

SELF-POTENTIAL SURVEY
OVER THE BLACK PRINCE DEPOSIT,
(JAY GROUP),
INVERMERE AREA

GOLDEN MINING DIVISION,
BRITISH COLUMBIA

NTS 82K/8W, 82K/9W
LAT/LONG 50 30' - 116 18'

FOR

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STETTLER, ALBERTA

BY

ISOGEOS EXPLORATION SERVICES LTD.
CALGARY, ALBERTA

JULY 1997

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,145

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INTRODUCTION

The property covered by this report consists of a total group of 52 units covered by the Jay #5, #6 and #7 claims. These claims are located approximately 20 kilometers west of Invermere. B.C., (Figures 1,2).

This report covers detail work over an old prospect number known as the Black Prince deposit. The old workings are located on the south side of Bruce Creek approximately 200 meters higher in elevation than creek level. The mineralisation is chalcopyrite located in a quartz vein within slates of the Horsethief Creek formation. The only recorded work was between 1899 and 1916 but no significant shipments were made.

A total 5.3 kilometers of detail survey at both 10 and 20 meter intervals was carried out and defined the strike of an anomalous zone which now appears to have a minimum length of at least 800 meters and is made up of two parallel zones which are 50 meters apart.

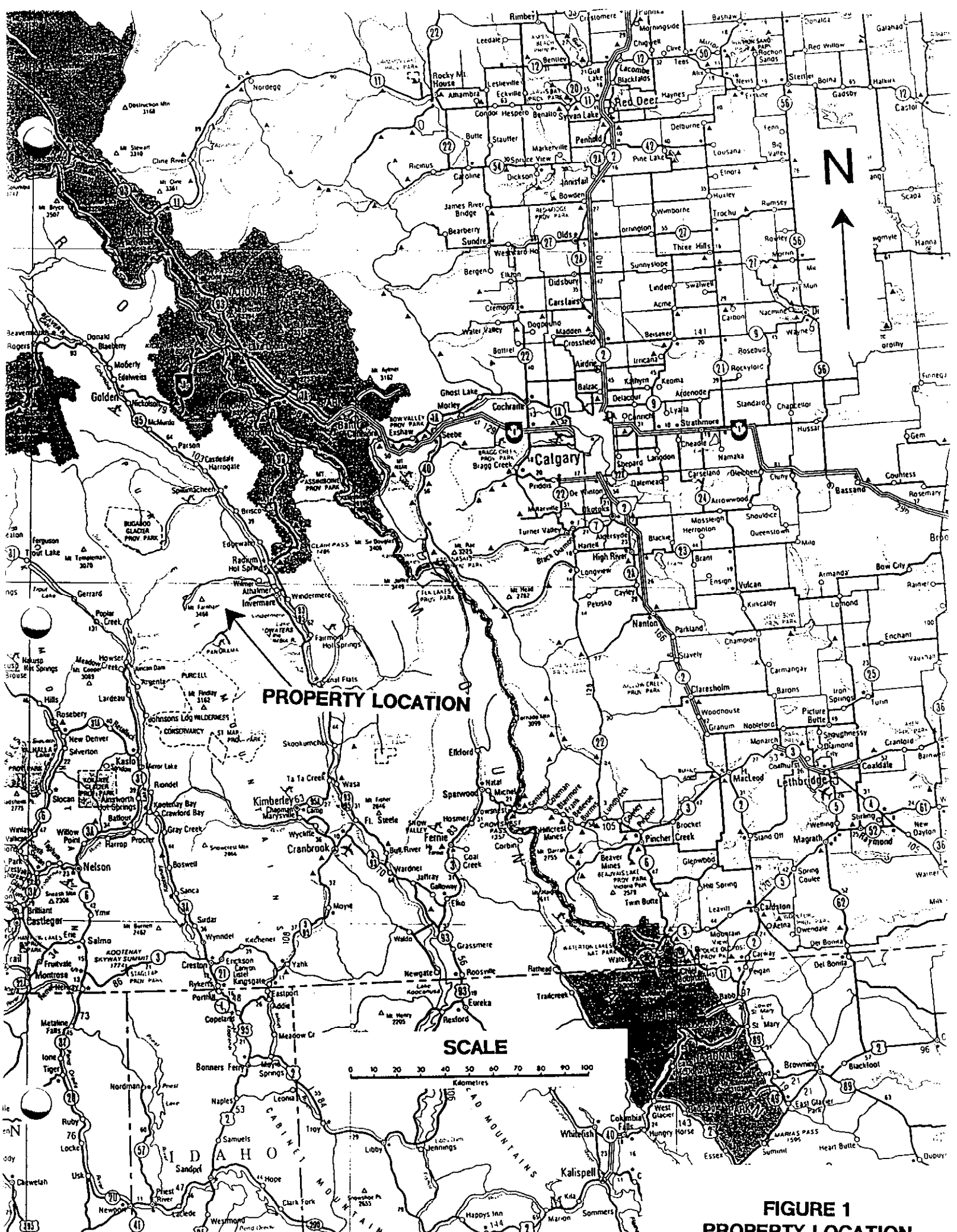


FIGURE 1
PROPERTY LOCATION

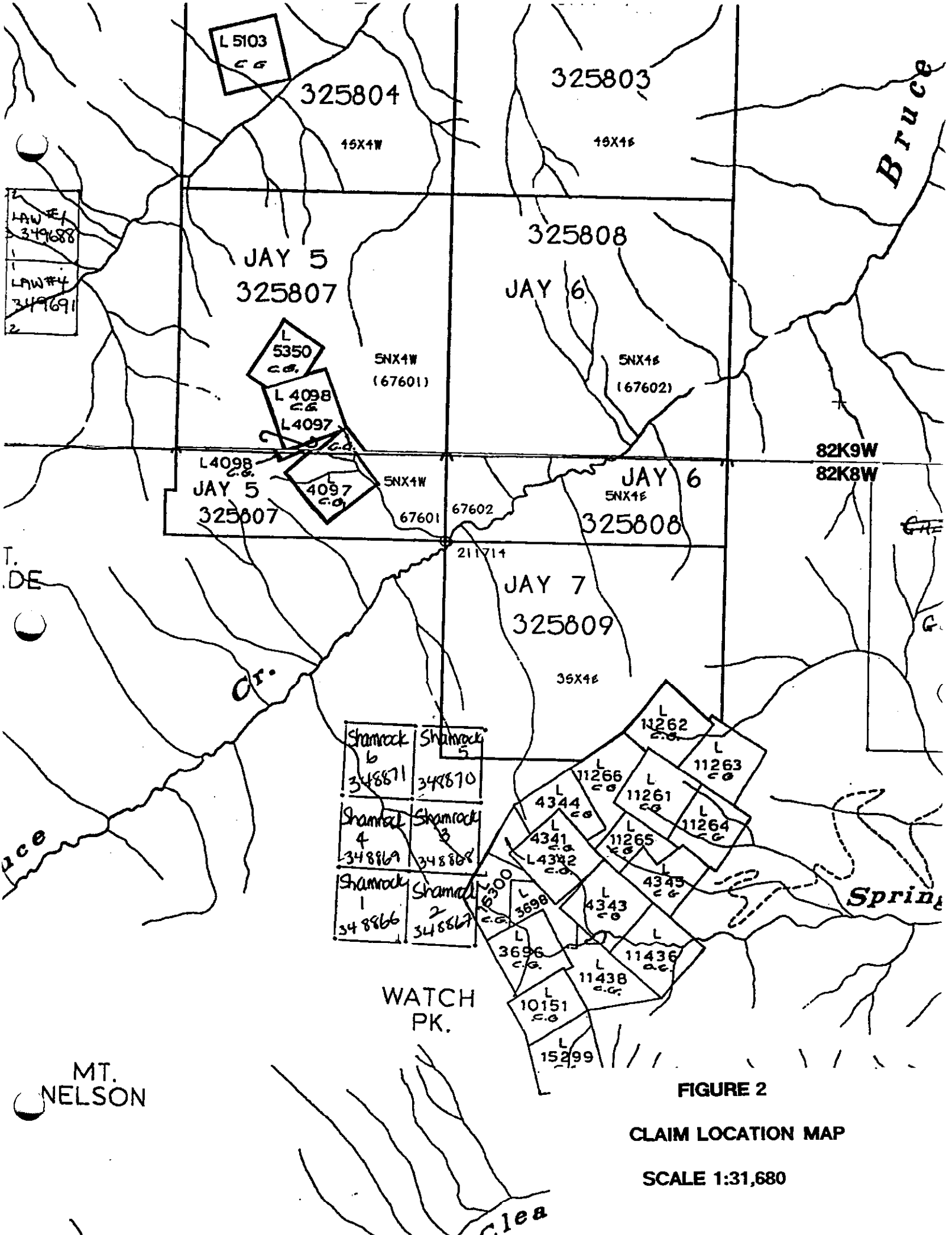


FIGURE 2

CLAIM LOCATION MAP

SCALE 1:31,680

PROPERTY

The property consists of a total of 52 units registered to W. Pochylko , Stettler. Alberta and are listed as follows:

<u>Claim Name</u>	<u>Record No.</u>	<u>Tag No.</u>	<u>Units</u>	<u>Expiry</u>
Jay #5	325807	67601	20	May 31, 97
Jay #6	325808	67602	20	May 31, 97
Jay #7	325809	211714	12	May 31, 97

The claims are located in the Golden Mining Division, 50 30' Lat., 116 18' Long., and in NTS map sheets 82K/8W and 82K/9W, (Figures 1,2).

ACCESS

The property is located approximately 20 kilometers directly west of Invermere, B. C. The property can be reached from the Bruce Creek logging road which is accessed from the town of Wilmer, just north of Invermere. The property can also be reached from the Invermere to Panorama highway. An access road just east of the Panorama ski hill passes through the old Paradise Mine site, crosses the ridge and passes through the Jay claims to connect with the Bruce Creek road.

HISTORY

The claims were staked over a number of old workings in the Bruce Creek area just north of the abandoned Paradise Mine. The present work is concentrated on the deposit known as the Black Prince located to the south of Bruce Creek. Reports in the

Minister of Mines Reports show that the first shipment of copper ore was 5 tons made in 1899. Later reports show that the prospect was worked until 1916 and that a total of 3 adits were driven on the property. Only one collapsed adit is visible and it is believed to be the only one directly on the vein as the others were reported to be cross-cuts. The 1916 report described the deposit as a quartz vein in a slate formation, striking north-west (Magnetic) and dipping to the south-west at 60 degrees. This report also suggested that the deposit was of little significance. Samples from the dump taken in 1919 showed 1.4 oz. Silver and 14.2 per cent Copper.

Two other copper deposits located on the Jay Claims are the Delos and Pretty Girl are are located north of Bruce Creek, (Fig 3). Ore grades reported in the Minister of Mines Reports are as follows:

Delos:

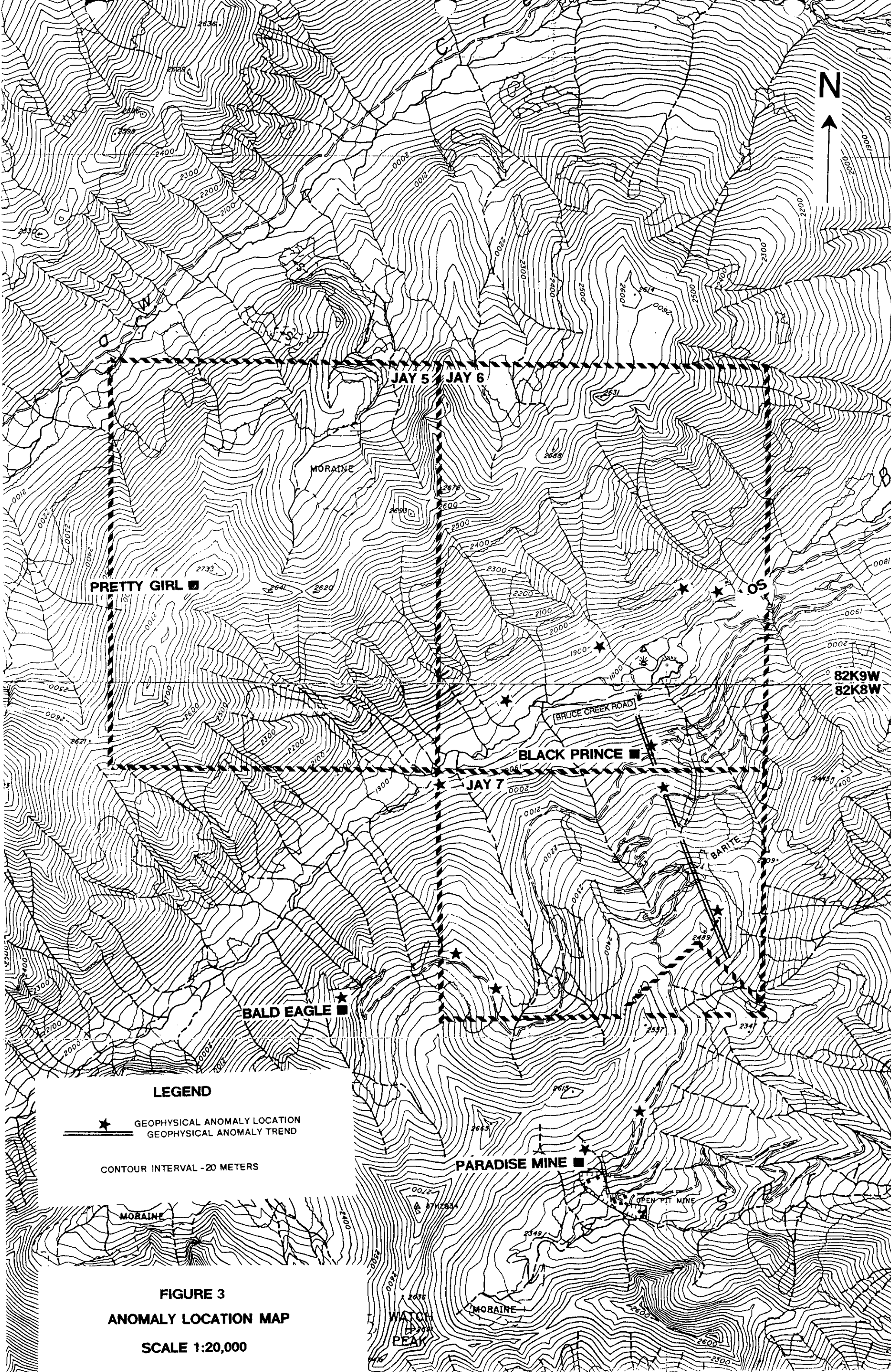
1898 - selected sample - 32% Cu

1916 - selected sample - 27%, 3 ft. sample - 9.6%

Pretty Girl:

1898 - selected sample - 26 % Cu, 55 oz. Ag

1899 - selected sample - 22% Cu, 40 oz Ag, \$3 Au



PRETTY GIRL ■

JAY 5 JAY 6

MORaine

BLACK PRINCE ■

BRUCE CREEK ROAD

BALD EAGLE ■

PARADISE MINE ■

LEGEND

- ★ GEOPHYSICAL ANOMALY LOCATION
- ══ GEOPHYSICAL ANOMALY TREND

CONTOUR INTERVAL - 20 METERS

MORaine

FIGURE 3
ANOMALY LOCATION MAP
SCALE 1:20,000

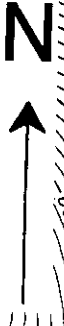
WATCH PEAK

MORaine

BARITE

OPEN PIT MINE

82K9W
82K8W



GEOLOGY

The geology of the area was mapped by Pope (1990), and is shown in Figure 4. The revised location for the Black Prince deposit is shown on this map.

The copper deposits are apparently formed as veins within the Horsethief Creek Group which consists of argillites, grits and dolomites. These veins generally conform to the regional trend which is just west of north.

The Pretty Girl deposit, located at the top of the ridge on the north side of Bruce Creek, is different in that it has been formed within a highly jointed unit which has a steep dip to the east.

**GEOLOGY
LEGEND**

P R O T E R O Z O I C	H A R Y N I A N	red arg.	Hh5	
		grit	Hh4	
		dot	Hh3	
		arg.	Hh2	
		black last	Hh1	
		conglom/ diamicite	Ht	
E R O Z O I C	B E I T P U R C E L L S U P E R G R O U P	U. dol.	Hmn7	
		U. quartz	Hmn6	
		dol.	Hmn5	
		purple dol/ arg.	Hmn4	
		M orange dol.	Hmn3	
		L. dol.	Hmn2	
		L. quartz	Hmn1	
		Dutch Creek Fm	arg.	Hd
		Lower Gateway Fm	dol. dol/ssl.	Hg2 Hg1
		Van Creek Fm	green quartzite.	Hv

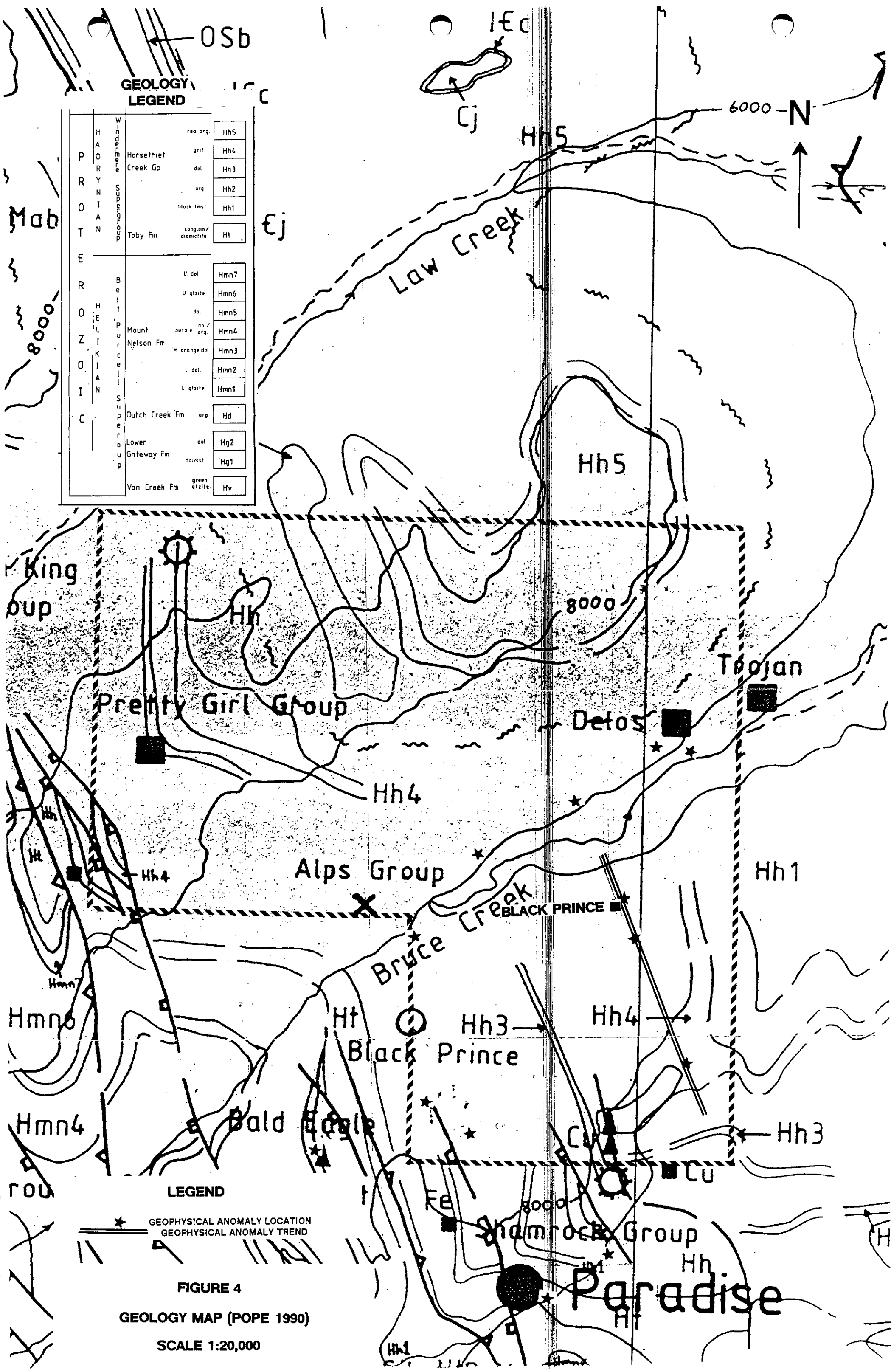


FIGURE 4
GEOLOGY MAP (POPE 1990)
SCALE 1:20,000

SELF POTENTIAL SURVEY

(A) Specifications

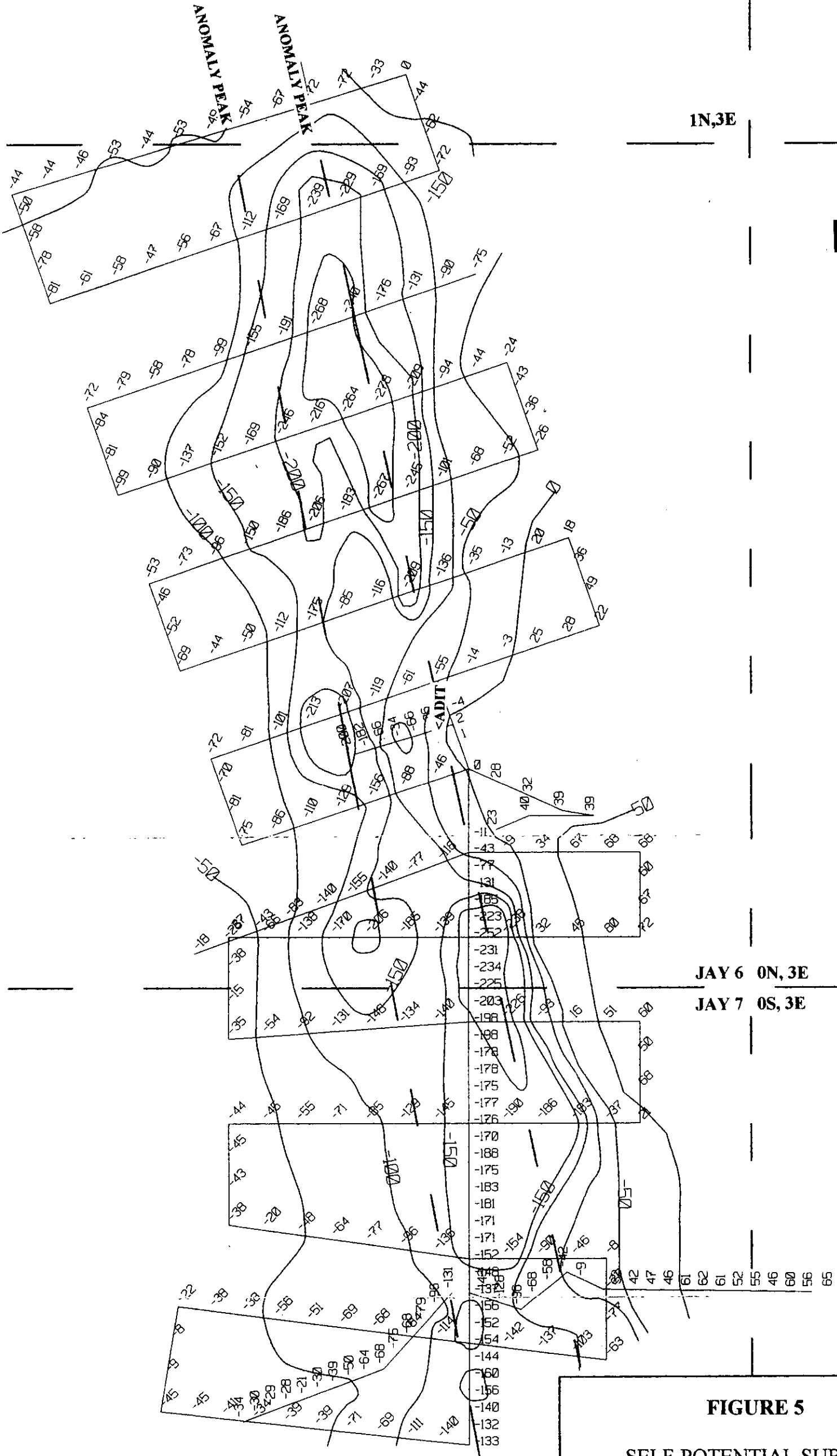
The self-potential is conducted by measuring the natural voltage between the survey stations using non-polarising copper sulphate electrodes. The voltage is measured by a high input impedance voltmeter capable of measuring in millivolts. The station interval used for the majority of the work was 20 meters with base-line and detail over the adit carried out at 10 meter intervals.

The normal field procedure is to take the measurements in a series of closed loops so that a drift correction can be applied. The readings are taken in a leap-frog manner with the rear electrode moved past the forward electrode. This reduces the errors for any potential difference between the electrodes as well as establishes that one electrode is stable for adjacent measurements. The survey on the base-line was conducted using a long reel of wire, (600 meters), and a station interval of 10 meters so that all stations were accurately referenced to a single station. Survey lines were the tied into these base reference stations.

(B) Results

The results are presented as a contour map, Figure 5, at a contour interval of 50 millivolts.

The results show a zone with a minimum strike length of 800 meters with a bearing of 350 degrees. The anomaly is still open to the south, and if the established strike holds, would pass through a barite showing some 400 meters to the south and at a much higher elevation. To the north the anomaly appears to be closed but this may be due to the fact that the northern



1N,3E



JAY 6 ON, 3E

JAY 7 OS, 3E

FIGURE 5

**SELF-POTENTIAL SURVEY
BLACK PRINCE PROSPECT**

CONTOUR INTERVAL : 50 MILLIVOLTS

SCALE 1 : 2,500

part of the grid is along Bruce Creek where a swampy area may mask any expression of the anomaly in this area. It is believed that the zone continues to the north side of the creek and is probably connected to anomaly C of the previous year's survey, (Assessment Report 1966), which shows similar amplitude and strike and is approximately in the correct location.

The anomaly over the Black Prince shows that there are two distinct parallel peaks approximately 50 meters apart. The adit is located on the eastern peak which shows values of over 230 millivolts above background. Based on the geophysical results the adit was located on the weakest part of this anomaly and it is not surprising the poor production from the workings. A detail line across the adit shows a very weak peak, (<50 millivolts?), 10 meters to the west, and this fact is possibly due in part to the reported 60 degree dip to the west. The western peak is not as strong, (150 - 200 millivolts), but appears to be more continuous. None of the previous workings were located on this anomaly.

CONCLUSIONS AND RECOMMENDATIONS

The detail work has determined that the Black Prince deposit is located on a major regional fracture which probably extends to the north side of Bruce Creek. The results show that there are two parallel zones approximately 50 meters apart which are producing a response.

The source of the two anomalies should be investigated by trenching in order to determine the source and, depending on the results, whether the geophysical survey should be extended in order to determine the full strike length of the anomaly.

REFERENCES

Burr S.V., 1982, A Guide to Prospecting by the Self-Potential Method, Ontario Geological Survey, Miscellaneous Paper 99.

Dundas T.R.B., 1996, Self-Potential Survey, Jay Claims, Assessment Report

Pope A., 1990, The Geology and Mineral Deposits of the Toby-Horsethief Creek Map Area, Northern Purcell Mountains, Southeast British Columbia (82K), Geological Survey Branch, B.C., Open File 1990-26.

STATEMENT OF COSTS

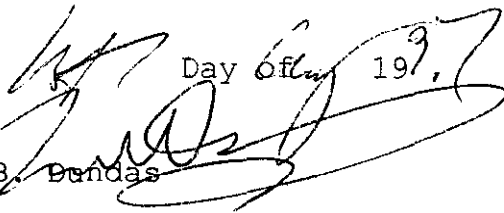

Mobilisation/Demobilisation			\$750.00
T. Dundas	Geophysicist	4 days @ \$450	\$1,800.00
W. Pochylko	Assistant	4 days @ \$250	\$1,000.00
	Food & Exp	4 days @ \$50	\$200.00
	Sp rental	4 days @ \$25	\$100.00
	Vehicle	4 days @ \$50	\$200.00
	Report		\$1,350.00
			=====
			\$5,400.00

CERTIFICATE

I, Trevor R. B. Dundas do hereby certify that:

1. I am a practicing consultant geophysicist resident in Calgary, Alberta.
2. I have graduated with a B. Sc. Degree in Geology from Queen's University, Belfast in 1965 and an M. Sc. In Geophysics from Imperial College, London University in 1967.
3. I have been actively consulting as a geophysicist since 1968

Dated this

 Day of  1977

Trevor R. B. Dundas