85-1061-14636

GEOPHYSICAL REPORT

ON

MINERAL CLAIMS (43 UNITS) OWNED BY ROBERT H. DAVIE

IN THE

DEVILS CANYON AREA OF THE BARKERVILLE GOLD BELT

CARIBOO MINING DIVISION, BRITISH COLUMBIA

LONGITUDE 121° 40' W; LATITUDE 53° 05' N

NTS 93 H / 4E

ROBERT H. DAVIE ET AL
430 North Oxley Street
West Vancouver, B.C.
V7V 2[illegible]6

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December, 1985

ABSTRACT

The geophysical work consisting of electromag (VLF-EM16) and shallow refraction seismic profiles in the area of a northerly trending fault near the center of the claim block (43 units in name of Robert H. Davie) has produced some very significant and possibly potential subsurface data. The work together with information from test pits put down by the placer gold operator in the same area has outlined an area parallel to the main fault zone which should be tested for possible lode gold mineralization. The conductive zone on the east end of all three electromag profiles correlates with the area of better placer gold production from the hardpan overlying the broken argillite bedrock altered to a graphic schist in places. According to the placer gold operator, some very coarse gold was recovered from this zone in and on the altered bedrock. The shallow refraction seismic survey confirmed the existence of the main fault zone in the western portion of the bench area. No bedrock velocities were recorded in this area at all. The near-surface hardpan and or compact clay velocities of 7000 to 7800 fps are very representative of those recorded throughout the general Cariboo area.

The relatively small amount of monies expended for the geophysical work in the area of the fault on the claim block has gone a long way toward evaluating the claims. As stated by Stewart S. Holland in Bulletin 26 the best place to prospect for possible gold mineralization in the Cariboo is along these northerly trending faults. In the area of the claims, it would appear that the best potential for gold would be some 200 metres east of the main fault zone identified indirectly on the seismic work. The target for future testing has been fairly well defined by the geophysical work described in the report.

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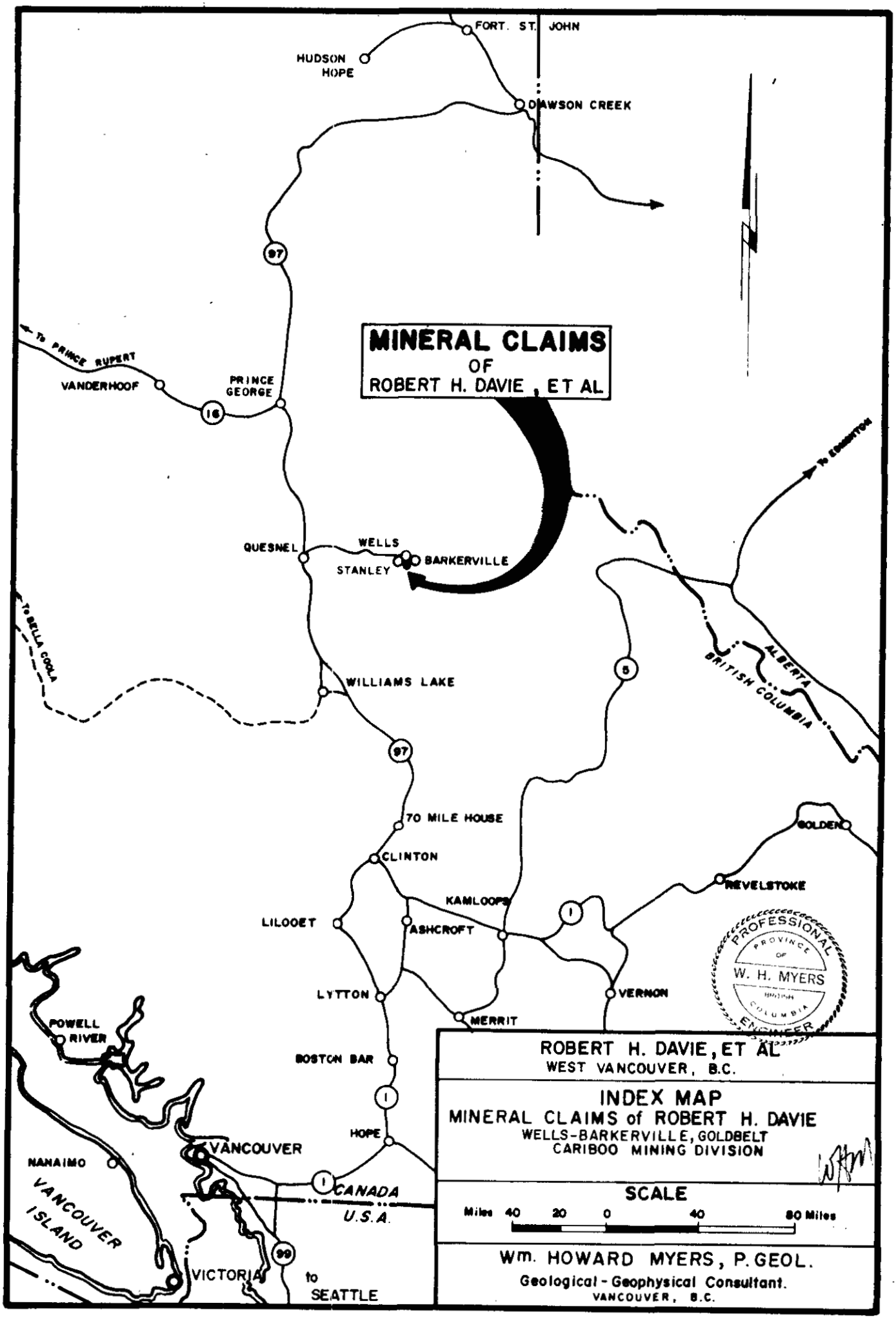
Illustrations



ROBERT H. DAVIE, ET AL
WEST VANCOUVER, B.C.

INDEX MAP
MINERAL CLAIMS of ROBERT H. DAVIE
WELLS-BARKERVILLE, GOLDBELT
CARIBOO MINING DIVISION

SCALE

Miles 40 20 0 40 80 Miles

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SHALLOW REFRACTION SEISMIC SURVEYS AND ELECTROMAGNETIC PROFILES (VLF-EM16) IN AREA OF FAULTING

INTRODUCTION

The geophysical field work and this report on the results of the two surveys was commissioned by Mr. Robert H. Davie, owner of the claims. The monies expended for the field work and the report ($1755.00) were claimed as assessment work on parts of the claims. The work was filed on December 6, 1985 at the Vancouver Sub-Recorder office. The claim block is made up of two claim blocks of 20 and 15 units and eight reverted Crown grants. The name, record number and anniversary date, together with the number of units are tabulated below:

Name	No. Units	Record No.	Anniversary Date
Happy	20	3485	May
Lynn B	15	3486	May
Eldorado (Rev. C.G.)	1	3059	December
Raw Gold (Rev. C.G.)	1	3060	December
Jumbo (Rev. C.G.)	1	3061	December
Jupiter (Rev. C.G.)	1	3062	December
Bonanza (Rev. C.G.)	1	3063	December
Gold Run (Rev. C.G.)	1	1372	December
Midas (Rev. C.G.)	1	1373	December
Golden Torch (Rev. C.G.)	1	5748	November

The 43 units are all contiguous and have been grouped as the Devils Canyon Group, October 4, 1985.

The claims are located in the Devils Canyon area some seven kilometres southwest of the hamlet of Wells, British Columbia. The claim block is situated near the western boundary of the Barkerville gold belt in the Cariboo Mining Division of British Columbia. The claims are plotted on the B.C. Department of Mines and Petroleum Resources Map 93H/4E. A portion of this map has been used to show the configuration

and location of the claim block and is enclosed in the pocket of the report. The 35 units and 8 reverted Crown grants making up the claim block are all in good standing with assessment work and rentals paid through 1985.

The claims are located on N.T.S. Map 93H/4E with co-ordinates of 121° 04' W longitude and 53° 05' N latitude.

The claims are readily accessible by paved Provincial Highway #26 from Quesnel to Wells, B.C. The highway passes through the western portion of the claim block near the mid point as shown on the enclosed location map. The eastern portion of the claim block is accessible via an improved logging road through the Burns Creek Area. The western portion of the claims is very accessible via the Slough Creek logging road and access roads and trails onto the old Bill Hong placer gold operation. Access to the southeastern portion of the claim block is very difficult and there are no access roads or trails into this area and the terrain is quite rugged.

The terrain in the area of the claims varies from moderate to rugged. As stated earlier, the terrain in the southeastern portion of the claims is quite rugged with no access roads. The northern portion of the claim block is moderate with good access trails and roads. The terrain is locally rugged near Devils Lake Creek which is incised similar to other creeks, flowing into larger Slough Creek immediately north of the claims. Bedrock outcrops in the steep valleys of the incised streams and along the higher ridges and mountains. A large portion of the area is covered with a mantle of glacial drift typical of the general Cariboo area. The timber in the area of the claim block is fairly heavy and very little of the area of the claims has been logged. Elevations in the area of the claims varies from 1200 to 1700 metres above sea level.

The climate in this portion of British Columbia is moderate to cold. The area experiences "Chinook" conditions during the winter months. The climate becomes very moderate for short periods of time during these conditions. Snowfall in the area of the claims is also moderate to heavy. The heavy snows generally come in late December and early January and February. The majority of the snow is gone by the second week in May except for the higher elevations and shaded areas. Most any type of field work can be started by the end of May. In most years the best field working conditions for

geological mapping and related exploration work is in early June before the foliage and underbrush is out.

Information for this report is from publised and unpublished maps and reports, together with my own field exploration for both placer and lode gold in this portion of the Cariboo over the past twenty years. Published maps and reports used in the preparation of the report are listed in the Bibliography located in the Appendix of the report. Field work for this report using the refraction seismograph and the VLF-EM16 electromag are tabulated below:

Refraction Seismic Work - 3 days

July 9, 12, 13, 1985

Electromag - 2 days

August 2nd, 1985 - 1/2 day; August 3rd, 1985 - 1/2 day,
August 10th, 1985 - 1/2 day; August 11th, 1985 - 1/2 day

Total time spent in the Field Work

5 days @ $250/day	*$ 1,250.00*

Other costs for the report include following:

4x4 Truck Rental - 7 days @ $45/day	315.00
Drafting maps and sections	110.00
Typing and printing report	80.00
TOTAL COSTS	$ 1,755.00

The electromag work was carried out using the VLF-EM16 receiver manufactured by Geonics Limited of Mississauga, Ontario. The profiles were run in an east-west direction reading to the east using the VLF Transmitter at Seattle, Washington with a frequency of 18.6 kHz. The instrument used is owned by the writer and has a serial no. 19010.

The refraction seismic survey was carried out using a Model ES-125 Signal Enhancement Seismograph manufactured by geoMetrics, Inc. of Sunnyvale, California. The seismic signals received by the ES-125 seismograph are converted to digital form and stored in a computer like memory. The contents of the memory are then displayed on the CRT. The wavefront produced by the shock wave is displayed continuously on the screen as well as the times. The enhancement takes place when the impact is repeated. The old signal is pulled out of the memory and added to the new signal. The noise produced by traffic, wind, machinery, etc. is not enhanced like the signal. During the three days of field work with the seismograph, a total of 12 reversed profiles were run. Progress was slow due to poor propogation of energy, high noise level and high velocities (7,000 fps +) from compact clay and/or hardpan encountered near the surface. The work was also slow in that the writer produced the shock wave with a sledge hammer on a steel plate, as well as recording and plotting the raw data. On this job, detail and accuracy were more important than production. The profiles were located in the field so that the seismic data could be obtained across a northerly trending fault mapped in the area. The general location of the seismic work is shown on the enclosed location map. The area of the seismic work, as well as the VLF-EM16 survey had been cleared of trees and the surface was fairly smooth and very flat. A cross section was prepared from the seismic work and is enclosed in the Appendix of the report. The cross section also outlines the major features of the three electromag profiles run in the same general area of the fault.

HISTORY

The Wells-Barkerville area of the Cariboo has produced millions of dollars in gold from both placer and lode types of deposits. The gold rush which started around 1861 has produced many millions of dollars in gold from placer operations from creeks in the Barkerville area. Immediately southwest of the claim block on Lightning Creek many millions in gold were produced from deep placer operations in the creek. Upstream on Lightning Creek the rich surface placer deposit known as "Butchers Bench" produced many millions in gold. The Burns Mountain area located some two kilometres south of the claim block, contains numerous quartz veins with gold mineralization. The area has been extensively prospected over the years and no doubt was the source of the placer gold found in the general area.

Lode gold production started in 1933 from the Cariboo Gold Quartz Mine at Wells, B.C. During the period January 10, 1933 through April 15, 1967 when the mine was closed down, some 2,929,256 tons of ore grading an average of 0.4 ounces per ton produced a total of 1,253,683 ounces of gold. Lode gold is now being produced by the Mosquito Creek Mine primarily from replacement type ore bodies in the Richfield Formation. The mine is located northwest of the two older mines, all within a mile of the town of Wells.

GENERAL GEOLOGY

A widespread mantle of glacial drift overgrown with trees and vegetation limit the outcrops of bedrock largely to the tops of ridges, divides, individual mountains and along steep slopes of the more deeply incised rivers and streams. Near the headwaters of Devil Lake Creek and in close proximity to the northerly trending Grub-Gulch-Coulter Creek Fault as mapped by Stewart Holland in Bulletin 26, there are numerous quartz veins in the bedrock outcrop of argillite and phillite. Bedrock is very broken in the area of the fault.

Bedrock in the area of the claim block consists of quartzite, phillite, argillite rocks of the Cariboo Series of Precambrian Age. In the area of the claims there is an increase in the amount of quartzite over the Wells-Barkerville area, some seven kilometres to the northeast. In local areas along the northerly trending faults, as mapped in Bulletin 26, there is an abundance of argillite rocks with areas which have been altered to graphitic schist. These areas of argillite and graphitic schist are easily identified on the electromagnetic lines since they are highly conductive. This is especially true in the area where detail geophysical surveys were carried out on the bench above Devil Canyon Creek.

Structural conditions are very complex in the area of the claim block. As shown on the location map, enclosed with the report, the claim block lies immediately north of the northwest trending antiformal Axis shown on G.S.C. Paper 72-35. The location map also shows the position of the northerly trending Grub-Gulch-Coulter Creek Fault as mapped by Stewart S. Holland in Bulletin 26 of the B.C. Department of Mines. Both the seismic surveys and the electromagnetic profiles were run across this fault zone, near the center of its claim block. Electromag profiles run across several of these

northerly trending fault zones throughout the Wells-Barkerville area by the writer, have identified numerous areas of graphitic schist in places along the fault where argillite rocks are present.

Lode gold mineralization in the Barkerville gold belt is in gold and pyrite bearing quartz veins and in gold bearing pyritic replacements in limestones. The intersection of major structural trends in the general Cariboo area has produced fractures which form both diagonal and transverse veins, which have produced the majority of gold in the Barkerville gold belt. The specific relationship between faults and veins is not clear, but so far all ore bodies are within an ore making range of the major northerly trending faults.

The diagonal and transverse veins appear to be feeders which spread the mineralizing fluids and the northerly trending faults acted as the main conduits for the ore forming fluids. The geophysical exploration work along the northerly trending Grub-Gulch-Coulter Creek Fault, carried out during the 1985 field season on the claim block was well justified and the results have outlined an area for testing with the drill.

RESULTS

Shallow-Refraction Seismic Survey

The refraction seismic survey was carried out mostly on an experimental basis. Many profiles were started, but not completed due to poor energy propogation and a fairly high velocity layer near the surface. The fairly high velocity layer was identified in three placer gold test pits put down by the operator of the placer lease covering this portion of the bench and mineral claims. The layers with a velocity of 7000 to 7800 fps were composed of a tough-hard blue-grey clay or hardpan with some rounded rocks together with angular rocks or pieces of bedrock. In the eastern portion of the area, the clay contained a large percentage of argillite rock with some graphitic schist. In the western portion of the area, the hardpan clay was similar in color texture but contained more pieces of quartzite rocks. The seismic work was laid out in such a manner to produce a cross section of the bench in a general east-west direction. The composite AA' cross section in the Appendix of the report details the results of the seismic work as well as significant data from the electromag profiles

across the bench. The bench has all been cleared by the owner or operator of the placer lease so that access was very good. The seismic work on the bench gives considerable subsurface data in the area of the northerly trending Grub-Gulch-Coulter Creek Fault which cuts the bench. The possible lower velocity layers below the 7000 fps hardpan, shown on the western side of the bench, will have to be tested or identified with a drill. No depth compulations can be made on the refraction principle below a higher velocity layer. It should also be kept in mind that the shock wave travels in all directions including horizontal but for interpretation purposes a vertical travel path or plane is used.

Electromagnetic Survey (VLF-EM16)

During the field experimental work during the 1985 season, three short east-west profiles were run across the bench cleared for placer gold testing by the owner of the placer lease. The three profiles were approximately 100 metres apart from north to south and averaged some 350 metres in length across the bench. Readings were taken every 15 metres in an east direction using Seattle, Washington VLF transmitter with a frequency of 18.6 kHz. The results on all three profiles are remarkably similar. On all three profiles, faulting is indicated in the western portion of the bench. A highly conductive zone is indicated on all three profiles near the eastern portion of the bench or line. On two adjacent profiles near the south end of the bench, faulting is also indicated near or in the conductive zone. Two test pits for the placer operations in the eastern portion of the bench in the area of the conductive zones on the electromag profiles, contained an argillite bedrock with local areas of graphitic schist containing quartz veins with pyrite and iron oxide stain. The operator reported some fairly good placer gold recovery from the hardpan near the broken argillite and graphitic schist bedrock. Very little or no placer gold was reported in the test pit in the western portion of the bench where possible faulting is indicated on the VLF-EM16 work and no bedrock velocities recorded on the seismic work. The test pit appeared to contain mostly blue clay, fault gouge and fragments of quartzite. The pit was dug to a depth of 42 feet below the surface and no bedrock was encountered.

CONCLUSIONS AND RECOMMENDATIONS

The information from the geophysical work along a northerly trending fault through the center of the claim block is felt to be very worthwhile and the results outline the best area to be tested further with drilling. Information from the placer operations in the area completes or aids in the interpretation of the geophysical data and makes the overall picture complete for further testing. Even if the test pits did not exist and had to be dug to complete the geophysical interpretation, it would be a very worthwhile expenditure to outline the best area to drill.

It is highly recommended that the eastern portion of the bench in the area of the conductive zone on the electromag profiles be further tested with drilling.

Respectfully submitted,

Wm. Howard Myers, P.Eng. (B.C.), P.Geol. (Alta.)
Geological-Geophysical Consultant
Vancouver, B.C.

December, 1985

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
W. H. MYERS

APPENDIX

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Map 336A, Willow River Sheet (east-half) 1933, G. Hanson

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Geological Survey of Canada

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CERTIFICATE

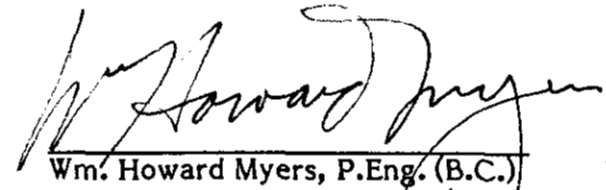
I, William Howard Myers, do hereby certify that I am an independent geological-geophysical consultant with offices at Suite #725 - 602 West Hastings Street, Vancouver, B.C., V6B 1P3, British Columbia. I have been actively engaged in my profession as an independent consultant in both oil and mining since 1955. I am a professional geologist, P.Geol., member #16704 of the Association of Professional Engineers, Geologists and Geophysicists of Alberta. I am also a member P.Eng., #14056, of the Professional Engineers of British Columbia. I also hold a Life Membership in both Societies.

I graduated from Fresno State College, Fresno, California in 1939 with high honors and a B.Sc. degree in Geology. I did graduate work at Stanford University, Stanford California for M.Sc. degree in Geology, 1939-1941. After graduating I spent three years as a field geologist for the U.S. Geological Survey and eleven years working in the field and management of a company engaged in geophysical exploration work for both oil and minerals before entering the consulting field in 1955.

During the past 20 years since 1964, I have spent the majority of my time in the field exploration work and consulting on both placer and lode gold exploration and testing in the Cariboo area of British Columbia. The exploration work consisted of both air and ground geophysical surveys including electromagnetic and refraction seismic surveys for placer gold. The test work was primarily for placer gold using a washing plant and the sluicing principle. During this time several different types of equipment for the recovery of fine placer gold were tested which resulted in the present research on possible leaching of the fine gold.

Information for this report is from published and unpublished maps and reports of the area together with my field work carrying out geophysical field work during the period of July 9th to August 13th, 1985. The published and unpublished data used in the report is tabulated in the Bibliography in the Appendix of the Report.

I further certify that I have no interest in the property owned by Mr. Robert Davie about which this report is written.



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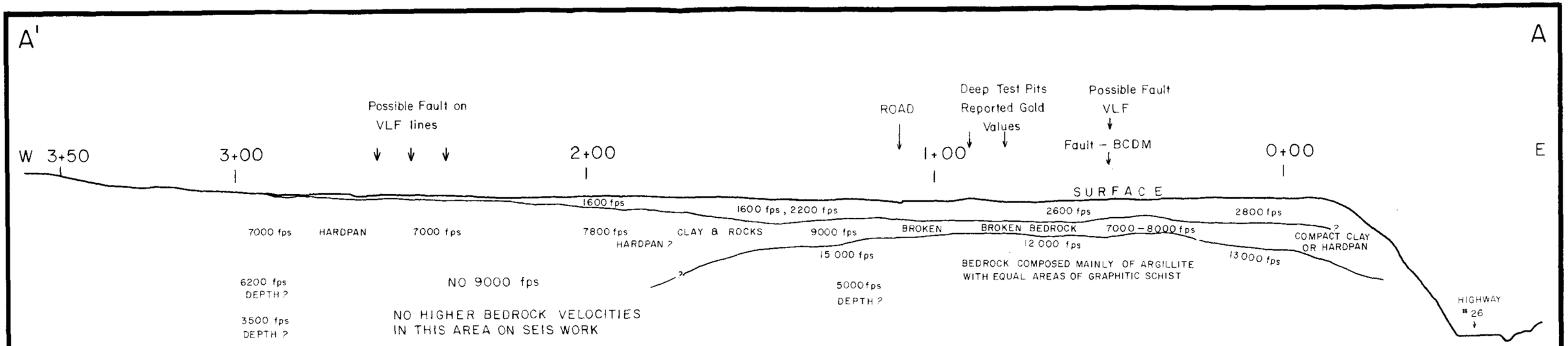


LEGEND

SEIS — DATA FROM REFRACTION SEISMIC SURVEY

VLF — DATA FROM ELECTROMAG SURVEY WITH VLF-EM 16 USING SEATTLE WASHINGTON STATION

BCDM — B.C. DEPARTMENT OF MINES BULLETIN Nº 26 STEWART HOLLAND, 1948.

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

ROBERT H. DAVIE, ET AL ; VANCOUVER, B.C.

BARKERVILLE GOLD BELT — CARIBOO MINING DIVISION, B.C.

COMPOSITE CROSS-SECTION A-A' (SEISMIC)

ACROSS THE NORTHERLY TRENDING GRUB GULCH — COULTER CREEK FAULT - DEVILS CANYON AREA

SCALE 1. 1000 IN METRES

0 10 20 30 40 50 100

Wm. Howard Myers P.Eng.(B.C.), P.Geol.(Alta.), Consultant; Van., B.C.

LINE "I" DEVILS CANYON AREA

W 4+00 3+00 2+00 1+00 E 0+00

Steep Drop Off To Road

Road

Seattle, Wash 18.6 KHz

+60%

+40%

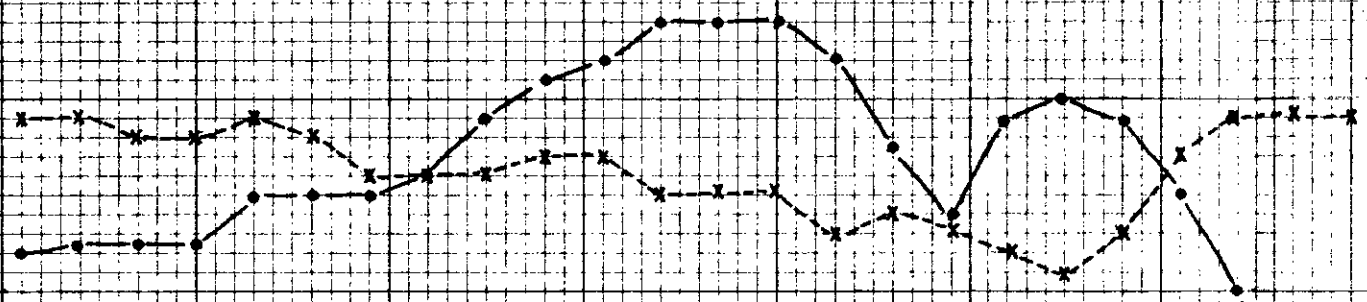
+20%

0

-20%

-40%

-60%



Scale 1cm. = 20 cm.
station spacing 15 m
Aug. 2, 1985

POSSIBLE FAULTING

DEEP OVERBURDEN

CONDUCTIVE ROCKS

POSSIBLE FAULTING

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W. H. MYERS

LINE #3 DEVILS CANYON AREA

W 4+00 3+00 2+00 1+00 0+00 E

Seis Line

Seis Line

Above Test Pit

Test Pit

Steep Drop Off

READ

Seattle, Wash. 18.6 KHz

+60%

+40%

+20%

0

-20%

-40%

-60%

Scale 1cm = 20m.
station spacing 15m.
Aug. 10, 1985

POSSIBLE FAULTING

CONDUCTIVE ROCKS

POSSIBLE RESISTIVE ROCKS

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
W. H. MYERS

LINE # 2 DEVILS CANYON AREA

W

E

0+00

1+00

2+00

3+00

4+00

Due South
3+45 LN I

Steep
Drop Off

READ

Seattle, Wash. 18.6 KHz

+60%

+40%

+20%

0

-20%

-40%

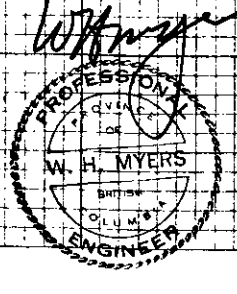
-60%

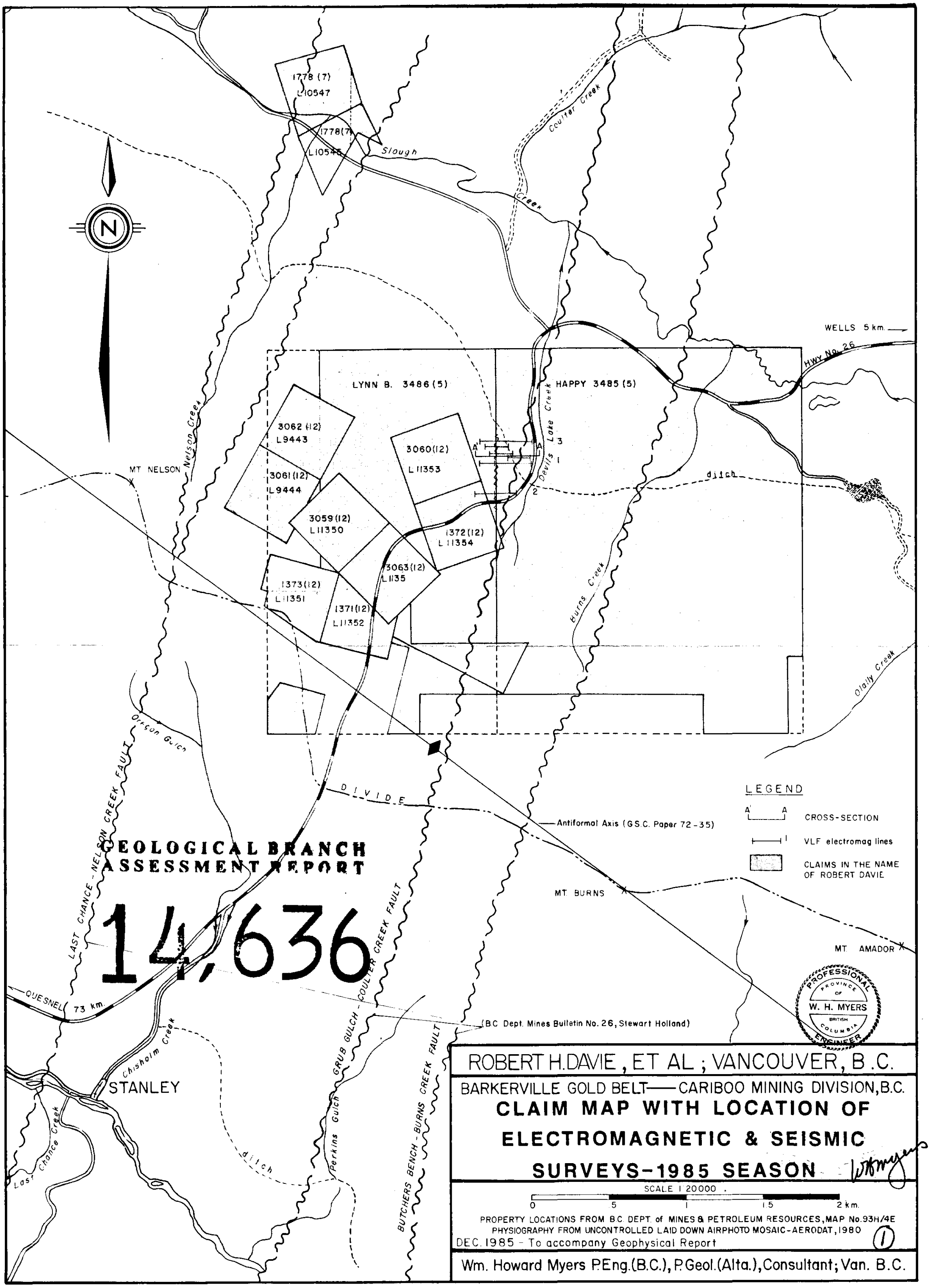
Scale 1cm = 20 m
station spacing 15 m
Aug. 3, 1985

POSSIBLE FAULTING

DEEP
OVERBURDEN
BROKEN BR

CONDUCTIVE
ROCKS
POSSIBLE FAULT





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BARKERVILLE GOLD BELT—CARIBOO MINING DIVISION, B.C.

CLAIM MAP WITH LOCATION OF ELECTROMAGNETIC & SEISMIC SURVEYS-1985 SEASON

SCALE 1:20000

0 .5 1 1.5 2 km.

PROPERTY LOCATIONS FROM B.C. DEPT. of MINES & PETROLEUM RESOURCES, MAP No. 93H/4E
PHYSIOGRAPHY FROM UNCONTROLLED LAID DOWN AIRPHOTO MOSAIC - AERODAT, 1980

DEC. 1985 - To accompany Geophysical Report

(1)

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