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PROPOSED 1979 EXPLORATION PROGRAM  
ON THE  
KLIYUL CLAIM (1581) - 20 UNITS  
AIKEN LAKE AREA, NTS 94 C/5W & 94 D/8E  
OMINECA MINING DIVISION, B.C.

BY  
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FOR  
TECK CORPORATION

April 9, 1979

Vancouver, B. C.

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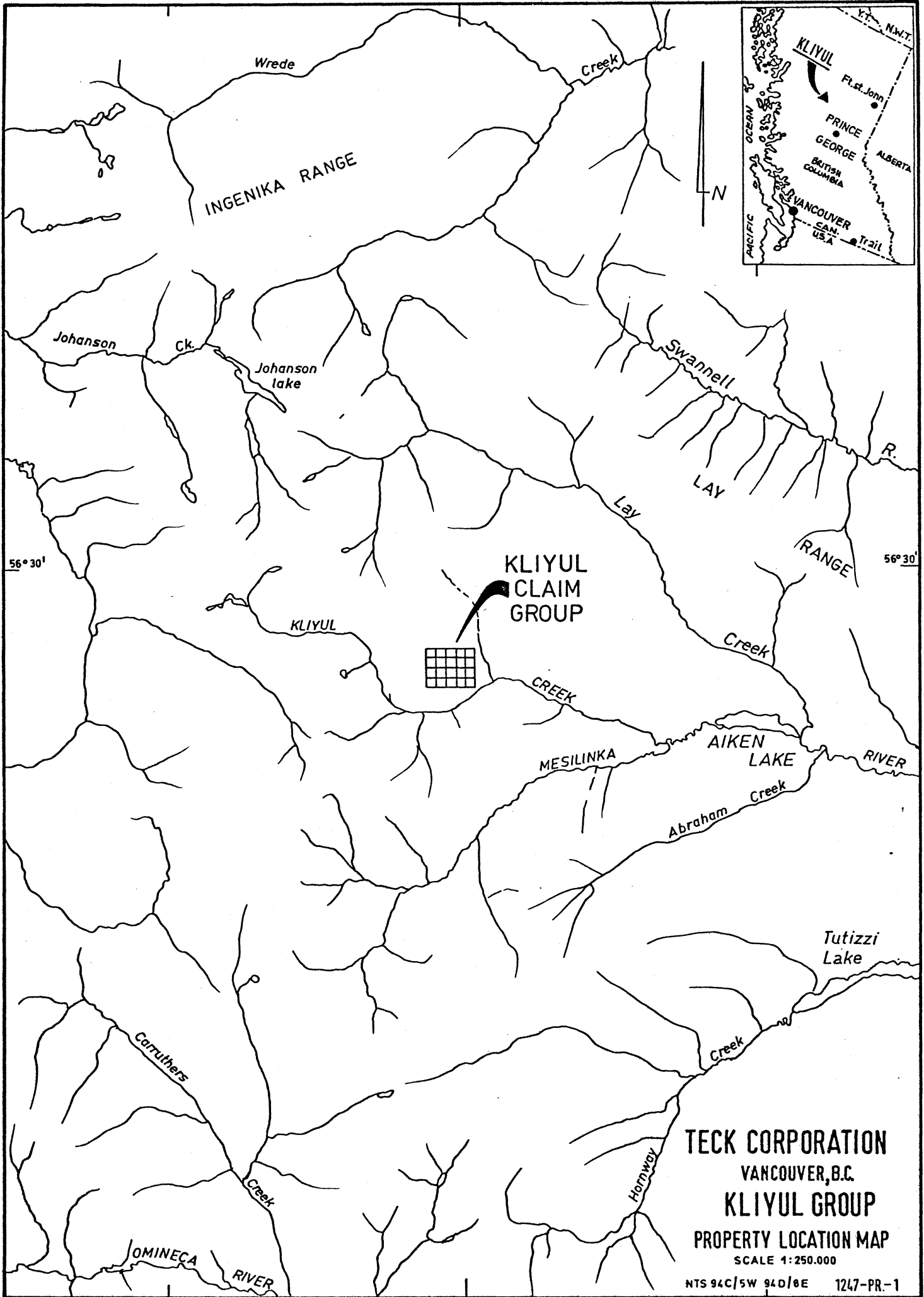
## INTRODUCTION

The Kliyul Claim of 20 units at Porphyry Creek, Aiken Lake area, B.C. was staked in December 1978 by Teck Mining Group Ltd. to cover a molybdenite mineralized biotite quartz porphyry plug which had been brought to the attention of Teck by Lisle Gatenby, consultant to Teck. Previous exploration work to test the molybdenite mineralization in the plug was done by Rio Tinto Canadian Exploration Ltd. as an extension of their exploration program on the Croydon property located at Croydon Creek to the east of Porphyry Creek.

The program described in this exploration proposal is aimed at verifying the surface exploration results obtained by Rio Tinto, and at testing the molybdenite mineralization grade in the plug by diamond drilling.

## LOCATION AND ACCESS

The Kliyul claim is located on Porphyry Creek, a northern tributary of Kliyul Creek, just west of Croydon Creek. It straddles the boundary of NTS sheets 94 C/5W and 94 D/8E. Distance from Aiken Lake is 14 km on a bearing of  $N.83^{\circ}W$ , from Prince George 350 km on a bearing of  $N.35^{\circ}W$ , and from Smithers 200 km on a bearing of  $N.21^{\circ}E$ . The geographical co-ordinates are  $56^{\circ}27\frac{1}{2}'N$ ,  $126^{\circ}00'W$ . The claim is in the Omineca Mining Division.



**TECK CORPORATION**  
 VANCOUVER, B.C.  
**KLIYUL GROUP**  
 PROPERTY LOCATION MAP

SCALE 1:250,000  
 NTS 94C/5W 94D/8E 1247-PR.-1

Access to the property from Prince George is via Vanderhoof and Fort St. James on highways 16 and 27 respectively, and then by the new Omineca Mining Road through Manson Creek, Rosemont, and Uslika Lake to Aiken Lake. A pack trail leads from Aiken Lake to the old Cominco camp area at the Croydon Mine, on the east side of the Kliyul claim, for approximately 18 kilometers via the Mesilinka and Kliyul Creek valleys. Mobilization of camp and equipment probably would follow this route to Aiken Lake, and then be lifted to the property by helicopter. Helicopters are stationed year-round in Smithers, but during the active field season temporary bases may be set up closer to Aiken Lake. Aiken Lake is suitable for landing with a float plane.

#### PHYSIOGRAPHY OF AREA

The property lies between elevations of 4,000 and 6,000 feet above sea level, and is centred on a northwesterly ridge between Porphyry and Kliyul Creeks. The southern part of the property includes a fairly steep slope southerly to Kliyul Creek. Timber line is at approximately 5,000 feet elevation. Vegetation below timberline consists mainly of fir and spruce, and some pine.

The field season is relatively short in the area. Aiken Lake, at an elevation of 3,090 feet, is usually ice-free at the end of May. The earliest surface exploration in the claim area cannot be started before mid-June. Snow can be expected at Porphyry Creek by mid or end of September.

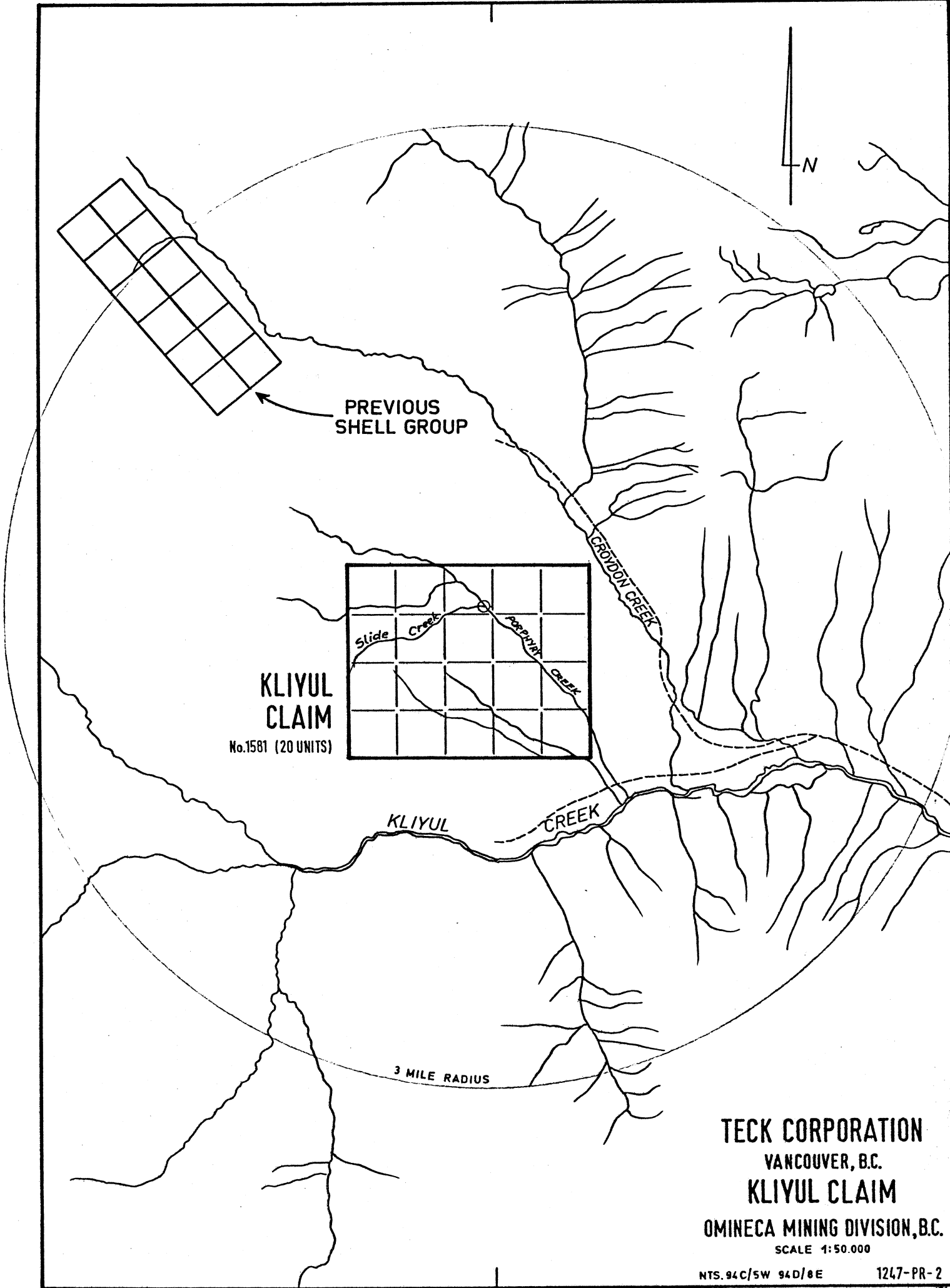
During the summer months conditions are ideal for exploration, with moderate rainfall, warm days but cool nights, and occasional light frosts.

PROPERTY AND INTERESTS

The Kliyul Claim of 20 units was staked by Gudmund Lovang agent for Teck Mining Group Limited, on December 14, 1978 and recorded in Vancouver on December 18, 1978. The record number is 1581.

The claim and a surrounding 3-mile area of interest are subject to an agreement between Lisle Gatenby and Teck Mining Group Limited dated December 8, 1978.

The agreement calls for optional payments of \$2,000 on or before September 1, 1979 and \$3,000 on or before September 1, 1980 to earn a 100% interest subject to a 2½% production profits interest. The net profits interest may be bought for \$1,000,000



**KLIYUL CLAIM**  
No. 1581 (20 UNITS)

**TECK CORPORATION**  
VANCOUVER, B.C.  
**KLIYUL CLAIM**

**OMINECA MINING DIVISION, B.C.**  
SCALE 1:50,000

## HISTORY OF EXPLORATION

During the mid-1930's the Consolidated Mining and Smelting Company of Canada Ltd. discovered copper and gold bearing quartz veins on Porphyry and Croydon Creeks, tributaries of Kliyul Creek (then called Miller Creek). By 1938 they had explored the Croydon Creek showings with several open cuts and approximately 400 meters of drift and cross-cuts. The Porphyry Creek showings were explored by trenching and two short adits. During the 1938 summer the mine camp and all facilities were destroyed by a bush fire, and all work was abandoned.

In 1947 Springer-Sturgeon Gold Mines Ltd. undertook an extensive prospecting exploration program west of Aiken Lake and north of Kliyul Creek. The program resulted in staking of several claim groups, including the Shell Group at the headwaters of Porphyry Creek. Several gold-copper quartz veins and shears were located on the Shell claims, the better of which was exposed by trenching for 75 meters and averaged 0.625 oz./ton Au, 1.57 oz./ton Ag and 10.9% Cu over an average width of 0.6 meters.

During the 1950's the old Croydon property was restaked as the Jane Group and in 1958 was explored by Noranda-Canex-Bralorne. The partners drilled 468 meters in seven diamond drill holes, and did some geological mapping. The work presumably was to test the extensions and grade of the quartz veins.



In 1963 the Croydon claims were held by Croydon Mines Ltd. of Vancouver, and were optioned to Rio Tinto Canadian Exploration Limited. Rio ran magnetometer, I.P., and soil geochemistry surveys over the claims, and did some trenching. The work included regional mapping and reconnaissance geochemical surveys which resulted in locating and staking of the molybdenite mineralized plug west of Porphyry Creek. In 1964 the plug was mapped in detail as a biotite quartz porphyry containing molybdenite and pyrite mineralization. Further surveys were made, and two small diameter holes were drilled. Drilling difficulties and poor core recovery gave inconclusive results, and failed to test adequately the protore mineralization. The Croydon option, including the acquired Porphyry Creek claims which became part of the option, were dropped after the 1964 season.

No further work appears to have been done in the area. All claims, other than a restaking of the Shell Group as the Croy claims, had lapsed when Teck staked the Kliyul Claim.

#### GEOLOGY

The Kliyul-Croydon Creek areas are underlain by Upper Triassic and later Takla Group intermediate to basic volcanics. In the lower reaches of Porphyry and Croydon Creeks, and to the east of Croydon Creek, Jurassic hornblende diorite intrudes the volcanics and contains remnants or large xenoliths of the volcanics. To the south of Kliyul Creek the Upper Jurassic or Lower Cretaceous Omineca Intrusive of intermediate composition outcrops over an extensive area. Smaller satellitic bodies of the Omineca Intrusive outcrop along a NNW trend towards

McConnell Creek. The small mineralized biotite quartz porphyry intrusive located on the west side of Porphyry Creek may be an Omineca-related intrusive.

The old Cominco quartz veins at Porphyry and Croydon Creeks strike NNE and dip moderately to steeply southeast. The veins are mineralized with pyrite, chalcopyrite, magnetite, and molybdenite.

The Porphyry Creek showings appear to be better mineralized with molybdenite than the Croydon Creek exposures.

The Shell claims were staked over altered volcanic flows breccias, and tuffs. Dykes of feldspar porphyry outcrop throughout the property and a small granitic stock is reported at the southwest corner of the property, or northwest of the Kliyul claim. Mineralization at Shell occurs in quartz veins and shears which vary from a WNW to northerly strike, and dip from vertical to steeply southwest.

Alteration varies from strong chlorite, hornblende, and epidote on the Shell Group to strong epidote on the Croydon Group.

#### PROPOSED EXPLORATION AND BUDGET

It is understood that RioCanex have outlined the biotite quartz porphyry plug by geological mapping, soil geochemistry, and geophysical surveys. Attempts to test mineralization in the plug by drilling were not successful due to poor core recovery and drilling problems possibly caused by the small diameter of core being recovered. It is proposed to drill two holes recovering

NQ core to a depth of 200 meters each to test the grade of mineralization. Prior to the drilling, an examination of the plug will be necessary to determine whether a drilling direction other than vertical would be preferable for recovering a better sample; and to check the soil geochemistry to determine the best location for drilling.

The program would require a helicopter located tent camp for a geologist and one or two assistants for the first phase. The camp would have to be expanded and possibly moved for the drilling phase. Personnel and equipment can be transported to Aiken Lake by truck, and then moved to the Kliyul claim by helicopter. Drill moves would be by helicopter. The initial geological and geochemical checking would require one week exclusive of travel time. Drilling would require from two to three weeks, subject to drilling conditions.

An estimate for the cost of the program in 1979 is as follows:

I Preparatory and Non-field Costs

Expenditures by Teck to date (staking, etc.)	\$ 3,000
Payment to Gatenby (due September 1979)	2,000
Review of data (5 days @ \$100/day)	500
Maps, aerial photos, drafting, etc.	500
	<u>500</u>
	<u>\$ 6,000</u>

II Check Mapping and Geochemistry

10 days (incl. travel) @ \$200/day	\$ 2,000
Camp costs, 6 days @ \$50/day	300
Helicopter charter, 6 hrs. @ \$350/hr.	2,100
Travel, 4 days @ \$110/day	440
Truck rental 10 days @ \$25/day	250
Analyse 200 samples @ \$2.15 each	430
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	\$ 5,520

III Drilling

Drill mobilization	\$ 7,000
Metrage: 450 meters @ \$80/m.	36,000
Helicopter support: 14 hrs. @ \$350/hr.	4,900
Personnel: 25 days @ \$250/day	6,250
Camp costs: 21 days @ \$65/day	1,365
Travel: 4 days @ \$125/day	500
Truck rental: 25 days @ \$25/day	625
Assay: 300 samples @ \$11.50 each	3,450
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	\$ 60,090

Total of I, II, and III	\$ 71,610
Plus 20% Contingency	14,322
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TOTAL	\$ 85,932

It is estimated that the cost of the program would be approximately \$86,000.

Respectfully submitted

A. I. Betmanis, P.Eng.

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