

971

GEOLOGICAL REPORT

COOD HOI E - NIGHTHAWK CLAIMS

(JUMBO GROUP)

49° 120° NE

3 1/2 Miles Southeast of Hedley

4 MAY 1967

JOHN LAMB, P. Eng.

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GEOLOGY OF NIGHTHAWK - GOOD HOPE CLAIMS

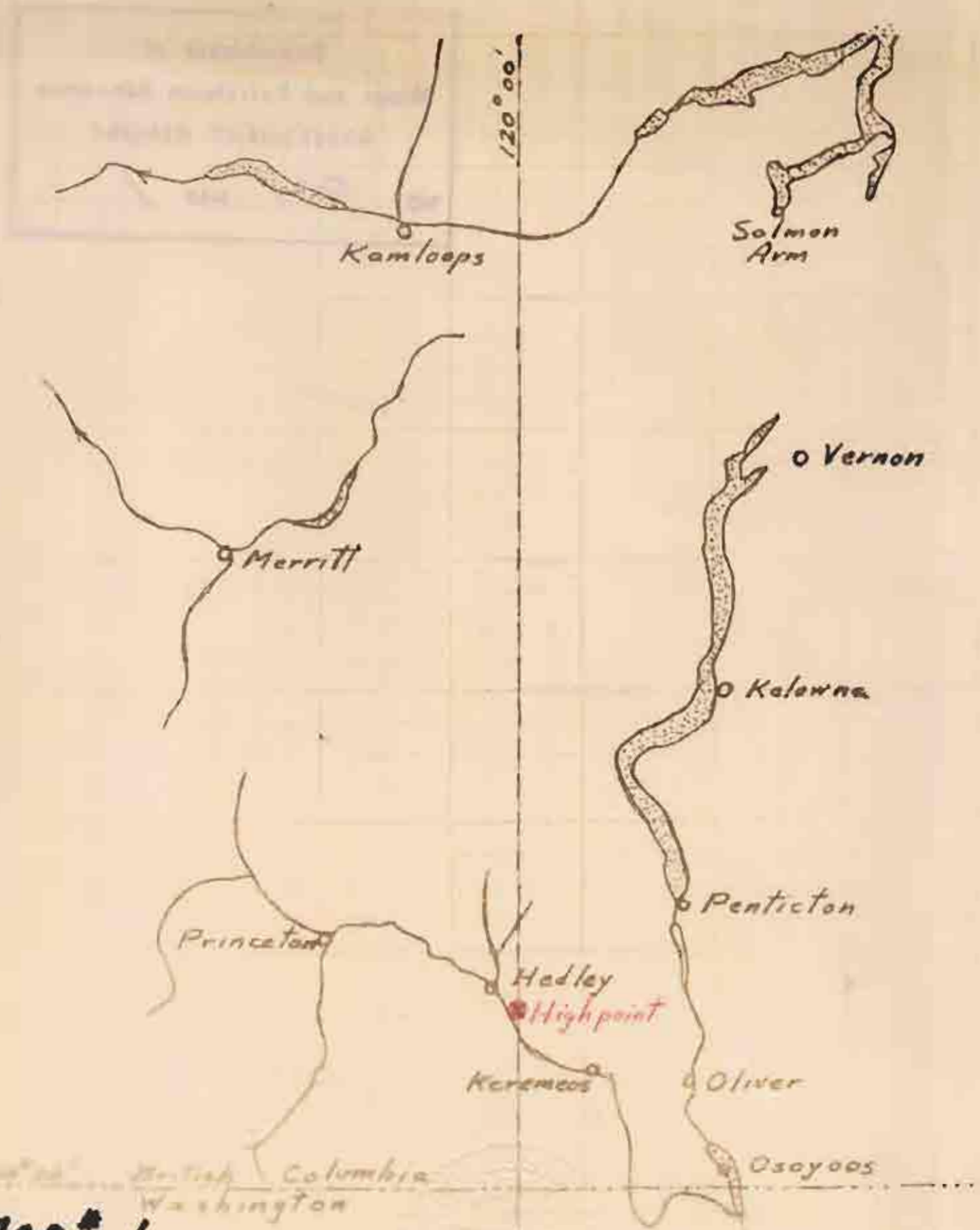
INTRODUCTION

In October 1966, all available rock outcrops were mapped on the southern half of the Good Hope - Nighthawk group, excepting those in the Good Hope pit area, which were mapped previously. Survey control was available from the corner pins of crown granted claims, most of which were located in the field by the writer. Topography was determined both from compass surveys and precise altimeter readings. The accompanying geological map (map No. 3) is a result of this field work. The claim boundaries shown were all re-plotted and tied into the original Good Hope co-ordinate grid of 1946.

The claim group covers a steep to gently rolling upland surface astride the ridge (Winters ridge) between Cahill Creek and Winters Creek, approximately 3 1/2 miles southeast of Hedley (see Map No. 1, opposite). The ground surface is partly forested open range land, typical of the Interior dry belt. Elevations vary between 4000 and 5700 feet.

Thirty crown granted claims and one located claim comprise the present complete group, as follows:

<u>Crown Grants</u>	<u>Lot No.</u>
Nighthawk #2	3913 S
Nighthawk #4	3914 S
Nighthawk #6	3915 S
Nighthawk #8	3916 S
Good Hope #1	3917 S
Good Hope #2	3918 S
Good Hope #3 Fr	3919 S
Nighthawk #10	3920 S
Nighthawk #11	3921 S
Nighthawk #12	3922 S
Nighthawk #13	3923 S
Nighthawk #14	3924 S



MAP # 1

Geological Map
 Kamloops River
 See Description

To accompany Geological Report on
GOODHOPE - NIGHTHAWK CLAIMS by
 J. Lamb PENG May 1966

<u>Crown Grants</u>	<u>Lot No.</u>
Tungsten Lode Fr	3925 S
Royal Fr	3926 S
Crown Fr	3927 S
Nighthawk #7	3928 S
Nighthawk #15 Fr	3929 S
Nighthawk #16 Fr	3930 S
Good Hope #4 Fr	3931 S
Tungsten Lode #1	3933 S
Tungsten Lode #2	3934 S
Sunny Fr	3935 S
#2 Star	3936 S
#3 Star	3937 S
#1 Star	3938 S
Star #4	3939 S
Strike #1	3940 S
Strike #5	3941 S
Strike #6	3942 S
Cabin #2	3943 S

LOCATED CLAIM

Jumbo M. C.

Record No. 15356

All are owned by Highpoint Mines Ltd. (Map #2)

The area of the claims has probably been investigated by prospectors many times in the past 70 years. It was not, however, until World War 2 that any real discovery was made. During an intensive search for tungsten at that time, W. R. Wheeler located gold bearing skarn on a small knob at the site of the present Good Hope pit. Taken over by Hedley Mascot Gold Mines Ltd., the property was opened up and produced several thousand tons of high grade ore. Subsequently the French mine, about one mile southwest of the Good Hope, produced 70,000 tons of good grade gold ore. The latter mine lies in another claim grouping, adjoining the Good Hope - Nighthawk claims on the south.

GEOLOGY (See Map #3)

Regionally, the geology is that of a great thickness of sedimentary and volcanic rocks, surrounded by large spreads of Similkameen granodiorite, which is itself a part of the much larger Okanagan batholith. The contact between granodiorite and older rocks trends southerly across the western side of the claim group, specifically on the Nos. 1, 2 and 3 Star mineral claims. This contact passes into the French group, swings easterly just below the French mine and ultimately turns northeast up the valley of Winters Creek. It is anticipated that the contact lies just east of the eastern boundary of the claim group. In other words, the contact is 'U' shaped, with the bend being below the French Mine and the limbs running close to the west and east boundaries of the Good Hope - Nighthawk claims.

In the southwest corner of Nighthawk No. 7 claim (L3928) is a stock-like body of granodiorite, 500 feet wide. It may continue southward across the Good Hope draw to join with an even larger mass of granodiorite outcropping of the boundary between Nighthawk #12 and #14 claims (L 3922, L 3924). This latter body terminates against tuffs just southeast of the crest of Winters ridge.

On the Molly claim (L 3886), south of Nighthawk #2 (L 3913), some porphyritic, diorite-type dikes were observed. They bear a resemblance to the diorite-gabbro complex on nearby Nickel Plate mountain.

Typical granodiorite is buff to gray colored, moderately coarse grained, containing much biotite with minor hornblende and quartz. It can

vary to a pale siliceous type, poor in biotite, especially in the smaller sill-like masses. Around the Good Hope pit and near Star bluff there are several examples of these sills in the sediments.

The sedimentary and volcanic rocks, covering the main central area of the claims, are part of the Nicola group, of Triassic age. This group is widespread in south central B. C. and is associated with many mineral occurrences in the region. On the Good Hope - Nighthawk claims these rocks are largely tuffaceous, varying from distinctly thin-bedded, dark gray tuff to striped cherty tuff and on to massive brown to purplish types. Some bands of knobby-weathering fragmental rock were seen near the south end, in a few localities. Occasionally a band of dark green finely crystalline volcanic flow-rock, may be seen. On at least two horizons in the tuffaceous sediments are narrow beds of impure limestone.

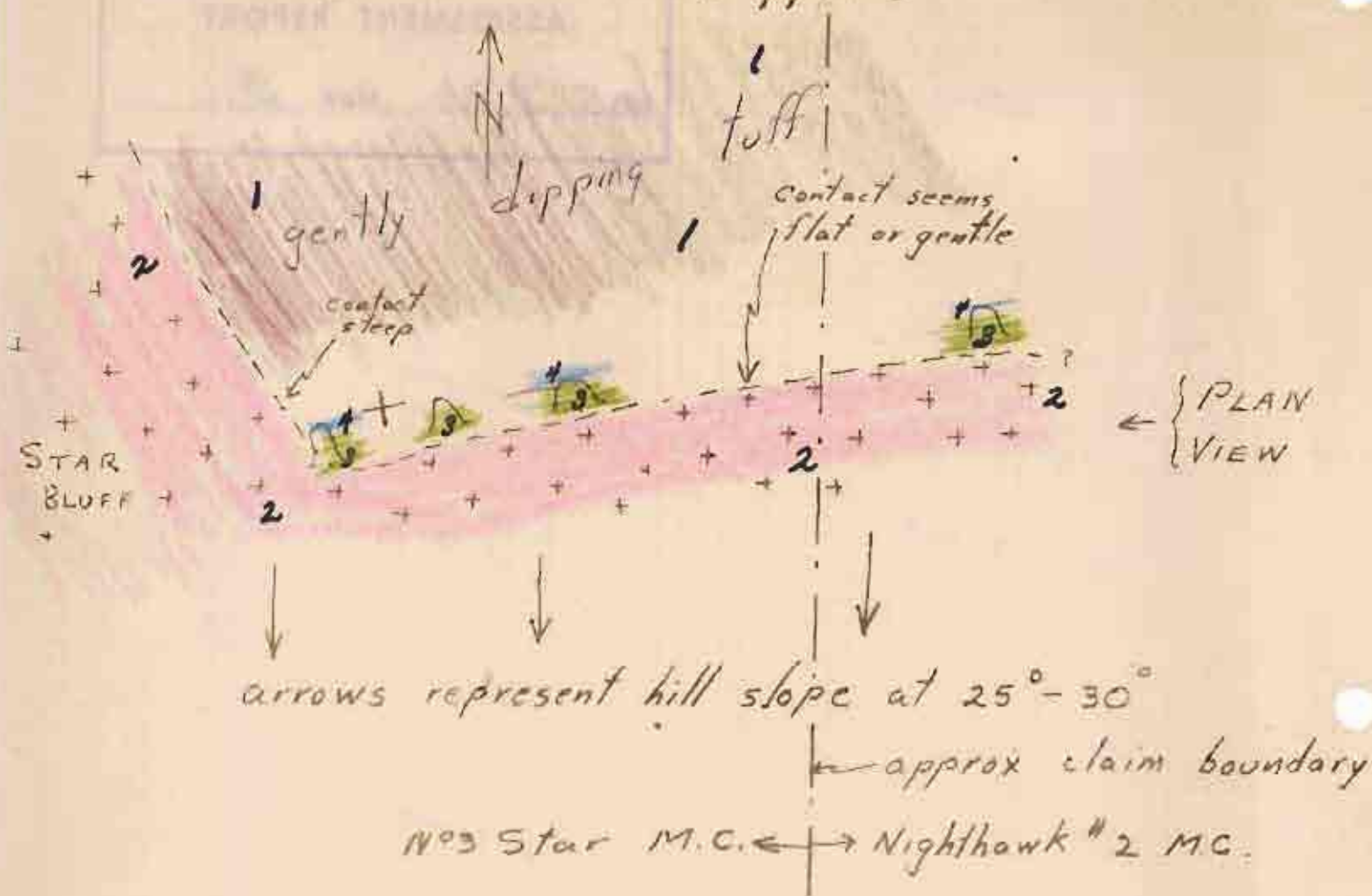
The structure of the sedimentary volcanic pile, as deduced from many field observations of bedding attitudes, is that of a gentle westerly dipping sequence, lightly folded and crinkled. Reversals of this westerly dip indicate more intense local folding but its nature is not yet obvious. A good example of cross-laminated bedding, observed near corner pin No. 7 (map #3), indicates that bedding is upright at this point. It is likely that this is the normal pattern of bedding on the claims.

CONTROLS OF MINERALIZATION

Gold in the Good Hope and French mines lies in altered skarn zones, associated with limey members of the sedimentary pile. Apart from the limey rocks, already known at these mines, the writer mapped

Sketch of the Star Bluff Mineral Showings

Scale 1" = 50' (approx).



arrows represent hill slope at 25°-30°

← approx claim boundary

Nº3 Star M.C. ← → Nighthawk #2 M.C.

Notes

- 1 skarn is associated with impure limey rock
- 2 skarn is dense greenish color with pyroxene and garnet. Some specks of "moly"
- 3 granodiorite beneath the flattish contact resembles sill in good hope pits, being rusty weathering but pale in contrast to coarser fresh looking granodiorite in Star Bluff.
- 4 skarn at least 10 ft thick in one place. Some coarse pegmatite quartz associated with the whole zone

- 4 - limestone
- 3 - skarn
- 2 - granodiorite
- 1 - tuff

Map #4

To accompany Geological Report on Good Hope-Nighthawk Gp. by J.L. May 1967

J. L. Hedley P. Eng.
25 October 1960

at least three other limey horizons. They are:

- a) next to the granodiorite contact on the boundary between No. 3 Star and Nighthawk No. 2 claims (L3937, L3913). Just to the west lies a prominent cliff, known as Star Bluff. A detailed picture of this area is shown on Map No. 4 (opposite),
- b) close to the granodiorite, near the northwest corner of Nighthawk No. 8 claim (L3916),
- c) on the crest of Winters ridge, close to the bush road that meanders along the ridge, into the French claims.

In locations a) and b), above, several old prospect pits reveal skarn that looks favorable for gold mineralization. This material is medium to fine grained, green pyroxene skarn with red-brown tints of garnet. Except for a few flakes of molybdenite and some pyrite, little sulphide was observed. It is probable that the pits yielded only low gold values but it must be realized that the values are very erratic and may change in a short distance. Such was the pattern of gold distribution in the French mine. A trail of limey float along the hillside between a) and b), above, has been tested by old trenches, now caved. The implication is that a) and b) may be on the same altered lime zone which trends east-west and dips gently northward into the mountain. At a) the skarn band lies above a gently dipping sill (map No. 4), similar to the ore occurrence at the Good Hope mine, 3,500 feet to the east-northeast. Taking account of structure and topography it is quite possible that a), b) and the Good Hope mine, may all be on the same limey horizon.

The limestone band, mentioned in c), has been traced by an old series of open cuts. The writer observed skarn but little metallic mineralization. This horizon seems to be erratic. It is probably lower in the stratigraphic sequence than that at a) and b) and may be continuous with one of the upper limey bands on the French group.

Associated with gold in this area are minor amounts of the following sulphides; pyrite, chalcopyrite, bornite, pyrrhotite, molybdenite, arsenopyrite and minute quantities of some telluride minerals. On the whole, metallic minerals are sparse and provide no obvious clues to gold values. While in all cases gold is found in skarn, not all skarn carries gold. This anomaly renders difficult the finding of ore.

CONCLUSION

Gold on the Good Hope - Nighthawk claims is associated with limey horizons, partly altered to skarn, lying within a thick pile of tuffs, siliceous sediments and volcanic flows. The most favorable exploration zones are

1. that which extends easterly from Star Bluff to the Good Hope mine
2. that which traces northeasterly along the top of Winter's ridge, across Lots 3922 and 3923.



John Lamb, P. Eng.
Geological Engineer.

4 May, 1967

STATEMENT OF COSTS

GOOD HOPE - NIGHTHAWK

October, 1966

FEES & WAGES

Consulting geologist -		
19 days @ \$100.		\$ 1,900.00
Field assistant -		
4 days @ \$12.50		50.00

ROOM AND BOARD 120.14

SUPPLIES AND MATERIALS 21.45

TRANSPORTATION

(vehicle rental) 134.21

MISCELLANEOUS 5.90

TOTAL \$ 2,271.70

4 May, 1967

John Lamb, P. Eng.

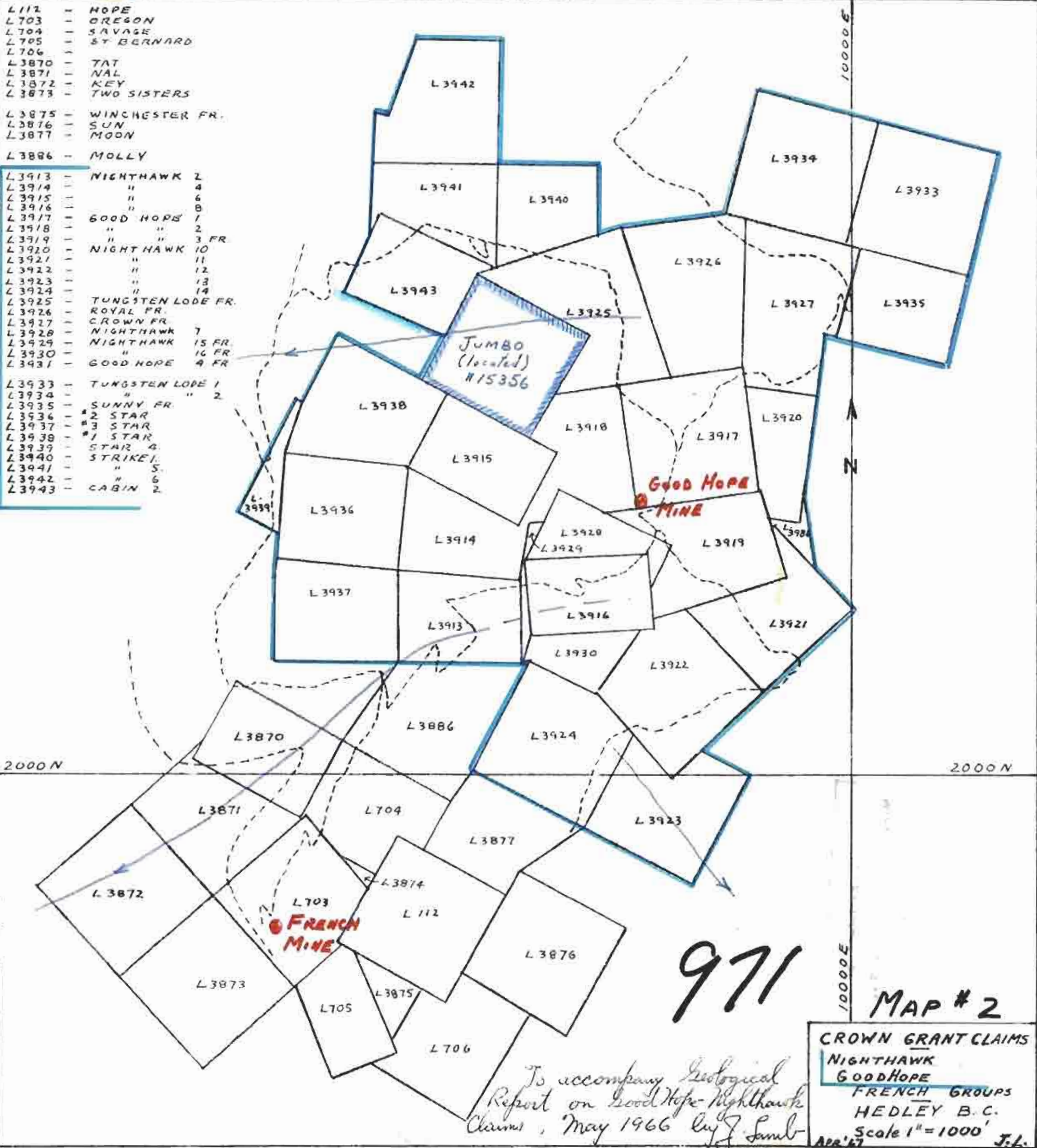
- L112 - HOPE
- L703 - OREGON
- L704 - SAVAGE
- L705 - ST BERNARD
- L706 -
- L3870 - TAT
- L3871 - NAL
- L3872 - KEY
- L3873 - TWO SISTERS

- L3875 - WINCHESTER FR.
- L3876 - SUN
- L3877 - MOON

- L3886 - MOLLY

- L3913 - NIGHTHAWK 2
- L3914 - " 4
- L3915 - " 6
- L3916 - " 8
- L3917 - GOOD HOPE 1
- L3918 - " " 2
- L3919 - " " 3 FR
- L3920 - NIGHT HAWK 10
- L3921 - " " 11
- L3922 - " " 12
- L3923 - " " 13
- L3924 - " " 14
- L3925 - TUNGSTEN LOPE FR.
- L3926 - ROYAL FR.
- L3927 - CROWN FR.
- L3928 - NIGHTHAWK 7
- L3929 - NIGHTHAWK 15 FR
- L3930 - " 16 FR
- L3931 - GOOD HOPE 4 FR

- L3933 - TUNGSTEN LOPE 1
- L3934 - " " 2
- L3935 - SUNNY FR.
- L3936 - #2 STAR
- L3937 - #3 STAR
- L3938 - #1 STAR
- L3939 - STAR 4
- L3940 - STRIKE 1
- L3941 - " 5
- L3942 - " 6
- L3943 - CABIN 2



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MAP # 2

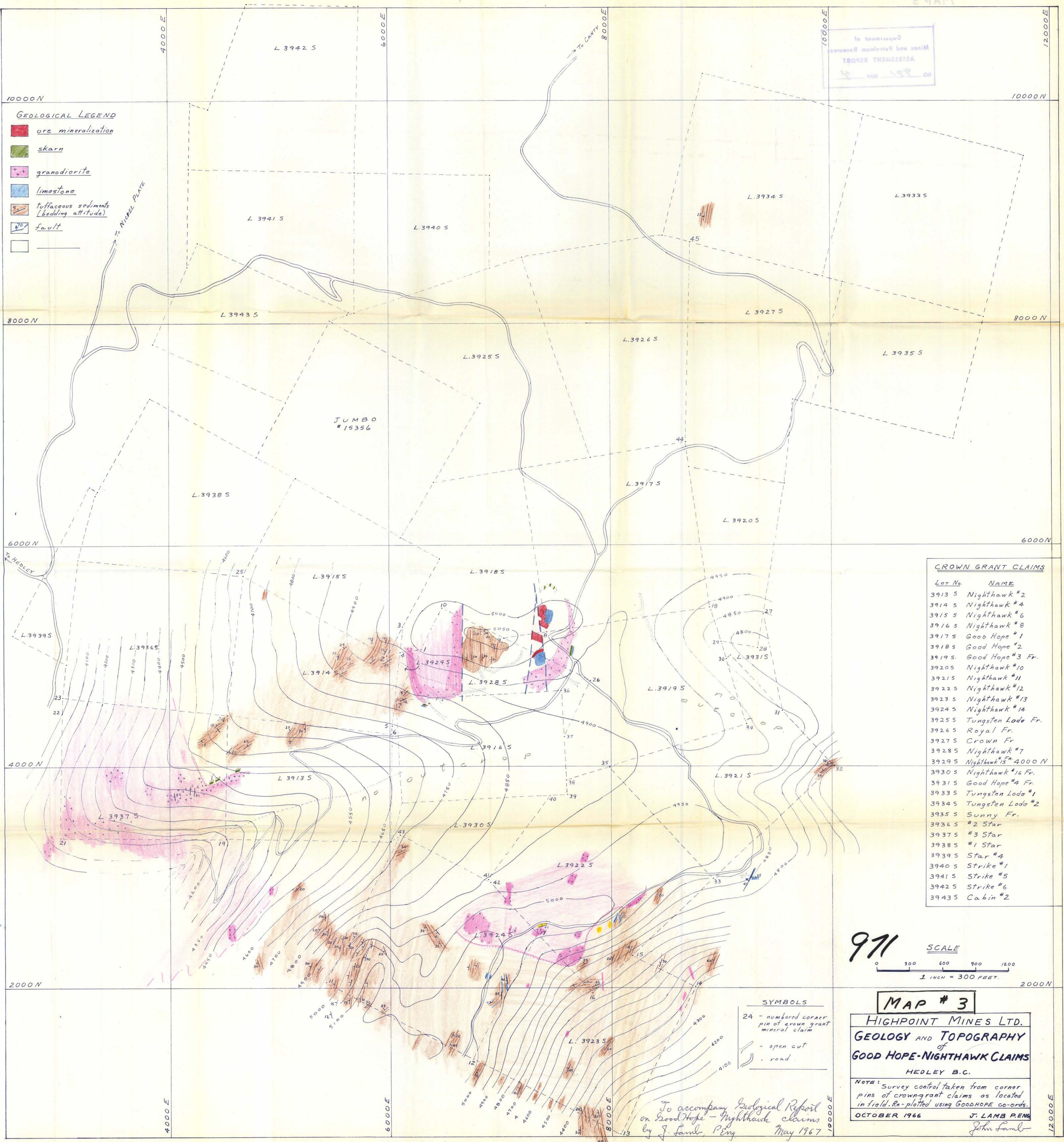
CROWN GRANT CLAIMS
 NIGHTHAWK
 GOOD HOPE
 FRENCH GROUPS
 HEDLEY B.C.
 Scale 1" = 1000'
 APR 67 J.L.

To accompany Geological
 Report on Good Hope-Nighthawk
 Claims, May 1966 by J. Lamb
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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 971
1966

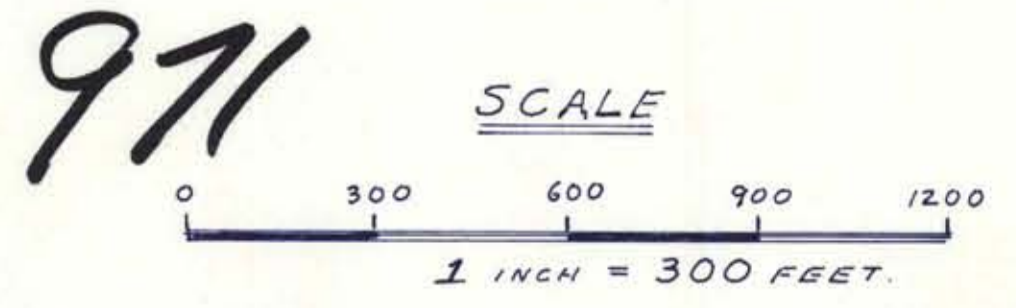
GEOLOGICAL LEGEND

- ore mineralization
- skarn
- granodiorite
- limestone
- tuffaceous sediments (bedding attitude)
- fault
-



CROWN GRANT CLAIMS

Lot No.	NAME
3913 S	Nighthawk #2
3914 S	Nighthawk #4
3915 S	Nighthawk #6
3916 S	Nighthawk #8
3917 S	Good Hope #1
3918 S	Good Hope #2
3919 S	Good Hope #3 Fr.
3920 S	Nighthawk #10
3921 S	Nighthawk #11
3922 S	Nighthawk #12
3923 S	Nighthawk #13
3924 S	Nighthawk #14
3925 S	Tungsten Lode #1
3926 S	Royal Fr.
3927 S	Crown Fr.
3928 S	Nighthawk #7
3929 S	Nighthawk #15 4000 N
3930 S	Nighthawk #16 Fr.
3931 S	Good Hope #4 Fr.
3933 S	Tungsten Lode #1
3934 S	Tungsten Lode #2
3935 S	Sunny Fr.
3936 S	#2 Star
3937 S	#3 Star
3938 S	#1 Star
3939 S	Star #4
3940 S	Strike #1
3941 S	Strike #5
3942 S	Strike #6
3943 S	Cabin #2



- SYMBOLS
- 24 - numbered corner pin of crown grant mineral claim
 - open cut
 - road

MAP # 3

HIGHPOINT MINES LTD.

GEOLOGY AND TOPOGRAPHY
of
GOOD HOPE-NIGHTHAWK CLAIMS

HEDLEY B.C.

NOTE: Survey control taken from corner pins of crown grant claims as located in field. Re-plotted using GOODHOPE co-ords.

OCTOBER 1966

J. LAMB RENG
John Lamb

To accompany Geological Report
on Good Hope - Nighthawk claims
by J. Lamb, P. Eng. May 1967