885676

TSIRKU PROPERTY

Tsirku-Jarvis Glacier Area

114P/6W, 7E, 8W

Stryker Res. Nov. 23/83

Tom Schroeter
July 13/84

GEOLOGICAL REPORT

of the

TSIRKU GROUP MINERAL CLAIMS

Located in the

TSIRKU-JARVIS GLACIER AREA

NORTHWEST BRITISH COLUMBIA

for the

1983 SUMMER FIELD SEASON

July 13 - Sept. 10

AND PROPOSAL FOR THE 1984

FIELD SEASON

Lat: 59°20' N.

Long: 136°35' W.

NTS 114P 6W, 7E, 8W

Atlin Mining Division

for

Stryker Resources Ltd.

and

Freeport Resources Inc

Vancouver, B.C.

by

James McDougall, P. Eng.

D. Perkins B.Sc.

A. Glatiotis B. Sc.

Nov. 23, 1983

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INTRODUCTION

A first phase exploration program of prospecting, geochemical sampling and geological mapping was initiated by Stryker Resources Ltd. and Freeport Resources Inc. of Vancouver upon the Tsirku group of mineral claims in the summer of 1983. The field crew consisted of four geologists operating with helicopter support from a base camp on the Haines Highway in northwest British Columbia.

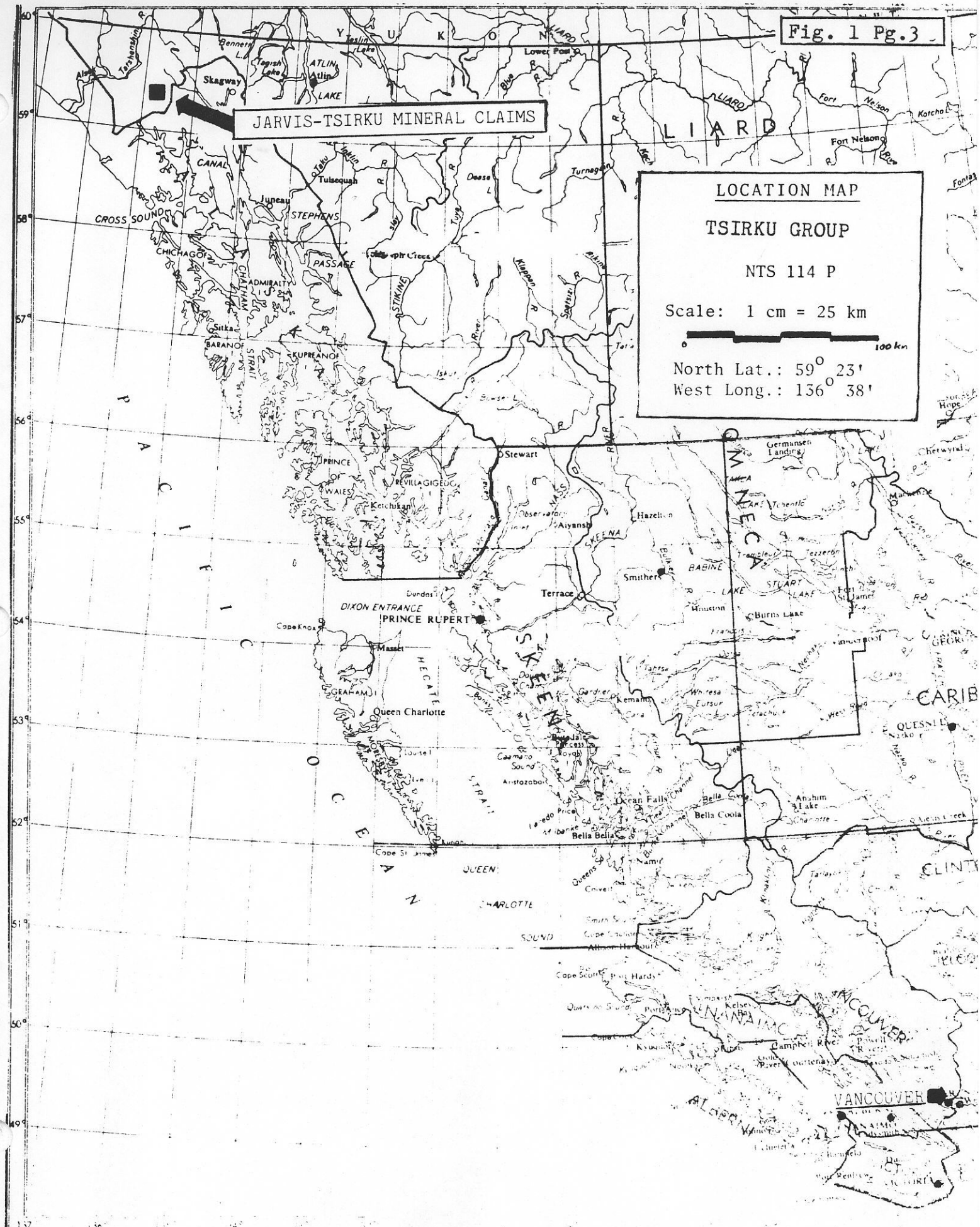
Field work commenced July 20th and ended September 5th, 1983. The primary objective of the 1983 survey was to thoroughly prospect as much of the property as possible and to delineate showings and targets for follow-up work.

Initial prospecting was carried out on the terminal moraines of the Jarvis and Tsirku glaciers followed by an examination of medial and lateral moraine material. A number of gossans were observed and targeted for further study.

The program resulted in the discovery of several stratiform sulfide showings. Copper, lead, zinc and barite were found in quartz-sericite talc schists, andesitic pyroclastics and sediments. All stratiform mineralization seen occurred at or near the base of pillowed basalts or in the immediately underlying sediments. The showings are similar in nature to a number of mineral occurences immediately across the British Columbia-Alaska border in identical geology. The overall nature of mineralization on the Tsirku Group closely resembles that found on the Windy-Craggy deposit about seventy-five kilometres to the northwest.

Showings were continuous chip or channel sampled where conditions permitted. Rock samples were taken wherever the horizon appeared favorable to establish geochemical distributions and patterns.

Although no road access currently exists onto the property, the Tsirku, Herbert,Buckwell and Jarvis glaciers could provide the basis for glacier-supported roads to virtually every point on the property. The gentle gradient and the lack of major crevasses on the main body of these glaciers means road construction would be both inexpensive and relatively trouble free. The drainage of both the Jarvis and the Tsirku Rivers approach the Haines Highway and provide alluvium that would make excellent roadbeds.


JARVIS-TSIRKU MINERAL CLAIMS
LOCATION MAP
TSIRKU GROUP
NTS 114 P
Scale: 1 cm = 25 km
0
100 km
North Lat.: 59° 23'
West Long.: 136° 38'
Y U K O N
L I A R D
P A C I F I C O C E A N
Skagway
ATLIN LAKE
Tulsequah
Juneau
STEPHENS PASSAGE
CROSS SOUND
CHICHAGOF
ADMIRALTY I.
CHATHAM STRAIT
Sitka
BARANOF
KUPREANOF
PRINCE OF WALES I.
REVILLAGIGEDO I.
Ketchikan
Stewart
Hazelton
Smithers
Terrace
DIXON ENTRANCE
PRINCE RUPERT
Cape Knox
Masset
GRAHAM I.
HECATE STRAIT
Queen Charlotte
Kemano
Bella Coola
Bella Bella
Cape St. James
QUEEN CHARLOTTE SOUND
Burns Lake
Houston
Fort Nelson
Fort St. James
Prince George
VANCOUVER
Campbell River

TSIRKU EXPLORATION PROGRAM

(a) 1983 Program

The first stage of the three phase exploration program was completed in 1983 under the direction of D.A. Perkins who is responsible for most of the detail in this report. The second stage is scheduled for the 1984 season and the third stage is scheduled for the fall of 1984 or summer of 1985 pending results (see Appendix 1).

Doug

The first stage consisted primarily of prospecting resulting in the location of several interesting mineral showings (see section on Geology). The program was moderately hampered by weather and topography. Prospecting and mapping were generally limited to the eastern third of the group. The exploration emphasis was on oxidized or rusty weathering gossans and areas of easiest access. Detailed prospecting of various gravel trains and moraines associated with glaciers draining the area helped locate some showings. Problems exist in tracing float to its source due to : the extent of glaciation, the sporadic nature of the float, disappearing moraines and the large distances that float may have travelled.

Float mapping and the location of various showings have provided some target areas for airborne geophysics. The information from the proposed airborne survey and data already available may indicate targets for test drilling using a small Winkie drill. Both are provided for in the second stage (1984) budget.

(b) 1984 Program

The proposed second stage involves a combination of mapping, prospecting, airborne geophysics and minor test drilling. A large portion of the Tsirku Group has not been adequately prospected to date. Topographic considerations and weather will somewhat limit the ability to work in much of this area. Mapping and detailed sampling of the known showings will preferentially be done during the poorer weather periods.

Several factors indicate that a gold sampling program should be part of the second phase of the exploration. They are:

- The intersection of 61 metres of 0.32 ounce/ton gold at the Windy-Craggy, where geological conditions are similar.
- The presence of Porcupine Gold placer twenty four kilometres to the east
- The presence of several gold-bearing veins and a float sample of auriferous sediments on the property.

A large amount of rock sampling specifically for gold is required. A small portable dredge will also be used to prospect and sample streams for gold, silver and heavy metals.

Airborne geophysics have been used to define ore horizons with great success at the Windy-Craggy deposit. Personal communication with Steve Kitty, operations manager of Dighem, referred to the airborne indication of Windy-Craggy as "one of the most dramatic airborne responses that they had recorded."

In the Tsirku group, sulfides often are associated with magnetite and pyrrhotite. A magnetic response would therefore be expected. If the

sulfide body was of sufficient size there would be a measurable response from the multi-channel electromagnetic Dighem equipment. As geophysical detection through greater than fifty metres of ice is questionable, the survey would skirt the large valley glaciers rather than blindly flying a grid. The airborne survey should commence with the satisfactory flying weather (June ?) and preliminary results (highlites) should be available almost immediately, and final computer printouts available by mid field season. The results of the airborne geophysical survey will play a large part in determining the approach exploration work will take in the 1984 program. (Proposed Survey fig. 8)

Winkie diamond drilling will be used in 1984 to test known showings and geophysical anomalies. This data will determine third stage diamond drilling requirements .

The proposed third stage of the Tsirku exploration budget involves a diamond drill program, subject to engineer's approval. A drill easily transportable by helicopter, such as a modified Boyles BBS 1, should be used. Drilling would test for depth of mineralization rather than ore body definition. One thousand metres of drilling is proposed in locations to be outlined by the Winkie drilling of Stage II.

GEOLOGICAL SUMMARY

The Tsirku group of claims lie in the northwest corner of British Columbia, Atlin Mining Division. Falconbridge's Windy-Craggy deposit is situated seventy-five kilometres northwest. The Porcupine placer gold district lies twenty-four kilometres east.

A sequence of sediments, volcanics and pillow basalts, is found on the property. Mineralization occurs near the base of the basalt sequence. Recognizable pyrrhotite, pyrite, chalcopyrite, sphalerite and galena occur in sediments and volcaniclastics. Significant assays for gold, cobalt and silver are present.

A five metre sample of pyritic andesite assayed 2.15 per cent copper and 0.33 ounce per ton silver at the "Low Herbert" (fig 3) showing. A hand sample at the "Herbert Mouth West" showing assayed 0.466 ounce per ton gold and 0.129 per cent cobalt. A sample of pyritic sediments assayed 0.183 ounce per ton gold on "Grizzly Heights". Float samples at the "Low Jarvis" reportedly assay (personal communication Jan Stills U.S.G.S.) thirty to forty per cent zinc with two to three percent copper and two ounces per ton silver. A one metre chip sample of the "High Jarvis" assayed 7.64 per cent zinc. The Basement claims forty-eight kilometres to the west of the Tsirku claims (fig 9) cover a showing with 2.69 per cent copper, 0.092 per cent cobalt over two metres.

The Tsirku group is located on a volcanic-sedimentary lithology, analogous to the complex which hosts the Windy-Craggy deposit. Copper, cobalt and gold assays are comparable to the

published assays for the Windy-Craggy deposit (pages 19-21). No source has as yet been located, either in Alaska or British Columbia, for the massive "Low Jarvis" copper-zinc float. The distribution suggests the source to be in British Columbia, however.

General conclusions are that as a result of 1983 important occurrences, including those containing copper, zinc and gold mineralization, are present in the Tsirku project area, but that much more time is required to properly assess them.

SUMMARY OF RECOMMENDATIONS

It is recommended that the second and third phase of the original 1983 proposal be adjusted based on 1983 results. These are outlined as follows:

Phase II (airborne geophysical survey, mapping, prospecting, preliminary short hole test drilling)	$ 441,000
Phase III (diamond drill program, if recommended.)	$ 300,000
Total estimated cost of a two phase program	$ 741,000

PROPERTY TITLES

The claim group under discussion includes 831 claim units encompassed in 54 Modified Grid System claim blocks. The blocks occupy an approximate area bounded by Latitude 50° 19' to 25' N and Longitude 136° 30' to 45' W. The 'Basement' mineral claim of 20 units located west of the Tsirku Group at Latitude 59° 22'05" N, and Longitude 137° 30'00" W, was staked in 1983.

All mineral claims are in good standing until at least March 4, 1984, and there have been no staking conflicts filed.

TABLE A /1984

PROPERTY TITLES

CLAIM NAME	UNITS	RECORD NUMBER	EXPIRATION	OWNERS AS OF NOV.22,1983
Jarvis 1	6	1819	June 13,1984	Stryker Resources Ltd. and
Jarvis 2	6	1611	March 8,1984	Freeport resources Inc.
Jarvis 3	6	1612	March 8,1984	"
Jarvis 5	6	1613	March 8,1984	"
Jarvis 6	4	1614	March 8,1984	"
Jarvis 7	4	1615	March 8,1984	"
Jarvis 8	12	1617	March 8,1984	"
Jarvis 9	10	1618	March 8,1984	"
Jarvis 10	10	1619	March 8,1984	"
Jarvis 11	8	1620	March 8,1984	"
Jarvis 12	9	1683	March 23,1984	"
Jarvis 13	8	1684	March 23,1984	"
Jarvis 14	8	1685	March 23,1984	"
Jarvis 15	15	1686	March 23,1984	"
Jarvis 16	15	1687	March 23,1984	"
Jarvis 17	12	1688	March 23,1984	"
Jarvis 18	15	1689	March 23,1984	"
Jarvis 19	8	1900	June 13,1984	"
Jarvis 20	8	1901	June 13,1984	"
Jarvis 21	12	1902	June 13,1984	"
Jarvis 22	6	1693	March 23,1984	"
Jarvis 23	8	1694	March 23,1984	"
Bill 9	15	2013	September 13,1984	"
Bill 10	20	2014	September 13,1984	"
Bill 11	20	2015	September 13,1984	"
Basement	20	1929	June 29,1984	"

TABLE A (continued)

PROPERTY TITLES

CLAIM NAME	UNITS	RECORD NUMBER	EXPIRATION DATE	OWNERS AS OF Nov. 22, 1983
Tsirku 1	20	1830	March 4 ,1984	Stryker Resources Ltd., and
Tsirku 2	20	1831	March 4, 1984	Freeport Resources Inc.
Tsirku 3	20	1832	March 4, 1984	"
Tsirku 4	20	1833	March 4, 1984	"
Tsirku 5	20	1834	March 4, 1984	"
Tsirku 6	20	1835	March 4, 1984	"
Tsirku 7	20	1836	March 4, 1984	"
Tsirku 8	20	1837	March 4, 1984	"
Tsirku 9	20	1838	March 4, 1984	"
Tsirku 10	20	1839	March 4, 1984	"
Tsirku 11	20	1840	March 4, 1984	"
Tsirku 12	20	1841	March 4, 1984	"
Tsirku 13	20	1842	March 4, 1984	"
Tsirku 14	20	1843	March 4, 1984	"
Tsirku 15	20	1844	March 4, 1984	"
Tsirku 16	20	1845	March 4, 1984	"
Tsirku 17	20	1846	March 4, 1984	"
Tsirku 18	20	1847	March 4, 1984	"
Tsirku 19	20	1848	March 4, 1984	"
Tsirku 20	20	1849	March 4, 1984	"
Tsirku 21	20	1850	March 4, 1984	"
Tsirku 22	20	1851	March 4, 1984	"
Tsirku 23	20	1852	March 4, 1984	"
Tsirku 24	20	1853	March 4, 1984	"
Tsirku 25	20	1854	March 4, 1984	"
Tsirku 26	20	1855	March 4, 1984	"
Tsirku 27	20	1856	March 4, 1984	"
Tsirku 28	20	1857	March 4, 1984	"

LOCATION AND ACCESS

The Tsirku Group is located in the Atlin Mining Division in northwest British Columbia. The camp near the claim group, located at latitude 59°20' north and longitude 136°35' west, is sixty-five kilometres northwest of Haines, Alaska by air and seventy-nine kilometres by paved highway. Whitehorse, Yukon Territory, is one hundred and eighty kilometres northeast by air and three hundred and sixty kilometres by road.

The most convenient means of mobilizing men and materials is via the Alaska Ferry System from Seattle, Washington to Haines, Alaska followed by road access to the base camp site at mileage forty-seven on the Haines Highway. (No road access exists onto the property at this time and helicopter support is required to work effectively in the area.) The base camp site is situated just off the old highway directly opposite from the abandoned oil pumping station eight kilometres north of Pleasant Camp Canadian Customs Station.

Haines is the most convenient centre for obtaining supplies and mail.

The Whitehorse airport maintains daily scheduled flights via CP Air and PWA connecting to points south. From Whitehorse one can drive to the base camp site on well maintained gravel roads or charter a plane to the gravel airstrip at the all year road maintenance station at Glacier Camp fifty kilometres north of base camp.

Haines also has daily scheduled flights to Juneau with connections south.

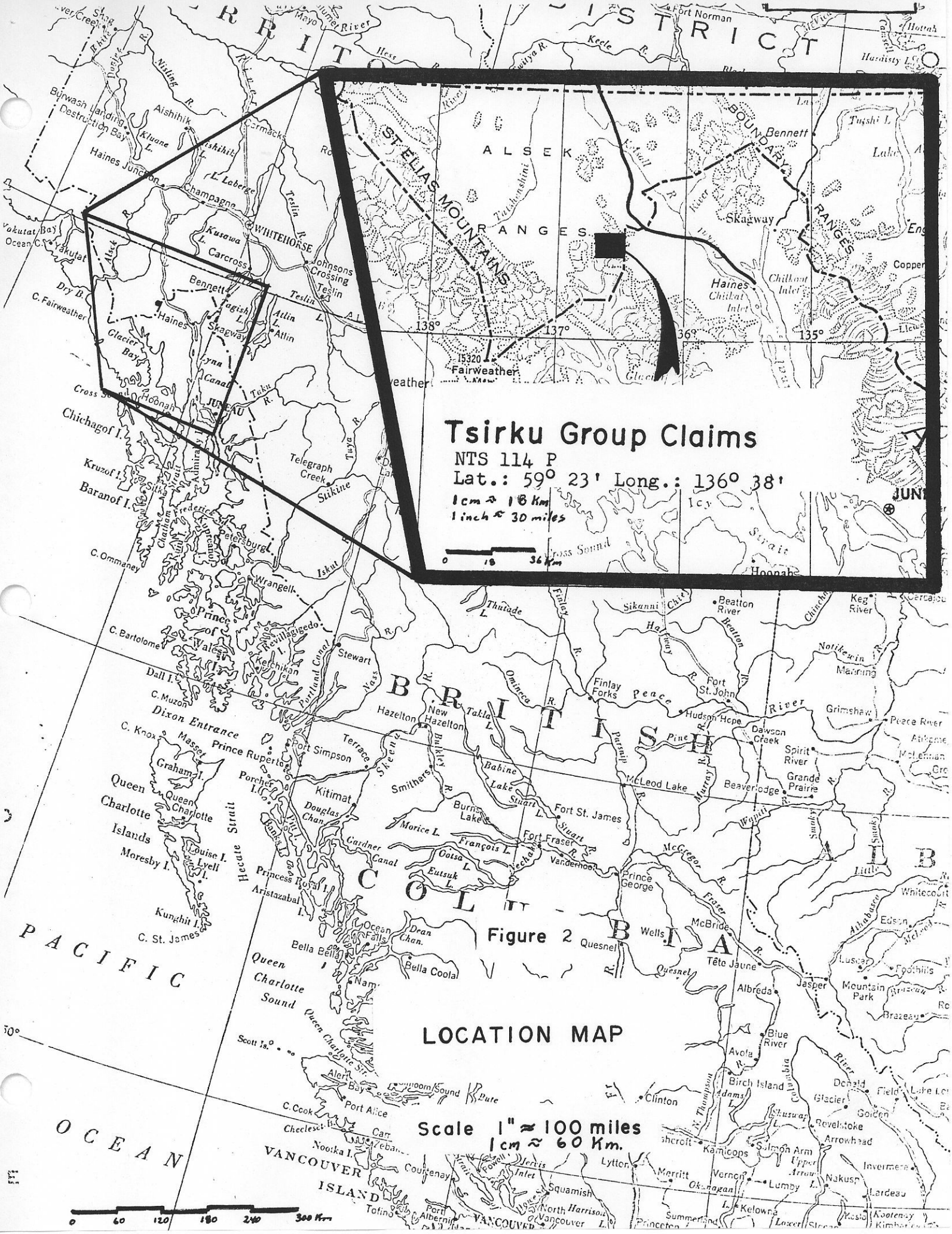
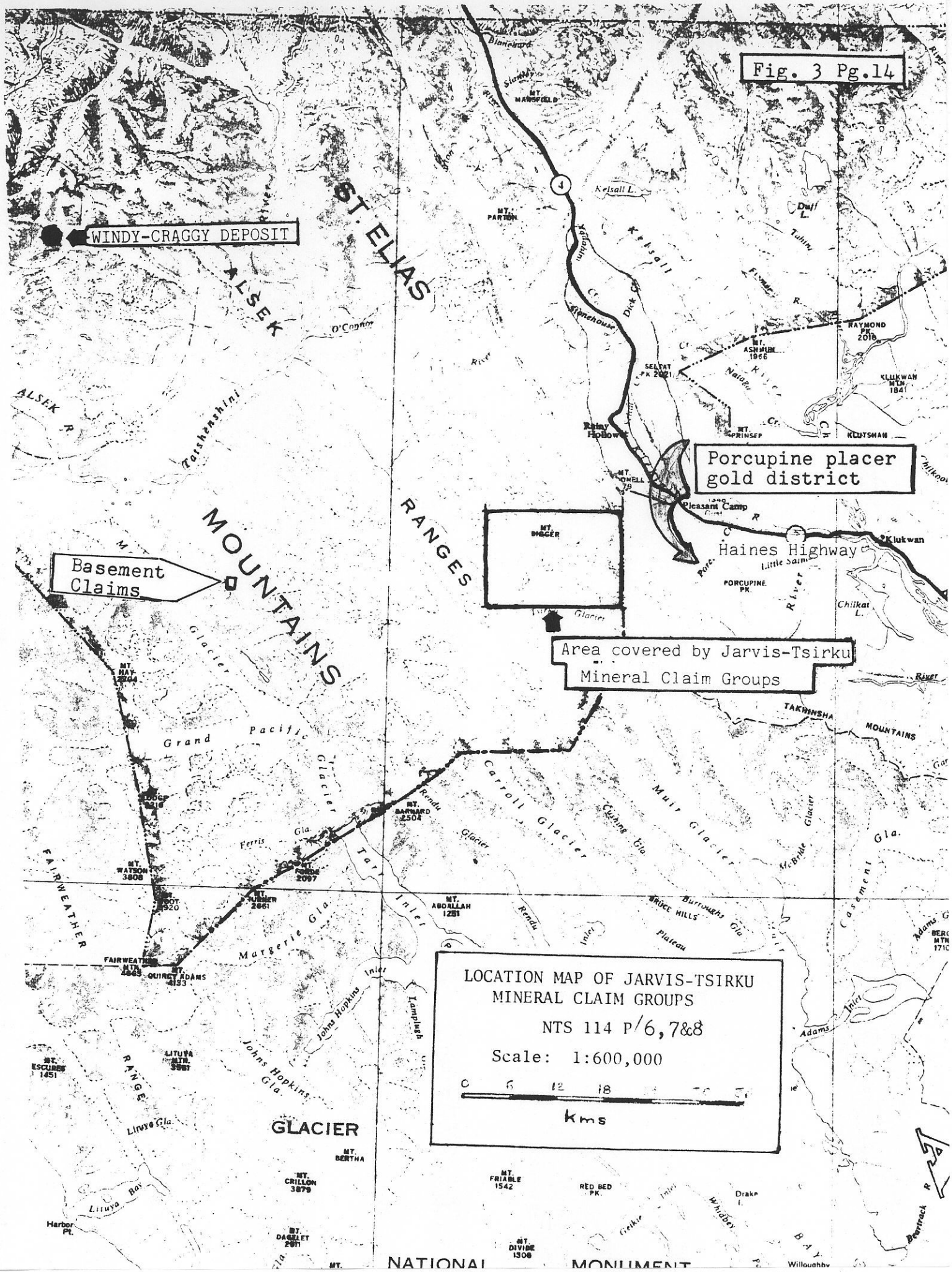


Figure 2

LOCATION MAP



LOCATION MAP OF JARVIS-TSIRKU MINERAL CLAIM GROUPS

NTS 114 P/6,7&8

Scale: 1:600,000

0 6 12 18

kms

TOPOGRAPHY AND CLIMATE

The Tsirku area is mountainous with elevations ranging from eight hundred and thirty metres to twenty-seven hundred metres. Glacial ice overlies the valley bottoms and the north facing slopes. These glaciers are generally receding.

Within the Tsirku area there is a heavy snow accumulation from October to April. This results in a relatively short field season, lasting from June to mid-September.

The weather is unpredictable. Hot, dry spells can last for weeks during the summer, but low clouds and rain can move in very quickly and persist for days.

HISTORY

Severe terrain and equally poor prevailing weather patterns in the Tsirku Group have discouraged close mineral exploration in the past. No mineral claims previously existed on the ground although a gold quartz vein to the northeast of the property has been held for many years and appears to have been extensively tested. Surface workings indicate it may actually have sustained minor production.

The famous Porcupine gold district lies immediately to the southeast of the British Columbia-Alaska border. The placer claims at Porcupine have been extensively and profitably worked from the late 1800's to the present. Adjacent to the placer claims are some copper, lead, zinc, gold and barite showings which have been intermittently staked but never adequately explored.

Similarities between the geology of the area and that of Falconbridge's Windy-Craggy deposit lead J.Ball to stake the initial Jarvis claims in 1981. He subsequently consolidated his holdings by staking the Tsirku claims in 1982. Stryker Resources Ltd. and Freeport Resources Inc. optioned the property and initiated the first stages of exploration in 1983. The Bill claims and the Basement claims were staked to cover anomalies and consolidate property position.

PROPERTY GEOLOGY

The mineralization discovered appears to be stratiform. Small-scale structural complexities involving folding and faulting were therefore largely ignored in favour of gaining a broad geological perspective of the lithologies present.

Mineralized horizons were commonly found in close association with a basaltic unit occurring throughout the property. This geological unit represents an intermediate stage between periods of essentially sedimentary deposition and submarine basaltic volcanism. The package of sediments contains massive limestone, well bedded silty limestone, carbonaceous siltstones, cherts and mudstones. Black shale is also a common rock type in this unit. The sedimentary assemblage is succeeded by and interbedded with a sequence consisting of pyroclastic exhalatives which mark the onset of volcanic activity in the area. These exhaltives consist of intermediate to acid tuffs and volcanic breccias. Some examples of quartz-shard rhyolite and rhyodacite were found at the southwestern part of the property above a showing termed the 'Low Herbert'. This horizon is easily recognizable due to the presence of a prominent, light coloured, rusty weathering exhaltive occurring at or near the base of the pillow basalt sequence. The marker horizon ranges in composition from a readily identifiable rhyolite to siliceous talc sericite schist. It is believed that this lithology represents an environment of deposition near a vent or hydrothermal flue. Sulfides of copper, lead and zinc are found disseminated within this lithology and a closely associated but more chloritic rock. Barite occurs as disseminated crystals or small (10 cm±) bands. Grey to black chert bands are commonly associated with this assemblage.

Deposition of copper appears to favour the chloritic rock while galena is more frequent in the talcose schists and chert. Silver displays an unusual, consistently high background level averaging about 0.30 ounces per ton in these rocks.

Stratiform sulfide mineralization was noted within the sediments, in the pyroclastics, and within the basal portion of the pillow basalts. This indicates that the hydrothermal activity predated the basaltic volcanism and was probably capped by the introduction of the pillow basalts.

The above set of environmental conditions allows the possibility of the development of several types of mineral deposits:

1. Sulfide deposits like the Windy-Craggy or 'Anyox type' which relate to basaltic pillow lavas, flows and shales.
2. Stratiform massive sulfide deposits which form in the submarine basins that trap heavy hydrothermal brines from which the sulfides precipitate.
3. Silica-sulfide sinter deposits in a near vent environment.
4. Stockwork gold-bearing quartz veins in the sediments (root or feeder zones).
5. Disseminated gold deposits formed in sediments and porous pyroclastics under impermeable caprock such as the pillowed basalts.

The showings found in the Tsirku group represent deposits that would form on a submarine surface due to the activity of brine-laden hydrothermal solutions. The potential for delineating a significant orebody of these types is very good.

The potential for the occurrence of a gold deposit is favourable.

Several lines of evidence support this hypothesis :

1. Porcupine Creek and Glacier Creek drain a lithology that is identical to the situation on the Tsirku Group. These creeks cut deeply into the lower sedimentary sequence and contain significant placer deposits.

2. Gold-bearing quartz veins and pyritic sediments occur in the Grizzly Heights area near the mouth of the Herbert Glacier. A float boulder of pyritic, grey siliceous sediment assayed 0.183 ounce per ton of gold. Two samples of quartz vein assayed 0.466 ounce per ton of gold and 0.344 ounce per ton of gold.

3. Drilling on the Windy-Craggy deposit intersected a sixty-one metre zone of 0.32 ounce per ton of gold in the footwall of the deposit. This probably represents a mineralized feeder zone which in similar environments elsewhere are often gold bearing.

The geology of the Windy-Craggy deposit, as published, appears similar to that of the Tsirku Group. Moreover, several of the showings occur in a lithology similar to that of Windy-Craggy. The latter is described as follows in the British Columbia Ministry of Mines "Geological Fieldwork 1982":

" Surface geology and drill hole locations are shown on Figure 54. Drilling to date on the Windy-Craggy property has defined a concordant, tabular, steeply northeast-dipping pyrrhotite-chalcopyrite-pyrite massive sulfide body over one thousand metres long and averaging approximately one hundred metres in thickness. There are unknown extensions along strike and down dip. Copper grades are variable, ranging from less than one per cent up to fourteen per cent in narrow high-grade supergene enriched intersections. The drill - indicated reserves of the best grade part of the massive sulfide

zone are reported to be over 85 million tonnes averaging 3.04 per cent copper and 0.09 per cent cobalt within an overall inferred tonnage for the deposit of 300 million tonnes averaging 1.52 per cent copper and 0.08 per cent cobalt (Northern Miner, January 13, 1983).

The most northerly drill hole, 82.12, intersected a predominantly massive pyrite zone from 24 to 187 metres that averaged 1.78 per cent copper (includes 53 metres averaging 3.09 per cent copper.) The top 12.5 metres of this intersection also averaged 0.58 per cent zinc, 79 grams silver per tonne, and 1.34 grams gold per tonne, and the bottom 38.7 metres averaged 1.75 per cent zinc, 16,25 grams silver per tonne, and 0.47 grams gold per tonne. Concentrations of zinc, silver and gold appear to increase toward the northern end of the deposit, which is predominantly pyrite. Pyritic sections also tend to be coarser and more granular in texture and framboidal texture is locally well developed. Massive pyrrhotite sections are generally much finer grained. Stilpnomelane is a common accessory material in the massive sulfide zone, which is locally magnetite rich. Pyrite and pyrrhotite bands and laminae also occur in argillites and cherts of the immediate hangingwall and footwall of the deposit. Small-scale fold structures are common in the banded and laminated sulfide zones.

One of the mostinteresting features of the Windy-Craggy deposit is the relatively high concentration of cobalt in massive pyrrhotite sections. Drill intersections averaging greater than 0.1 per cent cobalt are common;

some short intersections contain greater than 0.2 per cent. The best cobalt grades do not necessarily correlate with better copper grades as shown on Figure. 56. Falconbridge Limited research indicates no discreet cobalt material is present; cobalt is probably in solid solution with pyrrhotite and it might not be economically recoverable.

In addition to massive sulfide mineralization, a large zone with stringers and disseminations of pyrrhotite and chalcopyrite occurs in chlorite-epidote-serpentine altered pillow basalts, cherts and argillites along both sides of the massive sulfide body. The grade of stringer mineralization generally averages 0.5 to 0.8 per cent copper with sporadic intersections up to 2 per cent. The stringer zone has relatively low cobalt, silver and gold concentrations. A major northwest-trending fault zone separates stringer mineralization from relatively unaltered inter-bedded calcareous siltstones and andesitic to dacitic tuffs and flows southwest of the deposit. A similar fault may also be present below the glacier on the northeast side of the deposit as indicated by drill hole 81-10 (Fig. 56)".

FIGURE 4

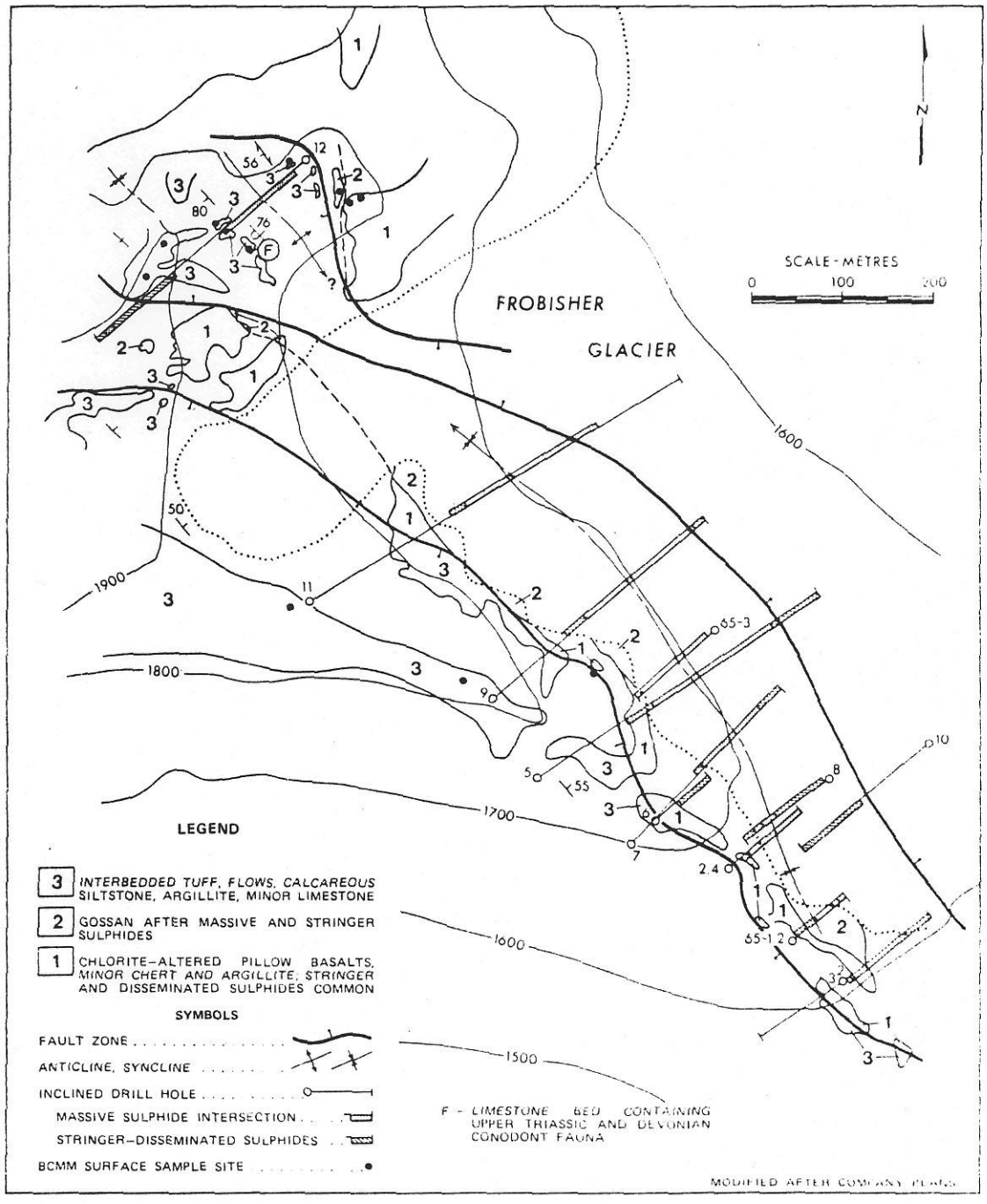


Figure 54. Geology and drill hole locations, Windy-Craggy deposit.

FIGURE 5

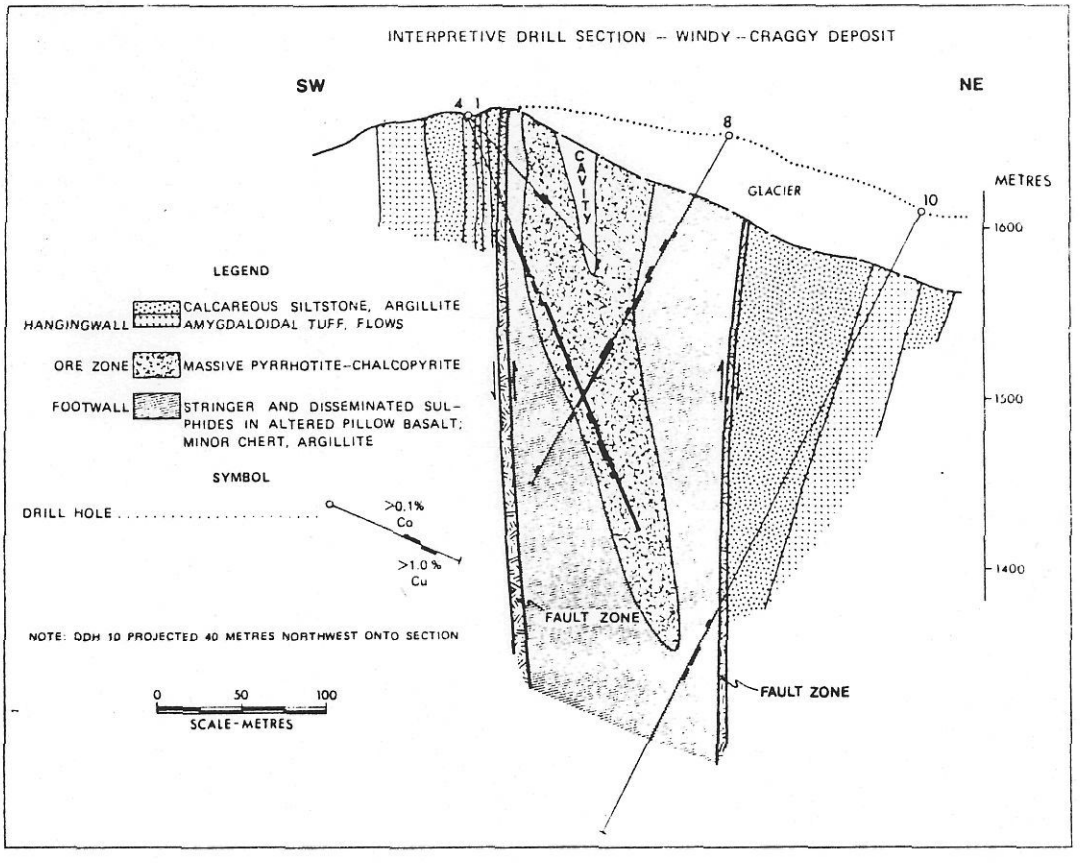


Figure 56. Interpretive drill section, Windy-Craggy deposit.

DESCRIPTION OF SHOWINGS, TSIRKU AREA (fig 7)

1 Low Herbert

A prominent gossan occurs on the west side of the Herbert Glacier just at and above the ice level four kilometres from the glacier's mouth. The light colored gossan, with a maximum thickness of one hundred metres, appears interfingered with and overlain by dark green pillow basalts. The showing,which was trenched, is ice covered two hundred metres south of the main exposure, but is traceable for at least five hundred metres to the north before being covered by ice. At this latter point the valley and glacier trend west and small portions (windows) of the gossanous horizon appear above the ice for over one kilometre further up the valley. These extensions have not been examined to date.

The main part of the showing is brightly marked by yellow, red and orange ferricrete which, together with a strong sulfur odor, suggests a high sulfide content. Disseminated chalcopyrite, barite and galena were observed in trenched portions of the showing. The distribution of these sulfides in not homogeneous nor do they necessarily occur together. Fine grained pyrite is ubiquitous.

The host rock consists of a grey, very siliceous, highly pyritic talc-sericite schist. Small siliceous clasts up to five centimetres in diameter are abundant and weather in relief from a matrix that contains as much as eighty per cent fine grained pyrite. The textures and the composition of the rock suggest that this showing represents an environment of deposition close

to a vent or hydrothermal flue.

A seventeen metre trench was blasted above and in the ferricrete at the top of the showing approximately perpendicular to strike. The average assay over seventeen metres for silver was 0.34 ounce per ton, gold 0.01 ounce per ton and cobalt 0.004 per cent. Other metal values were erratic with zinc attaining a high of 2.08 per cent. A five metre chip sample of pyritic andesite adjacent to the gossan assayed 2.15 per cent copper and 0.33 ounce per ton silver. This interesting zone has been inadequately explored and requires a far more detailed examination.

To gain future access to the Low Herbert showing it should be a relatively inexpensive project to construct a glacier-supported road up the Tsirku and Herbert Glaciers as the gradient of the ice is relatively gentle with few small cracks or crevasses developed. Alluvium in the Tsirku river drainage would provide excellent roadbuilding material for an access route that would join the Haines Highway thirty-five kilometres away.

Water for drilling purposes would be readily available at the foot of the showing in crevasses which have ponded, or, under extreme conditions, may be flown in by helicopter.

2. LOW JARVIS

Massive sulfide float was discovered on the east fork of the first southern tributary of the Jarvis Glacier. Boulders of near massive sphalerite up to two metres diameter have been noted. Mineralization has been traced up the north slope of Mount Henry Clay to ice-cap level. This float and

the hanging glacier that apparently conceals its source is on the British Columbia side of the border. The hanging glaciers on the north slope of Mount Henry Clay extend from near its peak to 4,500 feet elevation.

A gossan occurs at the confluence of the east and southwest forks of the first southern Jarvis tributary. It is mainly composed of light colored, rusty weathering, pyritic, acidic exhalatives. This gossan underlies the basaltic sequence noted in other locations on the property, and has apparently been faulted into its present location.

To the east, on the slopes of Mount Henry Clay, there is a succession of pillow basalts and andesites. Float boulders in the area (personal communication; Jan Stills U.S.G.S.) assay between thirty and forty per cent zinc, two to three per cent copper, and two ounces per ton silver. The sulfides are massive and are associated with a white barite apparently present in the andesitic package.

An abandoned cat road is located within six kilometres of this showing. The glacial ice gently slopes from the end of the road to the base of Mount Henry Clay. A glacier-supported road could be constructed on the ice as there are few crevasses and extensive gravel morraines are present.

3. HIGH JARVIS SHOWING

A stratiform band of massive pyrite and sphalerite was discovered near a peak south of the junction of the Jarvis Glacier and its second southern tributary.

A mineralized calcareous bed was traced for thirty metres being interupted

by a gabbro instrusive to the southeast and disappearing under talus to the northwest where it may be displaced by a steep fault. The mineralized band attains a maximum width of two metres and was emplaced in well bedded limestone, silty limestone, siltstone, and a light colored tuffaceous material. Although the mineralization occurs in close proximity to a large, coarse grained gabbro intrusive, the emplacement of the sulfides is apparently not a replacement phenomena if the lack of accompanying alteration is a guide.

A seventeen metre chip sample was taken, one metre of which assayed 7.64 per cent zinc. The average assay across seven metres was 0.20 ounce per ton silver and 0.010 ounce per ton gold.

4. HERBERT MOUTH WEST

On the west side of Herbert Glacier, near its mouth, a near vertical zone of light colored, rusty weathering acidic or intermediate volcaniclastics was explored. The zone extends from beneath Herbert Glacier to the top of a steep slope and disappears under the ice of a hanging glacier. This unit contains an abundance of disseminated and locally massive pyrite occurring as pods. It is contained within the pillowed basalts not far from the base of the volcanic sequence. The assumed exhalatives occur at roughly the same stratigraphic horizon as the Herbert Mouth East showing. One grab sample of massive pyrrhotite float near the top of the hill just below the ice assayed: 0.466 ounce per ton gold, 0.129 per cent cobalt with 0.32 ounce per ton silver. A grab sample of pyritic siliceous sediment assayed 0.183 ounce per ton gold and 0.35 ounce per ton silver.

5. HERBERT MOUTH EAST

A prospect was discovered about one hundred metres above the ice on the east side of Herbert Glacier near its junction with the Tsirku. It was briefly visited and only two samples were taken. The showing occurs in a large lense of sediments and pyroclastics enclosed within fresh, unaltered pillow basalts. The mineralization occurs in a light green weathering, andesitic volcaniclastic about fifteen metres thick and consists of pyrite, pyrrhotite, minor chalcopyrite and sphalerite. Both samples assayed 0.25 ounce per ton silver. Cobalt values were 0.017 per cent and 0.010 per cent. The lense is traceable for one hundred and fifty metres pinching out to the south and apparently downfaulted under the Herbert Glacier to the north. The mineralized andesite is overlain by a continuous bed of siliceous massive pyrite and pyrrhotite forty seven centimetres wide and assaying 0.25 ounce per ton silver. This mineralized rock is overlain in turn by about fifteen metres of black, carbonaceous shale. A unit of rusty weathering pillow basalt overlies the shale and is succeeded by fresh pillow basalts to the top of the cliff.

stratigraphy

6. HIGH HERBERT NORTH

Shaley sediments overlain by interbedded rhyolite, dacite and andesite pyroclastics occur in a saddle to the south of Mount Henry Clay. This sequence is succeeded by pillowed basalts. Mineralized volcaniclastics form a large, white, rusty weathering gossan which is a minimum of thirty-

five metres thick. The mineralized strata disappear under the ice on strike both east and west of the showing. Other mineralization consists of galena in quartz veinlets and stringers in chert beds above the bergschrund. Two chip samples yielded high background silver values of 0.20 ounce per ton. Lead values were measurable but less than one per cent.

In the saddle, a ten metre thick bed of light green andesite tuff is stained on the surface with small patches of malachite. It contained disseminated pyrite and chalcopyrite along with a profusion of pyritic microfractures. A grab sample of this rock assayed 1.36 per cent copper, 0.40 ounce per ton silver and 0.033 ounce per ton gold. The values for lead and zinc are negligible. An outcrop of malachite-stained talc schist contained no visible sulfides but assayed 3.11 per cent zinc and 0.25 ounce per ton silver.

In the overlying basalts an inaccessible rusty weathering zone with malachite stain was noted.

7. GRIZZLY HEIGHTS

The south facing slope between Herbert and Buckwell Glaciers is referred to as Grizzly Heights. The lower slopes consist of well bedded, east-west striking sediments. A number of small hanging glaciers lie on the upper slopes, concealing the geology at the base of the basalts. Knife edged, inter-cirque ridges have exposed the outcrop. These exposures indicate that the vertical gossan of Herbert Mouth West extends all the way to the Buckwell Glacier, a distance of six kilometres.

Sediment sampling of the streams which drain the hanging glaciers and descend the south-facing slope have yielded anomalous copper values coincident with the occurrence of massive pyrite and pyrrhotite boulders. Values for copper in these boulders were less than one per cent. Cobalt values averaged 0.016 per cent. A twenty centimetre wide vein of quartz and pyrrhotite assayed 0.344 ounce per ton gold and 0.42 ounce per ton of silver.

8. BASEMENT CLAIMS

The Basement Claims were staked to cover a showing on a tributary of Basement Creek forty-eight kilometres west of the Tsirku area (fig. 9). The showing consists of a rusty weathering zone containing massive pyrrhotite and chalcopyrite. This zone is six metres wide and had twenty metres of strike length exposed. It occurs in a sequence of limestone, limey sediments and minor andesite. Three continuous chip samples assayed: 1.03 per cent copper,0.017 per cent cobalt over three metres; 2.69 per cent copper, 0.092 per cent cobalt over two metres and 0.90 per cent copper, 0.092 per cent cobalt over one metre.

This area warrants further work in the 1984 season.

STREAM SEDIMENT GEOCHEMISTRY

Due to ice coverage, stream sediment samples were limited to streams derived from hanging glaciers and flowing down steep south facing slopes draining Grizzly Heights.

Twenty-nine samples were collected at the base of the hill just above where the streams disappeared under the Tsirku Glacier. These were subjected to a hot nitric acid digestion process and analysed with wet chemical techniques for copper, lead and zinc by General Testing Laboratories.

One sample yielded anomalous copper values and coincided with the location of the massive float occurrence. It has yet to be determined whether both float and anomaly were transported as lateral moraine material deposited earlier on the hillside by the Tsirku Glacier or if they were derived from the hanging glaciers immediately above.

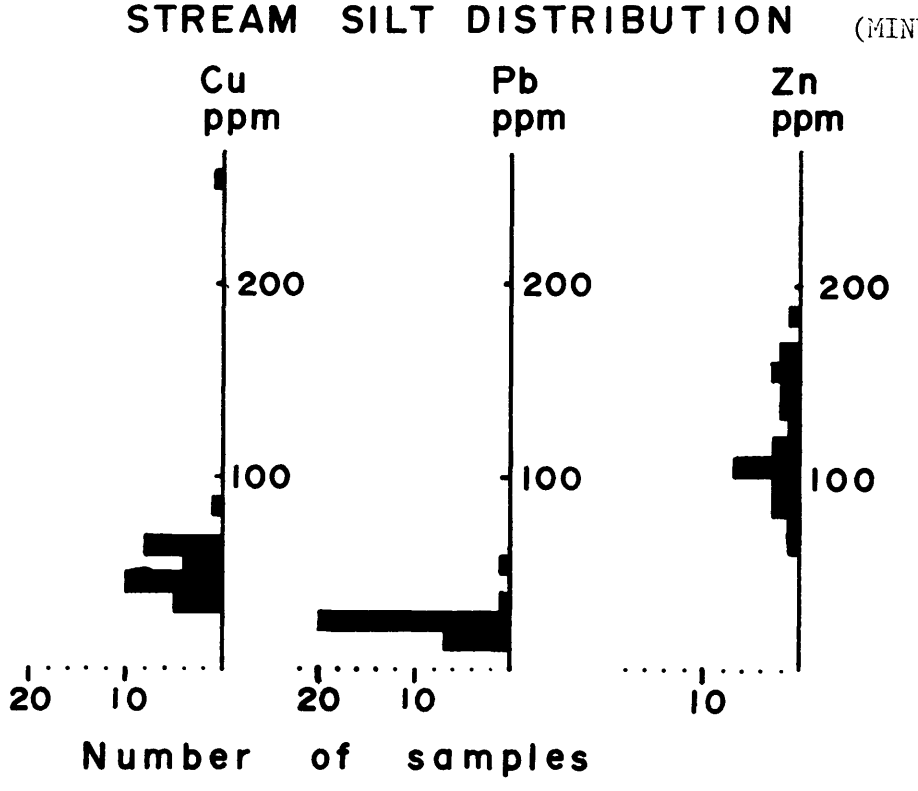
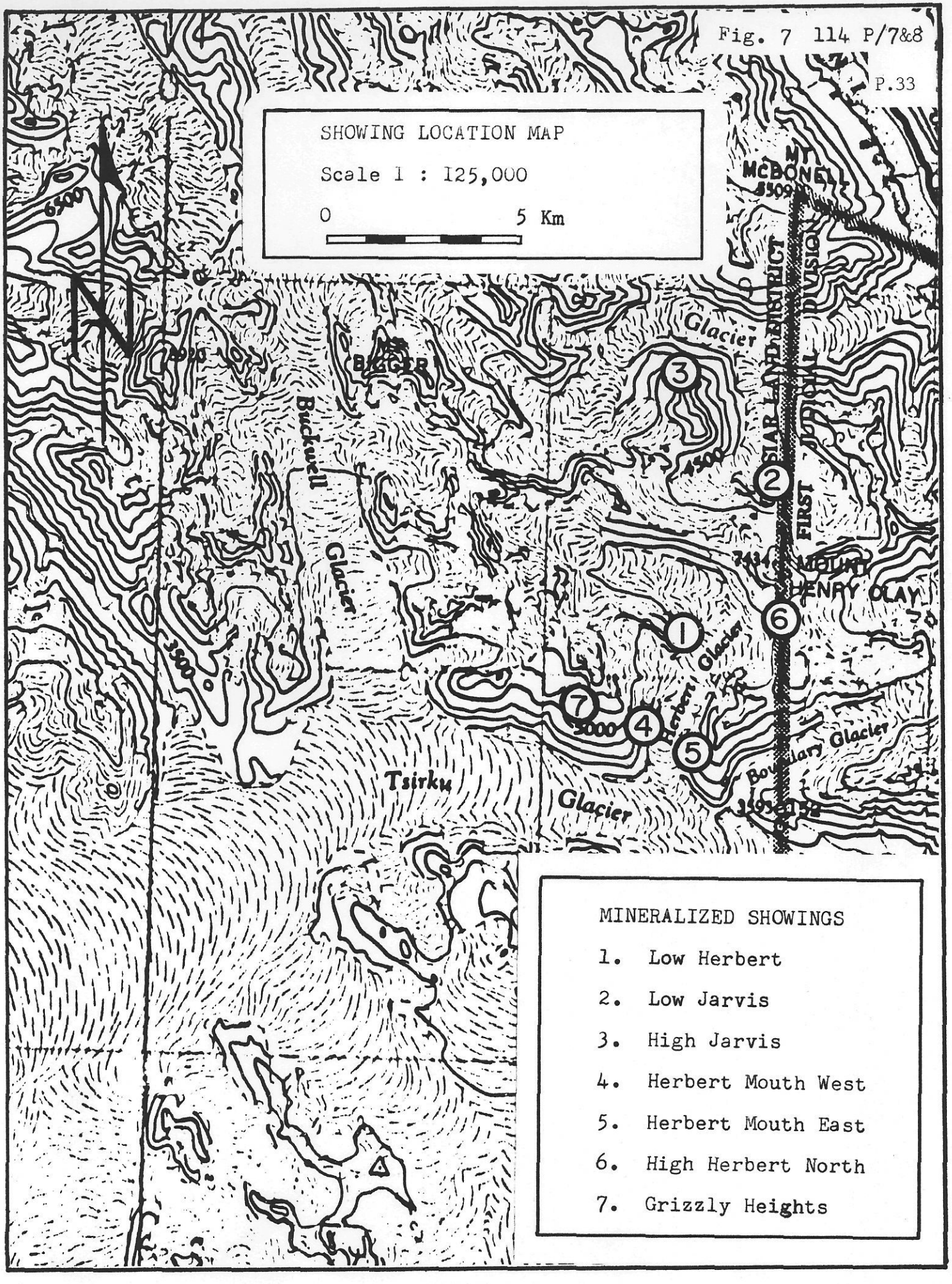
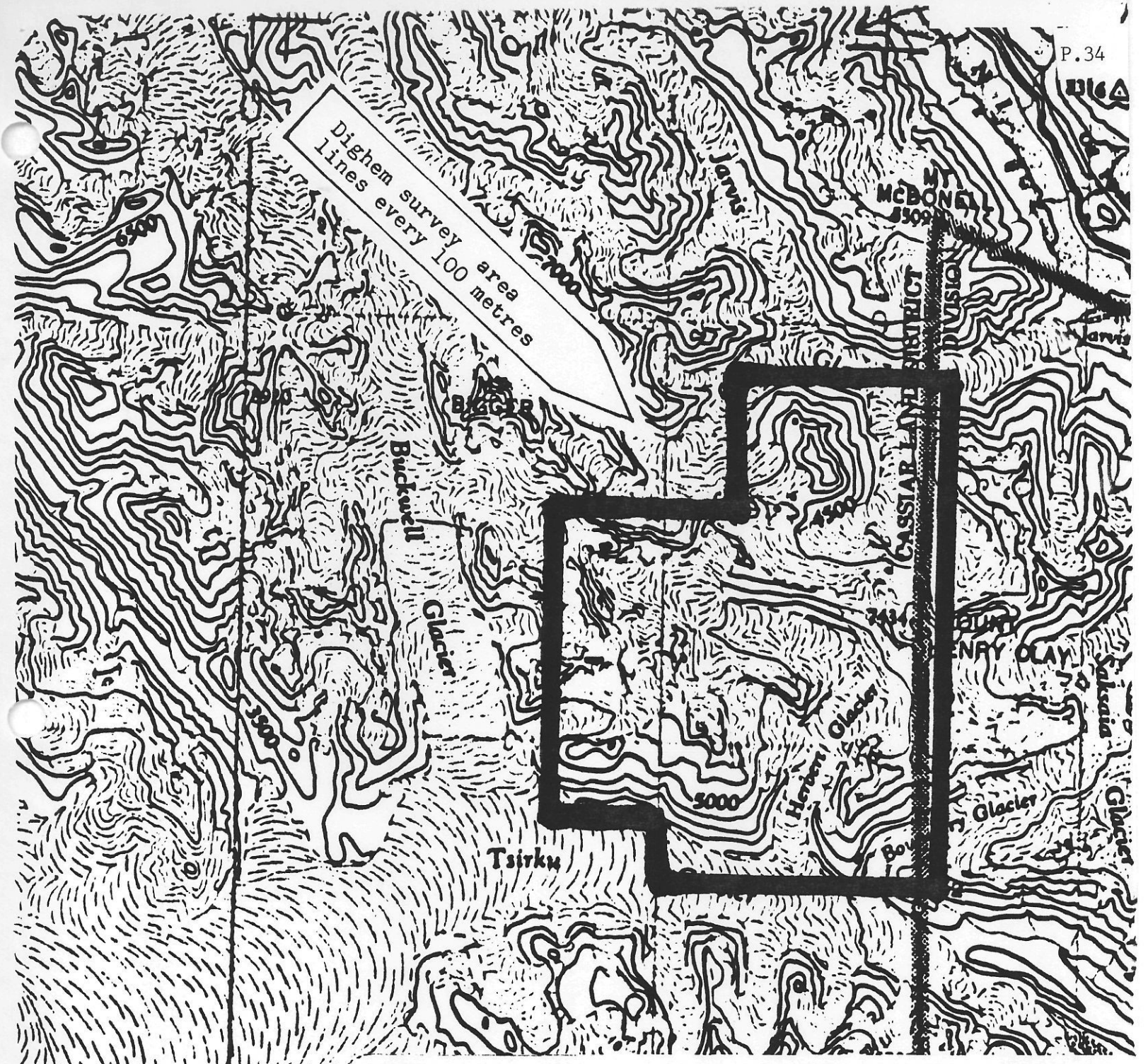


Fig. 6

RECOMMENDATIONS

It is recommended that a 1984 Tsirku exploration program expand on discovered deposits and continue the search for new ones. A second phase program will involve various geotechnical surveys and include propspect testing using a light diamond drill. Estimated cost is $441,000. This is a modification of the 1983 recommendation due to favorable field season results. A conditional third phase, involving preliminary definition drilling, is allowed for at a cost estimate of $300,000.


SHOWING LOCATION MAP
Scale 1 : 125,000
0
5 Km
N
6500
MT. McBONEY
9509
STAR LAND DISTRICT
FIRST DIVISION
Glacier
3
2
4500
Buckwell
Glacier
MOUNT HENRY CLAY
7434
1
6
Herbert Glacier
7
9000
4
5
Boundary Glacier
Tsirku
Glacier
MINERALIZED SHOWINGS
1. Low Herbert
2. Low Jarvis
3. High Jarvis
4. Herbert Mouth West
5. Herbert Mouth East
6. High Herbert North
7. Grizzly Heights



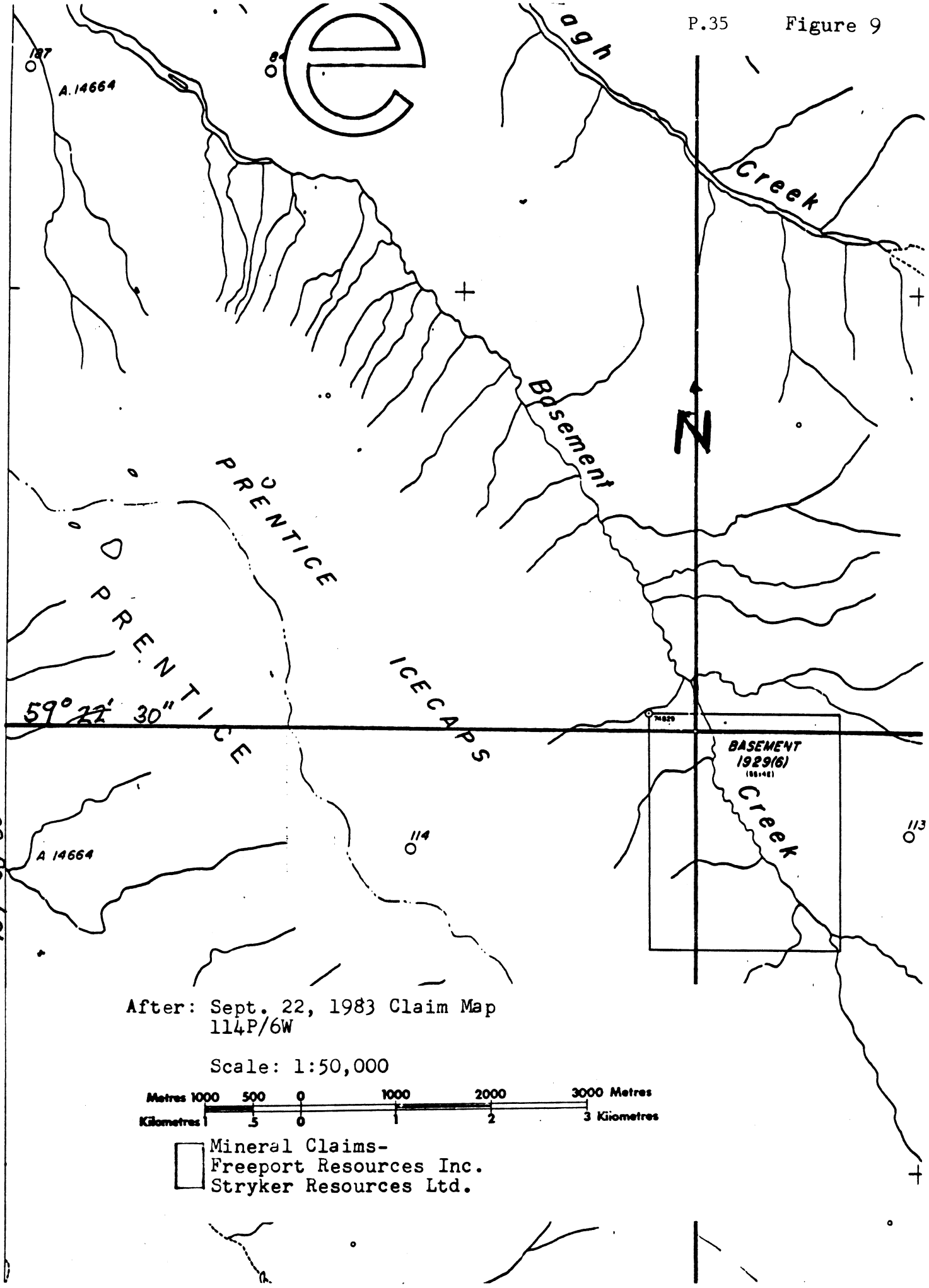
TATSHENSHINI MAP SHEET - THE TSIRKU GROUP

Scale 1 : 125,000

Location of Airborne Survey (Proposed)

0 5 km

Figure 9



After: Sept. 22, 1983 Claim Map
114P/6W

Scale: 1:50,000

Metres 1000 500 0 1000 2000 3000 Metres
Kilometres 1 .5 0 1 2 3 Kilometres

Mineral Claims-
Freeport Resources Inc.
Stryker Resources Ltd.

Appendix I

PHASE I

1983 TSIRKU BUDGET BREAKDOWN

STAFF	
Senior Geologist @ $150/day (July 13 - September 5) 57 days	$ 8,550
Two Geologist/alpinists @ $250/day (July 24 - September 5) 44 days	$ 11,000
Prospector/alpinist @ $90/day (July 13 - September 5) 57 days	$ 5,130
Cook @ $90/day (July 24 - September 5) 44 days	$ 3,960
SUBTOTAL	$ 28,640
Office overhead (workman's compensation)	$ 1,326
STAFF TOTAL	$ 29,996
HELICOPTER	
Quasar Helicopter Hughes 500C 100 hours @ $300/hour + incidentals	$ 32,343
Fuel JP/4 (initial cost $ 12,992. 82 - barrel deposit $ 1,254)	$ 11,738
OPERATIONAL COSTS	
Food @ $25/day for 260 man days	$ 6,535
Assay and Freight of Samples	$ 5,112
Climbing Equipment	$ 3,020
Truck Operations	$ 1,447
Communications	$ 1,536
Mobilization of Personnel and Equipment	$ 1,189
Maps	$ 1,318
Camp Costs	$ 6,705
Powder and Explosives	$ 635
Administration and Engineering	$ 5,348
1983 TSIRKU BUDGET SUBTOTAL	$ 106,898

PHASE I

1983 TSIRKU BUDGET BREAKDOWN CONTINUED

1983 TSIRKU BUDGET SUBTOTAL	$ 106,896
Recording fee for assessment, 5 % of subtotal (not filed as of this date)	$ 5,344
1983 TSIRKU BUDGET TOTAL	$ 112,242

PHASE II

1984 TSIRKU BUDGET

STAFF

Two senior geologists @ total $300/day (May 5 - September 14) 133 days	$ 40,000
Two junior geologists @ total $225/day (July 2 - September 14) 75 days	$ 17,000
Two field assistants @ total $180/day (July 2 - September 14) 75 days	$ 13,500
Cook @ total $90/day (June 7 - September 14) 100 days	$ 9,000
Assistant with Winkie Drilling experience @ $100/day (July 16 - September 3) 50 days	$ 5,000
SUBTOTAL	$ 84,500
Office overhead 10 % (U.I.C.,Comp.)	$ 8,450
STAFF TOTAL	$ 92,950

DIGHEM SURVEY

Survey $110/km for 700 line km	$ 77,000
Mobilization	$ 8,000
Weather days 5 days @ $2000/day	$ 10,000
Camp costs for Dighem crew	$ 5,000
TOTAL	$ 100,000

HELICOPTER

Hughes 500D 175 hours @ $375/hour and $85/hour fuel (total $460/hour)	$ 80,500

Appendix I

PHASE II

1984 TSIRKU BUDGET CONTINUED

OPERATIONAL COSTS

Food @ $25/day/man for 800 man days	$ 20,000
Mobilization of personnel and equipment two way (7 x $800) 5600 + 2400 trucking	$ 9,000
Camp costs (tents, lumber and propane)	$ 13,000
Winkie Diamond Drill	$ 15,000
Operation of drill	$ 10,000
Freight and Assay of Samples	$ 10,000
Administration travel expense	$ 5,000
Climbing equipment	$ 4,000
Truck operations ($30/day for 133 days)	$ 4,000
Communications (personal radios, 4 for 3 months @ $100/month - $1200 and $1300 telephone)	$ 2,500
Legal perimeter survey of claims	$ 3,000
Ground survey (Magnetomer, E.M.,Transit)	$ 2,000
Maps (U-2 photos)	$ 3,000
Data accumulation and report writing (30 days @ $150 - $4,500 and $500 drafting and report typing)	$ 5,000
Powder and Explosives	$ 2,500
Suction Dredge for Testing	$ 2,000
SUBTOTAL	$ 110,000
1984 TSIRKU BUDGET SUBTOTAL	$ 383,450

PHASE II

1984 TSIRKU BUDGET CONTINUED

1984 TSIRKU BUDGET SUBTOTAL		$ 383,450
Administration 5 % of subtotal		$ 19,172
Contingency and recording fee for assessment, 10 % of subtotal		$ 38,355
1984 TSIRKU BUDGET TOTAL		$ 440,967
	=	$ 441,000
THE TOTAL ESTIMATED 1984 TSIRKU BUDGET		$ 441,000

Appendix I

COST ESTIMATE

PHASE III

Diamond Drill Program

1. Estimated cost for a drill program conducted in the Tsirku Group is:

   $200 per metre direct drilling cost

   plus

   $100 per metre indirect costs (camp, mobilization, etc.)

   Total is approximately $300 per metre

2. Estimated cost for a 1000 metre diamond drill program is:

   1000 metre X $300 per metre = $300,000

3. Estimated cost for a phase III drill program is:

   $300,000

Appendix I

SUMMARY

COST ESTIMATE OF PHASE I, II, AND III WORK PROGRAMS

PHASE I (Prospecting and mapping - complete)	$ 112,000
PHASE II (Airborne Geophysical Survey, mapping, prospecting, and short hole test drilling)	$ 441,000
PHASE III (Diamond Drill Program)	$ 300,000
TOTAL COST ESTIMATE FOR PHASE II AND III	$ 741,000

Appendix II

STATEMENT OF QUALIFICATIONS

I, JAMES J. McDOUGAL of 7720 Sunnydene Road, Richmond, British Columbia, do hereby certify that :

1. I am a graduate of the University of British Columbia with a degree of Master of Science in Geology (1954) ;

2. I have been a practising geologist for thirty years;

3. I am a registered member, in good standing, of the Association of Professional Engineers of British Columbia;

4. I have no financial interest, nor do I expect to have, in Stryker Resources Ltd., or in Freeport Resources Inc.;

5. I consent to the use of this report for a Statement of Material Fact for Stryker Resources Ltd. or for Freeport Resources Inc.

James J. McDougall, P.Eng.

November 23, 1983

STATEMENT OF QUALIFICATIONS

I, A.C. GLATIOTIS, geologist, with a business address in Vancouver, British Columbia, and a residential address in Calgary, Alberta, hereby certify that:

1. I graduated for the University of Calgary in 1977 with a BSc majoring in GEOLOGY.

2. From 1977 to the present I have been actively engaged as a geologist in mineral exploration in British Columbia and the Yukon Territory.

3. I personally participated in field work on the TSIRKU GROUP of claims and have interpreted all data resulting from this work.

A.C. Glatiotis

A.C. GLATIOTIS

November 23, 19[illegible]

APPENDIX III

REFERENCES

Campbell, R.B. and Dodds, C.J. 1978. Operation Saint Elias, Yukon Territory. In Current Research, Part A, Geological Survey of Canada, Paper 78-1A pp. 51-53.

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