5311

GEOPHYSICAL REPORT
EXPLORAM MINERALS LTD.

HS Mineral claims 7 miles south of Horsefly,
B.C., Cariboo Mining Division.
Lat. 52°16'N Long. 121°22'W N.T.S. 92 A/6

AUTHOR: Glen E. White, B.Sc., Geophysicist
P. ENG: E. D. Cruz
DATE OF WORK: September 15-24, 1974
DATE OF REPORT: October 24, 1974

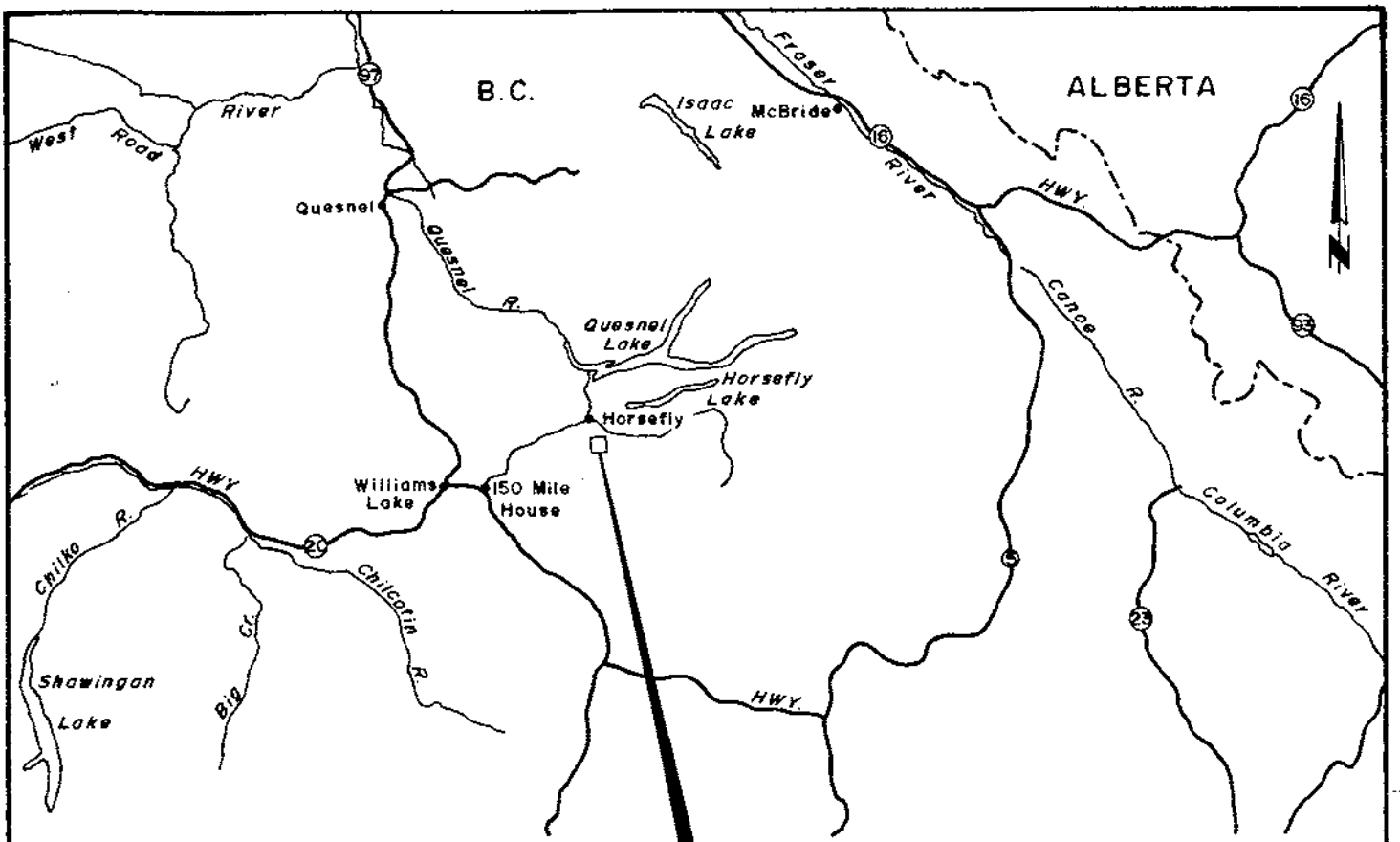
93A/6W

93A/6W

C O N T E N T S

PAGE

Illustrations



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5311 MAP #1

EXPLORAM MINERALS LTD.

HS CLAIMS

LOCATION AND CLAIMS MAP

SCALE - LOCATION MAP - 1" = 40 MILES APPROX. CLAIMS MAP - 1/4" = 1500 APPROX

Glen E. Wells
geophysical consulting
services ltd.

OCT. 14, 1974
FIG. 1

INTRODUCTION

A program of induced polarization and ground magnetometer surveying was conducted over a portion of the HS mineral claims near Horsefly, B.C. by Glen E. White Geophysical Consulting & Services Ltd. on behalf of Exploram Minerals Ltd. The program was conducted during the period September 15-24, 1974.

PROPERTY

The survey area is located within a group of 56 contiguous mineral claims numbered HS 1-56. The survey covered portions of mineral claims HS 23, 25, 27, 33, 34 and 50-52.

LOCATION AND ACCESS

The HS mineral claims are located near Mica Lake on Deerhorn Creek some 7 miles south of the little village of Horsefly, B.C., Cariboo Mining Division, Latitude 52°16'N, Longitude 121°22'W, N.T.S. 92 A/6.

Access to the survey area is by a recently established 4x4 road which comes into Mica Lake from an unimproved access road which turns eastward off of the Starlike Lake road.

GENERAL GEOLOGY

The general geology of the survey area as shown on Geological Map 3-1961, Quesnel Lake, consists of volcanics and sediments of Upper Triassic or Jurassic age which have been intruded by various compositions of granodiorite, monzonite and syenite intrusives of Jurassic and/or Cretaceous age. The area is largely covered by glacial deposits and recent alluvium.

PREVIOUS WORK

During October 1973 a program of magnetometer and induced polarization surveying was conducted over a large portion of the HS mineral claims and discussed in a geophysical report dated November 8, 1973 by Glen E. White, Geophysicist. This 1974 survey extended the 1973 survey to the northeast.

SURVEY SPECIFICATIONS

Survey Grid

Line 144E from the 1973 survey which trends in a N25°E direction was extended northeastward and established as a baseline. Lines were then turned off every 400 feet in a NW-SE direction and numbered at 100 foot intervals.

Some 6 line miles of survey grid were established and some 5.5 line miles of magnetometer and 3 line miles of induced polarization surveying were conducted.

Electrode Array

The data was obtained using the "three electrode" array. This array consists of one current (C_1) and two potential electrodes (P_1 and P_2) which are moved together along the survey line at a fixed distance apart, which is known as the "a" spacing. The second current electrode (C_2) is placed at "infinity". For this survey an electrode spacing "a" = 300 feet, n = 1 was used for reconnaissance surveying. Detailing was completed with a = 200, n = 1 and a = 400, n = 1.

Induced Polarization System

The equipment used on this survey was the Huntec pulse-type unit. Power was obtained from a JLO motor, coupled to a 2.5 KW 400 cycle three-phase generator, providing a maximum of 2.5 KW D.C. to the ground. The cycling rate is 1.5 seconds "current on" and 0.5 seconds "current off", the pulses reversing continuously in polarity. Power was transmitted to the ground through two current electrodes C_1 and C_2, and measurements taken across two potential electrodes, P_1 and P_2.

The data recorded in the field consist of careful measurements of the current (I) in amperes flowing through electrodes C_1 and C_2, the primary voltage (V_p) appearing between electrodes P_1 and P_2 during the "current on" part of the cycle, and the secondary voltage (V_s) appearing between electrodes P_1 and P_2 during the "current off" part of the cycle.

The apparent chargeability (M_a), in milliseconds, is calculated by dividing the secondary voltage by the primary voltage and multiplying by 400, which is the sampling time in milliseconds of the receiver unit. The apparent resistivity, in ohm-feet, is proportional to the ratio of the primary voltage to the measured current, the proportionality factor depending on the geometry of the electrode array used. The chargeability and resistivity obtained are called "apparent" as they are values which that portion of the earth sampled by the array would have if it were homogeneous. As the earth sampled is usually inhomogeneous, the calculated apparent chargeability and app apparent resistivity are functions of the actual chargeabilities and resistivities of the rocks sampled and of the geometry of these rocks.

Magnetometer Survey

The magnetometer survey was conducted using a Scintrex MF-1 Fluxgate magnetometer. This instrument measures the vertical component of the earth's magnetic field to an accuracy of 10 gammas. Corrections for diurnal variation were made by tying into previously established base stations at intervals not exceeding one and one half hours. Readings were taken at 100 foot intervals along the traverse lines.

DISCUSSION OF RESULTS

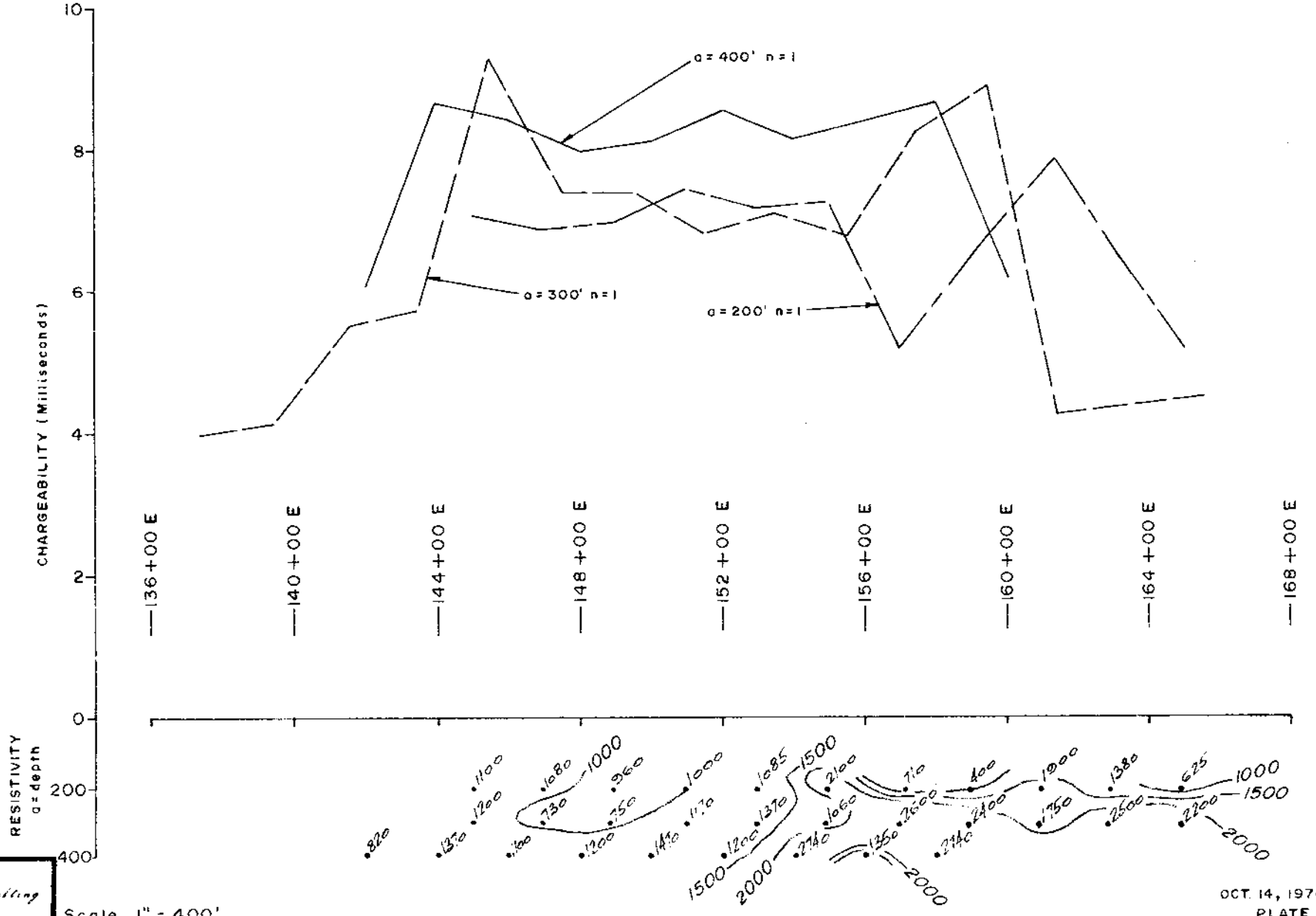
The resistivity data (Figure 3) showed moderate changes from a low of 400 ohm-feet to a high of 3780 ohm-feet. The high resistivity area likely represents near surface bedrock or gravel whereas areas of clay or alluvium tend to give much lower resistivity responses.

The chargeability map (Figure 2) shows a broad chargeability zone extending eastward from the area of the 1973 survey. A high of 9.3 milliseconds was located on line 128N. Plate 1 shows the results of "a" spacings 200, 300 and 400 feet along this line. All three "a" spacings show a broad response which appears to show a slight increase in chargeability content with depth.

EXPLORAM MINERALS LTD.

DETAILED INDUCED POLARIZATION PROFILES

LINE 128+00 N



Gibb & White geophysical consulting services ltd

Scale 1" = 400'

OCT. 14, 1974

PLATE 1

The magnetometer survey shows a number of magnetic high areas, above 2000 gammas which in general flank the zone of anomalous chargeability. The pronounced magnetic linear between lines 128N and 132N may possibly reflect a fault zone or a change in rock type as the northeast trending chargeability zone shows a general termination along this linear.

CONCLUSION AND RECOMMENDATIONS

A program of magnetometer and induced polarization surveying was conducted over a portion of the HS 1-56 mineral claims, Horsefly area, B.C. during the month of September 1974, on behalf of Exploram Minerals Ltd.

The induced polarization survey delineated a northeast extension of the chargeability anomaly located in 1973. This anomaly is in an area of low resistivity and low magnetic intensity and appears to be terminated to the northeast by a pronounced northwesterly directed magnetic linear.

Since this chargeability feature is of much lower magnitude and is a direct northeast extension of the 1973 anomaly, it should be critically evaluated with respect to any surface geology since at least a portion of the 1973 anomaly has been determined to be caused by pyrite mineralized volcanics.

Respectfully submitted,
GLEN E. WHITE GEOPHYSICAL
CONSULTING & SERVICES LTD.

Glen E. White B.Sc.
Geophysicist

STATEMENT OF QUALIFICATIONS

Name:	WHITE, Glen E.
Profession:	Geophysicist
Education:	B.Sc. Geophysics - Geology University of British Columbia
Professional Associations:	Associate member of Society of Exploration Geophysicists. Active member B.C. Society of Mining Geophysicists.
Experience:	Pre-Graduate experience in Geology - Geochemistry - Geophysics with Anaconda American Brass. Two years Mining Geophysicist with Sulmac Explorations 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. Three years Consulting Geophysicist. Active experience in all Geologic provinces of Canada.

A P P E N D I X

Instrument Specifications

INDUCED POLARIZATION SYSTEM

A. Instruments

(a) Type - Pulse

(b) Make - Huntec

(c) Serial No. - transmitter #107 - receiver #207

B. Specifications

(a) Size and Power - 2.5 KW

(b) Sensitivity - 300×10^{-5} volts

(c) Power Sources - 2.5 KW 400 cycle - three-phase generator.

(d) Power by JLO motor, 5.2 H.P. @ 3,600 R.P.M.

(e) Timing - electronic, remote and direct.

(f) Readings - (i) amps (ii) volts primary and secondary

(g) Calculate (i) Resistivity - ohm-feet
(ii) Chargeability - milliseconds

C. Survey Procedures

(a) Method - power supplied to mobile probe along TW 18 stranded wire from stationary set-up.

(b) Configuration - Pole-dipole (three electrode array) Plot point midway between C_1 and P_1.

D. Presentation

Contour Maps (i) Chargeability - milliseconds

(ii) Resistivity - ohm-feet

A P P E N D I X

Instrument Specifications

MAGNETOMETER

A. Instrument

(a) Type - Fluxgate

(b) Make - Sharpe MF-1

B. Specifications

(a) Measurement - Vertical Magnetic Field

(b) Range - ±100 K gammas in 5 ranges

(c) Sensitivity - Maximum 20 gammas per scale division

(d) Accuracy - ±10 gammas

C. Survey Procedures

(a) Method - One and one half hour loops

(b) Corrections - (i) Base

(ii) Diurnal

(c) Station relationship - each station read for intensity of vertical magnetic field.

C E R T I F I C A T E

I, Ernesto D. Cruz, DO HEREBY CERTIFY AS FOLLOWS:

(1) That I am a Consulting Mining Engineer and reside at 8596 Terrace Dr., Delta, B.C.

(2) That I am a registered P. ENG in the association of Professional Engineers in the province of British Columbia.

(3) That I am a Graduate of Mapua Institute of Technology Phillipines (B.A.Sc.) and University of Washington (M.A.Sc.) in the Faculty of Mining Engineering.

(4) That I have practised geological engineering for eleven (11) years.

(5) That I have reviewed a report dated October 24, 1974 based on work conducted by Glen E. White Geophysical Consulting & Services Ltd. under the supervision of Glen E. White, B.Sc., Geophysicist, and concur with the findings therein.

(6) That this report consists of 8 typewritten pages and three maps.

(7) That I have no interest directly or indirectly in the HS mineral claims or the securities of Exploram Minerals Ltd. nor do I expect to acquire or receive any.

DATED at Vancouver, British Columbia, this 24th day of October, 1974.

ERNESTO D. CRUZ, P. ENG

Ernesto D. Cruz, P. ENG

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of Geophysical Survey
HS Mineral Claims

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5311 MAP

I, Glen E. White

of Glen E. White Geophysical Consulting & Services Ltd.

in the Province of British Columbia, do solemnly declare that the costs for the above survey were as follows:

PERSONNEL	PERIOD	WAGES	TOTAL
T. Ashworth	Sept. 15-24, 1974	$75/day	$750.00
S. Thomas	"	60/day	600.00
M. Griffin	"	55/day	550.00
P. Schmid	"	55/day	550.00
Meals and Accomodations			800.00
Vehicle Lease plus gas $30/day			300.00
Instrument Lease - I.P. $65/day			650.00
- Magnetometer $15/day			150.00
Materials			25.00
Drafting, Interpretation and Reports			550.00
		Total	$4925.00

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the
of , in the
Province of British Columbia, this VANCOUVER, B.C.
day of NOV 5 1974 , A.D.

Glen E. White

Sub-Mining Recorder

A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.

121°22'

64+00 E
68+00 E
72+00 E
76+00 E
80+00 E
84+00 E
88+00 E
92+00 E
96+00 E
100+00 E
104+00 E
108+00 E
112+00 E
116+00 E
120+00 E
124+00 E
128+00 E
132+00 E
136+00 E
140+00 E
144+00 E BASE LINE
148+00 E
152+00 E
156+00 E
160+00 E
164+00 E

108+00 N
104+00 N
BASE LINE 100+00 N
96+00 N
92+00 N
88+00 N
84+00 N
80+00 N
76+00 N
52°16'
132+00N
128+00N
124+00N
120+00N
116+00N
108+00 N

47 FR.

Mica Lake

20°18' MAGNETIC

LEGEND

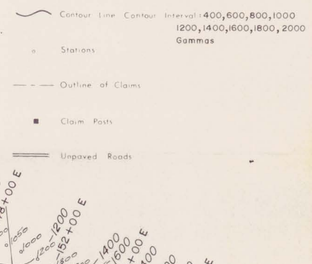
- Contour Line Contour Interval: 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000 Gammas
- Stations
- Outline of Claims
- Claim Posts
- Unpaved Roads

INSTRUMENT: SCINTREX MF-1 FLUXGATE

INTENSITY KEY

1600 Gammas
1400 "
1200 "
1000 "
800 "
600 "

N.T.S. 92 A/6



LOCATION MAP

SCALE 1" = 4 MILES APPROX.

0 400 800 1200
1"=400'

5311
MAP 4

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5311 MAP #4

EXPLORAM MINERALS LTD.
HS CLAIMS
CARIBOO MINING DIVISION — BRITISH COLUMBIA
GEOPHYSICAL MAP
VERTICAL MAGNETIC INTENSITY
(Gammas)

Glen E. White geophysical consulting services ltd.

INTERPRETED BY: G.E.W.
DRAWN BY:
CHECKED BY:
DATE: OCT. 14, 1974
FIG. No.: 4

To Accompany Geophysical Report on THE HS CLAIMS
Date: Oct 24/74
By GLEN E. WHITE, B.Sc. GEOPHYSICIST

121°22'

121°22'

64+00 E
68+00 E
72+00 E
76+00 E
80+00 E
84+00 E
88+00 E
92+00 E
96+00 E
100+00 E
104+00 E
108+00 E
112+00 E
116+00 E
120+00 E
124+00 E
128+00 E
132+00 E
136+00 E
140+00 E
144+00 E BASE LINE
149+00 E
152+00 E
156+00 E
160+00 E
164+00 E

108+00 N
104+00 N
BASE LINE 100+00 N
96+00 N
92+00 N
88+00 N
84+00 N
80+00 N
76+00 N
52°16'

20°18' MAGNETIC

LEGEND

- Contour Line Contour Interval 3,5,7,9,11,13,15 milliseconds
- Stations
- Outline of Claims
- Claim Posts
- Unpaved Roads

Mica Lake

47 FR.

35N Recon
31E Recon
17E Recon

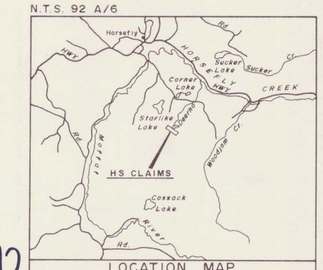
CHARGEABILITY KEY

13	milliseconds
11	"
9	"
7	"
5	"

INSTRUMENT HUNTEC 2.5 KW TIME DOMAIN (a = 300')

C2 ← I
C1 Pole P2 Dipole V P1

N.T.S. 92 A/6



LOCATION MAP

SCALE 1" = 4 MILES APPROX.

5311 M2

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5311 MAP #2

400 0 400 800 1200
1"=400'

EXPLORAM MINERALS LTD.
HS CLAIMS
CARIBOO MINING DIVISION – BRITISH COLUMBIA
GEOPHYSICAL MAP
INDUCED POLARIZATION
PERCENT CHARGEABILITY (milliseconds)

Glen E. White geophysical consulting services ltd.

INTERPRETED BY: G.E.W.	
DRAWN BY:	
CHECKED BY:	
DATE: OCT. 14, 1974	
FIG. No.: 2	

To Accompany Geophysical Report on THE HS GROUP
Date Oct 24/74
By GLEN E. WHITE, P. Eng. GEOPHYSICIST

121°22'

52°16'

20°18'
MAGNETIC

LEGEND

- Contour Line Contour Interval: 200,300,500,750 1000,1500,2000,3000 ohm feet
- Stations
- Outline of Claims
- Claim Posts
- Unpaved Roads

RESISTIVITY KEY

1500	ohm feet
1000	" "
750	" "
500	" "
300	" "

N.T.S. 92 A/6

LOCATION MAP

SCALE: 1" = 4 MILES APPROX.

5311
MAP 3

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5311 MAP #3

0 400 800 1200
1"=400'

EXPLORAM MINERALS LTD.
HS CLAIMS
CARIBOO MINING DIVISION — BRITISH COLUMBIA

GEOPHYSICAL MAP
INDUCED POLARIZATION
APPARENT RESISTIVITY (ohm feet)

To Accompany Geophysical Report on THE HS CLAIM GROUP
Date Oct 24/74
By GLEN E. WHITE P.Eng. GEOPHYSICIST

Glen E. White geophysical consulting & services ltd.

INTERPRETED BY: G.E.W.
DRAWN BY:
CHECKED BY:
DATE: OCT. 14, 1974
FIG. No: 3