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REPORT ON PROSPECTING AND GEOLOGICAL  
INVESTIGATION OF THE KING 1 AND 2  
(#2372 AND 2373) MINERAL CLAIMS

LIARD MINING DIVISION  
NTS 104-G-14 WEST

LAT. 57° 56' NORTH LONG. 131° 26' WEST

CLAIM OWNER: C. GRAF  
ATLANTIC MINERAL EXPLORATIONS LTD.  
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VANCOUVER, B.C. V6C 1B6

OPERATOR: OROFINO RESOURCES LIMITED  
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DATE SUBMITTED: AUGUST 3, 1983

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**11,316**

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## INTRODUCTION

This work was undertaken during the period July 15, 1983 to August 3rd 1983 by Dr. Gerald Harper, Vice President of Orofino Resources Limited on behalf of the owner of the claims Mr. Chris Graf. Field work was undertaken during the period July 15 - 17th and the report subsequently compiled after receipt of assay results on August 2nd and 3rd. The objective of the prospecting and geological investigation of the claims was to ascertain the validity of previously reported high gold values in talus and bedrock and to determine the nature and potential of such gold mineralisation.

## LOCATION AND ACCESS

The King #1 (#2372(8)) (18 units) and King #2 (#2373(8)) (16 units) claims comprising 34 contiguous units are located in northwestern British Columbia; NTS 104 G 14 West. Figure 1, based on NTS 104 G Topographic Map at 1:250,000 scale shows the specific location of the claims 16 kms west of Telegraph Creek on the slopes of Grass Mountain. Figure 2 shows the claim position more accurately by superimposition of the claim outline shown on 1:50,000 Claim Map 104 G 14 W on the same scale topographic map.

Access to the general area is via Dease Lake which can be reached from north or south on Provincial Highway 37 (the Stewart-Cassiar Highway). Commercial jetliner service is available to Watson Lake 250 kms to the north while local airlines now provide service by small plane into Dease Lake. Dease Lake is developing into the support centre for northwestern British Columbia, with food, gas and accommodation services.

Telegraph Creek lies 113 kilometres by road southwest of Dease Lake on the banks of the Stikine River. This gravel road is not a standard two lane highway but contains narrow sections in the last 50 kilometres to Telegraph Creek with sharp drop offs and switchbacks as it follows the side of the Grand Canyon of the Stikine. A trail leads some 10 kilometres further down

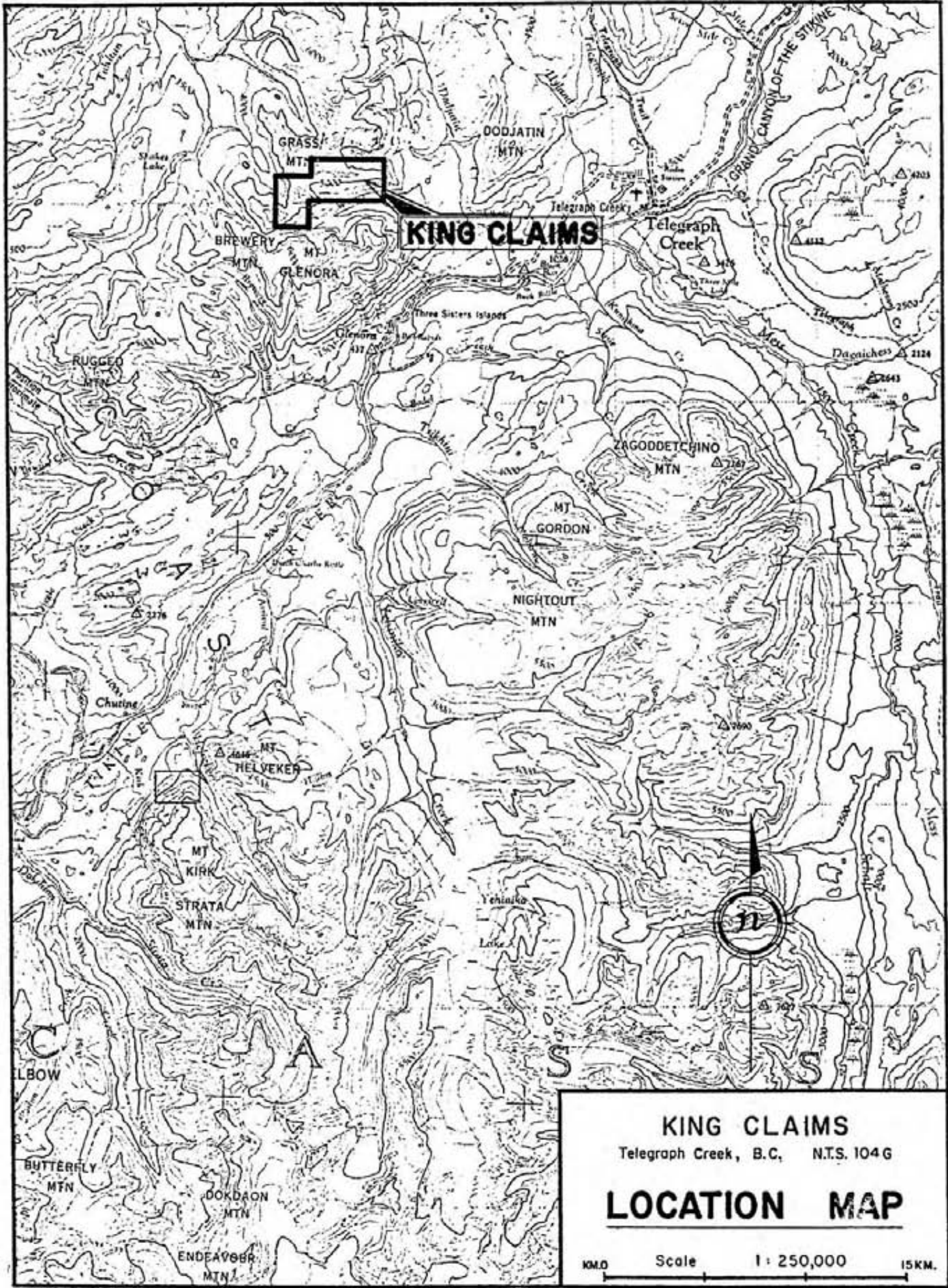


Fig. 1

LOCATION AND ACCESS - continued

the Stikine to Glenora, the end of the road and the nearest access point to the King Claims.

Telegraph Creek is a small community with limited services. The nearest charter helicopter service is based in Dease Lake thus presently access is only by helicopter from there.

PHYSIOGRAPHY

As shown on Figure 2, the claims cover the north side and west end of Winter Creek, a steep easterly flowing tributary of the Stikine River. Elevations range from 1000 to 1675 metres with the treeline being at 1100 - 1200 metres, slightly higher on the south facing slopes. Above that the U shaped valley sides rise steeply with mixed talus and bluffs at gradients of up to 30°. Two large cirques are located in the northwest and west headwaters of Winter Creek. Ridge tops are narrow and windswept but are not of sufficient elevation for permanent snow cover.

Climatically the property lies on the eastern edge of the Coast Range and is therefore characterised by cool summers and heavy snowfall in winter.

PREVIOUS WORK

In 1917, a discovery of copper mineralization was made on the south-facing slope of the Winter Creek Valley at an elevation of about 5,000'. This consisted of a small massive sulphide body containing varying amounts of pyrrhotite and chalcopyrite, a sample of which assayed 0.12 oz/ton Au, 0.92 oz/ton Ag., and 5.8% Cu. A description of this occurrence is given by J. D. Mandy in G.S.C. Memoir 246, Lower Stikine and Western Iskut Areas, British Columbia, P. 75. Claims covering the area have been staked and abandoned

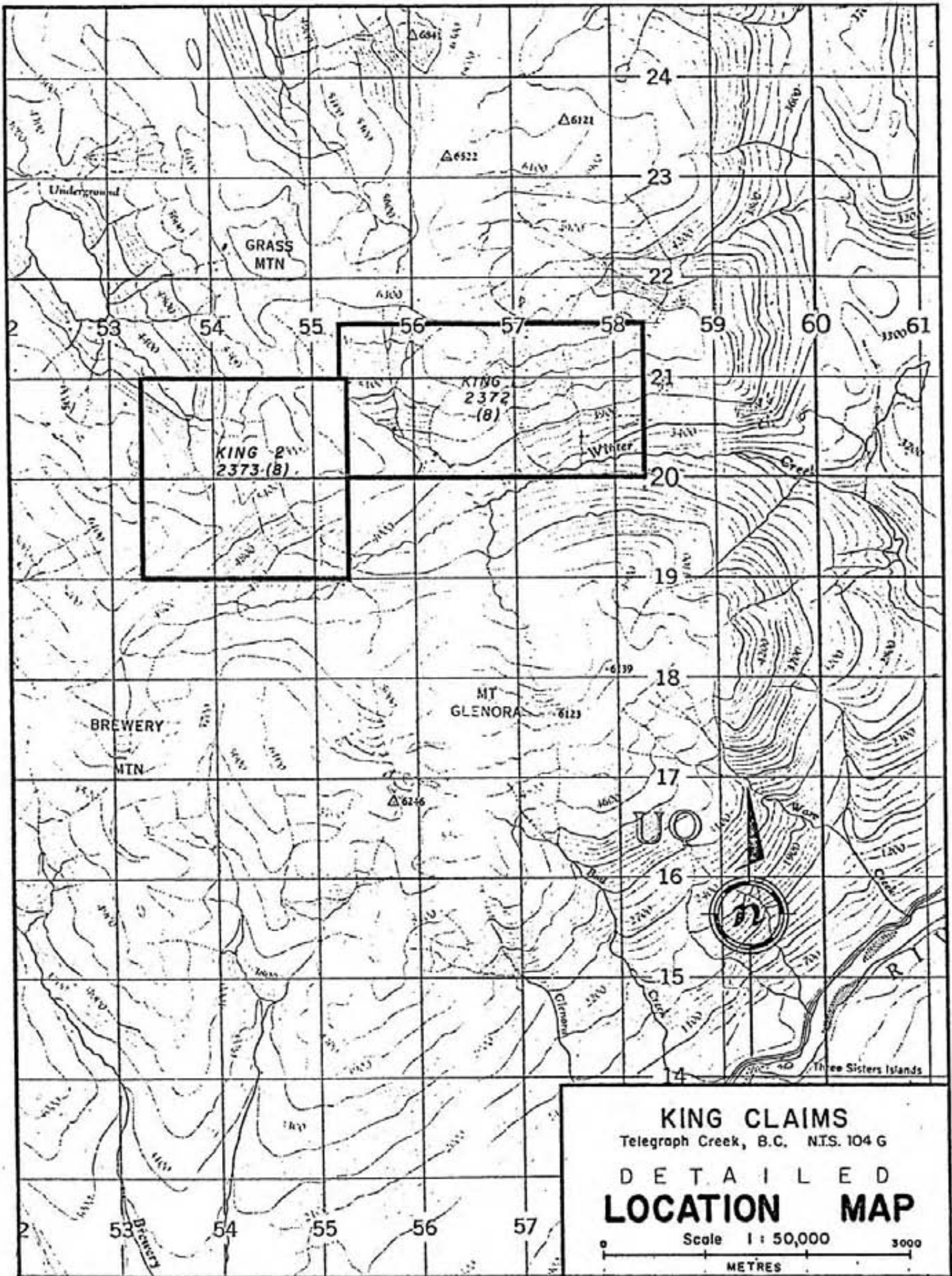


Fig. 2

PREVIOUS WORK - continued

several times since and include, for example, the Glenora and King Groups of 1929, and the NP Group of 1962.

The most recent prior staking was by Texas Gulf Canada Limited (Ecstall Mining) during the period 1974 - 1976. They filed two assessment reports with the B.C. Department of Mines: #5509 Geological and Geochemical Report by D. Pearse and #6010 Report on Geological and Physical Work by D. A. Donnelly and G. R. Peatfield.

PRESENT WORK

Mr. Chris Graf staked the claims as the area was identified as having favourable geology for polymetallic volcanogenic deposits. Similar discoveries elsewhere in the Province are characterised by high gold and silver contents. Trenching by Texas Gulf had delineated two very small sub economic lenses of cupriferous massive sulphides in a felsic volcanic sequence. A series of rock geochemical samples collected along two traverses east-west along the mountain side by Texas Gulf were made available for additional analyses. Gold analyses thereon revealed significantly higher gold values at the west end of the traverses than in the vicinity of the massive sulphide lenses.

Under an arrangement between Orofino Resources Limited and Mr. Chris Graf, the writer visited the property to examine this gold anomalous area to determine its source and potential.

GEOLOGY AND PROSPECTING RESULTS

Helicopter reconnaissance confirmed the general geology of the area to be as shown on Geological Survey of Canada Map 11-1971 by J.G. Souther (NTS 104 G Telegraph Creek Map Area, Scale 1:250,000) .

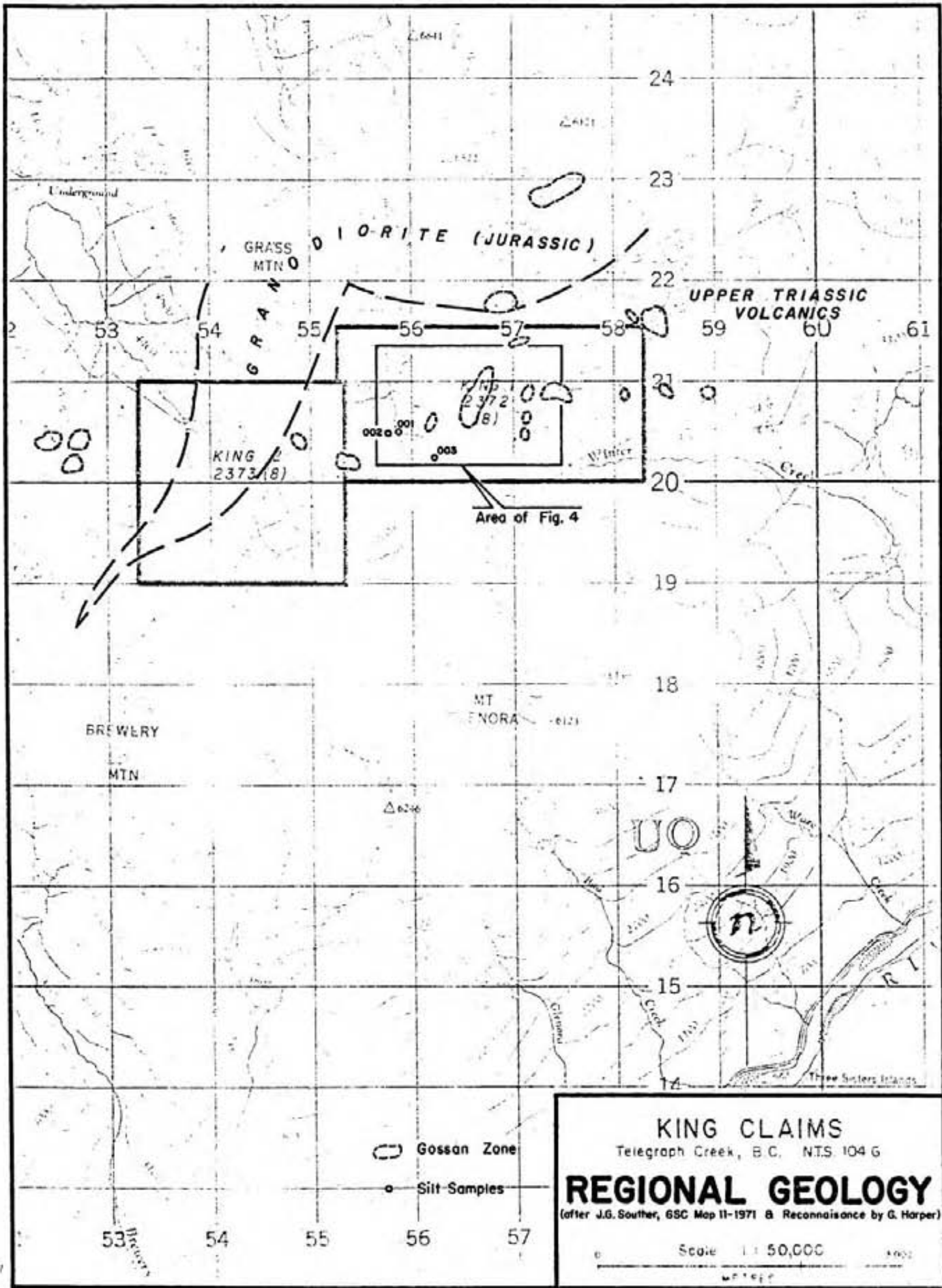


Fig. 3

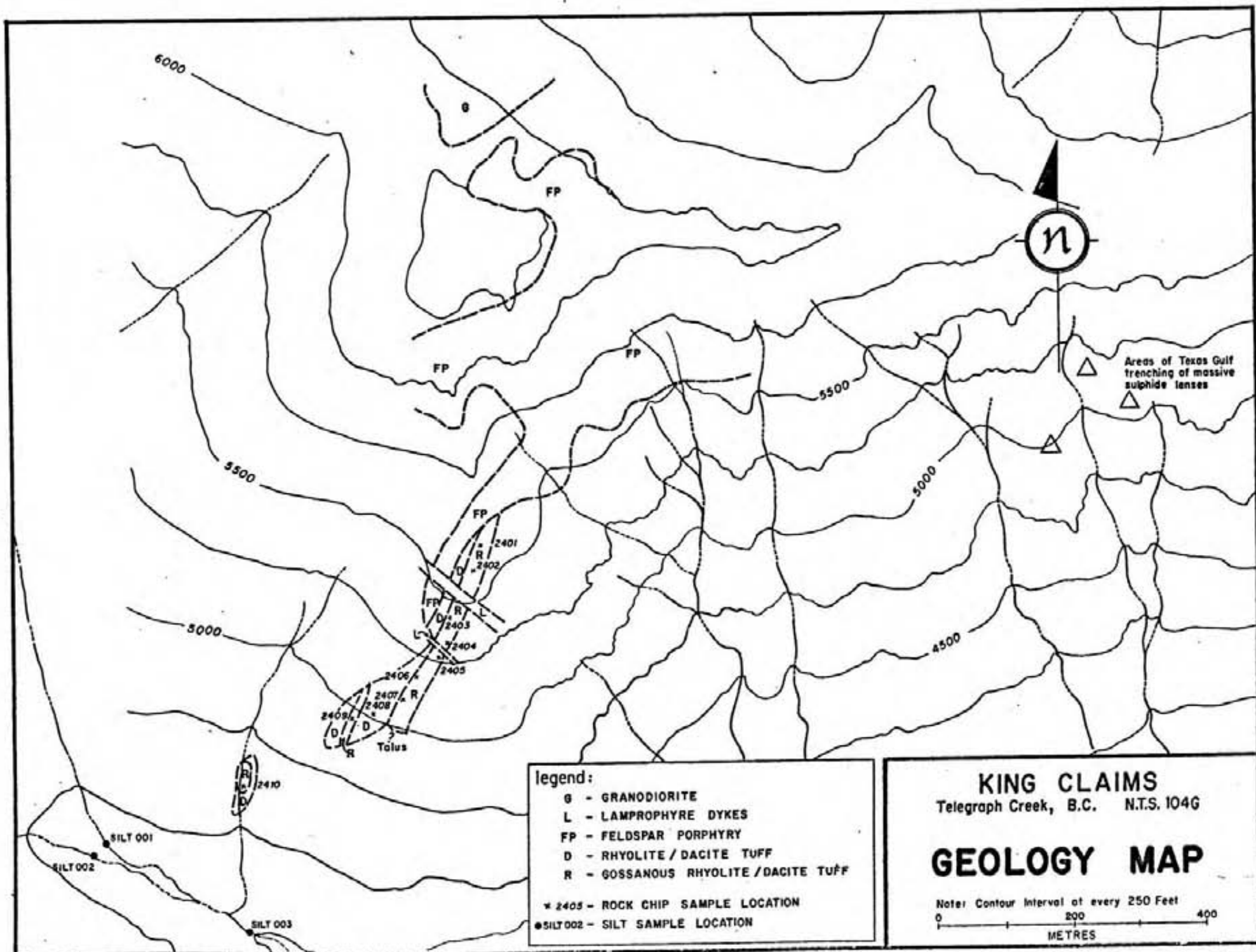


GEOLOGY AND PROSPECTING RESULTS - continued

Upper Triassic undifferentiated volcanic and sedimentary rocks are intruded by a Jurassic/Cretaceous felsic complex of granodiorite, quartz diorite; minor diorite, leucogranite and migmatite, as shown on Figure 3. The most impressive feature of the area is the extensive gossan development. The areas indicated on Figure 3 are a deep red brown colour. The most intensely developed gossans are in the volcanics while those in the intrusives are localised along widely spaced fracture planes.

A geologic mapping and prospecting traverse was run along the ridge top from the intrusive contact and then down the north side of Winter Creek, along a spur which hosts outcrop of the most intensely developed gossan. Outcrop generally is limited to the ridge tops and spurs with thick talus covering most of the side slopes. Locally outcrop is exposed in the gully bottoms.

The main ridge top east of the granodiorite exposure is dominated by massive resistant feldspar porphyry outcrop. As shown by Texas Gulf mapping this extends at least another kilometre east as the dominant rock type. The only significant interruption to it is a narrow sequence within it of fine grained rhyolite/dacite tuffs, hosting the massive sulphide lenses at the Texas Gulf trenches. This tuffaceous sequence appears to dip vertically or steeply south, and strikes generally east-west. This unit hosts the gossanous material. It is extrapolated west as it is below the ridge top and generally below the limit of outcrop. The next major outcrop area of it is on the spur mapped (Figure 4). The strike has changed to southwest while dips could not be discerned but are indicated to be steep. Intensely developed gossan forms bands within the tuff upto 20 m thick. The gossan developed by limonitic alteration of pyrite in the tuff. The pyrite occurs in two modes: as very fine disseminated grains comprising 2-5% of the rock and as fracture coatings upto 1 cm thick but mostly less than 2 mm. These fractures have at least three orientations and are spaced 5 - 15 cm apart, resulting in shattered rubbly outcrops. Pyrite was the only sulphide observed.



legend:  
 G - GRANODIORITE  
 L - LAMPROPHYRE DYKES  
 FP - FELDSPAR PORPHYRY  
 D - RHYOLITE / DACITE TUFF  
 R - GOSSANOUS RHYOLITE / DACITE TUFF  
 \* 2405 - ROCK CHIP SAMPLE LOCATION  
 ● SILT 002 - SILT SAMPLE LOCATION

**KING CLAIMS**  
 Telegraph Creek, B.C. N.T.S. 104G

**GEOLOGY MAP**

Note: Contour Interval at every 250 Feet

0 — 200 — 400  
 METRES

Fig. 4

GEOLOGY AND PROSPECTING RESULTS - continuedSampling:

The most extensive gossanous tuff was traced down slope some 400m before it runs under talus. It is cut by two vertically dipping 2 and 5 m wide lamprophyre dykes trending NW. Chip Samples were collected at intervals along this gossanous tuff, from two smaller gossanous outcrops further to the west and from barren tuff between.

Silt Samples were collected from Winter Creek where helicopter landing sites were available. Unfortunately, these are all up stream of the drainage area of the main gossan. Assays and analyses were performed by Bondar Clegg and Company Ltd. Results are as follows:

Rock Samples	Assays	Au (oz per ton)	Ag (oz per ton)
2401		<.002	<.02
2402		.003	.02
2403		<.002	<.02
2404		<.002	.06
2405		<.002	<.02
2406		<.002	<.02
2407		<.002	<.02
2408		<.002	.07
2409		<.002	.09
2410		<.002	<.02

Silt Samples	Analyses	Au (ppb)
001		370
002		400
003		30

(See Figure 4 for Sample Locations).

CONCLUSIONS

The area is predominantly underlain by feldspar porphyry within which is a sequence of rhyolite/dacite tuffs. This tuffaceous sequence hosts two small massive sulphide lenses previously investigated by Texas Gulf Ltd. To the west of their trenched showings rock geochemistry had shown an area anomalous in gold.

Mapping, prospecting and sampling of this tuff sequence in the area of the gold anomaly showed horizons within the tuff to be highly pyritic, weathering to prominent gossans. Sampling of the most prominent gossan and two minor gossans revealed only background gold and silver values. Limited stream silt sampling indicates an increase in gold values up drainage above the area of the gossan. The source of this gold lies to the west most probably along the volcanics/granodiorite contact.

In view of the widespread gossan development throughout the area it is possible that some may be enriched in precious metals. A more extensive drainage geochemical survey would be the most effective way of determining which areas if any are anomalous and worth any further investigation.



August 3, 1983

G. Harper

CHRIS GRAF ASSESSMENT WORK

G. Harper Time July 15 Travel, July 16 Field, July 17 Travel  
 August 2 Report Preparation 1/2 day, August 3 Report Preparation 1/2 day  
 Total 4 days @ \$250.00/day \$1,000.00

Air Fare - YVR-W.L. - WHS. 340.00

Watson Lake - Car Rental - Dease Lake and Return 200.00

- Gas 42.00

Sample Shipment to Bondar Clegg 21.00

Dease Lake Motel - 2 nights 60.00

Food & Meals 40.00

Helicopter - Yukon Air 1,690.00

Secretarial 75.00

Assaying and Analyses 170.00

\$3,638.00

Claims NTS 104 G 14 W	KING 1 #2372(8)	18 Units
	KING 2 #2373(8)	<u>16 Units</u>
		<u>34 Units</u>

I, Gerald Harper hereby declare that I am a qualified and practising geologist and more specifically that:

I am a graduate of the University of Rhodesia with the Degree of B.Sc. in geology (1966).

I am a graduate of the University of London with the Degree of Doctor of Philosophy in the field of geology (1970).

I have practised my profession as an Exploration Geologist continuously since graduation.

I was employed by Falconbridge Nickel Mines Ltd. as an exploration geologist in British Columbia from 1970 - 1975.

I presently reside at 26 Orchard Crescent, Toronto, Ontario M8Z 3E1.

I am employed by Northgate Exploration Ltd. of Suite 3140, Box 143, 1 First Canadian Place, Toronto, Ontario M5X 1C7, as Chief Geologist responsible for their exploration activities in North America.

I am a Vice President of Orofino Resources Ltd. of the same address as Northgate Exploration Ltd.

I am a registered Professional Engineer currently in good standing with the Association of Professional Engineers of Ontario.

I am a Canadian Citizen.

I am personally familiar with the property described in this report, having visited the property and conducted the geological and prospecting investigations described herein.



Gerald Harper, P. Eng. (Ontario).