

PRELIMINARY REPORTS
ON THE
F H P EXPLORATIONS LTD.
PROPERTIES

NELSON	MINING DIV.
SIMILKAMEEN	" "
KASLO	" "

Preliminary Report
on the
F H P Explorations Ltd.
Golden Age Property
Nelson, B. C.

1. SUMMARY - The F H P Explorations Ltd. property consists of 26 mining claims straddling the highway 10 miles south of Nelson, B. C. Previous ore shipped is valued at \$62.88 per ton in gold and silver and there now appears to be at least 40,000 probable tons valued at \$1,600,000.00

It is recommended that \$30,000.00 be expended on preliminary exploration to establish the ore zones.

2. PROPERTY - These 26 staked and recorded mineral claims in the Nelson Mining Division consist of the following:

T P M #1 and #2
Euphrates #2 and #3
J #1 to #8 incl. , and J #11 to #24 incl.

Claims T.P. M. #1 and #2 cover the old Golden Age workings and claims Euphrates #2 and #3 cover part of the old Euphrates workings. Clear records have not yet been obtained for some of the claims in the south-east corner of the group.

3. GEOGRAPHIC CONDITIONS - The paved Nelson-Nelway highway, the Salmo River and the Great Northern Railway run through the centre of the claims. The portal of the Golden Age No. 2 adit is less than 20 feet from the edge of the pavement at an elevation of approximately 3040 feet. The general trend of the Salmo River valley is north-south but in the general vicinity of the claims runs north-east and south-west. The mountains on both sides of the valley rise to approximately 7000 feet. These part of the Nelson Range of the Selkirk Mountains.

The climate is moderate and, although the snowfall is fairly heavy, there are several mines in the area at higher elevations which are "year 'round" operations.

There is ample timber for mining operations and the Salmo River and Clearwater Creek could supply adequate Water for drilling, mining and milling. (It is suggested that water rights be applied for on both the Salmo River and Clearwater Creek.)

The Cominco smelter at Trail is less than 40 miles.

4. HISTORY AND PAST PRODUCTION - B. C. Minister of Mines Report 1922, referring to the Golden Age claim, states "Gold-quartz float found on the lower slopes of the hill has led to intensive prospecting in the heavy overburden in an effort to find the lead".

Three drift adits have been driven on the Golden Age:

#1 - below the highway at elevation 3000' - 130' long

#2 - at highway level - elevation 3040' - 1442' long

#3 - above the highway at elevation 3140' - 173' long

Three crosscuts have been driven southerly from #2 adit and considerable stoping carried out. No record is available of total tonnage mined because, at various times, ore was treated in the Golden Age stamp mill which burned down in 1929 and in the Euphrates mill.

B. C. Minister of Mines Index No. 3, 1955 shows the following ore shipments from the Golden Age;

<u>Years</u>	<u>Tonnage</u>	<u>Gold</u> <u>(oz)</u>	<u>Silver</u> <u>(oz)</u>	<u>Lead</u> <u>(lbs)</u>	<u>Zinc</u> <u>(lbs)</u>
1928-45	20	29	185	133	137
Grade		1.45 oz/ton	9.25 oz/ton	.33%	.34%

and from Euphrates;

1928-41	326	457	2393	17837	11451
Grade		1.40 oz/ton	6.6 oz/ton		

B. C. Minister of Mines Reports show the following production from the Euphrates:

1927 - 7 tons put through Golden Age mill

\$1500.00 recovered (\$214/ton)

1928 - 11 ton)

1929 - 1 ton) 118 tons shipped to Cominco, Trail, B. C.

1931 - 47 ton)

1934 - 59 ton)

	<u>Gold</u>	<u>Silver</u>	<u>Lead</u>	<u>Zinc</u>
1937 - 104	0.54 oz/ton	12.4 oz/ton	4.5%	2.5% \$55/ton
1939 - 77 ton	35 oz	352 oz		\$22/ton

The Ymir area which includes the Golden Age and the Euphrates mines has a long history of mineral production dating back to the turn of the century.

5. GEOLOGY - The country rock is a schistose greenstone of the Rossland Volcanic series intruded by occasional narrow basic dykes and on the Euphrates by a fine-grained plagioclase dyke 5' to 9' wide. The foliation strikes N 40° and dips from 60° to 70° to the south-west. The ore occurs in elongated quartz lenses in shear-zones in greenstone and conforms with it in strike. Quoting from the 1938 Minister of Mines report "From an inspection of the Golden Age and Euphrates properties it would seem that the deposits coinciding with the foliation of the enclosing schists are lensey and that the veins cutting the schistosity offer more promise of continuity and contain higher values". Values are also higher in the oxidized sections. Minerals occurring in the ore zones are pyrite, chalcopyrite, galena, sphalerite with lesser amounts of tetrahedrite, arsenopyrite and scheelite. According to the government reports there is also free gold but this was not seen by the writer.

On the Golden Age the shear zone is parallel to the formation. On the Euphrates the Lost Cabin vein follows the structure, the Ell-Tee dips across the structure and the Minto is irregular.

In the south-east corner of the claims is an intrusive of the Nelson series from which probably originated the solutions which are responsible for the mineralization.

6. ORE - GRADE

Golden Age Assays

<u>Description</u>	<u>Gold</u> oz/ton	<u>Silver</u> oz/ton	<u>Copper</u> %	<u>Lead</u> %	<u>Zinc</u> %
1922 Report 14"	0.18	0.7			
Grab	1.20	6.2			
33933	0.04	0.6			
33934	0.02	0.4	nil		
33941	0.07	0.7	Tr		
	0.24	4.0	1.05		
Nelson #1	0.60	2.0	2.28		
	0.45	2.7	0.84		
	0.92	3.0	2.62		
N/M	0.22	1.3	0.40		
Melard	0.82	4.4	1.02		
	0.14	2.5	0.45	0.75	1.52
Qtz	0.30	1.2	0.40	Tr	Tr

The Euphrates workings were not examined by the writer. The following information is from B. C. Minister of Mines Reports.

The shipping records shown under "History and Past Production" shows 326 tons valued at \$57.53 per ton in gold and silver. This is not a complete record as Euphrates ore was also put through both the Euphrates mill and the Golden Age mill from which \$1500.00 was recovered from 7 tons of ore.

There are four veins on the Euphrates property - Ell-Tee, Minto, Lost Cabin and Nickel Plate. One sample 4 inches wide assayed 19.12 oz gold per ton and 9 oz. silver per ton - value \$680.81 per ton. Six samples from the Ell-Tee vein averaged 4.5 inches wide, 3.77 oz gold per ton and 1.5 oz silver per ton valued at \$133.90 per ton.

The following four samples were from the Minto vein:

<u>Width</u>	<u>Gold oz/ton</u>	<u>Silver oz/ton</u>	<u>Lead %</u>	<u>Zinc %</u>
5.0 ft	0.95	5.9		
6.0 ft	0.52	4.5		
4.5 ft	0.37	11.4	4.8	3.5
Grab	0.27	16.1	5.6	3.5

No tonnage has been calculated for the Euphrates claims because it has not yet been determined how much of the Euphrates veins is included in the F H P Explorations Ltd. claims.

7. LIMITING CONDITIONS

A. Physical - The paved highway, Great Northern Railway, Salmo River and West Kootenay Power Line all pass through the property.

The climate and snowfall permit year 'round operation.

The ore-zones are strong and persistent - Golden Age 1550', Ell-Tee 2000', Nickel Plate 1400'. Any faulting appears to be minor.

The low and erratic copper values would not pay shipping costs of ore. Values in the schistose shear zones preclude the feasibility of shipping siliceous ore so that, if this operation reaches the mining stage, a mill will be required. The proximity of the Salmo River practically rules out cyanidation or flotation because of possible chemical contamination of the water. It is therefore considered that milling would have to be done by gravity concentration.

Until exploration is completed it would be difficult to lay out a development program. No. 2 portal cannot be used because of the highway and since 140 feet of backs would be lost working No. 3 it is probable that No. 1 portal will be used with raises up to No. 2 adit.

<u>Description</u>	<u>Gold</u>	<u>Silver</u>	<u>Copper</u>	<u>Lead</u>	<u>Zinc</u>
Schistose #63 Writer's sample 4' wide - end of #2 adit	0.22	1.0	0.25	Tr	Tr
Simple average 20 ton shipped	0.20 0.37 1.45	1.3 2.1 9.25	0.05	0.33 0.33	0.39 0.34

There are not enough widths given on the samples to calculate a "weighted" average. However, the simple average gives a value of \$15.66 per ton for gold and silver. The shipping record gives an ore value per ton of \$62.68 for gold and silver. This ore was probably hand-sorted, a procedure recommended for the present operation. There are insufficient assays to calculate an accurate grade for lead, and zinc and, if the ore or concentrates are to be shipped to Cominco, no payment would be made for copper. A semi-quantitative spectrographic analysis of Golden Age ore shows: copper 0.5%, lead 0.03% and zinc 1.15%. It is therefore felt that, until more information (including freight rates to Tacoma, Wash, and Butte, Mont.) is available, calculation of ore reserves should be restricted to gold and silver.

For the purpose of this preliminary report it is considered that an average of samples and ore shipped would be reasonable.

$$\frac{15.66 + 62.68}{2} = \$40.00 \text{ per ton}$$

ORE - TONNAGE

The 1922 Minister of Mines Report mentions that, at the top of the ridge, some 1200 feet above the workings, there are indications of vein matter.

The slope of the mountain on the west side of the valley is approximately 22° which would give a triangular shaped ore body 630' deep and 1550' long. The vein in No. 3 adit averages 8 inches in width. In No. 2 adit it varies up to 5 feet in width. The 1946 Minister of Mines report states that the quartz lenses generally do not exceed 14 inches but in the last 35 feet reached a width of 4 feet.

Since in the total length of 1550' there is apparently only 35' of 4' width and since the lenses are not continuous it seems reasonable to take an average width of 12 inches.

$$\text{Probable tonnage } \frac{630 \times 1550 \times 1}{2 \times 12} = 40,000 \text{ tons}$$

$$\text{valued at } 40,000 \times \$40.00 = \$1,600,000.00$$

B. Economic - Capital expenditure should not be unreasonably high since practically all the equipment could be obtained on rental-purchase. Details of equipment purchases will not be dealt with in this report.

Operating costs should not exceed \$10. to \$12 per ton for mining and milling and \$1. per ton for concentrate haulage to Trail. The smelter schedule of from 91% to 93% is practically offset by the exchange of 7% to 8%.

Since this would be primarily a gold producer some federal government assistance may be had through the "Gold Mine Assistance Act".

In the opinion of the writer there is a good possibility that the price of gold may go up.

All things considered this could be a profitable operation.

8. RECOMMENDED PROCEDURE - This is laid out in three phases:

Phase 1 - Exploration - geophysical (Induced Polarization), geochemical testing and diamond drilling.

Phase 2 - Development and possible further exploration.

Phase 3 - Production and milling.

Phase 1 - Exploration

It is recommended that a preliminary I. P. (induced Polarization) survey be made with the main lines running parallel to the valley to locate possible extensions of both the Golden Age and the Euphrates ore zones on both sides of the valley. Extensions of the Euphrates veins at lower elevations on either side of the valley would make them more accessible for mining.

Where the overburden is not more than 3' thick, some geochemical testing could be done.

The geophysical and geochemical anomalies could then be diamond drilled. No comprehensive lay-out of diamond drill holes is possible until the geophysical work is completed.

Engineering, Supervision and Assaying

Planning, locating, logging and sampling diamond drill holes.

Plotting holes and assay results.

Correlating diamond drilling, geophysical and geochemical exploration.

Calculating ore reserves.

Planning and directing development.

Costs

Geophysical and geochemical survey	\$10,000.00
Diamond drilling	12,000.00
Engineering, supervision and assaying	5,000.00
Extingencies - including core shed, office etc.	<u>3,000.00</u>
Total	\$30,000.00

Phase 2 - Development and Further Exploration

\$70,000.00

Establish water supply

Additional diamond drilling to extend ore zones to limits of property.

Commence preliminary development work with drift adits on the ore zones, stub production raises and access and ventilation raises.

Survey lower part of valley for efficient lay-out of adits, ore dumps, waste dumps, haulage ways and buildings.

Buildings - compressor house, powder magazine, change house, tool shed.

Phase 3 - Production and Milling

\$100,000.00

Have test run made on ore to ascertain milling method and grain size.

Build mill - if the ore is amenable to gravity separation it is recommended that one of the new type impact mills be used. There are several advantages:

1. Cheaper construction (\$1,000.00 per daily tonnage capacity).
2. Simpler operation.
3. Practically no tailings contamination.
4. More adaptability.

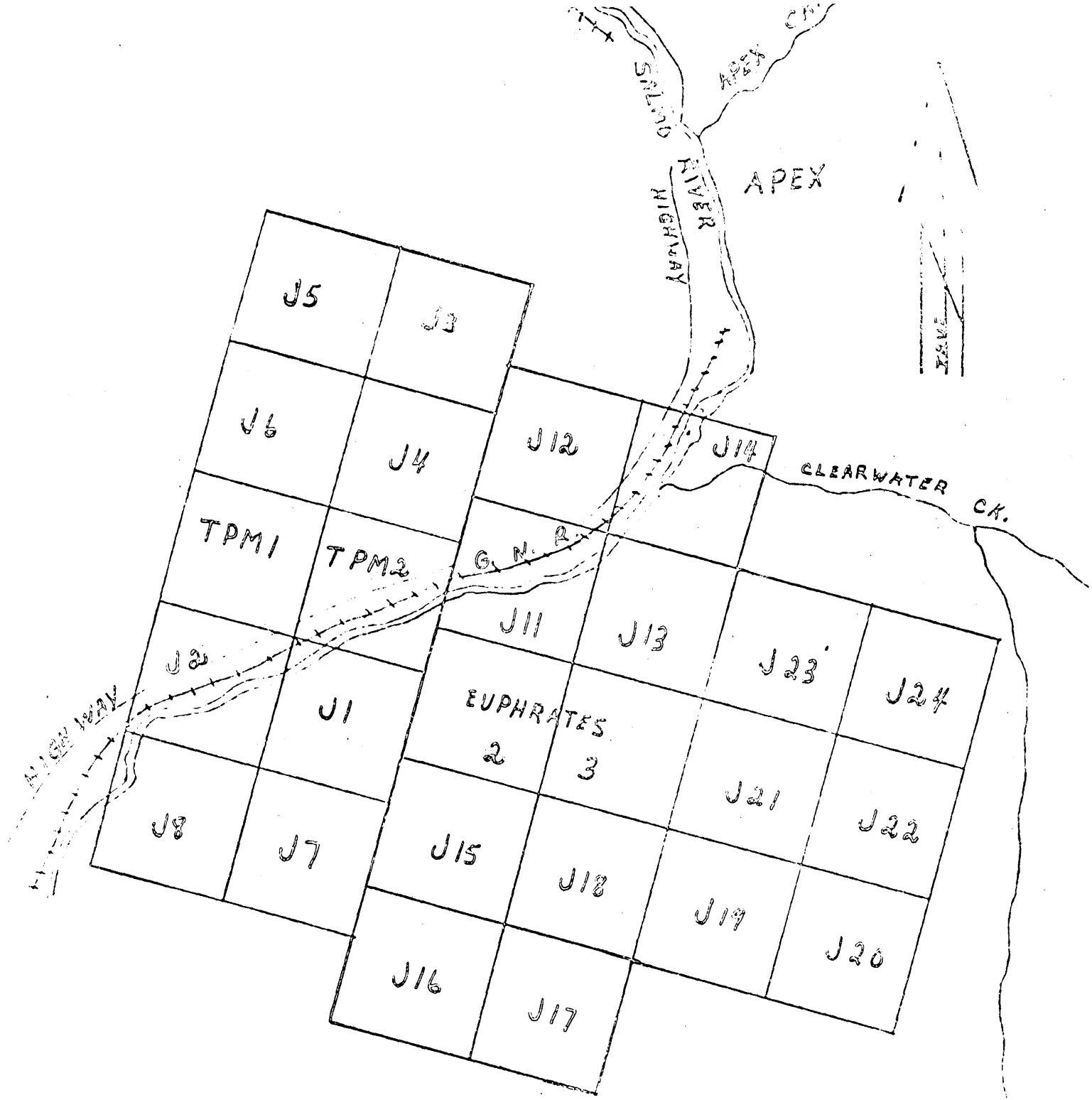
Build additional buildings and permanent camp.

9. CONCLUSIONS - This is a promising looking property with at least 40,000 tons of probable ore valued at \$1,600,000.00. The gold and silver alone in 20 tons shipped is valued at \$62.88 per ton at today's prices. There is a possibility of five ore zones.

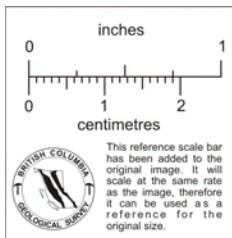
It is recommended that \$30,000.00 be expended on an initial exploration program to prove up the ore on this property.

Jack A. Millican, P. Eng.

20 August, 1966.



F.H.P. EXPLORATIONS LTD.
 GOLDEN AGE PROPERTY
 NELSON, B.C.



SCALE - 1" - 1500' . AUG. 1966.

Preliminary Report

on the

F H P Explorations Ltd. ,

Cousin Jack Property,

Tulameen, B. C.

1. SUMMARY - The F H P Explorations Ltd. "Cousin Jack" property consists of 28 staked claims and 8 leased claims approximately 4 miles North of Tulameen, B. C.

Old workings indicate a potential tonnage of 31,000 tons valued at \$698,000.00.

It is recommended that \$35,000.00 be expended on exploration to establish the total extent and value of the ore on this property.

2. PROPERTY - The property consists of 28 staked and recorded claims numbered 1 to 28 inclusive and 8 leased (former Crown Granted) claims as follows:

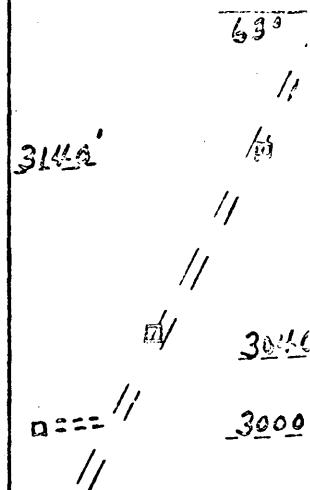
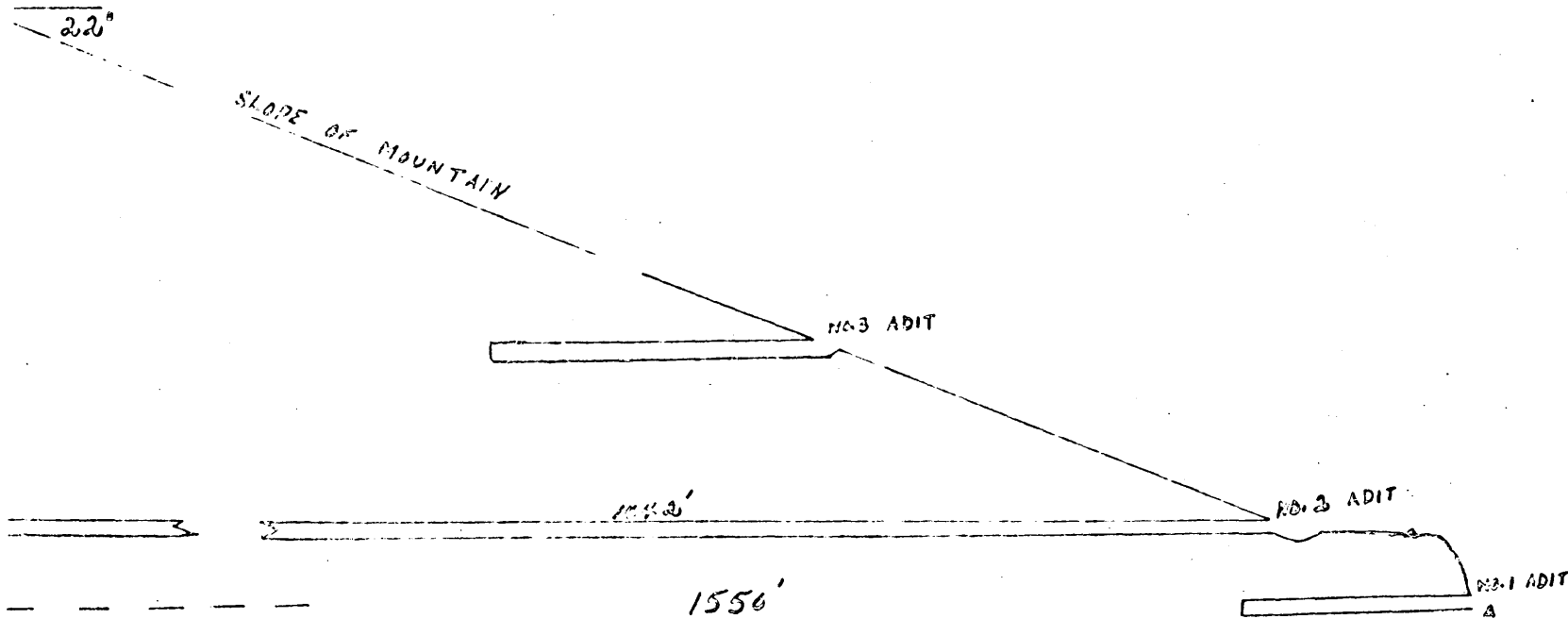
L - 264 Ymir	L - 268 Blackbird
L - 265 Morning	L - 269 Berlin Fr.
L - 266 Oshkosh	L - 270 Freddie Burn
L - 267 Winibago	L - 373 Anaconda

These claims are all in the Similkameen Mining Division. F H P Explorations Ltd. , does not hold the Cousin Jack Claim L - 263.

3. GEOGRAPHIC CONDITIONS - These claims lie immediately West of Otter Creek between Otter Lake and Frembd Lake approximately 4 miles North of the town of Tulameen, which is 16 miles North-West of Princeton, B. C. There is a good gravelled road from Tulameen up the west side of Otter Lake (elev. 2450').

The very steep, narrow road from here to the main workings (elev. 4150') is 2 1/2 miles long. (Average grade 13%). This area is in the Cascade Mountains.

Climate and snowfall are moderate. There is ample timber for mining purposes and water for domestic use can be obtained from a small spring near the workings. (It is suggested that Water Rights on Elliott Creek be applied for).



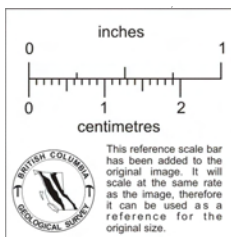
LONGITUDINAL SECTION

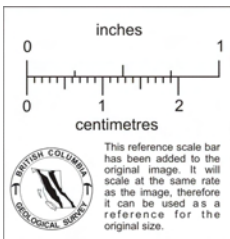
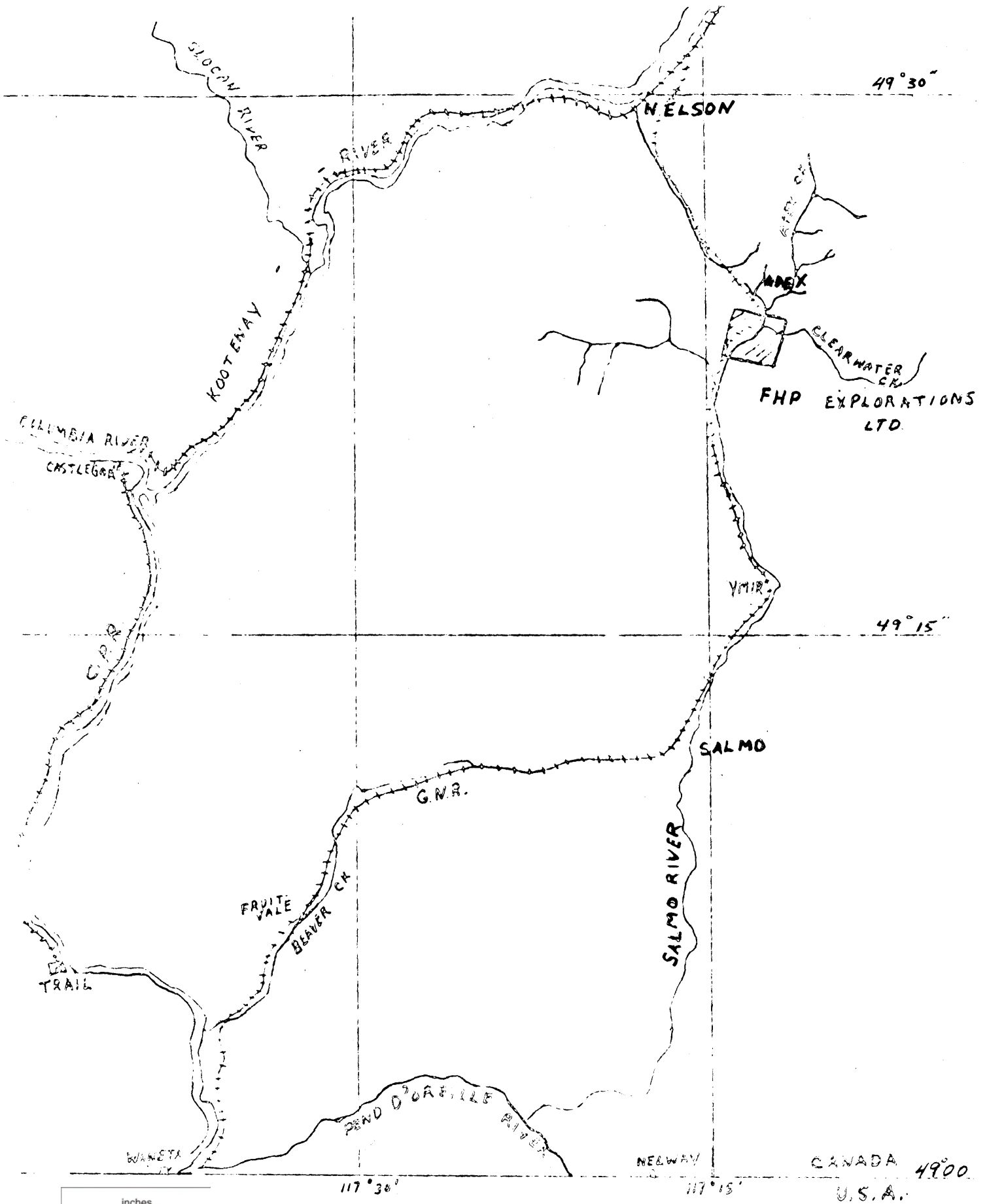
VERTICAL SECTION

FHP EXPLORATIONS LTD.
 GOLDEN AGE PROPERTY
 NELSON, B.C.

SCALE 1" = 100

AUG. 1966

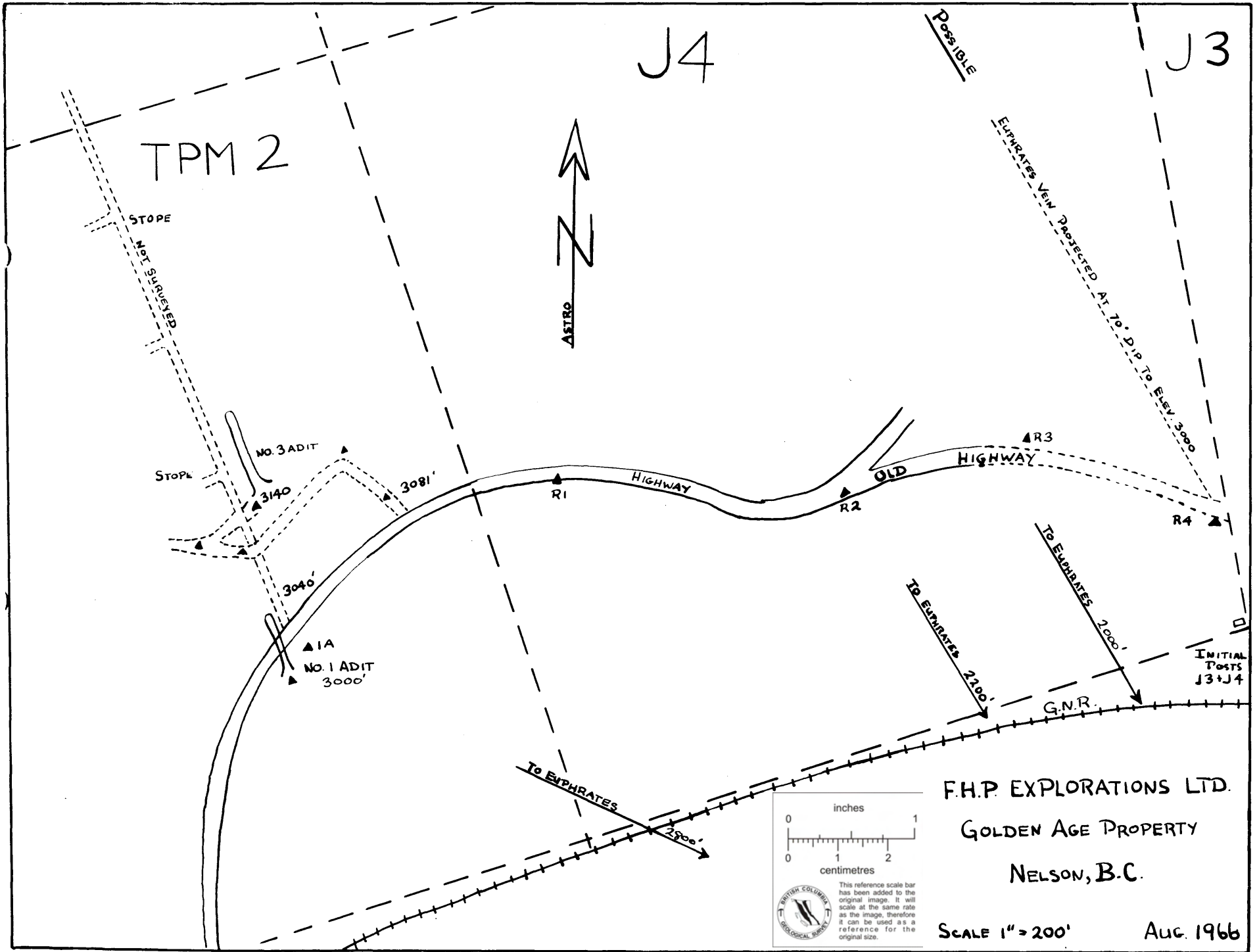




NELSON AREA

SCALE 1" = 4 MILES

AUG. 1966



CERTIFICATE

I, Jack A. Millican, Professional Engineer, of the City of Grand Forks, in the Province of British Columbia, do hereby certify:

1. I am a registered Professional Engineer in the Province of British Columbia, and my address is Box 728, Grand Forks, B. C.
2. I attended the University of British Columbia for one year and Queen's University, Kingston, Ontario for three years.
3. I have had some twenty five years professional experience in mines in British Columbia and other parts of Canada.
4. My report on the F H P Explorations Ltd. Golden Age property dated 20 August, 1966, is based upon personal examination of the property on 9 August, 1966.
5. I have no personal interest, direct or indirect, in the property covered by the said report nor in the shares of the company operating the property, nor do I expect to receive any.

Dated at Grand Forks, B. C.,
this twentieth day of
August, 1966.

"J. A. Millican"
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