

ARIS SUMMARY SHEET

District Geologist, Kamloops

Off Confidential: 94.12.29

ASSESSMENT REPORT 23310

MINING DIVISION: Clinton

PROPERTY: Club

LOCATION: LAT 51 58 00 LONG 121 24 00
UTM 10 5758321 609922
NTS 092P14W

CLAIM(S): Club 1-2, Club 6-7

OPERATOR(S): PMA Res.

AUTHOR(S): White, G.E.

REPORT YEAR: 1993, 13 Pages

COMMODITIES

SEARCHED FOR: Copper

KEYWORDS: Triassic, Nicola Group, Intrusives, Computer applications

WORK

DONE: Geophysical

MAGG 52.0 km

Map(s) - 5; Scale(s) - 1:10 000, 1:5000

LOG NO:	MAR 30 1994	RD.
ACTION:		
FILE NO:		

PMA RESOURCES INC

REPORT ON A
TOTAL FIELD MAGNETOMETER SURVEY

CLUB 1,2,6 & 7 CLAIMS CLINTON M.D.
LAC LA HACHE AREA, B.C., N.T.S. 92P/14W

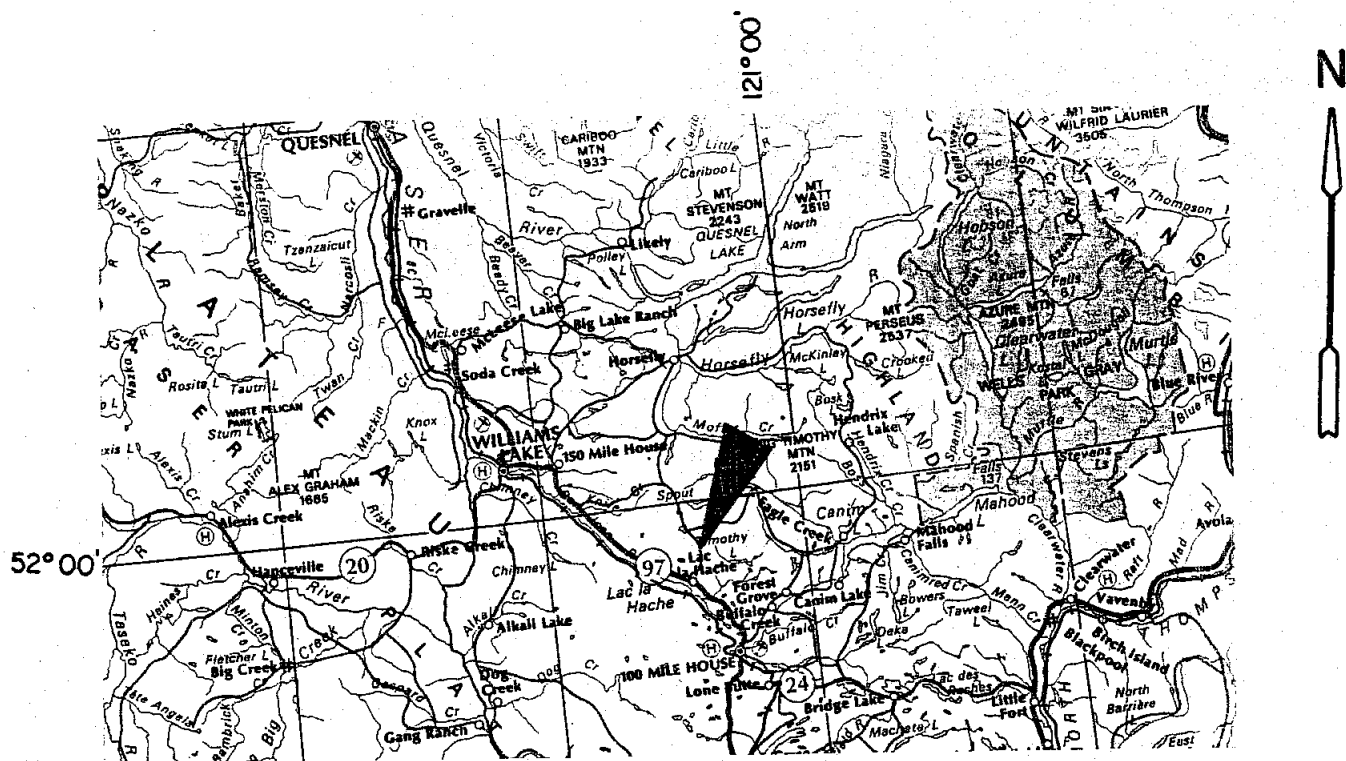
Lat. 51° 58' N: Long. 121° 24 ' W

AUTHORS: GLEN E. WHITE P.Eng.
DATE OF WORK: DEC. 2 - DEC. 17 1993
DATE OF REPORT: February 25, 1994

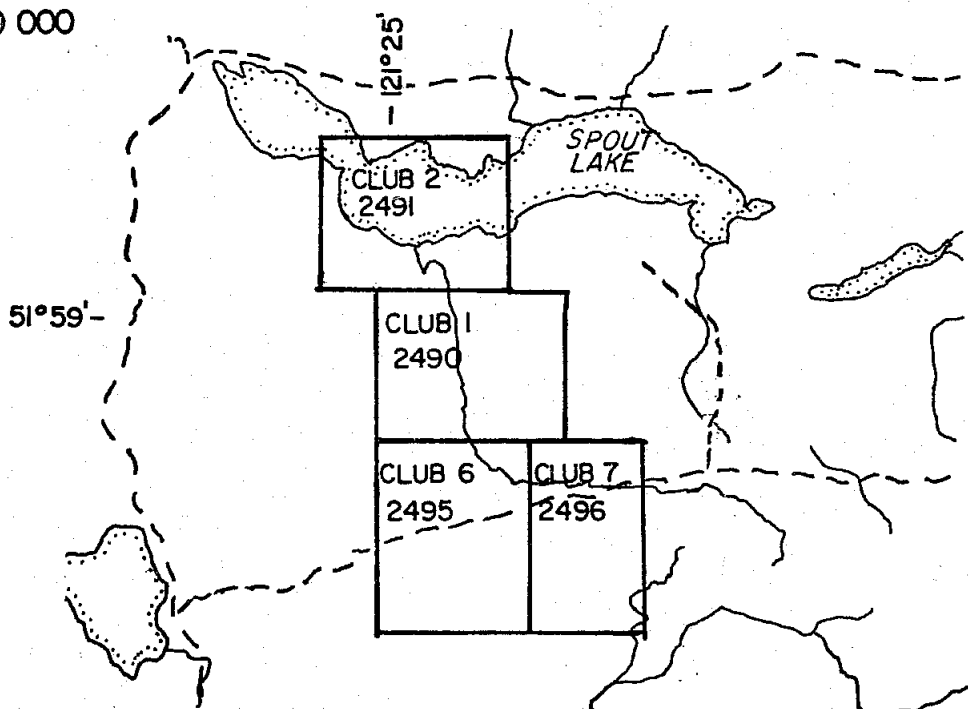
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

23,310

FILMED



SCALE = 1 : 2 000 000



SCALE = 1 : 100 000

PMA RESOURCES INC.

CLUB 1, 2, 6 & 7 CLAIMS

LOCATION AND CLAIMS MAP

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INTRODUCTION

The project area for this survey lies in an alkaline porphyry copper/gold environment referred to as the Lac La Hache Gold Camp. The CLUB claims have been the subject of several surveys. The first was a limited geochemical geophysical program completed during the late fall of 1988, followed in the winter of 1991 by a short induced polarization program.

The induced polarization work sought to cover an area of anomalous gold copper geochemical values and a weak copper showing along a road cut that occurs in the favorable syenite host rock.

The purpose of this magnetometer survey was to cover the western and northern Club 6, 1 and 2 claims to try and locate a large magnetic protrusion that extends southward from a large regional high magnetic intensity arc to the north. This protrusion and the magnetic arc are described in the 1989 report.

PROPERTY

CLAIM	#UNITS	RECORD #	RECORD DATE
Club 1	20	2490	Dec. 31, 1994
Club 2	20	2491	Dec. 31, 1994
Club 6	20	2495	Dec. 31, 1995
Club 7	15	2496	Dec. 31, 1995

The mineral claims are in the Clinton Mining Division B.C. and are in good standing through to 1994 for 1 and 2 and 1995 for 6 and 7. Figure 1 outlines the claim block which consists of 75 contiguous units.

LOCATION AND ACCESS

The Club claims are located some 20 kilometers north from the village of Lac La Hache, in the Cariboo region of British Columbia.

Access is via good gravel roads from the town of Lac La Hache along the Spout Lake and Murphy Lake road to Rail Lake where a secondary road, the 1700 road turns eastward. This logging road cuts the claim block in the middle giving good access to the grid.

Lat. $51^{\circ} 58' N$, Long. $121^{\circ} 24'' W$, N.T.S. 92 P/14W.

SURVEY GRID

The survey grid consists of lines turned off at right angles from an east to west baseline which was placed along the northern boundary of Club 6 and 7. The lines are spaced 100 meters apart from 0 W to 1900 W and 200 meters apart from 2000 W to 3600 W. Some 52 kilometers of survey grid was flagged and surveyed with a detailed ground magnetometer system.

REGIONAL GEOLOGY

The regional geology for the area is depicted by G.S.C. Map 1278A, Bonaparte Lake Map Area, 1972. The Club claims are situated near the eastern edge of the Intermontane belt, a northwesterly trending assemblage of Upper Triassic-Lower Jurassic volcanic rocks. This belt of rocks comprises units of the Nicola, Takla and Stuhini Groups and is often referred to as the Quesnel Trough.

Nicola volcanic rocks of Triassic age underlay the property. They have been mapped as augite, andesite flows and breccia; tuff, argillite, greywacke and grey limestone. The Takomkane granitic batholith of Triassic-Jurassic age lies to the east of this sequence of rocks.

An extensive cover of Upper Tertiary (Miocene-Pliocene) basaltic lavas of the plateau type lie to the west. The eastern edge of the Intermontane belt contains a linear band of alkalic stocks composed of diorite, monzonite and syenite. These stocks intrude the volcanic strata and commonly alter the country rocks. They are hosts for several alkalic suite porphyry mineral deposits such as Copper Mountain, Afton, Cariboo-Bell and the recently discovered QR gold Mine. The QR discovery is reported to contain some 6500 kilograms of gold reserves.

LOCAL GEOLOGY

The claims lie north of a southwestern edge of a large magnetic arc some 10 miles in length. Geological investigation has shown this anomaly to be caused by magnetite rich alkalic stocks and dikes. Initial investigations in the area began in the late 60's when regional soil sampling located extensive evidence of copper mineralization.

To date copper and gold mineralization has been uncovered on claims to the north, northeast and east of the Club claims usually on areas of high magnetic intensity. Regional Resources of Toronto has optioned a large block of claims from GWR Resources Ltd. to the north and east of this claim block and is reported to be undertaking a drill program in the 1994 season.

PREVIOUS WORK

The 1988 exploration work was completed under the name of Tide Resources Ltd. and is described in a report dated March 15, 1989. This program located a number of high gold soil samples of over 1000 ppb. Trenching near the road at 1300W 110S detected altered gabbroic rocks with low copper and gold values. A trench near 700W 1300 along the road uncovered potassic alteration in andesite/syenite which gave 5m of .25% and 5m of .11% copper with no gold values. Induced polarization surveying was completed in late 1991 over a portion of Club 7. A chargeability high was detected and recommended for diamond drilling. Recommendations were also made to extend the survey work to the west.

MAGNETOMETER SURVEY

The ground magnetometer survey was conducted using an Omni magnetometer system in conjunction with an EDA base magnetometer. The quartz clocks in the two instruments are synchronized in the morning. At the end of each survey day the field unit's readings are corrected using an RS232C interface and the built in microprocessors.

Following the diurnal correction procedure, data is dumped via the RS232C interface to a microprocessor which writes data to the disk for storage and later processing. The solid state memory of this instrument and the microprocessor give rapid data gathering at some 5 - 10 kilometers per day at 12.5m station intervals. Some 51 km of grid was surveyed at this detailed spacing.

DISCUSSION OF RESULTS

The line preparation and ground magnetometer surveying were conducted during winter conditions requiring snowmobiles and snowshoes. An attempt was made to record VLF readings however station power variation, shutdowns and bad weather forced the geophysical crew to focus on the magnetometer survey, which was the purpose of the work program.

Magnetometer readings from the 1989 work were stored on data disk. They were retrieved and combined with the 1993 survey data resulting in some 90 km of ground magnetometer surveying. The resulting maps are illustrated on figures 2 to 5. Figure 2 is at a scale of 1:10000 which allows the complete survey to be depicted on one reasonably sized map. Figures 3 and 4 are drawn at the normal working scale of 1:5000 and consist of north and south sheets respectively. Figure 5 is a profile of the magnetic intensity east-west along the baseline

The strong south trending magnetic high is the dominant feature of interest. It splays southward off of the regional magnetic high arc which is just to the north off of the claim group. The magnetic profile along the baseline shows the pronounced change in magnetic intensity across this zone. The flatter more moderate magnetic intensity values from 0 to 1500 W suggest the presence of a different lithologic unit. The induced polarization survey of 1991 locates a chargeability high tucked along the eastern flank of the magnetic high. The magnetic high may possibly be caused by alkalic intrusive rocks which are the source of copper gold mineralization.

The Nicola sequence of rocks contain an augite prophyritic

flow unit which is also strongly magnetic. This area is overburden covered some of which is mound like and could be fairly deep. Plateau basaltic lavas are could be hidden under the glacial till since they too are magnetic. However syenitic intrusive rocks are the most likely cause of the magnetic trend.

CONCLUSION

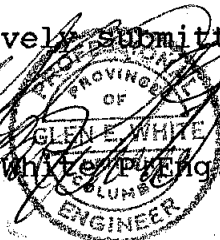
The Club claims appear to be well situated in the Lac La Hache syenite copper gold porphyry camp since the mineralization discovered to date on the various claim groups is associated with syenitic rocks of high magnetic susceptibility. Satellite intrusives have played an important part in many syenite porphyry mineral deposits.

RECOMMENDATIONS

It is therefore recommended that the large south trending magnetic high be systematically surveyed by the induced polarization method to search for areas of high chargeability. The gold geochemical survey of 1989 located a number of sample sites with 1000 to 1900 ppb gold with lower copper values. It may be possible that there is a pyrite gold association in this general survey area. Thus a strong chargeability anomaly should be tested by diamond drilling. The moderately high chargeability values on line 1800 W on the southern portion of the survey grid from the 1991 work suggest a continuation of the zone to the west.

Respectively Submitted,

Glen E. White, P. Eng.



STATEMENT OF QUALIFICATIONS

I, Glen E. White, with a business address of 1400 409 Granville St., Vancouver B.C. do hereby certify that:

- 1) I am a consulting geophysicist registered with the Association of Professional Engineers of British Columbia since 1977.
- 2) I hold a B.Sc. degree (1966) in geology and geophysics from the University of British Columbia.
- 3) I have been practising my profession as a geophysicist-geologist for over 28 years.
- 4) I have practical geological geophysical experience in all the geological provinces of Canada and the southwestern United States.
- 5) I have based this report on a review of available Geological publications and exploration reports.
- 6) A letter of consent is required before this report can be used in whole or in part for publication or any filing statement or Statement of Material Facts.

GLEN E. WHITE B.Sc.



COST BREAKDOWN

PROJECT TIME: December 2, 1993 to December 15, 1993

PERSONNEL

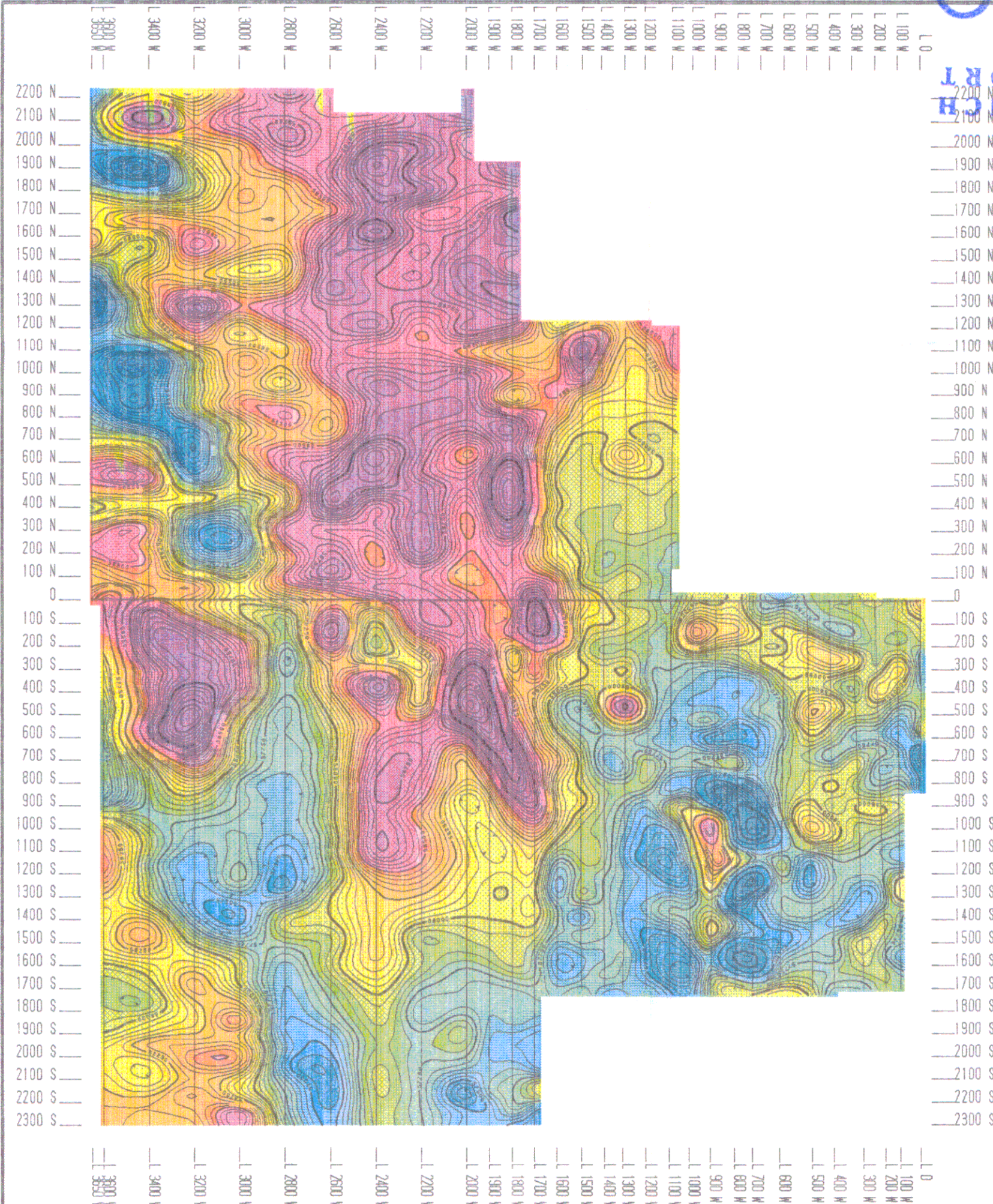
B. Robertson	\$4,550
G. Steblin	\$3,025
Meals and accommodations	\$2,100
Vehicle 4x4 and fuel	\$1,750
Snowmobiles	\$750
Instrument lease two units and base station	\$2,450
Data processing and plotting	\$850
Glen E. White P.Eng Interpretation & reports	\$1,700
<i>TOTAL</i>	<i>\$17,250</i>

OMNI-PLUS MAGNETOMETER/VLF SPECIFICATIONS

Dynamic Range	18,000 to 110,000 gammas. Roll over display feature suppresses first significant digit upon exceeding 100,000 gammas.
Tuning Method	Tuning value is calculated accurately utilizing a specially developed tuning algorithm
Automatic Fine Tuning	+ 15% relative to ambient field strength of last stored value
Display Resolution	0.1 gamma
Processing Sensitivity	+ 0.02 gamma
Statistical Error Resolution	0.01 gamma
Absolute Accuracy	+ 1 gamma at 50,000 gammas at 23°C + 2 gamma over total temperature range
Standard Memory Capacity	
Total Field or Gradient ..	1,200 data blocks or sets or readings
Tie-Line Points	100 data blocks or sets or readings
Base Station	5,000 data blocks or sets or readings
Display	Custom-designed, ruggedized liquid crystal display with an operating temp. range from -40°C to +55°C. The display contains six numeric digits, decimal point, battery status monitor, signal decay rate and signal amplitude monitor and function descriptors.
RS 232 Serial I/O interface	2400 baud, 8 data bits, 2 stop bits, no parity

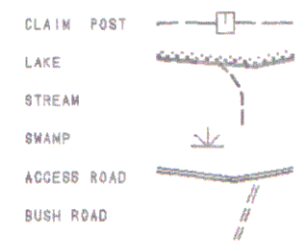
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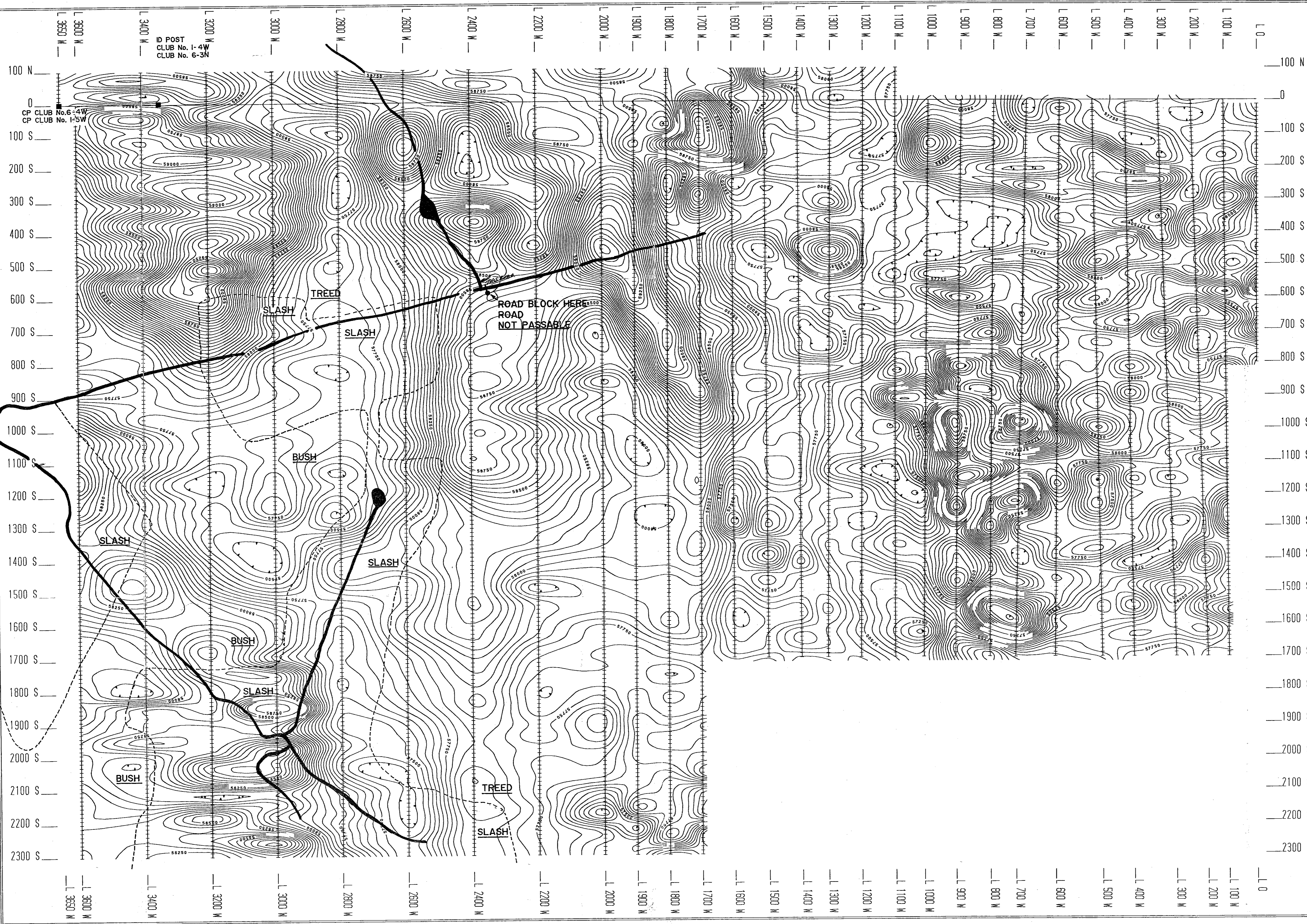
INCLINATION: 76
DECLINATION: 23

TOPOGRAPHY



Scale 1:10000
100 0 100 200 300 400 500
(metres)

PMA RESOURCES INC.
 CLUB 1,2,6,7 CLAIMS, LAC LA HACHE B.C.
TOTAL FIELD MAGNETIC INTENSITY
 GAMMAS
 CONTOUR INTERVAL: 50 GAMMAS
 NTS 92P/14W, LAT 51 DEG 59'N, LONG 121 DEG 25'W
 DECEMBER 1993
 WHITE GEOPHYSICAL INC. FIG. 2

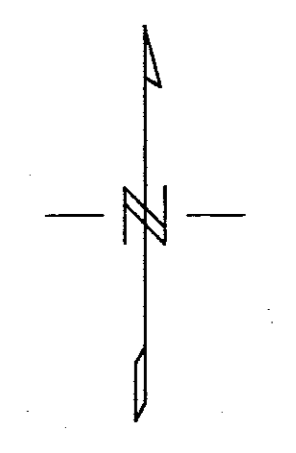


ID POST
 CLUB No. 1-4W
 CLUB No. 6-3N

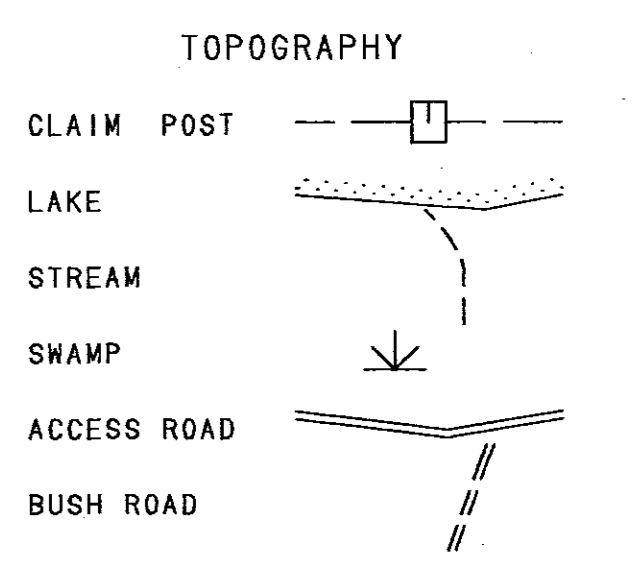
CP CLUB No. 6-4W
 CP CLUB No. 1-5W

STOP SIGN

ROAD BLOCK HERE
 ROAD NOT PASSABLE

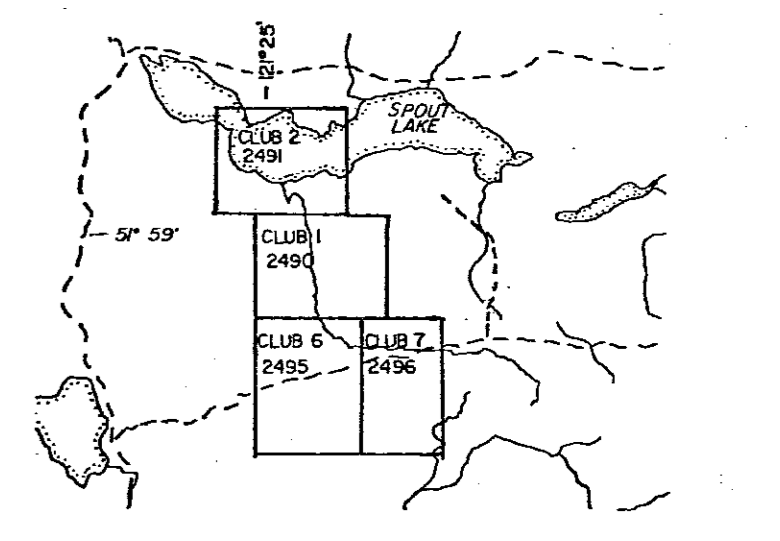
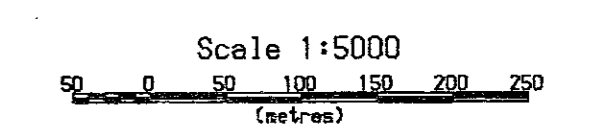


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 DECLINATION: 23



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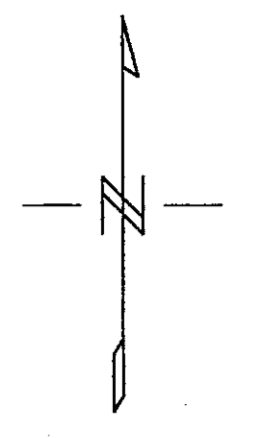
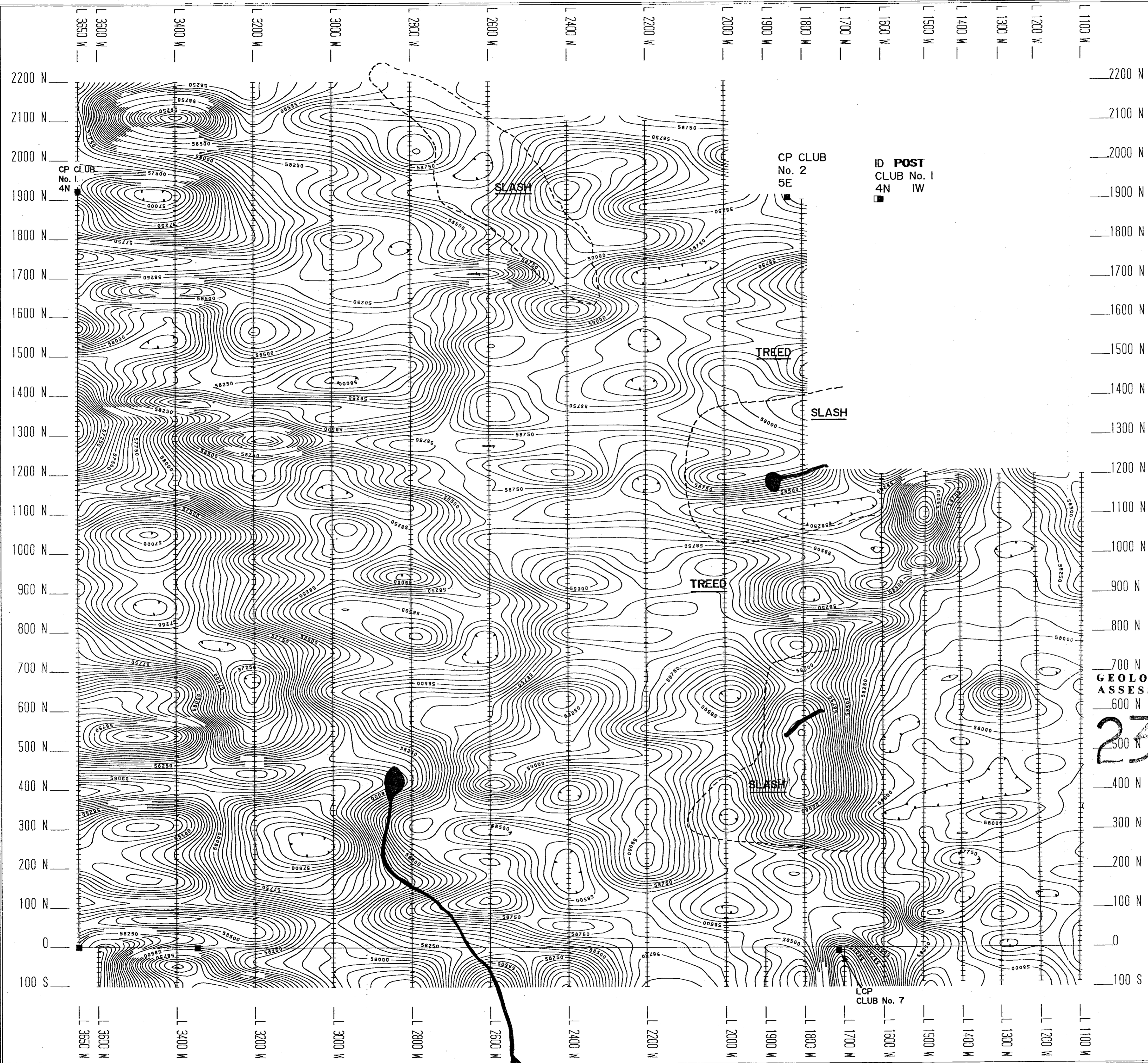


PMA RESOURCES INC.

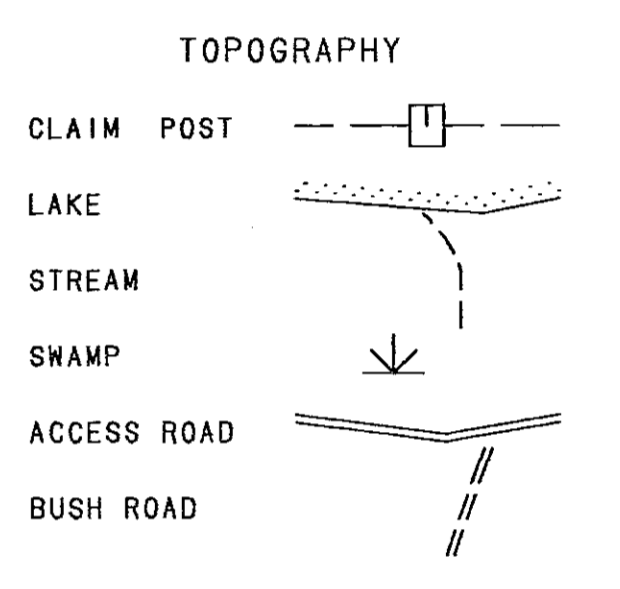
CLUB 1,2,6,7 CLAIMS, LAC LA HACHE B.C.

TOTAL FIELD MAGNETIC INTENSITY
 SOUTH MAP
 CONTOUR INTERVAL: 50 GAMMAS
 NTS 92P/14M, LAT 51 DEG 59'N, LONG 121 DEG 25'W
 DECEMBER 1993

WHITE GEOPHYSICAL INC. FIG. 4



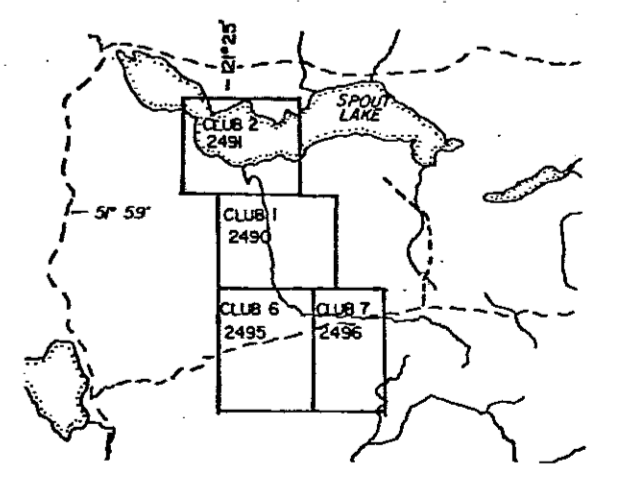
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DECLINATION: 23



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Scale 1:5000
(metres)

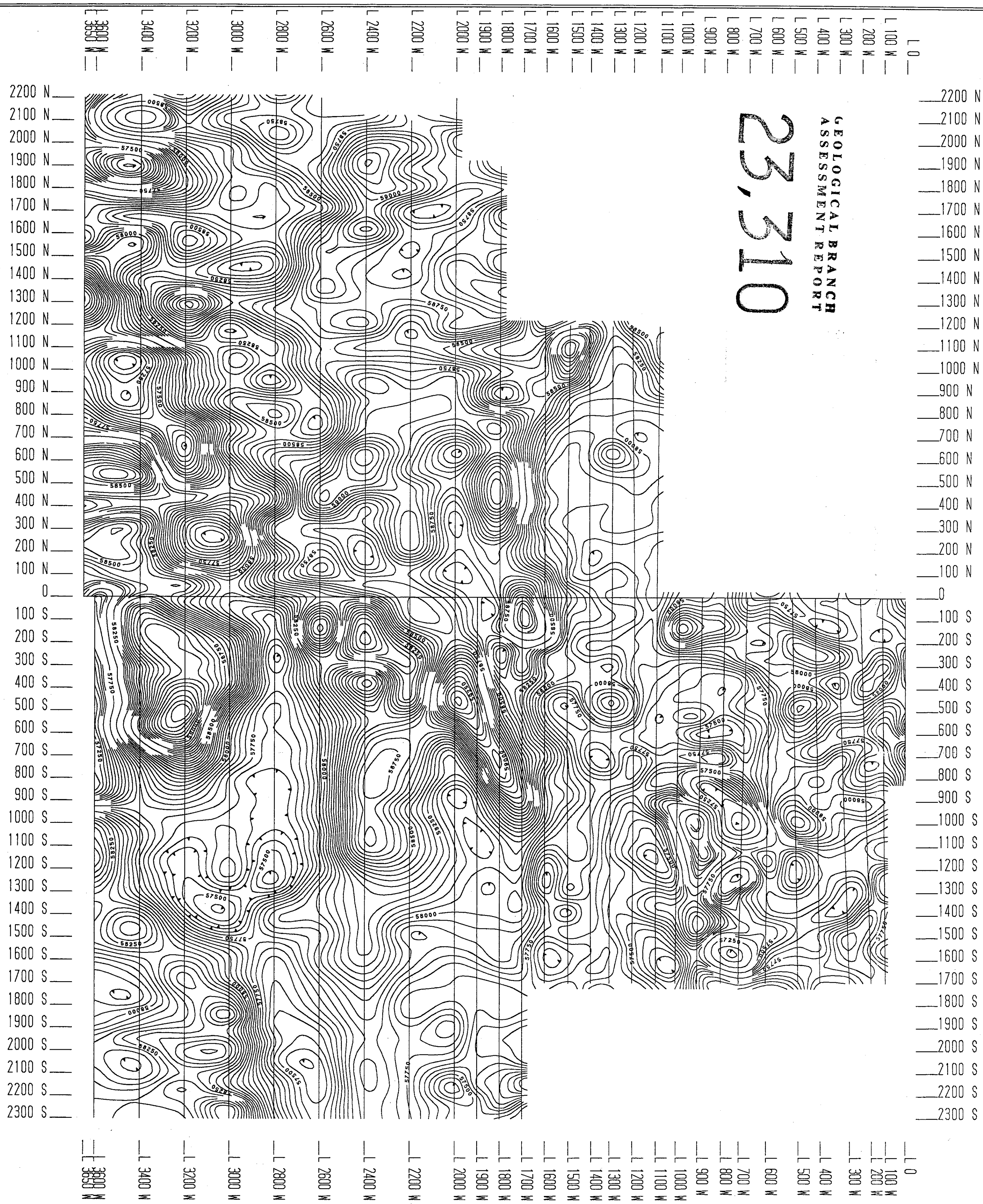


PMA RESOURCES INC.

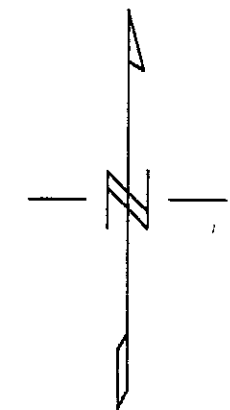
CLUB 1,2,6,7 CLAIMS, LAC LA HACHE B.C.

TOTAL FIELD MAGNETIC INTENSITY
NORTH MAP
CONTOUR INTERVAL: 50 GAMMAS
NTS 92P/14W, LAT 51 DEG 59'N, LONG 121 DEG 25'W
DECEMBER 1993

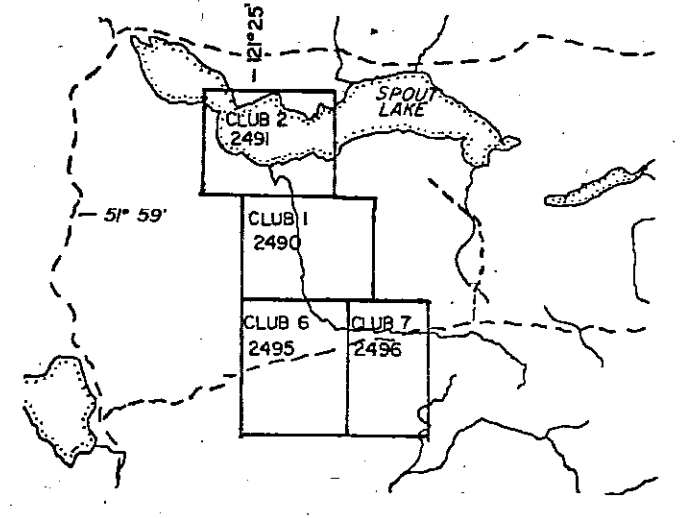
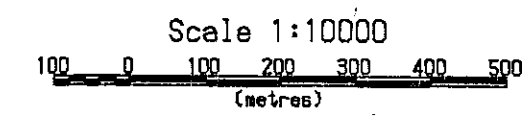
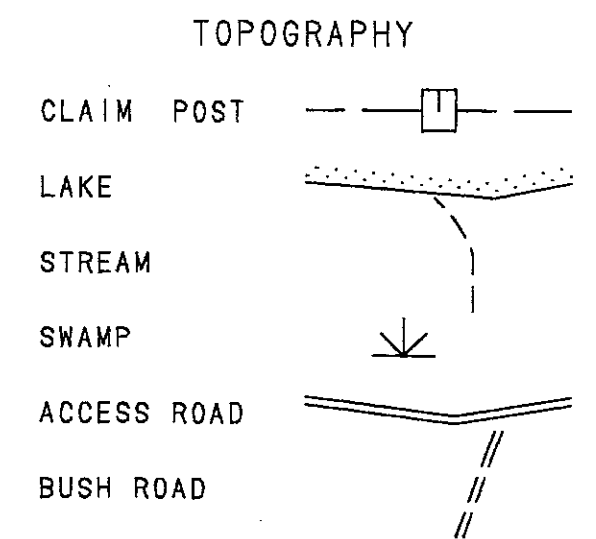
WHITE GEOPHYSICAL INC. FIG. 3



**GEOLOGICAL BRANCH
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INCLINATION: 76
DECLINATION: 23

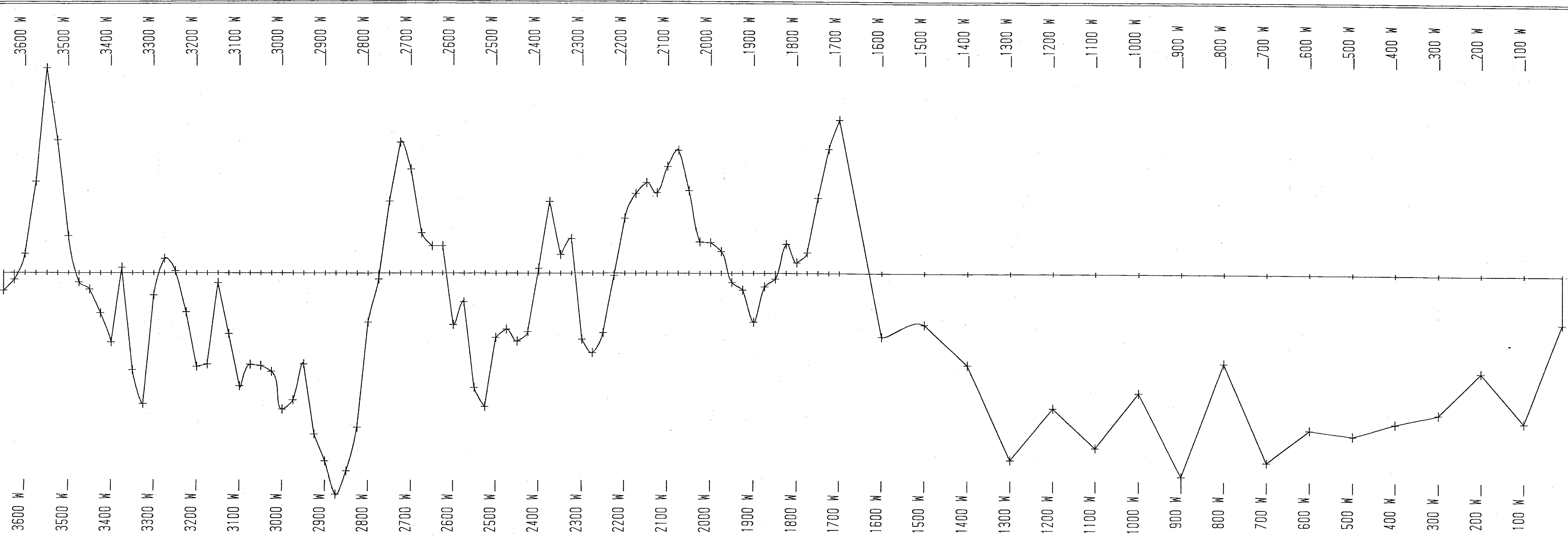


PMA RESOURCES INC.

CLUB 1, 2, 6, 7 CLAIMS, LAC LA HACHE B.C.

TOTAL FIELD MAGNETIC INTENSITY
GAMMAS
CONTOUR INTERVAL: 50 GAMMAS
NTS 92P/14W; LAT 51 DEG 59'N; LONG 121 DEG 25'W
DECEMBER 1993

WHITE GEOPHYSICAL INC. FIG. 2



RELATIVE INTENSITY GAMMAS

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Scale 1:5000
0 50 100 150 200 250
(metres)

PMA RESOURCES INC
CLUB CLAIMS LAC LA HACHE, B.C.
MAGNETIC PROFILE ALONG BASELINE
WHITE GEOPHYSICAL INC.: FIG: 5