

THE LIKELY PROJECT
CARIBOO MINING DIVISION
NTS 93A/11W-12E
PROPOSED SURFACE EVALUATION
OF
AIRBORNE EM AND MAGNETIC ANOMALIES
FOR
CAROLIN MINES LTD.
PREPARED BY
R.A. HRKAC
JUNE 1981

INTRODUCTION:

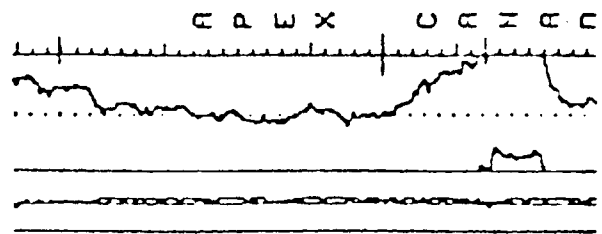
Apex Airborne Surveys Ltd. conducted a Helicopter E.M. and Magnetometer Survey of the Likely Project area during February 24 to 28, 1981.

On May 26 to May 30 Dave Rennie and the writer made field examinations of the following anomalies located by the airborne survey:

- 1) E.M. anomaly T-1 on the JUN 9 mineral claim.
- 2) E.M. anomaly T-2 on the EASY 6 mineral claim.
- 3) E.M. anomaly T-3 on the EASY 2 mineral claim.
- 4) Magnetic anomaly south of the DUG mineral claim.
- 5) Magnetic and E.M. anomaly on portions of the EASY 5, EASY 3 and JUN 10 mineral claims.

Results of the airborne survey and the field examination were discussed with Ronald F. Sheldrake and Paul W. Richardson.

The field examination and the proposed ground surveys of the anomalies are the subject of this preliminary report.

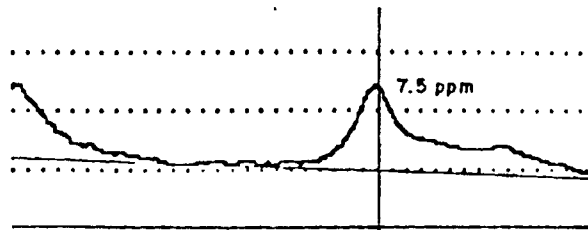


TARGET T-1

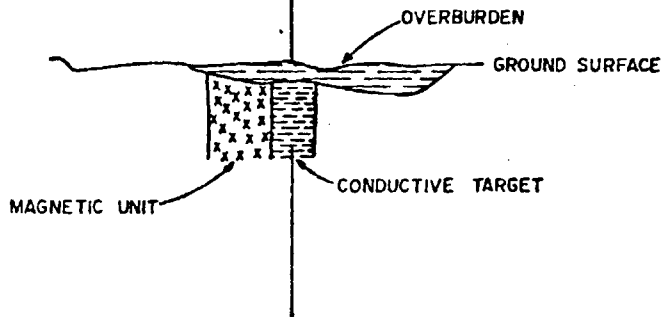
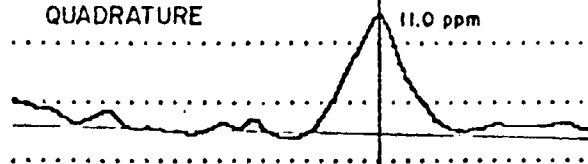
ANOMALY 315

CONDUCTANCE 4-8 mhos
 DEPTH 15-25 meters
 PRIORITY I

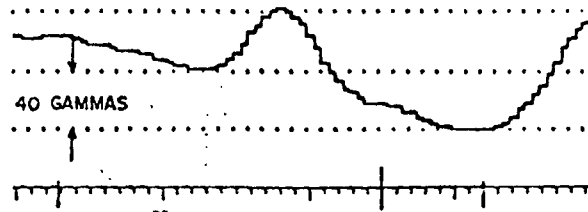
IN - PHASE



QUADRATURE



MAGNETOMETER



fid 290

315

315

FIGURE 3

DETAIL ANOMALY
 LINE ~~104~~ 102

E.M.

TARGET T-1 Airborne Anomaly L 102W

LOCATION and ACCESS: The anomaly is located in the NW quadrant of the JUN 9 Mineral Claim.

Logging roads lead to a logged area north of Westenhiser Creek, from here a bush traverse for approximately 3.5 kilometers is required to reach the anomaly.

GROUND CONDITIONS and TOPOGRAPHY: The bush traverse is made through open woods along the north edge of the break in slope that forms the valley of Westenhiser Creek and then Kangaroo Creek.

The SW end of the profile is on the steep windfall strewn slope of Kangaroo Creek and this topographic restriction will terminate the profile.

As no good topographic landmarks are available the ground profile will only approximate the location of L 102W.

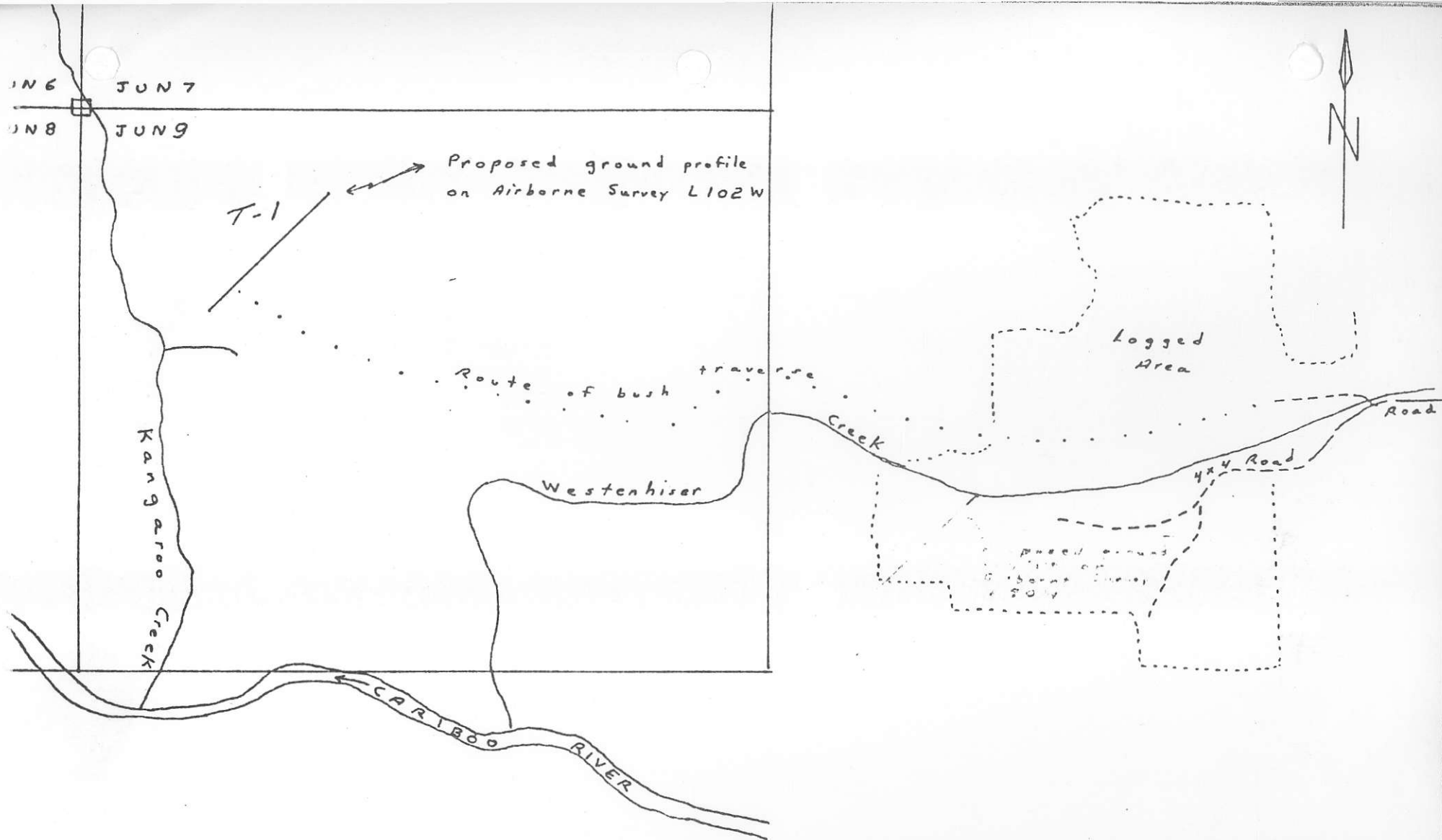
CLAIMS: JUN 9, Record No. 1797, 20 units.

Expiry date July 7, 1983.

GEOLOGY: No outcrop was found in the area of the anomaly. Angular float indicates that diorite, rhyolite, andesite and pale grey tuff or sil⁺stone may occur in the vicinity of the anomaly.

CONCLUSION: No explanation for the airborne anomaly was obtained by the field examination.

RECOMMENDATION: A ground Max Min E.M. and magnetometer profile duplicating as near as possible the airborne survey line 102W



LIKELY PROJECT

SCALE: 1:20,000

APPROVED BY:

DRAWN BY RAH

DATE: June 1981

REVISED

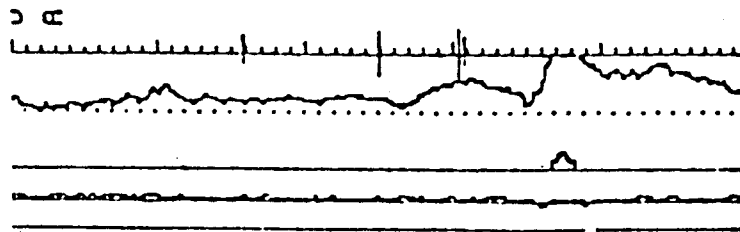
PROPOSED PROFILE TARGET T-1

DRAWING NUMBER

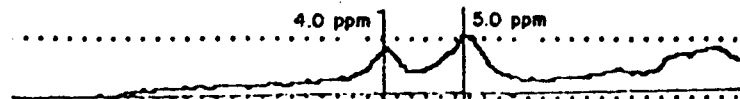
should be made with readings taken every 25m over a NE line approximately 600m long. Soil samples should be collected along the profile at 25m centres.

COSTS:

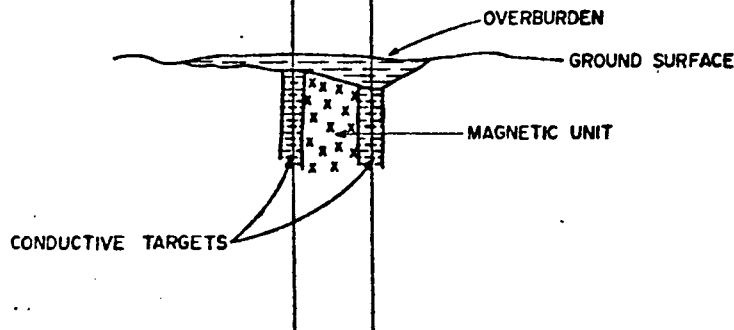
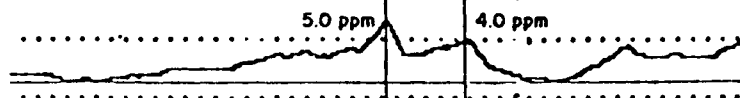
Line Cutting Chaining and Soil Sampling:	200.00
Soil Sample Assays 25x\$6:	150.00
Magnetometer Rental \$20/day:	20.00
Supervision and Mag Survey:	250.00
Truck Rental:	50.00
Board and Room 3x \$40/day:	120.00
Max Min:	<u>450.00</u>
	1240.00
Contingencies-	<u>150.00</u>
	1390.00



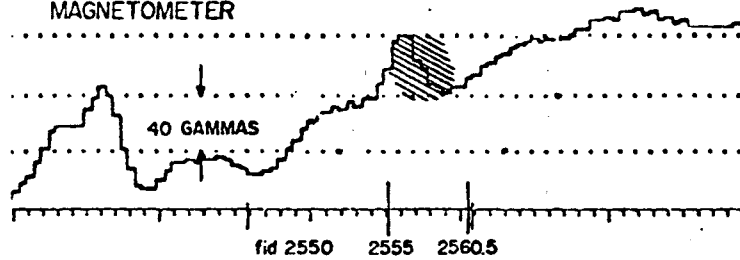
IN - PHASE



QUADRATURE



MAGNETOMETER



TARGET T-2

ANOMALY 2555

CONDUCTANCE 3-6 mhos
DEPTH 0-3 meters
PRIORITY 1

ANOMALY 2560.5

CONDUCTANCE 6-10 mhos
DEPTH 0-3 meters
PRIORITY 1

FIGURE 4

DETAIL ANOMALY LINE 63

E.M.
TARGET T-2 Airborne Anomaly L63:

Location and Access: The anomaly is located in the SE quadrant of Mineral Claim EASY 6. A secondary logging road, requiring a 4x4 when wet, gives direct access to the anomaly.

CLAIMS: EASY 6, Record No. 923, 20 units.

Expiry date Dec. 7, 1982.

GROUND CONDITIONS and TOPOGRAPHY: Much of the area has been logged and the terrain is open with sparse second growth. The margins of the anomalous area is in timber and in part in thick scrub swamp.

Topography is moderate, a small rounded knoll appears to be coincident with the spot mag. high.

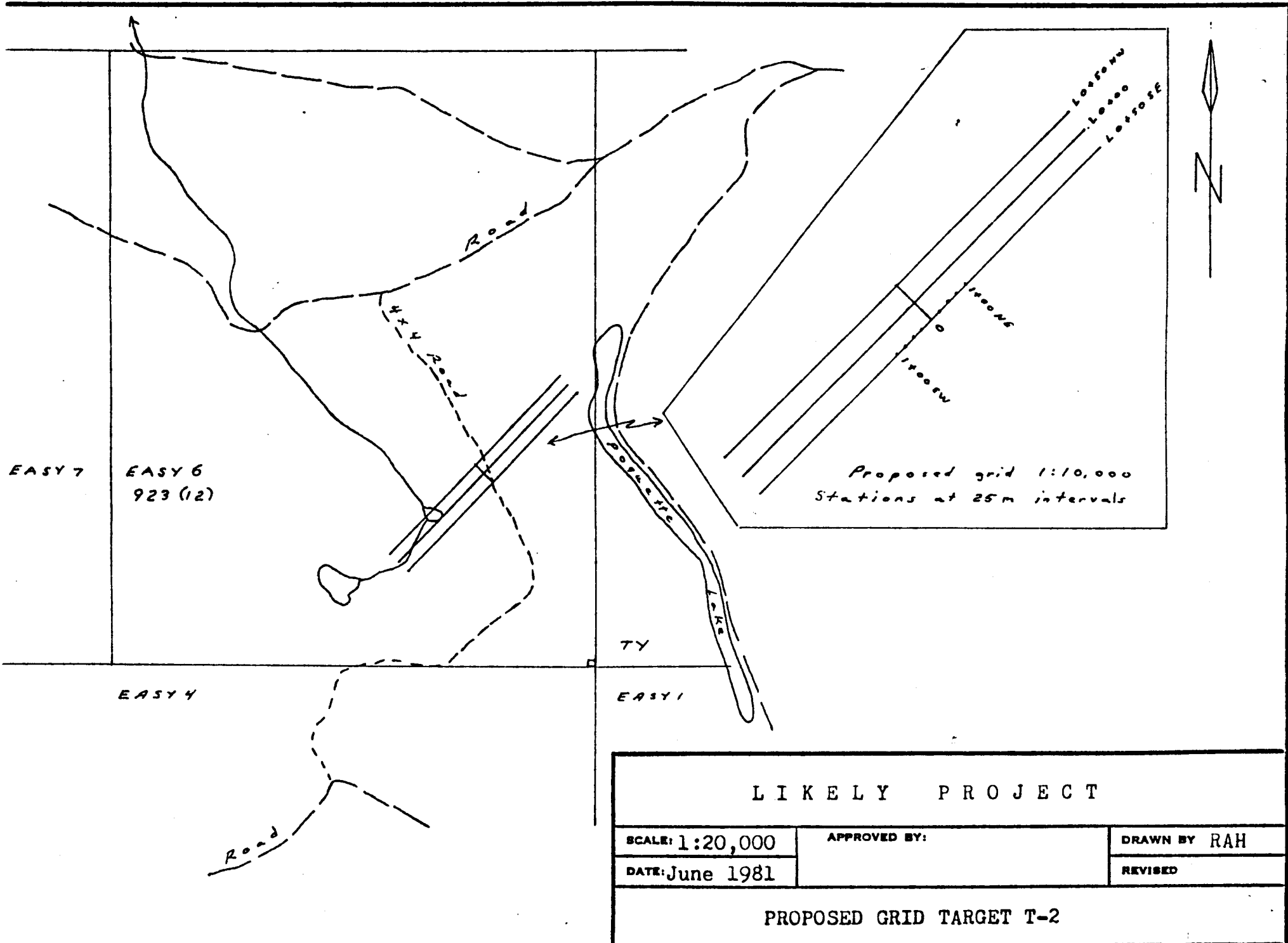
GEOLOGY: No outcrop was found in the area of the anomaly.

Angular float, up to 1m across, of rhyolite and rhyolitic tuff is common and this rock type may subcrop. The Rhyolite contains 1-2% pyrite often as cubes up to 5mm; 5- 10% pyrite occurs in one of the large pieces of float.

Much less common are angular pieces of phyllitic argillite and fine grained pale grey tuff or siltstone.

One 20x40cm float of propylitized rock was found, containing epidote, chlorite and calcite but no sulphides, it had a moderate reaction to HCL.

CONCLUSION: No explanation for the airborne anomaly was obtained by the field examination.



EASY 7

EASY 6
923 (12)

EASY 4

TY

EASY 1

LIKELY PROJECT

SCALE: 1:20,000

APPROVED BY:

DRAWN BY RAH

DATE: June 1981

REVISED

PROPOSED GRID TARGET T-2

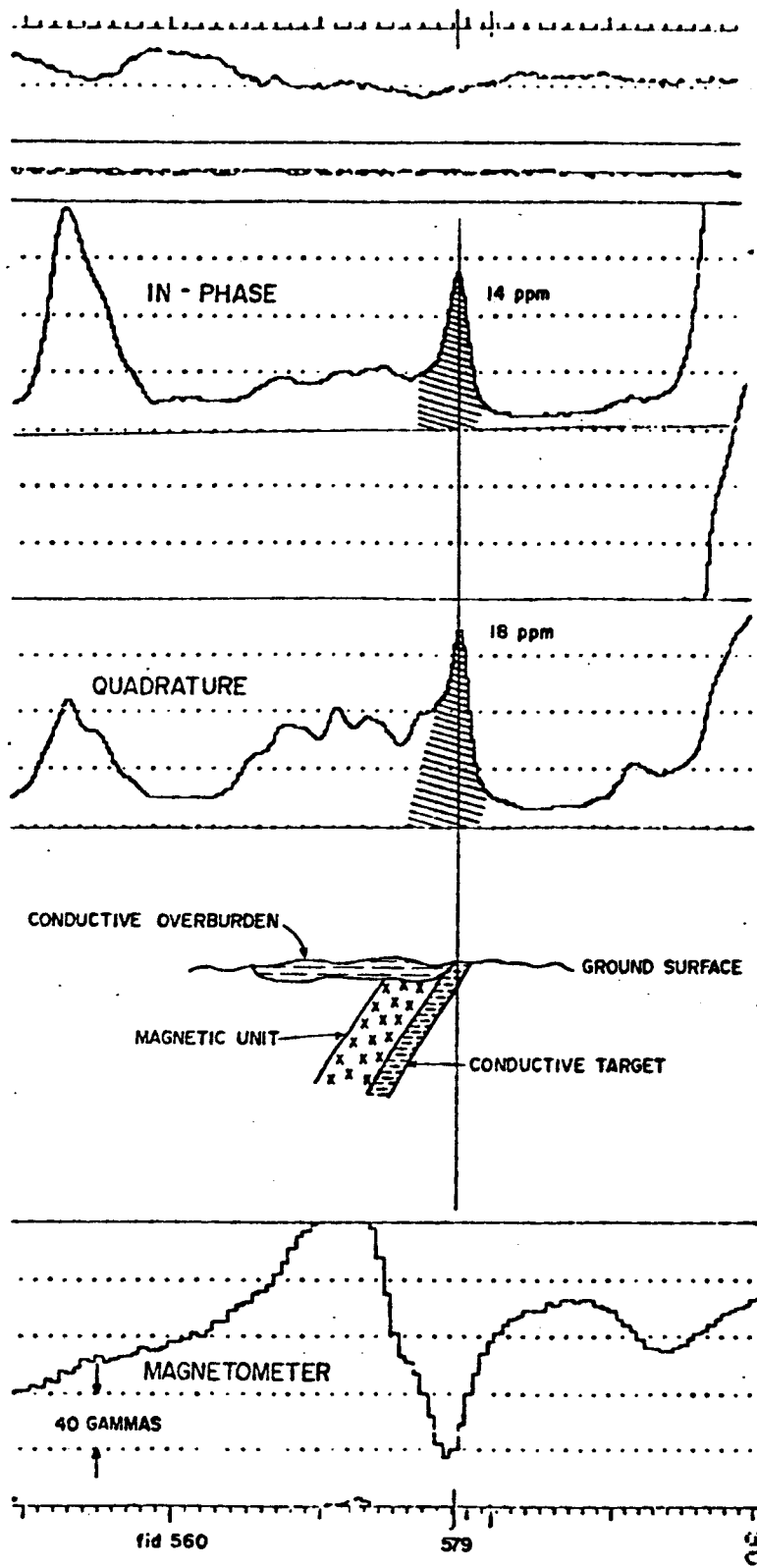
DRAWING NUMBER

RECOMMENDATIONS: The E.M. and magnetometer anomaly located on Line 63 at fiducial points 2555 and 2560.5 of the airborne survey should be checked on the ground as follows:

- Three lines each 1km long striking N45°E, 50m apart and marked at 25m intervals should be cut and chained. The centre line passes along the SE edge of a small pond (see location map T-2) and this point may be used to start the grid.
- A Max Min E.M. survey, a magnetometer survey, and soil sampling with all readings and samples taken at 25m intervals is recommended.

COSTS:

Line Cutting and Chaining \$200/km x3:	600.00
Soil Sampling \$100/man day:	200.00
Assays for Cu and Au, 126 samples x \$6:	756.00
Magnetometer Rental \$20/day:	40.00
Supervision and Mag Survey 4x\$250/day:	1000.00
Truck Rental \$50/day x 4:	200.00
Board and Room 3 men @ 4 days x \$40/day/man:	480.00
Supplies Flagging and Pickets:	100.00
Max Min @ \$450/day x 2:	900.00
	<u>4275.00</u>
plus contingencies =	4500.00



TARGET T-3

ANOMALY 579

CONDUCTANCE 6-10 mhos
 DEPTH 0-3 meters
 PRIORITY I

FIGURE 5

DETAIL ANOMALY
 LINE 40

TARGET T-3 Airborne ^{E.M.} Anomaly L 40

DISCUSSION: The E.M. anomaly lies on the northeast flank of a magnetic anomaly and is located near the northeast corner of the EASY 2 mineral claim. The E.M. anomaly and much of the magnetic anomaly lie outside of the Likely Project claims.

Outcrops of pyritized argillite flanked by andesite were found at the E.M. anomaly and may explain the E.M. response.

The magnetic anomaly may indicate an intrusive body, however further exploration would require a suitable arrangement with the owner of the TAM mineral claim.

GROGAN CREEK AREA MAGNETIC and E.M. ANOMALY TX

LOCATION and ACCESS: A prominent magnetic anomaly along Grogan Creek, extends from the south boundary of EASY 5 southeasterly to the central portion of JUN 10. This anomaly is flanked to the northeast by an E.M. response that extends southeasterly from the EASY 5 through the southwest portion of EASY 3 and into the JUN 10 mineral claim.

Access to the area is along a main logging road that leaves the Quesnel Lake Road north of Cedar Creek. (See location map in pocket.)

CLAIMS: Note that the northwest portion of the magnetic anomaly lies outside of the claim boundaries and this area may be open for staking.

-EASY 5, Record No. 881 6 units.

Expiry date Nov. 2 1983

-EASY 3, Record No. 879 15 units .

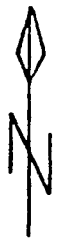
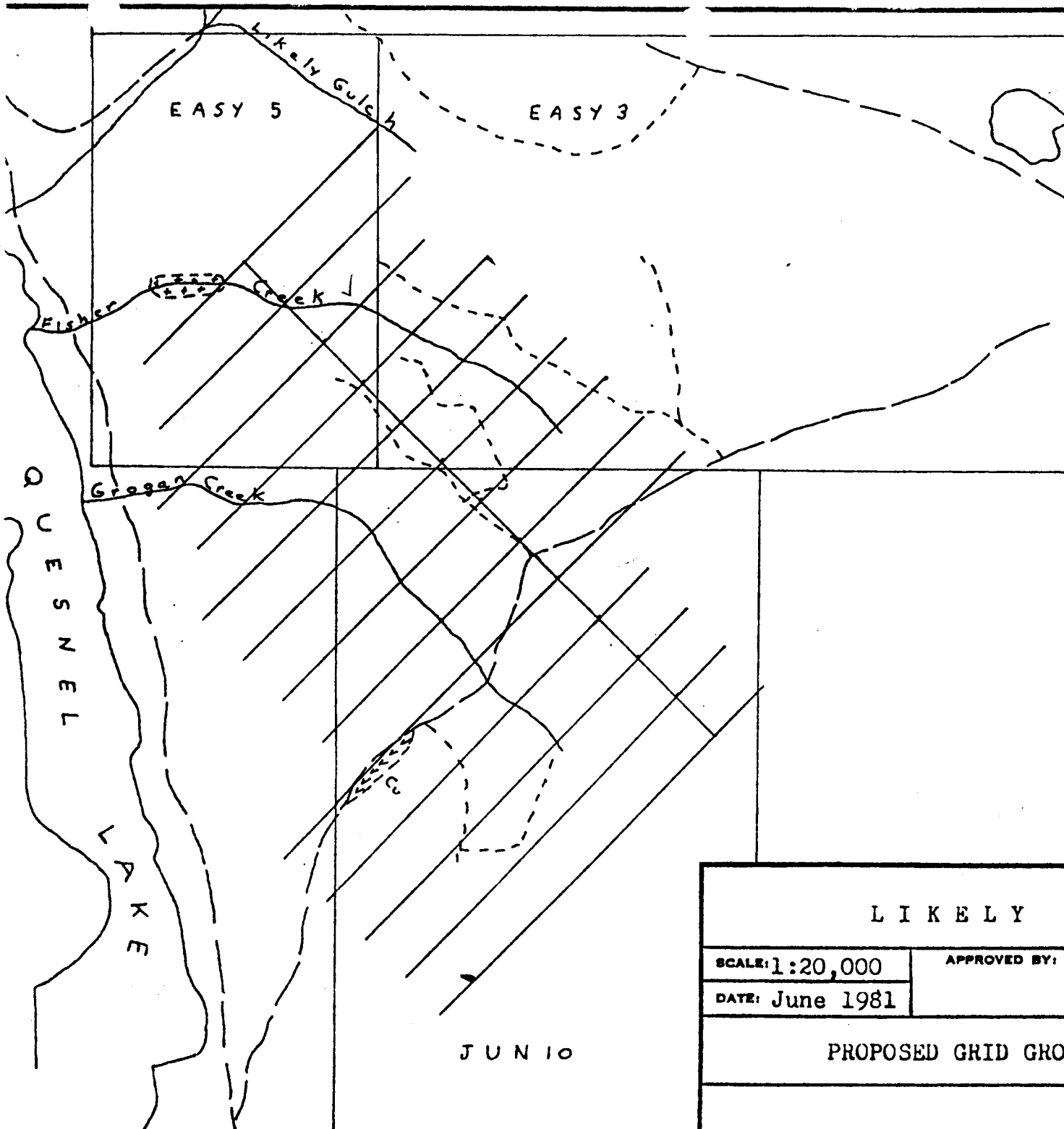
Expiry date Nov. 2 1982.

-JUN 10, Record No. 1798 18 units.

Expiry date July 7 1983.

GROUND CONDITIONS and TOPOGRAPHY: Portions of the area are logged and afford easy traverse, unlogged portions consist of thick woods, while older logged sections contain dense second growth.

Northeast of the axis of the magnetic anomaly the topography is relatively flat while to the southwest is a moderate to steep slope toward Quesnel Lake.



- +++ Diorite
- vvv Volcanics
- Main Road
- 4x4 Road

<p>LIKELY PROJECT</p>		
<p>SCALE: 1:20,000</p>	<p>APPROVED BY:</p>	<p>DRAWN BY RAH</p>
<p>DATE: June 1981</p>		<p>REVISED</p>
<p>PROPOSED GRID GROGAN CREEK AREA</p>		
		<p>DRAWING NUMBER</p>

JUN 10

GEOLOGY: Medium to coarse grained magnetic diorite outcrops along Fisher Creek near the central portion of EASY 5 and several small outcrops of rhyolite occur on Fisher Creek near the east boundary of EASY 5.

Along the main logging road in the west portion of JUN 10 basalt and andesite outcrop for 400m and contain pyrite and minor chalcopyrite. The outcrop lies along the SW flank of the magnetic anomaly.

CONCLUSION: The magnetic diorite is the probable source of the magnetic anomaly and indicates a large intrusive mass. The presence of pyrite with minor chalcopyrite in volcanics along the southwest flank of the magnetic anomaly on the JUN 10 mineral claim is significant.

RECOMMENDATIONS: A grid consisting of approximately 21km, including the base line, should be cut and chained as outlined on the enclosed sketch. The lines are oriented N 45^o E and extend over both the magnetic anomaly and E.M. response. Stations should be placed at 30m intervals and a Max Min E.M., magnetometer, I.P. and soil sampling surveys are recommended.

COSTS:

Line Cutting and Chaining 21km x \$200/km:	4200.00	1000
Soil Sampling \$100/man day x 5:	500.00	500
Approx 400 Soil Samples (Cu&Au) x \$6/assay:	2400.00	2400
Magnetometer Rental \$20/day x 14 days:	280.00	280
Supervision and Magnetometer Survey and Geology 10 x \$250:	2500.00	2500
Truck Rental 16 days @ \$50/day:	800.00	800
Board and Room 40 man days @ \$40/day:	1600.00	1000
Max Min E.M. 10 days @ \$450/day:	4500.00	4500
I.P. 19km @ \$700/km:	13,300.00	-
I.P. Crew Room and Board 50 man days @\$40/day	2500.00	-
	<u>32,080.00</u>	11,980
plus 10% contingencies	<u>3,200.00</u>	
	<u>35,280.00</u>	13,000

MAGNETIC ANOMALY EASY 4 MINERAL CLAIM:

LOCATION and ACCESS: A series of northwest trending magnetic anomalies occur on the EASY 4 mineral claim and extend a short distance into the EASY 1 and EASY 6 mineral claims.

A good logging road passes through the area from the Paquette Lake road to the Likely-Quesnel Forks road.

CLAIMS:

- EASY 4 Record No. 880 20 units.
Expiry date Nov. 2, 1981.
- EASY 6 Record No. 923 20 units.
Expiry date Dec. 7, 1982.
- EASY 1 Record No. 877 20 units.
Expiry date Nov. 2, 1982.

TOPOGRAPHY and GROUND CONDITIONS: The NE portion of the area contains several logged sections with sparse second growth. Most of the SW portion is thick timber.

Topography is moderate but steepens on the east toward Paquette Creek and on the ~~SE~~^{SW} toward Likely.

GEOLOGY: A diorite intrusive has been mapped by Silver Standard at the SE end of the magnetic anomaly. Basalt and several rhyolite dikes outcrop along the road. Several thin massive pyrite seams with minor chalcopyrite occur adjacent to a rhyolite dike cutting basalt in a road cut on the northeast portion of the anomaly near the boundary of the EASY 4 and EASY 1 mineral claims.

In the SW section of the anomalous area basalt with moderate epidote, chlorite and calcite alteration outcrops along the road.

CONCLUSION: The magnetic anomaly may be caused by a diorite intrusive as seen in the outcrop on EASY 1.

RECOMMENDATIONS: A grid system of approx. 21 km of line would cover the area of interest. Mag., I.P. and soil sampling surveys are recommended. No airborne E.M. anomalies were detected.

COSTS: Based on the Grogan Creek area analysis minus the Max Min survey costs would total \$30,000.00.

MAGNETIC ANOMALY JUNE AND DUG CLAIMS

LOCATION AND ACCESS: The northwesterly trending magnetic anomaly extends from the west boundary of the EASY 7 claim, through the Lake claim (note: the Lake claim is not part of the Likely Project), and into the DUG and JUNE claims.

Numerous secondary logging roads give good access to the area.

GROUND CONDITIONS AND TOPOGRAPHY: The topography is moderate. Two ridges approximately 30m high mark the axis of the magnetic anomaly.

The area has been logged. Second growth is for the most part sparse but thick sections are present and difficult to traverse.

CLAIMS:

JUNE, record no. 1050, 20 units, expiry date June 28, 1983.
DUG, record no. 999. 12 units, expiry date May 22, 1983.
EASY 7, record no. 1007, 20 units, expiry date May 23, 1983.
The following claim is not part of the Likely Project
LAKE, record no. 1659, 20 units, expiry date May 1981 (?)

GEOLOGY: Outcrop in the area of the anomaly consists of augite basalt and agglomerate, often porphyritic, cut in places by narrow rhyolite dikes. In general the basalt does not attract a pencil magnet but one exposure on the Lake claim was found to be strongly magnetic.

Several pieces of completely propylitized float occur on the Lake claim.

CONCLUSION : The possibility that the magnetic anomaly was due to a magnetic basalt flow was discussed with Ron Sheldrake, his opinion was that the nature of the anomaly appeared to indicate a buried intrusive.

RECOMMENDATIONS: If the exploration approach is to treat all indicated intrusives as exploration targets then this strong magnetic anomaly should be subjected to a ground magnetometer, I.P., and soil sampling survey. The status of the Lake claim should be checked and if the ground is open that portion covered by the magnetic anomaly should be staked.

COSTS: The breakdown of costs for the Grogan Creek area indicate a cost of \$1,600/km for line cutting, magnetometer, I.P., and soil sampling.

Total costs for 30km of line = \$ 48,000.00