BONANZA BASIN

6/2939

SUMMARY

During August 1980, geological mapping and geochemical sampling were carried out over the Ural claims. A total of 1,013 soil samples and 166 rock samples were collected from a 53 line-km grid area. This work has delineated three 'Carlin-type' exploration targets. Two conventional vein-type targets, the Lucky Strike vein system and the Lucky Jem vein system, have also been identified.

Detailed sampling and mapping programs are recommended to refine the 'Carlin-type' targets. Underground sampling, surveying, and mapping of existing workings is recommended for the Lucky Strike vein system. Trenching, detailed surface sampling, and geological mapping is recommended for the Lucky Jem area.

Geochemical sampling and geological mapping is recommended for those areas of the Ural claims not covered in 1980.

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INTRODUCTION

LOCATION AND ACCESS

The Ural 1 - 7 Mineral Claims and the Micron 1 and 2 Fractions consist of two separate claim blocks situated in the Bridge River (Bralorne-Pioneer) placer and lode gold district, approximately 180 km north of Vancouver, British Columbia (Figure 1). The approximate geographic coordinates of the centre of the claim blocks are 51°00' North latitude and 122°52' West longitude (Figure 2).

The claims may be accessed by a 24 km long four-wheel-drive trail into Taylor Basin which connects, via Tyaughton Creek, with the Lillooet-Gold Bridge gravel highway approximately 90 km west of Lillooet.

PROPERTY AND OWNERSHIP

The Ural and Micron claims are located in the Lillooet Mining Division and are entirely owned by Golden Rule Resources Ltd. of Calgary, Alberta. The claims are described more specifically as follows:

Claim Name	Units	Record Number	Date of Record
Ural 1	20	1280	March 13, 1980
Ural 2	18	1281	March 13, 1980
Ural 3	20	1282	March 13, 1980
Ural 4	20	1283	March 13, 1980
Ural 5	20	1284	March 13, 1980
Ural 6	20	1285	March 13, 1980
Ural 7	20	1309	March 31, 1980
Micron 1 Fr.		1464	July 29, 1980
Micron 2 Fr.		1465	July 29, 1980

For purposes of applying assessment work, the above claims have been divided into three groups, described as follows:

1. Ural 1 (not contiguous with the other claims)
2. Micron Group: Ural 2, 4, 5, and 6; Micron 1 and 2 Fractions
3. Ural Group: Ural 3 and 7

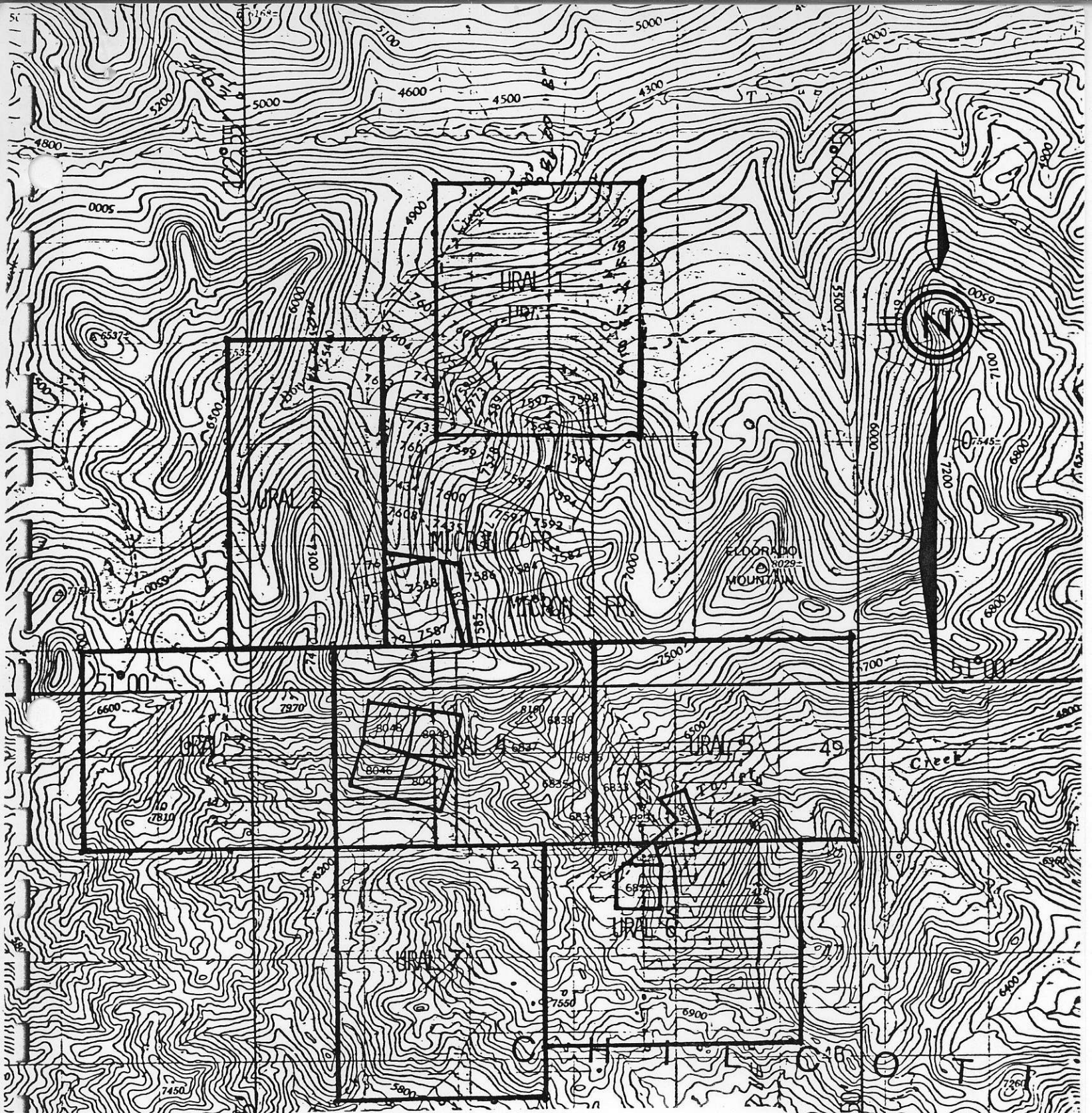
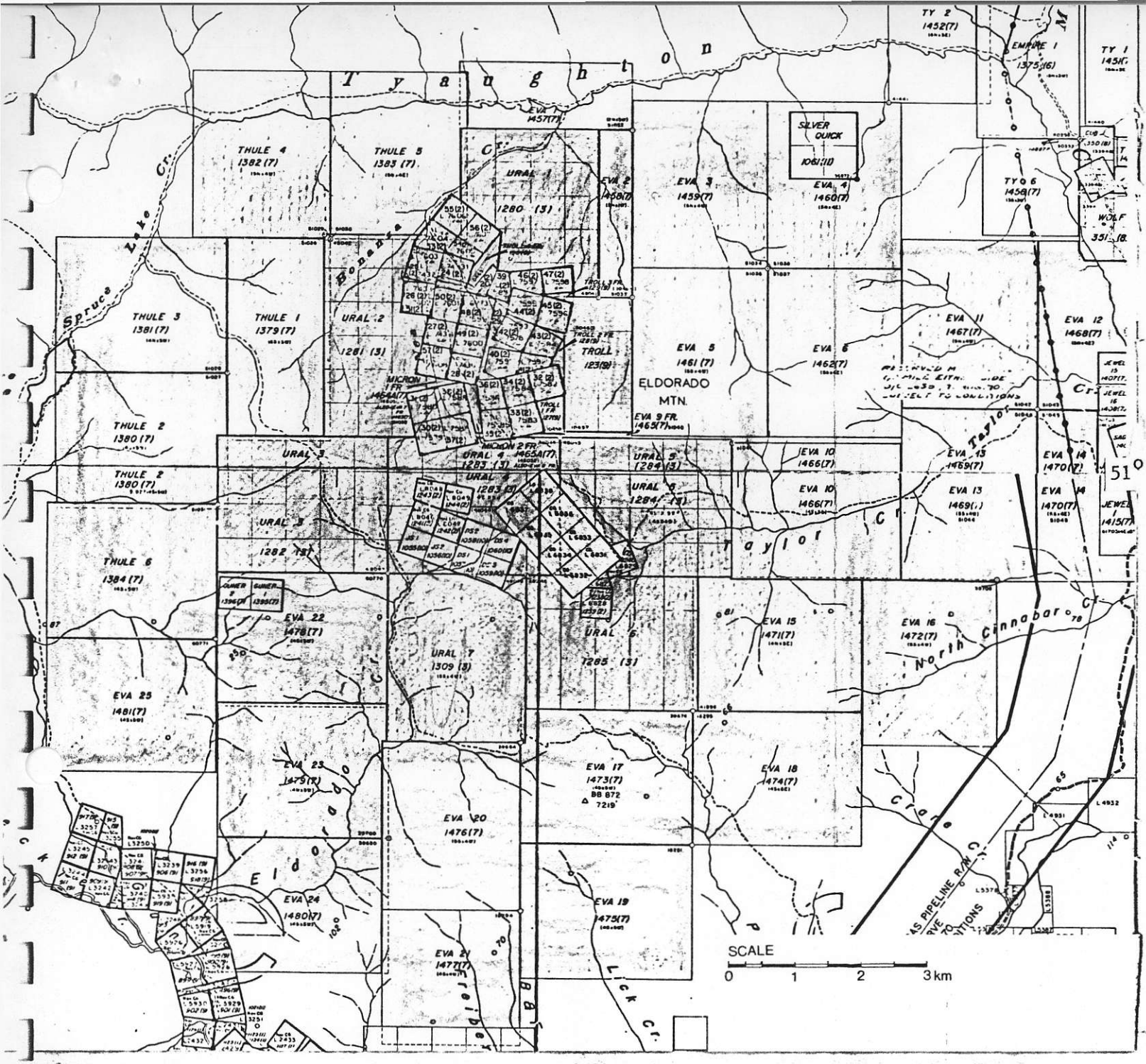


FIGURE 2

CLAIMS LOCATION MAP

SCALE: 1:50,000

0 1 2 3 km



GOLDEN RULE RESOURCES LTD.

SILVER STANDARD MINES LTD.

PAN OCEAN OIL LTD.

STRYKER RESOURCES LTD.

INDEPENDENT

Figure 2. LAND STATUS

M 92J/15W

Seven reverted Crown-granted mineral claims, listed below, are located internal to the Ural and Micron claims and are presently held under option agreement by Golden Rule Resources Ltd.:

Claim Name	Lot Number	Record Number	Date of Record	Acreage
Lucky Strike Fr.	L6827	1238(2)	Feb. 11, 1980	11.18
Lucky Strike	L6828	1239(2)	Feb. 11, 1980	50.58
Homestake No. 4	L6829	1240(2)	Feb. 11, 1980	35.63
Bob No. 3	L8046	1241(2)	Feb. 11, 1980	51.65
Bob No. 4	L8047	1242(2)	Feb. 11, 1980	51.65
Bob No. 5	L8048	1243(2)	Feb. 11, 1980	48.37
Bob No. 6	L8049	1244(2)	Feb. 11, 1980	51.65

These claims are currently not grouped with the Ural and Micron groups.

PHYSIOGRAPHY AND GLACIATION

The claims lie within the Coast Mountains physiographic province, an intensely glaciated mountainous region of narrow-crested ridges, cirques, serrated peaks, and deeply cut valleys filled with glacial deposits and alluvium. Peak elevations and higher ridges average approximately 2440 metres (8,000 feet) ASL in elevation, well above treeline which is at about 1980 metres (6500 feet) ASL. Bedrock exposures are excellent along ridges and most drainages. Despite the extreme topographic relief and consequent rarity of glacial deposits at higher elevations, little outcrop is to be found elsewhere, owing to a widespread thin cover of fine rubbly talus and felsenmeer.

1980 EXPLORATION

Work carried out on the claims in 1980 included geological mapping at a scale of 1:5000, and grid controlled geochemical sampling. The latter work was distributed over three grid areas covering portions of the Ural 1, 3, 4, 5, 6, and 7 claims (Figure 3). A total of 1,013 soil samples were collected at 25 m and 50 m intervals from approximately 53 line km of grid lines nominally spaced 100 m and 200 m apart. Geological mapping was

carried out utilizing topographic base maps enlarged from 1:50,000 scale topographic maps. A small amount of ground VLF-EM and magnetic surveying was down on an experimental basis to determine the usefulness of these exploration techniques in the project area.

GEOLOGY

REGIONAL GEOLOGY

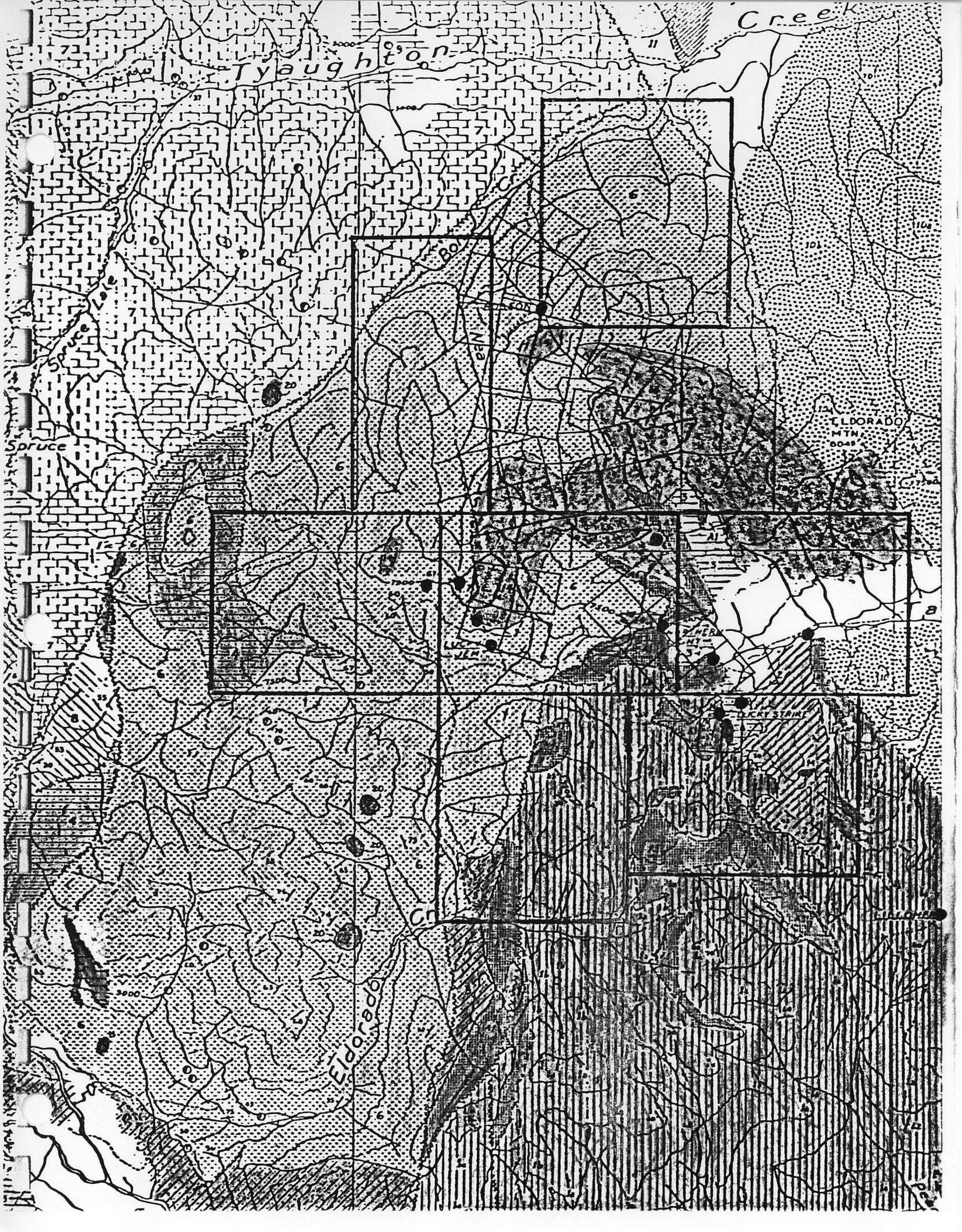
The Ural claims and adjacent claim groups are underlain by an assemblage of serpentinized ultramafic rocks; mafic to intermediate volcanic rocks metamorphosed to greenstones; and metamorphosed fine-grained clastic and chemical sediments, including argillite, chert, siliceous tuffs, and limestone (Figure 4). The sedimentary rocks are presently considered to have been deposited in a deep marine environment. Volcanic rocks vary from 'sub-volcanic' dioritic and gabbroic bodies to fine-grained massive flows which occasionally exhibit amygdaloidal textures and pillow structures. The probable degree of regional metamorphism is lower greenschist facies. There is no appreciable development of schistosity or other metamorphic textures.

The assemblage described above is intruded by a small quartz diorite pluton, approximately 10 km^2 in area, at Eldorado Mountain and by a number of smaller felsic intrusive bodies elsewhere on the claims. Intrusive contacts are characterized by fracturing, silicification, and pyritization of the older rocks. The entire claims area is transected by strong northerly, northwesterly, and northeasterly trending fault systems, which appear to be fundamental controls of alteration, mineralization, and emplacement of intrusive rocks.

The claims lie within a hydrothermal zone of regional dimensions (Pearson, 1975). The presence of arsenopyrite, gold, silver, stibnite, jamesonite, chalcopyrite, sphalerite, and pyrrhotite in the ores of the various showings in the claims area indicates that the property is situated within a polymetallic part of the hydrothermal system (Figure 5).

PROPERTY GEOLOGY

Property mapping carried out in 1980 has partially defined a complex volcanic and sedimentary stratigraphic succession comprised of ultramafic rocks, greenstones, greenstone breccias, chert, argillite, and limestone. The stratigraphic relationships of the above units are further complicated


Tyaughton
Creek
Spruce Lake
Spruce
ELDORADO
MTN
Eldorado
Cr

LEGEND

Unpatterned areas are areas of few or no outcrops in which the character of the bedrock formations is unknown.

CENOZOIC

TERTIARY

POST-EOCENE

Mainly dark green, vesicular to massive, olivine basalt, minor intercalated tuffs

CRETACEOUS OR TERTIARY

SHEBA GROUP: 18, shale, arkose conglomerate; 19, varicoloured, commonly porphyritic, lavas, agglomerates, and tuffs; abundant related unidifferentiated, porphyritic intrusions

Minor intrusions: 17a, feldspar porphyries; 17b, altered felsitic intrusions; 17c, hornblende diorite and hornblende porphyrite; 17d, pink brown-speckled, feldspar-biotite porphyry; 17e, pink, biotite syenite or quartz syenite porphyry. Probably not all of the same age

COAST RANGE INTRUSIONS

15, light grey, coarse-grained, massive, biotite-hornblende granodiorite

16, massive, medium- to coarse-grained, pink biotite granite

Medium-grained, massive to foliated, hornblende-biotite quartz diorite and granodiorite, minor diorite and gabbro

Massive, coarse- to medium-grained, anorthositic gabbro and gabbro, 13a, medium-grained gabbro breccia

CRETACEOUS

LECKIE GROUP: varicoloured pyroclastic rocks intercalated with grey, greenish-grey, and mauve lava flows, in part porphyritic; minor dark grey shale and conglomerate

JURASSIC AND CRETACEOUS

UPPER JURASSIC AND LOWER CRETACEOUS

ELDORADO GROUP: 11a, Upper Jurassic: mainly massive to thinly-bedded, dark argillaceous and tuffaceous beds, in part dense and flinty, 11b, Lower Cretaceous: grey and green sandstone, shale, conglomerate, and tuffaceous beds; 11c, Lower Cretaceous (?): mainly massive, dark green tuffs, breccias, and tuffaceous sedimentary rocks

JURASSIC

MIDDLE OR UPPER JURASSIC

TAYLOR GROUP: conglomerate; sandstone, shale; minor volcanic rocks; 10a, mainly coarse to fine conglomerate, grit, sandstone, shale, argillite, minor, green volcanic rocks; 10b, chert-pebble conglomerate, micaceous arkosic sandstone, shale; argillaceous and tuffaceous beds

LOWER AND MIDDLE JURASSIC

8, Lower Jurassic: dark argillite and shale, minor sandstone, limestone, and pebble conglomerate

9, Middle Jurassic: dark grey argillite, minor grey and green arenaceous beds

MESOZOIC

TRIASSIC AND (?) JURASSIC

UPPER TRIASSIC (mainly or entirely)

TAKLISH GROUP: interbedded grey, green, and reddish sandstone, shale, pebble conglomerate, and limestone; thick beds of grey limestone

TRIASSIC

HURLEY GROUP: thin-bedded, commonly limy, grey to black, argillaceous and tuffaceous strata; conglomerate, limestone; minor intercalated volcanic rocks, 6a, chiefly grey to black, fine-grained to flinty argillaceous and siliceous beds (may be equivalent in age to 2 and 3)

4, PIONEER FORMATION: mainly green, massive fine-grained to porphyritic andesitic lavas and pyroclastic rocks

5, greenstone and greenstone-diorite, undifferentiated lava, agglomerate, and tuff

2, NOEL FORMATION: banded and massive, grey to greenish grey, argillaceous, siliceous, and tuffaceous beds; minor intercalated volcanic rocks

1, chiefly metamorphosed beds, probably mainly equivalent to 2

PALAEOZOIC

PERMIAN (?)

FERGUSSON GROUP: undifferentiated sedimentary and volcanic rocks; 1a, chiefly interbedded chert and argillite, some limestone; 1b, andesitic to basaltic lavas and related pyroclastic rocks (greenstones), some limestone, includes bodies of carbonatized and serpentine-like rocks of doubtful and perhaps different origins

A1, serpentine and partly serpentinized peridotite, carbonatized alteration products

A2, Sumner gabbro: olivine gabbro

Bralorne intrusions: augite diorite and gabbro; soda granite (albite feldspar)

Heavily drift covered area .....

Bedding (horizontal, inclined, vertical) ..

Fossil locality .....

Fault .....

Prospect .....

Mining property ..... MMYTD

Adit .....

Geology by C. E. Cairnes, 1937, and C. H. Crickmay, 1939.

FIGURE 4.
REGIONAL GEOLOGY
SCALE: 1:50,000

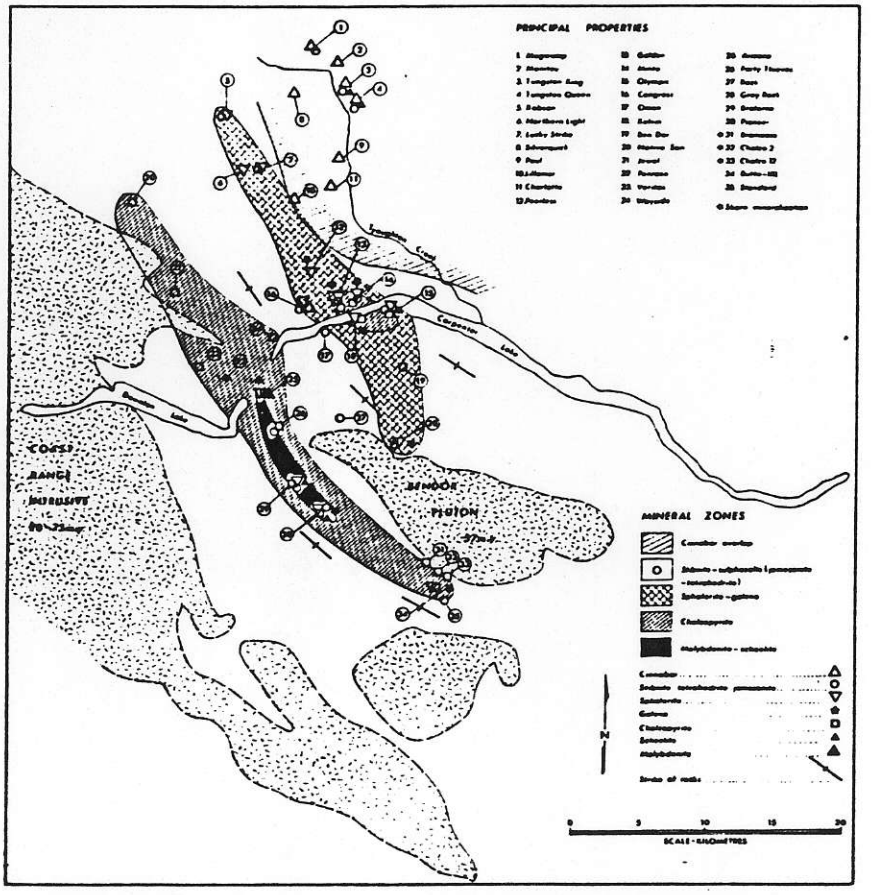


Figure G-27. Regional mineral zoning pattern, Bridge River mining camp.

FIGURE 5.

by thrusting and late-stage normal faulting. Field work done to date suggests the following succession:

Sedimentary and Volcanic Rocks

Unit $u\bar{T}RH$ Siltstone, argillite; light grey to black, thinly laminated to massive; well fractured, siliceous, rhyolitic(?), tuffaceous interbeds

Unit $m\bar{T}RBRs$ Chert, banded chert, chert breccia, quartz-chert breccia, silty chert breccia. Banded chert is not common in those areas of the claims mapped to date. Typically, this unit consists of an orange weathering breccia comprised of chert fragments cemented in a siliceous matrix; breccia fragments may also consist of white quartz and light grey, green or black chert fragments in varying proportions. Brecciation was probably a result of diagenetic autobrecciation of the brittle, highly siliceous beds.

Unit $m\bar{T}RBRv$ Greenstone. This unit consists of mafic to intermediate volcanics exhibiting a variety of textures ranging from massive flows to breccias and tuffs. The small body near the lower Lucky Strike adit, previously grouped with the "Bralorne intrusions" is actually a tuff containing elongated fragmentals. In a number of areas mapped to date, this unit is absent and the chert unit rests directly on the basal ultramafic unit.

Unit $m\bar{T}RBRu$ Ultramafic rocks. Peridotite, pyroxenite, dunite, all undifferentiated, and serpentinized and steatitized equivalents. Chromium-bearing accessory minerals occur in hairline fractures from place to place; garnierite occasionally was observed as a coating on deeply weathered outcrops.

Unit qcm Quartz-carbonate-mariposite zones. These zones consist of assemblages of fine-grained to coarsely crystalline quartz, calcite, ankerite, and mariposite. Microscopic pyrite is also fairly abundant. Quartz and calcite commonly occur as anastomosing complex networks of veinlets throughout the rock. These zones are tentatively interpreted as mylonitized alteration products of ultramafic rocks developed in thrust zones which have undergone intense shearing and deformation. They inevitably occur in contact with ultramafic rocks in an apparent stratigraphically lowermost position in the geologic section. However, a number of characteristics of these zones, including vugs, crystalline quartz and carbonate in exotic comb structures and drusy cavities, chalcedonic silica, the preferential emplacement of small intrusive

bodies in or closely adjacent ot these zones, and the development of epithermal polymetallic lodes in these zones, all indicate that they have also acted as major hydrothermal conduits. Thus, amgibuities are present in the evidence supporting both mylonitic thrust zones and late-stage normal faulting and related hydrothermal features. Further work will likely demonstrate the validity of both interpretations.

Intrusive Rocks

A small (10 km^2) quartz diorite pluton underlies Eldorado Mountain and exhibits complicated contacts with the enclosing stratified rocks. Substantial areas of the Ural 1, 4, and 5 claims are underlain by apophyses or related phases of the intrusive body. Elsewhere on the Ural claims, a host of small dykes and sills cut the older sedimentary and volcanic rocks. These small intrusive bodies vary widely in composition, ranging from an exotic carbonatized hornblende porphyry at the upper Lucky Strike adit through gabbro, quartz diorite, porphyritic and microporphyritic quartz-feldspar granite, and rhyolite.

On the accompanying property geology map, the small intrusive bodies are arbitrarily grouped as a single unit, notwithstanding the wide variations in composition. Descriptive abbreviations on the map distinguish the different rock types.

ECONOMIC GEOLOGY

History of Development

Following the discovery of placer gold on the Bridge River near Lillooet in 1858, a number of placer claims were located in 1859 on Gun Creek and along the lower reaches of the Bridge River. In 1882, prospectors discovered placer gold on the Hurley River, and in 1886 on Cadwallader Creek. In 1896, intensive prospecting led to the discovery of gold-quartz veins near the confluence of Hurley River and Cadwallader Creek and the first lode gold claims, the Elephant and Forty Thieves, were located on July 2, 1896. Subsequently, the area developed into one of the most important gold producing camps in British Columbia.

Mineral Occurrences Within or Near the Ural Project Area

Prospecting over the next four decades resulted in the discovery of a number of mineral occurrences in the more remote parts of the Bridge

River district. Four of these, presently known as the Northern Lights, the Lucky Jem, the Lucky Strike, and the Robson occurrences, lie within or relatively close to the Ural project area. The locations of the occurrences are shown on the accompanying geological map of the property and brief descriptions of the properties are given below. More complete information may be found in the Annual Reports of the Minister of Mines and various other sources listed as references in this report.

Lucky Jem

The Lucky Jem mineral occurrences are thought to have been the first discovered in the vicinity of the project area, with claim locations being made in 1910 by a prospector named Grant White. The property was originally known as the White and Bell prospect.

The main workings consist of two adits located near the headwaters of Eldorado Creek at about 2012 metres (6600 feet) ASL, 3000 metres southwest of Peak 8160 on the Nea-Taylor Creek divide. Other workings include ground sluicing near the adits and a number of pits and trenches which explored various showings over a wide zone at higher elevations on the slopes above the adits. When the workings were examined by the writer, the adit portals were much caved although the No. 2 adit was accessible for a distance of about 6 metres (20 feet) in from the entrance. Due to the deep weathering, extensive oxidation, and intense quartz-carbonate alteration in and near the adits, little could be determined about the structural relationships or compositions of rocks in the mineralized zone. Large blocks of massive sulphide mineralization on the No. 2 adit dump indicated that the vein attained widths in excess of 61 cm (24 inches). Sulphide mineralization consists of massive aggregates of pyrite, arsenopyrite, with lesser amounts of chalcopyrite and stibnite.

In the Minister of Mines 1933 Annual Report, George A. Clothier, Resident Mining Engineer, described the Lucky Jem prospect as an area "...1,000 feet long by 600 feet high, (from which) free gold can be panned practically everywhere from the decomposed material covering the surface." [1] The gold was thought to have been derived from the oxidized remains of "...many small veins of arsenopyrite which can be seen striking in every direction in a wide zone of fracturing."

According to a special report prepared by B. T. O'Grady, British Columbia Department of Mines Resident Mining Engineer for the Lillooet District, the major showings on the property occur in fractures cutting northwesterly striking metamorphosed sediments of the Hurley Group, which are intruded by an arm of the quartz diorite stock that under-

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[1] George A. Clothier, 1933, British Colubmia Minister of Mines Annual Report, p.268.

lies much of Eldorado Mountain. The No. 1 adit, when examined by O'Grady, had been driven north along the strike of an oxidized vein for a distance of 11.3 metres (37 feet). The vein varied in width from 51 cm (20 inches) to 91 cm (36 inches) and was observed to be gently folded and relatively flat lying, with a dip of 15° to the east. Samples collected by O'Grady assayed from 0.02 oz/ton Au to 1.0 oz/ton Au, and from a trace to 0.6 oz/ton Ag. The No. 2 adit, located 65 metres (210 feet) west of the No. 1 adit, at about the same elevation, was driven approximately 8 metres (25 feet) at 340° Az on a pair of subparallel intersecting veins, the westerly vein dipping 60° to the east and the easterly vein dipping 80° to the west. At their point of intersection, the combined width of the two veins is 127 cm (50 inches). Samples collected by O'Grady assayed from a trace to 0.04 oz/ton Au, and from a trace to 1.4 oz/ton Ag. Four open cuts situated at various locations downslope from the two adits yielded the following assays:

Open Cut No. 1: 0.16 oz/ton Au; 0.2 oz/ton Ag; over some 30 cm (12 inches)

Open Cut No. 2: 1.28 oz/ton Au; 2.6 oz/ton Ag; over 38 cm (15 inches)

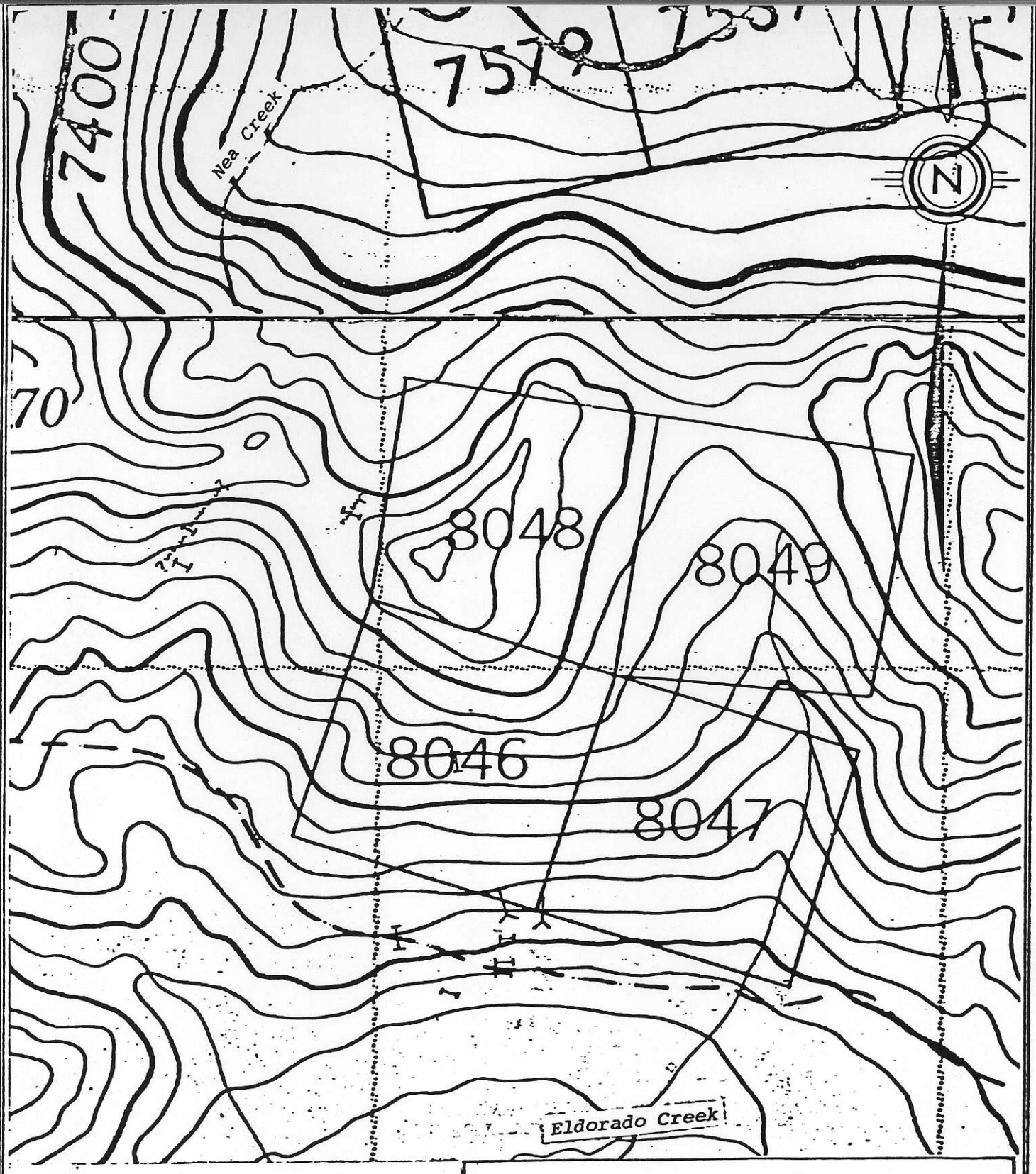
Open Cut No. 3: not sampled

Open Cut No. 4: 0.1 oz/ton Au; 0.2 oz/ton Ag; over 51 cm (20 inches)

A large area stripped by ground sluicing and located 191 metres (625 feet) west-southwesterly from the No. 2 adit, assayed 0.12 oz/ton Au and 0.5 oz/ton Ag over a 183 cm (72 inch) wide zone of banded, oxidized and decomposed material in the Hurley sediments.

On the mountain slopes above the two adits, O'Grady sampled a number of showings which occur in northeasterly striking, steeply southeast dipping fracture zones in the quartz diorite. The showings consist of massive fracture-filling arsenopyrite in oxidized, deeply weathered and decomposed zones. Samples of some of the fresher material assayed from 0.2 oz/ton Au to 0.6 oz/ton Au, and from a trace to 0.2 oz/ton Ag.

In the Minister of Mines Annual Reports for 1945 and 1946, it was reported that one of the adits was extended 15 metres (50 feet) in 1945 and a further 69 metres (225 feet) in 1946. Cairnes (1943) reported that this work and a considerable amount of diamond drilling was carried out while the property was under option to Britannia Mining and Smelting Co. No information is available concerning the results of this work. The locations of the various workings have been plotted on Figure 6, according to O'Grady's descriptions. Table I encapsulates the assay results of samples collected during O'Grady's examination.



LEGEND

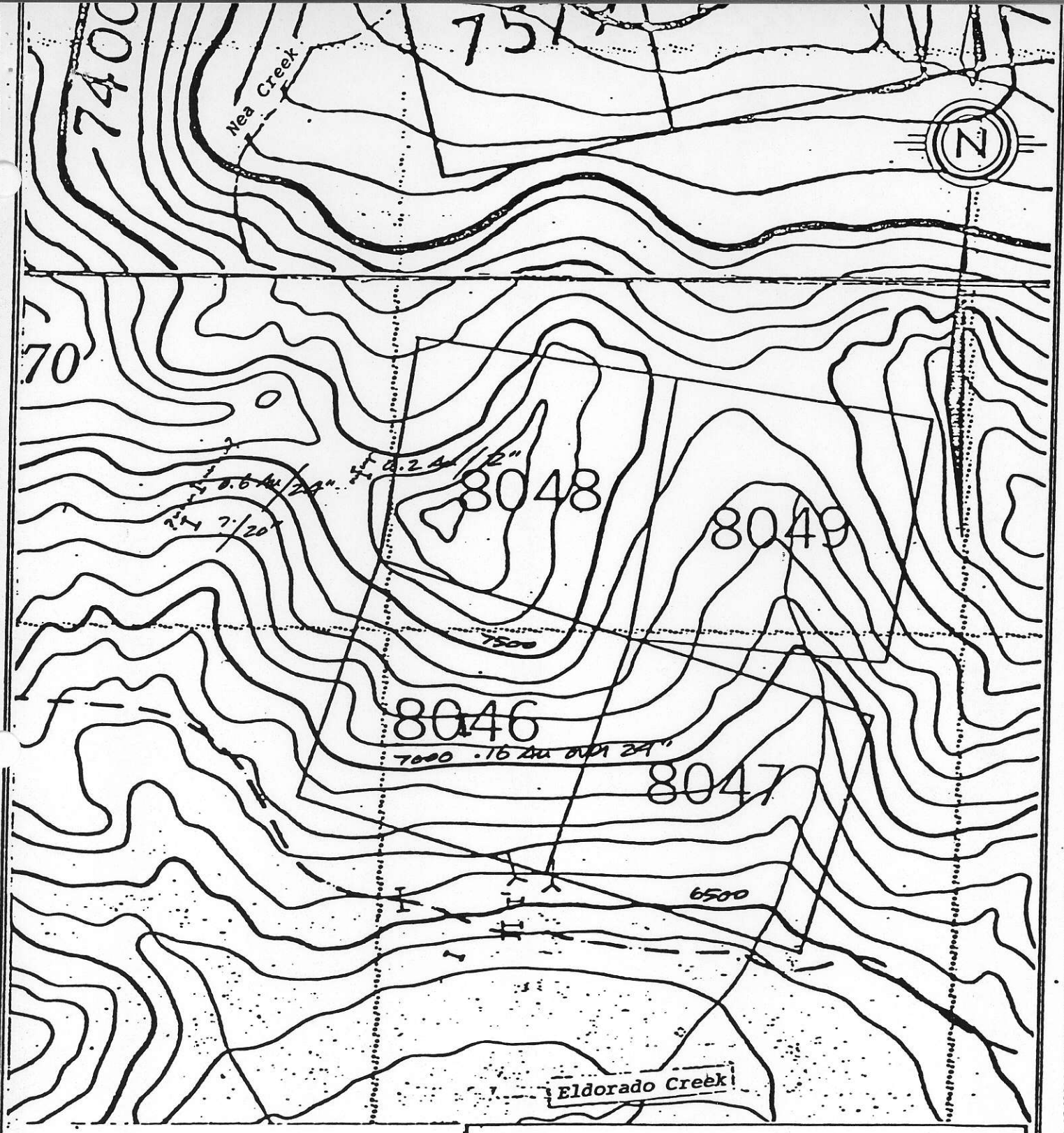
- Adit
- Open Cut
- Fault or Shear

LOCATIONS OF WORKINGS
LUCKY JEM AREA

SCALE 1:10,000

DATE:

FIGURE NO.: 6



LEGEND

- Adit
- Open Cut
- Fault or Shear

LOCATIONS OF WORKINGS
LUCKY JEM AREA

SCALE 1:10,000

DATE:

FIGURE NO.: 4

TABLE I: Assays and Sampling Described in Minister of Mines Special Report on the Lucky Jem Prospect, by B. T. O'Grady, 1935(?)

Location	Station	Attitude of Mineralized Zone	Width Sampled	Au	Ag
A. WORKINGS IN HURLEY GROUP METASEDIMENTS					
No. 1 Adit	11.3m (37')		50.8cm(20")	0.02 oz/ton	Trace
Portal at	9.15m (30')		50.0cm(22")	1.00 oz/ton	0.5 oz/ton
2009m ASL	7.62m (25')		91.4cm(36")	0.10 oz/ton	0.6 oz/ton
	6.10m (20')		81.3cm(32")	0.36 oz/ton	Trace
	4.57m (15')		71.1cm(28")	0.04 oz/ton	0.4 oz/ton
No. 2 Adit	3.05m (10')	N20°W/60°E(W.Vein)	61.0cm(24")	0.04 oz/ton	0.4 oz/ton
210' N 85°W	3.05m (10')	N20°W/80°W(E.Vein)	97.6cm(38.4")	0.04oz/ton	Trace
from No. 1	6.1 m (20')	N20°W/60°E(W.Vein)	42.7cm(16.8")	Trace	Trace
Adit with	6.1 m (20')	N20°W(central rock parting)	(?) (?)	Trace	Trace
Portal at 2012m ASL	6.1 m (20')	N20°W/80°W(E.Vein)	39.6cm(15.6")	0.03oz/ton	1.4 oz/ton
	7.62m (25')	N20°W/60°E(W.Vein)	21.3cm(8.4")	Trace	Trace
	7.62m (25')	N20°W/80°W(E.Vein)	38.6cm? (15.6"?)	0.02oz/ton	0.2 oz/ton
	7.62m (25')	N20°W(central rock parting)	128cm(50.4")	Trace	Trace
OPEN CUT No. 1	S 10°W from No.2 Adit at 6500' ASL	"flat-lying"	30.5x46.0cm (12"x18")	0.16oz/ton	0.2 oz/ton
OPEN CUT No. 2	S 10°W from No.2 Adit at 6440'ASL	"flat-lying"?	38x122 cm (15"x48")	1.28oz/ton	2.6 oz/ton
OPEN CUT No. 3	S 5°W from No.2 Adit at 6405'ASL	"flat-lying"?	25.4x25.4cm (10"x10")	Not Assayed	Not Assayed
OPEN CUT No. 4	240' S 62°W from Open Cut No.3 at 6365'ASL	"flat-lying lens"	51x335 cm (20"x132")	0.1 oz/ton	0.2 oz/ton
DITCH	625' S 75°W from No.2 Adit at 6610'ASL		183x366cm (72"x144")	0.12 oz/ton	0.6 oz/ton

.../continued

Table I continued

B. WORKINGS IN QUARTZ DIORITE/GRANODIORITE

Location	*Station*	*Attitude of Mineralized Zone*	*Width Sampled*	*Au*	*Ag*
TRENCH	*N 18°W from No. 2 Adit at 7160'ASL*	*"flat, southerly dipping"*	*61x102cm (24"x40")*	*0.16 oz/ton*	*Trace*
OPEN CUT	*Summit between Eldorado and Bonanza Crks at 7505'ASL*	*NE strike, steep SE dip*	*5cm (2")*	*0.20 oz/ton*	*0.2 oz/ton*
OPEN CUT	*950' westerly from above location at 7370' ASL*	*NE strike*	*61cm (24")*	*0.60 oz/ton*	*Trace*
OPEN CUT	*southerly from above location at 7255' ASL*		*51x91cm (20"x36")*	*Not Assayed*	*Not Assayed*

Northern Lights

Following the location of claims at the Lucky Jem (White and Bell) prospect in 1909 or 1910, prospecting in Taylor Basin led to the discovery of a number of auriferous sulphide occurrences along Taylor Creek and on the upper slopes of the basin. In the Minister of Mines Annual Report for 1913 (published 1914), William M. Brewer, Mining Engineer, described two groups of claims located in the basin. The Twenty-fourth of May Group, consisting of the Twenty-fourth of May, Golden King, Comet, Dolly, and Jumbo Claims, was located along a northwest-southeast axis from the basin to the summit of the ridge dividing the drainages of Eldorado Creek and Taylor Creek. The Wild West Group, consisting of the Wild West, Eclipse, and Snowstorm Claims, was located along Taylor Creek following a westerly axis towards the basin.

From the descriptions of the locations of the above claim groups, it is clear that the Twenty-fourth of May Group covered approximately the same ground as that now held by the Northern Lights No. 1 to No. 8 claims. The location of the Wild West Group is not so clear since, from the description provided, it does not seem to coincide with the location of any presently known workings and may represent a mineral occurrence located approximately 1 km downstream from the Northern Lights No. 2 adit. A massive pyrrhotite zone conforming to the previously described geology and location of the Wild West zone was found during the 1980 work and is shown on the 1:5000 scale property map accompanying this report.

According to a report prepared by B. T. O'Grady, Resident Mining Engineer, and published in the Minister of Mines Annual Report for 1935, located claims in the Taylor Basin area in 1934 included the Polaris Peak, Tit Bit, Sunburst, Rapidian, Preference, Magma, Vortex, and Octopus Fraction, as well as the Northern Lights No. 1 to No. 8, I.X.L. No. 1 to No. 6, Homestake No. 1 to No. 5, Viking No. 1 and No. 2, and the Peak Group, consisting of the Thunder Peak and Lightning Peak claims. Of all of these claims, only the Northern Lights No. 1 to No. 8 and the Homestake No. 4 are shown on the maps accompanying this report, the other claims having been deleted from the Mining Recorder's records. The Northern Lights prospect is sometimes referred to as the Goldsides prospect, so named after a company which carried out considerable exploration on the ground in the 1930's.

The principal workings on the Northern Lights claims consist of two adits, the upper or No. 1 adit being located at an elevation of approximately 2241 metres (7350 feet) ASL on the Northern Lights No. 6 claim (Lot 6836), and the No. 2 adit being located at an elevation of approximately 1966 metres (6450 feet) ASL on the Northern Lights No. 1 claim (Lot 6831). The No. 1 adit was driven to investigate a zone of northeasterly striking, vertically or steeply northwesterly dipping narrow veins which cut the quartz diorite exposed on the western slopes of Taylor Basin. Mineralization consists of coarsely crystalline arsenopyrite, pyrite, minor chalcopyrite, and occasional specks of sphalerite. A short distance

northwest of the portal, exposures of diorite were seen to be cut over a wide zone by numerous, closely-spaced, narrow, siliceous veinlets containing fine-grained arsenopyrite and pyrite, which also occurred as apparent disseminations of sulphide mineralization in the quartz diorite. B. T. O'Grady (1935) reported that a test pit 5.5 m long exposing a 25 cm to 30 cm wide zone of sulphide mineralization, and located at 2291 metres (7513 feet) ASL, some 50 metres (161 feet) higher in elevation than the portal of the No. 1 adit, had yielded the following assay values from a 2108 kg (4643 lb) shipment of vein mineralization:

Au	1.74 oz/ton
Ag	0.06 oz/ton
Cu	0.05%
Zn	nil
As	19.56%
Sb	Trace
Fe	13.9%
Si	44%
Ca	nil
S	6%
Al	5.9%

Attitudes of the vein systems at the southern end of the pit were described as varying from a strike of N20°E dipping 70°NW to a strike of S80°W dipping from 86°N to the vertical. Forty-seven metres to the southwest of this area, at an elevation of 2322 metres (7615 feet), the attitude of a 6-metre long zone of mineralized fractures were reported to be S80°W dipping 85°N to the vertical. A sample collected at the latter locality assayed as follows:

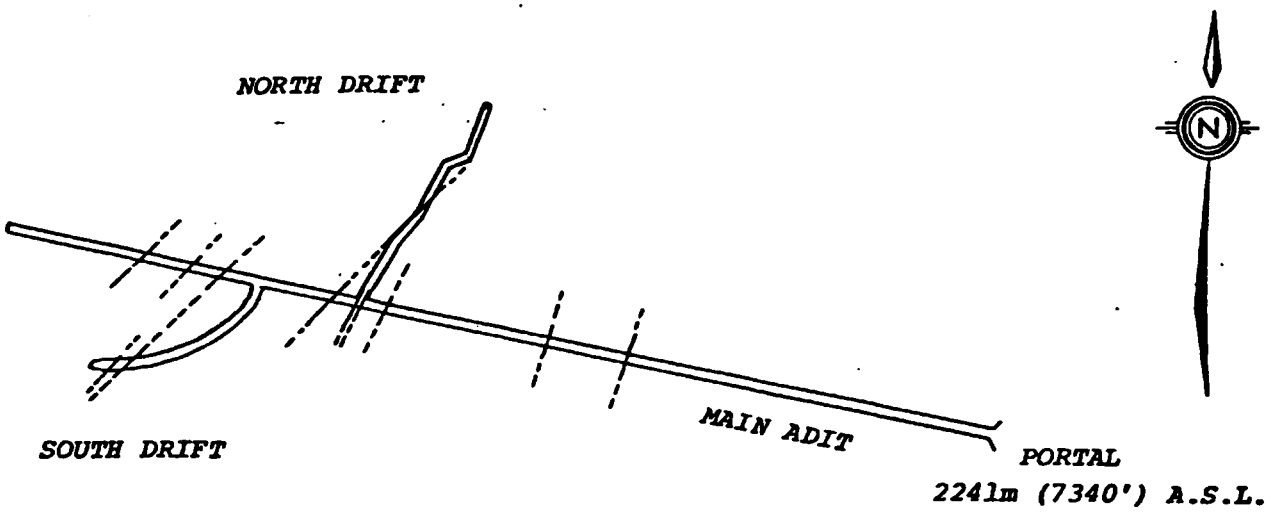
Au	1.68 oz/ton
Ag	0.3 oz/ton

From the northern end of the main pit, attitudes of mineralized fractures were observed to vary from N55°E over a strike length of 6 metres, to N68°E over a strike length of 15 metres, with dips varying from 77° to 80° to the northwest.

The No. 1 adit was driven to intersect the projected downdip continuation of the zone of mineralization exposed in the main pit. The results of underground development are summarized in Figure 7; the plan of the underground workings has been reconstructed from a verbal description given in the Minister of Mines Annual Report published in 1935.

Workings in the lower parts of Taylor Basin include the No. 2 adit and a number of test pits and areas of ground sluicing. The lowermost of these workings, described in the Minister of Mines Annual Report for 1934, probably coincides with the location of the Wild West Group, first mentioned in the Minister of Mines Annual Report published in 1913. The No. 2 adit was driven to investigate the presence of a number of narrow auriferous arsenopyrite veinlets

PLAN OF NORTHERN LIGHTS No. 1 ADIT
SCALE 1:1,000 (1 cm : 10 m)
(Reconstructed from description in 1935 Minister of Mines Annual Report)



MINERALIZED INTERSECTIONS

Location	Station	Attitude of Mineralized Zone	Width Sampled	Au	Ag
Main Adit	46.40m (153')	?	-	Not Assayed	Not Assayed
Main Adit	56.40m (185')	?	-	Not Assayed	Not Assayed
Main Adit	77.74m (255')	?	-	Not Assayed	Not Assayed
Main Adit	80.18m (263')	?	-	Not Assayed	Not Assayed
Main Adit	81.40m (267')	?	-	Not Assayed	Not Assayed
Main Adit	84.60m (277.5')	?	7"	0.60 oz/ton	0.6 oz/ton
Main Adit	98.17m (322')	045/56SE?	-	Not Assayed	Not Assayed
Main Adit	102.13m (335')	?	5"	0.14 oz/ton	0.3 oz/ton
Main Adit	108.54m (356')	?	-	Not Assayed	Not Assayed
North Drift	0-9.15m (0-30')	030°Az to 040°Az Dips 55° to 70°NW	7"to3"	0.24 oz/ton	Trace
North Drift	14.32m (47')	040/75NW	6"to8"	0.34 oz/ton	0.8 oz/ton
South Drift	18.90m (62')	045/56SE	4"	Not Assayed	Not Assayed
South Drift	20.73m (68')	?	3"	Not Assayed	Not Assayed

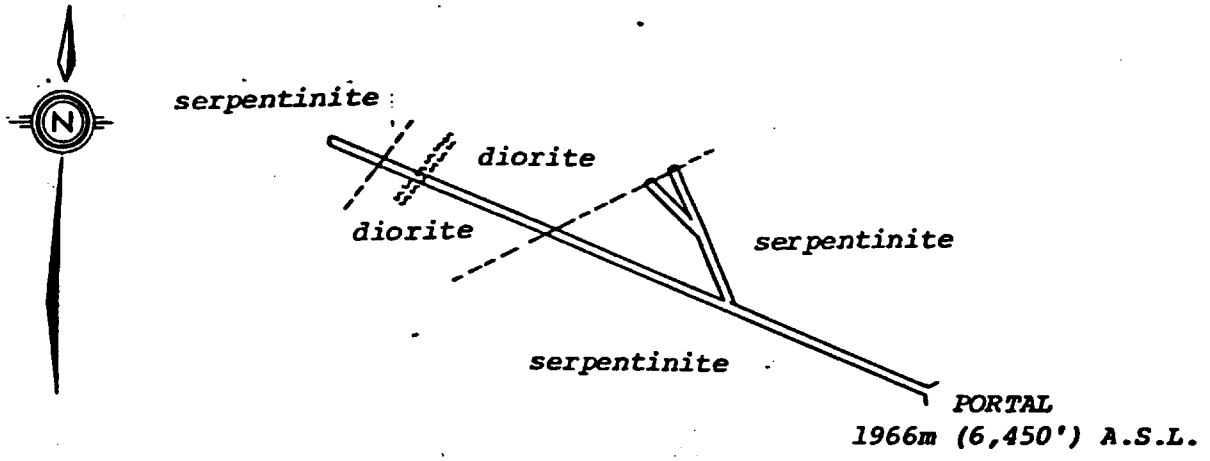
NORTHERN LIGHTS No.1 ADIT

SCALE 1:1,000

DATE :

FIGURE NO : 7

PLAN OF NORTHERN LIGHTS No. 2 ADIT
SCALE 1:1,000 (1 cm : 10 m)
(Reconstructed from description in 1935 Minister of Mines Annual Report)



MINERALIZED INTERSECTIONS

Location	Station	Attitude of Mineralized Zone	Width Sampled	Au	Ag
Main Adit	70.73m to 72.26m (232' to 237')	Striking N37°E to N40°E	Grab Sample	0.04 oz/ton	Not Assayed

NORTHERN LIGHTS No.2 ADIT

SCALE 1:1,000

DATE :

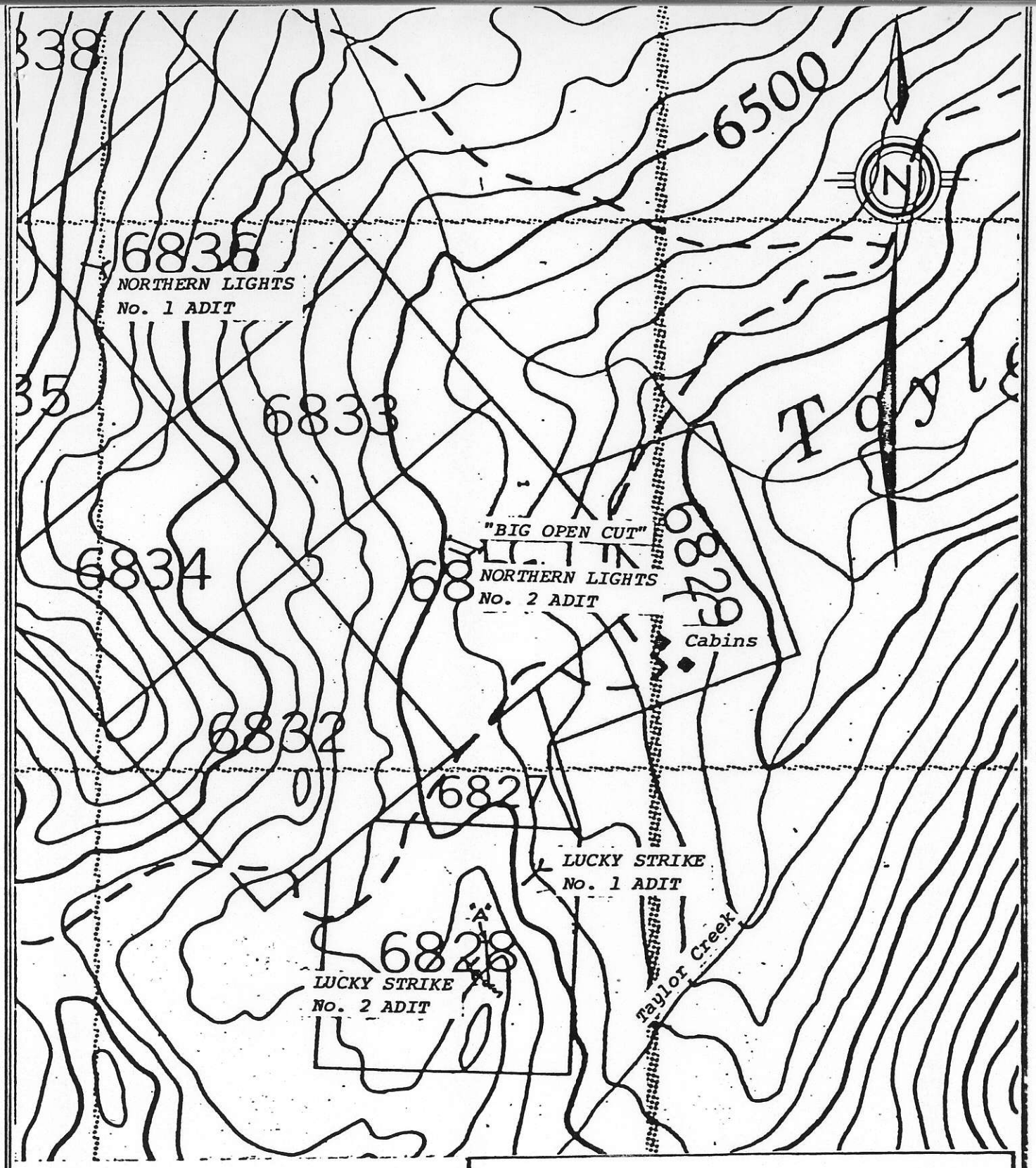
FIGURE NO. : 8

which were uncovered in a 64-metre (210-foot) long open cut adjacent to the portal. Samples collected from the open cut in 1935 were reported to assay 0.30 oz/ton Au and a trace of Ag. The adit and related drifts investigated a contact between diorite and serpentinite. The results of the underground exploration are sumarized on Figure 8, a plan of the workings, which has been reconstructed from descriptions supplied in the Minister of Mines Report published in 1935.

Lucky Strike

The earliest reference to a showing in the vicinity of the Lucky Strike prospect appeared in the Minister of Mines Annual Report published in 1925, in a description of the Iron Ridge Group. Although the description of the location of the showing is vague, it is probably the same mineralized zone investigated by the Lucky Strike No. 1 and No. 2 adits. The Victoria claim mentioned by A. M. Bateman in G.S.C. Summary Report for 1912 may also be one and the same, since the geological description given bears a similarity to the geology of the Lucky Strike prospect.

After allowing its option to lapse on the Northern Lights No. 1 to No. 8 claims, Goldside Mines Ltd. optioned the Lucky Strike Group late in 1935 and carried out underground exploration in 1936 and subsequent years to 1940. The principal working on the Lucky Strike prospect is the lower or No. 1 adit, located on the Homestake No. 4 claim, with its portal situated at approximately 1913 metres (6275 feet) ASL. When the property was examined by the writer, the workings were found to be entirely accessible although the portal was somewhat caved, and the drift contained about 0.5 metres of water. The adit was driven to investigate a mineralized zone striking N7°W along the spine of a low, steep-sided ridge that projects well out into Taylor Basin from the much higher surrounding ridges. Sulphide mineralization has been intermittently exposed by surface cuts over a strike length of 77 metres along the spine of the ridge at the contact between a 3-metre wide basic dyke and the enclosing serpentinites. A faulted continuation of the zone, located approximately 34 metres to the west, has been intermittently exposed by open cuts along a strike length of about 21 metres. B. T. O'Grady (1936) supplied a detailed description of the location of the open cuts and the character of mineralization exposed in them (see Figure 9). Sulphide mineralizatien encountered in the adit consists of irregular pods, lenses, and streaks of sphalerite, jamesonite, pyrite, chalcopyrite, and massively crystalline arsenopyrite, which occur along both sides of the dyke at its contacts with the serpentinite. Gangue minerals consist of quartz-carbonate-mariposite(?) assemblages that represent hydrothermally altered serpentinite. A plan of the adit is shown in Figure 10, and has been reconstructed from a verbal description of the workings published in the 1936 Minister of Mines Annual Report. Table II summarizes sampling and assay data from the same source. According to a later description by Cairnes (1943), the south drift was extended approximately 30 metres southwesterly from Station 4, and an additional 44.2 metres in a more southerly direction to the face.



LEGEND

- Adit
- Open Cut
- Fault or Shear

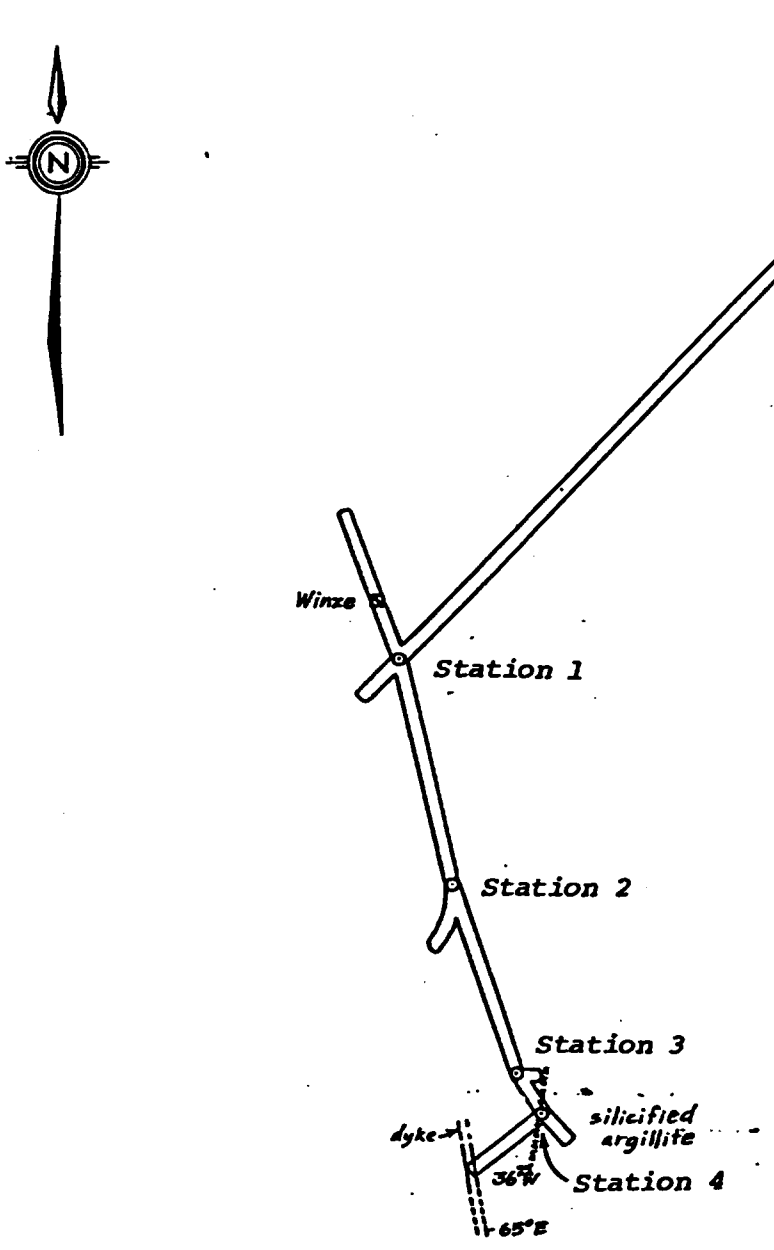
LOCATIONS OF WORKINGS
NORTHERN LIGHTS & LUCKY STRIKE AREA

SCALE 1:10,000

DATE:

FIGURE NO.: 9

PLAN OF LUCKY STRIKE No. 1 ADIT
SCALE 1;1,000 (1 cm : 10 m)
(Reconstructed from description in 1936 Minister of Mines Annual Report)



LUCKY STRIKE No. 1 ADIT	
SCALE 1:1,000	
DATE:	FIGURE NO.: 10

Table II Summary of Sampling and Assays at Lucky Strike Prospect as reported by B. T. O'Grady, Resident Mining Engineer, 1936 Minister of Mines Annual Report

Location	Width	Au	Ag	Zn	As	Sb
1.OPEN CUTS REFERENCED TO POINT "A" ON SPINE OF RIDGE						
40.7m(133.5') S of "A"	142cm(56")	0.12oz/ton	3.0oz/ton	10.1%		
60.2m(197.5') S of "A"	91.4cm(36")	1.02oz/ton	6.0oz/ton	18.3%		
57.9m(190')S and 33.5m (110')W of "A"	25.4cm(10")	1.04oz/ton	2.0oz/ton			
2.LUCKY STRIKE No. 1 ADIT						
NORTH DRIFT						
a) West Wall of Dyke						
3.0m(10') N of Station 1	15.20cm(6-8")	0.26oz/ton	1.0oz/ton			
4.7m(15.5')N of Station 1	25.4cm(10")	0.40oz/ton	0.6oz/ton			
7.0m(23') N of Station 1	163cm(64")	0.74oz/ton	2.8oz/ton	4.7%	1.15%	4%
9.1m(30') N of Station 1	91.4cm(36")	0.56oz/ton	0.8oz/ton			
4.9m(16')section 10.7-15.5m (35-51') N of Station 1	Avg 10cm(4")	0.60oz/ton	2.0oz/ton			
b) East Wall of Dyke						
0.6m(2')section 13.1-13.7m (43-45') N of Station 1	Max 61cm(24")	1.30oz/ton	1.2oz/ton			
N side of Winze 10.7m (35') N of Station 1	229cm(90")	0.44oz/ton	3.0oz/ton		5.3%	

Table II...continued

Location	Width	Au	Ag	Zn	As	Sb
N side of Winze 10.7m (35') N of Station 1	229cm(90")	0.50oz/ton	1.0oz/ton	8.2%	0.65%	
S side of Winze 7.6m (25') N of Station 1	15cm(6")	0.20oz/ton	1.0oz/ton	9.0%		
S side of Winze 7.6m (25') N of Station 1	71.1cm(28")	0.70oz/ton	2.2oz/ton	8.7%		
West Wall of SOUTH DRIFT						
8.5m(28')section 2.4-11m(8-36') S of Stn 1	Avg 28cm(11")	0.24oz/ton	0.1oz/ton			
0.46m(1.5') section 15.5-16m(51-52.5') S of Stn 1	10cm(4")	"Low grade"	"Low grade"			
4.9m(16') section 18-22.9m(59-75') S of Stn 1	10-20cm (4-8")	"Low grade"	"Low grade"			
4.3m(14') section 1.1-5.3m(3.5-17.5) S of Stn 2	8cm(3")	N.A.	N.A.			

Only minor sulphide mineralization was encountered in these workings, which are not plotted on Figure 10.

A second adit, referred to as the Coronation Adit in the 1937 Minister of Mines Annual Report, but here referred to as the Lucky Strike No. 2 adit, is situated an estimated 200 metres southwesterly from the No. 1 adit, with its portal at an elevation of approximately 2035 metres (6675 feet) ASL. When examined by the writer, the adit was seen to be driven southerly about 35 feet on a southerly striking, vertically dipping zone of mineralization which occurred at the contact of a carbonatized hornblende porphyry dyke and the enclosing serpentinite. The mineralized zone consists of a 10 cm wide vein of massive arsenopyrite, jamesonite(?), sphalerite, pyrite, and minor chalcopyrite. Narrow stringers of sulphide mineralization were observed in a spectacularly banded hydrothermally altered serpentinite gangue consisting of a quartz-carbonate-mariposite assemblage. Small pods and very fine-grained disseminations of sulphide minerals occur in this zone for some distance from the dyke.

Minor amounts of surface and underground work were reported to have been carried out in 1938, 1938, and 1940, when operations were suspended.

Robson and Nea Creek[1] Areas

Early Exploration, 1912-1933. The earliest reference, known to the writer, to mineralization in the Nea Creek basin was published in Geological Survey of Canada Summary Report for 1913, and referred to "...a number of small veins filled almost entirely with arsenopyrite and minor amounts of chalcopyrite, pyrrhotite, pyrite, and zinc blende (sphalerite)." [2] The veins were said to cut an oxidized and decomposed granite porphyry dyke near the head of Nea Creek. In 1932, H. G. Nichols, Resident Mining Engineer, provided the following description of exposures along the upper slopes of the ridge dividing Nea Creek and Eldorado Creek:

> "At one point near the summit of the mountain (on the Eldorado Creek side)...at an elevation of about 7400 feet, the general structure is that of bedded sedimentaries, but the presence of crystalline structure points to the possibility of even these rocks being sheeted sills of granodiorite. The direction of these beds or planes is east-west (mag.), with a dip of 55° to the north, and on the precipitous north side of this eastern part of the mountain (head of Nea Creek basin) a well-defined

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[1]Early reports refer to Nea Creek as Bonanza Creek. This usage continued at least until 1933 (see 1933 Minister of Mines Annual Report). When, exactly, the east fork of Bonanza Creek came to be known as Nea Creek is not known, but this usage is continued here to conform to the nomenclature on current topographic maps.

[2]A.M. Bateman, 1913, Geological Survey of Canada Summary Report for 1912, pp. 206-207.

zone of fracturing cuts across these planes almost at right angles, with a dip of about 60° to the southeast. The (strike) direction of this zone is approximately northeast and southwest (true) and it lines up with the whole of the mineralized area on the southern slope (vicinity of Lucky Jem adits); that is to say, allowing for the dip, this zone would be exposed at surface over practically the whole of the area in which mineralization is found." [1]

The next known reference to the area is included in the 1933 Minister of Mines Annual Report, which refers to exploration work being carried out in Bonanza (Nea) basin under the supervision of Cooper Drabble. The 1933 report describes a "...feldspathic belt probably over 1000 feet wide, which cuts diagonally (northeasterly) through the quartz diorite intrusions and sedimentaries." [2] Work being carried out under the supervision of Cooper Drabble was described as "...extensive ground sluicing on the upper or south end of the dyke, and also along Hughes Creek[3] on the north end (of the dyke)." [4] The feldspathic dyke was said to be exposed for several hundred feet along strike at its south end, following a tributary of Nea Creek up the cirque wall at the head of the basin. Small seams and veinlets of arsenopyrite were observed to occur across its width, carrying gold values. The north end of the felsic zone, where it crosses Hughes Creek, is also cut by numerous auriferous arsenopyrite veins and veinlets. The results of sampling and assaying over ona of the mineralized zones in the latter area were reported by George A. Clothier in 1933, and are summarized in Table III.

Exploration, 1934-1943. The history of the Nea Creek and Hughes Creek area from 1934 to 1939 is not known to the writer. The British Columbia Minister of Mines Annual Report for 1940 states that in that year, Bralorne Mines Ltd., while holding a six-week examining option, extended an old adit in the Robson area 39.6 metres (130 feet) and faced a second adit in the same general area. The old adit was stated to have already been driven 21.3 metres (70 feet) and apparently this work was carried out between 1934 snd 1939. The property, in 1940, was owned by the J. G. Mining Company; and J. A. Anderson, one of the principals of the company, later advanced the second adit 12.2 metres (40 feet). Bralorne Mines Ltd. was also reported to have carried out 213 metres (700 feet) of diamond drilling and to have

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[1]H.G. Nichols, 1932, British Columbia Department of Mines Bulletin 1, 1932, "Lode Gold Deposits of British Columbia", p.73.

[2]George A. Clothier, 1933, British Columbia Minister of Mines Annual Report, p.269.

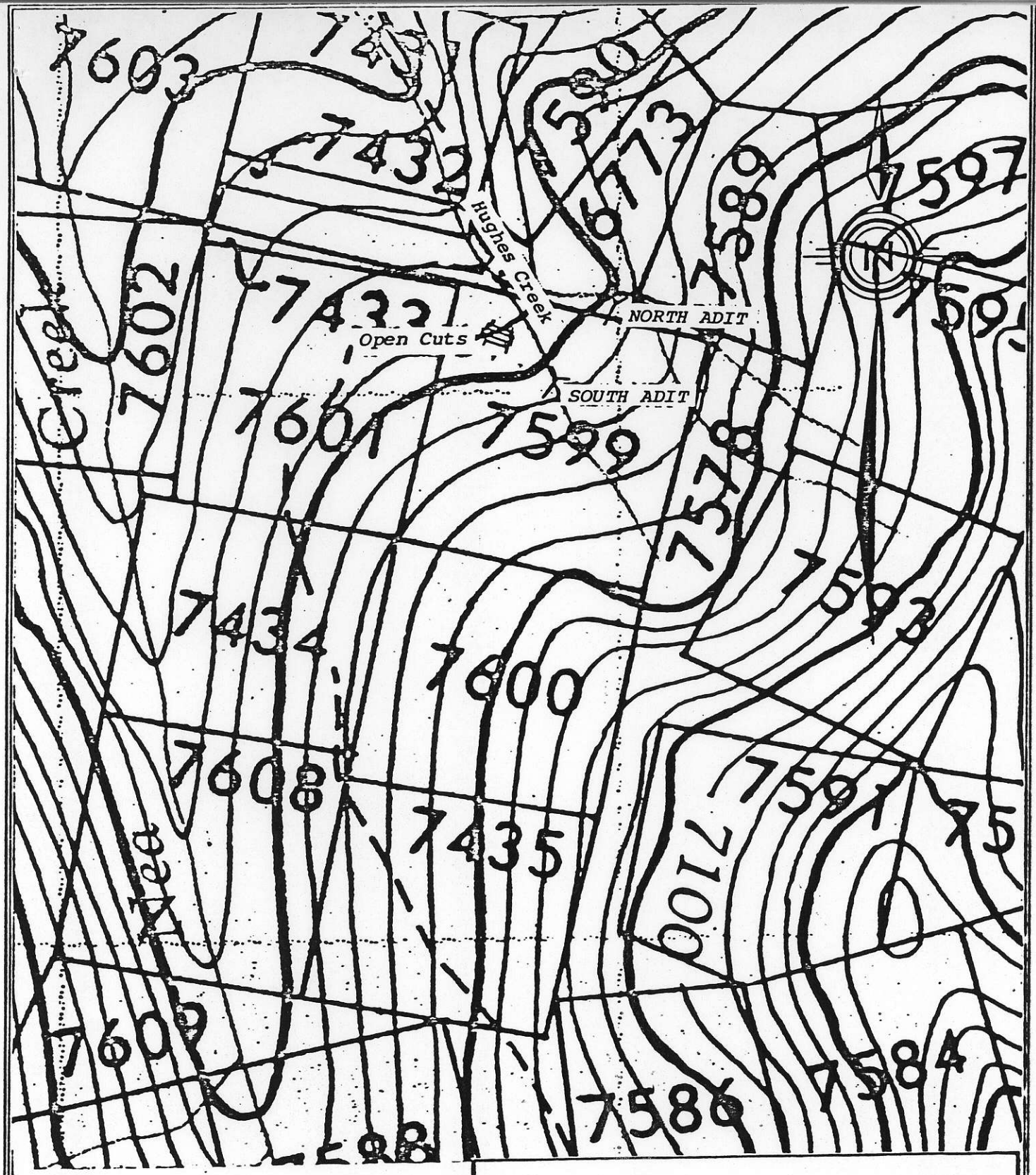
[3]Hughes Creek is the lowermost tributary of Nea Creek.

[4]Clothier, 1933, loc. cit.

Table III Summary of Sampling and Assays in the Hughes Creek and Robson Areas as reported by George A. Clothier, Resident Mining Engineer in the 1933 Minister of Mines Annual Report

Location	*Width Sampled*	*Attitude*	*Au*	*Ag*
34" vein in dyke exposed above Hughes Creek	*5" (arseno-pyrite)*	*N10E/40W*	*2.40oz/ton*	*20.9oz/ton*
	29" (decomposed material)	*N10E/40W*	*0.12oz/ton*	*0.14oz/ton*
Footwall	*12" (brecciated material)*	*N10E/40W*	*0.02oz/ton*	*N.A.*
15' higher on the vein	*10" (arseno-pyrite)*	*N10E/40W*	*2.39oz/ton*	*16.8oz/ton*

completed a survey of the old claims. None of the results of this work is available. Cairnes (1943) stated that the two adits were located at an elevation of 1829 metres (6000 feet) on a southwestern tributary of Nea Creek, and were driven to investigate a mineralized shear zone 46 cm (18 inches) wide which had previously been examined in 1939 by Crickmay, and described as striking northeast and dipping 36°NW. The locations of the two adits and a number of intervening open cuts are shown on Figure 11. The adits were undoubtedly driven on the same mineralized zone described by both Cooper Drabble, and Clothier (1933). Vein mineralization consists of massive zones of arsenopyrite, sphalerite, jamesonite(?), and minor pyrite and chalcopyrite. Cairnes reported the presence of trace amounts of tin in some analyses. A sample collected by Crickmay from near the portal was reported by Cairnes to have assayed 0.99 oz/ton Au. At the time of Crickmay's examination, ore was being shipped on horseback at a rate of about two tons per day.



LEGEND

- Adit
- Open Cut
- Fault or Shear

LOCATIONS OF WORKINGS
ROBSON AREA

SCALE 1:10,000

DATE:

FIGURE NO : 11

G E O P H Y S I C S

GROUND MAGNETIC SURVEY

Regional aeromagnetic features are shown in Figure 12. A small amount of ground magnetic surveying was carried out on an experimental basis in the vicinity of the Lucky Strike adits, to assess its usefulness as an exploration tool. The instrument used was a Scintrex MP-2 proton precession magnetometer. The uncorrected data are presented in profile form in Figure 13. The overburden covered extension of the magnetite-bearing ultramafic rocks is clearly defined. Ground magnetic surveying is strongly recommended as an adjunct to geochemical sampling and geological mapping in future work on the claims.

GROUND ELECTROMAGNETIC SURVEY

A small amount of ground VLF-EM surveying was also carried out on an experimental basis in the vicinity of the Lucky Strike showings, to assess its usefulness as an exploration tool. The instrument used was a Crone Radem VLF-EM unit. The fixed source transmitter used was Seattle (18.6 KHz); direction to the transmitter was determined to be 170° Azimuthal.

Dip angle readings only were taken and field strength was not monitored. Due to erratic transmitter maintenance schedules, surveying of the reconnaissance area was not completed and the survey results are not included herein.

A number of weak conductive responses are apparent, but the strongly conductive trends expected to be obtained on traverses across the massive metallic zones in the Lucky Strike vein systems did not materialize. A presently favoured explnnation for the survey results is that the steep topography in the vicinity of the vein (slopes in excess of 45°) result in an apparent dip of the vein system of only 15° to 25° relative to the topographic surface. As a result, the instrument would possibly respond to the conductive zone as though it were a flat-lying conductor.

VLF-EM surveying, therefore, holds some promise as an exploration tool, but further work will be required to properly evaluate its potential.

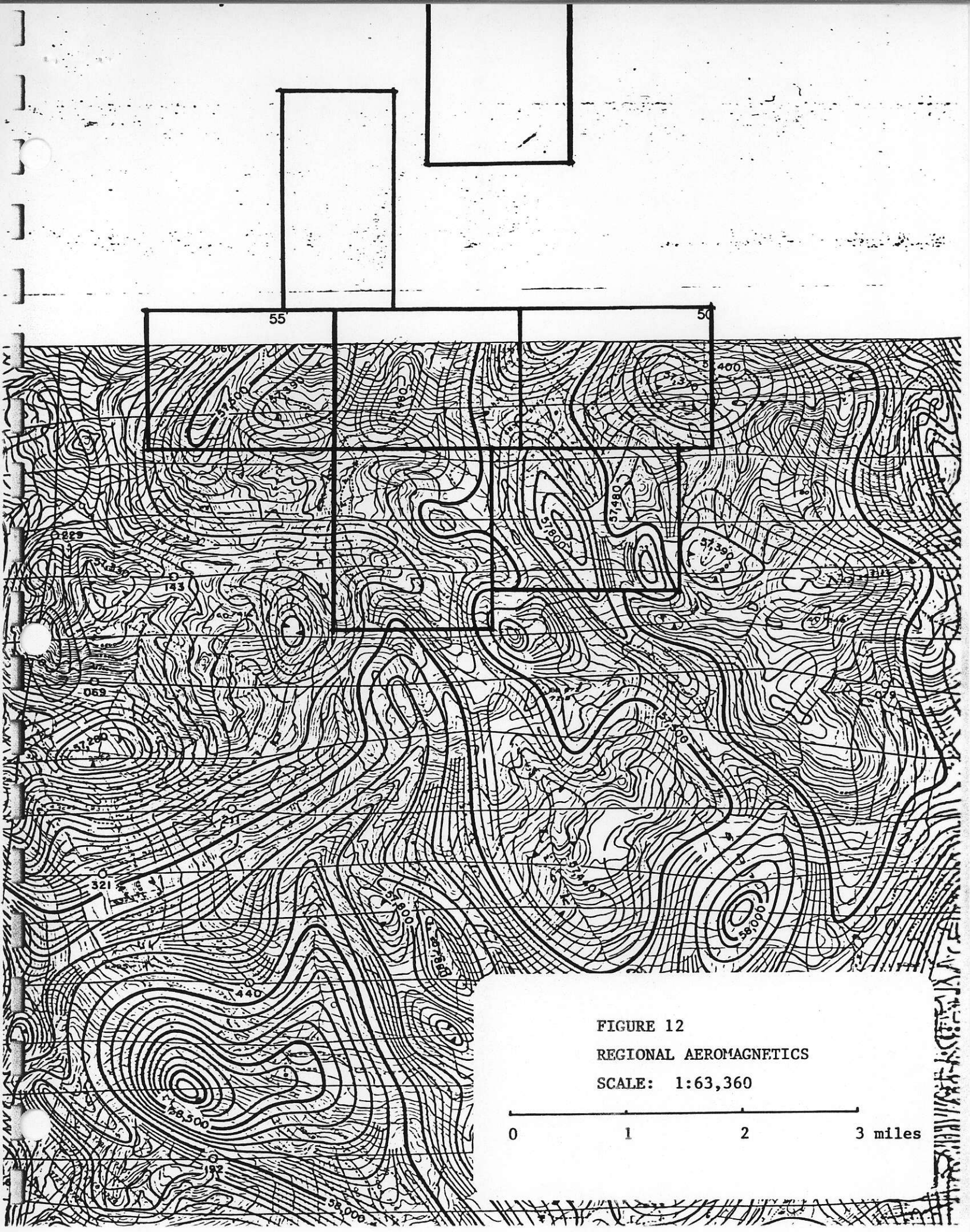
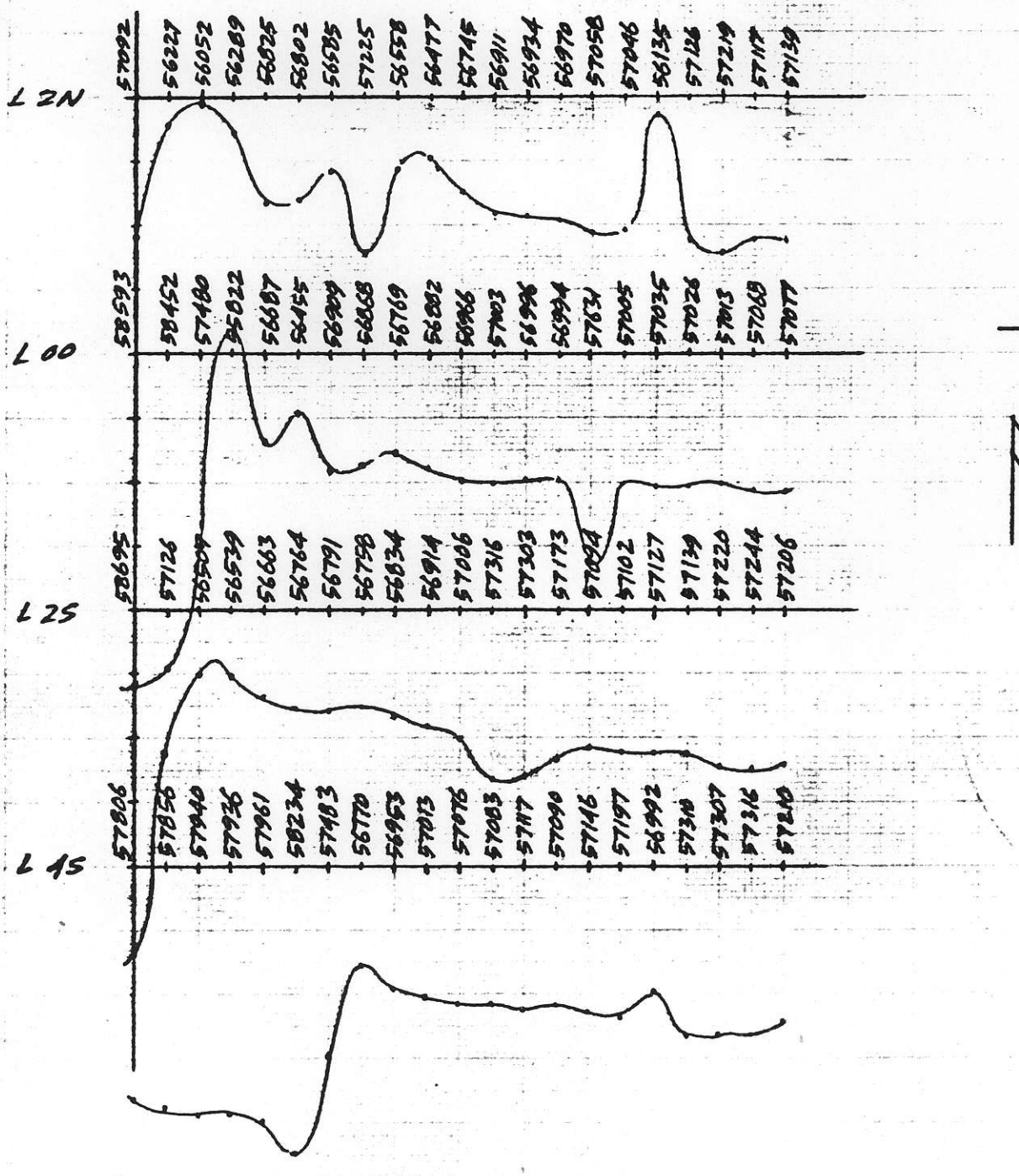


FIGURE 12

REGIONAL AEROMAGNETICS

SCALE: 1:63,360

0 1 2 3 miles



PROFILE SCALE : 1cm : 500 nanoTeslas
(Base level of 56,000 nT)

FIGURE 13
RECONNAISSANCE GROUND MAGNETICS
(EAST TAYLOR BASIN GRID)
SCALE : 1 : 5,000

0 100 200 300 400m

G E O C H E M I S T R Y

Geochemical sampling consisted of the collection of 1,013 soil samples at intervals of 25 metres and 50 metres on grid lines nominally spaced at 100 metre and 200 metre intervals. The closer line spacings and sampling intervals were used to detail areas of particular interest. The soil samples were collected using mattocks and were placed in bellows-type heavy kraft paper soil sample envelopes. The samples were dried, sieved, and analyzed for 26 elements by Acme Analytical Labs Ltd. of Vancouver, using an ICP (induction coupled plasma) technique. The elements for which the samples were analyzed include: Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Th, Cd, Sb, Bi, V, Ca, P, La, In, Mg, Ba, Ti, B, Al, and W. An aqua regia digestion was used. The leach is only partial for Ca, P, Mg, Al, Ti, La, and W; very little Ba is taken into solution. A separate analytical technique was used for Au, consisting of an aqua regia leach, followed by extraction using an organic solvent (MIBK — methyl isobutyl ketone) and semi-quantitative determination by Atomic Absorption. More detailed descriptions of analytical techniques are appended to this report.

The analytical results for Cu, Pb, Zn, Ag, Ni, Fe %, As, Sb, and Au have been tabulated and are included as an appendix to this report. Corresponding plots of the analytical results for these elements (except Fe %) have been prepared and are included in the map pocket.

A total of 166 rock samples were also collected from the property. Of these, 157 samples were geochemically analyzed by the same procedures used for the soils. Nine rock samples were submitted for assay. The locations of the rock samples are plotted on the accompanying property geology maps. The analyses are included as an appendix.

The contoured values of Au, Ag, Sb, As, Cu, Pb, Zn, and Ni are included in Table IV.

Significant geochemical responses are described as follows:

MAIN GRID

Taylor Basin Area. The east side of the main grid in the Taylor Basin area is characterized by a 2000 metre long series of zones geochemically anomalous in Au, Sb, As, and Zn. Zones anomalous in

TABLE IV. CONTOURED GEOCHEMICAL VALUES

MAIN GRID; "A" GRID

Au	20 ppb	40 ppb	80 ppb	
Ag	0.7 ppm	1.0 ppm	1.4 ppm	2.8 ppm
Sb	4.5 ppm	9.5 ppm	14.5 ppm	
As	100 ppm	200 ppm	400 ppm	
Cu	100 ppm	200 ppm	400 ppm	
Pb	30 ppm	60 ppm	100 ppm	
Zn	150 ppm	200 ppm	400 ppm	
Ni	100 ppm	200 ppm	400 ppm	

"B" GRID

Au	20 ppb	40 ppb	80 ppb	
Ag	0.7 ppm	1.0 ppm	1.4 ppm	
Sb	4.5 ppm	9.5 ppm	14.5 ppm	19.5 ppm
As	75 ppm	100 ppm	200 ppm	
Cu	100 ppm			
Pb	30 ppm	60 ppm		
Zn	150 ppm	200 ppm	400 ppm	
Ni	---			

Ag and Pb appear as more restricted areas within this overall zone. Zones anomalous in Cu form a less well-defined trend, but a general coincidence with the other anomalous trends is apparent. The widths of the anomalous zones vary from 100 metres to 400 metres. These zones are located in very steep terrain and considerable downslope geochemical dispersion has very likely occurred. The rocks underlying the above zones exhibit extensive shattering, hydrothermal alteration consisting of silicification, carbonatization, and pyritization, and are intruded by a number of dykes ranging in composition from gabbroic to rhyolitic. These rocks are highly faulted; deeply weathered and oxidizad fault breccias outcrop or may be seen in talus in several areas (see accompanying 1:5000 scale property geology map) within the anomalous zone.

Lucky Strike Area. Geochemical response over the Lucky Strike showings consists of highly anomalous Au, Ag, Sb, As, Cu, Pb, and Zn values in a relatively restricted area. The anomalous results reflect the polymetallic character of the vein minarals.

Lucky Jem Area. Highly anomalous Au, As, Sb, Cu, and Pb in soils values define a broad 700 metre wide by 800 metre long zone, open at both ends, on the slopes above the Lucky Jem adits. Although this area was not examined in detail in 1980, previous accounts of the geology of the area (see "Economic Geology" section of this report) describe a wide zone of fracturing in the altered sediments and intrusive rocks, throughout which "...many small (highly oxidized) veins of arsenopyrite...can be seen striking in every direction." [1]

"A" GRID

The "A" Grid is a reconnaissance grid which was positioned to investigate particularly interesting geology and structure along the ridge which borders Eldorado Creek Basin on the south. Highly anomalous Au-in-soils values of up to 2.5 ppm were discovered in this area, and

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[1]George A. Clothier, 1933, B.C. Minister of Mines Annual Report, p.268.

are coincident with geochemical trends containing anomalous As, Sb, Cu, and Ni in soil values. The trend delineated by work to date is a bifurcating zone 200 metres to 400 metres wide, by 500 metres in length, and is open at both ends. The geological zone of interest, which led to the positioning of the grid, trends into the grid area from the ridge crest immediately to the north (see 1:5000 scale property geology map accompanying this report). The zone is approximately 200 metres in width, strikes northerly, and is characterized by very strong (normal?) faulting, the development of tectonic breccias, intrueion of dykes, aad extenaive shattering, silicification, chloritization, and pyritization of the surrounding sedimentary rocks. Heavily pyritized zones are accompanied by prominent gossans. The 200 metre wide zone is concealed (or terminated?) on the west by a very strong fault (presently interpreted as a thrust fault) which juxtaposes a large wedge-shaped body of serpentinized and carbonatized ultramafic rocks against the altered sedimentary rocks.

"B" GRID

The "B" Grid area is located entirely within the Ural 1 claim, which is nearby, but not contiguous with the other Ural claims. The grid was located to investigate the possible extension of anomalous geochemical trends which occur on the block of reverted Crown-granted claims to the south, currently being explored by an unrelated mining company (see B.C. Ministry of Mines Assessment Reports No. 5659 and No. 6002). The anomalous geochemical trends on the reverted Crown grants are associated with a wide zone of fracturing and quartz-carbonate alteration, which appears to be spatially related to a leucocratic, felsic, dyke-like intrusive body that extends from the cirque wall at the head of Nea Creek and strikes in a northeasterly direction to the Robson adit (Bateman, 1913; H.G. Nichels, 1932; G.A. Clothier, 1933).

Anomalous As and Sb in soils values delineate a geochemically anomalous zone almost 1000 metres in width at the south end of the "B" grid. The anomalous zone trends northwestwards and rapidly narrows to a 200 metre to 300 metre width at the north end of the

grid. The length of the zone defined to date is 1400 metres and is open at both ends. The steep terrain in the area suggeste that censiderable northwestwards downslope geochemical dispersion may have occurred. The mineralized zone causing the anomaly may occupy a much smaller upslope area. Anomalous Pb and Zn in soils trends are coincident with the As-Sb anomalous zone, but are not as large or as intense. 'Spotty' anomalous Au and Ag in soils values occur mainly at the south end of the large As-Sb anomaly. High Cu and Ag in soils values show a good correlation.

Overburden is consistently considerably deeper on the Ural 1 claim than on the other Ural claims, with a consequent attenuation of geochemical response to underlying mineralization. Somewhat lower thresholds have been used (see Table 4) to contour the geochemical values obtained from the "B" grid area. These levels have been deliberately chosen to delineate the more subtle geochemical trends resulting from the deeper overburden. Because of the prevailing conditions of deeper overburden, it is considered that any underlying gold mineralization is less likely to have a geochemical expressien at surface then in areas of the Ural claims which are characterized by shallow overburden. As a consequence, heavier reliance in establishing exploration priorities must be placed on the pathfinder elements, As and Sb, which have shown an excellent correlation with anomaleus gold values in other areas of the Ural claims.

Geological mapping of the Ural 1 claim was not completed due to the onset of winter weather conditions in the latter part of the 1980 exploration period. The mapping that was carried out identified a number of leucocratic, felsic, porphyritic, northerly striking dykes similar to the intrusive zone reported to occur on the reverted Crown-granted claims to the south of the Ural 1 claim. Zones of intense shearing, silicification, and carbonate alteration were also observed in sedimentary rocks outcropping on the Ural 1 claim. Further mapping will be required, however, to determine the relationship of the anomalous geochemical zones to any mineralization present.

Ni GEOCHEMISTRY

On the Ural 3 to 7 claims, anomalous Ni in soils values are clearly associated with underlying ultramafic rocks or quartz-carbonate-mariposite hydrothermal alteration assemblages (or mylonitic melanges) derived from the ultramafic rocks. The high Ni in soils values discovered by geochemical sampling are considered to be related to Ni-rich silicates in the ultramafic rocks. It is unlikely that they are produced by Ni-bearing sulphide mineralization.

CONCLUSIONS AND RECOMMENDATIONS

GEOLOGY AND GEOCHEMISTRY

A. Carlin-type Targets

Geological mapping of the Ural claims has identified three areas of intense faulting and fracturing, extensive hydrothermal alteration consisting of silicification and carbonatization, and numerous, small, rhyolitic to gabbroic dyke-like intrusive bodies within these zones. Pyritization of the hydrothermally altered rocks is pervasive and prominent gossans blanket the alteration zones above treeline. The geological environment in the three zones is a favorable setting for the development of low-grade, disseminated Au mineralization resembling that of the 'Carlin-type' deposits. These areas are described as follows:

East Taylor Basin Grid. A 200 metre to 300 metre wide zone extends from Peak 7418 (on the main grid on the east side of Taylor Basin) to the 7400+ peak located approximately 1000 metres to the south. This zone coincides with a 2000 metre long series of geochemical anomalies carrying high Au, As, Sb, Zn, Ag, and Pb in soils values.

"A" Grid. A bifurcating 200 metre to 400 metre wide zone containing geochemically anomalous Au, As, Sb, Cu, and Ni in soils values extends the length of the "A" grid and is open at both ends. Faulting, fracturing, and hydrothermal alteration occur in a 200 metre wide series of heavily pyritized and silicified beds at the north end of the baseline.

Lucky Jem Area. A broad 700 metre wide by 800 metre long zone, open at both ends, defines the limits of a large area of anomalous Au, As, Sb, Cu, and Pb in soils values. The zone is geologically similar to the two above areas, in that it exhibits extensive fracturing, silicification, carbonatization, and pyritization. Extensive networks of randomly-oriented sulphide-bearing veinlets, described by earlier workers, are hosted in the intrusive rocks and altered sediments unerlying the slopes above the Lucky Jem adits.

"B" Grid (Ural 1 Claim). A geochemically anomalous zone similar to the three zones described above occurs along the west side and across the south end of the "B" Grid on the Ural 1 claim. Geological information at present is insufficient to definitely categorize this zone with the others. Further geological mapping will be required to further assess its similarity.

The shattered, hydrothermally altered, and intruded zones described above all occur in close proximity to quartz-carbonate-mariposite hydrothermal alteration assemblages. The quartz-carbonate assemblages are interpreted by the writer as pre-intrusive mylonitized thrust zones,

preferentially developed in ultramafic rocks. Upper Triassic Bridge River Group cherts, argillites, greenstones, and ultramafic rocks apparently have been thrust over Upper Triassic Pioneer Formation greenstones and Upper Triassic Hurley Formation sediments.

Further exploration of the hydrothermally altered, geochemically anomalous zones is strongly recommended. Priorities should be directed towards evaluating the 'Carlin potential' of these areas.

B. Conventional Vein-Type Targets

Lucky Strike Area. The Lucky Strike vein system is developed at the margins of a carbonatized hornblende porphyry dyke which intrudes a quartz-carbonate-mariposite assemblage. The vein mineralization consists of massive aggregates, lenses, and crustiform bands of arsenopyrite, sphalerite, pyrite, stibaite/jamesonite, and chalcopyrite. Aside from the quartz-carbonate-mariposite assemblage, extensive zones of hydrothermal alteration are lacking in this area. The widths and grades of sections of the vein sampled in the lower Lucky Strike adit are potentially economic. Resampling, surveying, and careful geological mapping of the existing underground workings is definitely warranted. The portal timbers should be repaired and the adit drained to provide safe access to the underground workings.

Lucky Jem Area. The Lucky Jem showing was not mapped in detail in 1980. Widths and grades reported by previous workers are encouraging. Some detailed mapping and sampling should be carried out over the Lucky Jem zone to reassess structural controls, the strika length and widths of the mineralized zones, and grades within the zone.

The occurrence is presently thought to be an unusually thick lens of sulphide mineralization within a larger zone of extensive hydrothermal alteration and sulphide-bearing networks of fractures. If a number of these lenses are present or if the known zone proves to have an appreciable strike length, this area should also be evaluated for its economic potential as a conventional vein-type deposit.

The six above-described zones all warrant additional exploration, recommended as follows:

The Carlin-type targets should be geochemically sampled in detail at 100 metre and 50 metre grid line spacings and 25 metre soil sample intervals. Geochemical coverage should be extended along strike on "open-ended" anomalies. Outcrops within the anomalous zones defined by the

results of this work should be carefully mapped at a scale of 1:1000 and semi-continuously chip sampled. The rock samples thus obtained should be geochemically analyzed and samples highly anomalous in Au should be submitted for assay.

The conventional vein-type targets should be explored by underground surveying, mapping, and sampling, as outlined above for the Lucky Strike area, and by careful, detailed surface mapping and sampling as outlined above for the Lucky Jem area. Some trenching will be required to fully evaluate the latter zone.

A large percentage of the Ural claims is still unmapped and has not been covered geochemically. This basic information should be acquired during the course of 1981 exploration.

GEOPHYSICS

Ground magnetic surveying should be carried out in selected areas to pin down ultramafic rocks and elucidate the structure and stratigraphy in overburden covered areas.

VLF-EM surveying should be carried out on a test grid basis over the fractured and hydrothermally altered 'Carlin-type' targets to assess its usefulness as an exploration tool in tracing these zones. Further surveying should also be carried out to determine whether or not VLF-EM surveying will successfully identify the conventional vein-type targets.

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SUMMARY OF EXPENDITURES

GR-BC-6 URAL PROJECT

GROUP 1 (URAL 2, 4, 5, and 6 MINERAL CLAIMS; MICRON 1 + 2 FRACTIONS)

PERSONNEL						
Project Geologist						
Pre-Field:	May, June	7½ days @ $150	1,125.00	(60%)	675.00	
Field:	June 27,28,29,30	6 days @ $240	1,440.00	(60%)	864.00	
	Aug. 11-22	10½ days @ $240	2,520.00	(80%)	2,016.00	
Post-Field:	Nov.,Dec.	5 days @ $150	750.00	(60%)	450.00	
	Jan./81	2½ days @ $150	375.00	(60%)	225.00	
	Feb./81	4½ days @ $150	675.00	(60%)	405.00	
	Mar./81	5 days @ $150	750.00	(60%)	450.00	
Senior Prospector						
Field:	June 27-30, July 1,2	6 days @ $175	1,050.00	(80%)	840.00	
	Aug. 7-22	16 days @ $175	2,800.00	(80%)	2,240.00	
Prospector:						
Field:	June 27-30, July 1-2, Aug. 7-22	22 days @ $145	3,190.00	(80%)	2,552.00	
Prospector:						
Field:	Aug. 7-22	16 days @ $145	2,320.00	(80%)	1,856.00	12,573.00
CAMP AND ACCOMMODATION						
Food		70.5 field man days @ $17	1,198.50	(80%)	958.80	
		6.0 field man days @ $17	102.00	(60%)	61.20	
Camp Equipment		70.5 field man days @ $10	705.00	(80%)	564.00	
		6.0 field man days @ $10	60.00	(60%)	36.00	1,620.00
TRANSPORTATION						
Hughes 500-D Helicopter	June 29	0.7 hours		(100%)		271.00
FUEL						
Invoice 80-112				(100%)	121.07	
Invoice 80-146			133.82	(80%)	107.06	
Invoice 80-186			239.44	(80%)	191.55	
Invoice 80-252			28.13	(60%)	22.88	442.56

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EQUIPMENT RENTALS				
2 3/4-ton 4x4 trucks 16 days @ $35	1,120.00	(80%)	896.00	
1 3/4-ton 4x4 truck 6 days @ $35	210.00	(80%)	168.00	
2 transceiver radios 22 days @ $7	308.00	(80%)	246.40	
1 Crone Radem VLF-EM 6 days @ $10		(100%)	60.00	
1 MP-2 proton magnetometer and MBS-2 base station 6 days @ $45		(100%)	270.00	1,640.40
TRAVEL EXPENSES (includes mobilization and demobilization June 27 - September 2)				
Invoice 80-112		(100%)	426.20	
Invoice 80-146	136.50	(80%)	109.20	
Invoice 80-186	158.90	(80%)	127.12	662.52
DISPOSABLE MATERIALS AND SUPPLIES				
Flagging, hip-chain thread, stake flags, chart paper, notebooks, etc.	559.57	(60%)		335.74
OFFICE				
Invoice 80-112	158.82	(60%)	95.29	
Invoice 80-146	94.23	(60%)	56.54	
Invoice 80-186	74.23	(60%)	44.54	
Invoice 80-252	124.54	(60%)	67.52	
Invoice 80-287	11.56	(60%)	6.94	
Final report photocopying 4 copies 80 pp @ 15¢	48.00	(60%)	28.80	299.63
MAPS AND REPRODUCTIONS				
Invoice 80-82	18.47	(60%)	11.08	
Photomylars	280.00	(60%)	168.00	
Sepia mylar data bases 9 x 11.2 sq.ft. @ $2.50	252.00	(60%)	151.20	
Blackline prints 9 x 11.2 sq.ft. @ 18¢	72.58	(60%)	43.55	373.83
FREIGHT AND COURIER				
Invoice 80-146	15.75	(60%)	9.45	
Invoice 80-186	4.75	(60%)	2.85	
Invoice 80-287	48.27	(60%)	28.96	41.26

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DRAFTING

Invoice 80-287	140.00	(60%)	84.00	
Feb./81 25 hours @ $22	550.00	(60%)	330.00	
Mar./81 20 hours @ $22	440.00	(60%)	264.00	678.00

HANDLING CHARGES

10% surcharge on all third-party invoices

Invoice 80-82	5.39	(60%)	3.23	
Invoice 80-112	98.22	(60%)	58.93	
Invoice 80-146	65.04	(60%)	39.02	
Invoice 80-186	86.64	(60%)	51.98	
Invoice 80-252	19.95	(60%)	11.97	
Invoice 80-287	5.31	(60%)	3.19	168.32

GEOCHEMICAL ANALYSES

Soil samples: geochemically analyzed for Cu, Pb, Zn, Ag, Ni, Fe %, As, Sb, and Au, incl. sample preparation. 631 samples @ $7.10	(100%)	4,480.10	
Rocks: geochemically analyzed for Cu, Pb, Zn, Ag, Ni, Fe %, As, Sb, and Au, incl. sample preparation. 125 samples @ $8.85	(100%)	1,106.25	
Rocks: assayed for Cu, Pb, Zn, Ag, Au, and Sb 9 samples @ $25	(100%)	225.00	5,811.35

GRAND TOTAL $ 24,917.61

SUMMARY OF EXPENDITURES

GR-BC-6 URAL PROJECT
GROUP 2 (URAL 3 and 7 MINERAL CLAIMS)

PERSONNEL

Project Geologist						
Pre-Field:	May, June	7½ days @ $150	1,125.00	(20%)	225.00	
Field:	June 27-30, July 1-2	6 days @ $240	1,440.00	(40%)	576.00	
	Aug. 11-22	10½ days @ $240	2,520.00	(20%)	504.00	
Post-Field:	Nov.,Dec.	5 days @ $150	750.00	(20%)	150.00	
	Jan./81	2½ days @ $150	375.00	(20%)	75.00	
	Feb./81	4½ days @ $150	675.00	(20%)	135.00	
	Mar./81	5 days @ $150	750.00	(20%)	150.00	
Senior Prospector						
Field:	June 27-30, July 1-2, Aug. 7-22	22 days @ $175	3,850.00	(20%)	770.00	
Prospector						
Field:	June 27-30, July 1-2, Aug. 7-22	22 days @ $145	3,190.00	(20%)	638.00	
Prospector						
Field:	Aug. 7-22	16 days @ $145	2,320.00	(20%)	464.00	3,687.00

CAMP AND ACCOMMODATION

Food	70.5 field man days @ $17	1,198.50	(20%)	239.70	
	6.0 field man days @ $17	102.00	(40%)	40.80	
Camp Equipment	70.5 field man days @ $10	705.00	(20%)	141.00	
	6.0 field man days @ $10	60.00	(40%)	24.00	445.50

TRANSPORTATION

Bell 206-B Helicopter	Aug. 21 1.8 hours		(100%)	732.95

FUEL

Invoice 80-146	133.82	(20%)	26.76	
Invoice 80-186	239.44	(20%)	47.89	
Invoice 80-252	38.13	(20%)	7.63	82.28

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EQUIPMENT RENTALS

2 3/4-ton 4x4 trucks	16 days @ $35	1,120.00	(20%)	224.00	
1 3/4-ton 4x4 truck	6 days @ $35	210.00	(20%)	42.00	
2 transceiver radios	22 days @ $ 7	308.00	(20%)	61.60	327.60

TRAVEL EXPENSES
(including mobilization and demobilization
June 27 - September 2)

Invoice 80-146	136.50	(20%)	27.30	
Invoice 80-186	158.90	(20%)	31.78	59.08

DISPOSABLE MATERIALS AND SUPPLIES

Flagging, hip-chain thread, stake flags, chart paper, notebooks, misc. drafting materials, etc.	559.57	(20%)		111.91

FREIGHT AND COURIER

Invoice 80-146	15.75	(20%)	3.15	
Invoice 80-186	4.75	(20%)	0.95	
Invoice 80-287	48.27	(20%)	9.65	13.75

OFFICE

Invoice 80-112	158.82	(20%)	31.76	
Invoice 80-146	94.23	(20%)	18.85	
Invoice 80-186	74.23	(20%)	14.85	
Invoice 80-252	124.54	(20%)	24.91	
Invoice 80-287	11.56	(20%)	2.31	
Final report, photocopying 4 copies 80 pages @ 15¢	48.00	(20%)	9.60	102.28

MAPS AND REPRODUCTIONS

Invoice 80-82	18.47	(20%)	3.69	
Photomylars	280.00	(20%)	56.00	
Sepia mylar data bases 9 x 11.2sq.ft. @ $2.50	252.00	(40%)	100.80	
Blackline prints 9 x 11.2sq.ft. @ 18¢	72.58	(40%)	29.03	189.52

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DRAFTING

Invoice 80-287		140.00	(20%)	28.00	
February	25 hours @ $22	550.00	(20%)	110.00	
March	20 hours @ $22	440.00	(20%)	88.00	226.00

HANDLING CHARGES

10% surcharge on all third-party invoices

Invoice 80-82	5.39	(20%)	1.08	
Invoice 80-112	98.22	(20%)	19.64	
Invoice 80-146	65.04	(20%)	13.01	
Invoice 80-186	86.64	(20%)	17.33	
Invoice 80-252	19.95	(20%)	3.99	
Invoice 80-287	5.31	(20%)	1.06	56.11

GEOCHEMICAL ANALYSES

Soil samples: geochemically analyzed for Cu, Pb, Zn, Ag, Ni, Fe %, As, Sb, and Au, incl. sample preparation	194 samples @ $7.10		(100%)	1,377.40	
Rocks: geochemically analyzed for Cu, Pb, Zn, Ag, Ni, Fe %, As, Sb, and Au, incl. sample preparation	25 samples @ $8.85		(100%)	221.25	1,598.65
				GRAND TOTAL	$ 7,632.63

SUMMARY OF EXPENDITURES

GR-BC-6 URAL PROJECT
GROUP 3 (URAL 1 MINERAL CLAIM)

PERSONNEL

Project Geologist						
Pre-Field:	May, June	7½ days @ $150	1,125.00	(20%)	225.00	
Field:	Aug. 25-29	15 days @ $240		(100%)	1,200.00	
Post-Field:	Nov.,Dec.	5 days @ $150	750.00	(20%)	150.00	
	Jan./81	2½ days @ $150	375.00	(20%)	75.00	
	Feb./81	4½ days @ $150	675.00	(20%)	135.00	
	Mar./81	5 days @ $150	750.00	(20%)	150.00	
Senior Prospector						
Field:	Aug. 23-29	7 days @ $175		(100%)	1,225.00	
Prospector						
Field:	Aug. 23-29	7 days @ $145		(100%)	1,015.00	
Prospector						
Field:	Aug. 23-29	7 days @ $145		(100%)	1,015.00	
						5,190.00

CAMP AND ACCOMMODATION

Food	26 field man days @ $17	(100%)	442.00	
Camp Equipment	26 field man days @ $10	(100%)	260.00	
				702.00

FUEL

Invoice 80-146	133.82	(20%)	26.76	
Invoice 80-186	239.44	(20%)	47.89	
Invoice 80-252	38.13	(20%)	7.63	
				82.28

EQUIPMENT RENTALS

2 3/4-ton 4x4 trucks	5 days @ $35	(100%)	350.00	
2 transceiver radios	5 days @ $ 7	(100%)	70.00	
				420.00

TRAVEL EXPENSES
(includes mobilization and demobilization
June 27 - September 2)

Invoice 80-146	136.50	(20%)	27.30	
Invoice 80-186	158.90	(20%)	31.78	
				59.08

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DISPOSABLE MATERIALS AND SUPPLIES

Flagging, hip-chain thread, stake flags, chart paper, notebooks, misc. drafting materials, etc.	559.57	(20%)		111.91

FREIGHT AND COURIER

Invoice 80-146	15.75	(20%)	3.15	
Invoice 80-186	4.75	(20%)	0.95	
Invoice 80-287	48.27	(20%)	9.65	
				13.75

OFFICE

Invoice 80-112	158.82	(20%)	31.76	
Invoice 80-146	94.23	(20%)	18.85	
Invoice 80-186	74.23	(20%)	14.85	
Invoice 80-252	124.54	(20%)	24.91	
Invoice 80-287	11.56	(20%)	2.31	
Final report, photocopying 4 copies 80 pages @ 15¢	48.00	(20%)	9.60	
				102.28

MAPS AND REPRODUCTIONS

Invoice 80-82	18.47	(20%)	3.69	
Photomylars	280.00	(20%)	56.00	
Sepia mylar data bases 9 x 4.2 sq.ft. @ $2.50		(100%)	94.50	
Blackline prints 9 x 4.2 sq.ft. @ 18¢		(100%)	27.22	
				181.41

DRAFTING

Invoice 80-287	140.00	(20%)	28.00	
February 25 hours @ $22	550.00	(20%)	110.00	
March 20 hours @ $22	440.00	(20%)	88.00	
				226.00

HANDLING CHARGES

10% surcharge on all third-party invoices

Invoice 80-82	5.39	(20%)	1.08	
Invoice 80-112	98.22	(20%)	19.64	
Invoice 80-146	65.04	(20%)	13.01	
Invoice 80-186	86.64	(20%)	17.33	
Invoice 80-252	19.95	(20%)	3.99	
Invoice 80-287	5.31	(20%)	1.06	
				56.11

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GEOCHEMICAL ANALYSES

Soil samples: geochemically analyzed for Cu, Pb, Zn, Ag, Ni, Fe %, As, Sb, and Au, incl. sample preparation	226 samples @ $7.10	(100%)	1,604.60
		GRAND TOTAL	$ 8,749.42

APPENDIX I

GEOCHEMICAL ANALYTICAL METHODS