REPORT ON

GEOLOGICAL - GEOPHYSICAL EXPLORATION WORK
PLACER MINING LEASE NO. 6834,
WELLS AREA, BARKERVILLE DESIGNATED PLACER AREA
CARIBOO MINING DIVISION, BRITISH COLUMBIA

FOR

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BY

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February 1978

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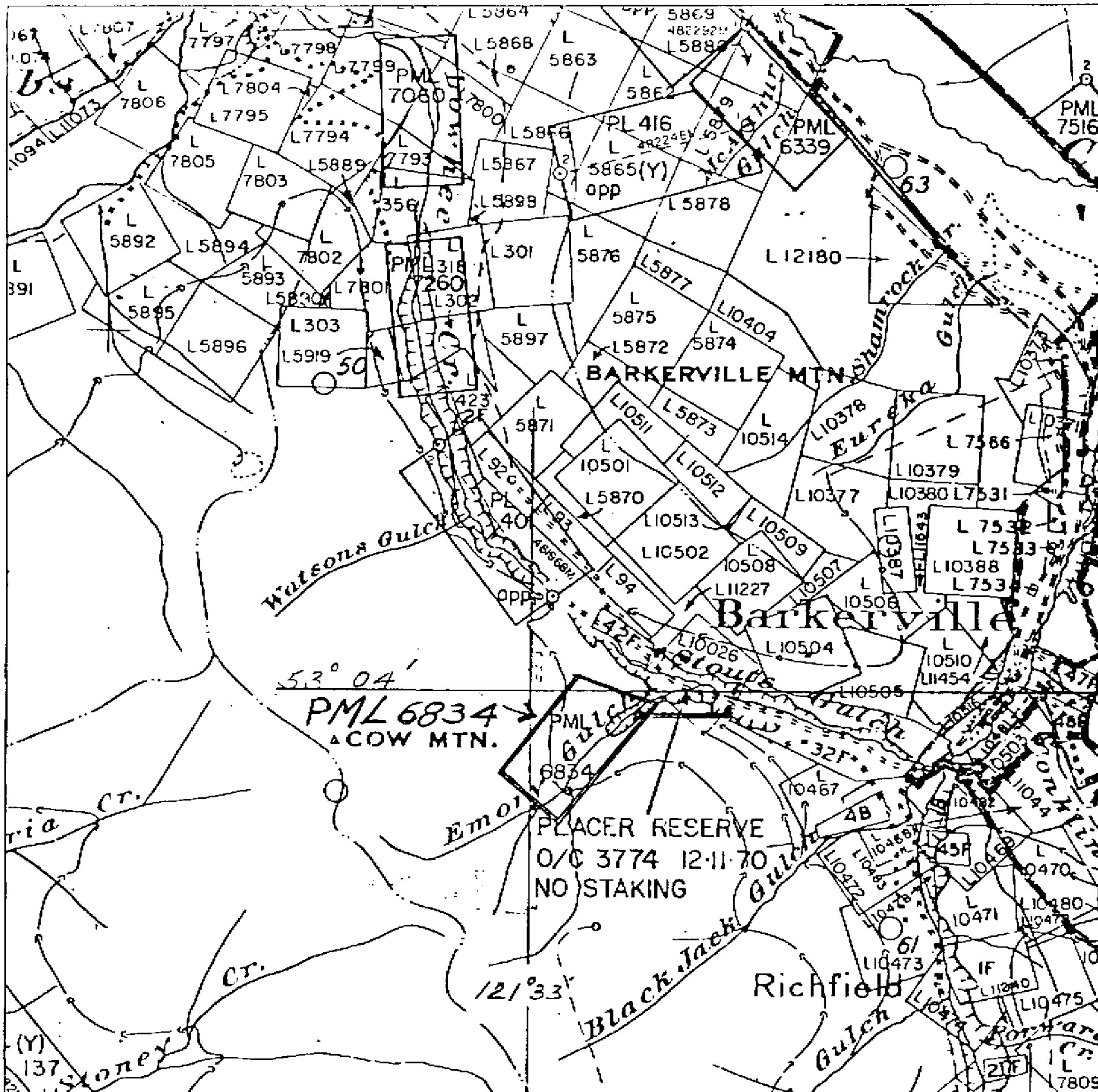
APPENDIX

ILLUSTRATIONS



LOCATION MAP P.M.L. No. 6834

WELLS - BARKERVILLE AREA, CARIBOO MINING DIVISION, B.C.

BARKERVILLE DESIGNATED PLACER AREA

MAP 93H/4E (PLACER)

SCALE:

0 500 1000 1500 2000 M.

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — W. H. MYERS

TO ACCOMPANY REPORT ON

GEOLOGICAL - GEOPHYSICAL EXPLORATION WORK PML 6834

W^m HOWARD MYERS, P.ENG. (B.C.) P.GEOL. (ALTA.)

CONSULTANT, VANCOUVER, B.C. FEBRUARY, 1975

ABSTRACT

A study of the aerial photographs in the general area of placer mining lease 6834 indicates that the Lowhee fault mapped by G. Hanson of the Geological Survey (Memoir 181) immediately north of Emory Gulch, can be projected into the western portion of the lease area near the headwaters of Emory Gulch. Lineaments on the photographs are fairly continuous from the area of outcrop where the fault was mapped, into the headwaters of Emory Gulch some 800 meters from the mouth of the creek. The fault, as mapped north of the lease, and the lineaments on the photographs both have a South 17° East trend. Another set of lineaments along and parallel to Emory Gulch with a N50°E trend suggests possible faulting along Emory Gulch. This N50°E trend is parallel to the fault mapped by G. Hanson (Memoir 181) to the south of the lease along Black Jack Gulch and a portion of Williams Creek at the town of Barkerville. The intersection of these two structural trends some 800 meters west of the mouth of Emory Gulch could contain lode gold mineralization as observed in other areas of the Cariboo at or near such intersections. This general area of Emory Gulch should be checked for possible residual type placer gold deposits.

Further placer gold exploration work, in the form of shallow refraction seismic survey should be done in favourable areas along the postulated northerly drainage pattern as indicated on the enclosed map. The old drainage pattern is indicated by the heavy dashed line on the enclosed geological map. Shallow refraction seismic profiles should be run across the postulated old pre-glacial channels. Future testing with bulk sampling or drilling should be done based on results of seismic work.

WAM

REPORT ON GEOLOGICAL - GEOPHYSICAL (REFRACTION SEISMIC) EXPLORATION WORK ON PLACER MINING LEASE NO. 6834, WELLS AREA, BARKERVILLE, DESIGNATED PLACER AREA, CARIBOO MINING DIVISION, BRITISH COLUMBIA, MAP 93H/4E

INTRODUCTION

This report was written at the request of Monica J. Block owner of Placer Mining Lease No. 6834. Monies spent for the exploration work and the report will be claimed for assessment purposes on the lease for the next two years. The lease is in good standing with assessment work recorded to April 1977.

Placer Mining Lease No. 6834 is located on Emory Gulch, a tributary of Stouts Gulch, approximately 1,800 meters west of the restored town of Barkerville. The lease is in the Barkerville Designated Placer area in the Cariboo Mining Division, British Columbia. A portion of the British Columbia Placer Titles Reference Map 93H/4E, showing the location of Placer Mining Lease No. 6834, is enclosed with this report as an index or location map. The co-ordinates of the lease are 50°04'N and 121°32'45"W.

The field work, consisting of a reconnaissance type refraction seismic profiles and the mapping of bedrock outcrops on and in the immediate vicinity of the lease, was carried out on September 26, 29 and 30, 1977. The photo geological work and the preparation of the maps and report was done during January 1978.

The base map, enclosed with the report showing the photo-geology, bedrock outcrops major structural trends and the location and results of the shallow refraction seismic survey, was prepared from the enlargement of a portion of aerial photograph 30 BC 77041, No. 220. A portion of the photograph (approximately 3" square) was enlarged 6.5 times by the Map Production Division of the Surveys and Mapping Branch of the British Columbia Lands Service. The scale on the original photograph was 1:20,000. The scale on the base map is approximately 1:3,077 or 1" = 256' or 78 meters.

The lease is readily accessable via the old access road to Stouts Gulch from Barkerville. The road goes through the restored town of Barkerville so permission to trespass must be obtained from the Parks Department. Barkerville is located some 58 miles east of Quesnel, B. C. in the north central portion of British Columbia. Access to Barkerville is by Provincial Highway No. 26 and is approximately 500 miles north, northeast of Vancouver, B. C.

The geological field mapping consisted primarily of outlining areas of bedrock outcrops and the examination of the surface terrain in areas where additional subsurface data should be obtained with the refraction seismograph. Away from Emory Gulch, a great deal of the lead surface is covered with muskeg and or soft marsh or mud. These conditions are highly unsatisfactory for shallow refractions seismic surveys. The areas where additional subsurface data is necessary were determined by the reconstruction of the old northerly trending Tertiary or pre-glacial drainage pattern in the immediate vicinity of the lease. The classification and description of the different types of placer deposits found in the Cariboo is enclosed in the Appendix of the report under "Types of Placer Gold Deposits in the Cariboo". The outline of bedrock outcrops in the area of the lease is shown on the enclosed map with the report.

The data from seismic profiles which were run away from Emory Gulch proper was very poor and unreliable due to the soft surface conditions. A gread deal of the surface area of the lease away from Emory Gulch is covered with soft material composed of muskeg or marsh and in some areas a thin layer of mud. In areas where future seismic work is planned, bulldozing of trails for the profiles will be necessary. The location of the profiles is shown on the enclosed map with bedrock depths where data was reliable. A Nimbus ES-1A seismic timer, Serial No. 234 was used together with the GV-1 geophone. The instruments are manufactured in West Sacramento,

California by the Nimbus Instrument Company. The general theory and use of the refraction seismic method for subsurface exploration is described in the Appendix of this report under "Shallow Refraction Seismic Exploration". The location of the profiles together with bedrock depth are shown on the map enclosed with the report.

Information for this report is from published and unpublished reports and maps together with my field work on the lease during the period September 26, 29 and 30, 1977 and my work in exploration and testing placer gold deposits in the general Cariboo area over the past fifteen years. The published map and reports used in this report are listed under the Bibliography in the Appendix of the report. The base map for the report was made from an enlargement of Aerial photograph 30 BC 77041 No. 220.

HISTORY

The Cariboo area of Central British Columbia is well known for its production of both placer and lode gold. Since the gold rush, which started in 1861, the general Cariboo Area has produced many millions of dollars worth of gold from both lode and placer mining.

Placer Mining Lease No. 6834, located on Emory Gulch, is situated near the center of both the lode and placer gold activity in this portion of the Cariboo. The record of the work on Emory Gulch is very sketchy. This is probably due to the extensive hydraulic operations on Lowhee Creek and Stouts Gulch in the immediate area. There was considerable work on these creeks in the early and middle 1940's with a tapering off toward the end of the 1940's. Hydraulicing on Emory Gulch in 1952 was reported by the Minister of Mines Summary report for that year. There is no record of when the adit located above the cabin in Emory Gulch, was constructed. It is reported that gravel from the adit was washed with fairly good gold values.

WFAM

The adit is now caved at the portal. Seismic work above the adit on the talus slope indicated bedrock near the floor of the adit.

GEOLOGY

Stratigrathy:

Bedrock, though concealed over a large portion of the lease by rock debris and vegation, outcrops along the bed of Emory Gulch from its confluence with Stouts Gulch upstream for approximately 1,200 feet where hydraulic operations have been carried out. The bedrock exposed in the upper portion of Emory Gulch, in the general vicinity of the adit, is composed of black argillite and argillaceous quartzite of the Basal member of the Richfield Formation (Memoir 181 G.S.C., G. Hanson 1934). The bedrock surface where exposed in the area of the lease is very irregular and appears to have considerable relief. The general outline of bedrock outcrop is shown on the enclosed map with the report.

Structure:

In the general area of Placer Mining Lease No. 6834, two major fault systems have been mapped and described by G. Hanson in Memoir 181 of the Geological Survey of Canada entitled Barkerville Gold Belt, Cariboo District, British Columbia, 1935. Two of the stronger and more continuous faults of the north-south trending systems, shown on Map No. 2394 have been mapped north of placer mining lease No. 6834. These two more prominent faults in this system and mapped underground in the Cariboo Gold Quartz Mine are the Rainbow and Lowhee Faults. The Lowhee Fault follows Lowhee Creek through the map area and has a general north-south trend. In the southern portion of the map area, near the divide between Lowhee Creek and Stouts Gulch, the fault as mapped by G. Hanson changes direction to approximately south 17° East and trends toward the upper portions of Emory Gulch near the western boundary of P.M.L.

No. 6834. The location of the Lowhee Fault taken from map No. 2394 is shown on the map of the lease area enclosed with this report. The possible projection of this fault into the headwaters of Emory Gulch and the area of the lease is also shown. Faults of this system trending north-south, appear to be normal faults with the east side displaced to the south from 400 to 1,200 feet. Along the projection of the Lowhee fault to the south-southeast there are general lineaments plotted from the aerial photographs which could be due to the fault or fault system through this area.

Another system of faulting in the general area of the leases mapped by G. Hanson have a more easterly trend. The bearing of this system varies from N45°E, to East-West. Several of these northeast trending faults are shown on Map 336A, G.S.C. 1938 taken from G. Hanson mapping and report of 1934. On map No. 2395 (G.S.C. 1934 G. Hanson) one of these northeast faults is mapped along Williams Creek and through the town of Barkerville. The fault continues to the southwest along Black Jack Gulch. The trend of this fault is parallel to Emory Gulch less than a half mile to the north. Lineaments on the aerial photograph along and parallel to Emory Gulch could very well be due to a northeast trending fault along Emory Gulch similar to Black Jack Gulch to the south. The intersection of this northeast trending fault along Emory Gulch and the projection of north-south trending Lowhee Fault should be a very potential for lode gold mineralization based on information from underground work at Cariboo Gold Quartz Mine at Wells, B. C. The intersection of the two strong fault systems is located in the upper portion of Emory Gulch above the old water ditch as shown on the map with the report. This area would also be favourable for a residual type placer deposit or even an old stream channel from a tributary of Lowhee Creek.

PLACER GOLD DEPOSITS

Extensive placer gold operations have been carried out in the immediate area of

placer mining lease No. 6834 and on a portion of the lease near the confluence of Emory Gulch and Stouts Gulch. The last report of any sizeable placer operations in this immediate area was in the late 1940's. The Minister of Mines report for 1952 states that hydraulic operations were carried out on Emory Gulch for that year but gives no details on where or how much was done. There is no record on the adit in Emory Gulch some 400 meters from the mouth. There is no record of any exploration work further upstream on Emory Gulch in the vicinity of the old water ditch.

The three general types of placer gold deposits found in the Cariboo are described in the Appendix of the report under "Types of Placer Gold Deposits in the Cariboo". The area of Placer Mining Lease No. 6834 should be explored for the different types of placer deposits as described. As mentioned earlier if there could be extensive lode gold mineralizations at the intersection of the two major structural trend near the headwaters of Emory Gulch there could very well be local residual type placer deposits in addition to the three general types of deposits outlined in the Appendix.

CONCLUSIONS AND RECOMMENDATIONS

The reconnaissance field work on P.M.L. No. 6834, consisting of shallow refraction seismic survey and geological mapping, together with the compillation of regional geology from existing geological reports and recent photo-geological studies has resulted in some very significant and possibly potential results. These results and recommendations are tabulated below.

1. Lineaments on the aerial photographs suggests that the Lowhee Fault located near the northwest corner of the map area (mapped by G. Hanson, Memoir 181, G.S.C. 1935) can be extended to the south-southeast along its trend to the headwaters of Emory Gulch near the area where the old water ditch from the south crosses

Emory Gulch. This is located near the southwestern boundary of P.M.L. No. 6834.

2. Lineaments on the aerial photograph to the east of the Lowhee Fault indicate another possible north-south trending fault system crossing Emory Gulch in the general vicinity of the adit approximately 400 meters upstream from the mouth of the Creek.

3. Lineaments near the headwaters of Emory Gulch have a north 45°E trend right on strike with the lower portion of the creek where it enters the Stouts Gulch drainage pattern. This trend is parallel with a fault along Black Jack Gulch and Williams Creek to the southeast approximately 1,000 meters (mapped by G. Hanson, Memoir 181, G.S.C. 1935). It is very possible that there is a northeast trending fault or fault system along Emory Gulch. Bedrock outcrops are too sparse to map this trend in the field. Future refraction seismic work should be used to check this possibility.

4. The intersection of these two structural trends near the headwaters of Emory Gulch in the southwestern portion of the map area, could produce favourable areas of lode gold mineralization as found in other areas of the Cariboo at the intersection of similar structural trends.

5. Favourable placer deposits in all probability will be located along the old northerly trending drainage pattern associated with Lowhee Creek near its present location and the reconstructed tributaries entering the main channel at the normal angle. With such a reconstruction there is a good possibility that old channel followed in general the projection of the Lowhee Fault to the south into the headwaters of Emory Gulch as shown on the map. Future shallow refraction seismic work should be used to check this possibility.

6. If favourable lode gold mineralization does take place at or near the intersection of the two structural trends, as described earlier, then there could be local residual type placer gold concentrations in this area as well as the three general types of placer deposits found in the Cariboo as described in Appendix. Future placer test work in this area should include this possibility as well as the normal deposits in gravel.

7. Future refraction seismic work will require the bulldozing of trails in area of proposed work due to poor surface conditions over most of the lease. The muskeg and soft mud or marsh conditions at or near the surface over most of the lease makes seismic work very slow and results inconclusive.

Additional exploration work and testing are strongly recommended on Placer Mining Lease No. 6834 to check out the possibilities outlined in the conclusions of the report. The initial exploration work with a small cat to make trails for seismic work and exposing bedrock for testing, should start in the area of the adit and work upstream toward the second fault near or above old water ditch. At this time the area north of the adit could be checked for placer deposits related to a possible tributary to the old main channel. Bedrock outcrops and shallow refraction seismic work indicates substantial relief on bedrock in this immediate area of the creek.

Expiry Date: June 16, 1978

Respectfully submitted,

Wm. HOWARD MYERS, P.Eng.(B.C.), P.Geol.(Alta.)
Consultant

February 24, 1978

APPENDIX

BIBLIOGRAPHY

Canada Department of Mines

Memoir No. 181, G. Hanson, 1935
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Geological Survey of Canada

Maps of Principal Auriferous Creeks in the Cariboo Mining District, British Columbia, Amos Bowman, 1895.

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Report of Minister of Mines 1926, 1928, 1932, 1934, 1938, 1945, 1946 and 1952.

SHALLOW REFRACTION SEISMIC EXPLORATION

BY

Mr. Howard Myers, P.Eng. (B.C.), P.Geol. (Alta.)

November, 1977

THEORY

The quantity that is observed in the refraciton method of seismic exploration is the time between the initiation of the shock wave at the shot point by hammer blow on a steel plate or explosion and its first arrival at the detector placed at a measured distance from the shot or impact point. As the first arrivals only are usually considered in the analysis, the wave arriving at the detector first must be the one which has travelled the minimum time path between shot point and detector. By observing first arrivals for different separation distance of source and receiver, a time distance curve can be constructed representing variations of minimum time path with distance, (see figure 1 at end of text). From these variations, the nature and depth of the elastic discontinuities can be determined.

The shock waves travel through earth materials as through air, with a definite velocity and along a definite path. The velocity depends primarily upon the degree of consolidation. The travel path of the seismic waves, like the path of light waves, follows whatever course that will require the least amount of time between the source and the detector.

The travel path of shock waves for minimum travel time can be traced out by a simple relationship form a familiar low of optics known as Snell's law where $\frac{\text{Sin } i}{\text{Sin } r} = \frac{V1}{V2}$. In the equation i is the angle of incidence and r is the angle of refraction. A shock wave will travel in a straight line through any material which has a constant velocity but will be bent if it passes through a discontinuity where there is an

abrupt change in elastic properties. In refraction seismic work, we are interested only in the rays which go down at the critical angle, become refracted parallel to the boundary and are refracted back to the detector (surface) at the critical angle. When r = 90° then the above equation (Snell's law) becomes Sin $i_c = \frac{V1}{V2}$.

Interpretation:

The process of refraciton seismic interpretation can be illustrated by a simple case of the single horizontal discontinuity as shown in Figure 2 at end of text. Any number of discontinuities can be recorded as long as there is sufficient thickness and velocity contrast. In the ideal case and for simple interpretation of the refraction data the velocities will be higher in succeeding layers from surface down and the thickness will be greater than the overlying layer. This is not always the case and in such instances where deeper layers are thinner and velocities lower the interpretation becomes complex and experience is necessary for accurate and definitive interpretation of the refraction data.

The field data consisting of times recorded in milliseconds and distances measured form shot point to detector are plotted on a time distance graph. A line is drawn through the points that line up in a straight line. The velocity on each segment of straight line is computed form the basic formula $V = \frac{D}{T}$. Overlays with velocity scales computed from the above formula can be made up so that a direct read out can be obtained for each segment representing different velocity layers (see figure 1 at end of text).

The thickness of a layer is computed by the means of the formula Thickness = $\frac{XV1}{2}\sqrt{\frac{V2-V1}{V2+V1}}$, where XV1 is the horizontal distance from the zero point or detector to the change from velocity one to velocity two. The function $\sqrt{\frac{V2-V1}{V2+V1}}$ for the different velocities can be plotted on a graph so that a direct read out can be determined for

rapid computation. In the simple two layer case where bedrock is covered with one layer of low velocity material then the depth to bedrock is the same as the thickness of the layer. In the three or more layer case the depth calculation is made with the formula $D_2 = 0.8D_1 + \frac{XV-2}{2}\sqrt{\frac{V3-V2}{V3+V2}}$ (See figure 1 at end of text).

Additional information and greater accuracy can be obtained by reversing each profile in the field. When the profile is reversed dip calculations can be made on the various interphases. The length of the profile (distance from detector to shop point) depends on the depth of penetration desired. As a rule of thumb the depth penetration is roughly one quarter of the horizontal separation. A separation of 100 feet gives 25 feet penetration. This rule is only approximate and depends on velocity of the near surface layers.

Field Operations:

The operation of the shallow refraction seismic survey in the field is relatively simple and can be done by one or two men. The horizontal distance, with ten foot intervals moves down the line and strikes a steel plate with a sledge hammer at each 10 foot interval and records the time in milliseconds on the seismic timer. The time and distance is written down with notes on changes in surface conditions and terrain for different hammer points. If the readings are anomalous then a time-distance plot is made in the field to check data. With two men in the field, one on hammer and the other recording data, progress is much more rapid. Two men can run up to twenty profiles a day where conditions are favourable along logging roads or good trails. The plotting and interpretation of the data requires almost as much time as the field work.

WHM

The equipment, consisting of two cables, geophone and sledge hammer and small steel plate and seismic timer can easily be carried by one man.

Applications:

Some of the applications or cases of the refraction seismic method of subsurface exploration are:

(a) Depth of Alluvium (Depth to Bedrock)

(b) Relief on Bedrock (Dip or irregularities)

(c) Identification of material below the surface for excavation purposes such as gravels, clays and hard pan.

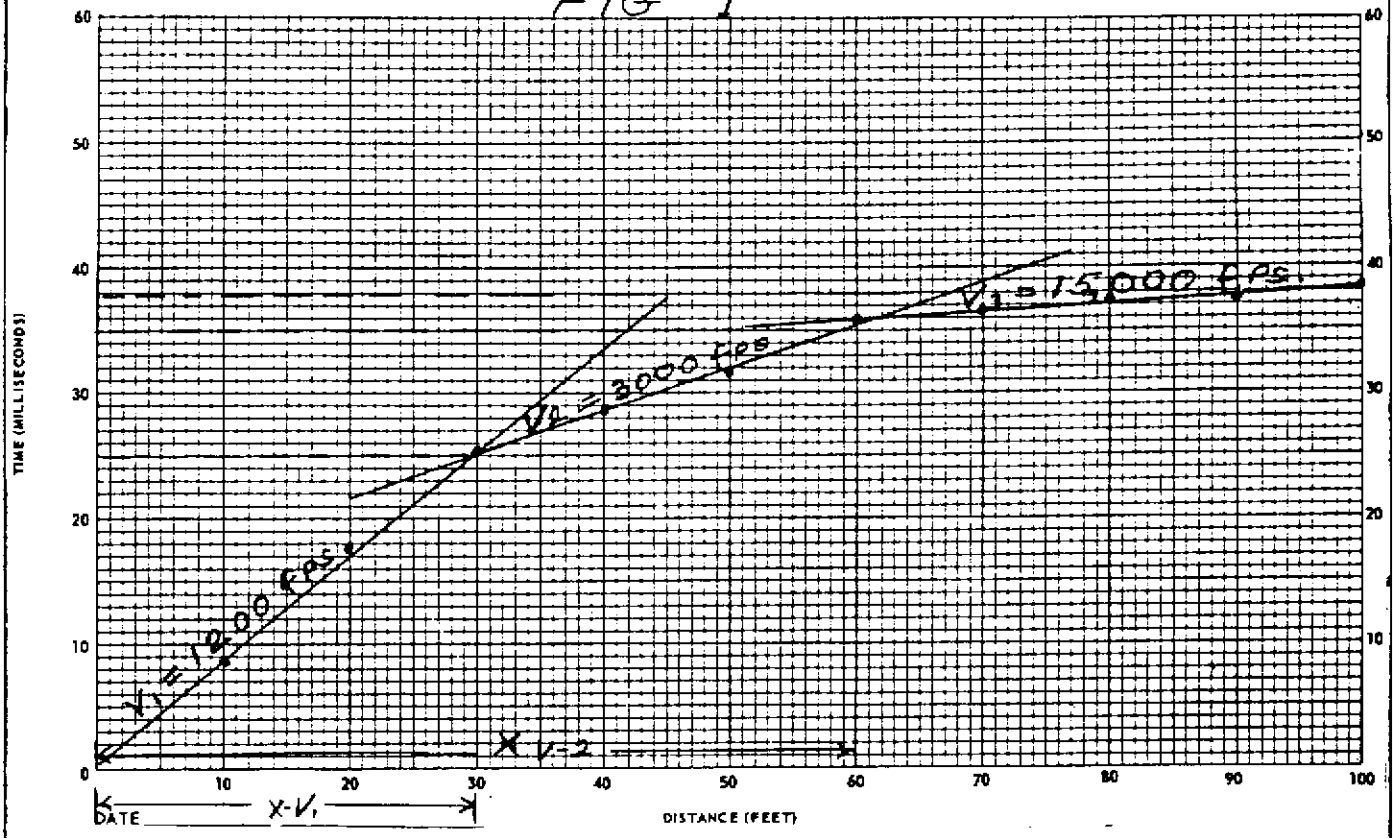
(d) Type of bedrock and possible weathering or faulting.

(e) Geological mapping for mineral and ground water.

The refraction seismograph is an excellent method for placer gold exploration in that all of the applicaitons listed above are useful.

WHM

FIG #1



Velocity Computation - $V = \frac{D}{T}$

$V_1 = \frac{30}{.025}$ = 1200 FPS - $V_2 = \frac{30}{.010}$ = 3000 FPS - $V_2 = \frac{40}{.0027}$ = 15,000 FPS

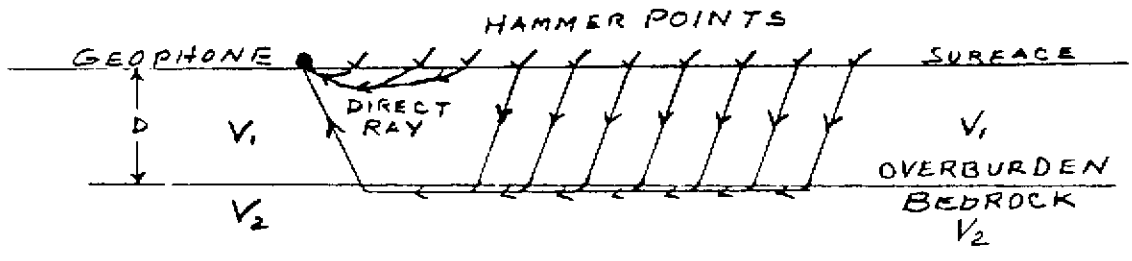
Depth Calculation - $D_1 = \frac{XV\text{-}1}{2}\sqrt{\frac{V2-V1}{V2+V1}}$ - $D_2 = \frac{XV\text{-}2}{2}\sqrt{\frac{V3-V2}{V3+V2}} + 0.8\ D_1$

$D_1 = \frac{30}{2}\sqrt{\frac{3000-1200}{3000+1200}} = 9.8'$: $D_2 = \frac{60}{2}\sqrt{\frac{15000-3000}{15000+3000}} + 0.8 \times 9.8 = 32.33$

Results:

0 - 9.8' soil: Gravel @ 9.8' Bedrock @ 32.33

FIGURE # 2



WM. HOWARD MYERS, P. GEOL

TYPES OF PLACER GOLD DEPOSITS IN THE CARIBOO

BY

Mr. Howard Myers, P.Eng. (B.C.) P.Geol. (Alberta)

Placer gold deposits in the Cariboo Region of British Columiba, can be divided into three general categories or types, based on the mode of occurrence. The pre-glacial or Tertiary auriferous gravel deposits are often referred to as "gut gravels". The richer auriferous gravels were deposited in the stream bed where favourable placer traps were produced by a change in velocity of the stream or a change in the gradient of the stream bed. A change in direction of a stream produces higher velocities on the outside of the bend with lower velocity on the inside thus producing a favourable placer trap on the inside of the bend or meander. Constriction of a stream bed with a widening of the stream above the constriction produces lower velocities above the constriction or in the area of widening of the stream thus producing a favourable placer trap for heavier minerals. Changes in gradient of the stream bed also produces changes in velocity creating placer traps. The gradient of the streams during Tertiary time was greater than that in the present drainage in general. General uplift in pre-Tertiary and Tertiary Age produced the steeper gradient in the streams and more rapid reosion of the surrounding topography. The rapid erosion produced more heavy minerals for the stream to concentrate in favourable placer traps. Most of the Tertiary gravels are well cemented with iron oxide. The gravels and rocks making up the aggregate will break before they can be loosened from the iron oxide cement. The iron oxide cement no doubt came from pyrite and other minerals which were being carried by the stream in large quantities along with the heavy minerals. The drainage pattern in Tertiary or pre-glacial times was substantially different than the present or post glacial drainage pattern. It is a well established fact that the Fraser River flowednorth into the Peace River

drainage pattern in Tertiary time. (Douglas Lay, Bulletin No. 3 and 11, B.C. Dept. of Mines, 1940,1941). This northerly drainage pattern, during Tertiary times, must be reconstructed for the entire Cariboo Region if exploration work is to be done for Tertiary or pre-glacial "gut gravels". The Tertiary channels are exposed in many places in the Cariboo by glaciation or present streams cutting across the old drainage pattern. Many or perhaps most of the old Tertiary channels have been removed by glacial action or streams produced by the melting of glaciers between glacial stages.

The action of the glaciers produced the second general type of placer gold deposit in the Cariboo area, known as Interglacial. There are two types of interglacial deposits. The residual interglacial deposit is formed by the sand gravel and clay being washed out of the glacial drift material leaving the gold and other heavy minerals resting on a hard pan or false bedrock or on bedrock itself. The other type of interglacial deposit is formed by stream action and the concentrating of the heavy minerals in favourable placer traps. One of the larger recognized interglacial deposits in the Cariboo area is in the Thistle Pit area northeast of Wells, B. C. This deposit is probably the residual type in that there are some fairly large rocks on the false bedrock and the stream did not appear to be large enough to transport the large rocks into the area. In general the values of gold per cubic yard in the interglacial deposits is less than the Tertiary or channel gravels but much easier to work.

Post glacial deposits or those formed since the last glacial stage are associated with the present drainage pattern. The postglacial deposits in general are in the form of bars or benches in or near the existing stream beds. The main source of the gold for these deposits is from glacial drift or related glacial deposits.

The size of the gold is smaller and the values per cubic yard are less in general than the interglacial deposits however they are usually much easier and cheaper to work in that they are at or near the surface and the sand and gravel are free of clay. Many of the bars of the Fraser River such as Hills Bar near the town of Yale, B. C. are postglacial deposits.

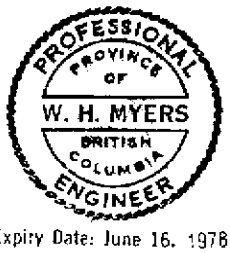
CERTIFICATE

I, William Howard Myers, do hereby certify that I am an independent geological - geophysical Consultant with offices at 422 - 510 West Hastings Street, Vancouver, B. C. I have been actively engaged in my profession as an independent consultant in both oil and mining since 1952. I have been specializing in the exploration for and the production of placer gold for the past thirteen years using the shallow refraction seismic technique for subsurface exploration. I am a professional geologist, P.Geol. Member No. 16704, of the Association of Professional Engineers, Geologists and Geophysicists of Alberta, and a non-resident member, P.Eng. of the Professional Engineers of British Columbia.

I graduated from Fresno State College, Fresno, California in 1939 with a B.Sc. degree in Geology. I did graduate work at Stanford University, Stanford, California for M.Sc. degree in Geology from 1939 to 1941.

Information for this report is from published and unpublished maps and report on the Cariboo region together with my field work and studies of placer gold deposits in the Cariboo area over the past fifteen years. The field work for this report on placer mining lease No. 6834, which consisted of geological field mapping and shallow refraction seismic surveys, was carried out on September 26, 29, and 30, 1977. A total of three days was spent on the field work. The photo-geological studies, map and the report were done in February 1978. Published maps and reports used in this report are listed in the Bibliography.

This report was commissioned and paid for by Monica J. Block, owner of the leases.



Expiry Date: June 16, 1978

February 1978

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IN ACCOUNT WITH

Wm. Howard Myers

Geological - Geophysical (refraction seismic) Exploration
Work on P.M.L. 6834 - September 26, 29 and 30, 1977

3 days @ $150.00/day	$450.00
Drafting and preparation of report	50.00
	$500.00

Paid with thanks

W. H. MYERS
March 13, 1978

LOWHEE FAULT
(G.S.C. MEMOIR 181)

LOWHEE HYDRAULIC PIT

LOWHEE CREEK

LOWHEE DITCH SPILLWAY

STOUT'S GULCH HYDRAULIC PIT

ROAD

WAOMING FAULT

WATER DITCH

WATER DITCH

ROAD

BARKERVILLE — 0.5 MILE

P.M.L. 6834

EMORY GULCH

OLD WATER DITCH

OLD WATER DITCH

OLD WATER DITCH

DFP

?

N

LEGEND

- LINEMENTS - AERIAL PHOTOGRAPH
- 7 / 13' N.R. — REFRACTION SEISMIC PROFILE No. BEDROCK DEPTH, N.R. - NO RESULTS
- FAULT (FROM MAPS)
- CLEARED AREA WITH LOCAL AREAS OF TAILINGS FROM PLACER WORK
- ADIT
- BEDROCK OUTCROPS
- POSSIBLE PRE-GLACIAL DRAINAGE

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6687

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
W. H. MYERS
Expiry Date: June 16, 1978

PLACER MINING LEASE No. 6834, EMORY GULCH
WELLS - BARKERVILLE AREA, CARIBOO MINING DIVISION, B.C.

BARKERVILLE DESIGNATED PLACER AREA

MAP 93 H/4E

BASE MAP of LEASE AREA
SURFICIAL GEOLOGY, REFRACTION SEISMIC PROFILES
PHOTO - GEOLOGICAL WORK, POSSIBLE OLD DRAINAGE

SCALE (APPROX.): 1:3078

0 78 156 METERS
0 256 312 FEET

BASE MAP FROM ENLARGED PORTION AERIAL PHOTO 7741 - E2.0
TO ACCOMPANY REPORT ON GEOLOGICAL - GEOPHYSICAL EXPLORATION

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FEBRUARY, 1978