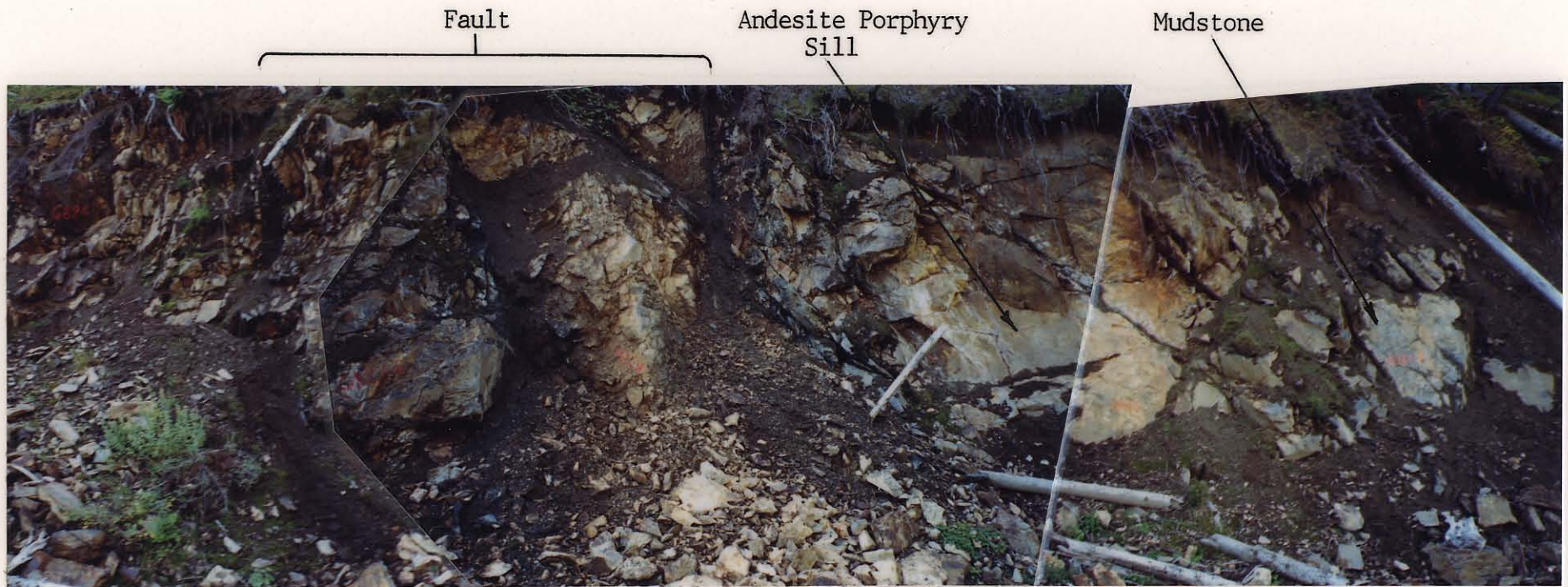


Fig. 3. Photograph of a section of gold-bearing meta-sediments (Milford Group) on the west limb of an anticline exposed in the JO#1 claim.



TABLE 1

DESCRIPTION OF ROCK SAMPLES FROM THE JO# 1 CLAIM

<u>Sample No.</u>	<u>Description</u>	<u>Au Content in ppb</u>
68254	Purplish gray, very fine grained, thick bedded sandstone, abundant diss biotite, sparse py diss, leached to light green in places, 5' dio. dykes intruding ss. Rusty along fractures. Thin, fissile laminations. Photo	<5
68255	Thinly interbedded gray and white, very fine grained sandstones, finely diss py, muscovite. Very rusty along fractures. White layers are tuffaceous, dark layers are carbonaceous (?). Some layers are more pyritic & weathers rusty brown. Indurated.	80
68256	Same ss as #68255 taken 30' further south along strike very fine grained, gray ss. Indurated. Very rusty along fractures.	90
68257	Gray, thin-bedded, very fine grained, silty qzite w/ white, thinly layered interbeds of quartzite, pyrite along bedding planes and as diss. Very rusty along fractures Photo. See Fig. 1.	10
68258	Gray, very fine grained, silty quartzite w/ occasional thin interbeds of white quartzite, diss py, some epidote (?) along grain boundaries, very rusty along fractures. Photo See Fig. 2.	<5
68259	Interbedded med gr. purplish pink qzite w/ moderate biotite and gray, med grained qzite w/ abundant biotite. Intervals of white qzite w/ diss py.	30

TABLE 1  
(CONTINUED)

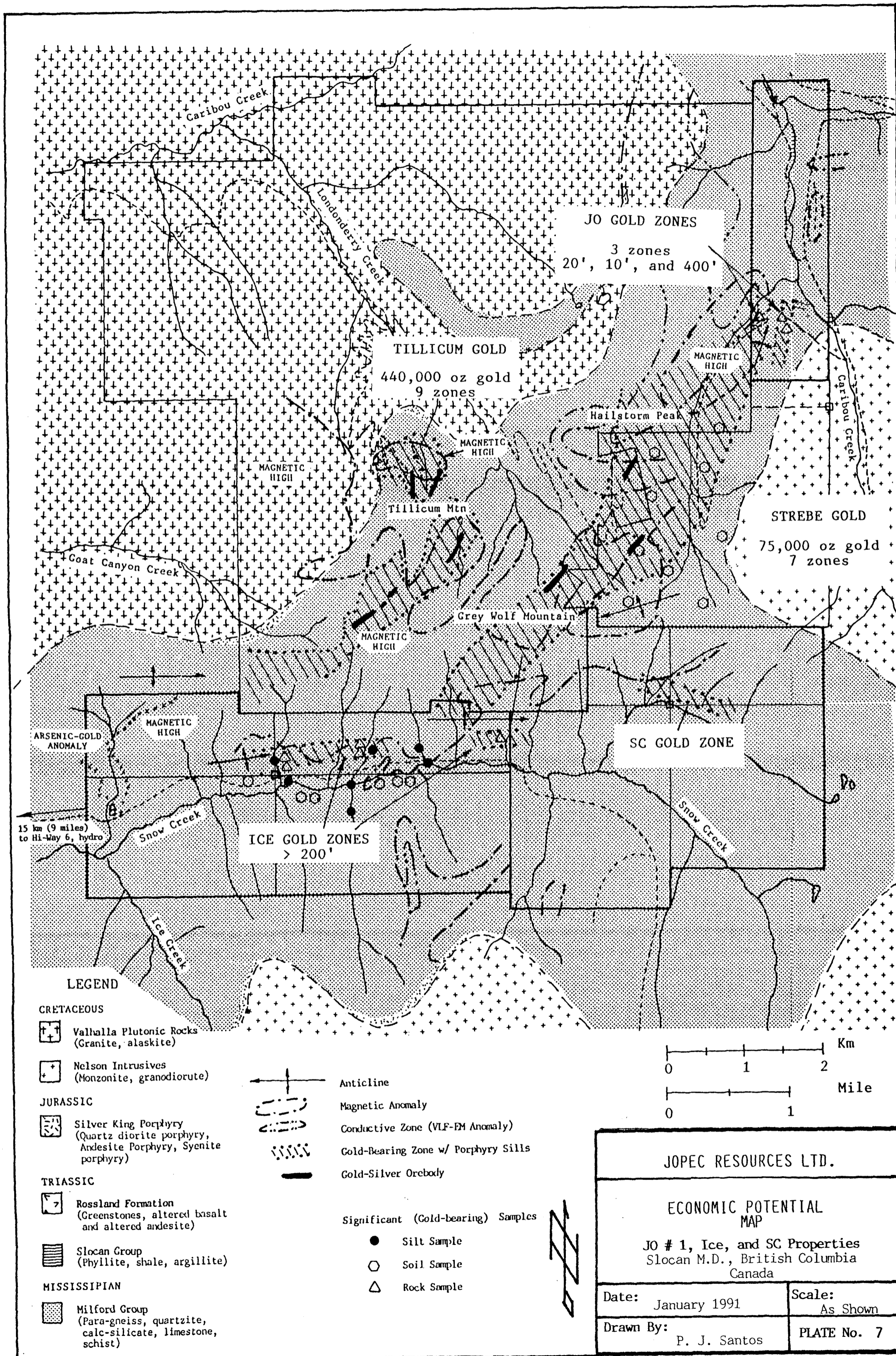
<u>Sample No.</u>	<u>Description</u>	<u>Au Content in ppb</u>
68260	Dark gray fine grained graywacke w/ interbeds of tuffaceous fin gr. quartzite. Very rusty along fractures. Some beds are prob. epidotized (?) meta-andesite. Bedding due to white qzite inter-layers. Well indurated.	30
68261	Purplish gray, thinly laminated, fine grained qzite. Abundant fine grained biotite. Very rust along fractures. Well indurated.	<5
68262	Purplish gray, thinly laminated, fine grained quartzite. Laminations from med-crs gr. white qzite w/ diss py. Well indurated. Very rusty along fractures.	<5
68263	Dark gray, carbonaceous thick-bedded siltstone w/ interbeds of dark gray med gr., carb., and calcareous qzite. Siltstone has diss py & po, & poss. magnetite (magnetic) and tremolite. Also py in fractures. Photo. See Fig. 3.	350
68264	Interbedded light gray med. gr. (b) qzite w/ diss py-po and/or (c) biotite-po, black med-gr., carb. and (d) altered limestone, and dark gray, mudstone w/ tremolite, and gray med-grained, pebbly (qtz) qzite w/ diss pyrite. (a) Otcp also has sill of green gray epidotized andesite porphyry, phenocrysts are elongated, sub-rounded feldspars. Some calcite veining. Photo. See Fig. 3.	<5
68265	White, coarse gr qzite w/ diss of biotite & po, very rusty along fractures, forms a thick bed. See #68264 (b) for comparison, py as veinlets (fault?) Photo See Fig. 3.	<5

TABLE 1  
(CONTINUED)

<u>Sample No.</u>	<u>Description</u>	<u>Au Content in ppb</u>
68266	Dark gray, carb., thick bedded siltstone, fractured, very rusty along fractures. Minor qzite veining w/ diss py. Photo. See Fig. 3.	<5
68267	Black, carbonaceous, homogeneous, laminated in part siltstone w/ abundant diss. of po. Laminations due to fine sandy layers. Some calcareous seams. Po-Py as diss & seams along bedding. Photo. See Fig. 3.	<5
68268	Black, slightly fissile slate, very rusty along bedding, accicular x-tals of ankerite(?) along certain thin horizons, well indurated, interbedded w/ gray, med gr. silty, tuffaceous qzite s/ diss pyrite. Shards of tuff (glass) intermixed throughout rock oriented along bedding (water-lain). Some po disseminations.	<5
68269	Greenish gray, med. gr. calcareous qzite w/ abundant diss of fine py and/or biotite. Very rusty along fractures. Slightly calcareous - may be altered limestone or dolomite. Interbeds of white & gray marble. Green color due to alteration of carbonate (calc sil.).	30
68270	Dark gray, indurated siltstone, fractured w/ quartz veining interbedded w/ black, med gr., altered limestone and greenish gray fine grained, calcareous, qzite w/ diss py. Very rusty along fractures. Py-Po also in seams.	<5

TABLE 1  
(CONTINUED)

<u>Sample No.</u>	<u>Description</u>	<u>Au Content in ppb</u>
68271	Dark gray to black, brecciated siltstone, very rusty along fractures. May be part of creep.	<5
68272	Dark gray, thin-bedded, moderately fissile siltstone w/ diss py. Very rusty along fractures.	<5
68273	Dark gray to black, thin-bedded shale-siltstone. Moderately rusty along fractures, carbonaceous. Diss. py.	<5
68274	Black, thin-bedded, carbonaceous fissile w/ py diss & seams. Tuffaceous and micaceous matrix.	<5
68275	Dark gray to black, thin-bedded, micaceous shale w/ light gray siltstone interbeds. Very rusty along fractures.	<5



LEGEND

CRETACEOUS

- Valhalla Plutonic Rocks (Granite, alaskite)
- Nelson Intrusives (Monzonite, granodiorite)

JURASSIC

- Silver King Porphyry (Quartz diorite porphyry, Andesite Porphyry, Syenite porphyry)

TRIASSIC

- Rossland Formation (Greenstones, altered basalt and altered andesite)
- Slokan Group (Phyllite, shale, argillite)

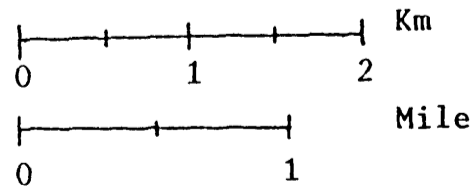
MISSISSIPPIAN

- Milford Group (Para-gneiss, quartzite, calc-silicate, limestone, schist)

- Anticline
- Magnetic Anomaly
- Conductive Zone (VLF-EM Anomaly)
- Gold-Bearing Zone w/ Porphyry Sills
- Gold-Silver Orebody

Significant (Gold-bearing) Samples

- Silt Sample
- Soil Sample
- Rock Sample



JOPEC RESOURCES LTD.

ECONOMIC POTENTIAL MAP

JO # 1, Ice, and SC Properties  
Slocan M.D., British Columbia  
Canada

Date: January 1991

Scale: As Shown

Drawn By: P. J. Santos

PLATE No. 7