Stump Lake-
Jenny Long
827118

APPENDIX III

JENNY LONG DATA

AFTER J.F. COATS, 1935.

APPENDIX I

ASSAY RESULTS FOR
G.H. RAYNER SAMPLING

MARCH 1983.

9-2 TUBAL CAIN

The Tubal Cain vein lies to the east of the Enterprise vein some 250 meters. This vein strikes N20°W and dips 65 to 85 degrees eastward near the surface and splits at depth into two branches which diverge to the south. One of these branches is the almost vertical downward extension of the vein at surface, and the other , the more easterly, has an average dip of 75 degrees easterly and a north-northwesterly strike.

Various, now inaccessible workings, explore the upper part of the vein. The best exposures now available are on the Enterprise 320 crosscut level which cuts the system below the old upper workings. On this level the western branch of the vein is a zone of strong shearing but of very little vein filling. About 1100 feet of drifting has developed this structure but no sections have been stoped.

Some of the best scheelite responses to the lamp were seen on this vein segment. A sample taken by the writer across a quartz lens with a length of 8 meters and a maximum thickness of 2 meters ran as follows:

Sample No.	Width	Au oz/ton	Ag oz/ton	Pb%	Zn%	WO_3%
12520	1.5 M	0.029	1.11	1.01	0.66	0.914
		Gold	Silver	Copper	Zinc	Tungsten

The eastern branch has a more north-northwesterly trend and is less strongly sheared and altered. It has been less extensively explored on this level however some stoping has taken place.

One sample was cut by the writer at a point 20 meters south of the north end of the drift on the east segment. This sample was a continuous chip across 0.6 meters (2 feet) in quartz lens 2.4 meters (8 feet) thick. The results are as follows:

Sample No.	Width	Au oz/ton	Ag oz/ton	Pb%	Zn%	WO_3%
12519	0.6 M	0.029	0.99	1.29	6.45	0.003

9-3 THE JOSHUA VEIN

The Joshua Vein lies some 250 meters to the east of the Tubal Cain. It is a northerly striking structure with a steep easterly dip. It has been developed by a shaft and various levels to a depth of 750 feet. It is also connected to the 320 level crosscut from the Enterprise workings which cut the Joshua vein just above the Joshua 400 foot level. At the present time only the 320 level is accessible. The workings below this are flooded and those above are in poor condition.

On the 320 level the vein has been drifted on for about 300 meters. The structure is very continuous throughout this length but widths are nowhere impressive. Widths up to 1.1 meters were noted but most of the structure would average 0.3 meters or less. On the north end of the 320 level a length of about 35 meters has been stoped in one area. In the development to the south the vein seems to weaken in width and sulphide content although continuity is still good. Also in the drift to the south the vein has been displaced to the west a few meters by low angle faults at two points. The faults seem to have been readily solved by the mine staff and the displaced vein is picked up with a minimum of dead work.

A single sample was cut by the writer on the Joshua vein. This was a 1.1 meter chip cut from vein material in a pillar 30 meters north of the main 320 crosscut. The results are as follows:

Sample No.	Width	Au oz/ton	Ag oz/ton	Pb%	Zn%	WO_3%
12521	1.1 M	0.08	11.80	1.95	4.00	0.021

9-4 JENNY LONG MINE

The Jenny Long Mine is situated about 4000 meters southeast of the Enterprise. Some surface bulldozer trenching has been carried out on the property in recent years exposing quartz vein material and rusty altered wallrock. The material in the trenches is disturbed so that no accurate widths can be seen.

G.H. RAYNER & ASSOCIATES LIMITED

626 DUCHESS AVENUE, WEST VANCOUVER, B.C. V7T 1G7 • TELEPHONE (604) 926-5690

April 14, 1983.

The Directors
Celebrity Energy Corporation
611-475 Howe St.
Vancouver, B.C.
V6C 2V8

Gentlemen:

This letter will serve as authorization for inclusion of my report on the Stump Lake Property, dated April 14, 1983, for Celebrity Energy Corporation in any statement of material facts or prospectus to be filed by the company with the regulatory authorities for the purpose of raising funds for this project.

I trust that the above meets with your satisfaction.

Yours truly,

G.H. Rayner, P. Eng.

GHR:klr

15-0 CERTIFICATE

I, Gerald H. Rayner do hereby certify that:

1. I am a consulting geological engineer with offices at 626 Duchess Avenue, West Vancouver, B.C.

2. I am a graduate of the University of British Columbia (B.Sc. Geology).

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

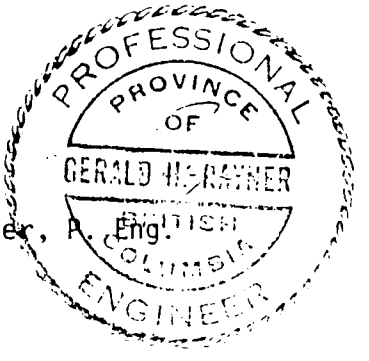
4. I have practised my profession since 1958 primarily in Western North America and the South Pacific.

5. This report is based on a field examination of the property and underground workings on March 23, 1983; on the references cited and on various company maps and data.

6. I have no interest in the properties or shares of Celebrity Energy Corporation nor do I expect to receive any.

7. I hold no interest in any property within 10 kilometers of the Stump Lake property.

Dated this 14th day of April, 1983 at West Vancouver, B.C.



G.H. Rayner, P. Eng.

The drilling equipment consists of the following: 8 - D-79 Denver Rock Drills: 1 - Plugger: 1 Set of sinking attachments for shaft work: 2 - 6 foot Columns and Arms: 1 - 5 foot Cross-Bar.

The blacksmith shop is supplied with a Denver Steel Sharpener, with all attachments, an oil furnace for heating steel, and such other tools as are needed for general blacksmithing.

DEVELOPMENT The main shaft has been sunk over 210 feet; from the 65-foot level drifts have been made both north and south. No. 1 Vein has been drifted upon for 180 feet; No. 2 Vein for 420 feet, and No. 3 for 200 ft. a total of about 800 feet in the three veins. A raise has been made in No. 3 Vein from the 65-foot level to the surface a total length of about 70 feet. A raise has been made in No. 2 Vein to the surface and another about 22 feet at a point 160 ft. south of the shaft. There is a small stope in No. 1 Vein and another in No. 3 Vein, from which ore was mined and milled. The balance of the ore milled came from the drifts made during the progress of development. There are a number of surface cuts and trenches and three shafts of unknown depth, one is located near the south line of the Jenny Long claim, another near the south-east line of the Bluebird and a third near the south line of the Brian claim. These shafts are presumed to be in the extension of the veins in the mine workings.

At 165 feet a second level was established and cross-cutting and drifting upon done from this level for approximately 200 feet where two well-defined veins were disclosed and a third vein which may prove to be a separate vein. The second vein encountered was most important. Reference should be made to the accompanying map showing plan and section and also locations of the veins. Values assaying $15.15 - $11.00 - $ 9.12 - $21.00 and $28.00. This work has definitely proven the continuity of the vein system to the depth of 165 feet and the main shaft is now being sunk to the 265-foot level, the formation being regular and somewhat harder. At today's date the main shaft has been sunk 210 feet.

The following reports and maps are attached hereto:

Progress Report by J.F. Coats, M.E. Dated Aug. 7th, 1936
Plan of Workings and Sampling Chart 65-foot Level
Plan " " " " 165-foot Level
District Map

The following is a list of samples taken and are shown by numbers in circles on the accompanying map.

No.	Width ft.	Oz. Gold	Value @ $35.	Oz. Silver	Value @65	Total Value	Location
1	1.0	0.01	.35	0.40	.26	.61	No. 2 Vein
2	2.7	0.01	.35	0.40	.26	.61	"
3	8.0	0.02	.70	0.60	.39	1.09	"
4	8.0	0.40	14.00	3.80	2.47	16.47	"
5	Grab	0.03	2.10	1.80	1.17	3.27	"
6	8.0	0.12	4.20	3.00	1.95	6.15	"
7	1.0	0.02	.70	4.60	2.99	3.69	"
8	1.0	0.08	2.80	25.00	16.25	19.05	"
9	1.0	0.03	.70	1.80	1.17	1.87	"
10	0.8	0.61	21.35	39.40	25.61	46.96	"
11	0.6	0.34	11.90	2..00	14.95	26.85	"
12	0.7	0.34	11.90	9.80	6.37	18.27	"
13	2.5	0.03	1.05	2.40	1.56	2.61	"
14	8.0	0.03	1.05	2.60	1.69	2.74	No. 3 Vein
15	Grab	0.04	1.40	2.00	1.30	2.70	"
16	2.0	0.25	8.75	2.60	1.69	10.44	"
17	8.5	0.02	.70	2.60	1.69	2.39	Junction C Veins
18	1.5	0.08	.70	2.40	1.56	2.26	No. 2 Vein
19	1.5	0.02	.70	.80	.52	1.12	No. 1 Vein
20	1.3	0.08	2.10	2.20	1.43	3.53	"
21	4.0	0.09	3.15	3.20	2.08	5.23	"
22	6.0	0.09	3.15	2.00	1.30	4.45	" stop
23	2.0	0.37	12.98	3.40	2.21	15.15	"
24	2.0	0.10	3.50	0.80	.13	3.68	"
25	1.35	0.06	2.10	2.00	1.30	3.40	"
26	Pipe	0.02	.70	1.00	.65	1.35	Tailing

165-FOOT LEVEL

No.	Width Ft.	Oz. Gold	Oz. Silver	Value
101	1.	.32	10.0	$15.80
102	3.	.10	3.8	5.02
103	1.5	.20	5.8	9.12
104	muck	.60		11.00
105	muck	.80		18.00
106	1.0	.04	1.8	2.12
107	1.0	.20	4.70	8.88
108	muck	.20	8.64	11.51
109	muck	.80	9.06	16.92
110	2.0	.05	3.70	5.23
110-A	1.0	.06	1.74	2.80
111	7.0	.04	1.36	1.96

Note: Many of these samples contained lead and zinc the amount of which was not determined.

While the work carried out on the 165-foot level proved the persistence of the veins to this depth sufficient development has not been carried out so far to give a proper picture of widths and values.

JENNY LONG MINES LTD. The Jenny Long Mines Limited which is being operated by the Kootenay [illegible] Mines Limited, is located over a portion of the northerly extension of the Nicola Valley, a rolling, open country, [illegible] for scattered trees, the surface of which is covered with a thick bunch-grass which supports numerous hords of stock during certain seasons of the year. Stump Lake, at elevation 2060 above sea-level, is situated about two miles northwest of the mine camp. Scott, or Peter Hope Creek, with its source in Peter Hope Lake, flows through the property, providing the only suitable water supply in that locality. The main camp buildings are located on Scott Creek at an elevation of 2030 approximately, while the shaft and other mine buildings are about 50 feet higher and about 1200 feet southerly from the camp.

BUILDINGS There are three bunk-houses 18' X 36' & a cook-house 18' X 36' and mess [illegible] an office 14' X 28' and in close proximity there is a po[illegible] consisting of a boiler-room 25' X 36', an engine and co[illegible] room 28' X 48' all located along the banks of Scott Cre[illegible] 1000 feet south of the camp buildings, around the collar [illegible] shaft, the mine and mill buildings are located. These [illegible] of a main mill building with its additions, blacksmith shop, hoist building with dry-room, general storage building and a storage for cyanide, head frame etc. Between the mine and camp buildings there is a small stable for horses. All of the buildings are frame constructions in good condition, the accommodation ample for 30 men.

EQUIPMENT The equipment in the power-house consists of a 100 hp steam-boiler requiring wood fuel, a 18" X 12" steam-driven Rand Compressor with a rated capacity of 330 cu. ft. of air, with fly-wheal drilled for bolting on buckets converting it into a pelton wheel that can be driven by water-power about four months of the year; a 60 hp Potter semi-diesel engine, connected by belt to a generator of about 40 kw capacity, used to supply power to the mill. From the power-house, extending up Scott Creek there is a 3,000-foot pipe-line developing a 275 foot head of water used for power during certain seasons of the year. The pipe-line is made up of 1,300 feet of 16" dia. pipe, 1,200 feet of 14" and 500 feet of 12", all welded steel with drive joints.

The mill is equipped with a 2-C Gates gyratory crusher. The Ball-Mill was fabricated by the Vancouver Engineering Works, and is in first-class condition. It is of Hardinge type, conical in form, and set in closed circuit with a drag classifier. The flow at present is direct from the classifier to the flotation machine. The flotation machine is a 4-cell 'Gravity Flow' mechanism also made by the Vancouver Engineering Works, and in good condition. Other equipment consists of a Wilfley concentrating table, settling tanks etc. The mill is driven by electric energy taken from a 8700-volt line from the power-house about 1200 feet distant. The current is transformed at the mill and stepped down for use in a 440-volt motor.

taken assayed $9.75 in gold and $5.40 in silver per ton.

Twenty feet farther to the east from the small vein, previously described, a second one was cut which measures about three feet in thickness, and is presumed to be the downward extension of No. 2 vein shown on the 65-foot level above. A sample taken when the vein was first encountered gave an assay .2 oz. gold and 10. oz. of silver, a total value of $11.00 at present metal prices. The vein is now being drifted upon north and south. The strike appears to be nearly due north and south. It is interesting to note that if this vein is the downward extension of No. 2, as indicated, then the width has increased from 6 to 9 inches on the first level to 3 feet on the second level, directly below.

The third vein exposed in the cross-cut is shown only on the right hand or south side of the tunnel where some fracturing has taken place. The vein is well mineralized about two feet in width, and where sampled gave an assay return total of $9.12 in gold and silver values.

Ore higher in value than that from which the foregoing samples were taken, has been mined: two muck samples taken from the cars of hoisted material, showed gold values of $21 and $28 with silver undetermined.

This work to date has proven the continuity of the vein system to a depth of 165 feet and the persistence to much greater depth is confidently assured. Due to the success of our present development program which has proved the continuity of the vein system in depth, I would suggest that instead of continuing further drifting and cross-cutting on the 165-foot level, immediate thought should be given to exploration at still greater depth and with this in mind I recommend that the main shaft be sunk another 100 feet and the veins explored at that level.

The results of the work done are most gratifying and should inspire entire confidence of success from the continuation of such development work as is now in progress.

Yours very truly,

(Signed) John F. Coats

APPENDIX III (cont'd)

OFFICERS & DIRECTORS

PRESIDENT
H.A. Tuck, Vancouver, B. C.
President, Braid, Tuck & Company Ltd.

DIRECTORS
Stratton Whitaker, Portage La Prairie, Man.

Frederick Field, Vancouver, B.C.
Frederick Field & Company, Chartered Accountants

C. Albert Mitchell, Vancouver, B.C.
General Insurance Agent

A.W.G. Clark, Vancouver, B. C.
B.C. Concrete Co. Ltd.

A. E. Howard, Vancouver, B.C.
Adjuster & Appraiser

SECRETARY-TREASURER
Frederick Field, C. A.

SOLICITORS
Hancox & Cowan
Vancouver, B.C.

McMaster, Montgomery, Fleury & Co.
Toronto, Ont.

AUDITORS
Forsyth & Whitlaw

TRANSFER AGENTS
London & Western Trusts Co. Ltd.

CONSULTING ENGINEER
J.F. Coats, M. E.

(Formerly with Granby Consolidated Mining, Smelting & Power Company)

In view of the work to date on the Jenny Long Group, the results are most gratifying and inspire confidence of success from the continuance of such development work as is now in progress.

The Nicola Mines, which adjoin the Jenny Long are shipping four carloads of concentrates during September and are finding higher values at depth. The Directors have no hesitation in recommending this to you as one presenting very definite possibilities.

KOOTENAY NEVADA MINES LTD. (N.P.L.)

President.

The old mine workings are flooded and inaccessible. The following description is taken from Cockfield (1948) and is based on old reports.

"The shaft is stated to be sunk on the westerly of the two north-south veins, with an inclination of 56 degrees. The vein was followed for 90 feet where it left the foot-wall of the shaft, which was continued to a depth of 280 feet with workings at the 65-, 165-, and 265-foot levels. The 65-foot level is shown by the mine maps to have been driven about 200 feet northerly and 280 feet southerly from the shaft. The No. 1 vein was traced for 180 feet northerly from the shaft, and is shown 30 feet from the northern end of the working. It is probably a branch of the No. 2 vein, which has been traced the length of the workings. In the north end of the working, a third vein with a strike of north 50 degrees west has been followed by a drift 160 feet long. According to Hedley, the vein system averages less than 29 inches of quartz in width, but locally the quartz reaches widths of 6 feet. Some stoping has been done on the veins.

The 165-foot level is about 90 feet long, excluding the crosscut from the shaft to the vein. About 40 feet of the drift is north of the crosscut, and encounters a vein near its north end that has not been drifted on, but which may be one of the veins referred to above. The southern drift shows a vein near the shaft. The relations of these to the veins in the upper level are not clear.

The 265-foot level is about 50 feet long, including the shaft crosscut. It encountered a vein, but the relations withthe veins above are not known.

Part of the quartz on the mine dump carries scheelite. According to Hedley, "values judging from the intensity and character of mineralization in different parts of the mine, must be erratic, and close sampling is necessary for determination of averages"."

J.F. Coats, Consulting Engineer for Kootenay Nevada Mines Ltd. reports

9-3 THE JOSHUA VEIN

The Joshua Vein lies some 250 meters to the east of the Tubal Cain. It is a northerly striking structure with a steep easterly dip. It has been developed by a shaft and various levels to a depth of 750 feet. It is also connected to the 320 level crosscut from the Enterprise workings which cut the Joshua vein just above the Joshua 400 foot level. At the present time only the 320 level is accessible. The workings below this are flooded and those above are in poor condition.

On the 320 level the vein has been drifted on for about 300 meters. The structure is very continuous throughout this length but widths are nowhere impressive. Widths up to 1.1 meters were noted but most of the structure would average 0.3 meters or less. On the north end of the 320 level a length of about 35 meters has been stoped in one area. In the development to the south the vein seems to weaken in width and sulphide content although continuity is still good. Also in the drift to the south the vein has been displaced to the west a few meters by low angle faults at two points. The faults seem to have been readily solved by the mine staff and the displaced vein is picked up with a minimum of dead work.

A single sample was cut by the writer on the Joshua vein. This was a 1.1 meter chip cut from vein material in a pillar 30 meters north of the main 320 crosscut. The results are as follows:

Sample No.	Width	Au oz/ton	Ag oz/ton	Pb%	Zn%	WO_3%
12521	1.1 M	0.08	11.80	1.95	4.00	0.021

9-4 JENNY LONG MINE

The Jenny Long Mine is situated about 4000 meters southeast of the Enterprise. Some surface bulldozer trenching has been carried out on the property in recent years exposing quartz vein material and rusty altered wallrock. The material in the trenches is disturbed so that no accurate widths can be seen.

The vein lies in a shear zone about 2 meters wide striking 015 degrees azimuth and dipping 55 degrees to the east. At the collar the shear carries little quartz however a width of over 0.5 meters can be seen at the top of the water level a few meters down the shaft. The dump material is dominantly quartz carrying minor amounts of pyrite, sphalerite, galena and malachite. A general grab sample of dump material taken by the writer ran as follows:

Sample No.	Au oz/ton	Ag oz/ton	Pb%	Zn%	WO_3%
12515	0.03	4.69	0.26	3.40	0.023

Some pitting has been done at a few points for about 200 meters to the northwest toward the Jenny Long. Exposures are not good but some altered structure seems to have been found.

Two diamond drill holes were put down on the Azela structure in 1980. The following description is taken from Wolfe (1981):

"Two diamond drill holes were drilled from the same setup to intercept the Azela vein.

Hole A

Collar location - 71.6 m (235'), N. 05° E. of the Azela shaft.
Azimuth S. 70° W.
Inclination -45°
Assay Highlights

Depth	Ag oz/ton	Au oz/ton	Cu%
110-115'	7.82	0.072	1.39
115-120'	2.70	0.022	0.47

Hole B

Inclination -65°

110-115'	2.10	0.031	0.04

Alteration: Choritization generally-pyritization, carbonitization and silification associated with the vein."

No further detail on the work is available.

9-6 OTHER SHOWINGS (AFTER HOLCAPEK)

Various other minor showings are known on the claim group but were not seen by the writer. The following series of descriptions is quoted from F. Holcapek, P. Eng. (Holcapek, 1974) who mapped parts of the area for Juniper Mines in 1974.

The assays within the quoted section are also by Holcapek.

" L6

NEW STAR VEIN

A caved shaft or pit in greenstone has been located. Quartz material containing galena, pyrite derived from a zone of strong alteration has been sampled.

Sample	Width	Au oz/ton	Ag oz/ton	Pb%	Zn%	Cu%
756	grab	.09	4.55			
757	grab	.02	1.02			

L29

NO SURRENDER VEIN

On the No surrender claim extensive cat trenching and pitting has been found. Most of the pits and trenches are along strike of the veins and are in part, sloughed.

Two sets of veins are partially exposed. The first trending N20 to N30°E dipping 75° east.

The zone is essentially a 10 foot wide shear with strong alteration, carbonitization of the greenstone, containing a quartz vein of variable width traced for a length of 800 feet.

Samples taken are chip or grab samples depending on the quality of the exposure.

Sample	Au oz/ton	Ag oz/ton	Pb%	Zn%	Cu%
59	tr	0.24			
60	.07	2.23	2.14	.04	.01
61	.05	7.49			
62	.32	26.10			
63	.01	.55			
64	.005	.48			

The second vein trends northwesterly and is exposed in one trench. The vein is essentially a 6 foot wide alteration zone containing quartz stringers. The main trench is water filled.

Sample		Au oz/ton	Ag oz/ton	Pb%	Zn%	Cu%
65	grab (dump)	.04	.01			
66	"	.44	36.7	38.0	2.88	.16

37 EMULATOR VEIN--SHEELAH MINERAL CLAIMS

The old workings on this vein system consists of an adit and numerous pits and trenches. All of the workings are sloughed except the adit which is open but has not been mapped.

The vein is possibly the extension of the Joshua Vein system but no outcrop of the vein has been found between the two areas.

The vein consists of an alteration zone within greenstone followed by quartz filling.

Samples taken are grab samples from the sloughed trenches and pits or dump samples from the adit.

Sample		Au oz/ton	Ag oz/ton	Pb%	Zn%	Cu%
775	pit	.03	.27			
776	dump	.39	1.12			
777	dump	.005	.50			

SILVER KING VEIN

The Silver King shaft located in the western central part of the claim is garbage filled. The vein where visible consists of a 2 foot 2 inch alteration zone with quartz.

Several pits have been excavated, now sloughed, on the vein. The vein strikes northerly and dips 70° E.

Sample		Au oz/ton	Ag oz/ton	Pb%	Zn%	Cu%
778	grab	.01	.43			
779		.06	8.26			
780		.13	7.26	14.0	.23	.01
781		.03	1.19	.13	.01	<.01

RUBY M VEIN SYSTEM

Three areas of trenching have been found, believed to be the old Ruby M workings.
The main pit is on a northeasterly trending vein, dipping at 50° east. Here 18" of quartz vein material is exposed with traces of pyrite. Relationship of this vein to the other zones is not known. This could be the southern extension of one of the No Surrender Veins.

Sample		Au oz/ton	Ag oz/ton
796	18" qtz. minor pyrite	.003	.20

West of the pit, a stripped area with quartz boulders containing bornite and minor pyrite has been located.

Sample	Au oz/ton	Ag oz/ton
795	.01	1.03

South east of the latter an old cut with no outcrops is located. Minor quartz boulders with minor sulfides have been collected for sampling.

Sample		Au oz/ton	Ag oz/ton	Pb%	Zn%	Cu%
790	grab	.39	3.97			

MARION C VEIN SYSTEM

This vein system appears to be the southern most exposed section of the Enterprise--No Surrender--King William vein system.

Two outcrops of the vein system have been found. The first consists of a 4 inch quartz vein striking N20-30E dipping 55° E. Minor pyrite occurs associated with the quartz. This outcrop was not sampled.

The second outcrop lies due south of the King William Main workings. Here an incline at 75° E was sunk on the vein for 50 feet. The vein has an indicated northerly strike and dip at 75° E.

The vein appears to be a shear filling with associated alteration.

Sample	Au oz/ton	Ag oz/ton	Pb%	Zn%	Cu%
784	.003	.52	.09	.03	.01
785	.005	.54			.01
786	.005	.41			.01

39 ESTER M VEIN

Four old cuts were located in the area of the Ester M. vein. Three of the cuts do not show bedrock. Quartz bolders in the vicinity of the cuts indicate that the vein has been reached. The fourth shows quartz stringers in brown shales with traces of pyrite.

Sample	Au oz/ton	Ag oz/ton
783	.01	.81

BIG SANDY

Along the northern boundary of the claim, beside the NW corner post an old hand trench completely caved was found. Erratics in the trench

consists of greenstone boulders. No quartz material was found in this trench.

7-32 MIDDLE MAPPED SECTION

Mapping in this part was based on compass and chain traverses for ground control. Vein systems mapped in the middle section of the property appears to lie along the extension of the Ester vein system, the relationship to other veins is not known. The general trend of this vein indicates that they are definitely not part of the Enterprise, No Surrender-King William vein system.

32 M FRACTION

On this claim along the eastern margin, three cuts were mapped. The northern most, a trench 4'x5' shows strongly sheared greenstone with minor alteration-carbonatization. A quartz vein 9" wide follows the shear. No sulfides have been found associated with the vein material. Minor pyrite occurs as dissemination within the greenstone. The vein trends N10-20° E, 65° E.

Two other trenches are completely filled, but altered greenstone-carbonate rock and quartz boulders have been found showing traces fo galena and pyrite.

Sample		Au oz	Ag oz	Pb	Zn	Cu
16908	Grade float	.02	1.28	1.21	.01	.02
16909	9"	tr.	.16	.01	.41	.01

47 RAVEN II

The main workings are located along the southeastern limits of a large greenstone outcrop. Two trenches 4x6x6 ft. and 4x5x4 ft. expose the vein. The vein strikes N20W, 65° E., on surface. At the bottom of the first trench the dip of the vein flattens to a 40-45° dip.

The vein has a width of 1.5 feet and is surrounded by a 4 foot wide alteration zone.

The other trenches are completely sloughed, but in vicinity of the trenches, the greenstone outcropping is strongly fractured and shows disseminated pyrite.

Sample	Width	Au oz	Ag oz	Pb	Zn	Cu
16910	1.5' vein	.02	2.04	.09	.31	.04

IXL-FR.

The vein was found outcropping along a steep west slope. The first outcrops consists of a poorly exposed quartz vein cutting greenstone. The vein trends N10W and dips approximately 60° E, into the mountain. Strong shearing is indicated parallel to the vein.

Approximately 400 feet south a shaft has been sunk on the vein. The shaft is water filled and of unknown depth. Strong east-west shearing occurs north of the shaft. Numerous quartz stringers follow the shear direction.

The vein material consists of quartz with galena, sphalerite, and pyrite. Minor malachite and azurite occurs as staining. The vein strikes northerly and dips at 60° E.

Sample		Au oz	Ag oz	Pb	Zn	Cu
16907	dump	.02	3.68	.84	.03	.01

7-33 SOUTH SECTION

Mapping in this part was completed using a 200 x 100 foot picketed grid for ground control.

In general it was found that outcrops are very sparse west of the baseline and the eastern portion is covered by heavy glacial till in the topographically higher part of the grid.

MOON

A completely sloughed and filled old hand trench was located on this claim. Outcrops in the immediate area are greenstone, strongly fractured. No good exposures have been found in this area.

PARKVIEW 3

Along the northern boundary of the Parkview claim, on line 6N 1W, a sloughed trench is located. No vein material was found. The trench appears to lie along the strike of the Jenny Long vein."

10-0 GEOCHEMISTRY

No general geochemical surveys have been run over the property according to available records. This is rather surprising considering the relatively shallow overburden over much of the area and the consistent presence of zinc along with lead and gold and silver values in the better grade sections of the vein. Geochemical soil surveys would appear to be a promising tool to assist in locating mineralized structures in the covered areas of the claims. Although glacial cover is continuous over much of the property the depth of cover is normally not great.

Soil samples should be analysed for zinc as well as for silver and gold.

11-0 GEOPHYSICAL CONSIDERATIONS

The vein structures of the camp are continuous and commonly contain wet sheared material along the walls. As such they should show good electromagnetic response.

In 1960 a Ronka Mark II EM Survey was run over most of the area now under consideration. This survey outlined numerous anomalies and conductors. Unfortunately, except for the Azela-Johannesburg area, the conductors showed a marked lack of correspondence with known vein structures. The primary anomaly arising out of this survey follows a strong topographic linear occupied in part by a swamp. This anomaly apparently was never tested.

The general appearance of the vein structures underground suggests that they should show an electromagnetic response. They are wet and well sheared and altered although across narrow widths. Further EM work is believed to be justified but in view of the unsatisfadtory results of the previous surveys, any new work should be preceeded by orientation surveys to ensure that the method selected is effective over the known veins.

12-0 RECOMMENDATIONS

A substantial exploration program is recommended for the camp in two stages.

Stage I

The first stage should include:

1. The preparation of base maps and the compilation of available data on them.
2. Geological, Soil Geochemical and Electromagnetic Surveys over the claims. The EM Survey to be preceeded by orientation work to select a suitable method.
3. Dewatering and making safe the underground workings: mapping and sampling available exposures.
4. About 1000 meters of underground diamond drilling in the northern underground workings to test only for the continuation of known productive structures. The irregularity of occurence of known ore is such that drilling cannot be relied upon to test for the existence of ore shoots.

Stage II

The second stage to be undertaken only following a favourable engineering review of the results of Stage I:

1. Surface backhoe trenching to prospect the extensions of known veins and to test surface survey results.
2. Surface diamond drilling to test for extensions of productive structures beyond the area of old workings and to test at depth the results of surface surveys. Provision should be made for 3000 meters of surface drilling.
3. Rehabilitation and re-equipping Enterprise shaft, main haulage and some lateral workings.
4. 400 meters of exploratory underground drifting to test for ore-bearing sections in structures defined by drilling.

13-0 COST ESTIMATES

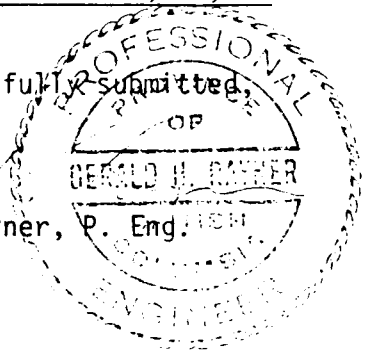
Stage I

Base map preparation and data compilation	$ 4,000
Dewater workings	35,000
Mapping and sampling underground	10,000
Assaying	12,000
Surface grid	5,000
Geophysical orientation	4,000
Geophysical E.M. Survey	10,000
Soil Geochemistry survey and analyses	7,000
Underground diamond drilling station preparation	25,000
Underground diamond drilling (1000 meters @$100/meter)	100,000
Engineering	15,000
Supervision and administration	8,000
Contingencies	15,000
Total Stage I	$250,000

Total Stage I	$250,000	$ 250,000
Stage II		
Surface backhoe trenching (Includes filling and surface rehabilitation of failed trenches)	$ 40,000	
Surface diamond drilling (3000 meters @ $60/meters)	180,000	
Exploratory underground drifting (400 meters @ $1000/meter	400,000	
Rehabilitation of main haulage, Enterprise shaft and some lateral workings	55,000	
Hoist Installation and electrical	75,000	
Total Stage II	$750,000	750,000
Total Stages I & II		$1,000,000

Respectfully submitted,

G.H.Rayner, P. Eng.



14-0 REFERENCES

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strong and is not entirely restricted to walls of quartz. Mineralization includes pyrite, galena, sphalerite, tetrahedrite, and chalcopyrite in a gangue of friable quartz and a little carbonate. These sulphides vary both in relative proportions and in total amounts in different parts of the veins. The accompanying plan, from Brunton survey by the writer, illustrates the distribution of quartz and of broken ground on the two upper levels.

During the past season some development-work was done under the direction of J. F. Coats by Kootenay Nevada Mines, Limited, now in liquidation. At the time of the writer's visit the shaft was being sunk on contract and was, in early September, 40 feet below the 165-foot level. Since that date some drifting has been done on a new 265-foot level. The 35-ton mill was not operated in 1936.

Surface work, localized about the present shaft, shows two parallel north-south bodies of quartz and one trending north-west and south-east. One isolated open-cut shows a north-south strand of quartz not apparently related to the others. Six hundred feet south of this shaft is a 20-foot open-cut on a 2- to 6-inch vein dipping 70 degrees east; 90 feet north of this cut is an old shaft sunk 8 feet on a mineralized zone. Outcrops farther afield are very scarce.

The shaft is sunk on the foot-wall or most westerly of two north-south quartz veins. The average inclination of the shaft is about 56 degrees and the vein is followed for 90 feet when it leaves the hanging-wall of the shaft. This vein is drifted on for 180 feet to the north, where it joins a nearly parallel hanging-wall vein, and both swing to meet a north-west vein-zone. The north-south system is believed to be one rather than two "veins"; as illustrated in the plan, the foot-wall and hanging-wall bands converge to north and south. Over the total explored length of 500 feet this vein system or shear-zone attains widths of quartz locally as great as 6 feet, but averages less than 24 inches of quartz, the best widths being in the northern and southern sections of the drifts. A central, narrow, and branching section is probably too narrow to warrant mining. Some stoping has been done on the northernmost foot-wall section, and the back has been taken down to a height of 6 to 20 feet in several places. Shearing is most marked on the north, where the north-south and north-west systems meet. Here there are a number of strands of irregular quartz associated with both parallel and transverse gouge-seams of little displacement. The north-west vein-zone has been drifted on for about 170 feet to a point where it is cut off by a fault. Widths are as great as 2½ feet, and on one such section 28 feet long is a stope that has been raised on to the surface.

In the original development of the 65-foot level the vein was stripped. This has resulted in excessively wide drifts, and in most sections the vein is not in the best relation to the drift for stoping and chute-construction. Some of the ground, particularly in the northern part, is quite heavy.

The 165-foot level shows faulted north-south quartz and also north-west-trending quartz. It is evident that some of the faulting was contemporaneous with mineralization and does not simply displace the vein. Maximum width of north-south quartz is about 20 inches and that of north-west quartz where crosscut is 30 inches. The relation to the upper level is not clear.

Values, judging from the intensity and character of mineralization in different parts of the mine, must be erratic, and close sampling is necessary for determination of averages. Five channel samples taken by the writer on the 65-foot level north and north-east of the shaft returned low values in gold, silver, lead, and zinc, the highest being: Gold, 0.12 oz. per ton; silver, 6 oz. per ton; lead, 1 per cent.; zinc, 1.1 per cent. Some ore on the dump is heavily mineralized with tetrahedrite.

Copy

A REPORT ON THE

STUMP LAKE PROPERTY

NICOLA MINING DIVISION

BRITISH COLUMBIA

LATITUDE 50° 20'

LONGITUDE 120° 22'W

N.T.S.

92I/8W

For

CELEBRITY ENERGY CORPORATION

By

G.H. RAYNER, P.ENG.

G.H. RAYNER AND ASSOCIATES LTD.

WEST VANCOUVER, B.C.

APRIL 14, 1983.

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ILLUSTRATIONS

APPENDICES

1-0 SUMMARY AND CONCLUSIONS

At the present time Celebrity Energy Corporation controls the full length of the Stump Lake precious metal mining camp. This camp consists of a system of steeply dipping veins extending over a length of about 7 kilometers. The vein system has been explored at various isolated points in the past and a total of about 77,000 tons of ore has been produced from these workings.

The potential to locate economic bodies of ore around the existing workings and in the intervening areas appears very good.

A program of work in two stages is recommended to evaluate this potential.

2-0 INTRODUCTION

At the request of Mr. Paul Frigstad of Celebrity Energy Corporation, I have examined the company's Stump Lake property and the very large volume of available data generated by previous workers in this mining camp.

In the camp steeply dipping veins carrying precious metal values have been intermittently developed along a strike length of 7 kilometers. Between the separate workings unexplored covered areas present extensive target areas.

Although there is a great deal of old data available much of it is general in nature. Specific material, such as assay plans, is known to have existed at one time and may still exist but it is not presently available. The two best sources of assay data presented by reliable engineers are the 1935 report on the Jenny Long by Coats and the 1936 British Columbia Minister of Mines Report description of the camp.

These two documents are appended to this report as Appendices II and III.

3-0 LOCATION AND ACCESS

The Stump Lake area lies in southwestern British Columbia about 40 kilometers northeast of the town of Merritt and about the same distance south of Kamloops. Most services are available in one or the other of these two towns. A paved highway connecting them passes through the western portion of the claim group. Both towns have rail service and from Kamloops there is scheduled air service to Vancouver.

The specific location of the property would be 50°20' North Latitude; 120°22' West Longitude.

Local logging, ranch and mining roads give good access to most areas of the claim group.

4-0 CLIMATE AND PHYSIOGRAPHY

The property lies in the southern portion of the interior plateau of the province. Relief on the claims is subdued varying between 720 meters and 920 meters above sea level. The higher areas are sparcely treed while the lower areas consist of open range land.

Climatatic conditions are moderate with warm, dry summers and fairly cool winters with a light snowfall.

Limited water is available on the claims during the early part of the year so that diamond drilling would best be scheduled for the spring months. For an operating mine a water supply would be available from streams and lakes in the area by arrangement with the Water Rights Branch or by purchase of existing water licences.

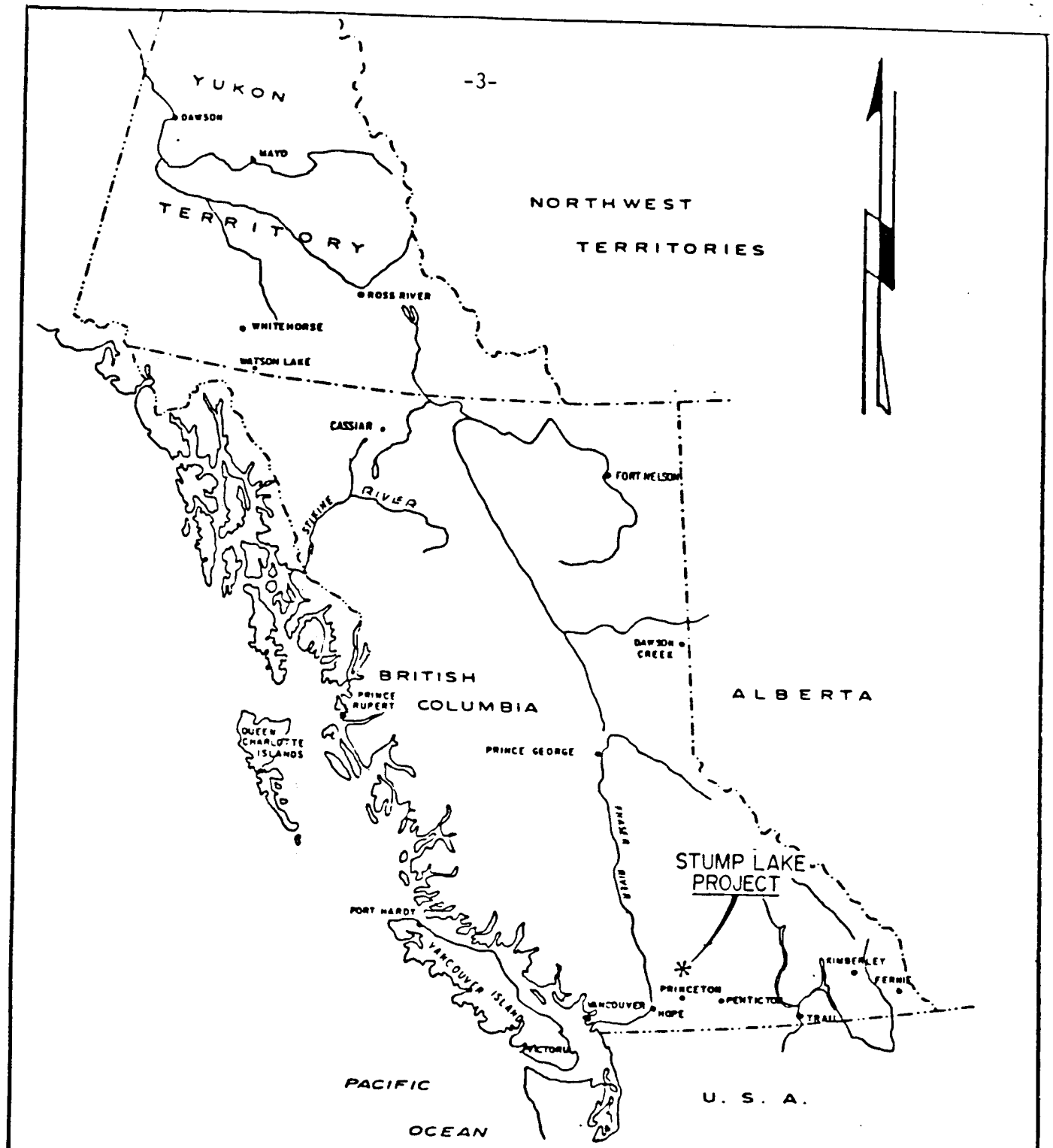


FIGURE 1

PROPERTY LOCATION

Scale

The Juniper Mines plan of the Jenny Long area shows a diamond drill hole about 100 meters long cutting the vein zone. The collar site was not examined by the writer and it is not known if this hole was actually drilled or only proposed. In any event, no drill data is available.

The operations of Juniper Mines were held back by the low precious metal prices then prevailing. They also did not control the Enterprise, Tubal Cain and some other critical claims at the north end of the camp. Work apparently halted in 1975.

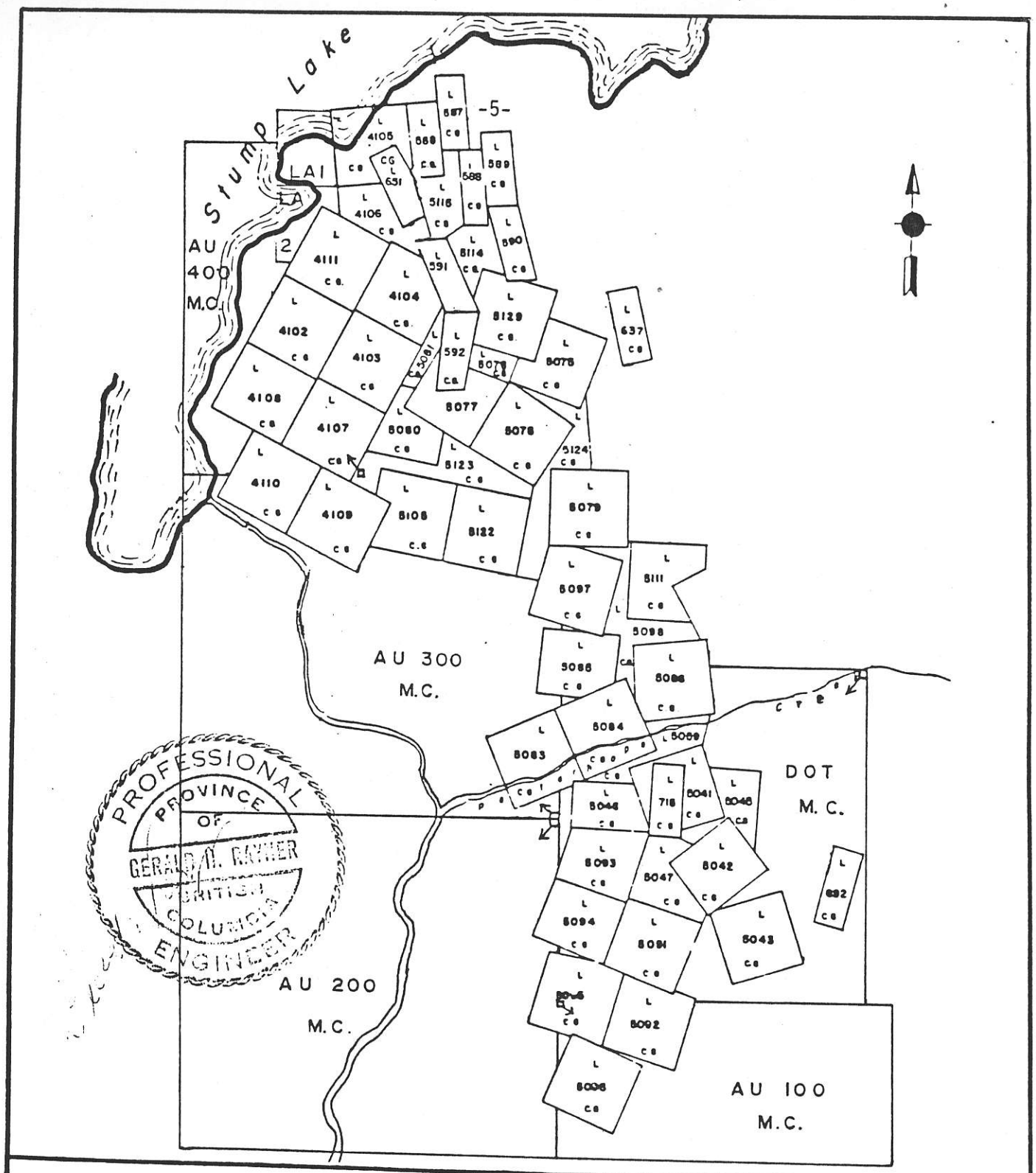
From 1975 to date several companies have controlled various parts of the camp. The only significant work recorded during this period were the two diamond drill holes put down on the Azela Claim in 1980. They are discussed under that property.

Production figures for the camp, as reported by the British Columbia Department of Mines total 77,605 tons of ore mined, yielding 8,494 ounces of gold, 252,939 ounces of silver, 40,822 pounds of copper, 2,206,555 pounds of lead and 367,869 pounds of zinc. This represents a recovered ore grade of 0.109 oz/ton gold, 3.26 oz/ton silver, 0.026% copper, 1.42% lead and 0.24% zinc.

This production was in the period from 1916 to 1944 and came entirely from the Enterprise, King William, Tubal Cain and Joshua veins.

On the Jenny Long property, a 35 ton mill was established in the mid-1930's but no production records are available. A relatively small volume of tailings was produced.

In the period from 1939 to 1944 a minor tonnage of scheelite was produced from the tailings ponded near the Enterprise portal. The total amount of recovered scheelite is not known to the writer.



SCALE

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0 1000 m

CLAIM MAP

STUMP LAKE CLAIMS

Fig. 2

921/8W

5-0 HISTORY AND PREVIOUS WORK

The early history of the camp dates back to the period of original claim staking between 1882 and 1885. Work by Nicola Mining and Milling Company prior to 1890 included the sinking of the Joshua, Tubal Cain and King William shafts, whereas the Star Company put down the Star (Enterprise) and Planet shafts. Work was suspended around 1890 and there appears to have been comparatively little work done until 1916 when Donahue Mines Company, Limited, of Seattle, started work on the Joshua and Tubal Cain veins. A mill was built by this company, but was only operated for a short time. Operations by the company were stopped in 1920.

In 1925 Planet Mines and Reduction Company, Limited, started work on the Enterprise vein. The shaft was deepened to the level of the present crosscut adit (320 feet) and the adit itself was driven. A mill was built and operated from 1929 to early 1931, when the company stopped work. Nicola Mines and Metals Company acquired the property of the Planet Company and in addition a number of other claims. The company did development work on the Joshua, Tubal Cain, and Enterprise veins and there was some production. In 1937 a reorganization took place whereby Consolidated Nicola Goldfields, Limited, acquired the holdings of Nicola Mines and Metals and the other groups. From 1939 to 1942 the company was developing the mine and rebuilding the mill, which was operated at intervals. Operations were suspended in 1942.

Also, in 1935-1936, the Kootenay Nevada Company carried out separate operations to the south on the Jenny Long vein.

Since 1942 various companies including Stump Lake Mines Ltd. and Copper Hill Mining and Exploratien carried out limited programs on the ground, however the next significant work was undertaken in 1974 by Juniper Mines Ltd. This company geologically mapped most of the claims area at a scale of 400 feet to the inch. The available photocopies of this work are not particularly clear, however they will serve as an excellent base for further work.

6-0 PROPERTY

The Stump Lake area holdings of Celebrity Energy Corporation consist of fifty-five reverted Crown Granted claims, two two-post claims and five Modified Grid claims totalling sixty-four units.

The Stump Lake Camp forms a coherent geological unit with a single set or system of veins. However, the ground position presently assembled by Celebrity apparently represents the first time since some time in the 1940's that all of the properties of the camp have been gathered under one ownership to allow for a unified evaluation of the full length of the vein system.

The claim holdings are outlined on Figure 2 and the claim details are presented in Table I.

TABLE I
CLAIM DETAILS
MODIFIED GRID SYSTEM CLAIMS

NAME OF CLAIM	RECORD NO.	UNITS	EXPIRY DATE
Dot	803	8	Feb. 13, 1983
Au No. 100	1338	8	Feb. 2, 1984
Au No. 200	1339	20	Feb. 2, 1984
Au No. 300	1340	20	Feb. 2, 1984
Au No. 400	1341	8	Feb. 2, 1984

TWO POST CLAIMS

NAME OF CLAIM	RECORD NO.	EXPIRY DATE
L.A.#1	1237	March 24, 1984
L.A.#2	1238	March 24, 1984

TABLE I (cont)

REVERTED CROWN GRANTED MINERAL CLAIMS

NAME OF CLAIM	LOT NUMBER	RECORD NUMBER	EXPIRY DATE
Azela	692	677	Aug. 13, 1984
Jenny Long	718	678	Aug. 13, 1983
Parkview #3	5041	679	"
Bluebird	5042	680	"
Wren	5043	681	"
Clara B.	5045	682	"
The Garden No. 1	5046	683	"
Dorothy	5047	684	"
Brian	5091	685	"
Scotia	5092	686	"
The Garden No. 2	5093	687	"
The Garden No. 3	5094	688	"
The Garden No. 4	5095	689	"
The Garden No. 5	5096	690	"
Big Sandy	637	1243	April 22, 1984
Silver Star	4104	305	Aug. 5, 1983
L. Fraction	5123	395	Feb. 20, 1984
E. Fraction	5098	396	"
Ruby M Fraction and Star Fraction #1	5080, 5081	397	"
Jessie B.	5078	398	"
Georgina M. Fr.	5076	399	"
Esther M. Fr.	5075	400	"
C. Fraction	5059	401	"
Entente Cordial	4110	402	Feb. 24, 1984
New Emblem	4109	403	"
Lee No. 8	5122	404	"
Sun	5083	405	"
Eileen O Fraction	5105	406	"

TABLE I (Cont)

REVERTED CROWN GRANTED MINERAL CLAIMS (cont)

NAME OF CLAIM	LOT NUMBER	RECORD NUMBER	EXPIRY DATE
No Surrender and King William	591,592	357	Dec. 22, 1983
Silver King No. 2	4103	358	"
Planet Extension	4108	359	"
Silver King Extension	4107	360	"
Nels Fraction	5115	361	"
Gentle Annie	589	362	"
Maybelle Fraction	5114	363	"
Thistle Fraction	5085	366	Jan. 18, 1984
Early Bird	5086	367	"
Raven	5097	368	"
Sheelah	5129	369	"
Marion C. Fraction	5077	370	"
Belle Scott	590	371	"
IXL No. 6	5111	376	Feb. 6, 1984
Raven No. 2	5079	377	"
Moon	5084	378	"
M.Fraction	5124	394	Feb. 20, 1984
Planet No. 1	4102	306	Aug. 5, 1983
New Star No. 2 Fraction	4106	307	"
Daystar	4111	308	"
New Star Fr.	4105	410	March 1, 1984
Enterprise	651	411	"
Tubal Cain	586	412	"
Christina	588	412	"

All claims are understood to be in the name of Celebrity Energy Corporation by agreement.

The writer checked the Legal Corner Posts in the field for the Dot, Au No. 100, Au No. 200, Au No. 300 and Au No. 400 as well as some of the identification posts.

All were found to be properly staked in accordance with the provisions of the British Columbia Mineral Act.

Details of title were not further investigated.

7-0 REGIONAL GEOLOGY

The regional geology of the district has been mapped by W.E. Cockfield of the Geological Survey of Canada on a scale of 1:250,000 and published as G.S.C. Memoir 249 (1947).

In the Stump Lake area the geological framework is basically composed of an underlay of Nicola Volcanic rocks of Upper Triassic Age. The Nicola Group is composed of a succession of volcanic flows and pyroclastics with minor sedimentary sections. Nicola Volcanics are dominantly of intermediate composition but variations from basalts to rhyolites do occur.

Regionally, the Nicola Group is underlain by the Cache Creek Group of Carboniferous to Permian Age. The Cache Creek is a sedimentary Group in which argillite predominates. Minor volcanics are interbedded in certain areas and substantial sections of limestone occur in areas to the north.

In the Stump Lake area, Cache Creek rocks crop out extensively to the east of the claims and as occasional windows to the south.

Extensive intrusive bodies cut the older rocks. These bodies are of batholithic

size and are assigned to the Coast Intrusives of Jurassic or later age. Granodiorites and related phases predominate.

Structurally, the Stump Lake Area lies in a synclinal package of Nicola rocks compressed between Cache Creek sediments and the Penask Batholith on the east and the Nicola Batholith on the west.

Miocene flows of the Kamploops Group overlies the older units. Examples of these largely basaltic volcanics are found just to the north of Stump Lake.

8-0 LOCAL GEOLOGY

Mappingon a scale of 1 inch to 200 feet was carried out over the property except for the northern sections by Agilis Engineering for Juniper Mines in 1974. This work shows the area to be almost exclusively underlain by "greenstone" of the Nicola Group. The work delineated some of the main mineralized structures and projected their traces through covered areas.

Controls for vein quartz and mineralization are not at all clear from the data at hand. It would seem from the distribution of stoped areas in the northern workings that the structures tended to make ore on north-north-westerly rather than northerly trending vein segments. Examples of this include the southern Enterprise-King William section where the north-north-westerly tending King William vein was stoped while the northerly trending Enterprise was not. Similarly on the Tubal Cain system the northerly trending (western) splay is a largely barren shear while the north-north westerly trending branch to the east makes some ore. This ore distribution suggests that the main regional shear structure may have a northerly trend and a sinistral movement causing areas of low pressure and vein formation on related tensional structures.

The large ore zone in the northern part of the Enterprise workings would also fit this structural picture. Here the ore is localized on an arcuate section

of vein which would tend to open with north-south strike slip movement to form a wider mineralized section.

Further work and new mapping, particularly in the underground workings, will be required to clarify this question and to outline other ore controls.

The mineralized structures in the northern part of the property can be examined from the workings of the Enterprise 320 level which remains in generally good condition except for the southern Enterprise-King William section. These various underground exposures on the Enterprise, Tubal Cain and Joshua veins are described in the following sections by property name.

9-0 PROPERTY DESCRIPTIONS

The Camp has been developed in the past on the basis of individual veins or properties. The following descriptions continue to address these areas on an individual basis since that is the manner in which the available data is arranged. The reader should remain aware that all of these separate veins or properties are parts of a single coherent vein camp. In several cases the unexplored, covered sections along strike between properties present excellent exploration potential.

9-1 ENTERPRISE-KING WILLIAM SYSTEM

The Enterprise and King William structures were originally explored as separate properties but underground work over the years has clarified the relations between them.

The Enterprise vein was developed from surface by an inclined shaft sunk along the dip of the vein for 320 feet. At a later date an adit was driven to intersect the vein near the bottom of this shaft. This adit was also continued to the east to crosscut the Tubal Cain and Joshua veins. All three

veins were drifted upon extensively on this 320 foot level.

On the Enterprise vein the existing plans show very meager lateral development from the shaft above the 320 foot level. Stoping is continuous for long sections from the 320 foot level for about one hundred to one hundred and fifty feet above it. At no point does stoping appear to have broken through to surface or to overburden. If this reflects the distribution of ore in the vein then all of the Enterprise ore shoots appear to have been blind: a point to bear in mind in exploring the other veins of the camp.

Below the 320 foot level a new internal shaft was sunk to below the 900 foot level and drifts were driven from it at the 440, 550, 675 800 and 900 foot levels. The Enterprise vein as exposed in these workings varies in width. In stoped sections on the 320 level it appears from pillars and remnants to have been from one to three feet wide. Through most of the unstoped areas it is only about a foot in width with considerable swelling and pinching.

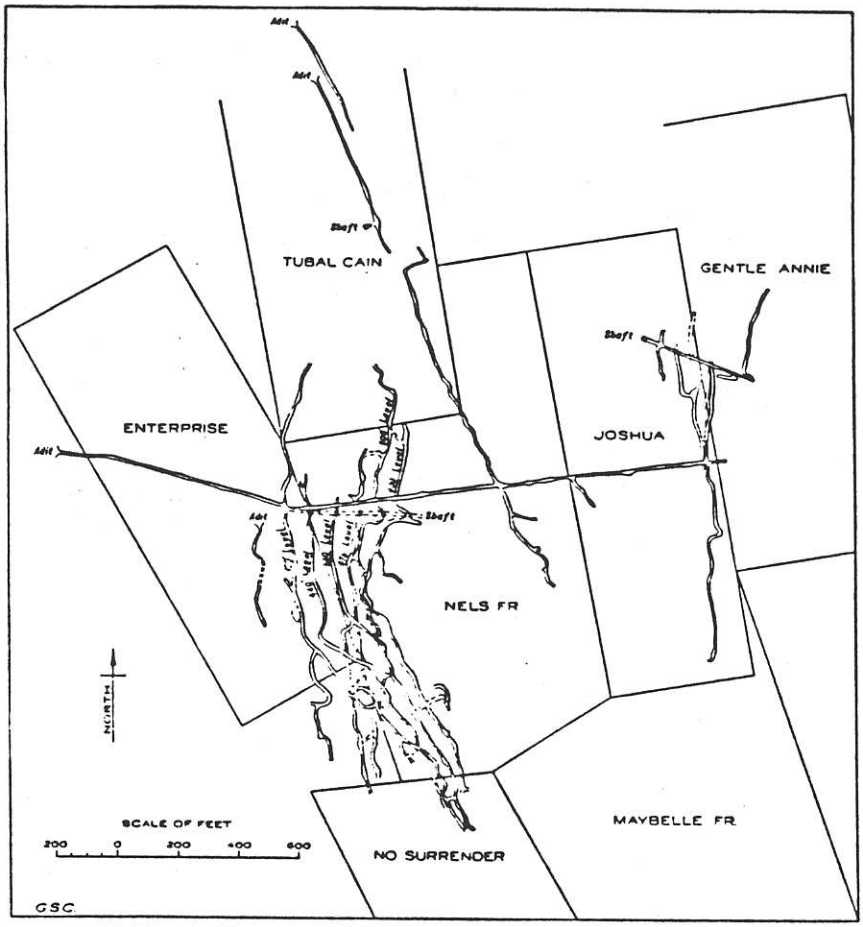
The vein is quite continuous over its exposed length. The strike is variable, generally about 350° azimuth and turning to about 015° azimuth in the section to the north of the shaft. The dip is easterly at about 50 degrees with variations from 40 degrees to 80 degrees reported.

In general the bleached alteration envelope in the underground workings appears quite thin.

Two samples were cut by the writer from the Enterprise vein on the 320 level. The first was cut as a continuous chip across 0.15 meters (6 inches) in a shatter zone 0.6 meters (2 feet) wide located on the 320 level.

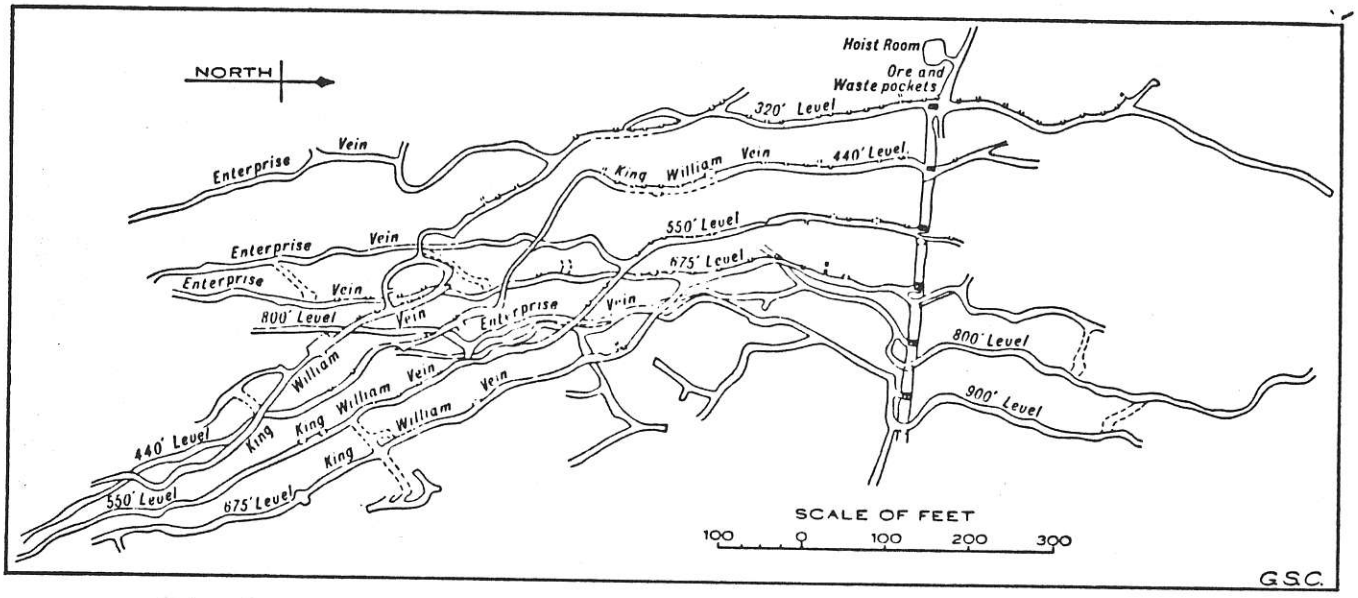
The second sample was a grab across about 0.6 meters (2 feet) of vein from a pillar at the junction of the two north drifts on the Enterprise vein. The results were as follows:

Sample No.	Width	Au oz/ton	Ag oz/ton	Pb%	Zn%	WO_3%
12517	0.15 M.	0.102	10.05	1.07	1.29	0.002
12518	grab	0.938	7.01	3.11	1.76	0.001



Main workings on the Enterprise, King William, Tubal Cain, and Joshua veins, Consolidated Nicola Goldfields, Limited.

Figure III
After Cockfield
G.S.C. Memoir 249



Main underground workings on the Enterprise and King William veins, Consolidated Nicola Goldfields, Limited.

Figure IV
After Cockfield
G.S.C. Memoir 249

9-2 TUBAL CAIN

The Tubal Cain vein lies to the east of the Enterprise vein some 250 meters. This vein strikes N20°W and dips 65 to 85 degrees eastward near the surface and splits at depth into two branches which diverge to the south. One of these branches is the almost vertical downward extension of the vein at surface, and the other , the more easterly, has an average dip of 75 degrees easterly and a north-northwesterly strike.

Various, now inaccessible workings, explore the upper part of the vein. The best exposures now available are on the Enterprise 320 crosscut level which cuts the system below the old upper workings. On this level the western branch of the vein is a zone of strong shearing but of very little vein filling. About 1100 feet of drifting has developed this structure but no sections have been stoped.

Some of the best scheelite responses to the lamp were seen on this vein segment. A sample taken by the writer across a quartz lens with a length of 8 meters and a maximum thickness of 2 meters ran as follows:

Sample No.	Width	Au oz/ton	Ag oz/ton	Pb%	Zn%	WO_3%
12520	1.5 M	0.029	1.11	1.01	0.66	0.914
		Gold	Silver	Copper	Zinc	Tungsten

The eastern branch has a more north-northwesterly trend and is less strongly sheared and altered. It has been less extensively explored on this level however some stoping has taken place.

One sample was cut by the writer at a point 20 meters south of the north end of the drift on the east segment. This sample was a continuous chip across 0.6 meters (2 feet) in quartz lens 2.4 meters (8 feet) thick. The results are as follows:

Sample No.	Width	Au oz/ton	Ag oz/ton	Pb%	Zn%	WO_3%
12519	0.6 M	0.029	0.99	1.29	6.45	0.003

(Coats 1935) muck samples from the 165 foot level carrying as high as 0.8 oz/ton gold. A level plan with some assay values is also included in the Coats report. (Appendix III).

A 35 ton per day mill was operated on the property for a short time by the Kootenay Nevada Company. No production figures are available.

Although vein widths in the Jenny Long were narrow and grades erratic, some wider and higher grade sections do occur. Widths up to 6 feet have been reported.

The system consists of several sub-parallel veins open both laterally and to depth.

There is some outcrop and sub-outcrop in the immediate area of the mine workings but beyond this, continuous overburden extends along strike in both directions. The trend to the north toward the known deposits of the Enterprise would particularly warrant investigation.

A single sample was taken by the writer across a vein exposure in a bulldozer trench about 40 meters north of the shaft. The sample was composed of disturbed material and the width of the vein could not be ascertained. The sample returned as follows:

Sample No.	Au oz/ton	Ag oz/ton	Pb%	Zn%	WO_3
12516	0.329	5.12	1.88	0.2	0.015

9-5 AZELA (JOHANNESBURG)

The Azela area is situated about 4900 meters southeast of the Enterprise workings.

The main shaft on the Azela vein is now flooded but is reported to be 24 meters (78 feet) deep.

filled, and considerable of the ground between 440- and 320-foot levels; there is also some filling beneath the southern extension of 190-foot level.

There is considerable overbreaking in the stopes, due partly to the choice of method, and with very rare exceptions all material broken is milled. If the amount of dilution is to be kept to a minimum, some modified system of shrinkage-stoping that would allow of more selective mining and maintain narrow stope-widths would be preferable to the method at present in force.

A concentrating plant is located conveniently near the adit-portal, and ore is milled at an average rate of a little over 50 tons per day. Concentrates are hauled by truck to Nicola, and are sold, as from January 1st, 1936, to British Metals Corporation. Ore is trammed by hand to the 100-ton mill-bin; crushing is by jaw-crusher and rolls above a fine-ore bin of 100 tons capacity. Milling equipment includes a Hardinge ball-mill, Door classifier, Forrester pneumatic flotation-cells, Wilfley table, Dorr thickner, and American filter. A single concentrate is produced with a recovery of about 85 per cent. A Denver unit cell was installed in November with intent to improve recovery and also to slightly increase capacity of the mill.

A power plant for the entire operation is housed in the mill building. Other buildings include office, assay office, change-house, mess-house, and several small bunk-houses, in addition to which are several private dwellings. The combined operation employs about fifty men.

This property is dependent upon the *Enterprise* vein. Of the other veins, investigations to date have not shown that any considerable tonnage is to be derived from them. The *Tubal Cain* is a weakly-mineralized shear-zone of no great prospective value. The *Joshua* vein contains shoots that are minable at good metal prices, but tonnage from these will be low and necessary development-work fairly high. The *Planet* vein is little known and the shaft is not particularly encouraging, even in view of some high assays obtainable. This vein might be prospected on the surface by reliable geophysical methods to give an idea of the continuity of the vein-fracture, and to indicate position of the vein and depth of overburden as a preparatory step to stripping where cover is not too heavy. Extensive development of such a vein is needed before any estimate can be made of tonnage and values, because, as is obvious, minable ore is bound to occur in shoots which are not likely to be very large or continuous. The *King William* vein has promise, particularly when it is considered that it is probably the southern continuation of the *Enterprise* vein. It is not wide, but if as good as the known section of the *Enterprise* vein there is to be expected a considerable extension of minable ground. It is likely that overburden is too deep for economic stripping. The present condition of the 320-foot level is not good for the necessary long tram that would result in the continuation of the *Enterprise* drift to the south.

A glance at the general plan shows a tendency to convergence of the *Enterprise*, *Tubal Cain*, and *Joshua* veins both downward on the dip and to the south. An estimate of the actual location of the point of convergence is of little value, particularly in depth, because this point will vary in each section drawn, and it is even possible that there is no such convergence within economically reached limits. There is no reason, moreover, to believe that a convergence would mean a large or rich ore-body; in any event, the matter is one for investigation at a considerably removed date.

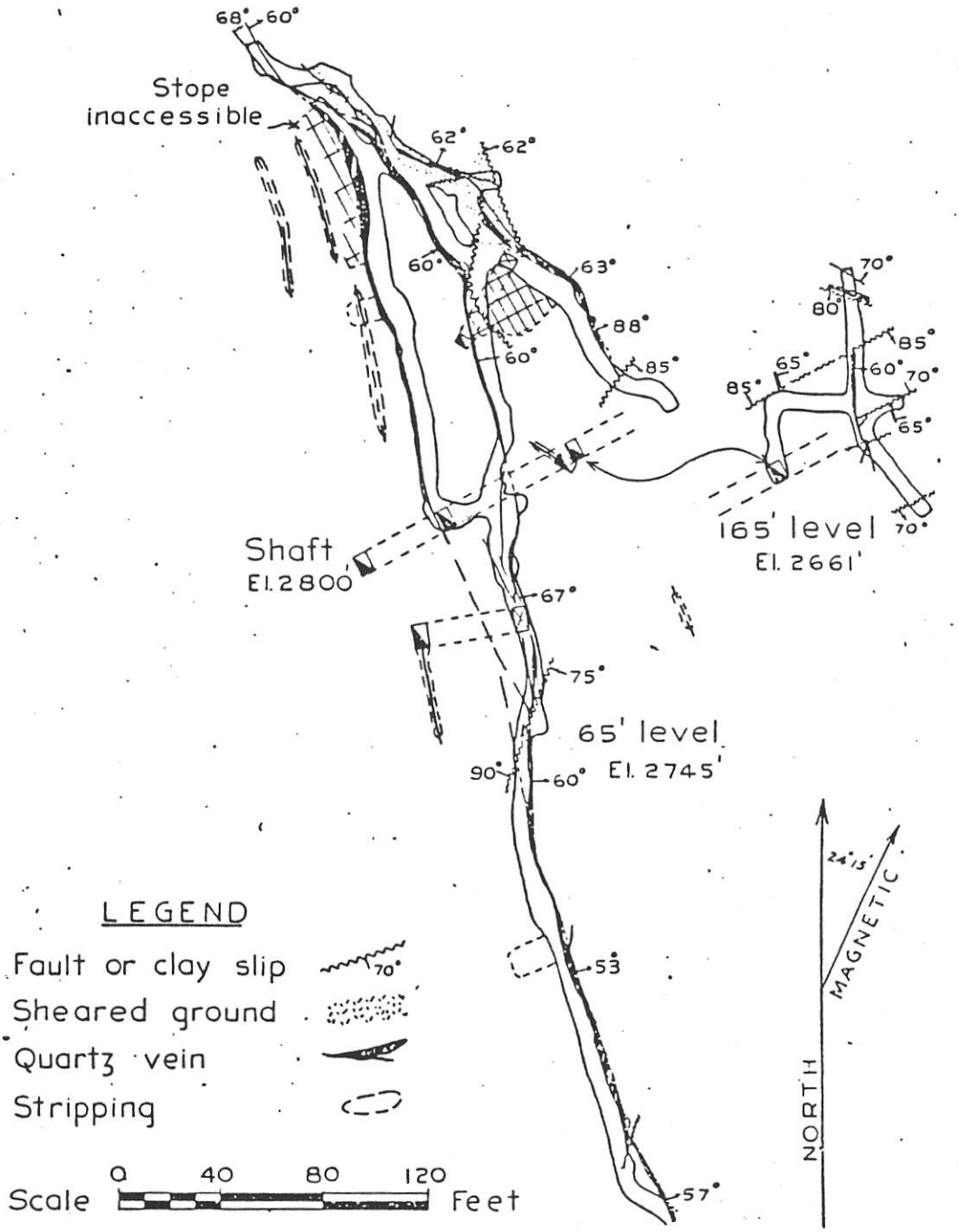
In the *Enterprise* workings development will have to be pushed aggressively if there is to be an assured tonnage for the mill to operate at present capacity. The new 675-foot level is now being developed and the southern extension on the lower levels should be investigated. Although the vein is not commercial on the 320-foot level north, this section has not been explored at depth; because of the rapid changes in vein-structure and of widths and value, this northern section should again be investigated from, probably best, the 675-foot level in the hope that ore-shoots may be found.

The life of the mine and success of the *Enterprise* is dependent upon systematized, efficient operation at low costs and accompanied by an active programme of development. Mill-heads are at present so low as to put the operation into the marginal class. The grade of mill-feed could doubtless be increased by adoption of a different method of extraction that would allow of cleaner, more selective mining. It is unlikely that increased milling capacity is warranted.

Jenny Long Mines, Ltd.

(*See* Annual Reports, 1933 and 1934.) This company controls a group of twenty-one claims, including the *Jenny Long*, Crown-granted. The property is about 3 miles south-east of Stump Lake and east of the Merritt–Princeton Highway. The region is one of open rolling range land in which the only

permanent stream is Scott Creek. The *Jenny Long* workings are at an elevation of 2,800 feet, a quarter of a mile south of the camp on Scott Creek, and are easily reached from the highway by a side-road 1 mile in length.



Jenny Long Mines, Ltd. Plan of Workings, from Brunton Survey.

The rocks are andesitic lavas of the Nicola formation, rather highly altered to a green, chloritic rock and locally sheared. The mineral deposits are quartz-filled shear-zones that form part of a rather complex pattern of shearing and fracturing. Vein alteration is not

MIN-EN LABORATORIES LTD.
705 WEST 15TH STREET, NORTH VANCOUVER, B.C. V7M 1T2
PHONE: (604) 980-5814 OR (604) 988-4524

Certificate of Assay

TO: G.H. Rayner,
626 Duchess Ave.,
West Vancouver, B.C.

PROJECT No. Celebrity
DATE: Apr.6/83.
File No. 3-162

SAMPLE No.	Pb %	Zn %	Ag oz/ton	Au oz/ton	WO_3 %	
12515	.26	3.40	4.69	.030	.023	
16	1.88	.20	5.12	.329	.015	
17	1.07	1.29	10.05	.102	.002	
18	3.11	1.76	7.01	.938	.001	
19	1.29	6.45	.99	.029	.003	
20	1.01	.66	1.11	.029	.914	
12521	1.95	4.00	11.80	.080	.021	

MINE-EN Laboratories Ltd.
CERTIFIED BY:

APPENDIX II

EXCERPTS FROM B.C. MINISTER OF MINES ANNUAL REPORT, 1936.

on the *Sunrise* and *No. 2 Fractional* by a quarter of a mile of easy trail over drift-covered broken slopes.

The rocks are dark-coloured blocky cherts, quartzites, argillites,, and greenstones. Intrusive into these are pyroxenite, aplitic granite, and diorite. The pyroxenite is a coarse green rock composed almost entirely of augite and including a little biotite; the largest body, on the *Something Good* and *Great Eastern* claims, is, at the elevation of No. 1 adit, nearly 2,000 feet wide, trending north-westerly up the hillside. A second body, of unknown extent, occurs on the *No. 2 Fractional.* On the north end of the property and about Olalla is a pink aplitic soda granite and also some diorite; the relationship of these several intrusives is not known.

On the *A.C. Fractional,* elevation 2,400 feet, and above, on the *Something Good* claim, elevation 2,590 feet, are two adits. The lower adit, 315 feet long, bearing south 73 degrees west, is in pyroxenite. The upper adit is in sediments 30 feet south of the large body of pyroxenite, and is 40 feet north of a 100-foot offshoot of the same rock, which may be traced 400 feet up the steep slope and which joins the main body just above the lower adit. The upper adit when examined was 255 feet long at about south 70 degrees west, and a crosscut was in 12 feet to the north at 185 feet from the portal. The adit follows the southern, steeply-dipping foot-wall of an irregular shear-zone. This is about 4 feet wide at the portal, widens to 16 feet about 40 feet above, and widens still more higher up precipitous bluffs; 100 feet or so up the bluffs the zone splits and cannot be located with certainty beyond this point. On the surface, except at the constriction in the portal of the adit, this zone is seen to be a thoroughly cemented breccia of cherty to finely quartzitic rock; cementing material is sparse to absent and mineralization consists of a slight amount of pyrite. In the adit, although the full width of the zone is not shown, there is a foot-wall seam of fine crushing to a maximum width of 26 inches; in this material there are few fragments greater than an inch in size, and much is the size of coarse sand; there is both calcite and quartz cement, and fine, sparse pyrite occurs principally in the cement. About 100 feet from the portal the foot-wall zone is less marked, and in the inner 100 feet the drift, although following a recognizable foot-wall, is in sheared argillaceous sediments. Two samples across the face taken when the adit was 170 feet long returned 0.01 oz. gold per ton. Two samples of the foot-wall zone: (1.) Eighty-five feet from portal, 26 inches wide: Gold, 0.37 oz. per ton; silver, trace. (2.) Sixty-seven feet from portal, 22 inches wide: Gold, 0.74 oz. per ton; silver, 0.4 oz. per ton. Two grab samples from the ore-bunker at the foot of the hill returned trace each in gold.

A small home-made bucket tram has been used to transport ore from No. 1 adit to a bunker near the road. A portable compressor supplied air to No. 1 adit during the late summer of 1936.

On the *Sunrise* and *No. 2 Fractional* are quartz veins in granite, diorite, and in or near pyroxenite. On one vein, in granite, is a 90-foot adit on the roadside, bearing south 75 degrees west, which shows a tight-walled nearly-vertical vein 5 to 16 inches wide and containing a very little cubical pyrite. A shaft, 250 feet to the west, said to be 45 feet deep, is on the same frozen vein 8 to perhaps 20 inches wide. This may or may not be the same as a vein 8 to 18 inches wide exposed in an open-cut on the *No. 2 Fractional;* this vein is sparsely mineralized and occurs between walls of fine diorite. An adit 100 feet lower (elevation 2,000 feet) and 150 feet north was 97 feet long, bearing south 15 degrees west, at the time of the writer's visit. Another vein of white quartz is poorly exposed about 100 feet easterly from the adit. There are few outcrops in this locality.

Stump Lake Area.

Nicola Mines and Metals, Ltd.

This company is capitalized at $2,500,000, divided into 5,000,000 shares of a par value of 50 cents each. The head office of the company is 1015 Rogers Building, Vancouver. P. L. Bancroft is president and managing director and T. B. Cosgrove is mine manager. The property comprises twenty-six claims, twenty-three of which are shown on the accompanying map, and three others, *Big Sandy, Empire,* and *Maiden,* lie to the east of the main group.

The property is on the south-east shore of Stump Lake and lies partly on the western flank and summit of "Mineral Hill." It is 31 miles north of Merritt and about half-way between Merritt and Kamloops. A good road some 2½ miles in length connects the mine with the main highway.

Relief on the property is 300 feet in a region of bare or sparsely-wooded hills. Rock bluffs locally flank the lake and elsewhere the rise is in grassy, drift-covered slopes. Water for plant use is pumped from Stump Lake and for drinking purposes is hauled from Scott Creek, some 3 miles to the east. Timber, consisting of pine and fir, is scanty, but sufficient for present needs.

The general geology is extremely simple: the rocks consist of greenstone of the Nicola formation, which underlies the entire property. The Nicola greenstone is an andesitic rock, usually fine-grained and rather bright green in colour; locally it is coarser-grained and is dioritic to diabasic in texture. The rock is all altered (chloritized), but is on the whole massive and is only locally sheared. Included in this formation are occasional bands of tuff and breccia; the former are extremely fine-grained, finely-banded rocks which may be difficult to distinguish from the finer-grained phases of massive greenstone; the breccia contains andesitic fragments, up to fist size, similar in composition to the matrix.

The greenstones are steeply tilted in the vicinity of the principal workings. They strike north 40 to 60 degrees east and dip nearly vertical. Just north-east of the property boundary an exposure of tuffs shows a nearly flat attitude. The major structure is not known.

The veins are quartz-fillings in shear and fracture zones, and are usually accompanied by rather prominent alteration of the wall-rocks. Younger than the veins are hornblende-andesite dykes, dark in colour, some of which are faintly porphyritic and some are fine-grained, holocrystalline. These dykes are from a few inches to 7 or 8 feet wide and are irregular in attitude. They cut the veins and tend in some cases to follow the vein-fissure.

A number of veins are known, which strike northerly and dip easterly. Two veins dip north-easterly and strike at a large angle to the average trend. (*See* accompanying map, which is from company surveys, with mine-workings brought up to date by the writer.) Of the principal veins, the strike varies between north 45 degrees west and north 25 degrees east and the dip between 45 degrees easterly and vertical. They are quartz-filled fractures and shear-zones in which there has been in most instances an alteration of the wall-rocks. They are free-walled and vary in width from an inch or two to 6 feet, and pinches, swells, and changes in attitude are characteristic. The walls are bleached and pyritized and do not carry appreciable values; the total width of alteration-zone is not constant, but may attain a thickness of 15 feet.

The quartz is white and vitreous and is mineralized irregularly with sulphides which include pyrite, galena, sphalerite, tetrahedrite, chalcopyrite (bornite). These occur in segregations, thin seams, and disseminations which make up usually a low proportion of the veins. Gold and silver values are rudely proportional to the amount of sulphides in any one vein, but the sulphides vary in amount and proportion in different veins. Calcite is found as vein-filling only in the *Joshua* vein at the south end; it occurs also as fracture-fillings in wall-rocks but is not abundant. Scheelite is reported as of rare occurrence in the *Joshua* vein.

"Mineral Hill" is mentioned in the earliest available reports, and claims were there staked between 1882 and 1885. Prior to 1890 the Nicola Mining and Milling Company put down or started the *Joshua*, *Tubal Cain*, and *King William* shafts, and the Star Mining Company put down the *Star* (now *Enterprise*) and *Planet* shafts; a small concentrating plant was erected by the latter company. Work by these two companies was discontinued, and from 1889 to 1916 no serious work was done on this ground.

In 1916 the Donahue Mines Corporation, of Seattle, acquired eight claims and commenced investigation of the *Joshua* and *Tubal Cain* veins. In the following year a mill was built and three cars of concentrates were shipped, but the mill was shortly closed down. During the next three years a little work was done by the same company, and finally, in 1920, after shipping 62 tons of ore, operations were suspended.

Work was again started on the *Enterprise* (formerly known as the *Star*) vein in 1925, and by 1928 the Planet Mines and Reduction Company of Nicola, B.C., Limited, had deepened the shaft to 320 feet, had started an adit-crosscut at that level, and was building a mill. Milling commenced in 1929, on ore from the shaft-dump, shortly before the *Enterprise* vein was intersected by the crosscut adit, and from then on development was hard pressed to keep ahead of a mill consumption of 60 tons a day. The company finally abandoned operations in February, 1931.

A little stoping has been done in the upper levels, but total production has been low. On the 320-foot level the north drift includes an inaccessible stope 120 feet long, from which a raise extends to the 300-foot level. The south drift shows an irregular vein with local segregations of sulphides for 245 feet, then a weak quartz vein for an additional 200 feet, from which point for 220 feet to the face is a 4- to 8-inch zone filled with quartz and calcite. Two faults occur in the south drift which move the southern segments 36 feet and 20 feet to the west.

The *Joshua* vein does not appear to be important as a producer. Local shoots occur which are reported to be of good grade, but these are discontinuous and are narrower than mining widths.

Planet Vein.—The *Planet* vein is seen only in and close to a shaft, elevation 2,620 feet, some 2,800 feet south-west of the *Enterprise* workings. The vein strikes north 3 degrees east and dips 80 degrees east. The shaft is said to be about 100 feet deep, but at present water-level is 35 feet below the collar. A zone of alteration, 4½ feet wide, contains a hanging-wall band of quartz 13 to 18 inches wide as well as two small stringers. In the shaft and 10 feet south of the collar the vein is narrow, and the quartz pinches down locally to a width of 8 inches. Channel samples taken by the writer on the north side of the shaft returned: (1.) Ten feet below collar, quartz 14 inches wide: Gold, 0.10 oz. per ton; silver, 5.2 oz. per ton; lead, trace; zinc, 0.02 per cent. (2.) Fifteen feet below collar, quartz 9 inches wide: Gold, 0.02 oz. per ton; silver, 3.2 oz. per ton; lead, trace; zinc, 0.06 per cent. (3.) Twenty-five feet below collar, quartz 12 inches wide: Gold, 0.80 oz. per ton; silver, 5 oz. per ton; lead, trace; zinc, 0.2 per cent.

King William Vein.—This vein strikes north 20 degrees west and dips 85 degrees easterly where opened up by a shaft at an elevation of 2,900 feet. Levels, now water-filled, exist at 40 and 170 feet, and stoping on a hanging-wall split was carried to the surface. The quartz is 12 to 36 inches wide at the shaft, the greater width being related to the above-mentioned splitting. Immediately south of the shaft the present company, during 1936, mined a car-load of ore from a 30-foot cut to an average depth of 8 feet, in which the vein averages 18 inches in width. The ore was shipped direct to smelter as it was estimated to be of high grade, but results are understood to have been disappointing. High-grade samples are reported to be obtainable, but, while the writer did no sampling, there appears to be sufficient white quartz to offset the value of extremely high assays.

Eight hundred feet northerly from the *King William* shaft is an open-cut on the *No Surrender* claim which is very likely on the same vein. In this cut a 30-foot vein-length is exposed with a steep north-easterly dip; in the north end of the cut the strike is north 15 degrees west and in the south end is north 25 degrees west. A parallel strand 8 inches wide lies 40 inches in the foot-wall. The alteration-zone is about 7 feet wide and the vein, 20 inches wide, is well mineralized with galena, chalcopyrite, pyrite, and sphalerite. Two samples from the dump, taken by the writer, returned only low values in gold and silver. More work is here warranted to freshen up the 30-foot section of vein in order that it may be thoroughly sampled.

The *King William* vein strikes northerly under a heavy drift-cover so that prospecting is difficult. With due regard to respective differences in elevation and variations in strike and dip, this vein lines up well with the *Enterprise* vein, between the known extremities of each of which there is a horizontal gap of about 900 feet. (*See* general plan of surface.)

Other Veins.—On the *Silver King* claim is a vein which strikes north 20 degrees east and dips 65 degrees east, upon which a small shaft has been sunk (water-level at 25 feet). An alteration-zone, 4 to 6 feet wide or more, is poorly exposed. The vein is a few inches in width with an additional few stringers in the zone. Mineralization is weak and the quartz contains rock fragments. A near-by open-cut is caved, on the dump of which is some massive quartz with weak mineralization that apparently represents another vein; the alteration-zone is 6 feet wide.

West and south-west of the *Planet* shaft are two veins which dip north-easterly and on which a little work has been done. On the northerly of these, on the bluffs above Stump Lake, a 10-foot shaft discloses irregular quartz to a maximum width of 32 inches and a minimum width of 10 inches, containing sporadic sulphide mineralization. Two hundred feet easterly

to grass-roots. A small stope at the south end is about 30 feet high over a lengh of 45 feet. Between the 320- and 190-foot levels the vein is completely stoped out for a length of 220 feet north of the winze, thence south to the end of the 190-foot level, and for an additional 120 feet nearly to the same height as 190-foot level, making a continuous stope 820 feet in length. South of the barren section already referred to is a stope 90 feet long, now inaccessible, but about 50 feet in average height. On the 440-foot level all minable ore is stoped out north of the barren section of the vein in four stopes, 80 feet, 35 feet, 110 feet, and 70 feet long. South of the barren section a raise was being driven on September 1st to connect with the 320-foot level beneath the southernmost stope; this raise encountered good ore to widths in excess of 5 feet. On the 550-foot level one stope 75 feet long is mined out to 440-foot level, and three chute-raises started south of the winze on a promising section of the vein.

The writer took eleven samples of the vein proper in the *Enterprise* workings; these were all channel samples except No. 10.

(A.) On 320-foot level.

(1.) On south side of 10-foot winze immediately north of projected raise from 440-foot level south—37 inches: Gold, 0.20 oz. per ton; silver, 4.2 oz. per ton; lead, 4 per cent.; zinc, 5.2 per cent.

(2.) On north side of same winze—36 inches: Gold, 0.01 oz. per ton; silver, 1 oz. per ton; lead, 0.56 per cent.; zinc, 0.3 per cent.

(3.) Two hundred and twenty-five feet south of same raise—14 inches: Gold, 0.30 oz. per ton; silver, 1.5 oz. per ton; lead, 0.5 per cent.; zinc, 0.8 per cent.

(4.) Forty-five feet from extreme south end of drift—21 inches: Gold, 0.20 oz. per ton; silver, 4.6 oz. per ton; lead, 1.1 per cent.; zinc, 1.4 per cent.

(B.) On 440-foot level.

(5.) Twenty feet north of south raise—37 inches: Gold, trace; silver, 1 oz. per ton; lead, 1.3 per cent.; zinc, 0.6 per cent.

(6.) Thirty-five feet north of south raise—31 inches: Gold, 0.01 oz. per ton; silver, 1.6 oz. per ton; lead, 1.5 per cent.; zinc, 4.4 per cent.

(7.) Eighty feet north of south raise—29 inches: Gold, 0.12 oz. per ton; silver, 9 oz. per ton; lead, 1.5 per cent.; zinc, 2 per cent.

(C.) On 550-foot level.

(8.) Face of south drift—47 inches: Gold, 0.02 oz. per ton; silver, 0.4 oz. per ton; lead, trace; zinc, 0.1 per cent.

(9.) Sill-pillar in centre of south stope—27 inches: Gold, 0.76 oz. per ton; silver, 1.5 oz. per ton; lead, 1 per cent.; zinc, 1.5 per cent.

(10.) Chip sample at collar of 6-foot winze beneath same stope—18 inches: Gold, 0.12 oz. per ton; silver, 5.2 oz. per ton; lead, 3.5 per cent.; zinc, 2.6 per cent.

(11.) Sill-pillar at north end of same stope—17 inches: Gold, 0.10 oz. per ton; silver, 2 oz. per ton; lead, 3 per cent.; zinc, 1.5 per cent.

Mining has at all times been but little in advance of mill requirements. At September 1st, 1936, broken ore in the mine amounted in 550 south stope and 440 south raise to a total of about 350 tons. It is difficult to place reserves in the usual classes of probable and possible ore, particularly the latter, because the factors are rather uncertain at this particular stage of development regarding ground in advance of actual drift-faces. The presence of ore beyond these limits is more than likely, but it is impossible to assign to it concrete tonnage figures. The following figures refer to ore that is blocked out with reasonable certainty. Ore between 440 drift south and 320 level, 2,400 tons; between 550 and 440 levels beneath mined stopes, 2,400 tons; downward extension of ore to a depth of 50 feet below 550-foot level, about 3,500 tons; a total of 8,300 tons. These figures are based on average stope-widths and not on width of quartz alone. Ore reclaimable in pillars, due partly to filling of stopes and partly also to the fact that pillars are usually in lean sections of the vein, would not amount to more than several hundred tons.

Stopes are started from lagged-over drifts in some sections, and in others from chute-raises; little support is needed. Extraction is by open-stoping, with little broken ore at any time left in the stope. Stopes beneath working-levels are later waste-filled, more from convenience than necessity; most of the stoped-out ground between 550- and 440-foot levels is so

APPENDIX III

KOOTENAY NEVADA MINES LTD. (N.P.L.)

INCORPORATED UNDER THE COMPANIES ACT OF THE PROVINCE OF BRITISH COLUMBIA

1012 ROYAL BANK BUILDING
VANCOUVER, B.C.

Jenny Long Mine,
Box 210 Kamloops, B.C.
August 7th, 1935.

Capt. M. A. Tuck, President,
Kootenay Nevada Mines Ltd.,
Vancouver, B. C.

Dear Sir:

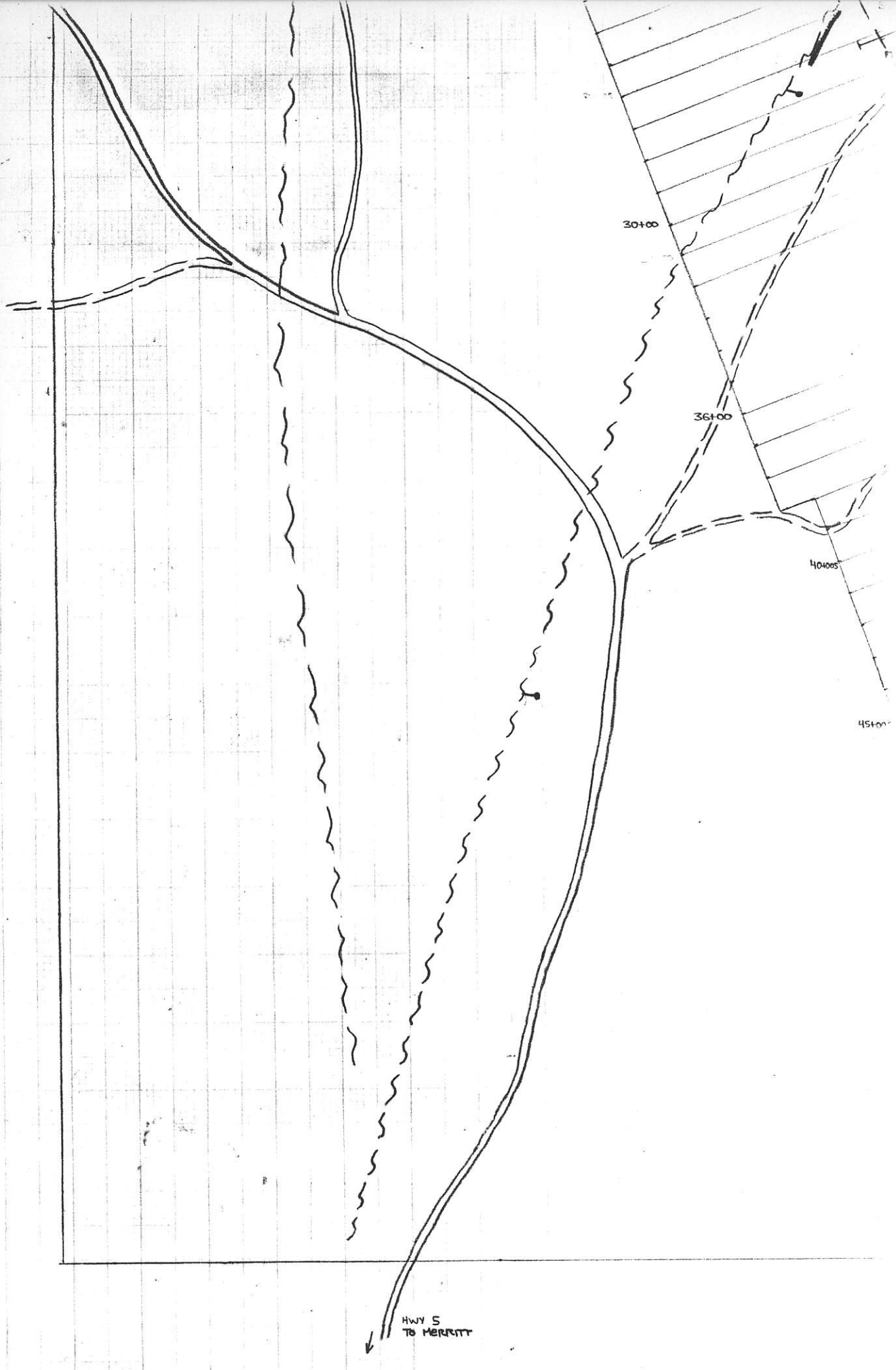
I submit, herewith, progress report on the work completed to date:

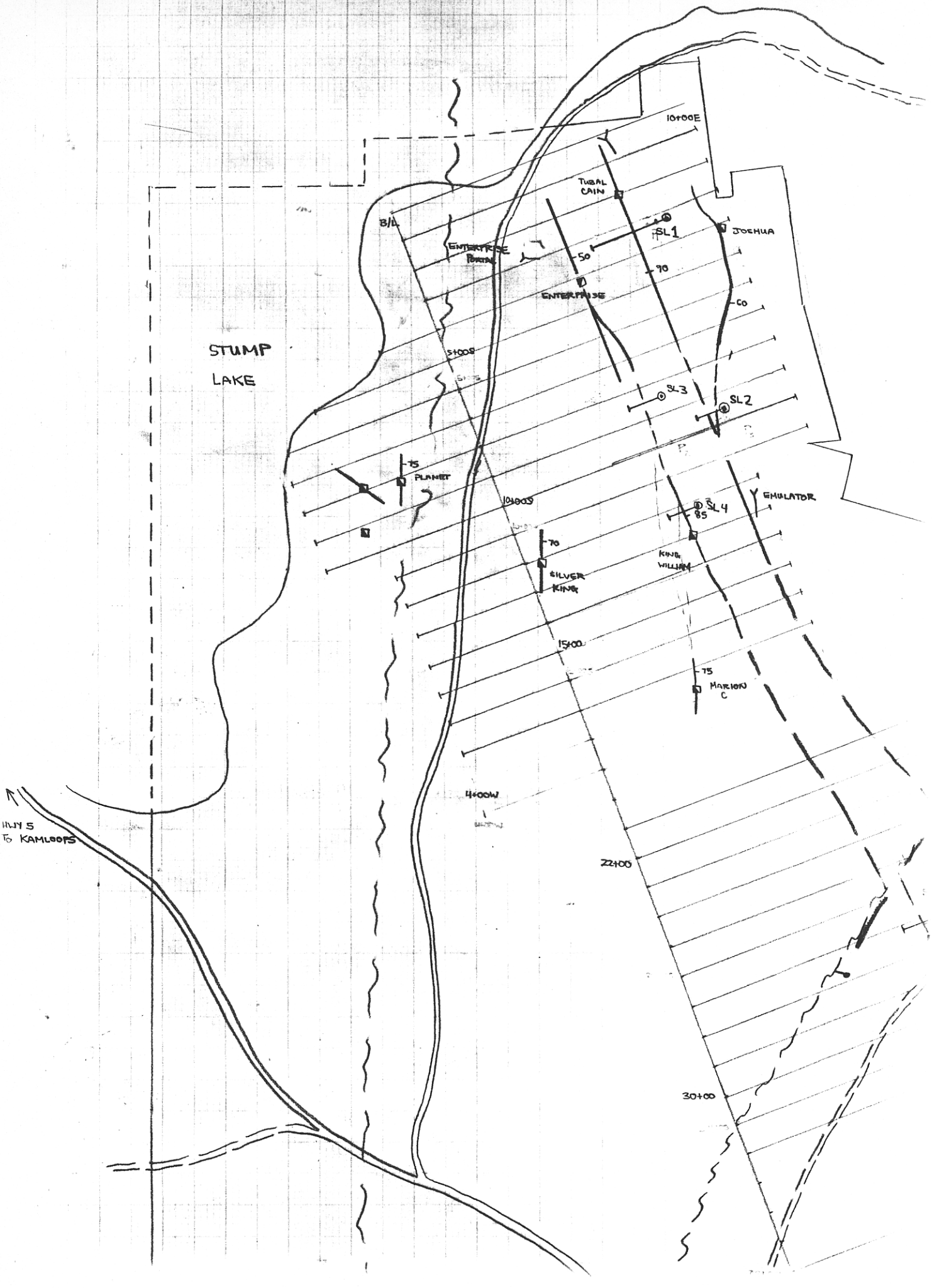
Since the beginning of operations in May, the main shaft has been sunk an additional depth of 100 feet and a second level has been established at a depth of 165 feet, measured along the slope of the shaft which is approximately 60 degrees. From the shaft at the second level a drift was run in a northwesterly direction 25 feet along the general trend of the vein system, and from this point a cross-cut was made nearly due east fifty feet where two well-defined veins were disclosed and a third which may prove to be a separate vein not previously known, or it may be a displaced portion of the second vein moved from its original position below the level, a condition that cannot be determined until greater depth has been attained. The second vein encountered appears to be the most important, the drifts both north and south have been started, and at this date have progressed 16 feet north of the cross-cut and 12 feet south of it. None of the showings in the cross-cut appear to be No. 1 Vein, the one in which the shaft has been sunk, it is presumed that the cross-cut will have to be extended west to disclose this vein; this work will be finished later.

Reference should be made to the accompanying map, showing in plan and section, the locations of the veins in the workings that have been made.

No. 1 Vein was followed in the shaft for about 20 feet below the 65-foot level where a vertical slip was encountered which displaced the vein from the hanging to the footwall where it appeared to take a steeper dip and extend downward in the footwall. The vein where exposed averaged about 2 feet in thickness and the average value is over $25 per ton in gold and silver, with some lead which was not evaluated. Reference to finding this vein at the second level has been made above.

The first vein cut in the cross-cut on the 165-foot level varies from 6 to 15 inches in width and does not appear to belong either to No. 1 or No. 2; one sample


30+00
36+00
40+00
45+00
HWY 5
TO MERRITT


STUMP
LAKE
10+00E
TUBAL CAIN
SL1
JOSHUA
B/L
ENTERPRISE
50
90
ENTERPRISE
CO
STOOS
SL3
SL2
75
PLANET
10+00S
SL4
85
EMULATOR
70
KING WILLIAM
SILVER KING
15+00
75
MARION C
4+00W
HWY 5
TO KAMLOOPS
22+00
30+00


SL 5
TSC
TSP
12400E
TO PETER HOPE LAKE