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REPORT  
ON  
P.M.L. 134  
RANJIT  
LIGHTNING CREEK B.C.

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MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

NO. \_\_\_\_\_

T A B L E   O F   C O N T E N T S

INTRODUCTION	PAGE 1
GEOLOGICAL SETTING	PAGE 3
FIELD WORK	PAGE 4
WORK DONE	
DISCUSSION	PAGE 6
THE 1947 RESISTIVITY SURVEY	PAGE 7
CONCLUSIONS	PAGE 9
DECLARATION OF COSTS	PAGE 10
STATEMENTS OF QUALIFICATIONS	PAGE 11

L I S T   O F   M A P S

FIG 1 LOCATION ON P.M.L. 134	PAGE 2
FIG 2 PANNING RESULTS	
FIG 3 RESULTS OF 1947 RESISTIVITY SURVEY	

## I N T R O D U C T I O N

The Placer Mining Lease reported herein is situated on the right bank of Lightning Creek, near the confluence of Pinegrove Creek upstream from Wingdam. Lightning Creek is generally regarded as one of the most important sources of gold in the Cariboo district, second only to Williams Creek and considerable prospecting continues along the Creek and its tributaries.

The winning of gold along this creek may be divided into two categories

- (a) placer mining of superficial and near-surface gravels; most of the gold obtained from the creek probably originated from this source and
- (b) mining of buried gravels and channels fifty to a hundred feet below the surface, usually at the bedrock overburden interface; very high values have been reported in these conditions in the Melvin Gutter and on the Sanderson Bench at Wingdam.

Today, winning of gold is restricted to the near surface gravels after the closedown of the Wingdam Mine in the early 60's. This report presents results of an exploration program to evaluate surface gravels on the lease and also presents results of research into the possibility of buried gravels and possible existence of a buried 'Sanderson Type' bench under the present surface.

The property straddles the paved Quensnel-Wells road and is very easily accessible. Power and telephone services are easily obtainable and apart from the need to conform with stringent environmental safeguards, the property presents no great problems for exploration and follow-up work

# PLACER LEASE NO. 134

DESIGNATED AREA: BARKERVILLE

MINING DIVISION: CARIBOO

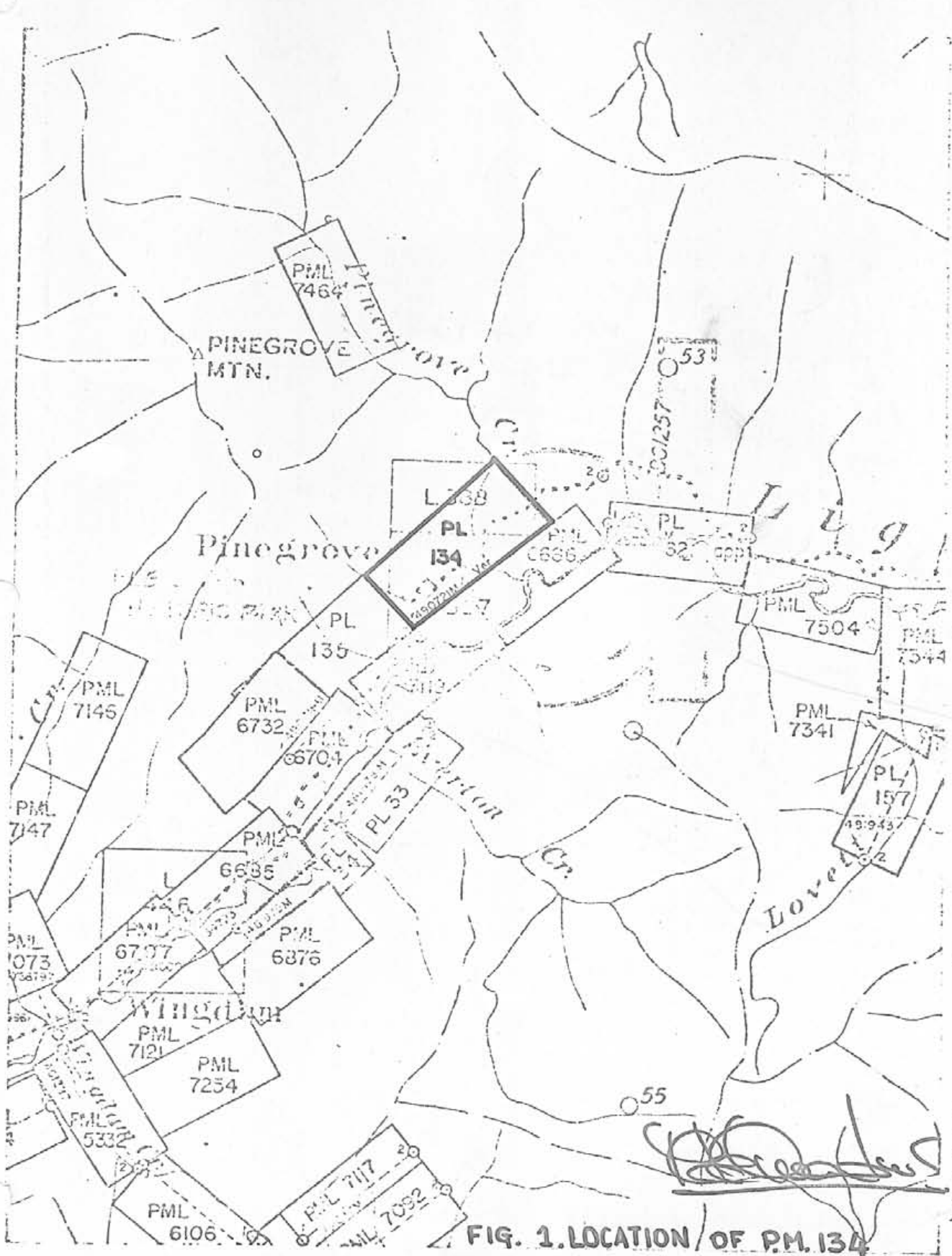


FIG. 1. LOCATION OF P.M. 134

## GEOLOGICAL SETTING

In the general area of the property, the Lightning Creek has cut a relatively narrow trench in glacial deposits, leaving these exposed as benches on either side. No bedrock is exposed on the property, though schistose bedrock can be found downstream and higher on the ridges. The glacial deposits in part appear to have been worked by earlier placer miners. In general, the glacial deposits are unsorted, coarse and unindurated with thinner layers or lenses of finer and better sorted water-borne and even possibly lacustrine deposits. At present, due to relatively poor exposure, it is not possible to correlate the various glacial and interglacial deposits especially as rapid vertical and horizontal facies changes of significant importance to mining would be expected in such an environment

Pinegrove Creek is a small creek entering Lightning Creek near the No.1 post of the property, about a mile upstream from Wingdam. Some exposures of schistose rock was seen along this creek, often with thin layers of quartzite and micaceous veins containing pyrite. Two samples of this bedrock were crushed and panned and showed a few flecks of gold. The gold in the Cariboo area is apparently derived from this schist, and its foliated character may lead to formation of natural riffles at the bedrock - overburden interface, thus accounting for the high gold values claimed for the Sanderson Bench. It is to this interface that this report is largely directed.

## F I E L D   W O R K

### W O R K   D O N E

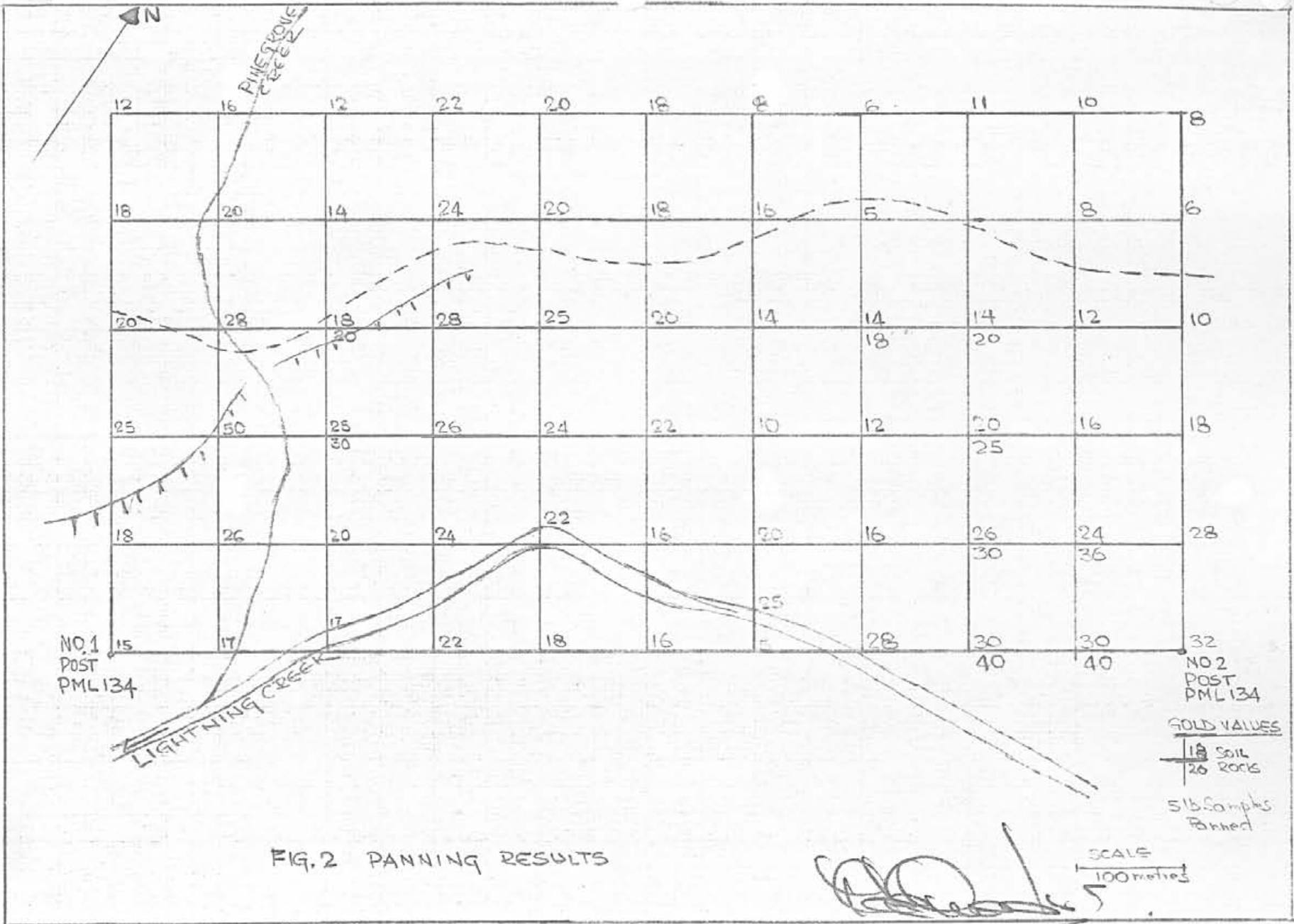
During May and June 1976, systematic sampling of coarse sands and gravels in the property were carried out in order to obtain indications of possible gold bearing gravel layers or benches, and to obtain a general overview of the property

Using the staking line as the base line, ten cross lines were run approximately 100 meters apart, and samples (approximately 3 to 4 lb.) were taken on a 100 meter by 100 meter grid. These samples were dug out with a mattock and were composite from surface to 24" below the soil horizon. Larger pabbles were separated manually and the finer material bagged. These samples were tagged and taken to Vancouver where they were panned. The results are presented on the Fig. 2 (page 5 )

In a few samples where the pabbles appeared to of possible interest, these were bagged separately and crushed before panning. The results are presented also on Fig.2

### D I S C U S S I O N

In general, the results of above preliminary work was disappointing. Small flat flakes of gold were obtained in most samples but the areal distribution is rather random and erratic. In average of 10 to 20 flakes were found in most samples, with a few as high as 50 flakes, though none were weighable.



#6238

Some of the flakes from samples along Pinegrove Creek were rather rounded, indicating that some of the gold may have derived upstream from the schist upstream on Pinegrove Creek.

However, the presence of gold in the superficial deposits in the property has been proven and obviously a more detailed and systematic sampling should be carried out in order to look for richer pockets; it must be appreciated that the distribution of gold tends to be erratic and no geological method exists for predicting the abundance of gold in placer deposits. Greater attention should be directed to locating and sampling gravels and coarse sands and to obtaining a better knowledge of the geology of the glacial deposits.



## THE 1947 RESISTIVITY SURVEY

In 1947, two geophysicists were commissioned by the Lightning Creek Gold Alluvials Ltd. to run a resistivity survey over the Wingdam- Bearer Pass Sector with the primary object of defining bedrock profiles at various sections across the valley in order to locate buried benches of the Sanderson type. This work was carried out in 1946 and 1947 and in spite of rough topography and complex geology, the resistivity work indicated flat benches of the Sanderson type amounting to approximately 80 acres in this sector (Fig 3). Some follow-up drilling was carried out on Line M, and showed generally good correlation. The benches which are approximately 100 feet below surface are outlined in Fig 3. The Placer Mining Lease 134 was staked to overlie this bench, and contain as much of it as possible.

According to logs of the three holes drilled on Line M and the one on Line N, it was apparent that the bedrock depth indicated by resistivity had to be multiplied by a factor between 1.20 and 1.30 for true bedrock surface; the depths thus indicated are about 110 to 120 feet; the work did indicate a possibly gold-bearing bench about 100-120 feet below surface.

The drill logs indicate some water inflow in the slum and clays, but tended to cut off quite quickly. Three of the holes indicated minor or no water, a fact of some importance in view of the fact that water was on major problem in mining at Wingdam. Unfortunately, no gold values have been indicated on the logs available, possibly because they were not available when the report was written.

## C O N C L U S I O N S

The results of surface sampling are not very encouraging, though they do indicate the presence of minor gold; though they do not preclude the presence of rich pockets to be found by extensive pitting and trenching. As noted earlier, river channels do have rapid facies changes, and are not predictable from surface evaluation.

The presence of a possible Sanderson type bench 100-120 feet below the surface is more intriguing and it is recommended that this feature should be investigated more thoroughly by drilling and careful logging and sampling, particularly along Line O, where the bedrock profile indicates a long flat bench. A total of 5 holes down to bedrock is suggested and should the gold values prove encouraging, further resistivity work and drilling should be carried out to determine the precise areal extent of the bench. The whole area is very promising and easily accessible and should present no unsurmountable difficulty in mining should the gold values be similar to those reported in the Sanderson Bench at Wingdam.

DECLARATION OF COSTS

The following work was carried out:-

(1) DAYS

(a) Mr. C.P. Bali May 15th - June 10th 1976; total 26 days

(b) Dr. A.M. de Quadros May 25th - June 10th, 1976: total 15 days

(2) EXPENDITURE

(a) Fees

A.M. de Quadros @ \$75.00 /day.....\$1,125.00

(b) Camping costs and food for 41 man days.....\$ 500.00

(c) Gas and other expendables.....\$ 120.00

T O T A L: \$1,745.00

STATEMENT OF QUALIFICATIONS

I, Antonio M. de Qiadros hereby declare that :

1. I hold the degrees of :-
  - (a) Bachelor of Science with 1st Class Honours in Geology and Chemistry from the University of London, England 1964;
  - (b) Master of Science in Geology from the University of California at Los Angeles, California 1968;
  - (c) Doctor of Philosophy in Geology from the University of Nairobi, Kenya 1973.
  
2. I have practiced my profession since 1968 and have wide experience in exploration and development/feasibility work since 1959

