GOLD COMMISSIONER RECEIVED and RECORDED

JUL 16 1980

M.R. #
VICTORIA, B.C.

REPORT

ON

# THE SURFACE GEOLOGY

# QUARTZROCK CREEK CANYON AREA, CASSIAR DISTRICT

FOR

PLAZA RESOURCES CORP.

# MAPPING & REPORT BY:

R: A. Sutherland, Geological Engineer

### APPROVED BY:

R. T. Trenaman, P. Eng. TRENAMAN MINING LTD.

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APRIL 15, 1980

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# INTRODUCTION

This report presents the results of geological mapping carried out on parts of the Wing Gold No. 1, Wing Gold No. 2, and Panda Mineral Claims. The work was conducted on behalf of Plaza Resources Corp., 1100 - 700 West Georgia Street, Vancouver, B.C. under the direction of R.T. Trenaman, Consulting Mining Engineer, and was recommended in a report by H. Brodie Hicks, P. Eng., in a report dated July 31, 1979 dealing with exploration of Plaza's extensive mineral holdings in the McDame Creek area, in Northern British Columbia. Field mapping was carried out between September 26 and 30, 1979 by R.A. Sutherland, Geological Engineer. The report was prepared by R. Sutherland with minor editing by R. Trenaman.

The Wing Gold No. 1 and Wing Gold No. 2 Mineral Claims, (Record Nos. 6743 and 6744) and Panda Claim (Record No. 885) cover ground at the confluence of Quartzrock and Troutline Creeks, immediately west of the highway joining Cassiar to the Watson Lake-Stewart Highway at a point 8 km south of the town of Cassiar in northern British Columbia. The claims were staked to cover a large occurrence of interbanded quartz and altered andesite which is exposed in both walls of the canyon of Quartzrock Creek.

Random sampling of some of the quartz outcrops in the canyon wall in the past has provided some interesting gold values. It had been unclear whether this gold was hosted by the quartz veins themselves or whether it had been lodged in crevices in the canyon wall as part of the erosional process. Because of the impressive size of the quartz occurrence with its potential for the application of large scale surface mining techniques, rock with values as low as 0.08 oz Au/ton bear close study with gold prices above \$350. U.S.

This geological mapping programme is viewed as the first step towards obtaining a better picture of the gold; potential of this deposit.

The mapping was confined to the immediate area of the canyon in Quartzrock Creek, just above its confluence with Troutline Creek. The objective was to define the limits of the zone of alteration and quartz veining exposed in the canyon. The work was only partially successful because of the lack of exposure east and west of the canyon.

# EARLY WORK IN THE AREA

The earliest recorded work in the area goes back over a hundred years to 1874 when placer gold was found in the canyon of McDame Creek, approximately 20 km to the east on the

present Watson Lake-Stewart Highway, and subsequently in the canyon of Quartzrock Creek, within the boundaries of the Wing Gold claims. There is abundant evidence that the canyon has been methodically worked for placer. The largest recorded gold nugget recovered by placer work in B.C. was found near the mouth of Snowy Creek about this time, 4 km to the east. The placer gold is believed to have originated from the many gold-quartz veins which occur in the valleys of Quartzrock and McDame Creeks.

Interest in the lode gold possibilities of the area is first recorded in the early 1930's. The Minister of Mine Reports for 1935 and 1937 contain reports by Dr. J.T. Mandy who summarized the work done during this period, which was mainly exploratory in nature.

The many lode gold veins in the McDame Creek area that were staked in the 1930's have attracted interest and exploratory work over the intervening years, and particularly so following the building of the access road from the Alaska Highway to service the asbestos operation at Cassiar in 1952.

In 1960 the Cornucopia Group on Quartzrock Creek

1 km north of the Wing Gold claims was acquired by Hanna Gold

Mines. During the next three years some 4,000 feet of

1

underground development, plus extensive trenching and diamond drilling, explored the numerous gold-quartz veins on the property. About the same time, Troutline Mines built a small gold mill near the mouth of Troutline Creek and treated ore obtained from a number of veins in the area.

With the impressive rise in the price of gold during the last few years, interest in the McDame Creek area has been rekindled. In 1975, Nu-Energy acquired the Jennie vein on Table Mountain, 4 km to the south. A 100-ton mill was constructed and mine production commenced at the beginning of 1979.

## RECOMMENDATIONS

- 1. To define the east and west limits of the carbonate alteration zone; bulldozer and/or backhoe trenching which was commenced in November 1979 should be continued on north-south lines at 200 feet (65 meter) intervals, measuring both east and west from the Quartzrock Creek canyon.
- 2. To sample the average grade of the area mineralized with quartz an underground sampling programme should be carried out by driving adits east and west of the canyon and treating the development muck in a bulk sampling plant.

However, because of the significant costs related to an underground test programme, sampling of the deposit, by surface drilling, as a first step is warranted. Large hole percussion drilling probably has the best chance of providing representative samples to a depth of 300 feet. A reverse circulation percussion drilling system is preferred because of the potential for better recovery; however, a large hole standard circulation percussion drill system, with high pressure air, is deemed to be adequate providing it is equipped with a good dust collection system to ensure recovery of all cuttings. Diamond drilling would not be recommended at this time; because of the suspected fractured nature of the ground, which would cause serious problems for core recovery.

3. The supervision of this program, including extending the area covered by geological mapping, should be under the direction of an experienced geologist.

# DETAILED PROGRAMME

A recommended programme to follow-up this mapping is as follows: (Refer to sketch following Page 7 for general location of drill holes and bulk sample adits).

# STAGE I

# Complete surface trenching commenced in 1979:

20,000 lineal yards of trenching:

(average - 
$$45,000 \text{ yards}^3 @ \$1.00/yd =$$

\$45,000

# Percussion drilling:

10 holes - average 300 feet -

$$3,000 \text{ feet } @ \$15/\text{ft} =$$

45,000

# Engineering and Supervision:

Sampling

\$ 5,000

Engineering, mapping & reports

10,000

Total

15,000

15,000

Contingencies

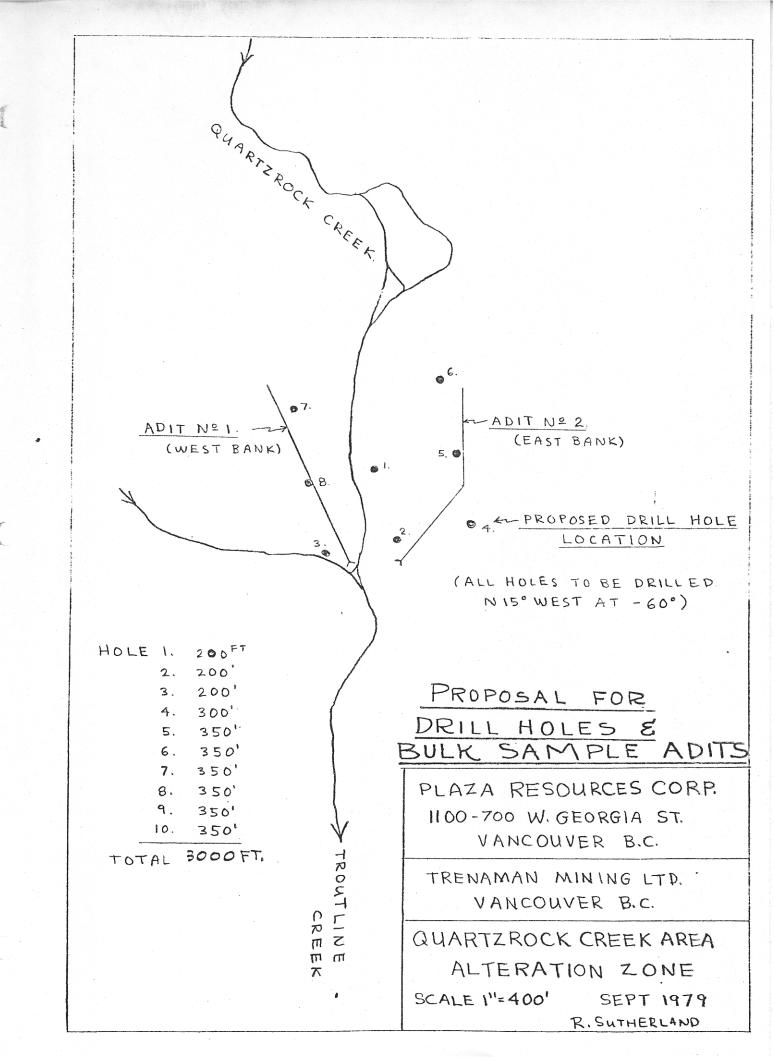
10,000

Total

\$115,000

# STAGE II

Pending encouraging results from Stage I.	
1600 feet of 9' x 10' trackless adit to	
test east and west of Canyon:	
1600 feet @ \$275/ft all found	\$440,000
Bulk Sampling	30,000
Engineering and supervision	25,000
Total	\$495,000
Contingencies	45,000
Total	\$540,000



#### **GEOLOGY**

(Refer to 1" = 200 feet scale at back of report and sketch sections of Canyon walls (following page).

The area encompassed by the Wing Gold No. 1 and Wing Gold No. 2, and adjacent Plaza Panda claims is underlain by light to dark green andesite flows, which are one of the series of sedimentary and volcanic sequences, which, together form the Sylvester Group of Upper Devonian and Lower Mississippian age. This group is estimated to have a total thickness of 15,000 feet (5,000 meters). The Sylvester group in this area occupies the central part of a north-south trending open syncline, thought to be plunging slightly to The claims occupy a position which is roughly the north. coincident with the north-trending axis of this syncline. The thickness of the volcanics is unknown, but phyllites, which probably underlay the volcanics are exposed in a northsouth-trending ravine, some 2,500 feet (800 meters) to the east.

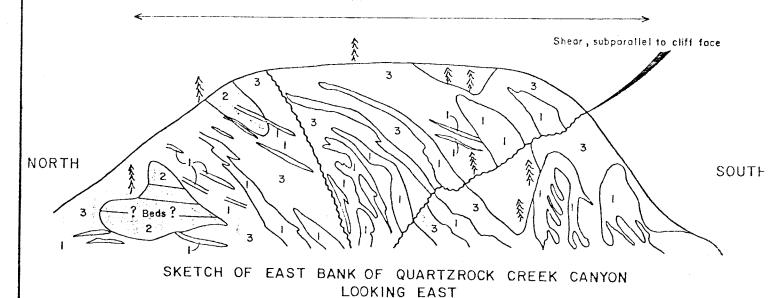
In the area of the canyon of Quartzrock Creek, strong alteration is exposed over a distance of 2,000 feet (650 meters) north-south, with enclosed quartz veining in excess of 15% by volume occurring over about 1,200 feet (370 meters) of this

length. The minimum east-west extent of quartz veining is 600 feet (185 meters).

Near the junction of the creeks quartz forms at least 70% of the rock exposed over a distance of 600 feet (185 meters) north-south. The veins take the form of large lenticular masses and sheets of quartz up to 15 feet (5 meters) thick. In many places thinner veins "link" the larger veins forming a three-dimensional network. The veins strike north-easterly to south-easterly and dip south at 30 to 70 degrees.

Very minor sulphide occurs in some of the veins. Grains of pyrite, chalcopyrite, tetrahedrite and sphalerite were noted although no attempt was made to define their distribution. Staining of the quartz and vuggy textures indicate that surface weathering has removed at least some of the sulphide. The resulting possibility of residual concentration of any gold originally present in the sulphide makes sampling of the deposit very difficult. The results of samples taken by Mandy (1935) indicate that some surface concentration has occurred. His sample description is as follows:

(1) Dense quartz lightly iron stained; gold, trace; silver, trace.



**COOKING MEST** SKETCH OF WEST WALL



ROCK UNIT SYMBOL  A A Altered Andesite Shearing, Faulting	PLAZA RESOURCES CORP. 1100-700 W. GEORGIA ST. VANCOUVER B.C.
l Quartz	TRENAMAN MINING LTD. VANCOUVER B.C.
2 Unaltered Andesite: Relatively low	QUARTZROCK CREEK CANYON
Carbonate Alterations: Probably ankerite-quartz; blocky, fractured, rusty	SKETCH OF CANYON WALLS
	SEPT.1979 NOT TO SCALE RON SUTHERLAND

- (2) Selected honeycomb quartz containing limonite; gold, 0.44 oz/ton; silver 0.12 oz/ton.
- (3) Selected gossan, iron oxide and fine wash-sand scrapings from faces and crevices; gold, 0.30 oz/ton; silver 1.5 oz/ton.

No other assay results are known to the writer.

Pervasive shearing and faulting is indicated by numerous gougy zones and abundant slickensides. The latter occurs in all orientations and of themselves do not indicate major offsets. The dominant direction of shearing appears, to be north  $55^{\circ}$  east dipping about  $70^{\circ}$  south. Some shearing parallel to the direction of the canyon (i.e. north-south) was also noted.

The country rock is hard, green, massive andesite. It is relatively unfractured and fresh in appearance. By contrast the altered rock is rusty and strongly fractured. The alteration (probably ankerite-quartz-chlorite) is strong and pervasive through most of the zone, but occasional blocks and bands of somewhat silicified andesite remain, especially near the boundaries of the altered zone.

Results of the geological mapping are presented in the sketch section following Page 9 and map at back of report. The work was done at a scale of 1" = 400 feet (1:5,000), and subsequently, enlarged to 1" = 200 feet (1:2,500) using as a base, a contour map of the area based on aerial photographs.

## DISCUSSION

The northwestern and eastern limits of the altered zone are not exposed. Relatively shallow overburden mantles the bluffs on both sides of the canyon, so the zone can be traced by bulldozer or backhoe trenching. Trenches on lines parallel to the canyon, (i.e. north-south) and offset east and west at 200-foot (60 meter) intervals, could be used to define the extent of the altered zone and the intensity of quartz in-filling.

In the Red Lake district, gold-bearing veins occur adjacent to areas of strong quartz-carbonate alteration, rather than inside them. Because of strong similarities in local geology-andesite host rocks, strong quartz-carbonate alteration, gold-bearing quartz veins - the area adjacent to the alteration zone should be examined for tangential veins. This is best done by trenching at right angles to the

boundaries of the alteration zone, for a distance of at least 100 feet (30 meters) into the unaltered andesite.

The distribution of gold values and the overall average value are unknown. Sampling, such a large area of non-uniform material is time-consuming, expensive, and, unless properly done, inconclusive. For obtaining representative samples, the best alternatives appear to be, (a) underground development, or (b) reverse circulation drilling using a 'down-hole' drill.

Underground development would require two adits, collared at as low an elevation, and as far south as possible. The first should start at the intersection of Quartzrock and Troutline Creeks, and be driven on a bearing of north 25 degrees west for 800 feet, (245 meters), to test the exposures on the west bank of the canyon. Using LHD equipment, and avoiding high water periods, it should be possible to drive this adit without bridging the creek. The second adit should be started about 200 feet (60 meters) east of the first, and be advanced 400 feet (120 meters) on a bearing of north 40 degrees east, then turned due north for another 400 feet (120 meters). This will test the exposures in the east bank of the canyon. All broken rock from the adits of course should be treated in a bulk sampling plant as recommended in a report by Mr. H. Brodie Hicks, P. Eng.

Reverse circulation drilling would give wider coverage and greater depth penetration, possibly at lower cost than underground development. Also, since the sample is returned in the form of drill cuttings, a bulk sampling plant does not have to be installed. A pattern of five inch holes on a grid spacing of 300 feet (90 meters) would give a good test of the known quartz-bearing area.

Conventional core drilling is not considered a suitable method of testing the deposit, because of the probable core losses resulting from the alternating hard and soft, and highly fractured, nature of the rock.

If the above programme is undertaken, an experienced geologist should be engaged to direct the trenching; to map the underground work; to extend the area of surface geological mapping, and to sample the accessible surface exposures.

Respectfully submitted,

R. A. Sutherland Geological Engineer

Approved by:

R.T. Trenaman, P. Eng.

April 15, 1980

# CERTIFICATE

- I, ROLAND TREVOR TRENAMAN, do certify as follows:
- 1. That I am a consulting mining engineer with offices at Room 1118, 355 Burrard Street, Vancouver, B.C. V6C 2G8.
- 2. That I am a graduate of the University of British Columbia with a degree of Bachelor of Applied Science 1957 in Mineral Engineering.
- 3. That I have practiced my profession for 23 years.
- 4. That I am a member of the Association of Professional Engineers of the Province of British Columbia.
- 5. That I have personally inspected the known mineral occurrences on the property, supervised the work, and am familiar with the general area through consulting work on nearby properties.
- 6. That I have no interest, directly or indirectly, in the subject property, nor the securities of Plaza Resources Corp.
- 7. That this report may be used in a Statement of Material Facts or similar document but may not be abbreviated or excerpted without my consent.

TRENAMAN MINING LTD

R.T. Trenaman, P. Eng

Vancouver, B.C.

April 15, 1980.

Mineral Act Regulations

Section C Exploration and Development - Assessment Work

2(2)

# ITEMIZED COST STATEMENT

# LIARD MINING DIVISION

# QUARTZROCK CREEK CANYON AREA, CASSIAR DISTRICT

# GEOLOGICAL, PROSPECTING REPORT 180 - #380

# WING GOLD PANDA, CAMP MINERAL CLAIMS

Editing, rewriting and preparation of report by R.T. Trenaman 3 days @ \$375.00 per diem	\$ 1,125.00
Wages and field expenses for R.A. Sutherland for fieldwork and report preparation	
by Table Mountain by R.T. Trenaman	757.55 800.00
Drafting Map Colouring Reproduction - blueprinting Secretarial Metro Secretarial - report typing	427.00 20.00 12.00 20.29 130.25
	\$ 3,292.09

# TRENAMAN MINING LTD. MINE ENGINEERING & MANAGEMENT SERVICES

No. 1118 - 355 BURRARD STREET VANCOUVER, B.C. V6C 2G8

R. T. TRENAMAN MINING ENGINEER

INVOICE

GOLD COMMISSIONER
RECEIVED and RECORDED

JUL 116,1980 (604) 68 0029

M.R. # 57 35 35 VICTORIA R.C.

IN ACCOUNT WITH:

Plaza Resources Corp., 1100 - 700 West Georgia Street, Vancouver, B.C. V7Y 1A1

Consulting related to geological mapping of Quartz Rock Creek Canyon area, and sampling of Table Mountain showings:

For principal R. Trenaman for October 1979

2.75 days @ \$ 350/diem	\$ 962.50
Portion of field vehicle rental	60.00
Portion of accommodation .	60.00
Portion of air fare - Vancouver - Watson Lake and return	33.65
TOTAL OWING TO TRENAMAN MINING:	\$ 1,116.15

PLEASE DEPOSIT TO:

Trenaman Mining Ltd., (Account 1024-611), Bank of Montreal (Lower Capilano Branch), 1120 Marine Drive, North Vancouver, B.C.

V7P 1S8

December 4, 1979

PAID deget 334

# TRENAMAN MINING LTD. MINE ENGINEERING & MANAGEMENT SERVICES NO. 1118 - 355 BURRARD STREET

No. 1118 - 355 BURRARD STREET VANCOUVER, B.C. V6C 2G8

R. T. TRENAMAN MINING ENGINEER TELEPHONE (604) 684-0029

## INVOICE

In account with:

Plaza Resources Corp. 1100-700 West Georgia Street, Vancouver, B.C. V7Y 1A1

Consulting with field geologist Ron Sutherland on Quartz Rock Creek showing, and lining up trenching programme, with H. Jones on Table Mountain Vollaug vein:

For principal, R. Trenaman for September, 1979 2.5 days at \$350/diem	\$ 875.00
Portion of field vehicle rental	75.00
Portion of accommodation	75.00
Portion of air fare - Vancouver-Watson Lake and return	23.85
Long distance phone calls	3.50
TOTAL	\$ 1,052.35
Less credit balance September 1, 1979	152.98
TOTAL OWING TO TRENAMAN MINING	\$ 899.37

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Please deposit to:

Trenman Mining Ltd (Account 1024-611)
Bank of Montreal (Lower Capilano Branch)
1120 Marine Drive,
North Vancouver, B.C.

V7P 1S8

# TRENAMAN MINING LTD. MINE ENGINEERING & MANAGEMENT SERVICES

No. 1118 - 355 BURRARD STREET VANCOUVER, B.C. V6C 2G8

R. T. TRENAMAN
MINING ENGINEER

1 1 1

TELEPHONE (604) 684-0029

August 17, 1979

# INVOICE

In account with: Plaza Resources Corp.

1100 - 700 West Georgia Street

Vancouver, B.C.

V7Y lAl

Discussion and follow-up pertaining to exploration programme for Plaza property at Cassiar, and field trip of Quartz Rock Creek area during period July 15 - 31, 1979 for principal R.T. Trenaman

1.5 days @ \$350.00 per diem	525.00
Portion of engineering supplies purchased from B.C. Industries	38.97
Portion of rental of Survey Equipment	7.50
Portion of Air Fare, Van. to Watson Lake - July 25	4.80
Total	576.27
Credit balance July 16, 1979	1,256.75
Less total owing July 16-31, 1979	576.27
Net credit balance Aug. 1/79	\$680.48

