

'81 - # 784 - 9872

REPORT

ON

THE CROMWELL GROUP

IN THE

REVELSTOKE MINING DIVISION

NTS 82K/11W

50° 36.5 N

117° 20 W

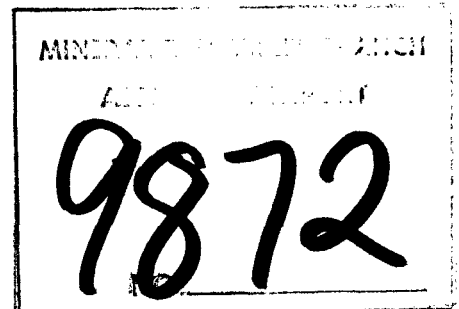
FOR

MISSION MINERALS LTD.

Box 2577

Salmon Arm, B.C.

By



David W. Burns, P.Eng.

SURREY, BRITISH COLUMBIA

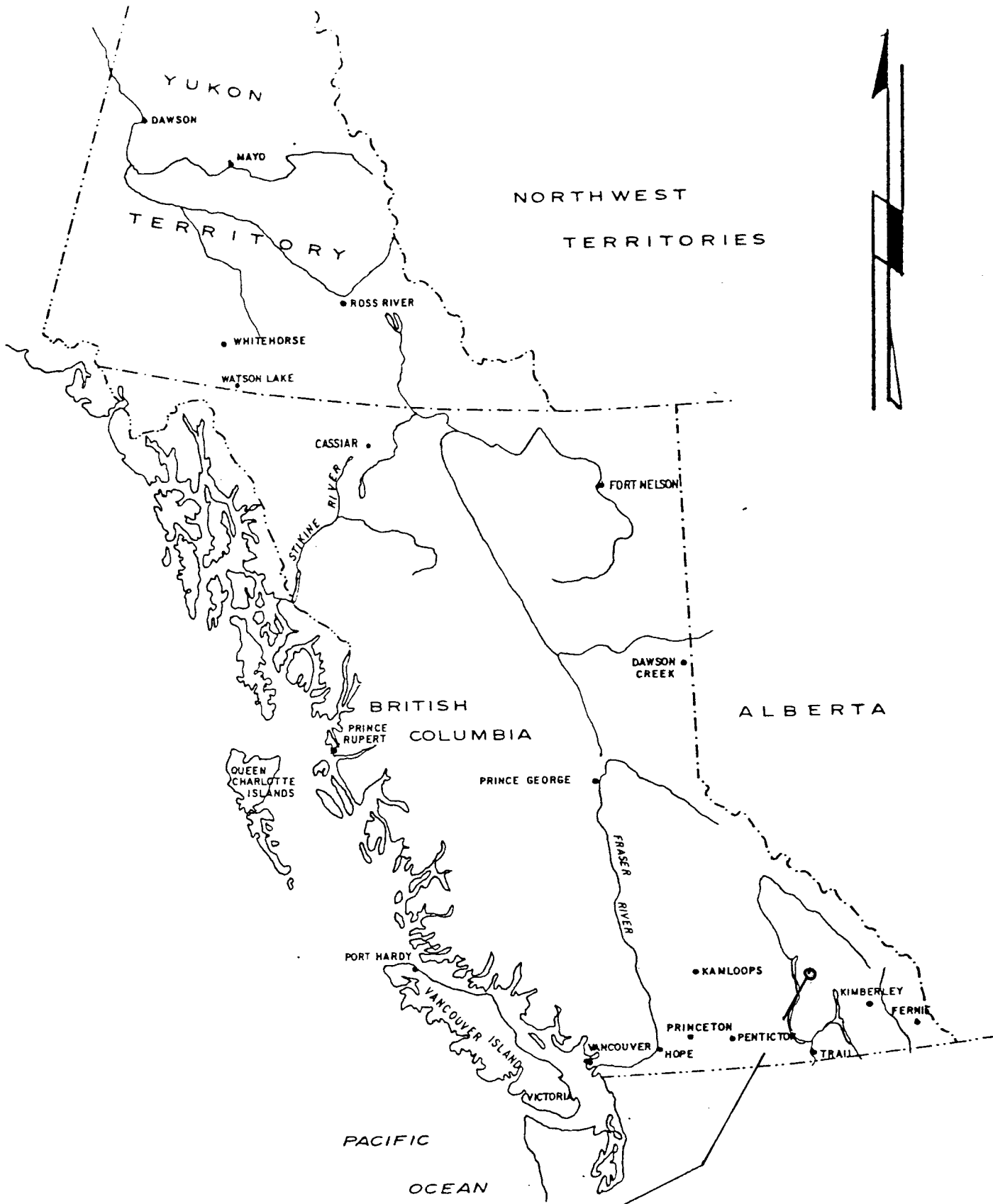
SEPTEMBER 21, 1981

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CROMWELL PROPERTY

LOCATION MAP	
VANCOUVER	BRITISH COLUMBIA
CROMWELL GROUP	
of	
MISSION MINERALS	
Scale 1: 12,672,000	S.W. Burns
Sept. 1981	

SUMMARY AND CONCLUSIONS

The Cromwell Property is in the Revelstoke Mining Division of British Columbia. It is located in the Silver Cup Mountains of the Lardeau District.

The property is situated within what has been called the Central Mineral Belt of the Lardeau. The general strike of this belt is northwest and includes a number of well known prospects and former producers; such as the Silver Cup Mine, Nettie L., True Fissure, Winslow, and several others.

The underlying rocks of the Central Mineral Belt have been classed geologically as the Lardeau Series of Precambrian age. The rocks comprising this series consists of Schists, Phyllites, Slate, Quartzite, and Limestone.

The principal rocks found on the Cromwell claims are Phyllites, carbonaceous Shales and schistose Quartzites.

The veins found on the Cromwell are of the quartz-fissure type. They both follow or cut across the strike of enclosing rock formations.

The principal value in the Cromwell veins is in gold with minor values in silver and copper.

There are numerous quartz veins exposed on the property but to the present, only two have been found that contain values. The initial discovery vein was found on the Cromwell #2 claim. The several shipments sent to the Trail smelter came from this particular vein. The last recorded shipment to the smelter was in 1953 and this material assayed 0.58 oz per ton in gold. The second vein found was on the Tarzan #1 claim. It has been partially developed

by a shaft and an open-cut. A sample taken by the resident engineer and one taken by the writer, indicated that this particular vein carried interesting values in gold.

In the writer's opinion there is sufficient evidence in the way of mineralized showings on the Cromwell to recommend a modest exploration program.

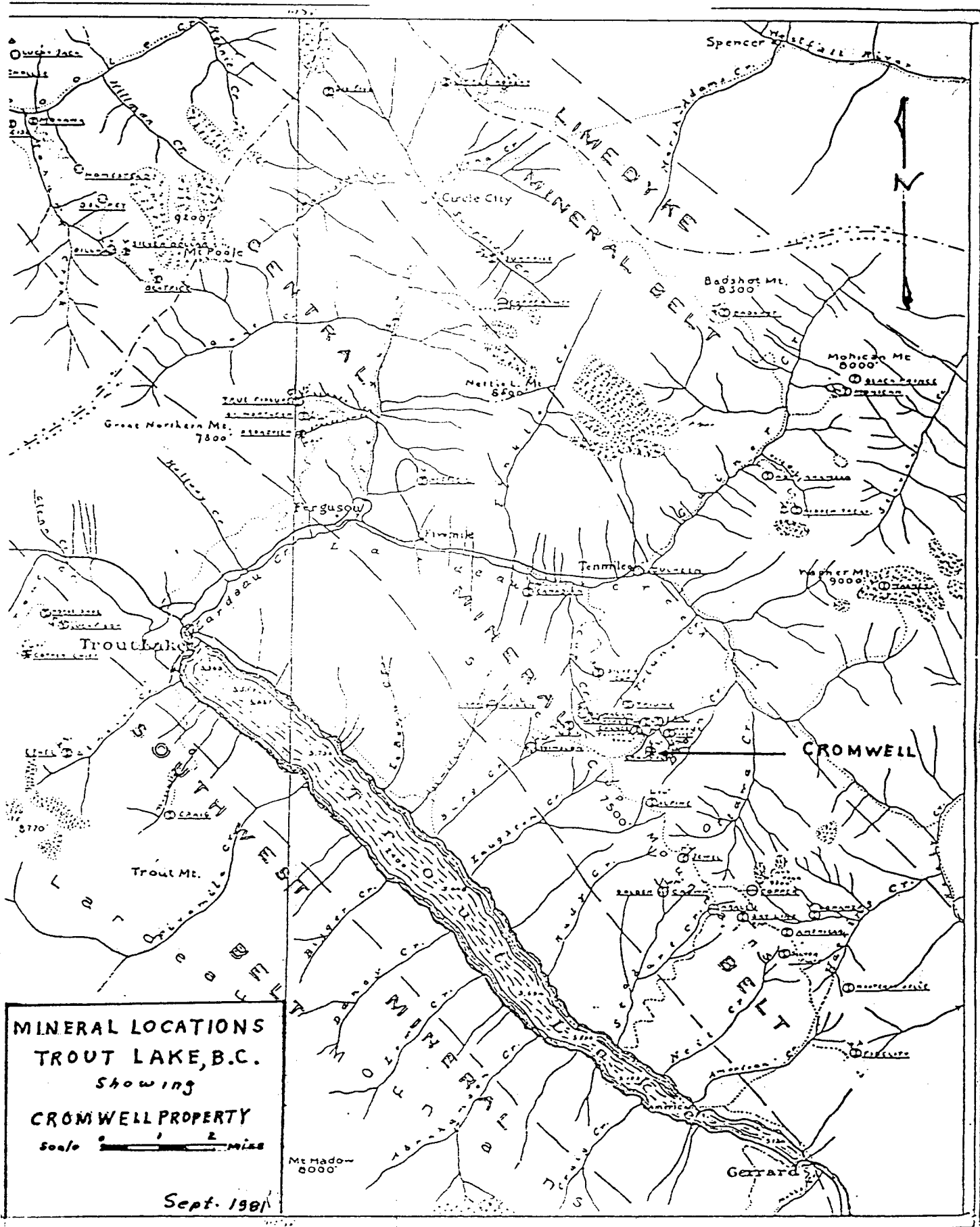
RECOMMENDATIONS.

The writer recommends that the strong quartz filled shear on the Tarzan #1 claim be diamond drilled for its possible continuation in length and depth. In addition, a survey should be conducted of the vein on the Cromwell #2 claim to determine the most convenient location to possible diamond drill for the downward continuation of this particular structure. A close inspection of, and a number of trenches across the numerous quartz veins that occur in the upper basin of Brown Creek is also warranted.

No roads presently exist to the Cromwell; therefore, the most economical method of placing the equipment and supplies on the site is by a helicopter. A light drill is recommended; such as a Boyles BBS-1 and using 'A' core size. The equipment and supplies could be marshalled below the property on the Trout Lake-Gerrard Highway. In a somewhat similar situation, utilizing a BBS-1, the writer in six hours was able to move the crew, equipment and supplies, sufficient for a three week program.

It is estimated that the recommended program for the Cromwell would take approximately one month to complete.

HW Burns



ESTIMATED COST

1.	10 hours helicopter time @\$400.00	\$ 4,000.00
2.	1,500 feet 'A' core diamond drill @ \$30.00/ ft. (note 1)	45,000.00
3.	Camp - (tents, food, supplies)	1,000.00
4.	Site supervision	4,000.00
5.	Wages - two men general prospecting	4,000.00
6.	Engineering - survey, core examination etc	3,000.00
7.	Core boxes	300.00
8.	Mobile radio rental	800.00
9.	Assaying	500.00
10.	Crew mobilization costs	<u>2,000.00</u>
	Total	\$64,600.00
	15% contingencies	<u>9,690.00</u>
		\$74,290.00
	Say <u>\$ 75,000.00</u>	

Note 1.

Drilling in bedrock charges are around \$20.00 per foot. This price does not include mobilization, cementing, site moving, drilling through overburden. Ten dollars per ft. has been estimated for these charges.

Respectfully submitted,

D.W. Burns

D.W. Burns, P.Eng.

INTRODUCTION

The writer was retained by Mission Minerals Ltd. with offices at Salmon Arm, B.C. to examine its eight mineral claims located southeast of Trout Lake, B.C. The claims are called the Cromwell Group.

The purpose of the examination was to advise the company on an exploration program on its known mineralized showings.

The examination was made on September 10, 1981 and the writer was accompanied by Mr. R. Leighton of Salmon Arm, B.C.

LOCATION AND ACCESS

The Cromwell claims are located at a elevation ranging from 6100 to 7400 feet near the headwaters of the North Fork of Brown Creek - approximately eight miles southeast of the village of Trout Lake, B.C. More particular, the property is located at 50° 35' North Latitude and 117° 20' West Longitude.

Access to the Village of Trout Lake is by public road system, either by Highway 23 North from Nakusp, B.C., or South from Revelstoke on Highway 23. Highway 23 branches with Highway 31 and this latter route passes through Trout Lake, Gerrard to Kaslo, B.C. The distance from Revelstoke to Trout Lake Village is about 85 KM. The main workings are reached by a 3½ mile trail from the Winslow Mine, which is 6 miles by a rough road from the Trout Lake-Gerrard Highway 31.

If warranted, access to the Cromwell by road would not be too difficult. Presently, a road leads to the Foggy Day claims from Highway 31 near Nine Mile Creek. These claims are at about the same elevation as the Cromwell and just to the south. The soil

and talus slopes between the two properties should offer no difficulty in completing the road to the Cromwell.

TOPOGRAPHY AND CLIMATE

The Cromwell claims cover, in part, the basin at the head of the north fork of Brown Creek- in addition to the ground south of the creek. The southerly slopes are steep and rugged. The base of the slopes are covered with a thick mantle of shale talus.

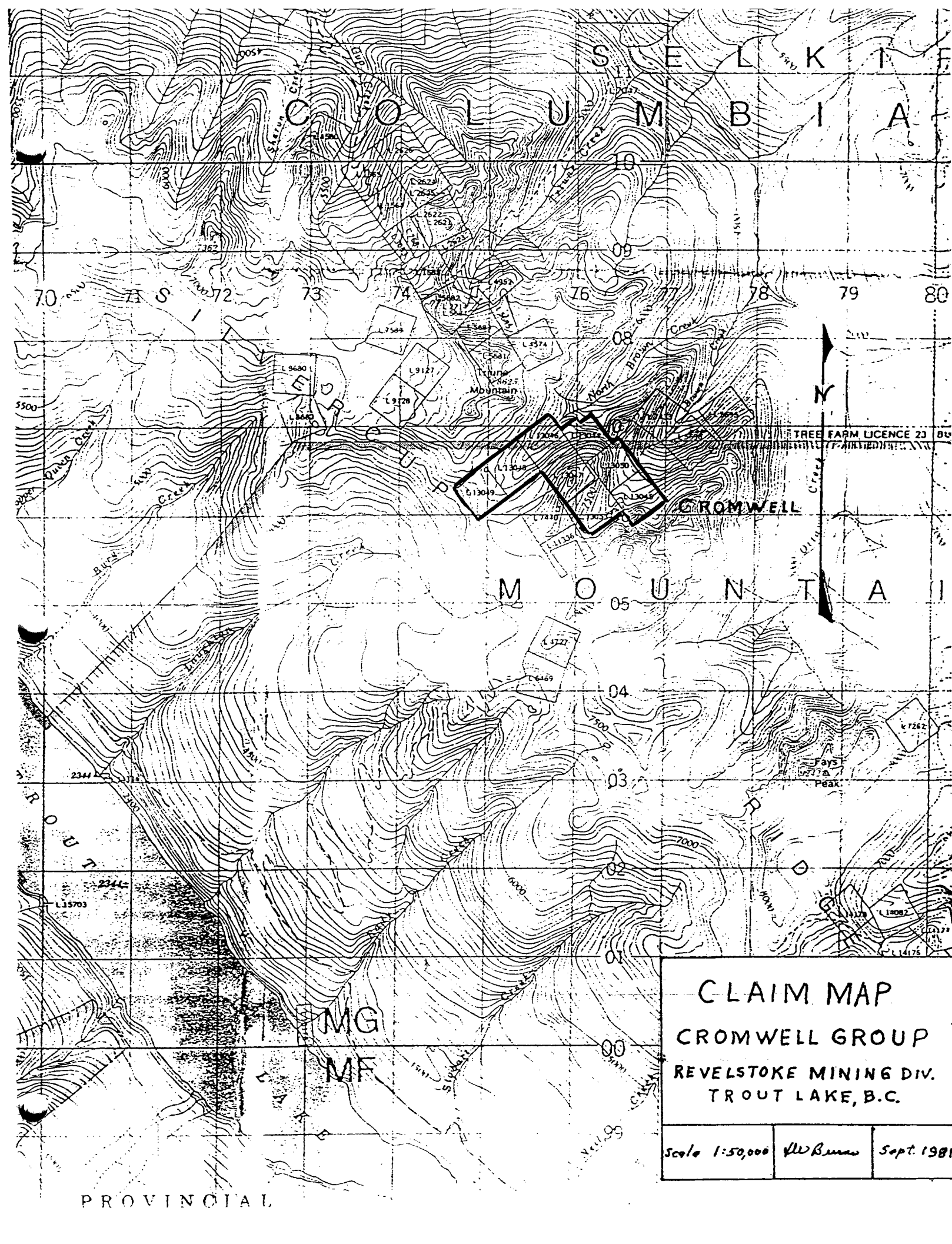
The precipitation at the Cromwell is mainly in the form of snow. The old village of Ferguson, just northwest of the property and at a lower elevation, records an average snowfall of 24 feet. The Cromwell probably receives a 34 feet snowfall. Because of this heavy snow, the ground is only bare at the working elevations from mid August to early October.

PROPERTY AND OWNERSHIP

The property consists of eight reverted crown grant mineral claims as follows:

Cromwell # 1	Lot 13045
Cromwell # 2	13046
Wellington	13053
Nelson	13050
Tarzan # 1	13048
Tarzan # 2	13049
Golden Reef	13044
TARZAN Cromwell <i>WMS</i>	13047

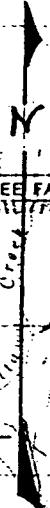
These claims are held under agreement to Mission Minerals Ltd. of box 2577, Salmon Arm, B.C.



C O L U M B I A

70 71 72 73 74 75 76 77 78 79 80

5500



TREE FARM LICENCE 23

CROMWELL

M O U N T A I N

05

04

03

02

01

00

09

MG

MF

CLAIM MAP
CROMWELL GROUP
REVELSTOKE MINING DIV.
TROUT LAKE, B.C.

Scale 1:50,000 W.B. Bunn Sept. 1981

PROVINCIAL

HISTORY

The early history of the Cromwell is not too well recorded. It was first mentioned in the annual B.C. Mines report for 1900. The report mentions the vein discovery on the Cromwell #2 claim and the shipping of seven tons of the oxidized surface ore that returned \$123.00 per ton in gold with gold valued at \$20.00 per oz. At a later date, two adits were driven on the vein and a shipment from the upper adit of eleven tons is reported to have assayed 5.33 oz per ton in gold and 5.64 oz silver per ton. This material was oxidized. Prior to 1929 a long crosscut was driven for 560 feet to intersect the vein approximately 500 feet below the outcrop. A federal government geologist examined the crosscut and reported no evidence of the main vein. He also reported that the workings should be surveyed to see if the crosscut had gone far enough.

The last recorded work was in 1953 when a company called Cromwell Gold Mines Ltd. cleaned out the lowest adit on the vein and stoped the back and part of the sill. 3.2 tons were recovered and shipped to Trail. This shipment was reported to have assayed 0.58 oz gold per ton and 2.0 silver per ton.

There is no record of the work done on the vein discovered on the Tarzan #2 claim.

GEOLOGY

The Cromwell claims are underlain by phyllites, shales and quartzites. These particular rocks are classed with the Lardeau series of Precambrian age. The general strike of the rock formations is N45°W and a steep northeasterly dip.



PHOTO 1.

Taken westerly, shows topography and ground cover at the head of the basin of the North Fork of Brown Creek. Tarzan #1 vein marked. Crest marks drop off to Trout Lake side. Talus to left is slabby shale covering the base of the steep south slope.

Much quartz veining occurs on the property, particularly on the Tarzan #1 claim. The most noticeable ones vary from one foot to ten feet in width. Veins that follow the schistosity are lens-like and are quite short; others follow definite shear zones that intersect the strike of the sediments; and others appear to follow joint planes that are at right angles to the strike of the formations. The larger veins were mainly in the basin of Brown Creek. They outcrop on ridges or occasional knobs projecting through the overburden.

To the present, only two of the quartz veins have been found to carry values.

SHOWINGS

The original discovery was on the Cromwell #2 and this particular vein occurs on the steep, rugged south slope of the north fork of Brown Creek. The outcrop, at approximately 7100 feet, was prospected by a trench and a short adit. The vein, cutting the strike of the sediments, strikes N 15° E and dips 74° easterly. A second adit was driven a short distance below the discovery trench and followed the vein for 70 feet. The vein averaged 2½ feet wide in the first 40 feet, tapering to 15 inches at the face. 3.2 tons shipped from the first 40 feet assayed 0.58 oz gold per ton and 2.0 oz silver per ton. A face sample of 15 inches taken by the B.C. Government resident engineer assayed 0.23 oz gold per ton and 1.02 oz silver per ton.

Mineralization consists of disseminated pyrite, scattered patches of galena and chalcopyrite in a gangue of white quartz.

A lower tunnel was started well over 400 feet below the out-



PHOTO 2

Taken easterly, shows the rugged topography of the south slopes of Brown Cr. Trail in center crosses extensive shale talus to Cromwell #2 adits.

PHOTO3.

Looking west-Tarzan #1 vein trench and shaft. Man standing on shaft dump. Mineralized quartz stacked to left of trench.



crop to crosscut the vein. This tunnel is now caved but it was reliably reported to be in 560 feet. The rock encountered was all slates with no sign of the main vein. There is some question whether the crosscut went far enough. The portal is still visible; therefore, it would be a simple transit survey to check the probability of whether the tunnel had crossed the projected dip of the vein.

The vein workings on the Cromwell #2 are presently inaccessible; however, the above information is well documented by Provincial and Federal governments reports.

The second showing is on the Tarzan #1 claim. The workings are located near the top of the basin of Brown Creek at about 7100 foot elevation. The mineralization is associated with a quartz filled shear zone that strikes across the sediments at N 40° E and a 55-60°^{Dip}₁ southeast. The shear outcrops on a low ridge and has been prospected by a long trench on the east and a 10 foot shaft at the top of the ridge on the west. The length of vein indicated by these two workings is about 100 feet. The vein and mineralization is still present in the shaft faces. Vein width appears to be about 2.0 feet. All the quartz excavated from these two workings is piled to one side. Mineralization consists of disseminated pyrite, patches of galena and chalcopyrite contained with white quartz. Oxidation of the vein is not extensive.

A sample taken from the shaft by the Provincial resident engineer assayed 1.17 oz gold per ton and 2.0 oz per ton silver across 20 inches. The writer took a 5-6 pound grab sample of the shaft dump and it assayed 0.327 oz per ton gold.

The accessibility of the Tarzan #1 showing, the indicated values, and the strength of the shear, warrants priority exploration to determine the length, depth, and values of this vein structure.

GENERAL COMMENT

The problem with mineral properties at the higher elevations in the Lardeau is the short working season due to the heavy snow pack. The usual bare season extends from late July to early October. The working season can be extended providing there is road accessibility. During the late spring, a light tractor, such as a D-6, can work its way on top of the snow up-slope and then, doze a cut on the downward return. This partial removal and packing of the snow speeds up the melting process in the road and working areas.

Respectfully submitted,

D.W. Burns

D.W. Burns, P.Eng.

BIBLIOGRAPHY

Lardeau Map-area, British Columbia, Memoir 161 of Canada Geological Survey by J.F. Walker, M.F. Bancroft, H.C. Gunning.

Minister Mines Annual Report, B.C. 1900

Minister Mines Annual Report, B.C. 1902

Minister Mines Annual Report, B.C. 1914

Minister Mines Annual Report, B.C. 1953

CERTIFICATE

I, DAVID W. BURNS, DO HEREBY CERTIFY:

1. That I am a Consulting Geological Engineer with office at 12136 New McLellan Road, Surrey, British Columbia.
2. That I am a Graduate Geological Engineer from the University of British Columbia in 1944.
3. That I am a member of the B.C. Professional Engineers since 1950.
4. That I have practised my profession for 36 years.
5. That I have no direct or indirect or contingent interest in the mineral claims held by Mission Minerals Ltd., nor in any securities of Mission Minerals Ltd., nor do I intend to receive any such interest.
6. That this report dated September 21, 1981 is based on an examination I conducted on September 10, 1981 and on a study of published maps and reports.

D.W. Burns

Surrey, B.C.

D.W. Burns, P.Eng.

September 21, 1981



To: D.W. Burns Engineering Ltd.,

ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B. C. V6A 1R6

Telephone: 253 - 3158

File No. 81-1348

Type of Samples Rock

Disposition _____

ASSAY CERTIFICATE

No.	Sample	Au oz/ton					No.
1	Rock	.327	Tarzan #1 shaft Dump				1
2			Gold at \$500/oz Can.	sample equivalent			2
3				to \$ 163.50/ton			3
4							4
5							5
6							6
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20							20

All reports are the confidential property of clients.

DATE SAMPLES RECEIVED Sept. 14, 1981

DATE REPORTS MAILED Sept. 17, 1981

ASSAYER

Dean Toyé

DEAN TOYE, B.Sc.
CHIEF CHEMIST
CERTIFIED B.C. ASSAYER

D.W. Burns, P.Eng.
12136 New McLellan Road
Surrey, B.C.
V3W 1E4

Mission Minerals Ltd.,
c/o R. Leighton,
Box 2577,
Salmon Arm, B.C.

INVOICE

Sept. 30-1981

Examination and Report on the Cromwell Group in
the Lardeau Area of B.C.

1 day travel- Van to Trout Lake *
1 day on Property
3 days report preparation

5 days @ \$ 300/ day \$ 1500.00

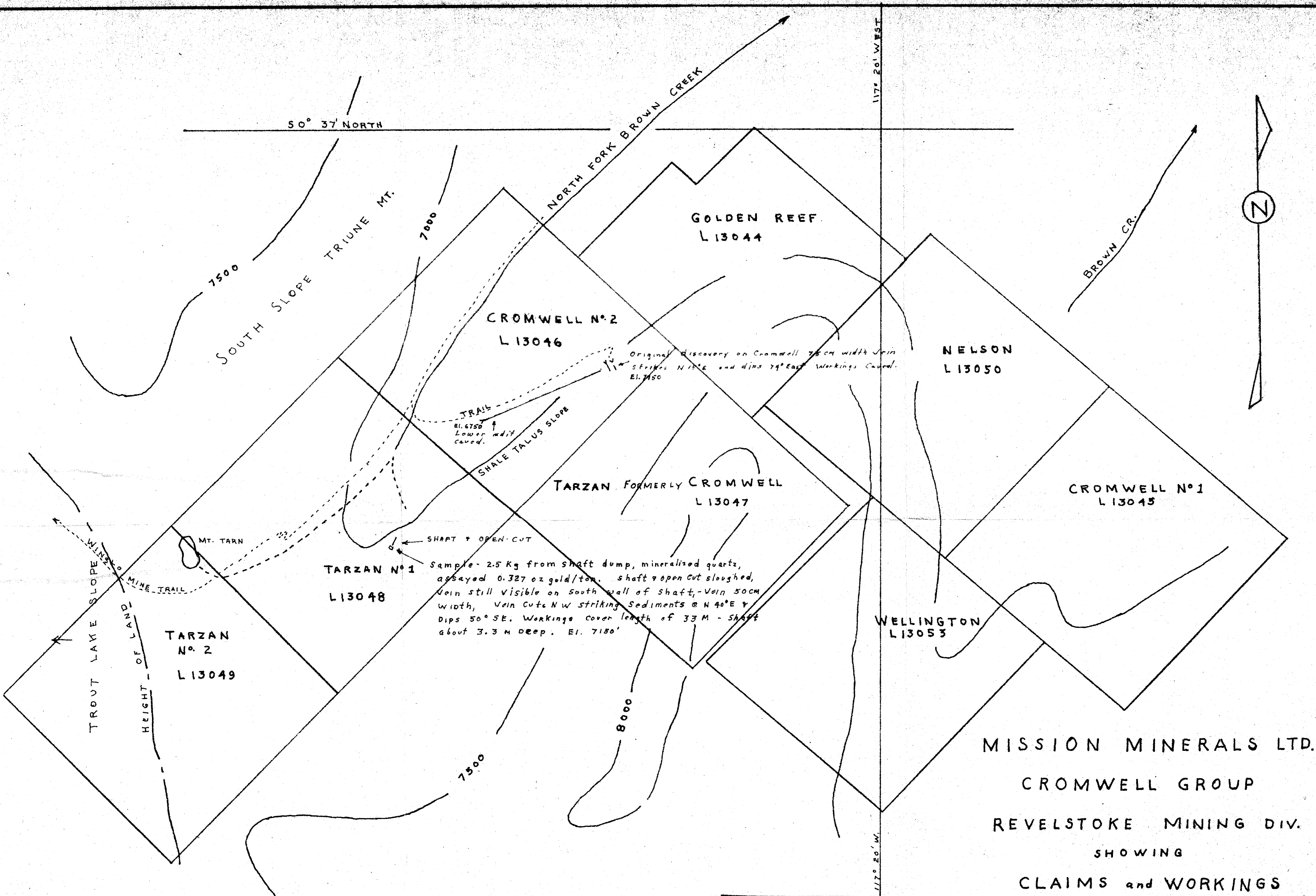
EXPENSES

Photos	18.75
Assay	6.50
Typing	60.00
Xerox Copies	5.00
phone	2.25
travel, gas, meals	<u>32.50</u> *
	125.00

125.00

\$ 1625.00

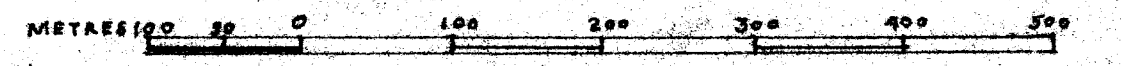
* Travel expenses shared with other
client.



MISSION MINERALS LTD.
 CROMWELL GROUP
 REVELSTOKE MINING DIV.
 SHOWING
 CLAIMS and WORKINGS

BY *J. W. Burns, P. Eng.* SEPT - 1981

SCALE 1:5000



CONTOURS IN FEET

MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
9872
 NO.