84-#248 - #12416
4/85

GEOLOGY AND ROCK-CHIP GEOCHEMISTRY
OF THE RANGER CLAIMS

LILLOOET MINING DIVISION

N.T.S. 92J/15

Latitude: $50^{\circ}50'$N
Longitude: $122^{\circ}45'$W

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,416

OWNER: Newmont Exploration of Canada Limited
OPERATOR: Newmont Exploration of Canada Limited

BY: G. McLaren, M.Sc.
DATE: January 3, 1984

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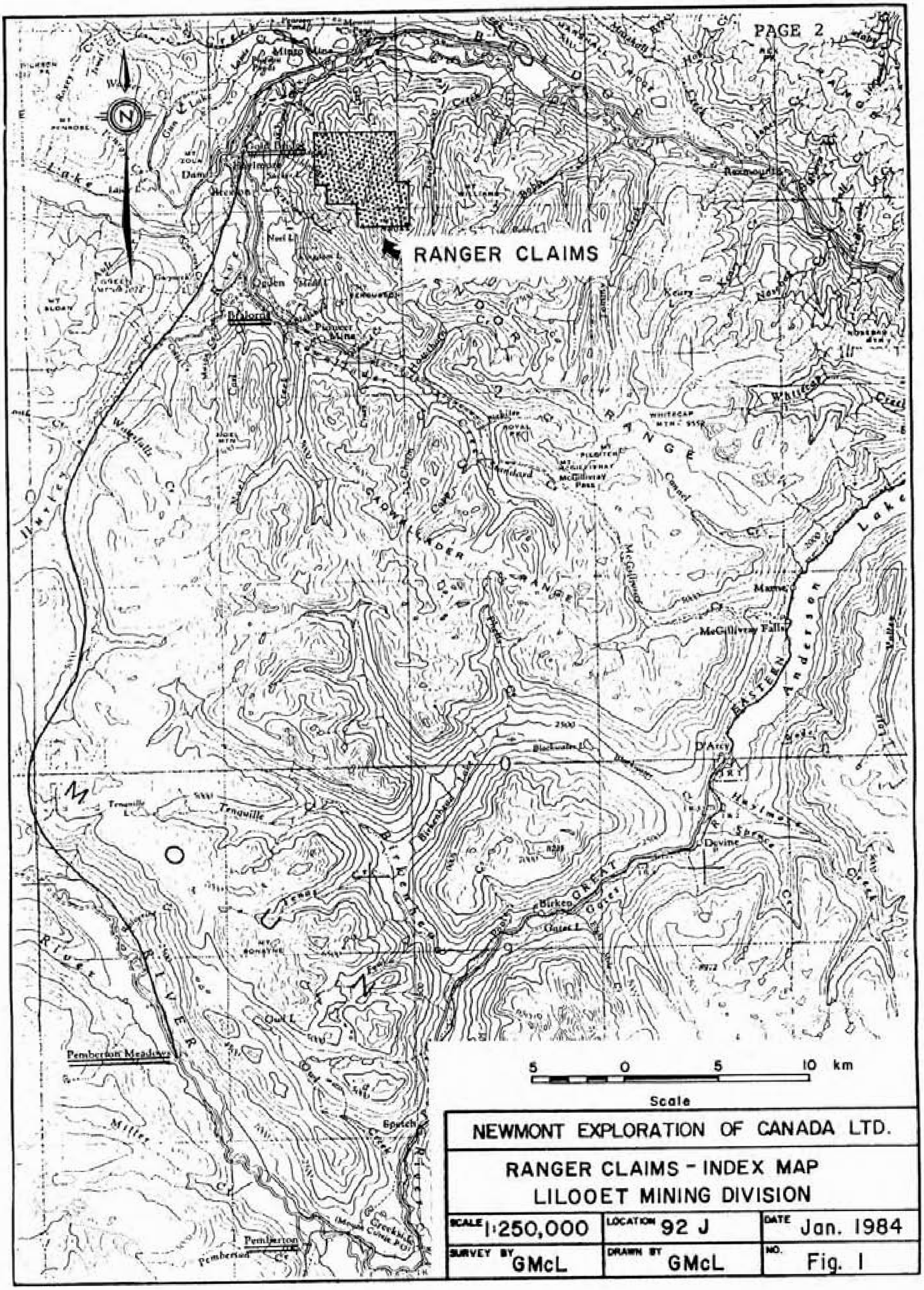
1. Introduction

The RANGER claims are located in rugged alpine terrain on the eastern margin of the Coast Mountains, approximately 180 kilometres north of Vancouver. The town of Gold Bridge lies six kilometres to the northwest of the claim group (Figures 1 and 2). Surface access to the claims requires a lengthy walk up Six Mile Creek from the Truax Creek logging road or an equally arduous walk up an old cat trail leading towards the claims from Fergusson Creek valley. The nearest helicopter base is Pemberton Meadows, located approximately 20 minutes flying time, through the Hurley River Pass, to the south of Gold Bridge (Figure 1). Supplies can then be airlifted up to the claims from Gold Bridge.

The four claims comprise 66 units covering a section of rugged alpine peaks and ridges, intervening cirque valleys, and a few lower vegetated creek valleys. Elevations within the claim group range from 2,880 metres (9,450 feet) on the peak of Mt. Truax in the southeast corner to 1,525 metres (5,000 feet) in the valley of Steep Creek in the northwest corner. The legal corner post is clearly located in a saddle at 2,500 metres (8,200 feet) elevation in the centre of the claim block. Three tarns located in the cirque south of the legal corner post provided a good campsite for the main area of interest in 1983. An old cabin lies north of the legal corner post in an open basin at the head of the Steep Creek drainage.

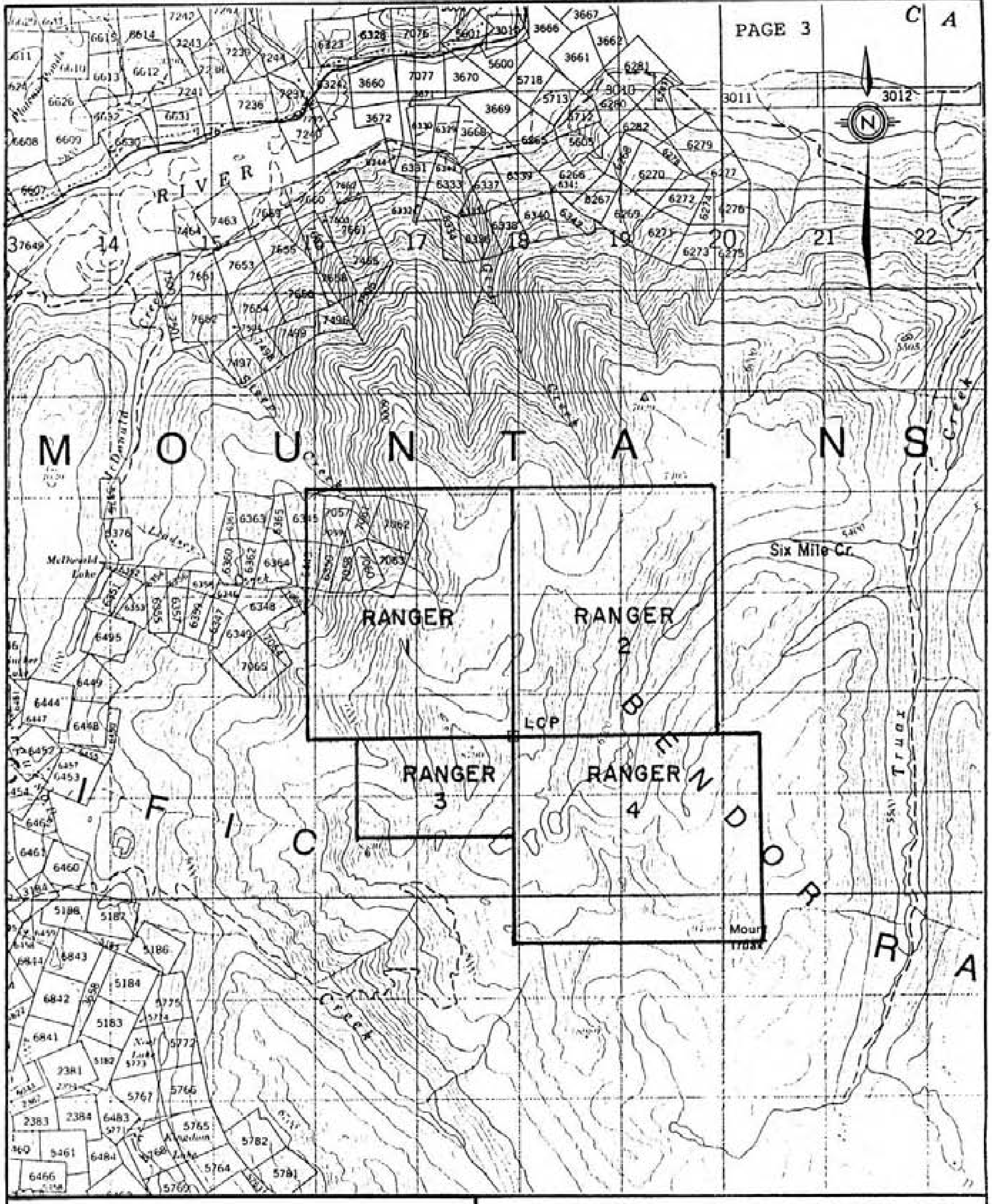
A one-day visit was made to the property in late June 1983 to complete reconnaissance mapping around the mineralized vein and to plan an exploration programme for later in the season. A programme of geological mapping, rock-chip sampling, and geochemical sampling of stream silts, soils where available, and talus fines where practical, was planned for mid-September. A four man crew was mobilized from Vancouver on September 13 and was lifted onto the property from Gold Bridge by helicopter. A succession of early, severe winter storms from September 15-18 left 20 centimetres of snow in the alpine bowls and high winds created snowdrifts one metre deep. As a result the geochemical sampling was



NEWMONT EXPLORATION OF CANADA LTD.

RANGER CLAIMS - INDEX MAP
LILOOET MINING DIVISION

SCALE 1:250,000	LOCATION 92 J	DATE Jan. 1984
SURVEY BY GMcL	DRAWN BY GMcL	NO. Fig. 1



1000 0 1000 2000 metres

Scale

NEWMONT EXPLORATION OF CANADA LTD.

RANGER CLAIMS – LOCATION MAP

LILOOET MINING DIVISION

SCALE 1:50,000	LOCATION 92 J / 15	DATE Jan. 1984
SURVEY BY G McL	DRAWN BY GMcL	NO. Fig. 2

cancelled and a modified geological mapping and rock-chip sampling programme was completed in accessible areas in order to meet the 1983 assessment committments. This work covered an area of approximately 250 hectares in the cirque and on the ridges adjacent to the main showing. A total of 109 rock chip samples were collected from this area and analyzed for 30 elements using an inductively coupled plasma technique.

A 1:10,000 scale enlargement of a portion of the 1:50,000 scale topographic map sheet 92J/15 was used as a base map for this project. Aerial photograph numbers B.C. 7788: 041-043 and B.C. 7788: 119-121 provide complete stereo coverage of the area. A 1:10,000 scale enlargement of photo B.C. 7788: 120 was used as an accurate plotting base that was readily transferable to the topographic base map.

2. History

The earliest recorded work completed in the area of the RANGER claims is described in the British Columbia Minister of Mines Annual Reports for 1945 and 1946. The ground was originally staked in 1944 by a prospector who located mineralized talus material. Following the discovery of an outcropping quartz vein well mineralized with arsenopyrite, Bralorne Mines Ltd. took out an option on the property (then known as the Ben d'Or) and explored the vein for approximately eight metres in an adit and in surface cuts. Sulphide rich (arsenopyrite and pyrite) portions of the quartz vein assayed up to 4.46 oz/ton gold and 7.5 oz/ton silver over a width of 30 centimetres (12 inches). A 66 centimetre (26 inch) section of adjacent wallrock assayed 0.4 oz/ton gold and 1.7 oz/ton silver. In 1945 three diamond drill holes, totalling approximately 62 metres in depth, were completed, however due to intensely sheared ground conditions core recovery was very poor and the results inconclusive, hence the company dropped its option.

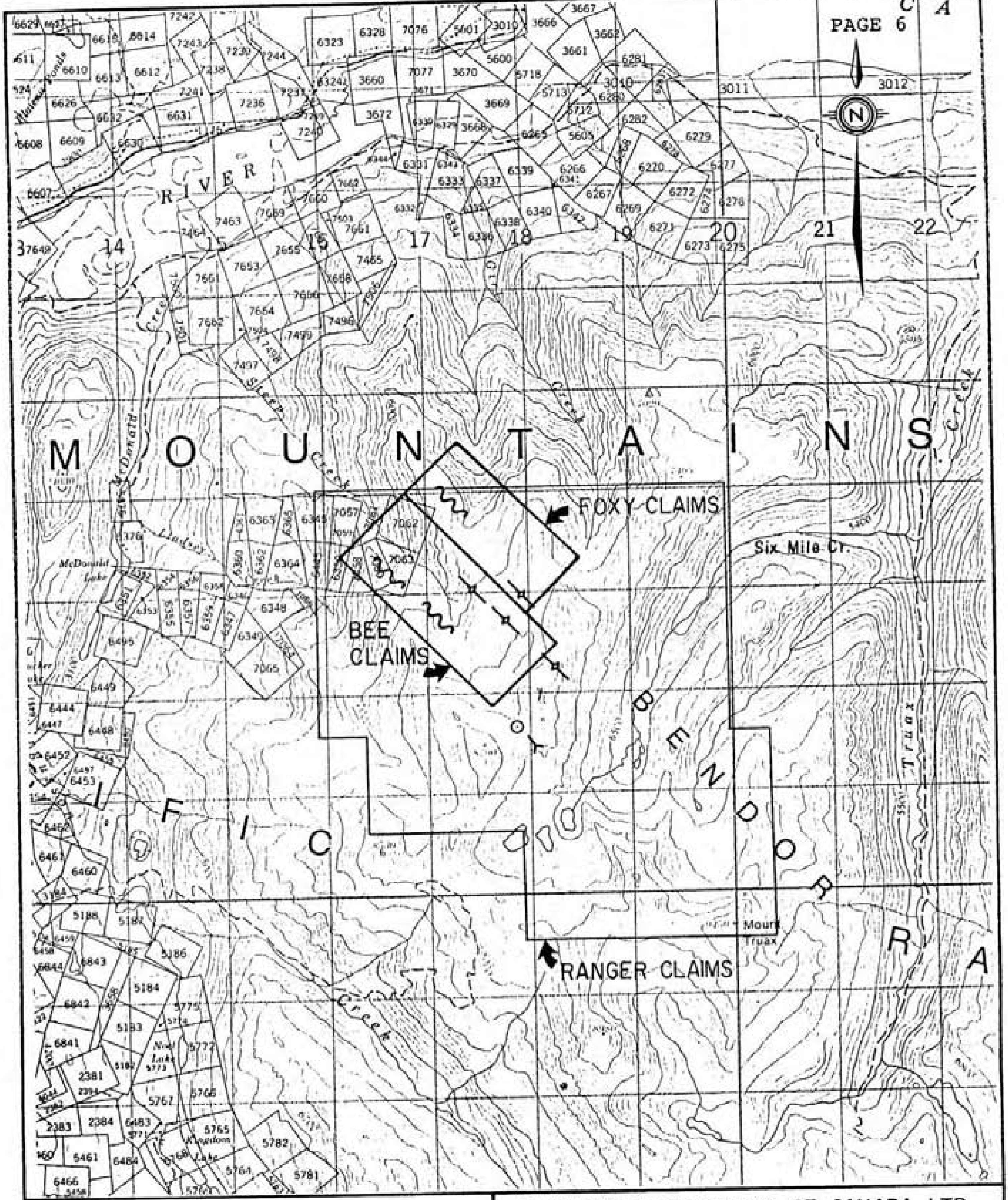
Any further work during this period consisted of small surface cuts and prospecting, however there is no record of this work.

The BEE 1-10 mineral claims were staked in 1974 at the head of Steep Creek in an area now covered by the RANGER 1 claim. The BEE claims were previously known as the A 1-10 claims, however no work was recorded on the A claims. The FOXY 1-8 claims were staked adjoining the BEE claims and the entire FOXY-BEE group was vended to Rabbit Oil and Gas Ltd., in 1980. Arsenopyrite mineralization was located in trenches in Steep Creek approximately 1.6 kilometres along strike from the Ranger adit area, however the exact location and nature of the trenching has notbeen recorded. An airborne VLF-electromagnetic and magnetic survey flown in 1981 over these claim groups (covering areas of the RANGER 1 and 2 claims) defined a number of weak conductors and two moderate magnetic trends. The location of this work is shown in Figure 3. No follow-up work was undertaken as the claims were allowed to lapse in late 1982.

The property is currently 100% owned and operated by Newmont Exploration of Canada Limited. The main economic potential of the area lies in defining a large tonnage zone of moderate grade gold mineralization within the structural and stratigraphic zone previously shown to contain indications of gold mineralization.

3. Claim Data

The RANGER 1-4 mineral claims, consisting of a total of 66 units, were staked on April 27, 1983. The claims are recorded in the Lillooet Mining Division as follows:



- ≺ adit
- ⊙ open cut
- VLF - EM conductor
- magnetic trend

0 1 2
Km

NEWMONT EXPLORATION OF CANADA LTD.

PREVIOUS WORK
RANGER CLAIMS AREA

SCALE 1:250,000	LOCATION 92 J/15	DATE JAN. 1984
SURVEY BY G McL	DRAWN BY GMcL	NO. Fig. 3

Claim Name	No of Units	Record Date	Record No.
RANGER 1	20	May 2, 1983	2404 (5)
RANGER 2	20	May 2, 1983	2405 (5)
RANGER 3	6	May 2, 1983	2406 (5)
RANGER 4	20	May 2, 1983	2407 (5)

Sampling and mapping completed in 1983 were concentrated near the legal corner post, hence work was performed on all four claims with a slight emphasis in the RANGER 3 and 4 claims.

4. Geology

4.1 Regional Geology

The general Gold Bridge area lies on the eastern flank of the Coast Plutonic Complex at a point where the eastern most crystalline plutons have intruded a Mesozoic sequence of sediments and volcanics (Figure 4). The oldest rocks in the area comprise an assemblage of chert, argillite, and intermediate to basic volcanics belonging to the Middle Triassic (and older?) Fergusson Group. These are overlain by a conformable sequence of Upper Triassic clastic sedimentary and volcanic rocks of the Cadwallader Group. The economically significant Bralorne Intrusives are contained within Cadwallader Group rocks. Younger sedimentary and volcanic rocks occur outside of the area of interest to the north and east.

The Fergusson Group rocks are warped into a broad northwest plunging antiform, bounded on the southwest by the Coast Range intrusives and on the northeast by the Yalakom Fault Zone. The Bendor Intrusions, a group of granodiorite to quartz diorite plutons related to the Coast Range intrusives, cut the southwest flank of the antiform.

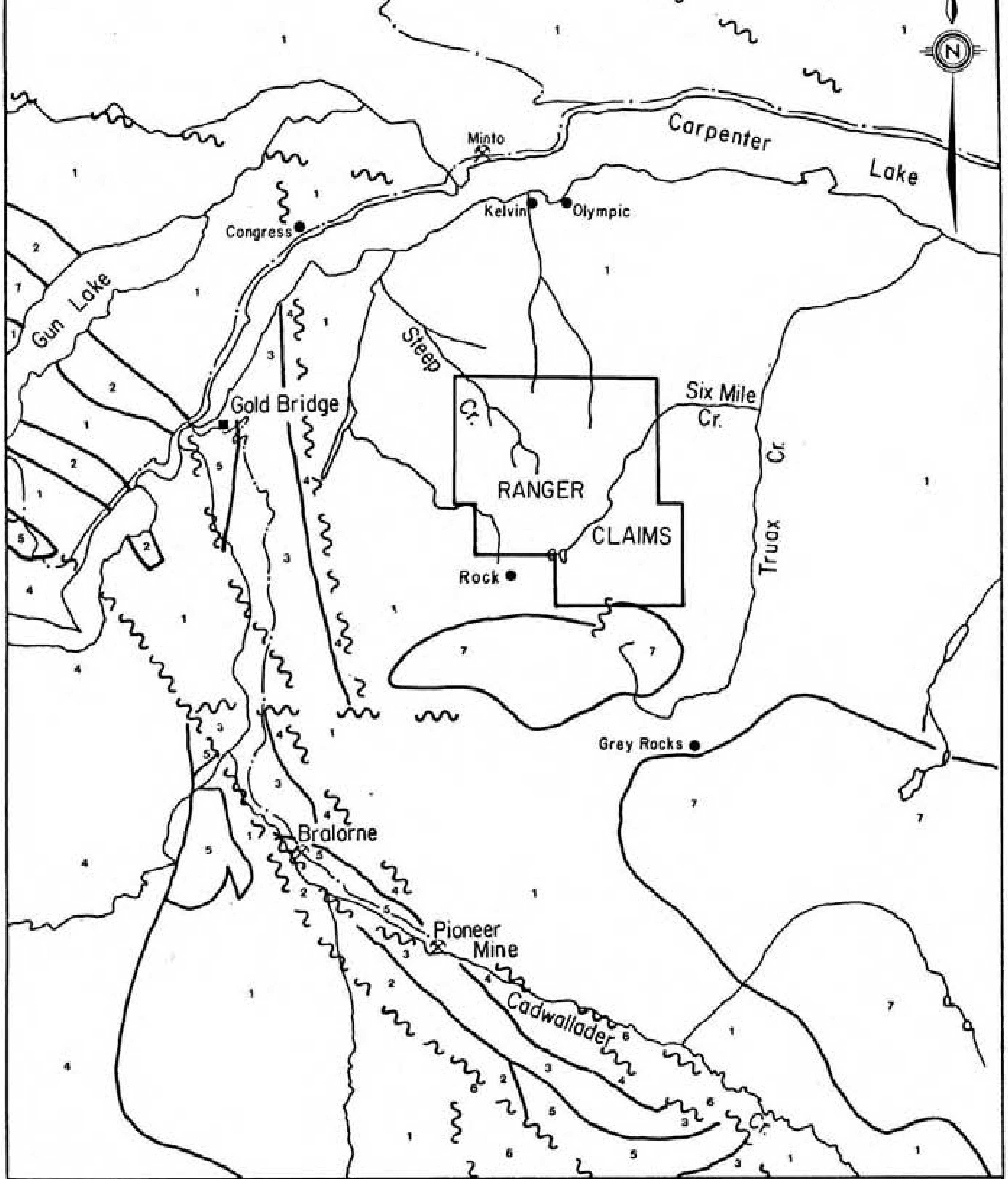
This area is the major gold camp in British Columbia with over 4.1 million ounces of gold production coming from the Bralorne-Pioneer mines in Cadwallader Creek valley. Just to the east of these mines, Fergusson Group rocks host numerous showings and old workings on gold bearing quartz veins and shear zones that commonly have an association with arsenopyrite or stibnite mineralization. The most significant producer from the Fergusson Group was the Minto mine with production of 18,000 ounces of gold and 98,000 ounces of silver. Gold occurrences are known immediately south of the property at Grey Rocks and Rock and to the north at Kelvin, Olympic and Congress (Figure 4).

4.2 Property Geology

The RANGER claims cover a section of Fergusson Group volcanics and sediments at the northern extremity of the Bendor Intrusives. Due to the inclement weather only a limited area of the claim group could be mapped this season. This work was concentrated on the original Ranger adit and associated showings (MMAR, 1946), and the cirque lying to the south of this adit, in an attempt to define the stratigraphic and/or structural characteristics of the mineralization. Figure 5 displays the results of this mapping. Rock exposure tends to be more extensive than the outcrop boundaries suggest in Figure 5, however due to the steep cliffs and snow cover, portions of the area were inaccessible. The stratigraphy in the area mapped tends to strike consistently northwest-southeast with dips ranging from vertical to steeply northeast or southwest.

4.2.1. Lithology

The intermediate to basic volcanic rocks range from green andesitic tuffs and flows to darker grey vesicular basalts. They outcrop to the southwest of the adit and on the upper and lower slopes of the ridge northeast of the adit. On this ridge, volcan-



2 0 2
km

4	Hurley Fm.	Cadwallader Group
3	Pioneer Fm.	
2	Noel Fm	
1	Fergusson Group	

7	Bendor intrusives
6	ultrabasic intrusives
5	Bralorne intrusives

NEWMONT EXPLORATION OF CANADA LTD.

GOLD BRIDGE AREA
REGIONAL GEOLOGY

SCALE 1:100,000	LOCATION 92J/15	DATE Jan. 1984
SURVEY BY	DRAWN BY GMcL	NO. Fig. 4

ics vary from fine grained grey flows to pale green feldspar crystal tuffs, often with coarser lapilli and fragmental textured horizons. The matrix tends to be quite calcareous and limestone pods up to one metre long are common. Thin horizons (five metres thick) of cherty argillite and some beds of limestone are also present. Minor amounts of pyrite and pyrrhotite are common in the volcanics, but these tend to increase slightly in the sediment horizons along this section.

To the southwest of the adit a large outcrop of darker grey-green, vesicular and weakly pillowed lava is cut by a prominent fracture set trending approximately east-west and dipping to the north at moderate angles. Locally, these fracture zones are limonitic and bleached with weak to moderately silicified selvages around veins up to ten centimetres wide that contain quartz and calcite with or without arsenopyrite, chalcopyrite and pyrite. A similar basic volcanic with mineralized veinlets was located approximately 700 metres to the southeast of the adit at the toe of the steep ridge forming the eastern wall of the main cirque. Petrographic work recorded by Stevenson (MMAR, 1946) indicates that much of the dark green lava is augite or hornblende andesite with an andesine plagioclase groundmass.

Siliceous cherty sediments hosting the adit mineralization can be traced across the cirque to the south for at least 900 metres. Included in this map-unit are thinly bedded cherts, cherty argillites, and silicified chert breccias. The well bedded members display resistant, grey weathering chert layers two to five centimetres thick, separated by black siliceous argillite laminae a few millimetres thick. Dark grey argillite associated with the chert appears similar to the clastic argillite exposed elsewhere except for the degree of silicification in the cherty environment. Brecciated sections contain angular fragments of grey chert up to ten centimetres across set in a cherty argillite matrix. Outcrops of brecciated material are common but appear to be localized lenses as they are difficult to trace along strike. Disseminated pyrite and some pyrrhotite are common throughout all of the cherty rocks, as is an intense microfracturing system that develops a myriad of hairline siliceous cracks through the rock.

Strong shearing in cherty argillite adjacent to the adit has led to the development of a zone of brecciated, gossanous textures. Petrographic studies (Stevenson, MMAR, 1946) show strong replacement by sericite and ankerite. The ankerite has then been oxidized to limonite, which has cemented sheared material in place, as well as surficial material transported slightly downslope.

Cherty breccias located in a ridge saddle approximately 900 metres southwest of the adit contain angular, white chert fragments set in a fine, grey, siliceous matrix. In places, these breccias include fine crystalline fragments, suggesting the possibility of a felsic tuffaceous input to these sediments. Further examination of this zone to the north is necessary.

The clastic sedimentary package, mapped mainly on the ridge to the west of the adit, consists of soft, grey-brown weathering, fine grained argillite with lesser amounts of slightly coarser greywacke. Graded bedding is locally visible with tops facing to the west. These rocks are often quite limonitic, due to considerable amounts of finely disseminated pyrite. Horizons including fine fragments of white feldspar crystals and wispy quartz shards again suggest some tuffaceous input from a felsic volcanic source. The fine argillaceous sediments have been hornfelsed into a dense, massive to finely laminated rock adjacent to the intrusive bodies. Stevenson (MMAR, 1946) noted fine angular quartz fragments in thin sections of this material and suggested it was derived from argillaceous tuff.

The clastic sediments commonly have a calcareous matrix and contain limestone pods. Two extensive pale grey limestone horizons are clearly visible on the slope to the northeast of the camp. The largest body, approximately 30 metres wide and exposed for 150 metres conformably with the general bedding orientation, is a white, sucrosic, recrystallized limestone showing very irregular contacts with the adjacent limy sediments. This entire sedimentary package is truncated at the base of the slope by a dioritic intrusion.

Bodies of brown weathering serpentinite are present on either side of the adit area. The original dark green acicular serpentine minerals have been widely carbonatized, resulting in a pitted, granular, brown ankeritic weathering material. Minor quartz-carbonate veining was noted in this rock but very little sulphide mineralization or limonite staining was seen.

Intrusive rocks on the property consist of an augite/hornblende diorite to quartz diorite suite, and a granodiorite plug related to the Bendor Intrusions. Extensive outcrops of augite and hornblende diorite occur on the ridge west of the adit and on the slopes to the south and east of the camp. This is a grey-brown weathering rock with dark grey fresh surfaces showing phenocrysts of black hornblende or augite and grey feldspar, with lesser biotite, set in a fine grained grey matrix. Textures vary considerably with the finer grained varieties closely resembling some of the basic volcanic rocks. Locally, brecciated zones within the diorite have been partially infilled by quartz-carbonate veining. Large limonitic zones in the diorite forming the southeast cirque wall are due to isolated pods of increased pyrite content, occurring as disseminations or as fracture fillings.

The peak on the south side of the cirque is a massive, blocky fracturing, pale grey granodiorite with pinkish-grey fresh surfaces containing potassic and plagioclase feldspars, quartz and biotite. This intrusive shows a prominent east-west fracture set, dipping moderately to the south. Secondary biotite alteration and hornfelsing are the common contact metamorphic effects in the sediments and in the diorite adjacent to this younger felsic intrusive.

4.2.2 Structure

The property lies on the southwest flank of a major northwesterly plunging antiform in the Fergusson Group, however no significant minor fold structures reflecting the major fold were observed. A few minor folds were noted in the argillaceous sediments, however these had variable orientations and may be drag folds related to fracturing induced by the dioritic intrusions.

The main showing is hosted in a northwesterly trending shear zone reported to be up to 60 metres wide (MMAR, 1946). Strongly sheared cherty sediments were mapped 300 metres to the southeast of the adit (sample point 00972) and in rocks exposed in an old cut in the saddle 200 metres above and northwest of the adit. Further mapping aimed at defining the known length and width of this shear zone should be completed.

Prominent fracture sets are present on both the north and south walls of the cirque. As previously mentioned some of these host arsenopyrite-chalcopyrite-quartz-carbonate veins where they cut basic volcanics to the southeast and southwest of the adit. Further detailed prospecting and interpretation of these fractures, particularly in the basic volcanics and in their relation to the main shear zone mentioned above, is warranted.

4.2.3 Mineralization

Any mineralization located on the property to date is related to shear zones or small fractures within the belt of volcanics and sediments striking northwesterly across the open end of the cirque (sample point 05346) towards the saddle and the adit (sample points 910, 959, 965). Further similar mineralization is recorded in the Steep Creek valley on the old BEE claims, indicating that traces of gold bearing arsenopyrite mineralization are present over a strike distance of approximately 2.5 kilometres. When viewed from the air a number of prominent limonitic zones lie approximately along the strike of this mineralized trend from Mt. Truax in the southeast to Steep Creek in the northwest.

Samples from this zone providing anomalous precious metal values are summarized in Table 1. These samples also provided anomalous results in some or all of the following elements: Pb, As, Sb, Co, Mo, Bi, and W. Other samples taken from limonitic or siliceous outcrops within this general northwest trending zone of interest all returned relatively low geochemical results in both precious and base metals. These lower analyses are discussed further in Section 5.0.

As the adit has collapsed the vein exposed inside was not open for inspection, however a grab sample from the dump containing massive fine grained arsenopyrite and minor pyrite in a well fractured quartz matrix returned analyses of 1.6 oz/ton gold and 1.5 oz/ton silver (sample 00910). Sample 05346, taken along a 12 centimetre wide arsenopyrite veinlet located 900 metres southeast of the adit, assayed 0.17 oz/ton gold and 0.41 oz/ton silver. All the arsenopyrite veinlets sampled returned anomalous geochemical results, however samples taken from the adjacent limonitic wall rocks often provided very low results (compare samples 05346-vein, and 05347-wallrock). Sample 00965 was taken from locally brecciated hornblende diorite containing disseminated pyrite and pyrrhotite immediately adjacent to the main mineralized shear zone and returned anomalous gold values. However strongly sheared volcanics along strike to the southeast of the shear zone (samples 00970, 00971) returned no anomalous analyses. Rock exposure within the shear zone is limited and elevated geochemical analyses from this zone are erratic.

A strong shear was exposed in an old pit (the Moore cut) in the saddle above the adit (MMAR, 1946). This was not readily visible due to slumping in the pit and snow cover, however quartz veining with pockets of tourmaline is reportedly present. Tourmaline is reported from the adit veins and was observed in our mapping in fractures in cherty argillite adjacent to the adit. Boron

TABLE 1

SUMMARY OF SIGNIFICANT ROCK-CHIP GEOCHEMICAL ANALYSES

*Au values in ppb; all others in ppm

Sample No.	Sample Width	Au *	Ag	Cu	Pb	Zn	Mo	Co	As	Sb	Bi	W	Comments
00909	2 m	39	1.0	226	71	456	5	73	2,611	22	2	2	gossanous, brecciated cherty argillite
00910	grab	53,500	50.0	45	4,520	20	17	2,623	36,843	1,117	1,390	34	quartz-arsenopyrite vein: grab sample from dump
00955	1.5 m	85	5.8	542	48	36	1	14	1,994	2	85	3	arsenopyrite veinlet in basalt
00958	1 m	215	6.6	144	121	105	1	24	7,404	2	14	2	arsenopyrite veinlet in basalt
00959	2.5 m	675	30.0	10,035	12	56	9	43	32,904	20	579	475	arsenopyrite veinlet in basalt
00960	2.5 m	22	1.8	592	14	50	1	14	3,517	2	56	33	arsenopyrite veinlet in basalt
00965	3 m	255	.3	138	10	20	1	12	81	2	4	2	pyritic, brecciated hornblende diorite
00968	2 m	95	7.3	82	845	1,592	1	11	879	9	2	2	limonitic fracture in sediments 90 m along strike of vein at 00955
05346	12 cm	5,700	14.2	1,254	332	126	7	45	31,593	260	25	7	arsenopyrite veinlet in basalt
05347	3 m	28	.3	130	5	35	1	26	321	2	2	15	basalt wallrock of 05346

analyses from the mineralized veins tend to be low hence this association will not likely provide an indicator to mineralization.

5.0 Rock Chip Geochemistry

A total of 109 rock chip samples were collected in the course of mapping the property. Samples were normally taken over widths of one to three metres with emphasis on detailed sampling of:

1) the limonitic sections of the broad sediment-volcanic sequence hosting the mineralization,
2) the local environment of the arsenopyrite veinlets mapped, and
3) any other favourable or representative rock types encountered.

All sample locations are plotted in Figure 6.

Rock chip samples were collected from a continuous section across a specified width, or in some cases, within a specified panel. Sample weights ranged from approximately one to two kilograms. The samples were prepared and analyzed at Acme Analytical Laboratories in Vancouver for 30 elements by the Inductively Coupled Plasma (ICP) technique. In this method a 0.5 gram sample is digested with three millilitres of a 3:1:3 hydrochloric acid-nitric acid-water solution at 90°C for one hour. This solution is then diluted to ten millilitres with water and analyzed in the I.C.P. unit. Since the gold detection limit is three ppm using ICP, a separate fire assay with atomic absorption finish on a ten gram sample was completed on each rock chip sample as well.

The complete results of the geochemical ICP analyses are presented in Table 2. The distribution of samples relative to host rock type is displayed in Figure 7. None of these lithologic sub-populations provide a significant data base for statistical determination of mean or threshold values. However, our 1983 prospecting of similar lithologies and mineralized environments within the Fergusson Group of the Gold Bridge area provides a broader data base on which to interpret background and anomalous rock-chip geochemical analyses. Threshold values segregating background to weakly anomalous from anomalous levels, determined using a probability plot method, are given in Table 3 for elements providing a sufficiently broad data base for interpretation. Only cherty and silicified sediments, and basic volcanic host rocks are tabulated, as these are the only lithologies providing a sufficiently large data population (214 and 80 samples respectively).

These threshold values suggest levels of gold and gold indicator elements such as arsenic and antimony are somewhat higher in the cherty sediments but the data base is not large enough to confidently confirm this. No distinctive horizon of anomalous metal values can be defined within the limited area sampled on the property to date. The volcanic-sedimentary assemblage hosting the arsenopyrite vein mineralization shows only weakly elevated gold values in non-veined sections. As expected arsenic anomalies are present in the fractured basalts adjacent to the veinlets, however the anomalies are not extensive. Anomalous copper values occur scattered through the basic volcanics and the dioritic intrusives. All other anomalies occur immediately adjacent to mineralized veins and were described in Section 4.2.2.

The ICP analyses have indicated that a number of elements show a positive correlation in concentrations with elevated precious metal values and therefore may be of use as pathfinder indicators. In studying Tables 1 and 2 it appears that:

1) As, Cu, and Pb concentrations are consistently elevated, and
2) Sb, Bi, and W concentrations may be elevated, in mineralized rocks relative to the general country rocks.

Concentrations of cobalt, molybdenum and zinc appear to be too erratic to be of practical use. In future work, particular attention should be paid to As, Cu, Pb, Sb, Bi, and W concentrations in all samples.

TABLE 2

ROCK-CHIP GEOCHEMISTRY

ICP GEOCHEMICAL ANALYSIS

Sample No. all values in ppm unless otherwise indicated	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe %	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca %	P %	La	Cr	Mg %	Ba	Ti %	B	Al %	Na %	K %	W	Au ppb
907 ▲	1	74	7	22	.2	79	13	198	2.50	70	16	ND	2	177	1	2	2	59	2.21	.13	7	54	.75	191	.06	5	3.54	.38	.25	2	[illegible]
908 ▲	1	255	7	24	.1	33	10	162	5.69	75	7	ND	2	73	1	2	2	177	.97	.32	10	26	.77	67	.19	3	2.24	.12	.39	2	9
909 ▲	5	226	71	436	1.0	307	73	2326	18.05	2611	8	ND	2	26	1	22	2	96	.26	.06	5	55	.65	86	.01	2	1.65	.02	.19	2	39
910 ★	17	45	4520	20	50.0	142	2623	25	21.88	36843	8	58	2	20	1	1117	1390	22	.01	.01	3	1	.02	2	.01	2	.27	.01	.02	34	53500
911 ▲	1	58	12	26	.4	238	28	293	3.14	519	21	ND	2	195	1	5	5	51	2.63	.08	2	79	1.56	227	.09	8	3.40	.25	.42	2	63
912 ▲	4	37	12	44	.3	15	5	208	2.50	347	2	ND	3	22	1	5	5	48	.19	.04	6	29	.56	112	.03	5	1.31	.04	.35	2	58
913 ▲	1	55	10	73	.2	54	25	494	5.19	40	21	ND	2	92	1	5	2	115	2.38	.14	2	40	1.17	112	.11	8	3.83	.21	.90	5	16
914 □	1	49	9	42	.1	98	26	715	4.64	336	2	ND	2	253	1	2	2	129	7.93	.05	2	205	3.03	41	.01	18	2.13	.05	.02	2	14
915 ▲	2	106	8	77	.5	37	9	160	2.69	421	2	ND	2	34	1	31	2	21	.24	.03	13	14	.12	78	.01	10	.31	.01	.14	2	102
R-00936 ○	1	47	7	16	.2	178	26	295	2.37	15	6	ND	2	58	1	2	2	10	1.79	.01	2	100	4.33	20	.01	4	5.74	.09	.01	2	8
R-00937 ○	1	41	8	20	.1	11	12	299	3.71	5	4	ND	2	35	1	2	2	146	2.01	.06	2	11	.70	8	.14	8	2.53	.25	.04	2	9
R-00938 ○	2	123	6	12	.3	12	8	136	3.56	38	2	ND	2	32	1	2	2	34	1.23	.06	9	23	.57	17	.08	9	2.47	.19	.07	2	9
R-00939 ●	1	75	4	40	.2	16	10	336	3.06	8	14	ND	2	85	1	2	2	94	2.81	.05	2	39	.98	626	.17	8	4.17	.22	.73	2	8
R-00940 ●	1	86	5	27	.2	14	9	138	2.32	20	4	ND	2	59	1	2	2	77	1.46	.04	2	31	.61	161	.13	7	3.52	.22	.47	2	6
R-00941 ●	2	42	3	29	.1	110	11	149	2.07	31	4	ND	2	53	1	2	2	79	.87	.06	6	177	1.38	407	.23	5	2.87	.27	.81	2	2
R-00942 ▲	14	40	4	22	.1	76	10	114	2.40	9	2	ND	2	42	1	2	2	68	.74	.10	9	121	.95	377	.15	5	2.00	.18	.54	2	2
R-00943 ▲	3	52	6	23	.2	198	16	79	1.97	8	6	ND	2	105	1	2	2	71	1.87	.10	5	168	1.51	898	.17	5	4.35	.30	.79	2	3
R-00944 ○	1	272	7	29	.4	58	22	151	4.01	7	11	ND	2	262	1	2	2	76	3.99	.41	14	13	.11	39	.14	10	4.82	.52	.04	2	21
R-00945 ○	2	163	5	34	.4	54	19	248	2.79	18	2	ND	2	77	1	2	2	90	1.84	.13	8	60	.87	58	.17	4	1.64	.24	.33	8	28
R-00946 ○	1	108	1	23	.1	78	17	288	2.41	6	2	ND	2	30	1	2	2	68	1.33	.10	7	96	.79	23	.21	12	1.25	.29	.06	2	28
R-00947 ○	3	63	3	27	.1	103	11	180	2.04	19	2	ND	2	21	1	2	2	58	.34	.03	3	101	.95	577	.12	4	1.36	.09	.35	2	3
R-00948 ○	3	72	6	39	.2	18	10	414	2.58	9	3	ND	2	48	1	2	2	86	1.92	.06	4	31	.74	230	.09	9	3.14	.35	.31	2	6
R-00949 ▲	2	28	6	10	.1	223	12	78	.93	5	4	ND	2	62	1	2	2	27	1.79	.06	6	176	.93	682	.04	5	3.78	.39	.26	2	1
R-00950 ▲	2	50	3	44	.1	61	11	237	3.16	11	2	ND	2	33	1	2	2	117	.68	.07	4	108	1.49	431	.26	4	2.83	.20	1.09	2	2
R-00951 ▲	1	37	7	50	.2	164	17	307	2.78	16	5	ND	2	70	1	2	2	98	1.90	.08	8	228	2.16	407	.21	6	4.12	.26	.97	2	6
R-00952 ▲	4	62	7	58	.1	78	13	210	2.76	37	4	ND	2	101	1	2	2	112	1.59	.12	8	114	1.44	936	.18	7	3.43	.33	.68	2	3
R-00953 ▲	2	38	4	87	.2	15	6	459	4.57	5	2	ND	2	17	1	2	2	137	.39	.12	4	48	1.05	1106	.30	3	2.65	.07	1.44	2	1
R-00954 ▲	2	38	8	148	.2	24	9	215	5.78	13	4	ND	2	15	1	2	2	137	1.32	.39	17	9	.58	779	.05	4	2.27	.09	1.13	2	24
R-00955 ★	1	542	48	36	5.8	7	14	527	10.28	1994	6	ND	2	48	2	2	85	83	4.02	.15	4	5	1.09	80	.24	2	2.54	.10	.84	3	85
R-00956 ★	1	216	147	90	1.0	20	12	525	6.17	68	7	ND	2	59	1	2	2	90	3.26	.22	9	25	1.09	135	.14	5	3.14	.14	1.32	2	11
R-00957 □	1	166	11	120	.1	9	17	543	6.85	256	2	ND	2	40	1	2	2	48	1.62	.13	6	6	1.40	183	.37	3	4.14	.23	1.89	2	5
R-00958 ★	1	144	121	105	6.6	17	24	572	8.09	7404	5	ND	2	54	2	2	14	40	2.39	.08	5	5	1.14	207	.13	6	3.45	.22	1.49	2	215
R-00959 ★	9	10035	12	56	30.0	11	43	175	22.29	32904	2	ND	2	10	1	20	579	62	.37	.21	8	4	.60	26	.09	2	1.22	.05	.27	475	475
R-00960 ★	1	597	14	58	1.8	6	14	309	10.23	3517	2	ND	2	33	1	2	56	55	1.35	.19	10	5	1.03	125	.16	4	2.84	.19	1.37	33	22
R-00961 ■	2	87	3	11	.3	1148	55	193	2.70	481	2	ND	2	7	1	5	4	17	.13	.01	2	420	2.75	216	.01	17	.56	.01	.01	2	2
R-00962 ▲	3	50	4	20	.1	213	17	137	2.00	89	3	ND	2	90	1	2	2	48	1.21	.05	3	131	1.33	298	.10	5	2.85	.21	.52	2	2
R-00963 □	3	67	9	44	.2	176	22	196	2.84	167	4	ND	2	99	1	2	2	96	1.39	.09	6	153	1.98	517	.18	4	3.68	.25	.92	2	2
R-00964 ▲	2	55	1	22	.1	127	15	145	1.94	40	2	ND	2	62	1	2	2	36	.65	.07	4	90	1.29	356	.11	3	1.78	.14	.42	2	1
R-00965 ○	1	138	10	20	.3	24	12	192	3.06	81	11	ND	2	204	1	2	4	93	2.61	.31	6	12	.71	77	.11	4	3.97	.36	.09	2	255

▲ cherty sediment □ basic volcanic ● argillaceous sediment ■ serpentinite ○ diorite ★ vein

TABLE 2 (Cont'd)

ICP GEOCHEMICAL ANALYSIS

all values in ppm unless otherwise indicated

Sample No.	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe %	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca %	P %	La	Cr	Mg %	Ba	Ti %	B	Al %	Na %	K %	W	Au ppb
R-00966 ●	1	70	4	66	.1	20	13	244	4.00	18	4	ND	2	44	1	2	2	128	.72	.04	3	47	1.04	225	.14	5	3.87	.19	.94	2	3
R-00967 ●	1	67	6	66	.1	19	13	251	4.10	29	6	ND	2	36	1	2	2	137	.35	.05	4	47	1.05	234	.14	4	3.58	.16	.89	2	1
R-00968 ●	1	82	845	1592	7.3	135	11	1714	3.92	879	2	ND	2	47	14	9	2	37	1.11	.05	4	94	1.20	63	.01	12	1.55	.04	.30	2	95
R-00969 ●	1	39	7	53	.1	21	18	327	4.51	62	2	ND	2	73	1	2	2	168	.64	.06	2	20	1.40	24	.09	3	2.48	.19	.12	2	4
R-00970 □	1	43	9	59	.1	42	15	436	3.49	33	3	ND	2	64	1	2	2	89	2.24	.09	7	66	1.37	342	.20	4	2.66	.21	.59	2	1
R-00971 □	1	30	5	21	.1	36	14	267	2.71	17	4	ND	2	59	1	2	2	96	1.67	.05	2	59	1.10	122	.11	5	2.47	.27	.06	2	1
R-00972 ▲	4	63	7	65	.3	21	6	406	2.02	29	2	ND	2	7	1	2	2	28	.15	.02	11	23	.42	95	.03	5	1.01	.01	.44	2	3
R-00973 ▲	3	36	7	38	.1	26	9	306	2.57	25	5	ND	2	579	1	2	2	51	2.06	.06	2	18	.76	377	.04	6	5.53	.34	.41	2	4
R-00974 ▲	1	33	5	19	.1	83	17	209	1.76	65	7	ND	2	256	1	2	2	47	3.76	.07	3	64	.91	77	.16	5	5.03	.19	.24	3	15
R-00975 ▲	1	65	8	56	.1	56	21	566	4.66	18	14	ND	2	234	1	2	2	132	2.77	.18	4	123	.99	350	.22	3	5.92	.40	1.34	2	6
R-00976 ▲	1	49	11	33	.1	74	21	286	3.33	29	8	ND	2	187	1	2	2	101	4.00	.15	6	100	.86	261	.19	6	6.32	.45	.61	2	16
R-00977 ▲	3	52	6	64	.1	25	7	414	1.94	31	2	ND	2	21	1	4	2	48	.31	.03	7	27	.47	110	.04	6	1.70	.07	.28	2	5
R-00978 ▲	4	54	4	64	.1	42	11	241	2.30	12	2	ND	2	64	1	2	2	75	1.11	.04	4	56	.86	175	.12	4	2.57	.27	.53	2	2
R-00979 □	1	150	10	134	.1	60	33	782	6.69	20	4	ND	2	31	1	2	2	155	.61	.09	13	68	.78	162	.17	4	3.64	.19	1.13	2	4
R-00980 ■	2	37	7	28	.1	824	47	343	3.47	4	4	ND	2	20	1	2	2	47	.36	.03	4	947	7.93	25	.01	33	2.41	.01	.03	2	1
R-00981 ○	2	35	3	22	.1	20	8	242	2.72	8	2	ND	3	37	1	2	2	85	.69	.08	5	33	1.05	122	.13	5	1.64	.10	.19	2	2
R-05301 ▲	3	102	6	67	.1	88	19	280	3.81	28	2	ND	2	63	1	2	2	94	1.28	.09	6	112	1.20	203	.15	6	3.20	.30	.73	2	1
R-05302 ■	2	47	6	26	.1	979	63	651	3.79	8	5	ND	2	9	1	2	2	44	.16	.01	2	1265	9.67	20	.01	45	2.80	.01	.03	2	1
R-05303 □	1	46	4	41	.1	92	19	344	2.83	12	9	ND	2	57	1	2	2	72	2.91	.08	4	152	1.86	125	.14	6	2.51	.26	.38	2	4
R-05304 □	1	46	5	58	.1	90	24	417	4.71	8	6	ND	2	66	1	2	2	102	3.98	.06	3	194	1.45	84	.17	13	2.34	.28	.71	2	1
R-05305 □	1	73	3	43	.1	76	18	440	2.84	8	10	ND	2	54	1	2	2	77	3.05	.08	3	165	1.23	43	.15	8	2.72	.37	.29	2	1
R-05306 ■	3	19	7	30	.1	1535	78	563	4.55	36	2	ND	2	5	1	2	2	13	.11	.01	2	235	13.95	6	.01	40	.28	.01	.02	2	1
R-05307 ■	3	24	8	22	.1	1653	83	420	4.60	47	2	ND	2	4	1	2	2	12	.18	.01	2	241	13.53	8	.01	76	.30	.01	.03	2	3
R-05308 ▲	12	27	6	70	.1	29	6	531	3.83	17	2	ND	2	9	1	2	2	94	.09	.03	9	35	.99	211	.22	4	2.47	.06	1.25	2	1
R-05309 ▲	9	21	9	52	.1	27	5	535	3.59	17	2	ND	2	14	1	2	2	82	.23	.07	8	31	.95	267	.16	4	2.41	.10	1.09	2	2
R-05310 ▲	3	29	5	65	.1	22	9	599	4.18	35	2	ND	2	10	1	2	2	102	.18	.06	8	36	.98	271	.18	4	2.76	.06	1.17	2	1
R-05311 ▲	2	26	9	52	.1	20	7	498	3.67	14	2	ND	2	9	1	2	2	88	.16	.05	8	42	.96	238	.15	4	2.38	.07	1.01	2	1
R-05312 ▲	3	47	6	52	.1	19	8	513	3.39	14	2	ND	2	21	1	2	2	80	.35	.04	7	35	.84	212	.15	6	2.48	.10	.94	2	2
R-05313 ▲	3	49	8	57	.1	17	6	447	2.72	7	2	ND	2	18	1	3	2	64	.27	.02	7	38	.67	242	.11	3	2.16	.15	.74	2	4
R-05314 ▲	16	23	8	72	.1	14	6	538	3.52	16	2	ND	2	11	1	2	2	82	.22	.04	6	27	.77	353	.16	3	2.60	.09	1.07	2	1
R-05315 ▲	4	22	7	69	.1	9	5	493	3.17	9	2	ND	2	16	1	2	2	58	.49	.06	6	17	.55	297	.12	3	2.08	.10	.72	2	1
R-05316 ▲	15	52	6	48	.1	15	15	632	2.85	40	2	ND	2	8	1	2	2	61	.17	.03	6	21	.53	287	.11	2	1.83	.07	.68	2	1
R-05317 ▲	2	30	8	70	.1	12	8	696	3.92	18	2	ND	2	16	1	2	2	94	.23	.05	7	22	.78	440	.17	3	2.51	.09	1.06	2	1
R-05318 ▲	9	25	5	63	.1	12	7	647	3.40	19	2	ND	2	11	1	2	2	70	.26	.04	7	21	.69	306	.15	3	2.00	.09	.90	2	2
R-05319 ▲	3	30	7	65	.1	11	6	536	4.12	25	2	ND	2	16	1	2	2	105	.21	.04	6	25	.71	411	.23	2	2.71	.09	1.12	2	4
R-05320 □	3	149	18	132	.1	89	16	1400	5.79	11	2	ND	2	60	1	2	2	129	1.41	.14	7	81	1.29	213	.20	3	4.14	.18	1.27	2	5
R-05321 □	2	94	11	91	.1	82	22	629	5.36	10	5	ND	2	86	1	2	2	129	1.93	.10	5	175	1.02	241	.15	4	4.36	.39	.89	2	1
R-05322 □	1	39	6	38	.1	13	17	274	3.70	6	2	ND	2	29	1	2	2	113	1.59	.22	16	17	.64	57	.13	5	1.69	.24	.15	2	2
R-05323 □	1	57	4	89	.1	89	20	307	4.64	13	2	ND	2	55	1	2	2	116	1.57	.09	2	189	.99	122	.17	3	3.59	.75	1.00	2	4
R-05324 □	1	60	5	49	.1	85	21	452	4.23	9	9	ND	2	35	1	2	2	90	2.97	.08	2	214	1.37	80	.21	8	1.81	.22	.64	2	2
R-05325 □	1	68	5	35	.1	87	20	396	3.31	11	4	ND	2	75	1	2	2	80	1.87	.11	6	101	1.04	66	.25	3	2.43	.27	.65	2	42
R-05326 ▲	1	43	6	71	.1	40	16	263	4.26	6	2	ND	2	38	1	2	2	116	.93	.13	5	75	1.27	662	.14	3	2.52	.22	.79	2	2

▲ cherty sediment □ basic volcanic ● argillaceous sediment ■ serpentinite ○ diorite

TABLE 2 (Cont'd)

ICP GEOCHEMICAL ANALYSIS

all values in ppm unless otherwise indicated

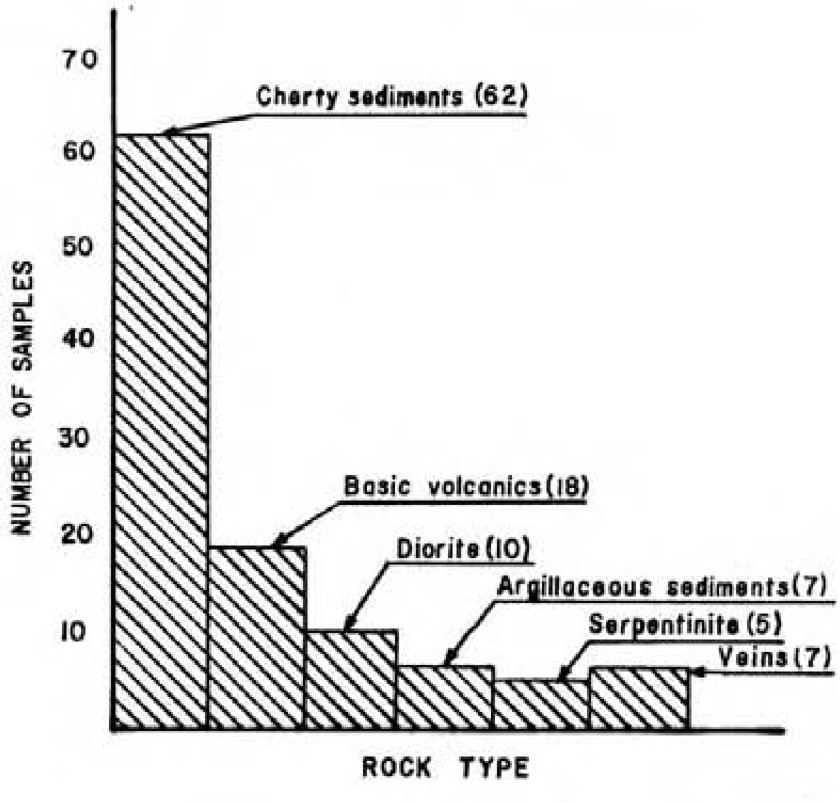
Sample No.	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe %	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca %	P %	La	Cr	Mg %	Ba	Ti %	B	Al %	Na %	K %	W	Au ppb
R-05327 ▲	3	49	7	65	.2	83	13	255	3.02	10	2	ND	2	87	1	2	2	109	1.25	.07	5	112	1.53	745	.14	2	3.57	.28	.96	2	3
R-05328 ▲	2	56	8	92	.1	36	12	446	4.85	12	2	ND	2	39	1	2	2	148	.70	.10	5	59	1.31	579	.17	3	4.44	.25	1.36	2	1
R-05329 ▲	1	61	6	90	.1	25	11	381	4.67	9	3	ND	2	37	1	2	2	125	.66	.10	5	40	1.25	447	.15	2	4.28	.22	1.57	2	1
R-05330 ▲	1	46	7	87	.2	29	11	461	5.16	9	5	ND	2	22	1	2	2	129	.39	.09	4	48	1.42	555	.19	2	3.75	.11	1.65	2	1
R-05331 ▲	1	56	7	92	.2	20	10	391	4.85	9	3	ND	2	40	1	2	2	148	.49	.10	3	38	1.39	755	.22	2	3.77	.18	1.77	2	1
R-05332 ▲	3	48	5	23	.1	166	14	141	1.54	16	2	ND	2	76	1	2	2	52	1.49	.08	7	180	1.17	427	.17	5	3.37	.33	.62	2	1
R-05333 ▲	5	45	3	52	.1	124	12	229	2.31	15	2	ND	2	25	1	2	2	62	.35	.04	5	180	1.27	710	.19	4	1.61	.10	.56	2	1
R-05334 ▲	3	40	2	56	.1	36	11	238	2.79	13	2	ND	2	26	1	2	2	111	.72	.16	6	74	.86	326	.22	2	1.96	.16	.90	2	1
R-05335 ▲	2	29	1	58	.1	30	6	277	3.31	5	4	ND	2	9	1	2	2	95	.15	.05	2	96	1.39	249	.31	3	2.22	.06	1.31	2	1
R-05336 ▲	2	40	1	34	.1	90	8	172	2.26	12	2	ND	2	20	1	2	2	63	.32	.05	3	81	1.27	255	.20	3	1.79	.07	.76	2	1
R-05337 ▲	2	47	4	32	.1	250	16	189	1.48	63	2	ND	2	109	1	5	2	41	1.37	.07	5	151	1.10	449	.12	4	2.95	.21	.52	2	10
R-05338 ▲	2	70	5	33	.1	20	3	722	2.50	10	2	ND	2	68	1	2	2	53	.46	.05	7	33	.69	102	.08	3	1.35	.07	.36	2	9
R-05339 ▲	6	53	6	58	.2	22	6	526	2.76	32	3	ND	2	5	1	2	2	62	.14	.07	11	44	.77	149	.06	4	1.50	.03	.45	2	3
R-05340 ▲	4	34	6	39	.2	7	2	170	2.46	8	5	ND	2	5	1	3	2	52	.02	.02	6	26	.40	136	.02	5	.93	.02	.26	2	4
R-05341 ▲	3	64	4	85	.1	50	10	302	3.68	17	3	ND	2	14	1	2	2	137	.23	.04	4	82	1.13	421	.27	5	2.69	.05	1.04	2	3
R-05342 ▲	15	67	9	40	.2	54	15	218	3.09	134	2	ND	2	6	1	2	2	23	.04	.03	7	37	.35	119	.01	7	1.29	.02	.37	2	3
R-05343 ▲	1	16	3	17	.1	6	2	191	1.39	22	2	ND	5	6	1	2	2	14	.03	.01	14	9	.16	123	.03	3	.65	.05	.19	2	4
R-05344 ▲	7	32	3	38	.2	9	2	150	2.57	13	5	ND	2	15	1	2	2	103	.03	.02	7	36	.38	134	.10	4	.92	.02	.38	2	3
R-05345 ▲	5	40	3	53	.4	11	2	175	3.06	60	5	ND	2	9	1	9	2	97	.02	.02	4	67	.55	88	.10	4	1.45	.04	.45	2	13
R-05346 ★	7	1254	332	126	14.2	163	45	929	22.41	31593	2	3	2	34	1	260	25	51	2.47	.02	2	68	.96	67	.01	2	1.04	.02	.09	7	5700
R-05347 □	1	130	5	35	.3	163	26	276	2.92	321	8	ND	2	121	1	2	2	57	2.60	.02	2	136	1.11	716	.12	7	3.84	.35	.42	15	28
R-05348 ▲	2	46	10	49	.2	12	7	534	3.45	520	2	ND	2	16	1	2	2	58	.72	.06	4	23	.51	204	.14	3	1.43	.07	.58	2	24
R-05349 ▲	4	43	3	54	.2	18	7	571	3.24	41	2	ND	2	11	1	2	2	70	.24	.03	4	39	.89	431	.18	2	2.01	.07	.92	2	1
R-05350 ▲	1	49	7	34	.2	13	6	455	2.86	68	2	ND	2	36	1	2	2	41	.52	.04	5	23	.60	486	.06	7	2.23	.12	.49	2	5
R-05351 ▲	1	49	9	51	.2	18	9	615	3.16	17	6	ND	2	74	1	2	2	55	1.82	.06	3	32	.55	61	.12	13	3.30	.27	.63	2	1
R-05352 ▲	3	30	5	42	.1	14	7	404	2.46	26	2	ND	2	44	1	2	2	33	2.07	.05	3	16	.23	29	.09	7	1.17	.09	.16	2	1
R-05353 □	1	30	2	21	.1	45	13	208	1.99	6	2	ND	2	6	1	2	2	44	.66	.09	5	79	1.04	110	.14	14	1.01	.10	.41	2	1
R-05354 □	2	114	2	31	.2	58	19	435	2.83	18	2	ND	2	61	1	2	2	63	1.48	.12	5	69	.64	288	.13	5	2.20	.22	.45	2	3

▲	□	★
cherty sediment	basic volcanic	vein

TABLE 3

THRESHOLD VALUES FOR CHERTY SEDIMENT AND BASIC VOLCANIC LITHOLOGIES

Element	Cherty Sediments	Basic Volcanics
Au (ppb)	60	30
Ag (ppm)	1.0	1.0
Cu "	88	85
Pb "	50	22
Zn "	195	200
As "	88	25
Sb "	120	20



NEWMONT EXPLORATION OF CANADA LTD.

Distribution of samples
relative to rock type

SCALE	LOCATION	DATE Jan. 1984
SURVEY BY	DRAWN BY	NO. Fig. 7

6.0 Conclusions

The RANGER claims cover a section of siliceous sediments and volcanics of the Middle Triassic Fergusson Group at a point where they have been intruded by granodiorite plutons of the Coast Range intrusions. Gold mineralization is known to occur in veins in the Fergusson Group immediately south and slightly north of the property.

Within the RANGER claims it has been established that a section of cherty sediments and volcanics approximately 300 to 400 metres thick hosts scattered gold bearing arsenopyrite veins in shears and fractures over a strike distance of approximately 900 metres. Data from previous assessment work indicates that arsenopyrite veinlets may be present in this section over a 2.5 kilometre strike distance.

The limited mapping and rock chip sampling completed in 1983 did not indicate widespread anomalous gold values in the country rocks, however the potential for such a situation still exists across this property. Further work on the claims should consist of:

1) detailed mapping and rock-chip sampling of all exposed ridges
2) silt sampling of all creeks draining the property
3) soil sampling of any lower slopes or plateau areas where a soil profile has developed, and
4) detailed prospecting of talus slopes and sampling of talus fines where soil sampling is impractical.

Efforts should be concentrated on the zone known to contain the auriferous arsenopyrite mineralization and on defining this zone into the Steep Creek valley where mineralization was recorded on the BEE claims. The airborne magnetic trends and VLF electromagnetic conductors located on the BEE claims should also be investigated.

7.0 References

B. C. Minister of Mines Annual Reports;
1945: Bridge River District, Ranger Claims p. A85
1946: Bridge River District, Ranger Claims p. A115, (J. S. Stevenson (author)

Cairnes, C.E.; 1937: Geology and Mineral Deposits of the Bridge River Mining Camp, B.C., Geol. Survey of Canada, Mem. 213.

Pearson, D.E.; 1974: Bridge River Map Area, in Geological Fieldwork, B.C. Dept. of Mines, p. 35-39.

Pezzot, E.T. and White, G.E.; 1981: Geophysical Report on an Airborne VLF-EM and Magnetometer Survey Foxy 1-8, Bee 1-10 claims, Ministry of Mines Assess. Report #9982.

Ramani, S.V., 1975: Geological Report on the BEE Claim Group, Ministry of Mines Assess. Report #5761.

8.0 Statement of Costs

LABOUR

G. McLaren	June 22, Sept 13-22	11 days @ $135.00/d	$1,485.00
P. Fagerlund	Sept 13-22	10 days @ $ 92.50/d	$ 925.00
B. Chomack	Sept 13-22	10 days @ $ 85.00/d	$ 850.00
M. Gannon	Sept 13-22	10 days @ $ 73.75/d	$ 737.50
			$3,997.50

ACCOMODATIONS

Hotel 1 double room @ $45/d for 1 day	$45.00	
Meals $25/man/day for 2 men for 1½ days	$75.00	
	$120.00	$ 120.00

CAMP COSTS

Lumber, nails, Kerosene, naptha	$300.00	
Groceries	$450.00	
	$750.00	$ 750.00

TRANSPORTATION

Helicopter Charter 3.8 hrs @ $420/hr	$1596.00	
plus fuel	$ 190.00	
Vehicle Rental 1 truck for 2 days @ $41/d	$ 82.00	
plus fuel	$ 85.00	
	$1953.00	$1,953.00

FIELD SUPPLIES

Base map, flagging, sample bags, etc.	$ 50.00

GEOCHEMICAL ANALYSES

109 rock chip samples for 30 element ICP plus Au @ $12	$1,308.00

REPORT AND MAP PREPARATION

Report writing, typing, drafting, reproductions etc	$ 500.00
TOTAL	$8,678.50

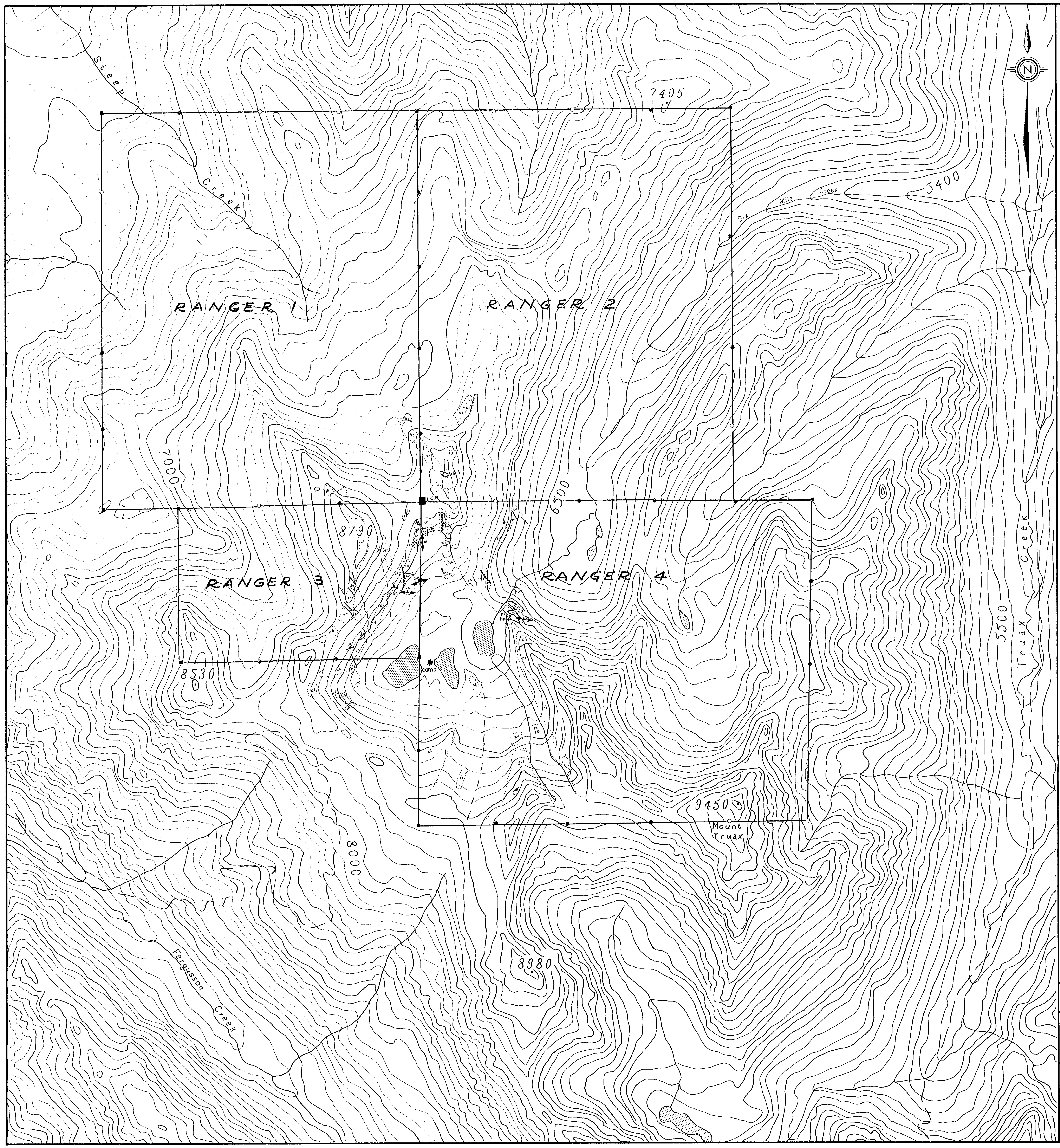
9.0 Statement of Qualifications

I, Graeme Peter McLaren, of #302-9127 Capella Drive, Burnaby, B.C., do hereby certify that:

1. I am a graduate of the University of Toronto with a Bachelor of Science degree in geology (1974) and a graduate of the University of British Columbia with a Master of Science degree (1978).
2. I have been practising my profession as an exploration geologist since 1974 in Western Canada and Australia.
3. I have been employed as an exploration geologist with Newmont Exploration of Canada Limited since March 1983.
4. I am a member of the Geological Association of Canada.
5. This report is based on personal examination of all relevant data and on supervision of field work during September, 1983.

G. P. McLaren

G. P. McLaren, M.Sc.
January 3, 1984
Vancouver, B.C.



LEGEND

bv Intermediate to basic volcanics (augite andesite, vesicular and pillowed basalt, mainly metamorphosed to greenstone)

ch Silicified, cherty argillite, chert, chert breccia

ar Clastic sediments: argillite, greywacke

ls Limestone (partially crystalline marble)

sp Serpentinite

di Augite diorite, quartz diorite

gd Granodiorite

Symbols

strike and dip of bedding (inclined, vertical)

strike and dip of fracturing

geological contact (observed, assumed)

shear zone

mineralized vein (showing attitude)

limit of mapped outcrop

adit

■ □ corner post (located, not located)

● ○ identification post (located, not located)

(claim post locations were established using a 1:50,000 scale topographic map)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,416

Contour Interval : 100 feet

500 0 500 1000 metres

SCALE

NEWMONT EXPLORATION OF CANADA LTD.

RANGER CLAIMS - GEOLOGY

LILOOET MINING DIVISION

SCALE: 1:10,000

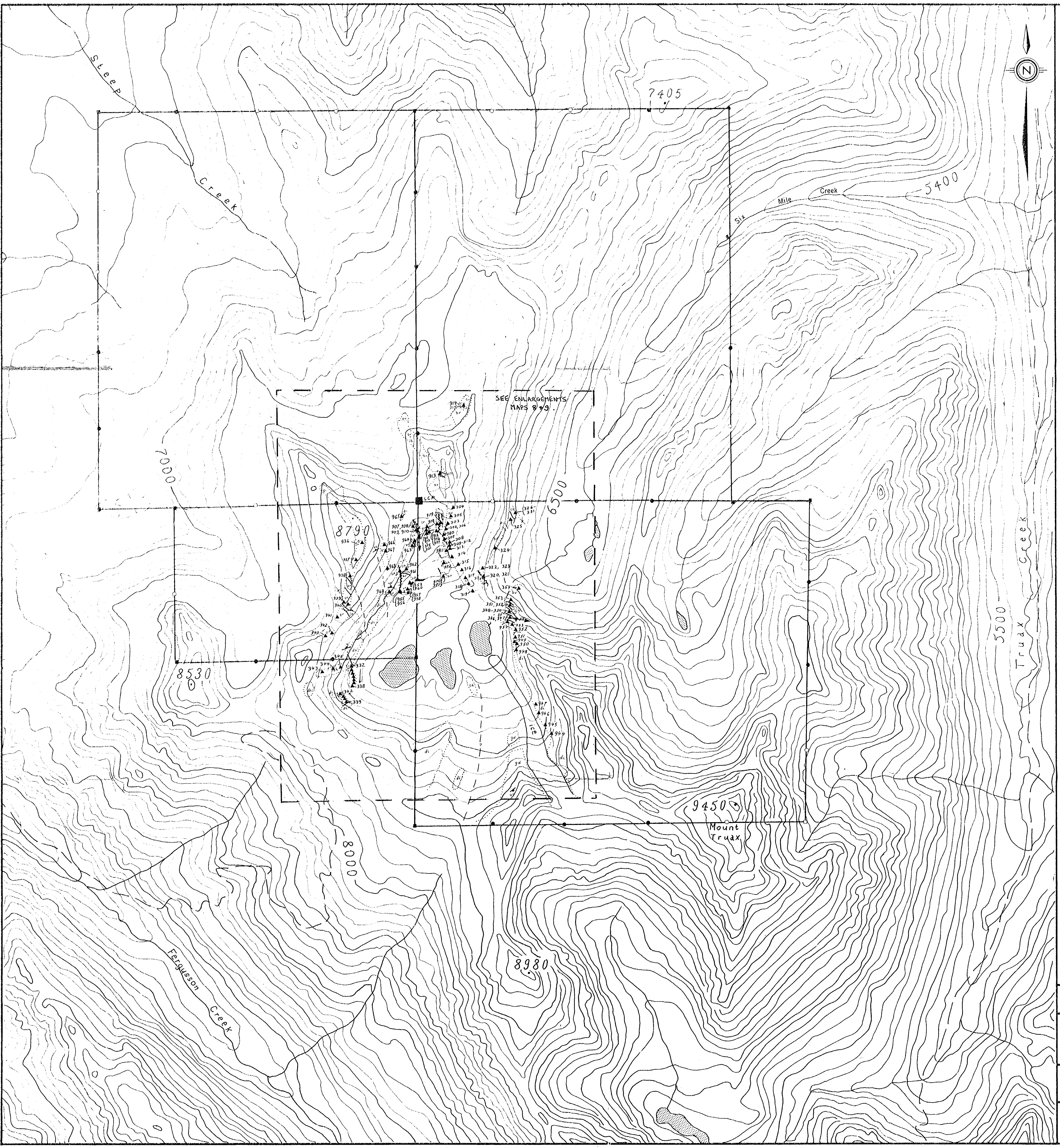
LOCATION: 92 J / 15

DATE: JAN. 1984

SURVEY BY: GMcL

DRAWN BY: GMcL

NO. Fig. 5



LEGEND

951 ▲ Rock chip sample number and location
(900 series numbers prefixed by 00-)
(300 series numbers prefixed by 05-)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,416

Contour Interval : 100 feet

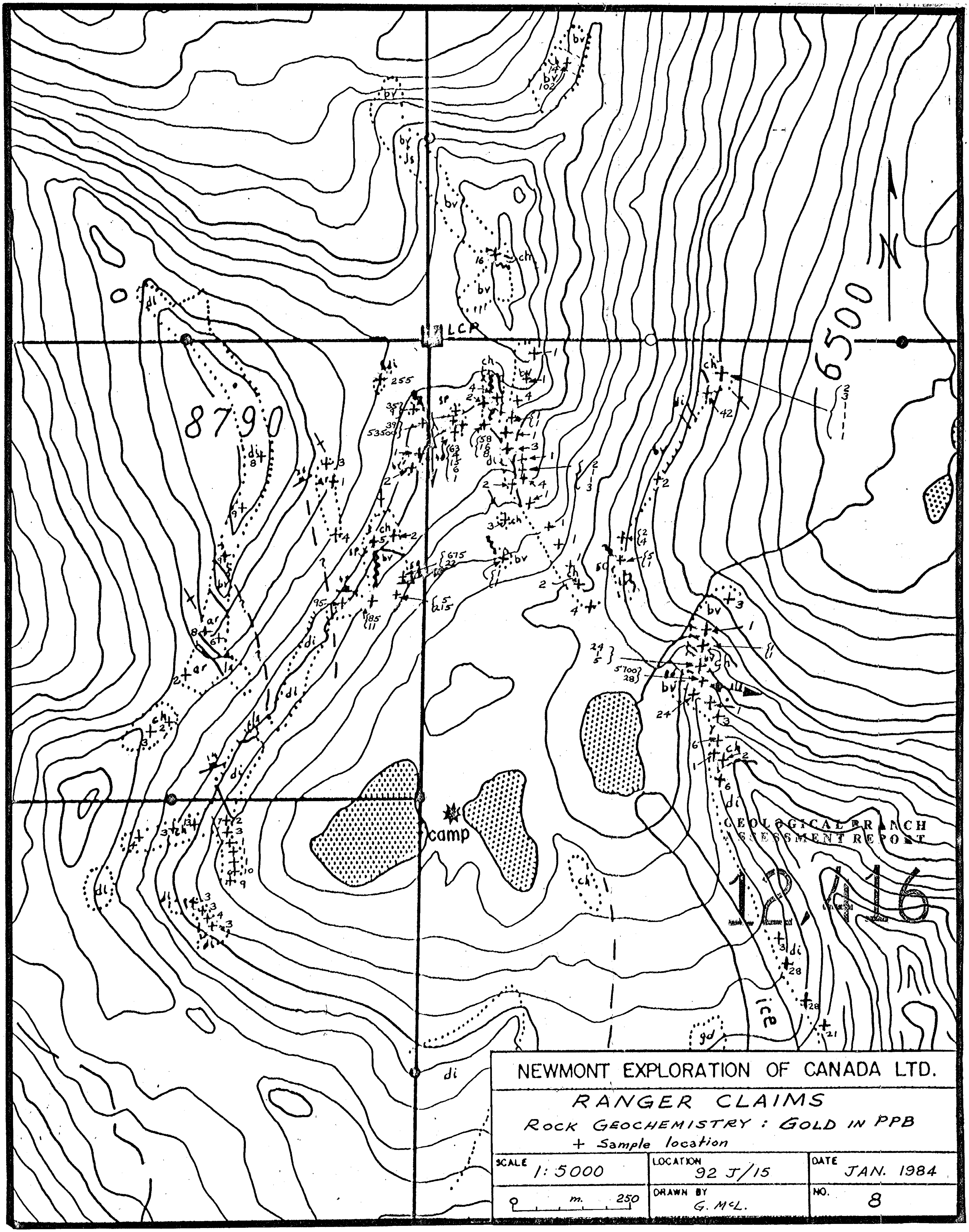
500 0 500 1000 metres
SCALE

NEWMONT EXPLORATION OF CANADA LTD.

RANGER CLAIMS - GEOCHEMISTRY

LILOOET MINING DIVISION

SCALE: 1:10,000	LOCATION: 92 J / 15	DATE: Jan. 1984
SURVEY BY: GMcL	DRAWN BY: GMcL	NO. Fig. 6



GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,416

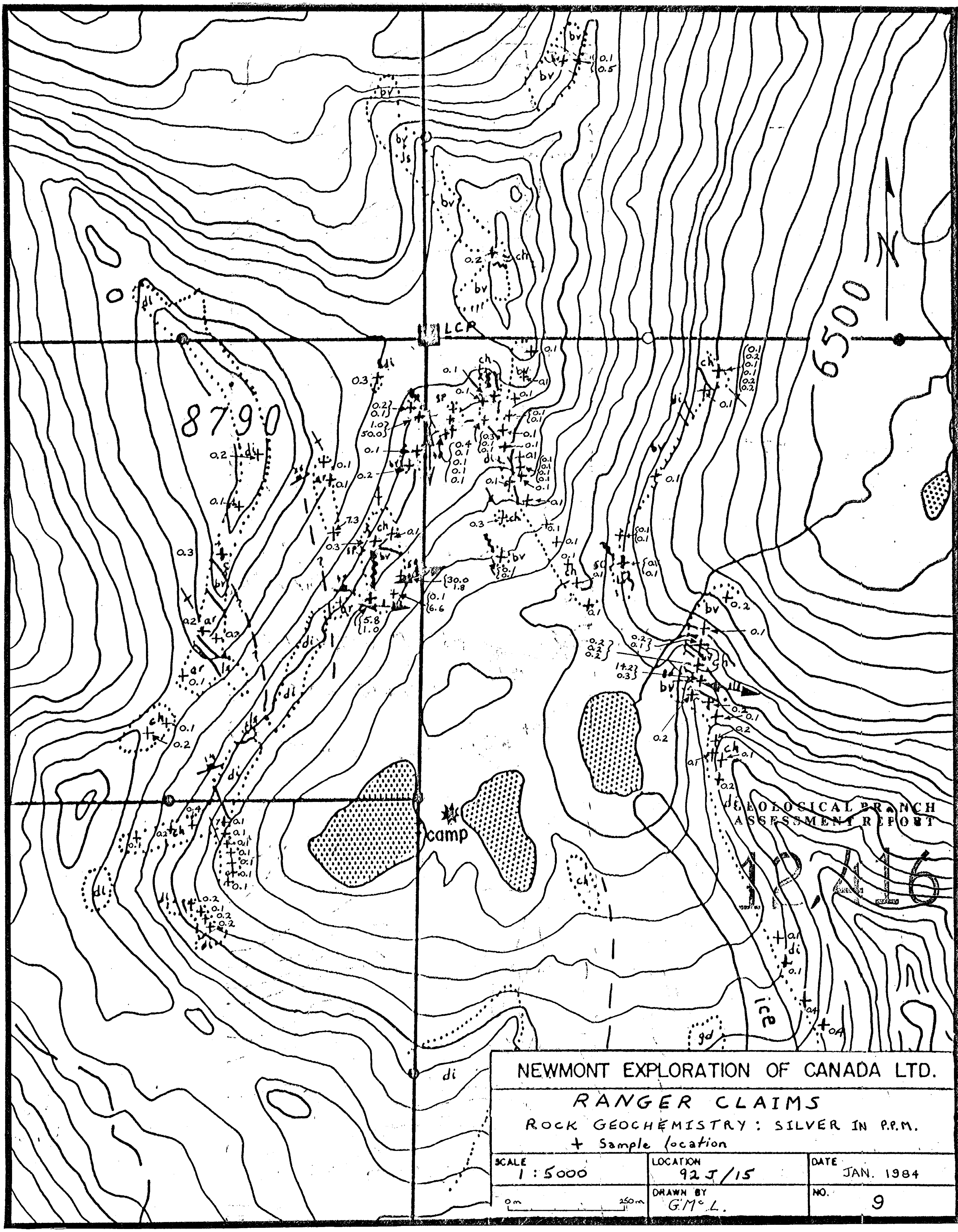
NEWMONT EXPLORATION OF CANADA LTD.

RANGER CLAIMS

ROCK GEOCHEMISTRY : GOLD IN PPB

+ Sample location

SCALE 1: 5000	LOCATION 92 J/15	DATE JAN. 1984	
0 m. 250	DRAWN BY G. McL.	NO. 8	



NEWMONT EXPLORATION OF CANADA LTD.

RANGER CLAIMS

ROCK GEOCHEMISTRY : SILVER IN P.P.M.

+ Sample location

SCALE 1 : 5000	LOCATION 92 J/15	DATE JAN. 1984
0m 250m	DRAWN BY G.Mc L.	NO. 9