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PEOLOGICAL BRANCH ASSESSMENT REPORT

12,360

# EQUUS PETROLEUM CORPORATION

613 - 837 WEST HASTINGS STREET VANCOUVER, B. C. V6C 1B6

GEOPHYSICAL REPORT

on a

VLF - ELECTROMAGNETIC SURVEY

on the

SHEBA MINERAL CLAIM

CARIBOO MINING DIVISION

NTS 93 H/3

Lat. 53 DEGREES 03' N.

LONG. 121 DEGREES 27.5' W.

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M. A. POND, B.Sc.

STRATO GEOLOGICAL ENGINEERING LTD.

103 - 709 DUNSMIUR STREET

VANCOUVER, B. C. V6C 1M9

November 24, 1983

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### INTRODUCTION

Pursuant to a request by the directors of Equus Petroleum Corporation, a VLF Electromagnetic survey was conducted over a portion of the Sheba mineral claim, during October, 1983 by Strato Geological Engineering Ltd.

The intent of the geophysical work was to outline any geological structure and/or conductive zones which might be related to possible schist zones. Known schists containing gold bearing quartz veins are found to the south of the Sheba claim.

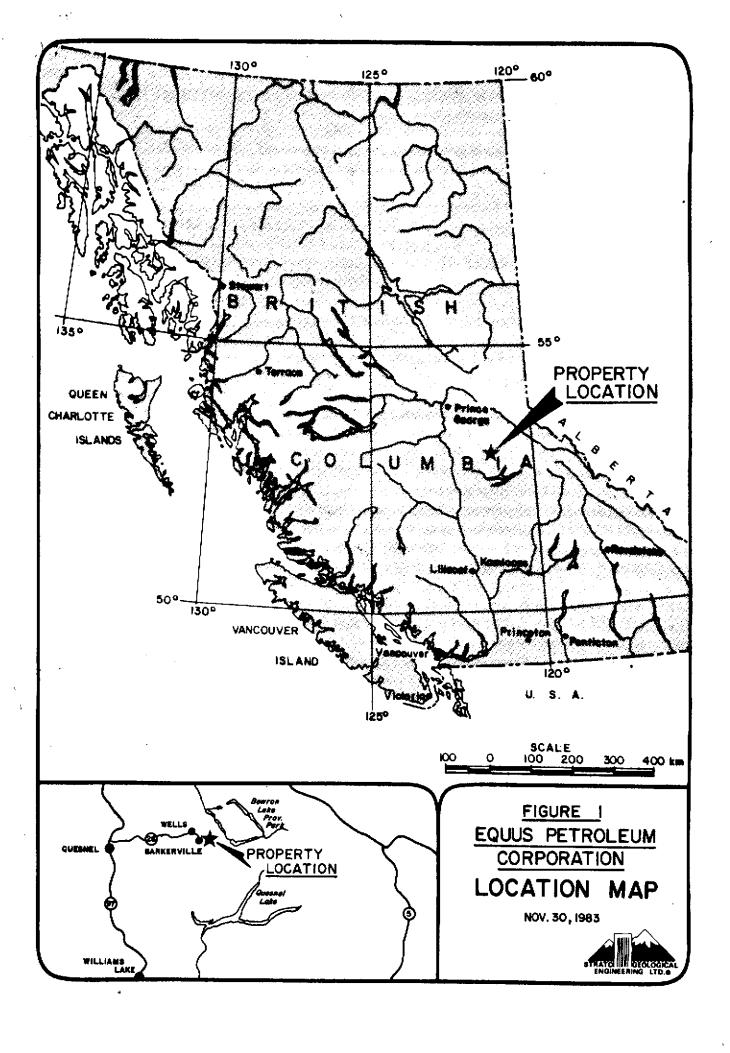
# LOCATION, ACCESS, TOPOGRAPHY

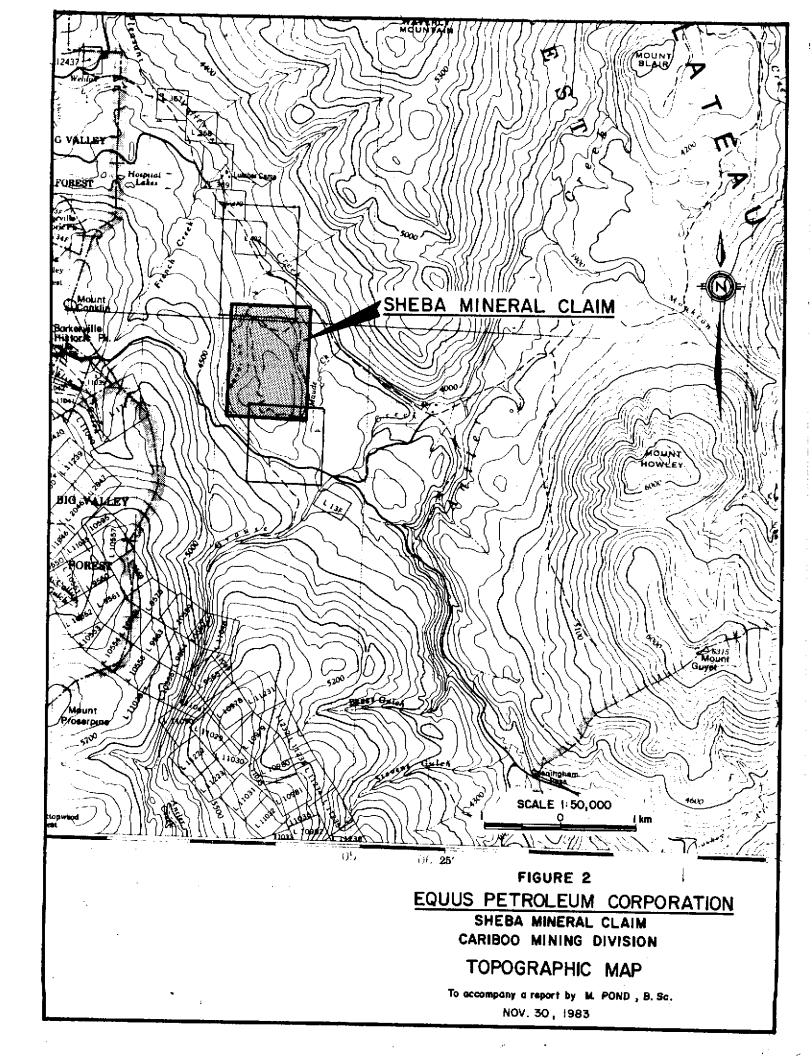
The Sheba mineral claim comprises 6 units located in the Cariboo Mining Division about 10 kilometers south-east of Wells, B.C.

Access to the north portion of the claim is easily available by motor car along the south side of Pleasant Valley Creek on a very good logging road. The Pleasant Valley road passes just by the north-east corner of the claim. From this point an older logging road enters a logged area within the claim and circles a plateau in the center of the claim. Access to the southern portion of the claim is by a secondary logging road heading east from Barkerville's main street to Cunningham Pass. This secondary road passes just south of the south-west corner of the claim.

The topography is relatively gentle except for the steep banks of Canadian Creek. Elevations range from 4,700 feet to 4,900 feet.

Forest cover over the non logged portion of the claim is very dense balsam-pine. Regeneration of the logged area is just beginning.





# CLAIM

The Sheba claim is located in the Cariboo Mining Division, astride Canadian Creek, 10 kilometers south-east of Wells, B.C. and is recorded as follows:

Claim Name:

Sheba 4819 (5)

Record No.:

Units:

Expiry Date:

May 12, 1984

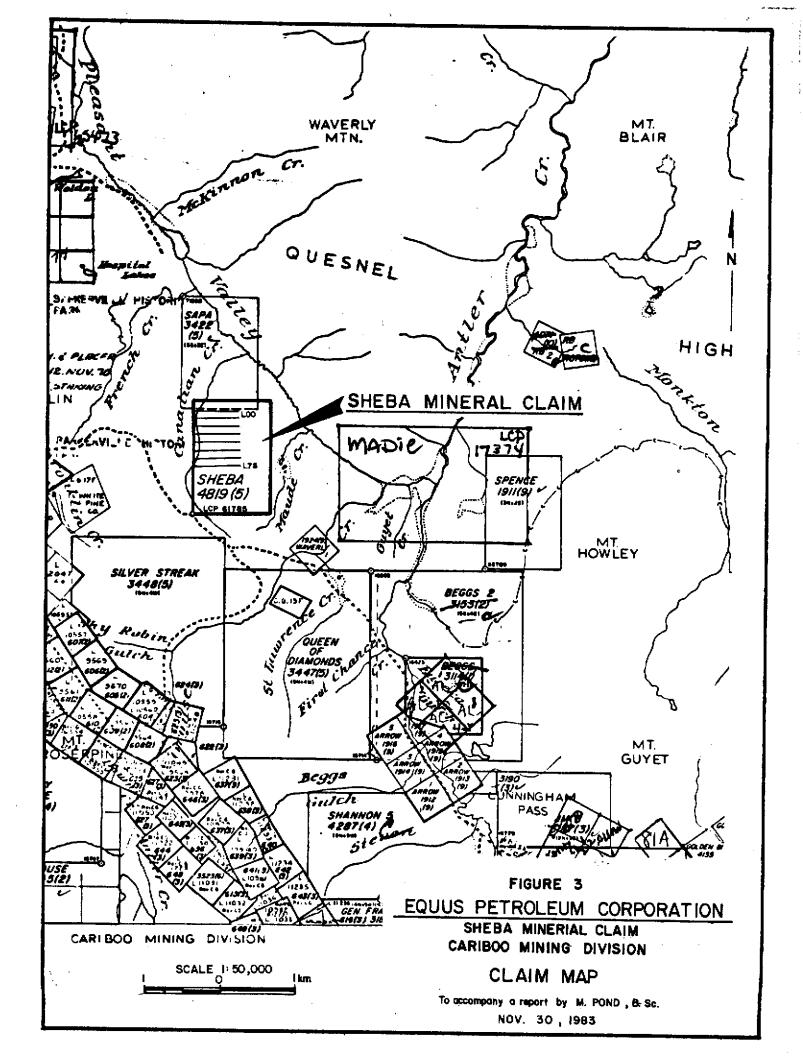
The claim is shown on the B.C. Department of Mines and Petroleum Resources Mineral Claim Map 93H/3W. The claim borders the Sapa mineral claim to the north and is shown as comprising a full six units.

# INSTRUMENTATION AND SURVEY PROCEDURES

A detailed VLF electromagnetic survey was carried out over a 700 meter baseline grid in the north portion of the claim. East-west survey lines were compassed and flagged at 100 meter line separation and 25 meter station intervals from a north-south baseline established from Sapa I.D. post 3S/IE.

The VLF survey was conducted with a Ronka Model EM-16, receiver. The transmitter station used was Jim Creek, Washington (Seattle) at a frequency of 24.8 kHz and a radiated power of 250 kw.

Both dip angle (in phase) and quadrature (out phase) measurements were recorded; dip angle measurements were filtered using the Fraser Filter Method to present data in a contour map form. The method is well known and is fully described in the literature.



### GENERAL GEOLOGY

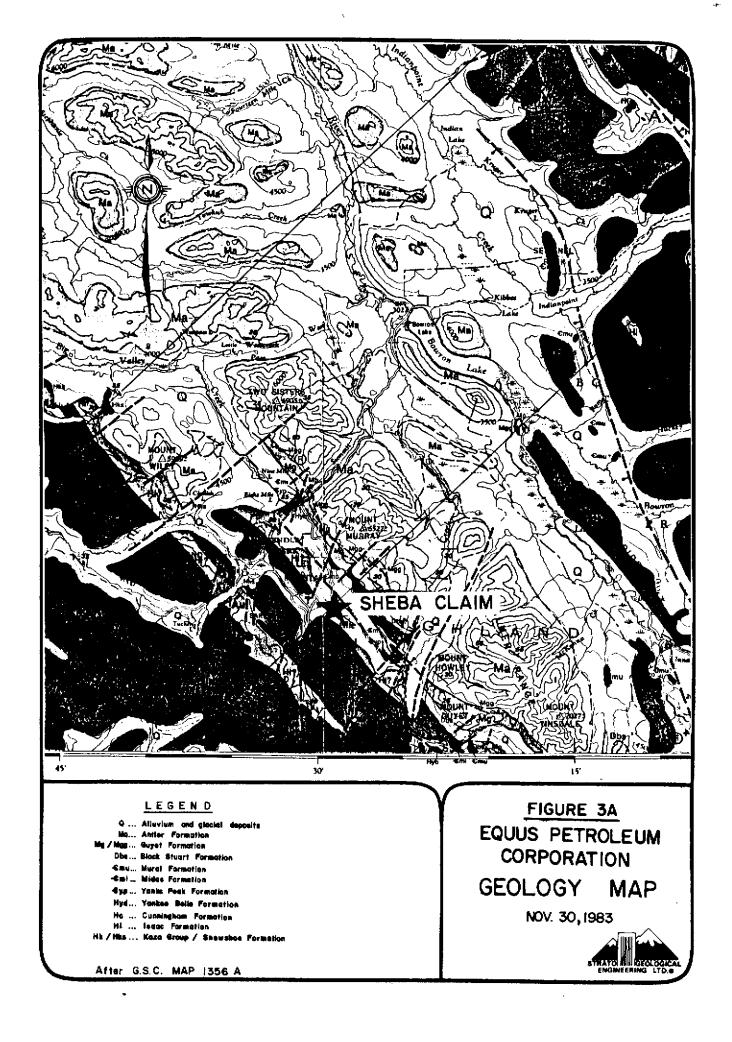
The claim is shown to be underlain by the Cariboo Group of Sediments (G.S.C. Map 1356A (McBride)). Rocks chiefly are composed of clastic rocks with lesser amounts of carbonate rocks. The area has been subjected to low grade regional metamorphism and intense deformation. The degree of metamorphism and schistosity is variable within one unit depending on structural position (for example, from open to tight folds or from proximal to distal faults).

The age of the Cariboo group is known to be Early Cambrian and younger based upon fossils of the Cunningham limestone which is the basal member of the Cariboo group. Hydrothermal alteration has had a more severe effect on the various formations of the Cariboo group than regional metamorphism. The alteration has destroyed original sedimentary structures and also a cleavage that is common in the unaltered limestone. The alteration is patchy and in some instances, seems to bear an areal relation to major faults, primarily the more persistent northerly trending faults in the area.

#### STRUCTURE

The rocks of the Cariboo group have generally been folded at least twice, although it is rarely possible to identify the second generation folds. The more intense folding took place before the younger Slide Mountain Group was laid down. Folds may be simple but more often there are steep dip changes and overturning. Many folds also have original stratigraphic order disrupted by shearing, rupture and flowage.

Faults are very common in the Wells, Barkerville area. Several large and continuous north trending faults have been mapped. Near these faults there is a preponderance of quartz veins containing sulfides and free gold, i.e. the Island Mountain Mine. The Sheba claim is situated over one of the major faults mapped by the G.S.C. near Canadian Creek. The claim area is covered extensively by overburden and no outcrops were observed.



### DISCUSSION OF RESULTS

The VLF electromagnetic results indicate a number of generally north-south trending conductive zones within the survey area. There is evidence of two folding events traceable in each of the conductive zones. The first event of folding and later erosion may have produced the splitting of conductors as seen in the north portion of anomalies B and C. A possible latter event may have caused the gentle folding as seen on all the conductors. The F-1 fold axis trends north-south. The F-2 fold axis strikes east-west.

# Anomaly A

This strongly conductive zone trends north-south and has strongest values, up to 89 Fraser-Filter units, at the anomaly center on Line 5+00S, 2+60E. It is continuous on all grid lines running from Line 7+00S, 4+75E north to Line 2 +00S, 2+35E where the conductor splits to Line 0+00 at 2+00E and 4+00E. The anomaly is open to the south and is probably due to structure, most likely the major area fault as mapped on the G.S.C. Map 1356A (McBride).

# Anomaly B

This anomaly, on the east part of the grid, is parallel to Anomaly A and is open on both the north and south ends. The highest Fraser-Filter values are 41 units at Line 2+00S, 6+60E. This conductive zone is most likely caused by a smaller shear zone flanking the main fault (conductor A). Two events of folding have caused an anomaly pattern similar to that of conductor A.

# Anomaly C

This conductive zone, much weaker than either anomaly A or B, is located on the west portion of the grid. The anomaly runs from Line 7+00S, 1+20E to Line 1+00S, 0+60E with maximum values of 30 Fraser-Filter units at Line 1+00S. The anomaly pattern again is interpreted to be caused by a flanking shear zone with two events of folding.

### CONCLUSIONS

The geophysical results have outlined three significant conductive zones which are interpreted as a fault and flanking shear zones. All indicated conductive zones are considered to be of importance in this environment since gold bearing quartz veins are known to be associated with the alteration and metamorphism around faults in the area. Follow up geochemical sampling and trenching to bedrock will be required before comments regarding the economic potential of the conductive zones can be attempted.

# RECOMMENDATIONS

A geochemical soil sampling program is recommended over the survey grid area, excepting those areas where the ground surface has been disrupted by previous and present placer workings on Canadian Creek. A program of trenching to/and sampling of bedrock The relationship between geochemical and is also recommended. geophysical results should then provide a good basis for defining probable mineral targets. The geophysical survey should also be extended to outline additional conductive zones and to follow out the open ends of existing conductors within the claim area.

Respectfully submitted, Strato Geological Engineering Ltd.

Michael Pond

M.A. Pond, B.Sc. Geologist

November 24, 1983

R.J. Englund, B.Sc. Geophysicist

# REFERENCES

Publications and reports, public and private, available to the writer and containing information pertinent to the property area and subject of this report are as follows:

- Geological Report on JIM 1-5 Claims, Barkerville Gold Belt, B.C. for El Paraiso Resources Ltd., by Wm. Howard Myers, P.Eng., P.Geol., dated April 1983.
- 2. Report on the Sheba Claim, Cariboo Mining Division, for Persian Petroleum Corporation, by A.F. Roberts, P.Eng., dated May 14, 1983.
- 3. Geological Survey of Canada, Map 1356A (McBride),

# CERTIFICATE

I, Michael A. Pond, of 312 - 1165 West 13th Avenue of the City of Vancouver, Province of British Columbia, do hereby certify as follows:

- I am a graduate of the University of British Columbia where I obtained my Bachelor of Science Degree (Geology), in May, 1982.
- I ahve been engaged in the study and practice of exploration geology since graduation and for two summer field seasons prior to graduation.
- 3. I have primarily worked in British Columbia with Utah Mines Ltd. and with Strato Geological Engineering Ltd.; and in the Henik Lakes region of the N.W.T. with Suncor Inc.
- 4. I have no direct, indirect or contingent interest, nor do I expect to receive any such interest in the properties or securities of Equus Petroleum Corporation.

Dated at Vancouver, Province of British Columbia, this 24th day of November, 1983.

Michael Pand

Michael A. Pond, B.Sc.

# CERTIFICATE

I, Ralph J. Englund, of 1112 Grover Ave., Coquitlam, British Columbia, do hereby certify as follows:

- 1. I am a Consulting Geophysicist with offices at 103 709 Dunsmuir Street, Vancouver, B. C. V6C 1M9
- 2. I graduated in 1971 from the University of British Columbia, with a degree of Bachelor of Science.
- 3. I have been engaged in the study, teaching, and practice of exploration geophysics continuously for a period of 11 years. I have worked as a geophysical consultant on numerous projects in Western North America since 1972.
- 4. I am a member in good standing og the British Columbia Geophysical Society.
- 5. I have no direct, indirect, or contingent interest in the properties or securities of Equus Petroleum Corporation.

6.

Dated at Vancouver, Province of British Columbia, this 24th day of November, 1983.

R.J. Englund, B.Sc.

# TIME - COST DISTRIBUTION

The claim toward which work is being applied with this report consists of the SHEBA mineral claim, Record No. 4819(5). This report describes the VLF Electromagnetic survey work conducted on the SHEBA claim by strato Geological Engineering Ltd. during the period September 30 to October 4, 1983.

A listing of personnel and a distribution of costs is as follows:

# **Personnel**

Michael Pond, B.Sc.

Geologist, Field Supervisor

Joerg Langewitz, C.E.T.

Geophysical Technologist

# Cost Distribution

Labour Accomodations	\$ 1,625.00 459.15
Vehicle Rental (gas, oil, etc.)	375.00
Meals, etc.	220.00
Field Supplies	38.85
Maps & report - drafting, reproduction, copying, etc.	355.00
Report - Data recuction, Interpretation	1,100.00

Total \$ 4,173.00

Signed

Strato Geological Engineering Ltd.

