81-#925-#9709

GREAT WESTERN PETROLEUM CORPORATION

Geophysical Report on an Airborne VLF-Electromagnetometer & Magnetometer Survey

New Moon, Misty Day, Copper Cliff
Full Moon Claims
Lat. 53°55'N Long. 127°45'W
Omenica M.D. NTS 93 E/13

AUTHORS: E. Trent Pezzot, B.Sc., Geophysicist
Glen E. White, B.Sc., P.Eng., Consulting Geophysicist

DATE OF WORK: Sept. 23, 1981

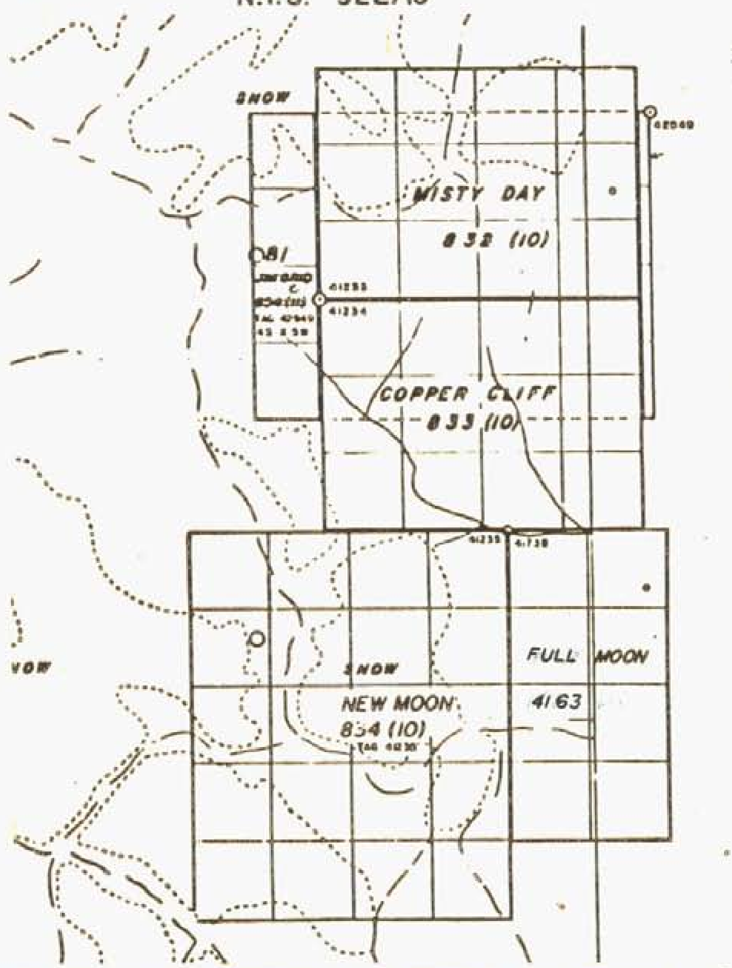
DATE OF REPORT: Oct. 29, 1981

9709

TABLE OF CONTENTS

ILLUSTRATIONS

N.T.S. 92E/13



GREAT WESTERN PETROLEUM CORP

NEW MOON, MISTY DAY COPPER CLIFF, AND FULL MOON CLAIMS

OMENICA MINING DIVISION – BRITISH COLUMBIA

LOCATION AND CLAIMS MAP

Glen E. White geophysical consulting & services ltd

FIG. 1

INTRODUCTION

From September 19 to September 24, 1981 Western Geophysical Aero Data Ltd. flew approximately 105 kilometers of airborne magnetometer and VLF-electromagnetometer survey on behalf of Great Western Petroleum Corporation. The survey was conducted across the New Moon claim group with the intention of locating an in situ source of massive sulphide mineralization observed in the scree beneath a glacier covered ridge.

PROPERTY

The New Moon claim group is currently owned and operated by Great Western Petroleum Corporation under the following claims:

CLAIM NAME	RECORD NO.	NO. UNITS	DATE RECORDED
New Moon	834	20	Oct. 21, 1977
Copper Cliff	833	12	Oct. 21, 1977
Misty Day	832	12	Oct. 21, 1977
Full Moon	Metal Tag 75540	8	Aug. 12, 1977

LOCATION & ACCESS

The New Moon claim group is located approximately 100 kilometers south-southwest of Smithers and 85 kilometers southwest of Houston at latitude 53°55'N and longitude 127° 45'W in the Omenica Mining Division and NTS 93 E/13.

A 74 kilometer all weather gravel road from Houston to the northeastern end of Morrice Lake provides the closest ground access to the property. From this point a 27 kilometer helicopter ferry is required to reach the property.

LOCAL GEOLOGY

The New Moon prospect lies within the Howson Subareal Facies of the Telkwa Formation of the Hazelton Group (Lower Jurassic). It is characterized by a thick succession of volcanic flows and pyroclastic rocks in a volcanic centre environment. The area is characterized by local basins (limey sediments) and intense faulting with associated dyke activity. The rock composition ranges from basalt to rhyolite with a predominance of andesitic material. Alteration of these rocks consists of silicification along shear and fault zones and epidotization along dykes. The mafic constituents are often chloritized and feldspars often show moderate clay alteration.

Mineralization occurs in two forms: shear zone-dyke associated mineralization and float mineralization. The former generally consists of chalcopyrite and malachite, disseminated along shear and fracture surfaces or quartz veins. Float mineralization consists of chalcopyrite, specularite, sphalerite, pyrite, galena, silver, magnetite and minor gold associated with breciated siliceous material.

PREVIOUS WORK

The following chronology details exploration activity conducted over the New Moon prospect area prior to the option undertaken by Great Western Petroleum Corporation.

1967-68 Phelps Dodge Corporation of Canada Ltd.
Geologist: P.G. Curtis
PC Claims 1-36
Geology and chip samples
9 trenches 692 feet
6 men employed for 6 weeks.

1969	Silver Standard Mines Geologist: Charles Kowall Prospecting and staking of claims southeast of PC claims.
1970	JOW 1-20 claims staked by P. Dunsford for Aggressive Mining Ltd.
1971	August 18-21 R.W. Phendler (Cannon-Hicks Accociates Ltd.) mapped geology (1"=400') while P.P. Neilson (Atled Exploration Management Ltd.) ran a Crone J.E.M. - two frequency survey for Aggressive Mining Ltd. (6 lines totalling 5,000' were surveyed at 50 foot intervals, coil separation 200 feet) Assessment Report 3251, 3252.
1972	Aggressive Mining Ltd. JOW 1-20 claims Mag, EM survey, geochem survey - 101 samples, 150 feet trenching, surface diamond drilling totalling 1,025 feet on JOW 4.
1977	Charles Kowall Prospecting, staking of:

	Units
Misty Day	12
Copper Cliff	12
New Moon	20

1978	Great Plains Development Company of Canada Ltd. and Aquitaine Company of Canada Ltd. Joint Venture. Prospecting - Scale 1:5,000 Detailed Mapping - Scale 1:2,000 EM Max-Min III survey - 17 kilometres Fluxgate Magnetometer Survey - 16 kilometres Secanting of lines: topographical Survey - (Scale 1:2,000) Staking of:

	Units
Half Moon	8

SURVEY GRID

A grid comprised of 26 lines oriented northeast-southwest was drawn across a photomosaic of the claims area and flown at an average terrain clearance of 100 metres. The precise location of the survey lines was established by correlating the video flight path recovery tape to the photo-mosaic base. Actual flight lines are located with respect to the claim boundaries as illustrated on the geophysical interpretation map, Figure 2, in this report.

AIRBORNE VLF-ELECTROMAGNETIC AND MAGNETIC SURVEY

This survey system simultaneously monitors and records the output signal from a proton precession magnetometer and two VLF-EM receivers installed in a bird designed to be towed 50 feet below a helicopter. A gimbal and shock mounted TV camera, fixed to the helicopter skid, provides input signal to a video cassette recorder allowing for accurate flight path recovery by correlation between the flight path cassette and air photographs of the survey area. A Bonzer radar altimeter allows the pilot to continually monitor and control terrain clearance along any flight path.

Continuous measurements of the earth's total magnetic field intensity and of the total horizontal VLF-EM field strength of two transmission frequencies are stored in two independent modes: an analogue strip chart recorder and a digital video recovery system. A three-pen analogue power recorder provides direct, unfiltered recordings of the three geophysical instrument output signals. Correlation between the strip chart and the video flight path recovery tape is controlled via fiducial marks common to both systems. The magnetic and electromagnetic data is also processed through the on-board micro-computer, incorporating an analogue to digital converter and a character generator, then superimposed along with real time and terrain clearance upon the actual flight path video recording to allow exact correlation between geophysical data and ground location. The continuous input magnetic signal is processed at the maximum A/D converter rate, averaged and updated on the video display every second. Line identification, flight direction and pertinent survey information are recorded on the audio track of the video recording tape.

DISCUSSION OF RESULTS

The claim group surveyed encompasses a large portion of two snow and glacier covered mountains and a major valley dividing them. The valley serves as the main drainage channel in the area and is fed by numerous streams and creeks originating on the surrounding slopes. Copper, lead, zinc, gold and silver mineralization has been detected in this valley and traced in float to the foot of the northern glacier. The airborne magnetic and VLF-EM survey was conducted across the claims area with the intention of locating a source to the anomalous mineralization.

Approximately 105 kilometres of survey was conducted at this time and the total field intensity magnetic measurements recorded are presented in contour form over a photomosaic base of the area as Figure 2. Only very weak VLF-EM responses were detected and their locations are superimposed over the same magnetic contour map.

With the exception of occasional electronic and atmospheric noise spikes the magnetic values recorded lie within the range of 57,200 gammas to 58,300 gammas. A large magnetic high, (Figure 3) as outlined by the 58,000 gamma contour, occurs in the southern portion of the claims area. As can be seen on the photomosaic base this response closely follows the southern mountain ridges. Its' areal extent and relationship to local topography infers the anomaly to be a reflection of a large geological formation. The response is much too large to be considered the reflection from an accumulation of massive sulphide mineralization.

North of the main drainage valley, across the glacier on the Copper Cliff and Misty Day claims, three anomalous magnetic high trends, labelled 'A', 'B' and 'C', were located as shown on Figure 2. The anomalous responses are all relatively weak and appear to be reflecting narrow, vein-like zones trending south to south-southeast. Each of these trends encompass some zones of closed magnetic highs which could be indicating either localized concentrations of high magnetic susceptibility materials or a thinning of the overlying ice cap and/or overburden.

Trend 'A' occurs across and up slope from areas of observed mineralization. The strongest response along this trend is observed on line 18 (Figure 4) along a ridge forming the northern flank of a steep-sided drainage channel. The strongest magnetic response observed on the property originates from the ridge forming the southern flank of this same channel. As can be seen on line 18, Figure 4, this response is similar in character to an electronic or atmospheric noise spike but it does occur very nearby to Trend 'A' and the observed mineralization. Also a similar "noise" response occurs along strike to the south on line 16 near the bottom of the main valley.

No previous exploration work is known by the authors to have been conducted in the areas of trends 'B' and 'C'. Trend 'B' occurs primarily across the glacier and snow fields except at its' most northern limit. The video flight path and data recovery system clearly indicates the presence of some outcrop in the vicinity of the anomalous responses on the north end of line 21 (Figure 5).

Trend 'C' is also largely present beneath snow and ice fields as shown on Figure 2. However the strongest response along this trend occurs on the north ends of lines 9 and 10 (Figure 6) where the causitive unit likely outcrops against a south-east facing slope. The video recovery system shows vegetation in the area so some overburden is present however there are numerous drainage channels which will likely expose bedrock for surface examination.

In addition to the three trends described above there are some isolated magnetic highs which warrant identification. The two anomalies previously mentioned (lines 18 and 16) are similar in both character and amplitude to noise spikes but because of their positional relationship to Trend A and observed mineralization should be considered as being potentially real. A well defined magnetic high is observed on lines 10 and 11 (Figure 7) on the south side of the main valley bottom. The video flight path recovery tape does not show any outcrop in the area however previous exploration activity has mapped mineralized boulders and float in the vicinity. A magnetic high observed on line 14 (Figure 8) is questionable because it is associated with a very noisy section of magnetic data. It is however coincident with a weak VLF-EM response noted on lines 14 and 15.

The VLF-EM responses observed were very weak, 10% above background, and within the noise levels expected on a survey in steep, mountainous terrain. The anomalies described here and noted on the interpretation map, Figure 2, have been analyzed on the video data recovery system and do not appear to be the result of topographic features or undue movement of the instrument sensors however all should be considered unreliable at this time. In addition to the anomalies noted on lines 14 and 15, a weak response is noted on line 10 (Figure 6) very near to magnetic Trend C. Another very weak trend is observed on the south ends of lines 9-11 (Figure 7).

SUMMARY & RECOMMENDATIONS

In September, 1981, Western Geophysical Aero Data Ltd. flew approximately 105 kilometers of airborne magnetometer and VLF-electromagnetometer survey across the Great Western Petroleum Corporation New Moon project area. The objective of the survey was to locate a source of sulphide mineralization observed in float along a steep sided valley which traverses the center of the claim group.

A large magnetic high observed south of the valley is interpretted as the reflection from a large geological formation. It is doubtful that a unit of this areal magnitude could be responsible for the mineralized float observed. Three high magnetic trends, labelled 'A', 'B' and 'C', were observed across the northern claims. The trends appear to be reflections of relatively narrow vein-like systems which extend beneath a glacial ice pack, up slope from the observed mineralization. Trend 'A' occurs closest to the observed mineralization and should be rated the highest priority for surface examination. The strongest magnetic response along this trend occurs near the foot of the glacier and the video flight path recovery system confirms bedrock exposure in the area.

Trend 'B' originates primarily beneath the ice. Except for a small ridge of exposed rock near the northernmost limit of the geophysically delineated anomaly, this trend will be difficult to analyze on the basis of surface geology.

Trend 'C' also occurs beneath glacial ice for a large percentage of its' extent. The strongest magnetic reflections however originate at the southern end of zone as presently mapped, where the causitive unit likely outcrops against a southeast facing slope. The video data recovery system identifies vegetation indicating the presence of at least some overburden in the area however there are numerous small streams and creeks which likely expose bedrock for surface mapping.

In addition to the three trends described above the survey has identified three areas with isolated magnetic anomalies which warrant ground inspection. The first area occurs immediately south of Trend 'A' on lines 18 and 16. The response on line 18 is the strongest observed across the entire survey and deserves a high priority for ground follow-up. The second isolated anomaly occurs across lines 10 and 11 immediately south of a major drainage stream and in an area of observed mineralization. The anomaly is near the bottom of the valley and appears to be in an area of overburden cover. A small ground magnetic survey should be able to precisely locate the source of the anomaly and depending on overburden thickness, trenching or diamond drilling may be warranted. The third isolated anomaly occurs in an area of high noise levels and is at best considered to be of questionable reliability. It does however coincide with a weak VLF-EM anomaly.

The VLF-EM anomalies noted across the survey grid are all very weak, less than 10% above local background and without additional encouraging information do not warrant follow-up detailing surveys. Examination of mineralized float suggests that an in situ accumulation of the material should produce a mapable electromagnetic target. However, it is likely that the VLF-EM technique cannot penetrate the glacial ice pack where a more powerful electromagnetic system could. A ground vector pulse e.m. survey could confirm the presence of a conductive target beneath the ice however the logistical problems of conducting ground surveys across this glacier should be carefully considered before undertaking such a project.

Respectfully submitted,

E. Trent Pezzot, B.Sc.,
Geophysicist

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA GLEN E. WHITE

Glen E. White, B.Sc., P.Eng.,
Consulting Geophysicist

Instrument Specifications

SABRE AIRBORNE VLF SYSTEM

Source of Primary Field:	VLF radio stations in the frequency range of 14 KH_z to 30 KH_z.
Type of Measurement:	- Horizontal field strength
Number of Channels:	- Two; Seattle, Washington at 18.6 KH_z
	- Annapolis, Maryland at 21.4 KH_z
Type of Sensor:	- Two ferrite antennae arrays, one for each channel, mounted in magnetometer bird.
Output:	- 0 - 100 mV displayed on two analogue meters (one for each channel)
	- recorder output posts mounted on rear of instrument panel
Power Supply:	- Eight alkaline 'AA' cells in main instrument case (life 100 hours)
	- Two 9-volt alkaline transistor batteries in bird (life 300 hours)
Instrument Console:	- Dimensions - 30 cm x 10 cm x 25 cm
	- Weight - 3.5 Kg.

Instrument Specifications

DATA RECORDING SYSTEM

i) Chart Recorder

Type: Esterline Angus Miniservo III Bench AC Ammeter - Voltmeter Power Recorder
Model: MS 413 B
Specification: S-22719, 3-pen servo recorder
Amplifiers: Three independent isolated DC amplifiers (1 per channel) providing range of acceptable input signals
Chart: 10 cm calibrated width 2-fold chart
Chart Drive: Multispeed stepper motor chart drive, Type D850, with speeds of 2, 5, 10, 15, 30 and 60 cm/hr. and cm/min.
Controls: Separate front mounted slide switches for power on-off, chart drive on-off, chart speed cm/hr - cm/min. Six position chart speed selector. Individual front zero controls for each channel.
Power Requirements: 115/230 volts AC at 50/60 H_z (Approximately 30 VA)
Writing System: Disposable fibre tipped ink cartridge (variable colors)
Dimensions: 38.6 cm x 16.5 cm x 43.2 cm
Weight: 9.3 Kg.

ii) Digital Video Recording System

Type: L.M. Microcontrols Ltd. Microprocessor Control Data Acquisition System
Model: DADG - 68
Power Requirements: 10 - 14 volts dc, Maximum 2 amps
Input Signal: 3, 0 - 100 mvolt d c signals
1, 0 - 25 volt d c signal
Microprocessor: Motorola MC-6800
CRT Controller: Motorola MC-6845
Character Generator: Motorola MCM-6670
Analogue/Digital Convertor: Intersil 7109
Multiplexer: Intersil IH 6208
Digital Clock: National MM 5318 chip
9 volt internal rechargeable nickle-cadmium battery
Fiducial Generator: internally variable time set controls relay contact and audio output
Dimensions: 30 cm x 30 cm x 13 cm
Weight: 3 Kg

Instrument Specifications

FLIGHT PATH RECOVERY SYSTEM

i) T.V. Camera:

Model: RCA TC2055 Vidicon
Power Supply: 12 volt dc
Lens: variable, selected on basis of expected terrain clearance
Mounting: Gimbal and shock mounted to housing - housing bolted to helicopter skid

ii) Video Recorder:

Model: Sony SLO - 340
Power Supply: 12 volt dc / 120 volt AC (60 H_z)
Tape: Betamex ½" video cassette - optional length
Dimensions: 30 cm x 13 cm x 35 cm
Weight: 8.8 Kg
Audio Input: Microphone in - 60 db low impedance microphone
Video Input: 1.0 volt P-P, 75 Ω unbalanced, sync negative from camera

iii) Altimeter:

Model: Bonzer Mk 10 Radar Altimeter
Power Supply: 12 - 25 volts dc
Output: 0 - 25 volt (1 volt / 1000 feet) dc signal split to microprocessor and analogue meter
Mounting: fixed to T.V. camera housing, attached to helicopter skid

COST BREAKDOWN

AIRBORNE GEOPHYSICAL SURVEY

Crew costs (2 men) - 5 days @ $325	$ 1,625.00
Office - data reduction 2 man days @ $150	$ 300.00
Instrument lease	$ 1,000.00
Meals & Accommodations (3 men) 5 days @ $120....	$ 600.00
Photomosaic	$ 745.00
Interpretation & Report	$ 1,200.00
Drafting & Materials	$ 450.00
Reproduction & Binding	$ 80.00
Subtotal	$ 6,000.00

WAGES

N. Carter (geologist) Sept. 26/81 @ $200	$ 200.00

TRANSPORTATION

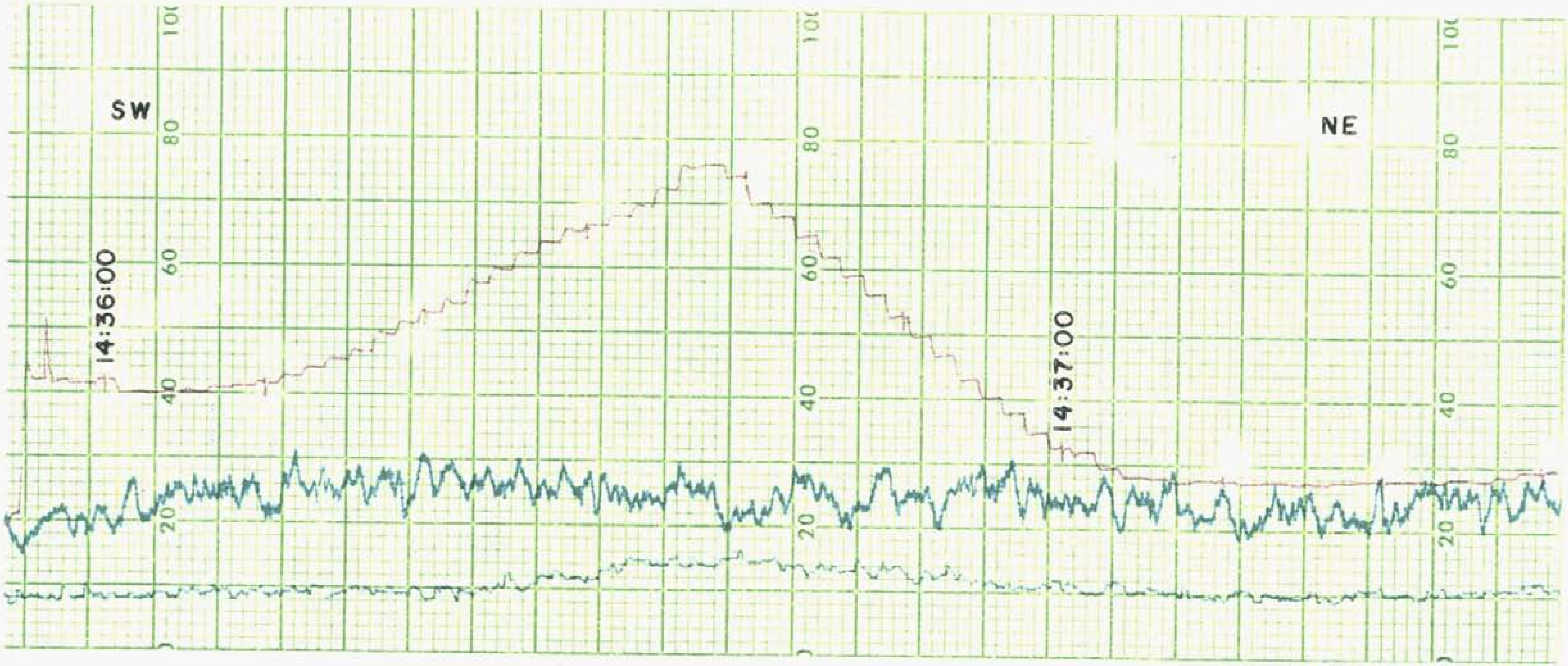
Vehicle	$ 47.00
Helicopter	$ 5,769.90
EXPEDITING	$ 180.00
REPORT PREPARATION	$ 200.00
Total	$12,396.90

STATEMENT OF QUALIFICATIONS

NAME:	PEZZOT, E. Trent
PROFESSION:	Geophysicist - Geologist
EDUCATION:	University of Brisish Columbia - B.Sc. - Honors Geophysics and Geology
PROFESSIONAL ASSOCIATIONS:	Society of Exploration Geophysicists
EXPERIENCE:	Three years undergraduate work in geology - Geological Survey of Canada, consultants.
	Three years Petroleum Geophysicist, Senior Grade, Amoco Canada Petroleum Co. Ltd.
	Two years consulting geophysicist, Consulting geologist - B.C., Alberta, Saskatchewan, N.W.T., Yukon, western U.S.A.
	Two years geophysicist with Glen E. White Geophysical Consulting & Services Ltd.

STATEMEMT OF QUALIFICATIONS

NAME:	WHITE, Glen E., P.Eng.
PROFESSION:	Geophysicist
EDUCATION:	B.Sc. Geophysics - Geology University of British Columbia
PROFESSIONAL ASSOCIATIONS:	Registered Professional Engineer, Province of British Columbia
	Associate member of Society of Exploration Geophysicists.
	Past President of B.C. Society of Mining Geophysicists
EXPERIENCE:	Pre-Graduate experience in Geology - Geochemistry - Geophysics with Anaconda American Brass
	Two years Mining Geophysicist with Sulmac Exploration Ltd. and Airborne Geophysics with Spartan Air Services Ltd.
	One year Mining Geophysicist and Technical Sales Manager in the Pacific north-west for W.P. McGill and Associates
	Two years Mining Geophysicist and supervisor Airborne and Ground Geophysical Divisions with Geo-X Surveys Ltd.
	Two years Chief Geophysicist Tri-Con Exploration Surveys Ltd.
	Ten years Consulting Geophysicist
	Active experience in all Geologic provinces of Canada



GREAT WESTERN PETROLEUM CORP.

NEW MOON PROSPECT

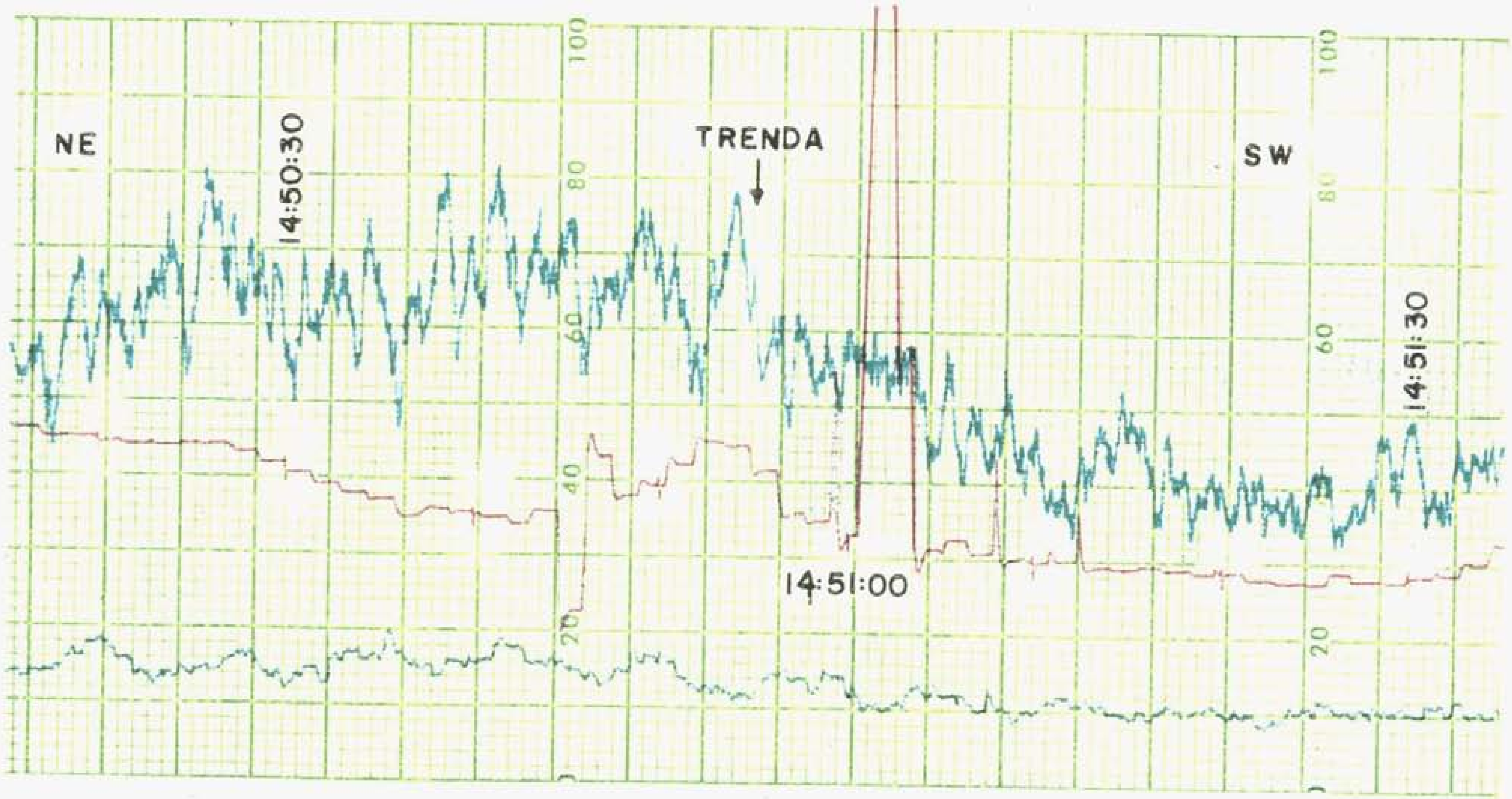
DATA PROFILES, LINE – 15 –

Western Geophysical Aero Data Ltd.

MAGNETOMETER BASE VALUE : 56,900 gammas
MAGNETOMETER: VERTICAL SCALE 1 cm = 200 gammas
VLF-EM : VERTICAL SCALE 1 cm = 10%

MAGNETOMETER : RED
VLF-EM (SEATTLE) : BLUE
VLF-EM (ANNAPOLIS) : BLACK

FIG. 3



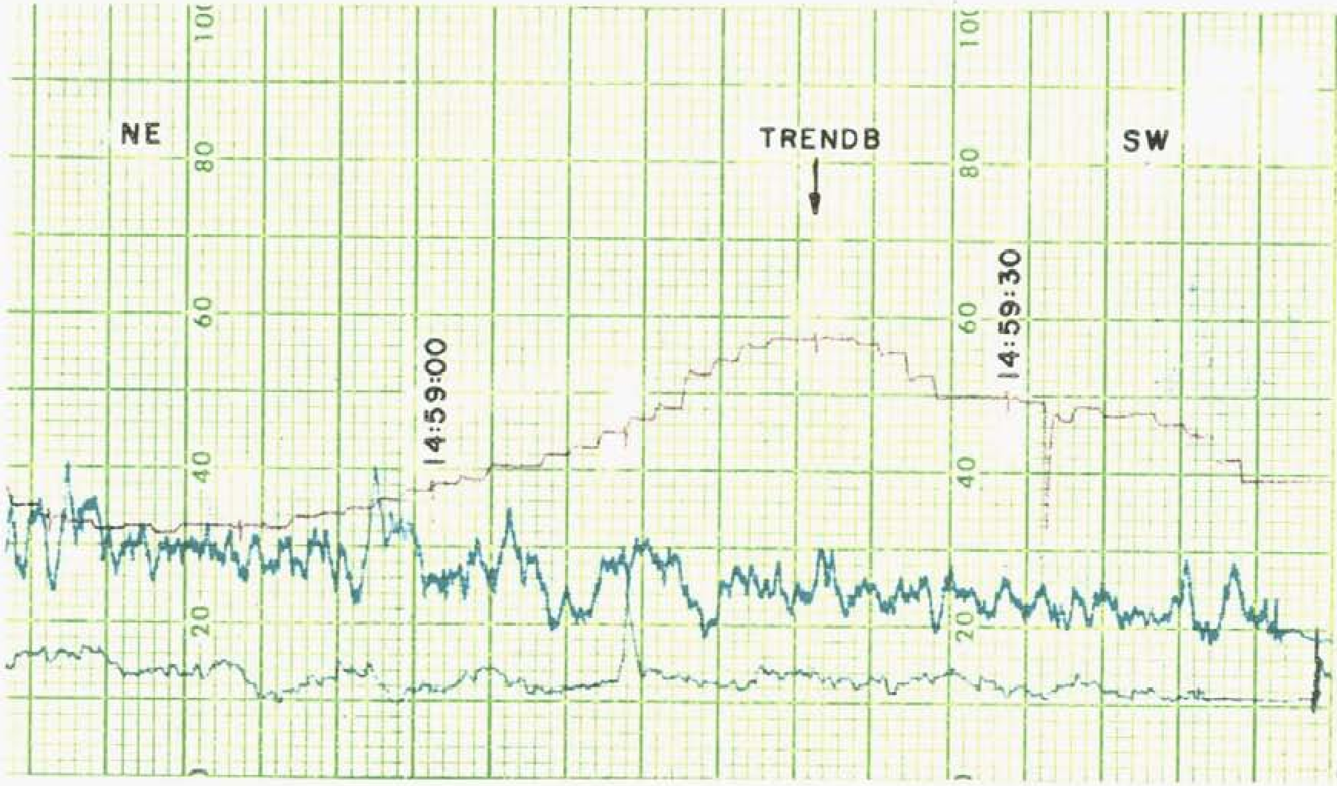
GREAT WESTERN PETROLEUM CORP.
NEW MOON PROSPECT
DATA PROFILES, LINE -18-

Western Geophysical Sloan Lake Ltd.

MAGNETOMETER BASE VALUE = 56,900 gammas
MAGNETOMETER: VERTICAL SCALE 1cm = 200 gammas
VLF-EM : VERTICAL SCALE 1cm = 10%

MAGNETOMETER : RED
VLF-EM (SEATTLE) : BLUE
VLF-EM (ANNAPOLIS) : BLACK

FIG. 4



GREAT WESTERN PETROLEUM CORP.

NEW MOON PROSPECT

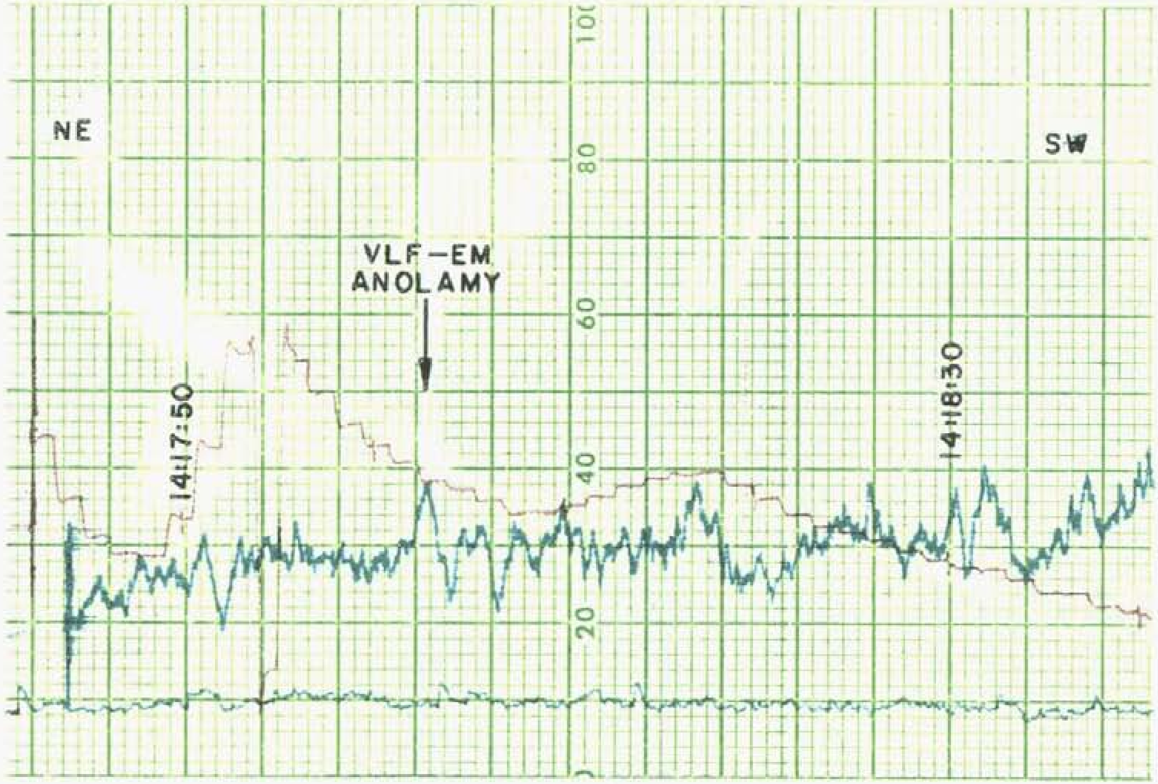
DATA PROFILES, LINE -21-

Western Geophysical Silver Peaks Ltd.

MAGNETOMETER BASE VALUE : 56,900 gammas
MAGNETOMETER: VERTICAL SCALE 1cm = 200 gammas
VLF-EM : VERTICAL SCALE 1cm = 10%

MAGNETOMETER : RED
VLF-EM (SEATTLE) : BLUE
VLF-EM (ANNAPOLIS) : BLACK

FIG. 5



GREAT WESTERN PETROLEUM CORP.

NEW MOON PROSPECT

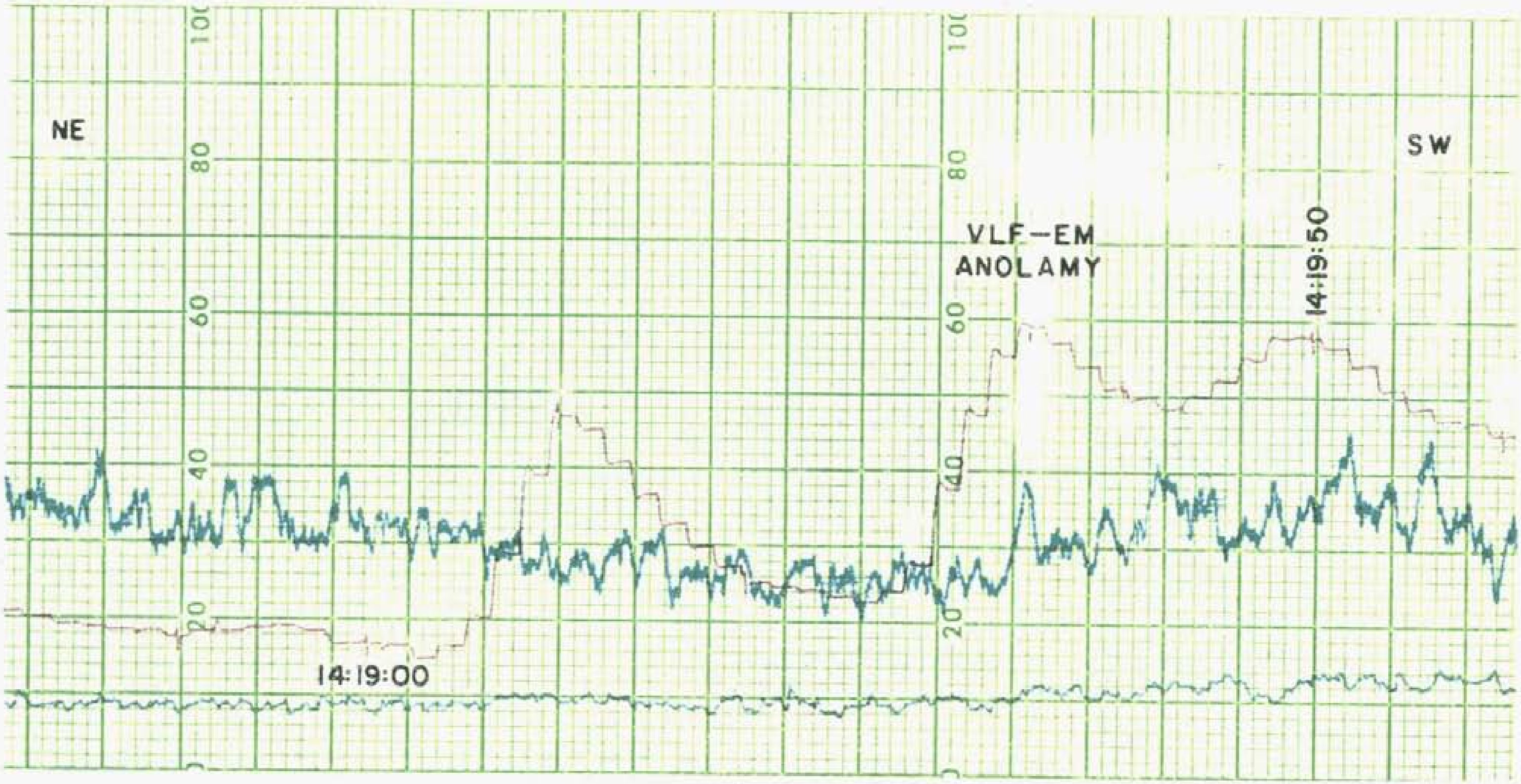
DATA PROFILES, LINE -10-

Western Geophysical Aero Data Ltd.

MAGNETOMETER BASE VALUE = 56,900 gammas
MAGNETOMETER: VERTICAL SCALE 1cm = 200 gammas
VLF-EM : VERTICAL SCALE 1cm = 10%

MAGNETOMETER : RED
VLF-EM (SEATTLE) : BLUE
VLF-EM (ANNAPOLIS) : BLACK

FIG. 6



GREAT WESTERN PETROLEUM CORP.

NEW MOON PROSPECT

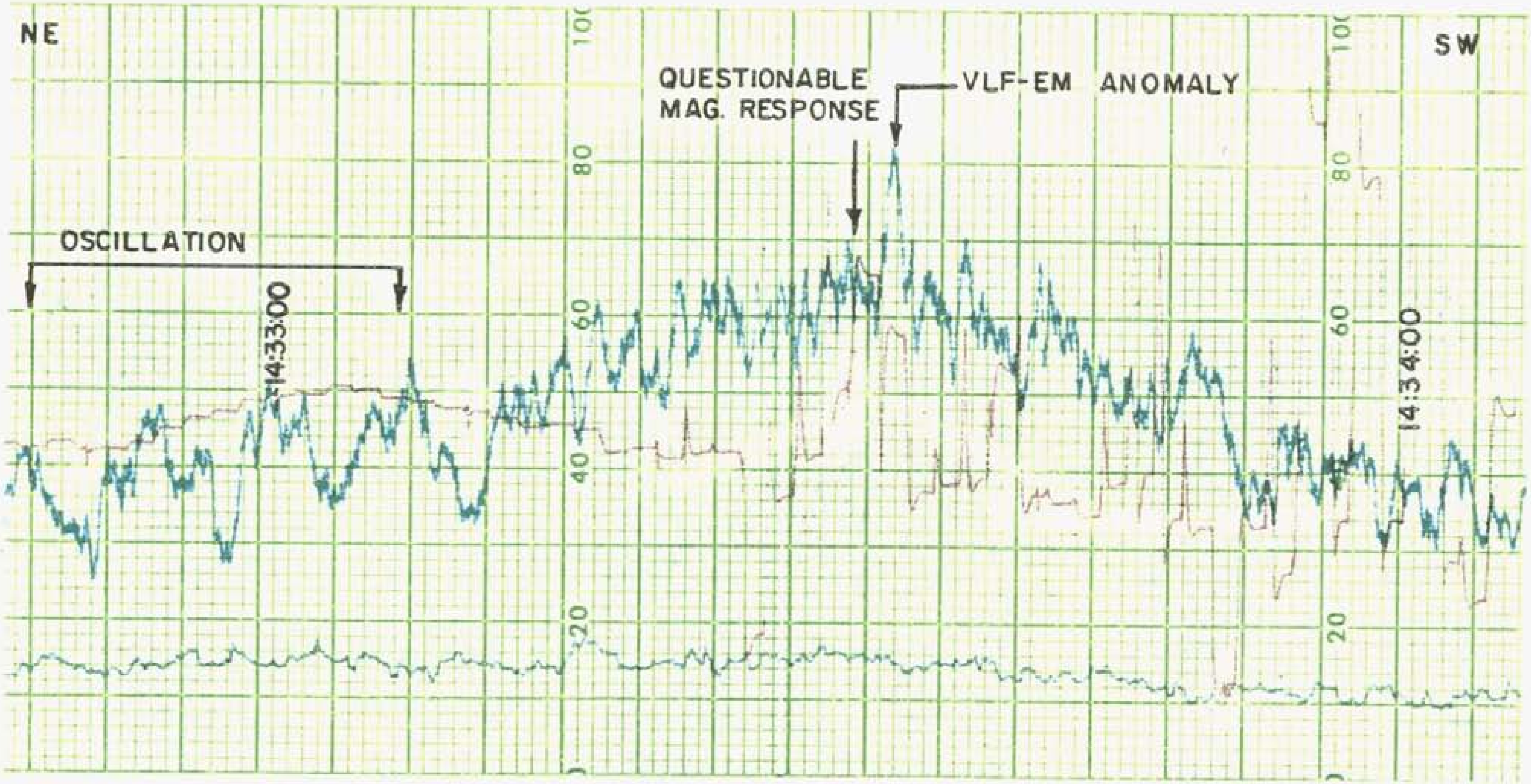
DATA PROFILES, LINE — 10 —

Western Geophysical Aero Data Ltd.

MAGNETOMETER BASE VALUE = 56,900 gammas
MAGNETOMETER: VERTICAL SCALE 1cm = 200 gammas
VLF - EM : VERTICAL SCALE 1cm = 10%

MAGNETOMETER : RED
VLF - EM (SEATTLE) : BLUE
VLF - EM (ANNAPOLIS) : BLACK

FIG. 7



GREAT WESTERN PETROLEUM CORP.

NEW MOON PROSPECT

DATA PROFILES, LINE – 14 –

Western Geophysical Aero Data Ltd.

MAGNETOMETER BASE VALUE = 56,900 gammas
MAGNETOMETER: VERTICAL SCALE 1cm = 200 gammas
VLF - EM : VERTICAL SCALE 1cm = 10%

MAGNETOMETER : RED
VLF - EM (SEATTLE) : BLUE
VLF - EM (ANNAPOLIS) : BLACK

FIG. 8

9709

LEGEND:

- FLIGHT LINES
- 5 SECOND INTERVALS
- CLAIM BOUNDARIES - APPROXIMATE DUE TO DISTORTION OF PHOTOMOSAIC
- 57600 TOTAL MAGNETIC FIELD INTENSITY CONTOURS - gammas
- HIGH MAGNETIC TRENDS
- VLF-EM ANOMALIES
- HIGH FREQUENCY MAGNETIC RESPONSE

INSTRUMENTS:

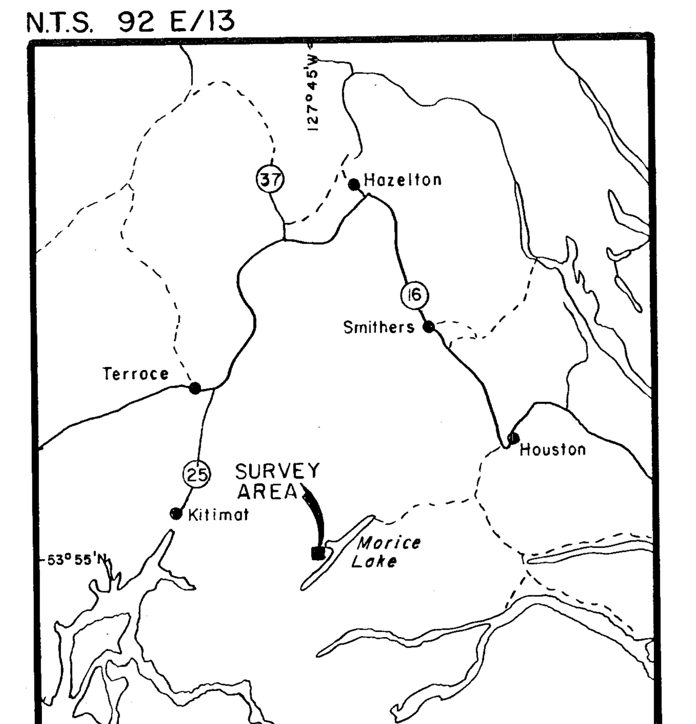
SABRE AIRBORNE MAGNETOMETER

SABRE AIRBORNE VLF-ELECTROMAGNETOMETER

i) JIM CREEK, WASHINGTON – 18.6 Khz.

ii) ANNAPOLIS, MARYLAND - 21.4 Khz.

N.T.S. 92 E/13



LOCATION MAP
1" = 32 mi.

200m 100m 0 200m 400m 600m 800m
1:10,000

GREAT WESTERN PETROLEUM CORP.
NEW MOON, MISTY DAY COPPER CLIFF, AND FULL MOON CLAIMS
OMENICA MINING DIVISION – BRITISH COLUMBIA

AIRBORNE MAGNETOMETER AND VLF-EM INTERPRETATION MAP

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA ... EN E. WHIT...

Western Geophysical Aero Data Ltd.

Interpreted By: E.T.P.	
Drawn By: N.L.P.	
Checked By: E.T.P.	
Date: OCT./81	
Fig. No.: 2	