83-#298-#11224

INDUCED POLARIZATION SURVEY

REPORT

QUINTO MINING CORPORQTION

Q

Marshall Creek claims, Carpenter Lake area,
Lillooet Mining Division

Lat. 50°52'N Longitude 122°31'W

N.T.S. 92 J/15E and 16W

AUTHOR: Glen E. White, B.Sc., P.Eng.

DATE OF WORK: August 10-26, 1982

DATE OF REPORT: September 30, 1982

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Plate 1 - Chargeability Geochemistry Map

INTRODUCTION

A program of induced polarization surveying was conducted over the Marshall Creek property of Quinto Mining Corporation from the 10th day to the 26th day of August 1982.

The survey was undertaken to examine an area of anomalous geochemical values of zinc, copper, silver and gold. The mineral claims cover an area containing several old adits which were driven during the 1930's in a search for gold.

PROPERTY

The property has been restaked as the Q-1 - Q-10 claims comprising 100 units as illustrated on Figure 1.

LOCATION AND ACCESS

The claims are located approximately 50 km north-west of Lillooet, along Marshall Ridge which is bordered to the north by Marshall Creek and to the south by Carpenter Lake. The geographic center of the claims area is approximately Latitude 50°52'N and Longitude 122°31'W which lies in the Lillooet Mining Division of B. C. and N.T.S. 92 J/15E and 92 J/16W. (Figure 1)

Direct access to the property from Lillooet, for 78 km, is via the Bridge River highway which runs along the northern shore of Carpenter Lake. The Marshall Creek road and several logging roads provide access to various areas within the claim group.

GENERAL GEOLOGY

During the early part of the century a number of exploration tunnels were driven on narrow veins with high gold-silver values on Marshall Ridge. A preliminary evaluation report written by J. P. Elwell, P. Eng. on behalf of Quinto Mining Corporation describes the general geology of the area as follows:

> "G.S.C. Map 92/J shows the claim area to be entirely underlain by the Bridge River (Ferguson) group of Triassic or older age consisting of a varied assemblage of greenstone, basalt, chert, argillite, phyllite and miner limestone which have been intruded in places by serpentenized ultra basic rocks. The rocks are highly contorted and altered and are cut by strong faults, some of which are filled with quartz calcite veins carrying sulphide mineralization and variable gold-silver values.
>
> There are a number of known mineral occurrences in the Ferguson rocks, the most notable of which is probably the Minto Mine which was a successful gold and sulphide mineral producer for a number of years, the mineralization occurring in a quartz-calcite fissure vein. Other mineral occurrances which are, or have been under active exploration are the Peerless property, containing fissure veins with gold, silver, lead and zinc; a large disseminated zone of pyrite, chalcopyrite, and sphalerite occurring on the Wayside property of Carpenter Lake Resources; and the Dauntless prospect, which consists of a quartz vein in argillite carrying variable gold values."

INDUCED POLARIZATION

The equipment used on this survey was the Huntec pulse-type unit and Mark III receiver. Power was obtained from a Briggs and Stratton moter 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 pulse reversing continuously in polarity. Power was transmitted to the ground through two potential electrodes, P_1 and P_2, which were deployed in the three electrode array with an "a" spacing of 50 m and separations of n = 1 and 2.

The data recorded in the field consists 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. A cycle time of 4 seconds was used with a duty ratio of 2.2 - 1, T_p .20 ms and T_d 60 ms.

The apparent chargeability (M') in milliseconds, is calculated by T_p $(M_1 + 2M_2 + 4M_3 + 8M_4) = M'$, where T_p is the basic integrating time in tenths of seconds. M_1, M_2, M_3 and M_4 are the chargeability effects at various times on the voltage decay curve following switch off of the transmitter, measured as a percentage of the primary voltage, V_p recorded during the "current on" time. By the use of these factors, one can gain an estimate of the decay curve in terms of chargeability for the given time T_p. This gives a quantitative value to the data measured.

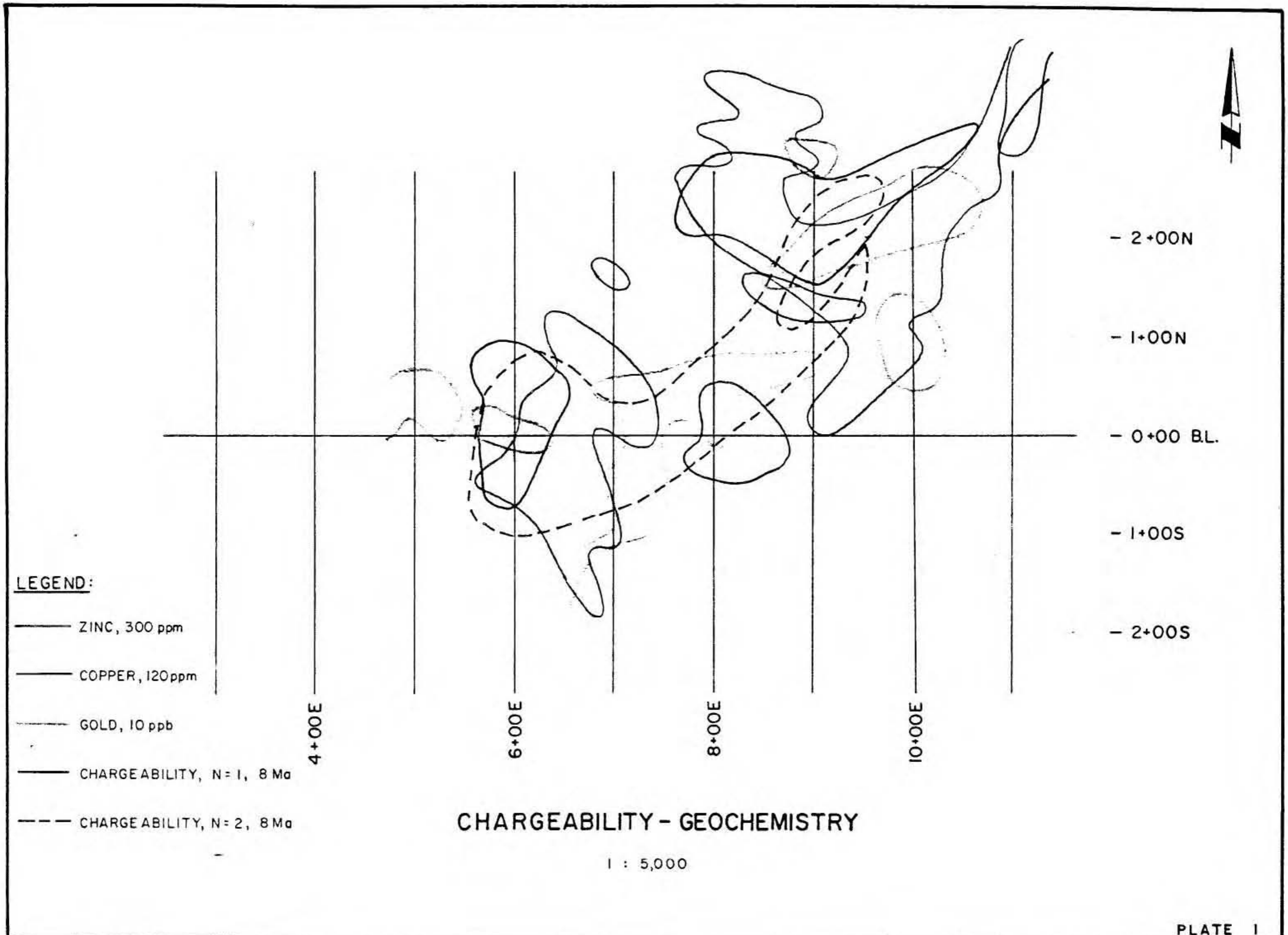
The apparent resistivity, in ohm-metres, is proportional to the ratio of the primary voltage to the measured current, the proportionality factor depending on the geometry of the electrode array used. The chargeability and resistivity obtained are called "apparent" as they are values which that portion of the earth sampled by the array would have if it were homogeneous. As the earth sample is usually inhomogeneous, the calculated apparent chargeability and apparent resistivity are functions of the actual chargeabilities and resistivities of the rocks sampled and of the geometry of the rocks.

Some 18 km of surveying were conducted.

DISCUSSION OF RESULTS

The induced polarization survey was conducted over two regional geochemical grids called Q-2 and Q-4, Q-4 being the principle grid containing the old workings. The geophysical-geochemical report dated September 23, 1981 by the author described the Q-4 grid of that survey as covering the old workings. However, the old ;workings were in fact some 400 m. further up the mountain. The strong zinc geochemical responses obtained would appear to be coming from a separate area to the old workings. The Q-4 grid has been extended to examine the upper and lower tunnels. The complete Q-4 grid and a protion of the Q-2 grid was covered by this survey.

Figure 2 shows the chargeability data for the survey area with a = 50 m, n = 2. A strong chargeability anomaly of some 29 milliseconds occurs immediately north of the old adits. Background is some 2 milliseconds. The high chargeability values extend northward onto the Q-2 grid. Line 300N at 150W is a trench containing minor chalcopyrite and pyrrhotite in silicified brecciated volcanic rocks. The road into the adits crosses the high chargeability zone. In this area is a highly contorted limey argillite which appears to be carrying some graphite. However, auriferous sulphide mineralization occurs in the old adits and in recent trenches just north of the high chargeability values. This is an old area of obviously complex geology. A small satellite anomaly was detected to the southwest. It reaches a point high of 29 milliseconds but is largely around 10 milliseconds.



- 2+00N
- 1+00N
- 0+00 B.L.
- 1+00S
- 2+00S
4+00E
6+00E
8+00E
10+00E
LEGEND:
ZINC, 300 ppm
COPPER, 120ppm
GOLD, 10 ppb
CHARGEABILITY, N=1, 8 Ma
CHARGEABILITY, N=2, 8 Ma
CHARGEABILITY - GEOCHEMISTRY
1 : 5,000
PLATE 1

This anomaly crosses a zone of intense silicification and jasperoid rocks on the road. Plate 1 depicts the excellent correlation with the various geochemical trends.

The apparent resistivity is shown on Figure 3. It was obtained using the amperage and voltage range scale which is not as sensitive as a direct VP. reading, thus the data is contoured logarithmically. A pronounced apparent resistivity low occurs through the large chargeability anomaly and in the zenith value of the satellite one. These likely relate to sheared graphitic argillite. The n = 1 chargeability data shows similar trends to n = 2 and is illustrated on Figure 4. Both the n = 1 and n = 2 maps show an area of low chargeabilities associated with the steep craigs. The high chargeability values then curl around the steep area on the east.

Figures 5 - 9 show the chargeability values as they would be occurring with respect to the steep slope. Line 900E shows the small satellite anomaly to the southwest and the stronger one to the northeast. The chargeabilities suggest a northeasterly dip.

A ground magnetometer survey was undertaken with the 1981 work. No correlation with the chargeability data was apparent in the southwest portion of the Q-4 grid surveyed at that time. However, a response of 100 gammas above background was obtained over the chalcopyrite=pyrrhotite mineralization in the Q-2 trench. A stronger magnetic response of larger size was detected on Line 0 at 100E. It is associated with chargeability values of 17-22 milliseconds. The low order magnetic highs may possibly be mapping volcanic units while the high chargeabilities the more graphitic argillaceous rocks.

CONCLUSION

During the month of August, 1982, an induced polarization survey was conducted over a portion of the Marshall Creek property of Quinto Mining Corp.

The survey covered a strong zinc geochemical anomaly approximately 1 km in length which passes through two old exploritory adits containing auriferous sulphide mineralization.

The induced polarization chargeability data delineated a strong chargeability anomaly some 8 times background which covers an area of mixed volcanic and argillaceous rocks containing the old workings. A small satellite anomaly was detected to the southwest. This anomaly is in an area of silicification and jasperoid rocks which also give favourable geochemical results.

The strong chargeability anomaly extends northward onto the Q-2 grid where there is a trench containing minor chalcopyrite and pyrrhotite mineralization in silicified volcanic rocks.

RECOMMENDATIONS

It is recommended that a diamond drill hole be positioned near line 900E - 900N and drilled due south at -70° for a length of 200 m. An independent report based on the geology of the old workings has also justified several geologic holes.

The chargeability - magnetic responses on line 300N on the Q-2 grid should also be tested depending upon topographic positioning.

The small satellite anomaly to the southwest would appear to be in an area of favourable geology-geochemistry and should also be diamond drilled.

Respectfully submitted,

PROVINCE OF GLEN E. WHITE BRITISH COLUMBIA ENGINEER

Glen E. White, P. Eng.
Consulting Geophysicist

INSTRUMENT SPECIFICATIONS

INDUCED POLARIZATION SYSTEM

A. Instruments

(a) Type - pulse

(b) Make - Huntec

(c) Serial No. - transmitter #107 - receiver #3016

B. Specifications

(a) Size and Power - 2.5 KW

(b) Sensitivity - 300 x 10.5 volts

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

(d) Power - 8 H.P. Briggs and Stratton @ 3000 R.P.M.

(e) Timing - electronic, remote and direct.

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

(g) Calculate (i) Resistivity - ohm-meters (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

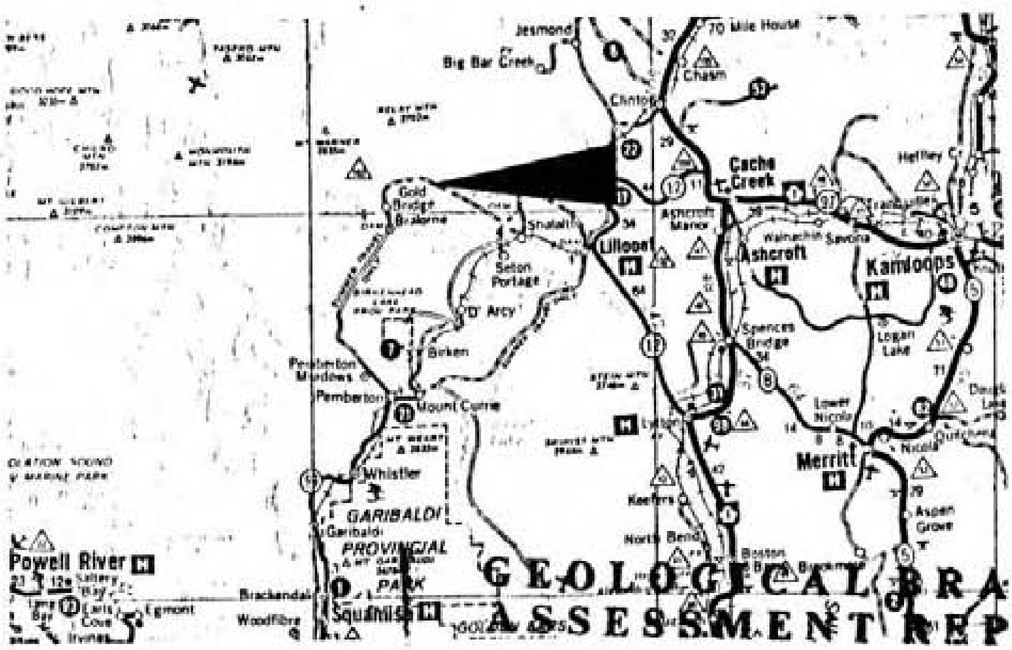
Contour Maps (i) Chargeability - milliseconds
(ii) Resistivity - ohm-meters (ohm-feet)

STATEMENT OF QUALIFICATIONS

NAME:	WHITE, Glen E., P.Eng.
PROFESSION:	Geophysicist
EDUCATION:	B.Sc. Geophysicist - 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.
	Twelve years Consulting Geophysicist.
	Active experience in all Geologic provinces of Canada.

COST BREAKDOWN

Personnel	Date	Wages	Total
T. Allman	Aug.10-26/82	$255/day	$4335.00
E. Clarke	Aug.10-26/82	$185/day	3145.00
S. Thomson	Aug.10-26/82	$160/day	2720.00
B. Hill	Aug.10-26/82	$155/day	2635.00
Instrument Lease		$225/day	3825.00
Vehicle		$95/day	1615.00
Materials and Sundry			170.00
General Supervision, interpretation and reports			2500.00
		TOTAL	$20,945.00



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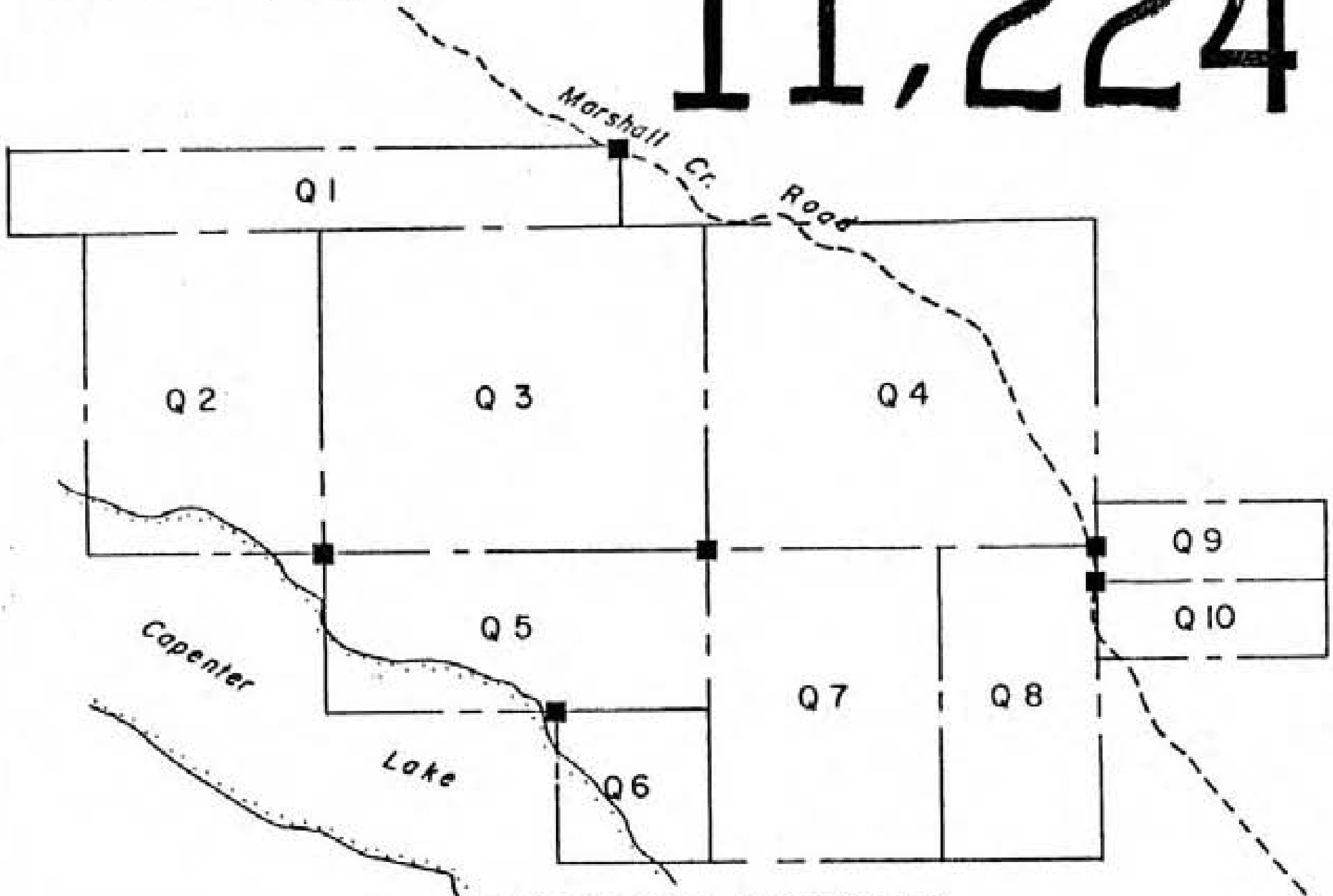
N. T. S. 92 J/15 , 92 J/16



QUINTO MINING CORPORATION
– MARSHALL RIDGE PROJECT –
LOCATION AND CLAIMS MAP

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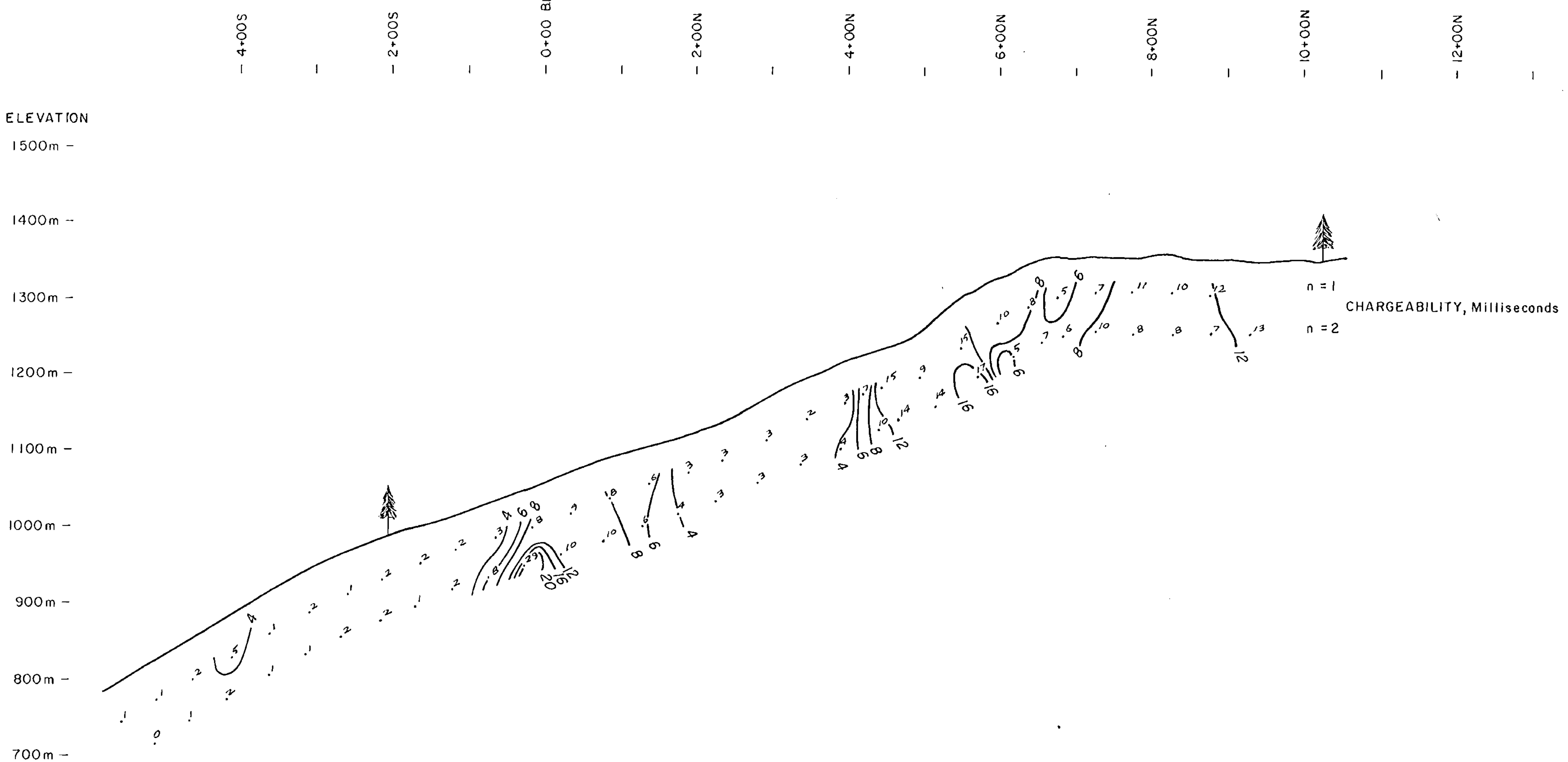
FIGURE 1



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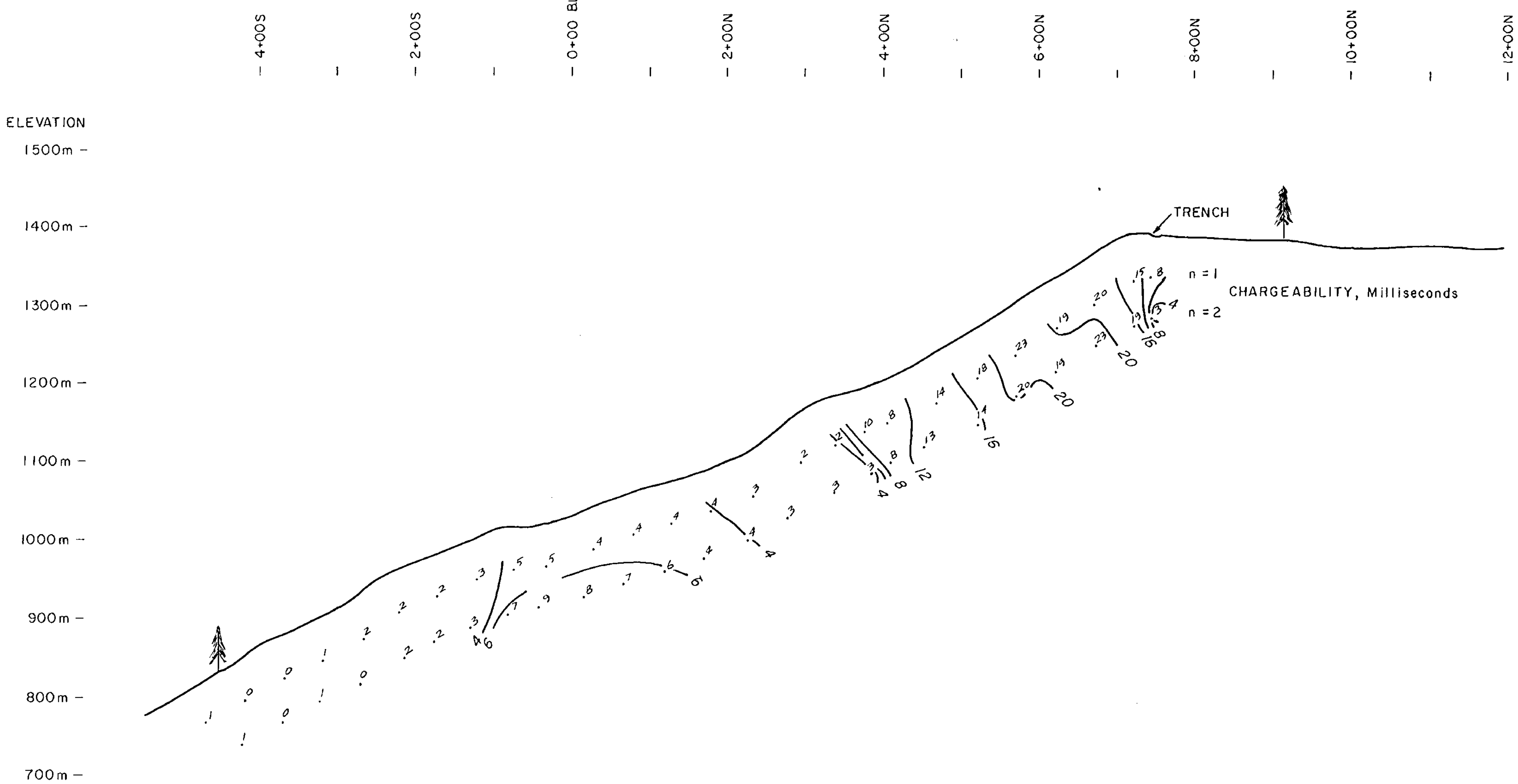
QUINTO MINING CORPORATION
MARSHALL RIDGE PROJECT
LILLOOET MINING DIVISION - BRITISH COLUMBIA

TOPOGRAPHY CHARGEABILITY SECTION
LINE — 6+00E

PROFESSIONAL ENGINEER · PROVINCE OF BRITISH COLUMBIA · GLEN E. WHITE

Glen E. White geophysical consulting & services ltd.

INTERPRETED BY: G.E.W.
DRAWN BY: FINELINE DRAFTING
CHECKED BY: G.E.W.
DATE: OCT. /82
FIG. NO. 5



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100m 50m 0 100m 200m
1 : 5000

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TOPOGRAPHY CHARGEABILITY SECTION
LINE — 7+00E

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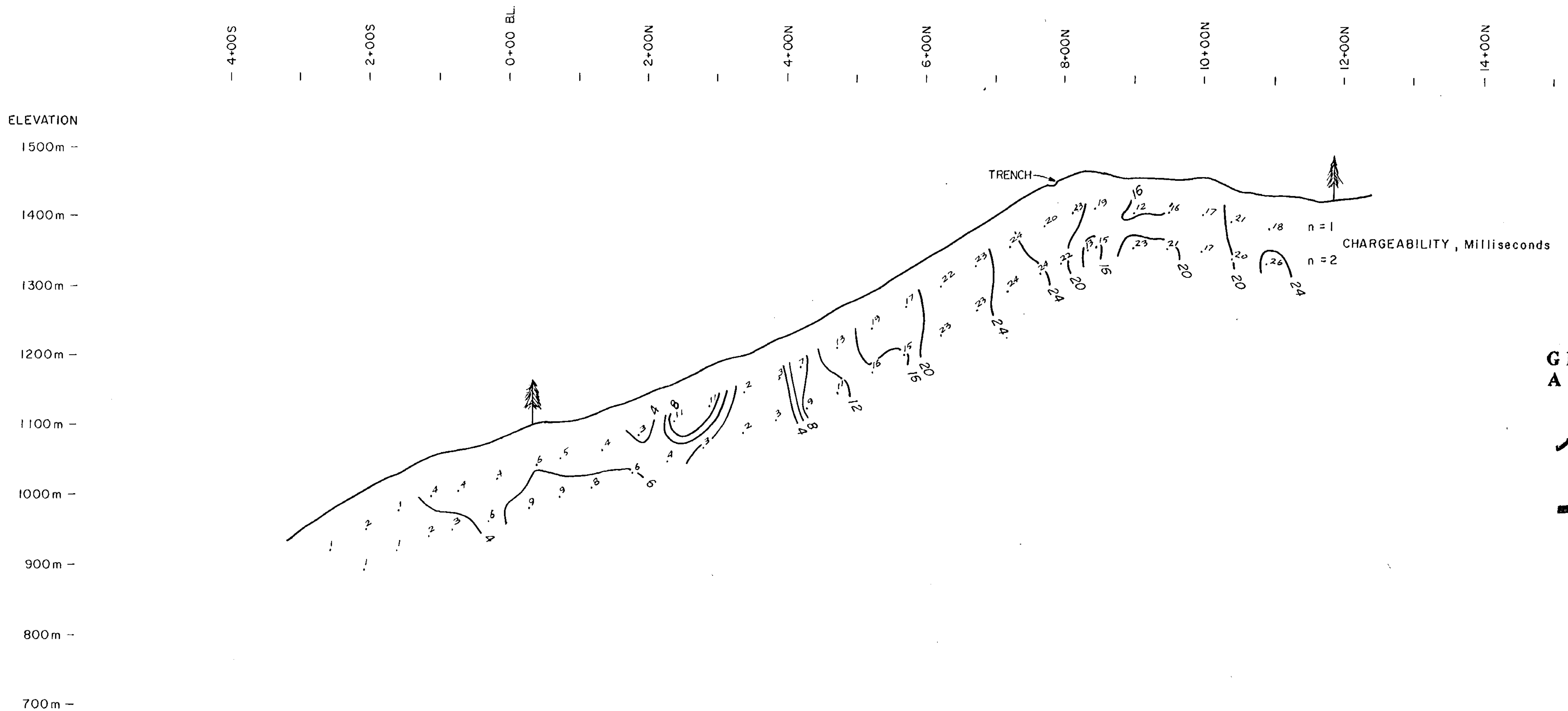
FIG. NO:	6



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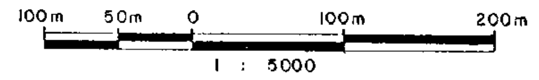

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TOPOGRAPHY CHARGEABILITY SECTION
LINE — 8+00E

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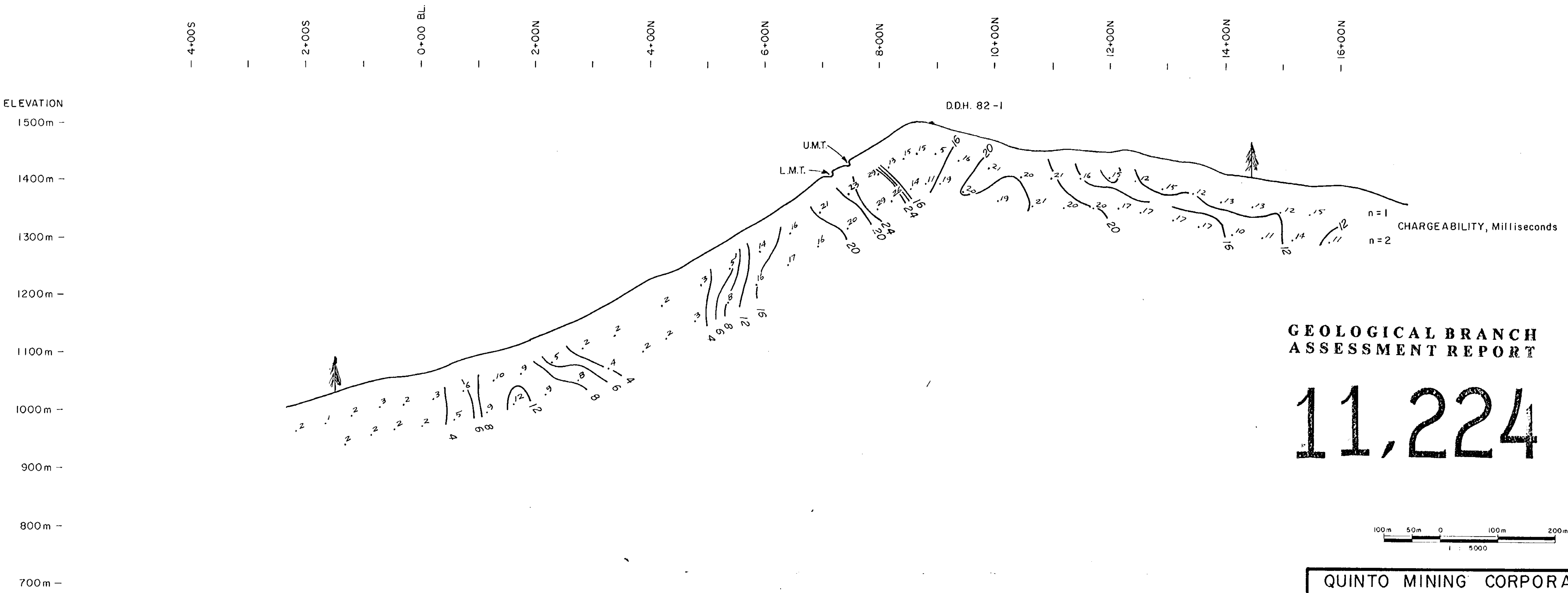
FIG NO: 7



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TOPOGRAPHY CHARGEABILITY SECTION

LINE — 9+00E

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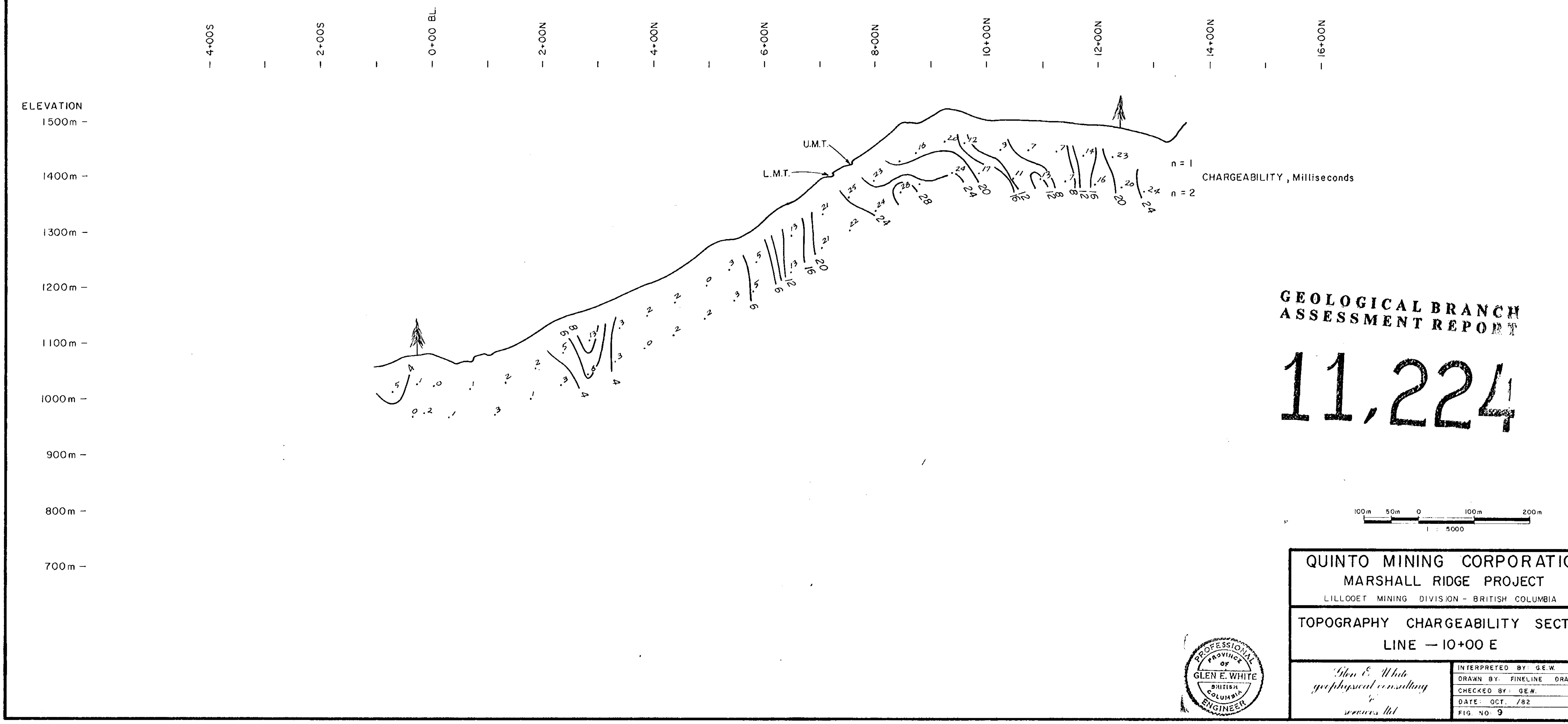
FIG. NO. 8



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TOPOGRAPHY CHARGEABILITY SECTION
LINE — 10+00 E

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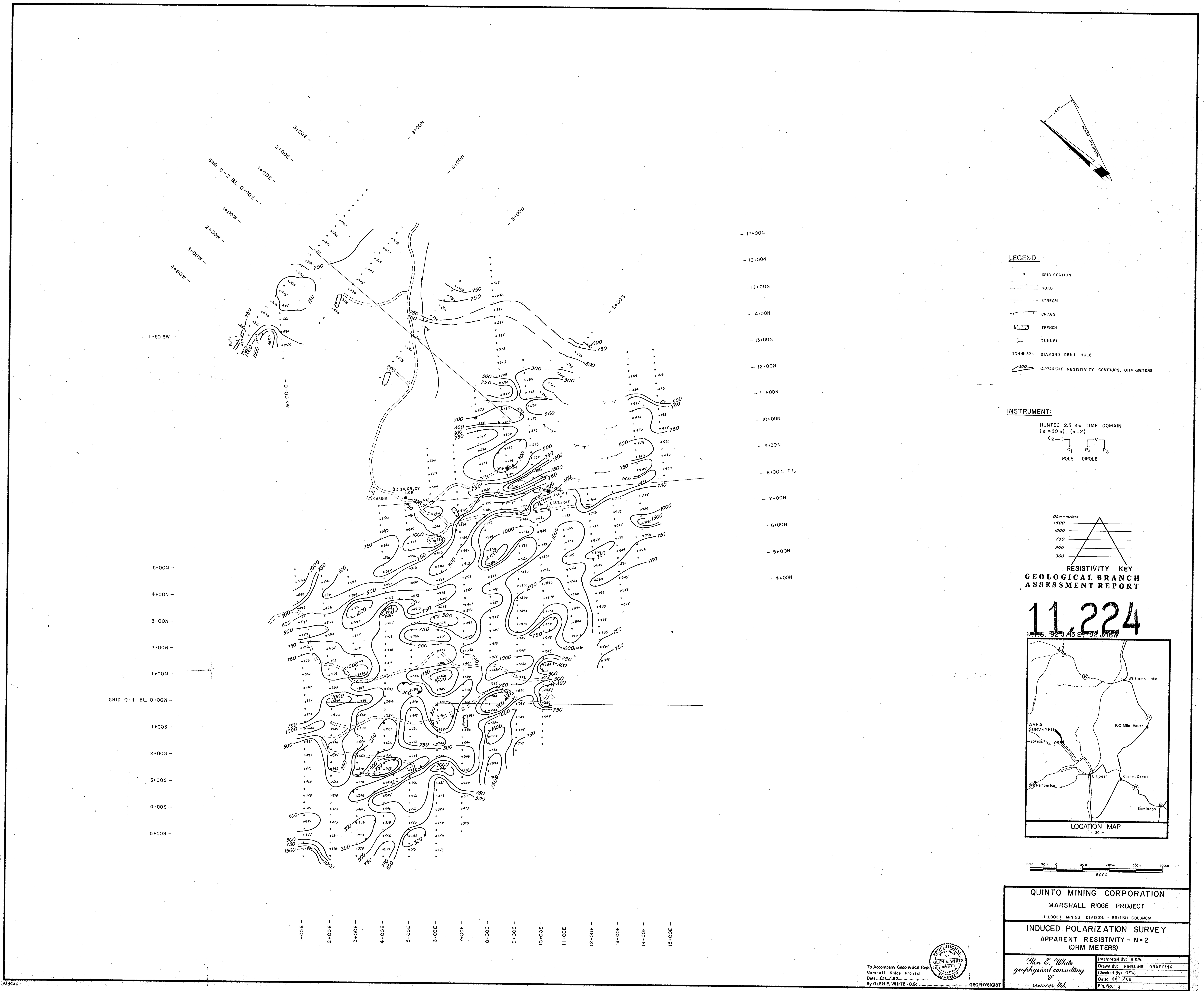
FIG. NO:	9



LEGEND:
GRID STATION
ROAD
STREAM
CRAGS
TRENCH
TUNNEL
D.D.H. 82-1 DIAMOND DRILL HOLE
300 APPARENT RESISTIVITY CONTOURS, OHM-METERS
INSTRUMENT:
HUNTEC 2.5 Kw TIME DOMAIN
(a = 50m), (n = 2)
POLE DIPOLE
Ohm-meters
1500
1000
750
500
300
RESISTIVITY KEY
GEOLOGICAL BRANCH
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LOCATION MAP
1" = 34 mi.
Williams Lake
100 Mile House
AREA SURVEYED
Lillooet
Cache Creek
Pemberton
Kamloops
1 : 5000
GRID Q-2 BL. 0+00E
GRID Q-4 BL. 0+00N
8+00N T.L.
CABINS
QUINTO MINING CORPORATION
MARSHALL RIDGE PROJECT
LILLOOET MINING DIVISION - BRITISH COLUMBIA
INDUCED POLARIZATION SURVEY
APPARENT RESISTIVITY - N=2
(OHM METERS)
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Date: OCT./82
Fig. No.: 3
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Date Oct./82
By GLEN E. WHITE - B.Sc. GEOPHYSICIST
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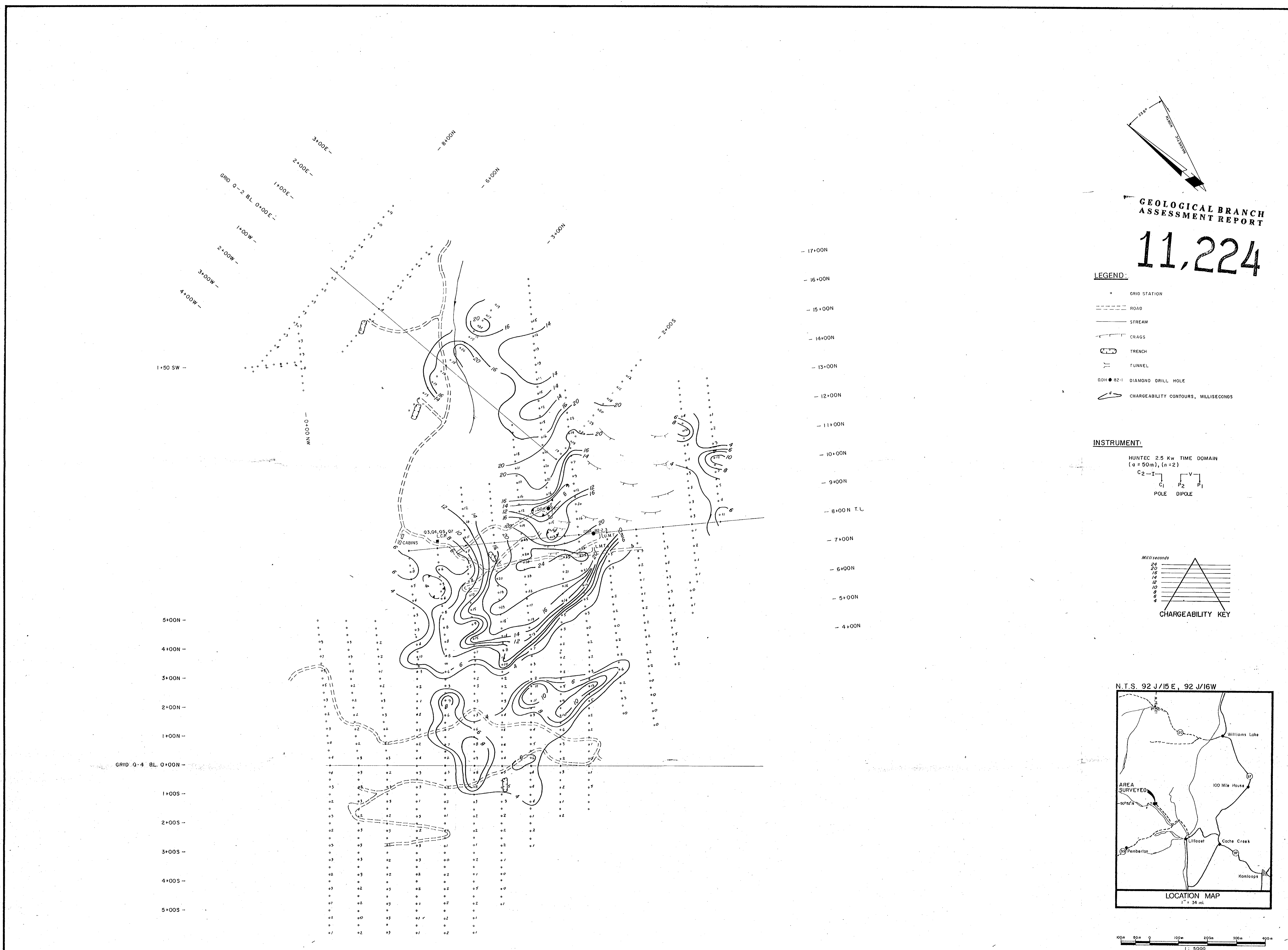

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MARSHALL RIDGE PROJECT

LILLOOET MINING DIVISION – BRITISH COLUMBIA

INDUCED POLARIZATION SURVEY

CHARGEABILITY — N = 1

(MILLISECONDS)

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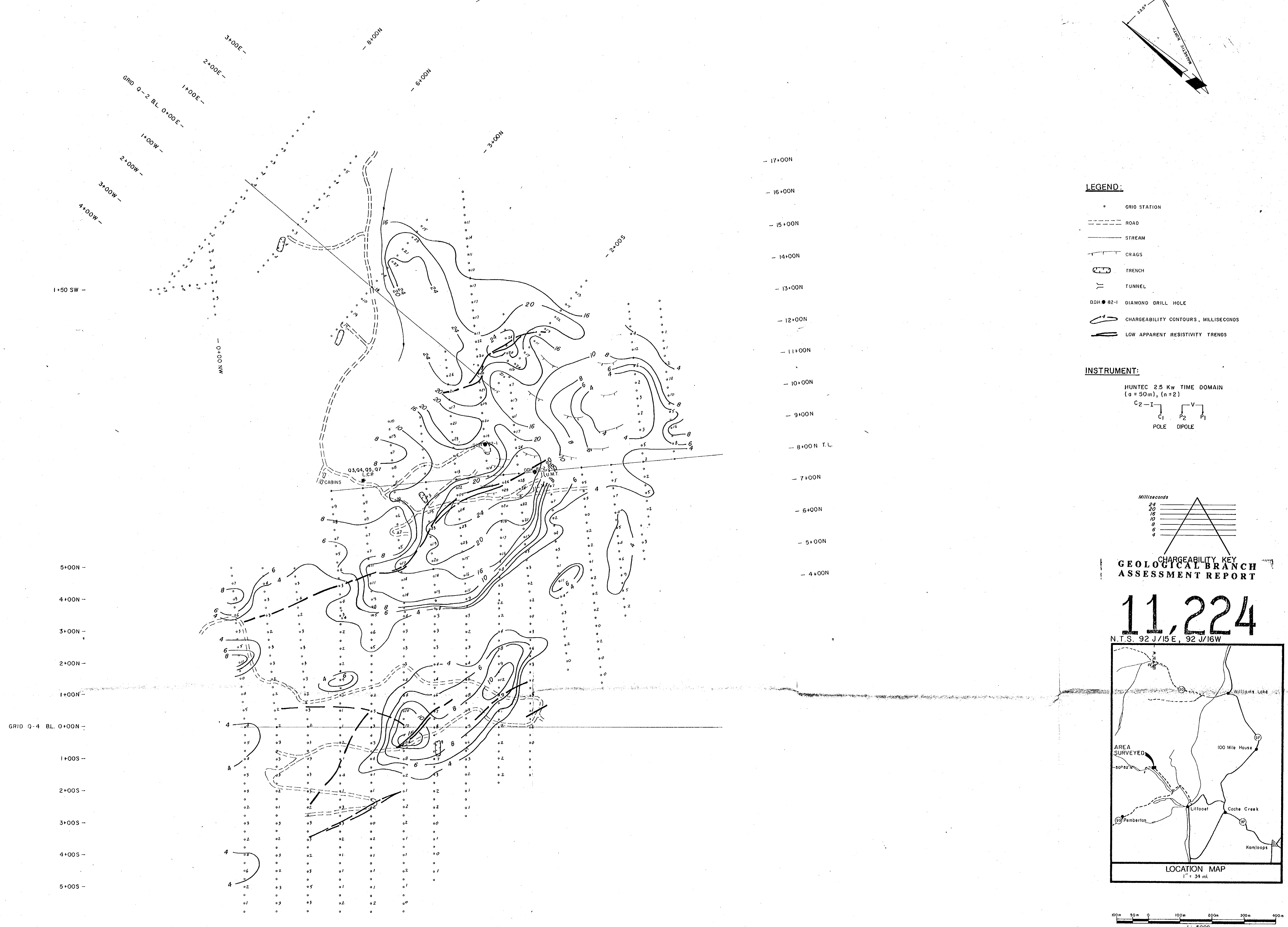

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INDUCED POLARIZATION SURVEY

CHARGEABILITY - N = 2

(MILLISECONDS)

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