

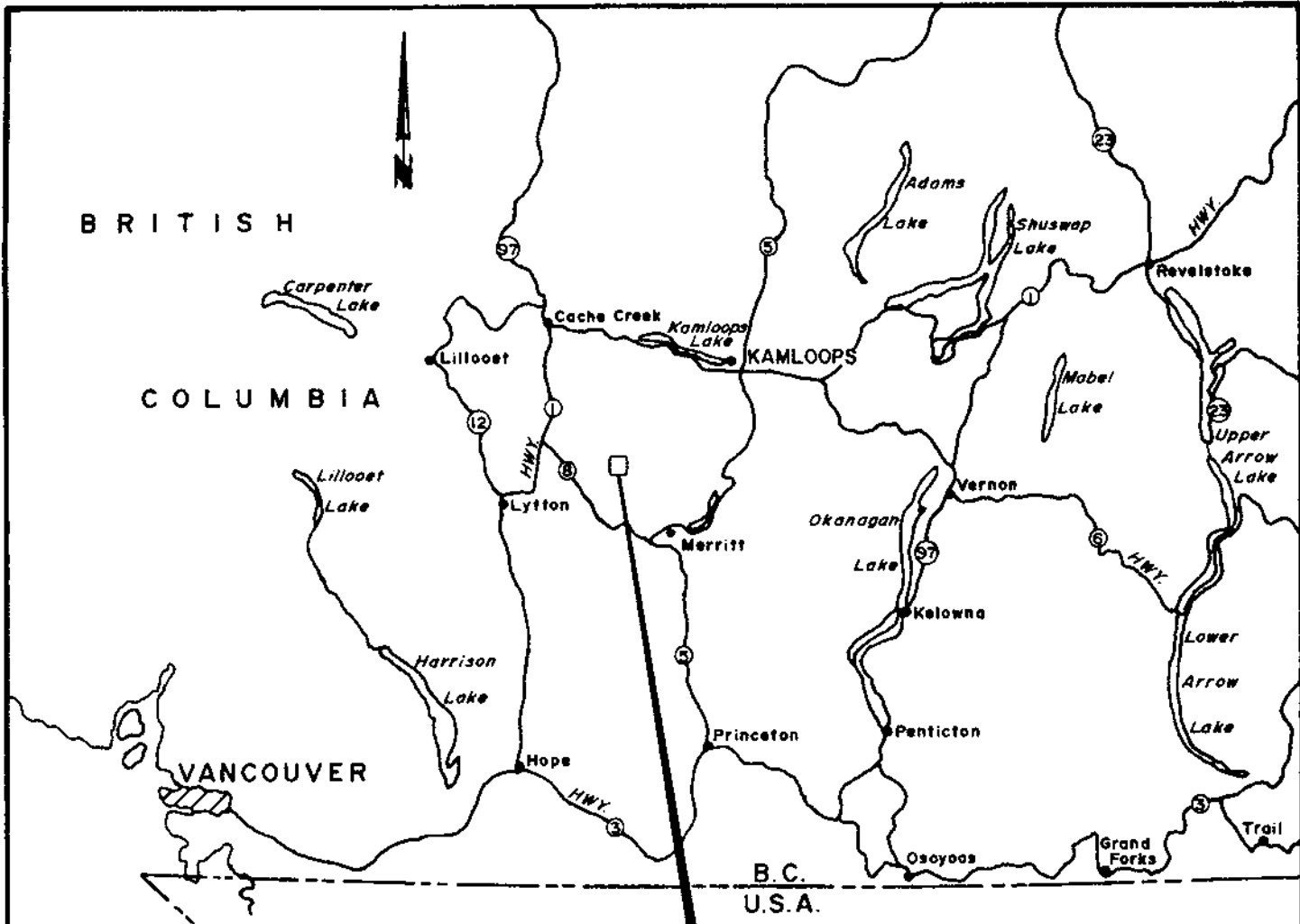
MINERAL RESOURCES
ASSESSMENT REPORT
NO. 6352

VIC

GEOPHYSICAL REPORT '77-#239-#6352
On An
INDUCED POLARIZATION SURVEY
ALLSTAR RESOURCES LTD.

TC, LL and ALL mineral claims Skuhost
Creek Highland Valley area, ~~Nicola~~ Kamloops Mining Division, B. C. *N*
Lat. 50°20'N Long. 121°03'W N.T.S. 92 I/6E *92*

AUTHOR: Glen E. White, B.Sc., P. Eng.
DATE OF WORK: June 9 - 20, 1977
DATE OF REPORT: July 12, 1977



AREA OF SURVEY

TC 2	TC 4	ALL 3	ALL 14	ALL 19
LL 12	LL 1	ALL 2	ALL 15	ALL 18
LL 11	LL 2	ALL 1	ALL 16	ALL 17

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 LL & ALL CLAIMS
 LOCATION AND CLAIM MAP



Glen E. White
 geophysical consulting
 services Ltd.

Scale: 1" = 40 Miles

JUNE 28, 1977
 FIG. 1

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INTRODUCTION

During the period June 9 - 20, 1977, a program of induced polarization surveying was conducted over a group of mineral claims held by Allstar Resources Ltd. in the Skuhost Creek area of the Highland Valley, ~~Nicola~~ ^{Kamloops} Mining Division, B.C.

The purpose of the survey was to examine an area of potassium feldspar enrichment and chloritic alteration which contains fracture fillings of chalcocite and bornite.

PROPERTY

The property consists of the TC, LL and ALL mineral claims as illustrated on Figure 1.

LOCATION AND ACCESS

The survey area is located in the Skuhost Creek drainage at the southern end of the Highland Valley Plateau, ~~Nicola~~ ^{Kamloops} Mining Division, Latitude 50°20'N, Longitude 121°03'W, N.T.S. 92 I/6.

Access to the mineral claims is by gravel road up Skuhun Creek which crosses the Spences Bridge - Merritt road, Highway #8, some 26 km from Spences Bridge. Final access is obtained by a dirt road up the west side of Skuhost Creek to a steep cat road indicated by an "Allstar Resources" sign.

GENERAL GEOLOGY

The mineral claims lie in a physiographic region known locally as the Highland Valley which is characterized by rounded hills up to 6000 feet in elevation and moderately broad valleys. Geologically the area is underlain by a multiphase acid plutonic intrusion termed the Highland Valley batholith which contains Canada's largest open pit porphyry copper mines. Locally the claims area is mapped as underlain by the Bethsaida phase, a relatively young central core phase of the batholith, described as a biotite quartz monzonite. The general Highland Valley area is covered with a mantle of pleistocene glacial till.

SURVEY SPECIFICATIONS

Survey Grid

The traverse lines were established in a north-south direction every 200 meters from an east-west baseline. The lines were flagged and numbered at 50 m intervals. Some 11 km of survey grid was established and surveyed.

Geochemical Survey

Soil samples were obtained by Allstar Resources personnel along the survey grid. The samples were

taken at 50 m intervals and shipped to General Testing Laboratories for analysis where -80 mesh sieving, digestion by hot perchloric-nitric acid and analysis by atomic absorption were carried out under the supervision of professional geochemists. Some 175 samples were obtained and analysed for p.p.m. copper and zinc.

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 is placed at "infinity". This survey was conducted with an "a" spacing of 100 m.

Induced Polarization Unit

The equipment used on this survey was the Hunttec pulse-type unit. Power was obtained from a Briggs and Stratton 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 pulse reversing continuously in polarity. Power was transmitted to the ground through two potential electrodes, P_1 and P_2 .

The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through electrodes C₁ and C₂, the primary voltage (V_p) appearing between electrodes P₁ and P₂ during the "current on" part of the cycle, and the secondary voltage ratios M₁, M₂, M₃ and M₄ appearing between electrodes P₁ and P₂ during the "current off" part of the cycle.

The apparent chargeability (M') in milliseconds, is calculated by $T_p (M_1 \neq 2M_2 \neq 4M_3 \neq 8M_4) = M'$, where T_p is the basic integrating time in tenths of seconds. M₁, M₂, M₃ and M₄ are the chargeability effects at various times on the voltage decay curve during pulse off time, 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-meters, 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.

DISCUSSION OF RESULTS

A cursory geological examination of the property and area of the showings by the author indicated that the property is underlain by granodiorite which, in the area of the showings, has been chloritically altered along northeast striking fracture systems with accompanying potassium feldspar enrichment. The chalcocite mineralization, with minor bornite, occurs as veinlets along this fracture system. No primary sulphides - pyrite or chalcopyrite - were seen. A slight variation in magnetic intensity was noted in a number of hand specimens.

The induced polarization chargeability map, Figure 2, shows a low background response in the order of 2 milliseconds with a high of 4.2 milliseconds occurring in the area of the showing. A slight increase in background chargeability to the west may possibly indicate an increase in the number of mineralized fractures. The detail profile 5W would appear to outline a similar fracture system to the showing.

The induced polarization data indicates that the fracture system has some depth extent but likely does not increase in mineralization with depth.

The copper geochemical data shows excellent correlation with the chargeability information and also suggests additional fracture systems to the west. Background value for copper is some 20 p.p.m. with anomalous values some 10 - 20 times greater.

The zinc geochemical data reached a high of 521 p.p.m. above a background of some 40 p.p.m. The number of anomalous values increase towards the west. There does not appear to be any direct correlation between the copper - zinc geochemical data other than the general increase towards the west. Thus it is felt that the zinc data may possibly reflect surficial glacial detritus anomalies.

The apparent resistivity data showed moderate variations which, in general, indicate changes in soil types and depth to bedrock. The steep ravine which traverses the southwest corner of the property likely relates to a regional structural feature but is not reflected by the resistivity data.

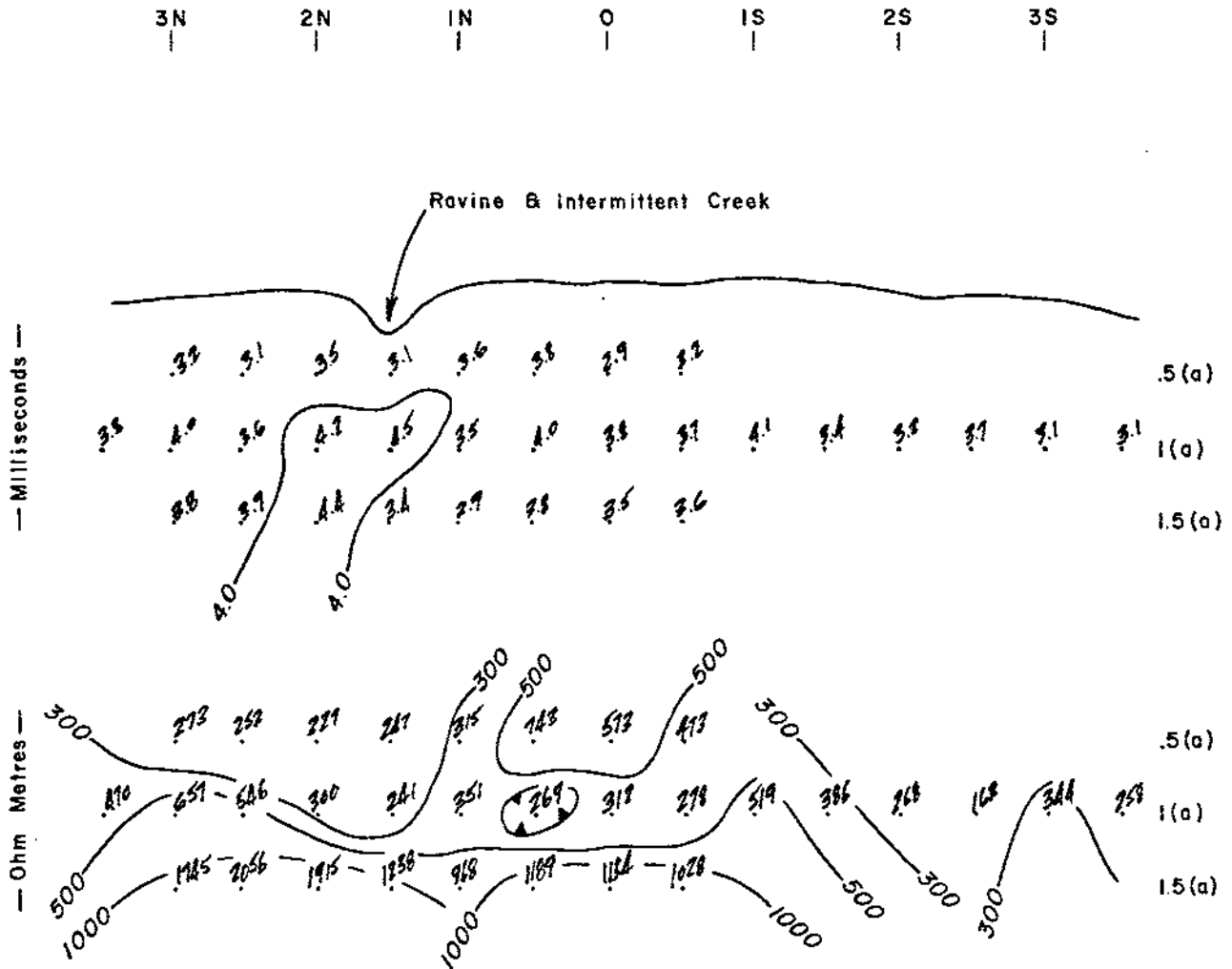
Correlation of the geophysical-geochemical data delineated an area of weak chargeability with supporting copper geochemical values in the southwest section of the survey area. This zone may continue westward off

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DETAILED INDUCED POLARIZATION PROFILES

LINE 5+00 W

Scale : 1cm. = 50 metres



the claims area. The property is located on or near the northwest trending contacts of the Bethsaida - Bethlehem and Chataway phases of the Highland Valley Batholith. This trend is approximately parallel to the steep ravine. The background values of zinc also increase in the Chataway and Guichon phases (C.I.M.M. special volume No. 15 pp. 99) which may account for the westward increase in zinc values.

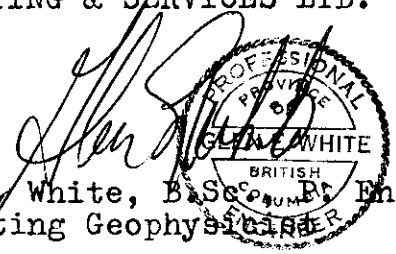
CONCLUSION AND RECOMMENDATIONS

During the month of June 1977 a program of induced polarization surveying was conducted over the TC, LL and ALL mineral claims on behalf of Allstar Resources Ltd.

The geophysical survey was correlated with geochemical data provided by Allstar Resources Ltd. and indicated a weak chargeability anomaly which shows correlating anomalous copper geochemical values. The known showings are fractures containing chalcocite-bornite which do not give large chargeability responses. The detail profile of line 5W shows a mineralized fracture zone that continues to depth but does not appear to increase in mineral intensity. Thus, based on the per volume chargeability responses of the known showing

area, it is recommended that any further work within the survey area be held in abeyance until any nearby mineral discoveries are made which would increase the merit of the mineral claims.

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



Glen E. White, B.Sc. (Hons), Ph.D., Eng.
Consulting Geophysicist

INSTRUMENT SPECIFICATIONSINDUCED POLARIZATION SYSTEMA. Instruments

- (a) Type - pulse
- (b) Make - Hunttec
- (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) amps (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.

Profession: Geophysicist

Education: B.Sc. Geophysics - Geology
University of British Columbia

Professional Associations: Associate member of Society of
Exploration Geophysicists.

Vice-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 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.

Six years Consulting Geophysicist.

Active Experience in all Geologic provinces
of Canada.

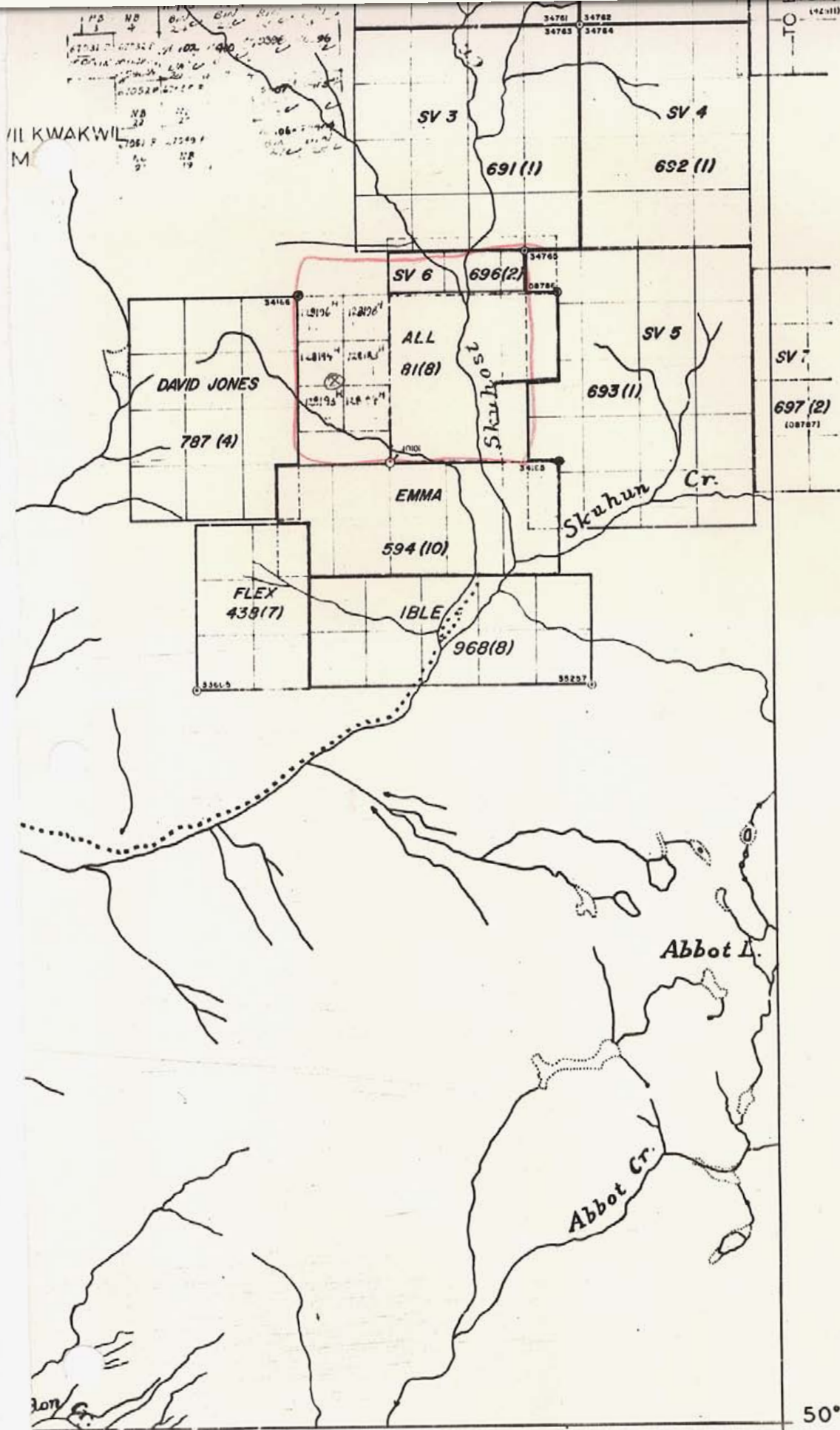
COST BREAKDOWN

<u>Personnel</u>	<u>Dates Worked</u>	<u>Wages</u>	<u>Total</u>
C. Candy.....	June 9-20/77.....	\$110/day.....	\$1320.00
L. Durkin.....	"....."	85/day.....	1020.00
T. MacKenzie.....	"....."	85/day.....	510.00
S. Berryman.....	"....."	54/day.....	324.00
Meals and accomodations.....			720.00
Instrument lease.....			321.00
Vehicle 4x4 gas included.....			360.00
Interpretation maps and reports.....			850.00
Total.....			<u>\$5425.00</u>

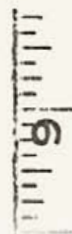
Supervision
soil survey

202.25
1168.59

6805.84

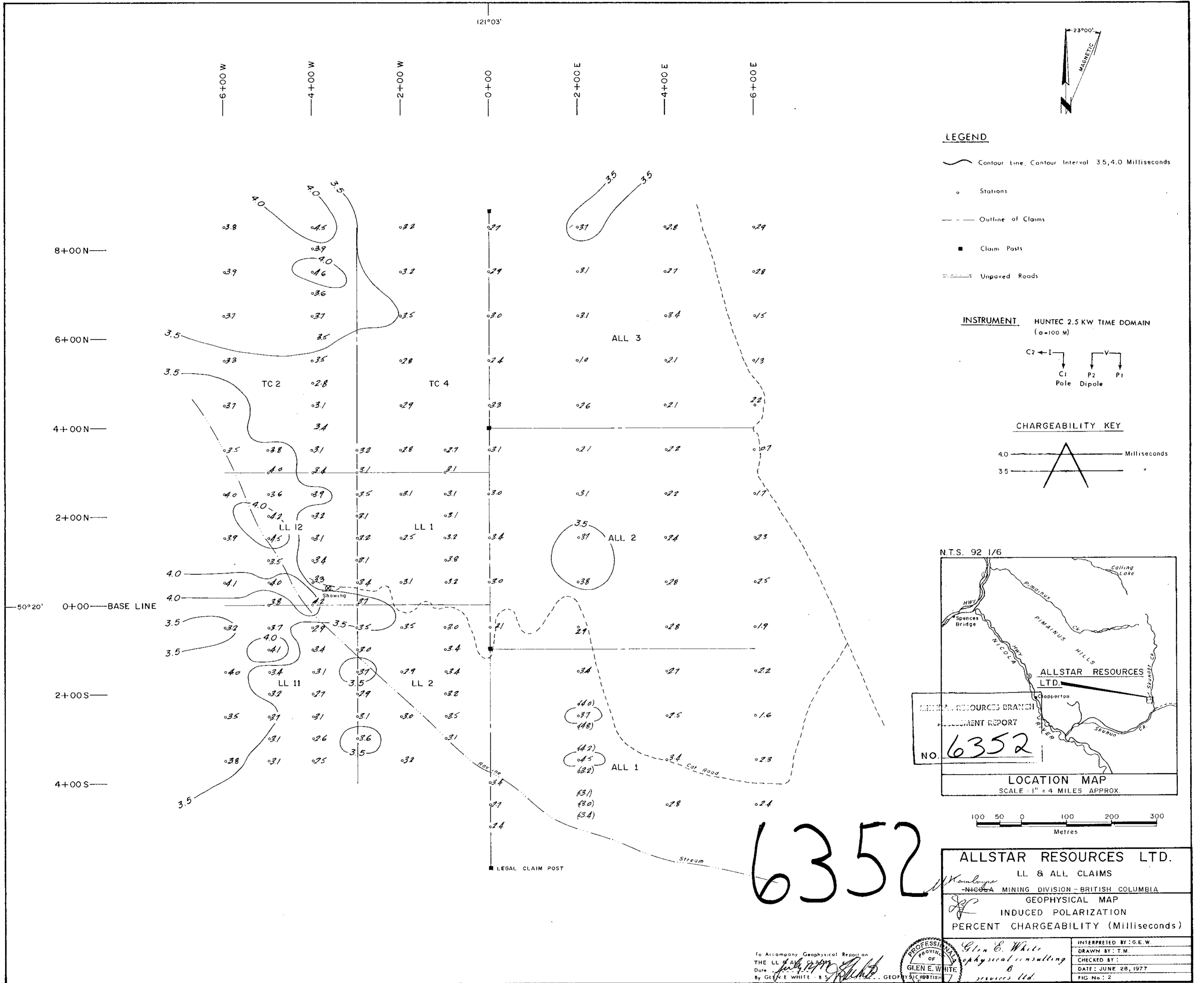


DATE OF MICROFILM
AUG 25 77



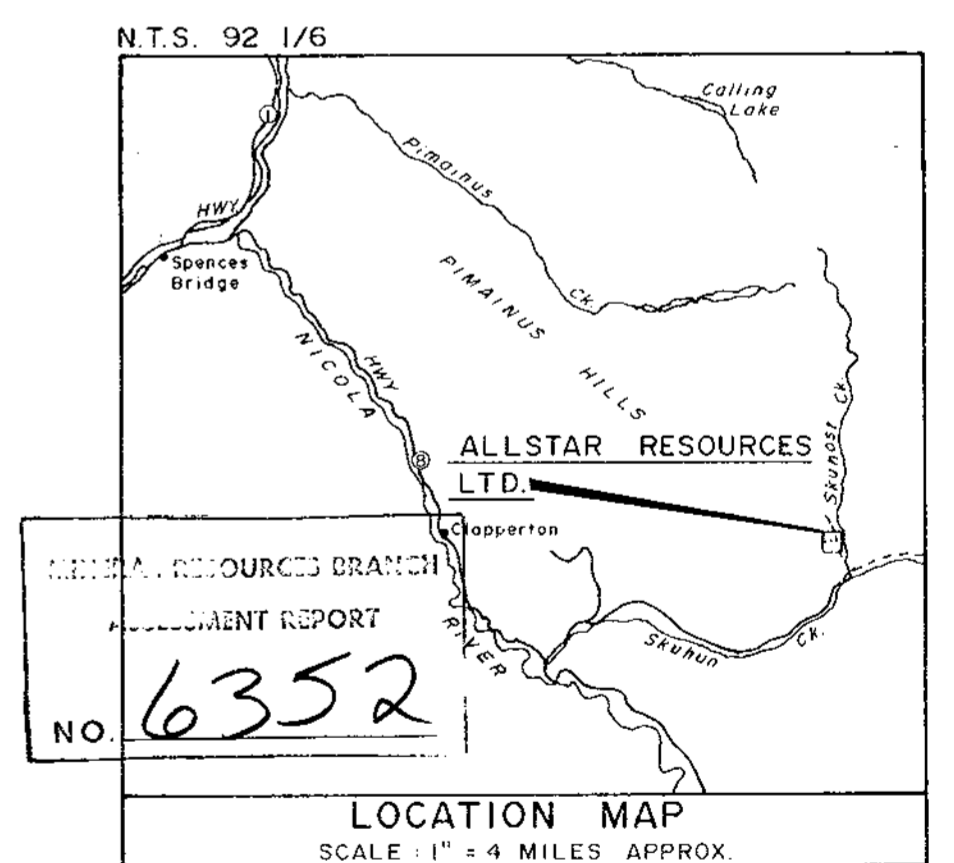
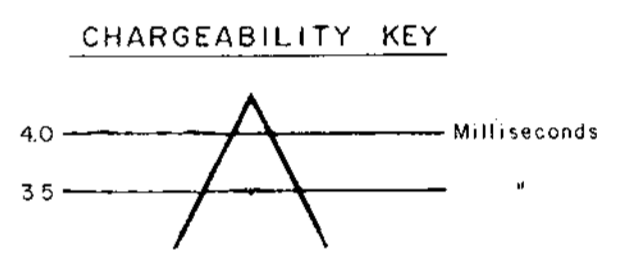
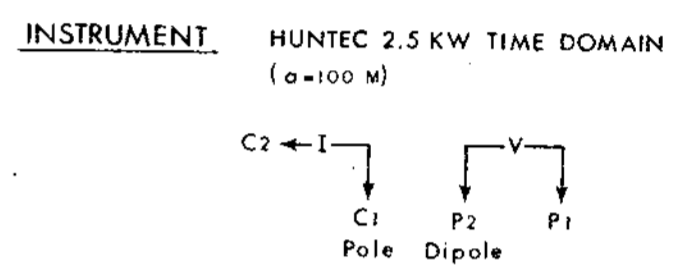
M 921/6E

50° 15'



LEGEND

- Contour Line, Contour Interval 3.5, 4.0 Milliseconds
- o Stations
- Outline of Claims
- Claim Posts
- Unpaved Roads



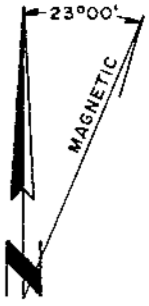
6352

To Accompany Geophysical Report on
THE LL & ALL CLAIMS
Date: July 27, 1977
By: GLEN E. WHITE



ALLSTAR RESOURCES LTD.	
LL & ALL CLAIMS	
NICOLO MINING DIVISION - BRITISH COLUMBIA	
GEOLOGICAL MAP	
INDUCED POLARIZATION	
PERCENT CHARGEABILITY (Milliseconds)	
INTERPRETED BY: G.E.W.	
DRAWN BY: T.M.	
CHECKED BY:	
DATE: JUNE 28, 1977	
FIG No: 2	

121°03'



LEGEND

- Contour Line. Contour Interval 50, 100, 200 P.P.M.
- Stations
- Outline of Claims
- Claim Posts
- Unpaved Roads

8+00N

6+00N

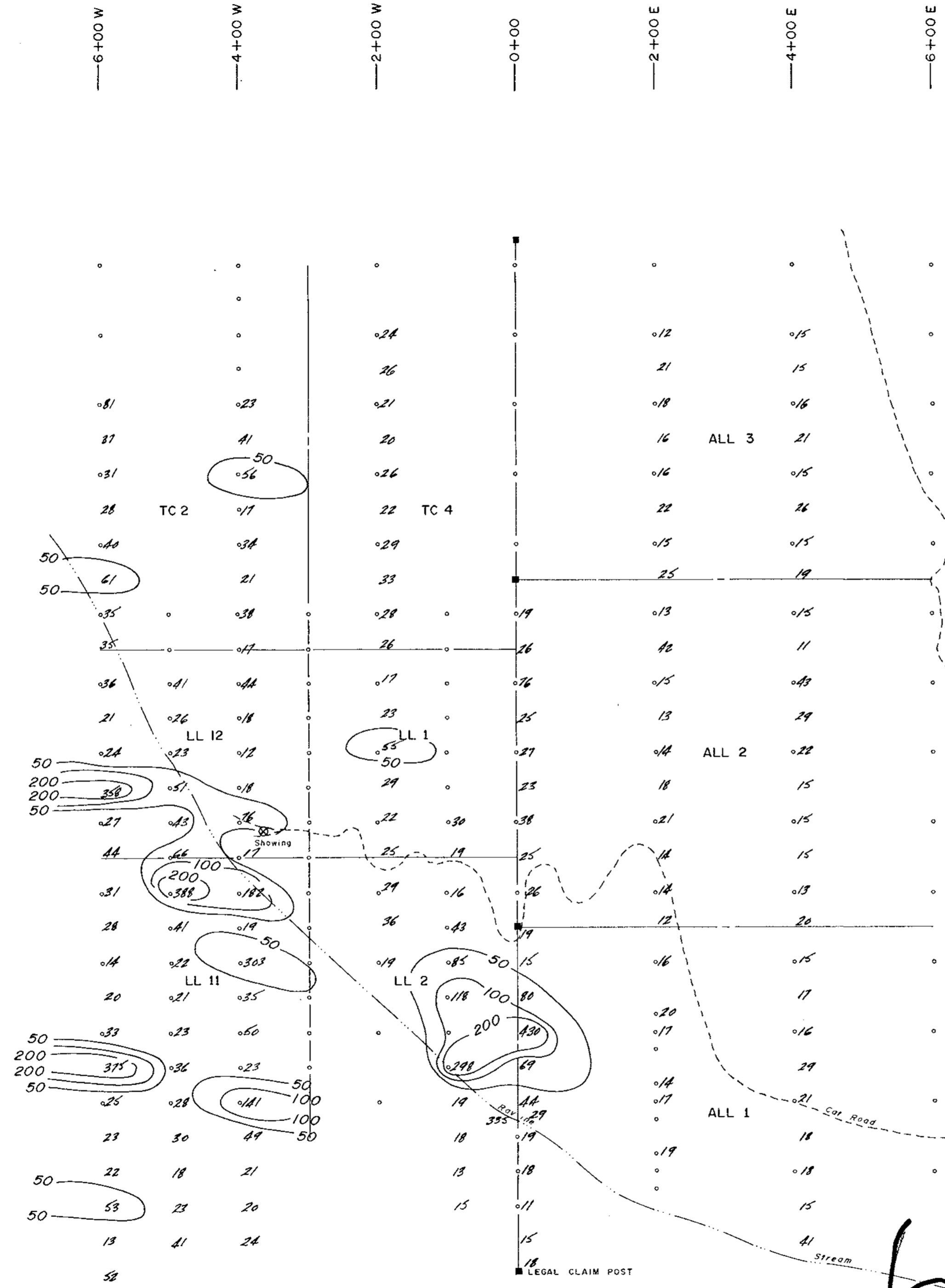
4+00N

2+00N

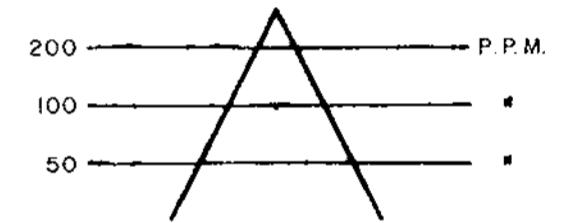
0+00 BASE LINE

2+00S

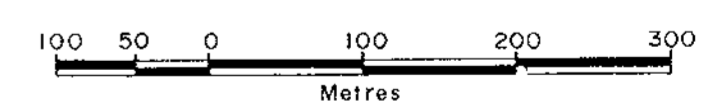
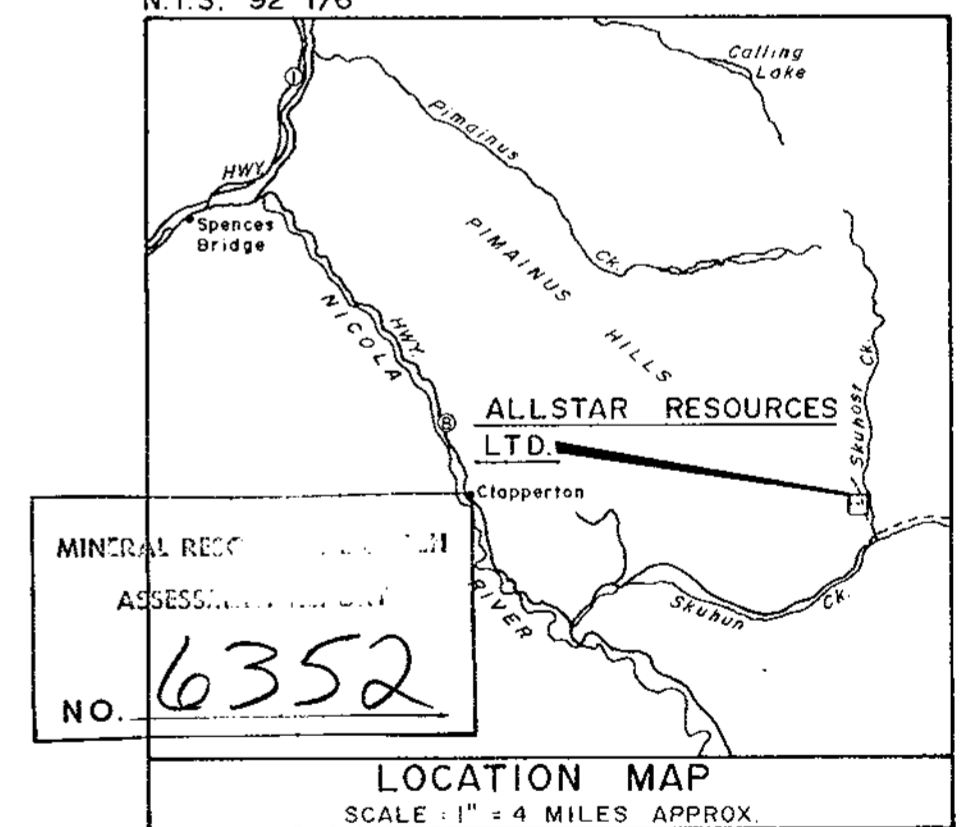
4+00S



COPPER KEY



N.T.S. 92 1/6



6352

ALLSTAR RESOURCES LTD.
 LL & ALL CLAIMS
 Nicola Mining Division - BRITISH COLUMBIA
 GEOCHEMICAL MAP
 COPPER P.P.M.

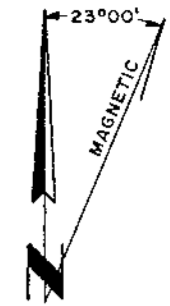
To Accompany Geophysical Report on
 THE LL & ALL CLAIMS
 Date - July 17, 1977
 By GLEN E. WHITE - B.S.P.



Glen E. White
 Geophysical Consulting
 services Ltd.

INTERPRETED BY: G.E.W.
DRAWN BY: T.M.
CHECKED BY:
DATE: JUNE 28, 1977
FIG No: 4

121°03'



LEGEND

- Contour Line, Contour Interval 75,100,150 P.P.M.
- Stations
- Outline of Claims
- Claim Posts
- Unpaved Roads

8+00N

6+00N

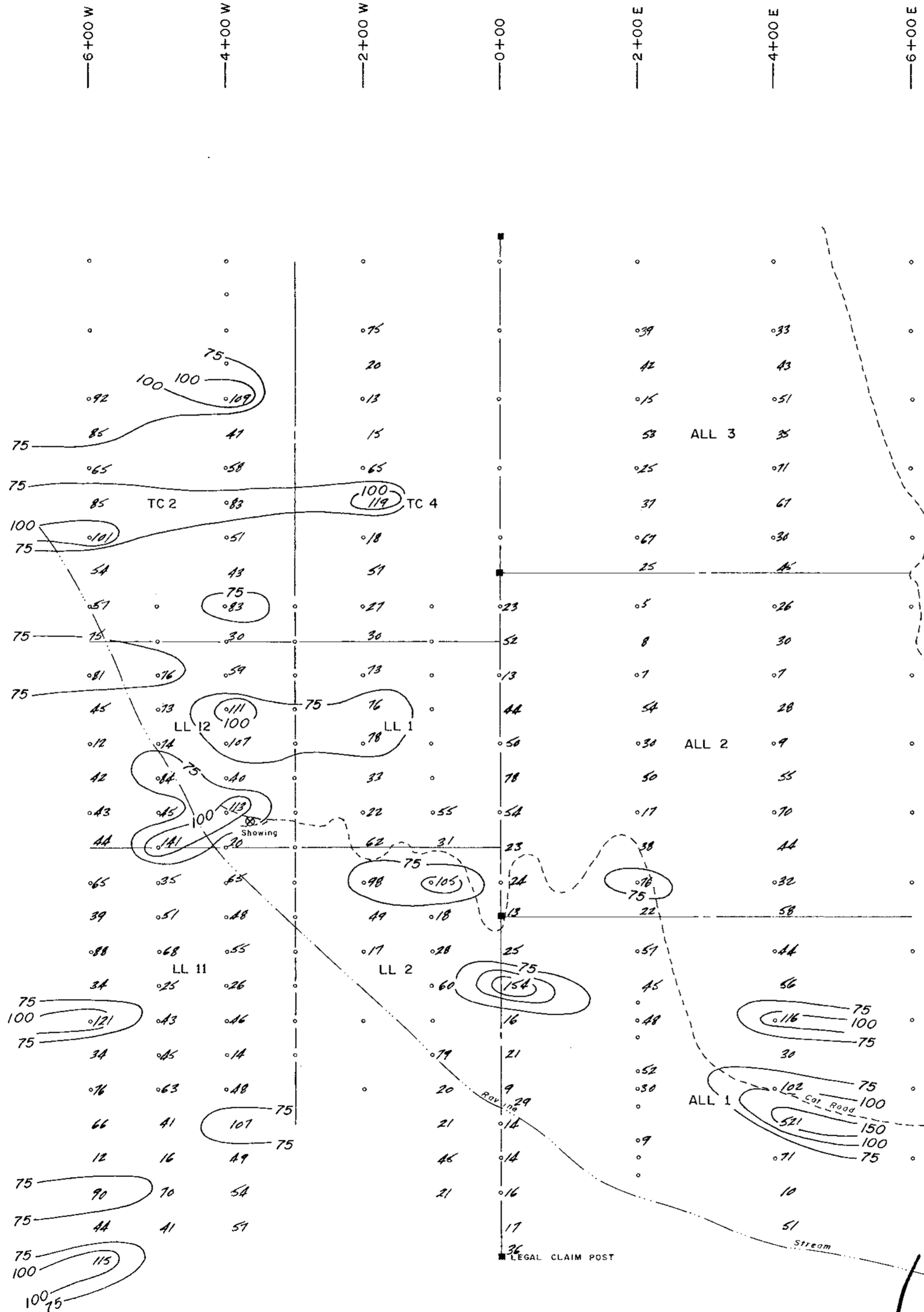
4+00N

2+00N

0+00 BASE LINE

2+00S

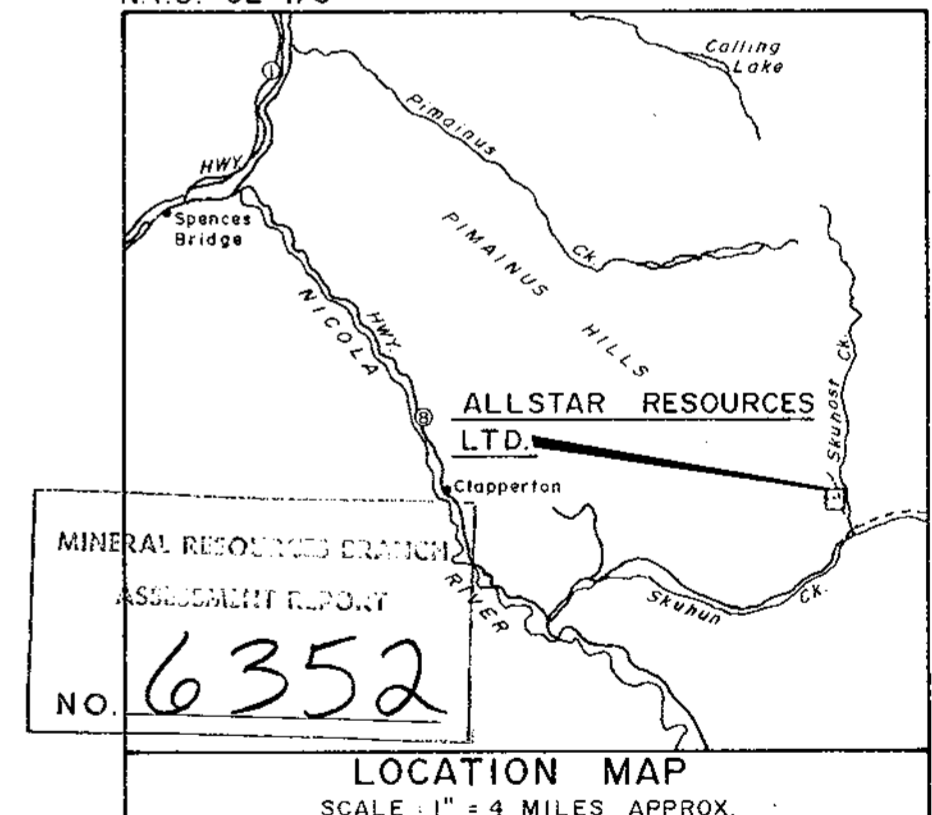
4+00S



ZINC KEY



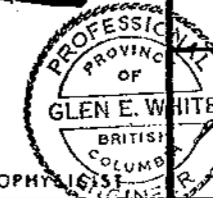
N.T.S. 92 1/6



6352

ALLSTAR RESOURCES LTD.
 LL & ALL CLAIMS
 NICOLA MINING DIVISION - BRITISH COLUMBIA
 GEOCHEMICAL MAP
 ZINC P.P.M.

To Accompany Geophysical Report on
 THE LL & ALL CLAIMS
 Date: *May 14 1977*
 By: *GLEN E. WHITE & SONS*



Glen E. White
 Geophysical consulting
 services Ltd.

INTERPRETED BY: G.E.W.
DRAWN BY: T.M.
CHECKED BY:
DATE: JUNE 28, 1977
FIG. No.: 5