81-#739-9472

ESSO RESOURCES CANADA LTD.
Geophysical Report
on a
Max-Min II Survey

P-15 Grid Extension, Wet 1,3 claims
Kamloops Mining Division
Lat. 50°34'N Long. 121°20'W
N.T.S. 92 I/11W

AUTHORS: E. Trent Pezzot, B.Sc.,
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DATE OF WORK: May 8-May 20, 1981

DATE OF REPORT: July 10, 1981

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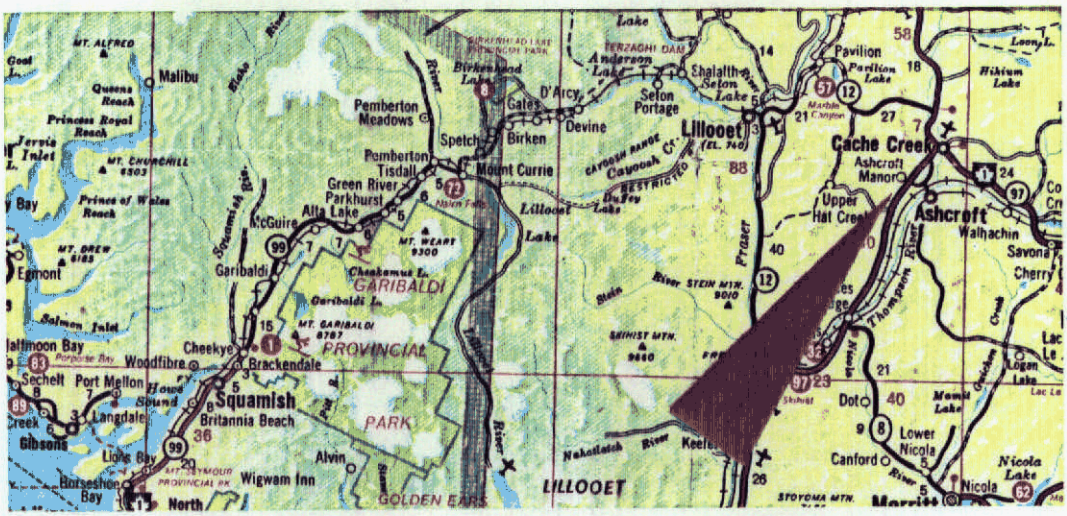
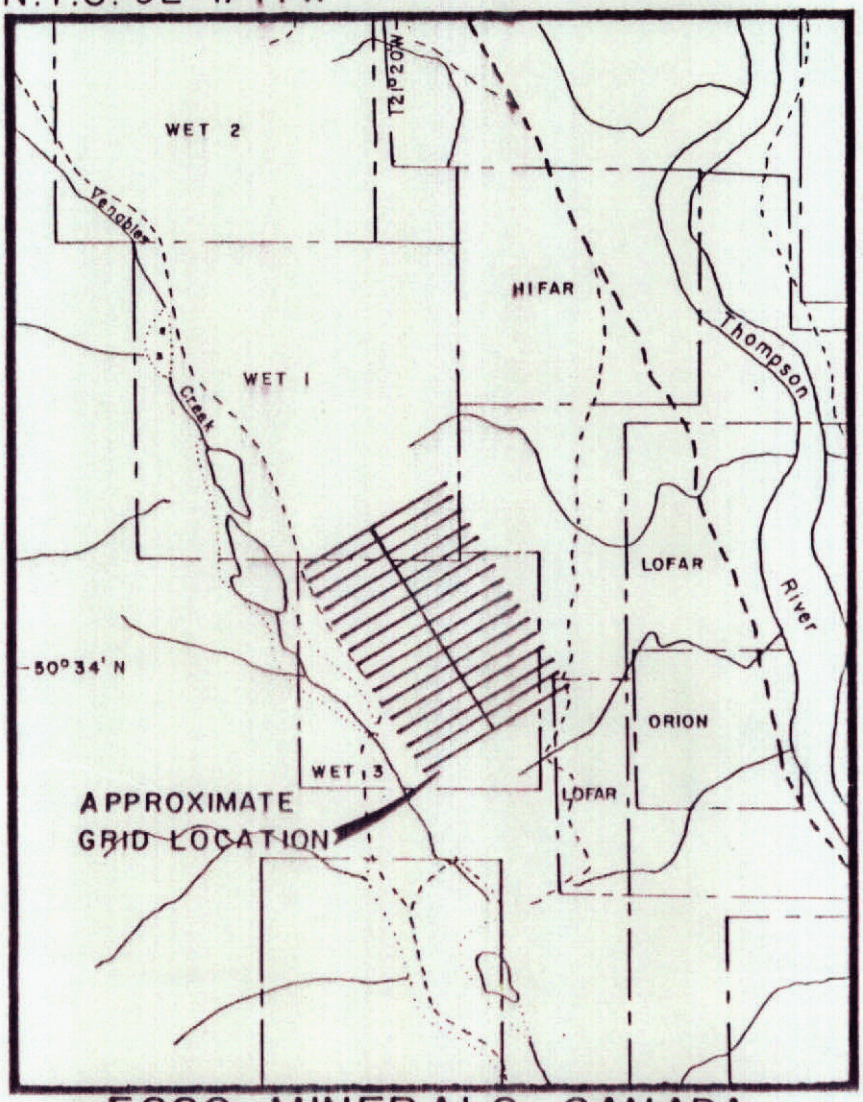
ILLUSTRATIONS



N.T.S. 92 I/11W



ESSO MINERALS CANADA

— GRID P-15 —

LOCATION AND CLAIMS MAP

Glen E. White
geophysical consulting
& services ltd.

FIG. 1

INTRODUCTION

During the period May 8 through May 20, 1981 Glen E. White Geophysical Consulting and Services Ltd. cut and flagged some 18.7 line kilometers of survey grid and conducted 7.1 kilometers of Max-Min II electromagnetic survey across portions of the Esso Resource Canada Ltd. Wet 1 and Wet 3 claims.

The survey was undertaken to extend coverage over three conductive trends delineated to the northwest across the P15 grid.

PROPERTY

The survey grid covered most of the Wet 3 claim (record number 3135) and the southeast corner of the Wet 1 claim (record number 2645) as shown on Figure 1.

LOCATION AND ACCESS

The survey grid is located approximately 18 kilometers south-southwest of Ashcroft B.C., along the eastern shore of Venables Lake. The property lies in the Kamloops Mining Division and NTS 92 I/11W with geographic co-ordinates latitude $50^{o}34'$N and longitude $121^{o}20'$W.

An all-weather gravel road, which turns off the Trans-Canada Highway at a point approximately 14 kilometers south of the Ashcroft turnoff, provides direct access to the survey area as illustrated on Figure 1.

PREVIOUS WORK

During 1980 a regional airborne electromagnetic survey was conducted by Les Reléves Geophysiques Inc. on behalf of Esso Resources Canada Ltd. in the Ashcroft area of B.C. This survey delineated a long conductive zone, comprised of the conductive zones labelled 20 to 27 of their final report, in the P15 grid area.

On the basis of the airborne survey results, claim staking, reconnaissance geology, geochemical sampling and some Max-Min II survey was conducted over the P15 grid. On the basis of this work a southeast extension of the P15 grid was recommended.

LOCAL GEOLOGY

From project reports by Alfred Stewart dated January 29, 1981 and June 5, 1981 it is understood the P15 grid extension is underlain by rocks of the Red Hill Assemblage. Geological reconnaissance suggests the electromagnetic anomalies are occuring in the vicinity of a major contact between a quartz eye rhyolite unit and mafic volcanic tuff and limestone rocks. Numerous outcrops of graphitic argillite have been located on the P15 grid extension.

MAX-MIN II SURVEY

The Max-Min II horizontal loop system was used for this survey. The system was used in the Max mode where the transmitter coil plane and receiver coil plane are coplanar and parallel to the terrain. Separation between the transmitter and receivers was 50 meters and the monitoring frequency was 1777 hz.

In-phase and quadrature voltage measurements are induced in the receiver relative to like quantities induced in a reference coil. The reference voltage and the receiver voltage are compared in a bridge or ratiometer circuit and the output is calibrated to read in percent of normal field. Thus, a zero reading indicates no conductors present.

DISCUSSION OF RESULTS

During May, 1981, a survey grid was established by compass and Hip Chain which extended the P15 grid 1.7 kilometers southeast. Seventeen 1 kilometer lines oriented approximately N 60^{o}E were cut and flagged at 25 meter intervals and a 1.7 kilometer long baseline was cut to tie these lines together.

The in-phase and quadrature data are presented as Figure 2 of this report. The main conductive trend extends from line 1+00S station 1+00E to line 15+00S station 3+75W and closely tracks the crest of a topographic ridge which bisects the survey grid. These features also appear to form a boundary between a stable electromagnetic field to grid east and the relatively active responses observed to the west. It is likely that these features are reflecting the rhyolite-tuff contact noted on the main P15 grid located to the northwest. Due to increased electromagnetic activity observed to the immediate west, it is difficult to isolate the response due to this contact. A depth of 15 meters and an apparent dip of 35^{o} to grid west is estimated from this 'contact' response on line 1+00S. The electromagnetic anomaly decreases in amplitude to the south indicating an increased depth in this direction however no reliable dip and depth estimates are available.

Two other well defined conductor trends are present west of the main trend. They are open to the north of line 1+00S but the electromagnetic response gradually weakens to the south, possibly indicating a termination or increased depth of the zones near line 10+00S. These trends run roughly parallel to the main trend with minor east-west fluctuations noted which may be a result of local terrain variations.

A fourth conductor may be present between these two zones between lines 5+00S and 7+00S inclusive.

A fifth electromagnetically defined conductor is noted, west of the above mentioned zones, commencing on line 6+00S and trending southeast until it apparently merges with the main trend near line 15+00S station 3+75W. The amplitude and character of this anomaly is similiar to the responses observed elsewhere on the grid.

East of the main conductor trend and topographic ridge the electromagnetic field is relatively quiet. The strongest anomaly observed occurs only in the quadrature component on one line; line 16+00S, station 1+25E. On the basis of this imaginary response the causitive body is estimated to be within 5 meters of the surface and dip approximately 65^{o}W with respect to local topography.

There is weak evidence of a conductive trend which extends from line 9+00S, station 3+75E to line 14+00S, station 2+75E. The response is extremely weak, very close to noise levels in the area, and considered to be unreliable. A similiarly weak trend may be present from line 2+00S, station 3+00E to line 5+00S, station 2+75E inclusive as shown on Figure 2.

SUMMARY AND CONCLUSIONS

During May, 1981 Glen E. White Geophysical Consulting and Services Ltd. cut and flagged 18.7 kilometers of survey grid in order to extend the Esso Resources Canada Ltd. P15 grid to the southeast. Subsequently 7.1 line kilometers of Max-Min II survey, with a Transmitter-Receiver separation of 50 meters and a monitoring frequency of 1777 hz, was undertaken to continue electromagnetic surveying over three conductive trends previously mapped to the northwest.

The main conductive trend coincides with the crest of a topographic ridge and appears to delineate a boundary between a region of active electromagnetic responses to the west and a region of relatively stable electromagnetic responses to the east. To the north across the main P15 grid, the conductors noted are believed to occur in the vicinity of a major geological contact between rhyolite to the east and various tuffs and sediments to the west. It is most probable that the easternmost conductor and the topographic ridge, which bisects the southeast extension of the P15 grid, are delineating this contact. Outcrops of graphitic argillite were found on the extension grid which explain the numerous, weak conductive trends noted west of the main conductor.

East of the interpretted rhyolite-tuff contact two possible conductive trends are noted. The anomalies are very near noise levels and must be considered unreliable. One isolated but relatively strong, out of phase, anomaly was observed in the interpretted rhyolite host on line 16+00S at station 1+25E.

RECOMMENDATIONS

The conductive trends noted in this survey should be correlated to the known geology to confirm the rhyolite-tuff contact interpretation. Because a rhyolitic host is considered a favourable environment for the occurance of sulphide mineralization, the weak conductive responses observed in the eastern portion of the survey grid should be evaluated further.

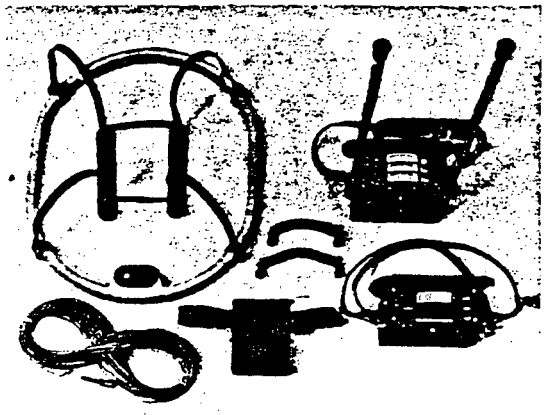
It is recommended that the P15 grid extension be geochemically analyzed and any coincident soil and conductivity anomalies be tested by diamond drilling.

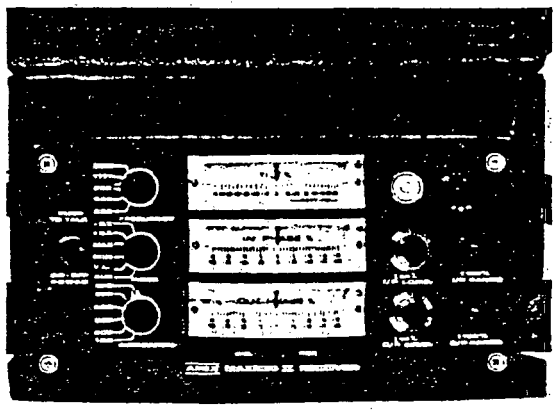
Respectfully submitted,

E. Trent Pezzot, B.Sc.,
Geophysicist

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

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
GLEN E. WHITE





SPECIFICATIONS :

Frequencies: 222, 444, 888, 1777 and 3555 Hz.

Modes of Operation: MAX: Transmitter coil plane and receiver coil plane horizontal (Max-coupled; Horizontal-loop mode). Used with refer. cable.

MIN: Transmitter coil plane horizontal and receiver coil plane vertical (Min-coupled mode). Used with reference cable.

V.L. : Transmitter coil plane vertical and receiver coil plane horizontal (Vertical-loop mode). Used without reference cable, in parallel lines.

Coil Separations: 25, 50, 100, 150, 200 & 250m (MMII or 100, 200, 300, 400, 600 and 800 ft. (MMIIF).
Coil separations in V.L. mode not restricted to fixed values.

Parameters Read:
- In-Phase and Quadrature components of the secondary field in MAX and MIN modes.
- Tilt-angle of the total field in V.L. mode.

Readouts:
- Automatic, direct readout on 90 mm (3.5") edgewise meters in MAX and MIN modes. No nulling or compensation necessary.
- Tilt angle and null in 90 mm edgewise meters in V.L. mode.

Scale Ranges:
NOW ALSO ±4% QUADRATURE FULL SCALE.

In-Phase: ±20%, ±100% by push-button switch.
Quadrature: ±20%, ±100% by push-button switch.
Tilt: ±75% slope.
Null (V.L.): Sensitivity adjustable by separation switch.

Readability: In-Phase and Quadrature: 0.25% to 0.5% ; Tilt: 1%.

Repeatability: ±0.25% to ±1% normally, depending on conditions, frequencies and coil separation used.

Transmitter Output:
- 222 Hz : 220 Atm²
- 444 Hz : 200 Atm²
- 888 Hz : 120 Atm²
- 1777 Hz : 60 Atm²
- 3555 Hz : 30 Atm²

Receiver Batteries: 9V trans. radio type batteries (4). Life: approx. 35 hrs. continuous duty (alkaline, 0.5 Ah), less in cold weather.

Transmitter Batteries: 12V 8 Ah Gel-type rechargeable battery. (Charger supplied).

Reference Cable: Light weight 2-conductor teflon cable for minimum friction. Unshielded. All reference cables optional at extra cost. Please specify.

Voice Link: Built-in intercom system for voice communication between receiver and transmitter operators in MAX and MIN modes, via reference cable.

Indicator Lights: Built-in signal and reference warning lights to indicate erroneous readings.

Temperature Range: -40°C to +60°C (-40°F to +140°F).

Receiver Weight: 6 kg (13 lbs.)

Transmitter Weight: 13 kg (29 lbs.)

Shipping Weight: Typically 60 kg (135 lbs.), depending on quantities of reference cable and batteries included. Shipped in two field/shipping cases.

Specifications subject to change without notification.

APEX PARAMETRICS LIMITED
200 STEELCASE RD. E., MARKHAM, ONT., CANADA. L3R 1G2

Phone: (416) 495-1612 Cables: APEXPARA TORONTO Telex: 06-966775 APEXPARA MKHM

NOTE OUR NEW TELEX NUMBER:

COST BREAKDOWN

Personnel	Date	Wages	Total
J. Miller	May 8-20, 1981	$160/day	$2,080.00
I. Clarke	May 8-20, 1981	$150/day	$1,950.00

Meals & Accommodations	$1,040.00
Vehicle (all inclusive)	$1,105.00
Instrument	$ 845.00
Interpretation	$ 750.00
Drafting and Reproduction	$ 250.00
Total	$8,020.00

STATEMENT OF QUALIFICATIONS

NAME: PEZZOT, E. Trent

PROFESSION: Geophysicist - Geologist

EDUCATION: University of British 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.

STATEMENT 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.

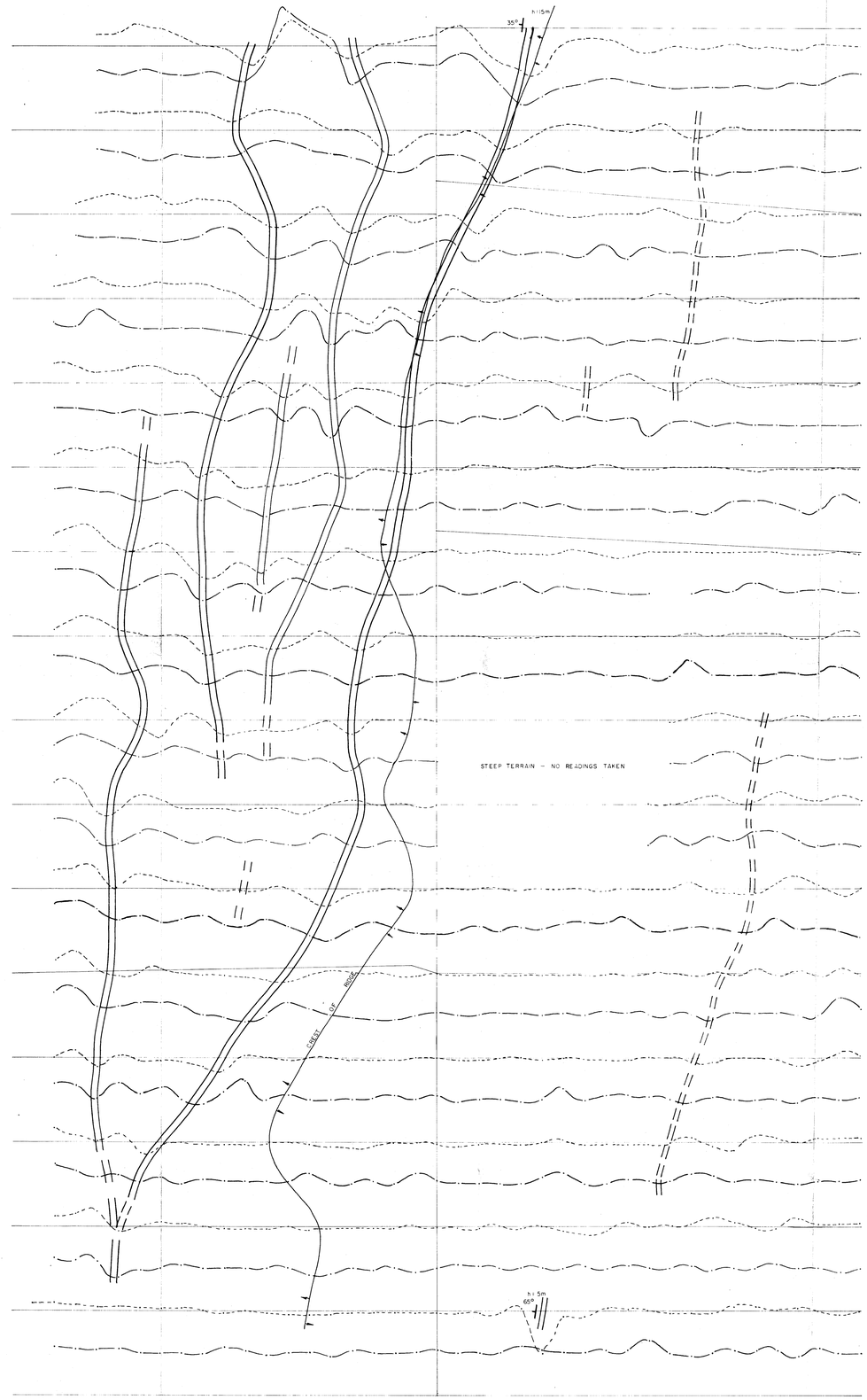
One year Mining Geophysicist and Technical Sales Manager in the Pacific north-west for W. P. McGill and Associates.

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.



LEGEND:

INPHASE COMPONENT

OUT OF PHASE COMPONENT

+10 / 0 / -10 % OF PRIMARY FIELD

INSTRUMENT APEX PARAMETRICS MAX MIN II
FREQUENCY 1777 HZ
Tx Rx SEPARATION 50m

WELL DEFINED CONDUCTOR TREND

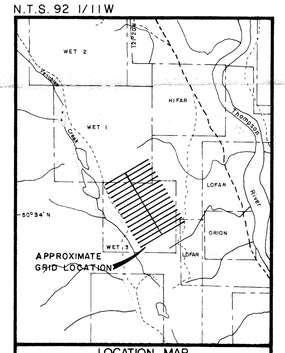
POORLY DEFINED CONDUCTOR TREND

/60° DIP ESTIMATE RELATIVE TO LOCAL TERRAIN

h 12m APPROXIMATE DEPTH IN METERS TO CONDUCTOR

MINERAL RESOURCES BRANCH
9472

N.T.S. 92 I/11W



LOCATION MAP
1 : 50,000

50m 25m 0 50m 100m 150m 200m
1 : 2,500

ESSO MINERALS CANADA

— GRID P - 15 —

KAMLOOPS MINING DIVISION — BRITISH COLUMBIA

HORIZONTAL LOOP MAX MIN II SURVEY

IN PHASE AND QUADRATURE (PERCENT)

To Accompany Geophysical Report on ESSO MINERALS CANADA, The Ashcroft Prospect
Date JUNE / 81
By GLEN E. WHITE - B.Sc. GEOPHYSICIST

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA GLEN E. WHITE

Glen E. White geophysical consulting services ltd.

Interpreted By: G.E.W.	
Drawn By: N.L.P.	
Checked By: G.E.W.	
Date: JUNE / 81	
Fig. No.: 2	

VANCAL