TIDE RESOURCES LTD.

GEOPHYSICAL REPORT ON AN
AIRBORNE MAGNETIC AND VLF-EM SURVEY
GINA 1-4, DAVE 1-3 AND AQUARIUS 1-13 CLAIMS
CLINTON MINING DIVISION
LATITUDE: 51°56'N LONGITUDE: 121°16'W
NTS: 92P/14W

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DATE OF WORK: 30 September - 5 October 1988
DATE OF REPORT: 28 January 1989

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,348

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ILLUSTRATIONS

INTRODUCTION:

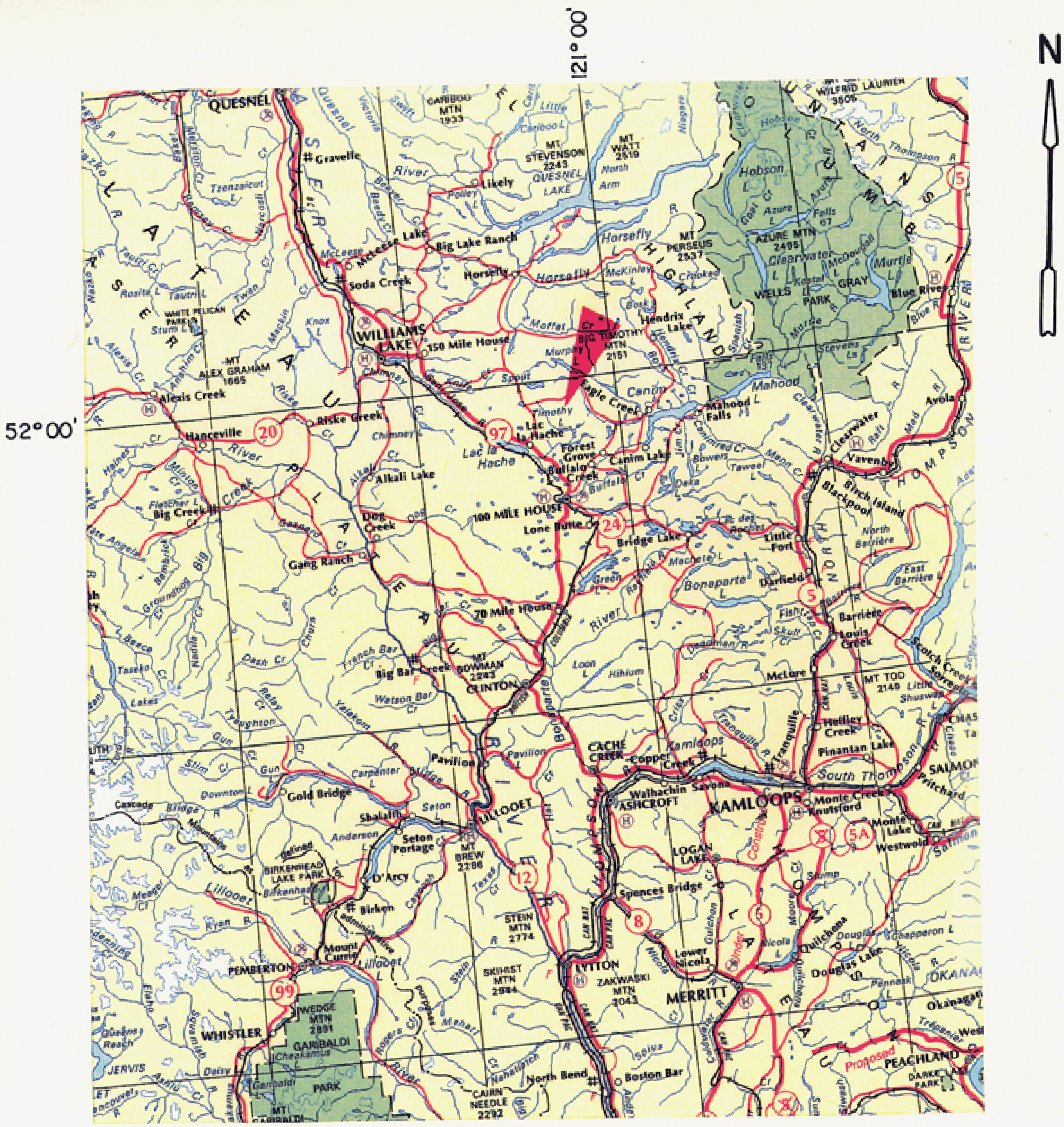
During the period 30 September - 5 October 1988, an airborne reconnaissance magnetic and VLF-EM survey was conducted over the **Gina 1-4, Dave 1-3** and **Aquarius 1-13** claims in the central interior of British Columbia by Western Geophysical Aero Data Ltd. for **Tide Resources Ltd.** The survey area is about 15 kilometres northeast of the village of Lac La Hache (Figure 1).

The intention of this survey is to assist in the geological mapping and economic evaluation of the property, and to direct further exploration to favorable target areas. Approximately 800 line kilometers of airborne magnetic and VLF-EM data have been collected, processed, displayed and interpreted.

PROPERTY:

The **Gina 1-4, Dave 1-3** and **Aquarius 1-13** claims are owned by Mr. Dan Gagne of Kamloops, B.C. and operated by **Tide Resources Ltd.** The claims are described in the table below and illustrated in Figure 2.

Claim Name	Units	Record No.	Expiry Date
Gina 1	20	2470	November 30, 1989
Gina 2	20	2471	November 30, 1989
Gina 3	10	2472	November 30, 1989
Gina 4	20	2473	November 30, 1989
Dave 1	20	2474	November 30, 1989
Dave 2	20	2475	November 30, 1989
Dave 3	20	2476	November 30, 1989
Aquarius 1	20	2514	February 12, 1989
Aquarius 2	5	2515	February 12, 1989
Aquarius 3	20	2516	February 12, 1989
Aquarius 4	20	2517	February 12, 1989
Aquarius 5	20	2518	February 12, 1989



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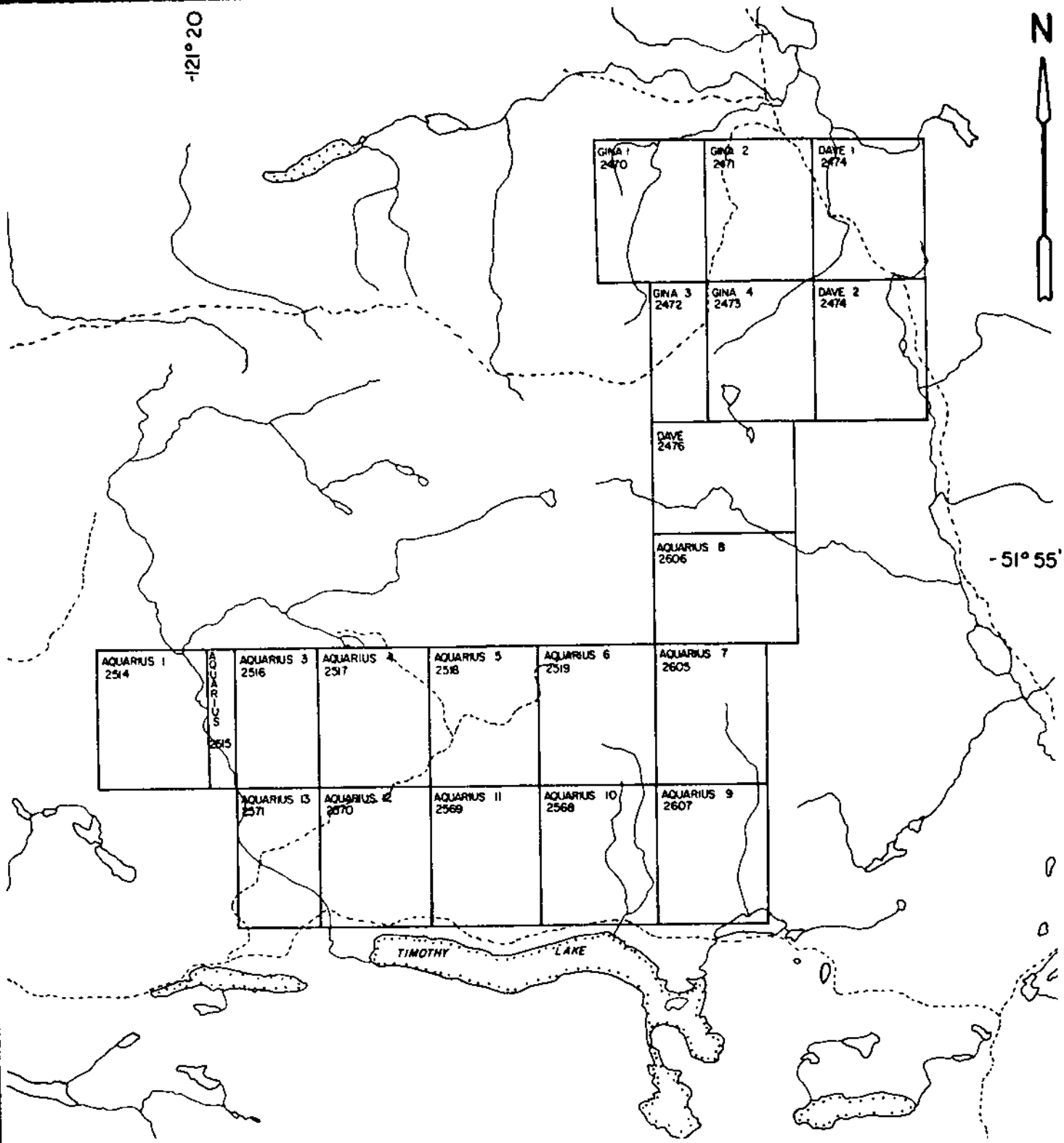
GINA 1-4, DAVE 1-3 AND AQUARIUS 1-13 CLAIMS

LOCATION MAP

SCALE = 1: 2 000 000 N.T.S. 92P/14W FIG. 1



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GINA 1-4, DAVE 1-3 AND AQUARIUS 1-13 CLAIMS

CLAIMS MAP

N.T.S. 92P/14W

SCALE = 1: 50 000

FIG. 2

Claim Name	Units	Record No.	Expiry Date
Aquarius 6	20	2519	February 12, 1989
Aquarius 7	20	2605	May 11, 1989
Aquarius 8	20	2606	May 11, 1989
Aquarius 9	20	2607	May 11, 1989
Aquarius 10	20	2568	March 18, 1989
Aquarius 11	20	2569	March 18, 1989
Aquarius 12	20	2570	March 18, 1989
Aquarius 13	12	2571	March 18, 1989

The mineral claims were recorded in the Clinton Mining Division at the village of Clinton, B.C. and are in good standing through to 1989 and 1990.

LOCATION AND ACCESS:

The claims are located about 15 kilometers northwest of the village of Lac La Hache, in the Cariboo region of British Columbia. Excellent gravel roads lead into the claim block from Highway 97 at Lac La Hache and 100 Mile House. The Greeny Lake and Mount Timothy roads provide year around access to the southern portion of the property. The Ruth Lake-Murphy Lake road provides access to the northeast corner of the property.

The NTS coordinates of the claim block are 92P/14W. The approximate geographical coordinates are 51°56'N latitude and 121°16'W longitude.

PHYSIOGRAPHY:

The claim group is located in the Interior Plateau of British Columbia: an area of relatively low relief at approximately 3500 feet elevation. The property is situated on a gently rolling

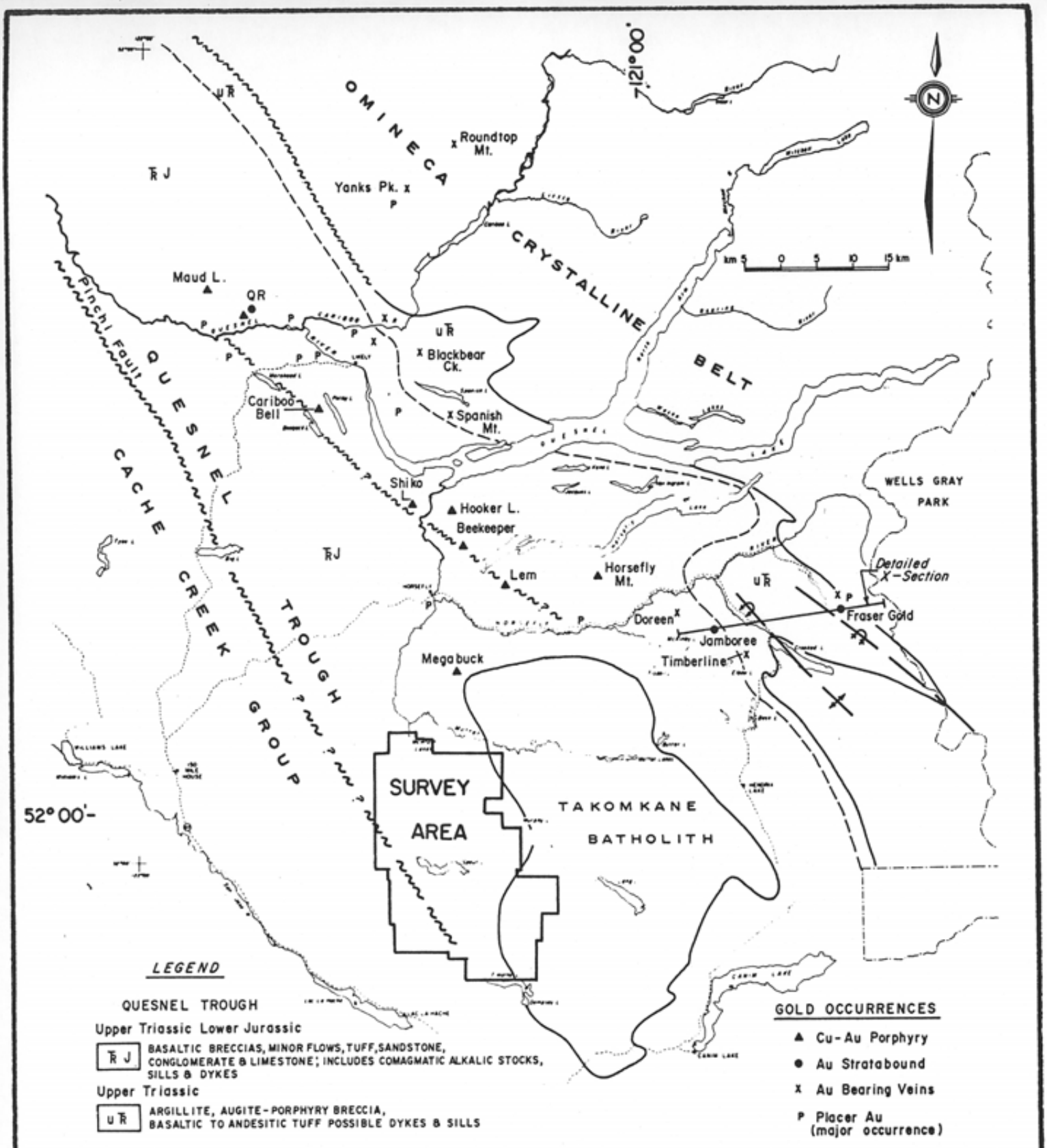
upland area which slopes up gradually from the south and northeast to a maximum 6500 feet elevation at Mount Timothy in central region of the property. Broad hills rise to over 4500 feet elevation in the western area of the property.

Ridge pole pine, spruce and fir with a minimum of underbrush and clean logging slashes give facile working conditions in most areas of the property.

REGIONAL GEOLOGY:

The **Gina 1-4, Dave 1-3** and **Aquarius 1-13** claims are situated near the eastern edge of the Intermontane belt within the Quesnel Trough of central B.C. (Figure 3). The Quesnel Trough is a northwesterly trending structural basin composed of Upper Triassic-Lower Jurassic volcanic and sedimentary rocks intruded by comagmatic syenitic and dioritic stocks and dykes. This belt of rocks, comprising units of the Nicola, Takla and Stuhini Groups, overlays early Paleozoic and Precambrian metamorphic rocks of the Omineca Crystalline Belt to the east, and is fault bounded by late Paleozoic sedimentary rocks of the Cache Creek Group to the west.

As discussed by Saleken and Simpson (1981), the Quesnel Trough is believed to be an island arc assemblage of alkalic volcanic, volcaniclastic and sedimentary rocks formed at an easterly-dipping subducting plate margin and obducted eastward onto the existing continental terrane during the middle Jurassic. Several volcanic centres within the trough are evident from subaerial flows and the presence of coarser clastic sediments. The volcanic centres and their related intrusives appear to be controlled by northwest trending, primary fault structures which were active into the late Mesozoic.



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REGIONAL GEOLOGY

N.T.S. 93A/3W

From Saleken and Simpson (1981)

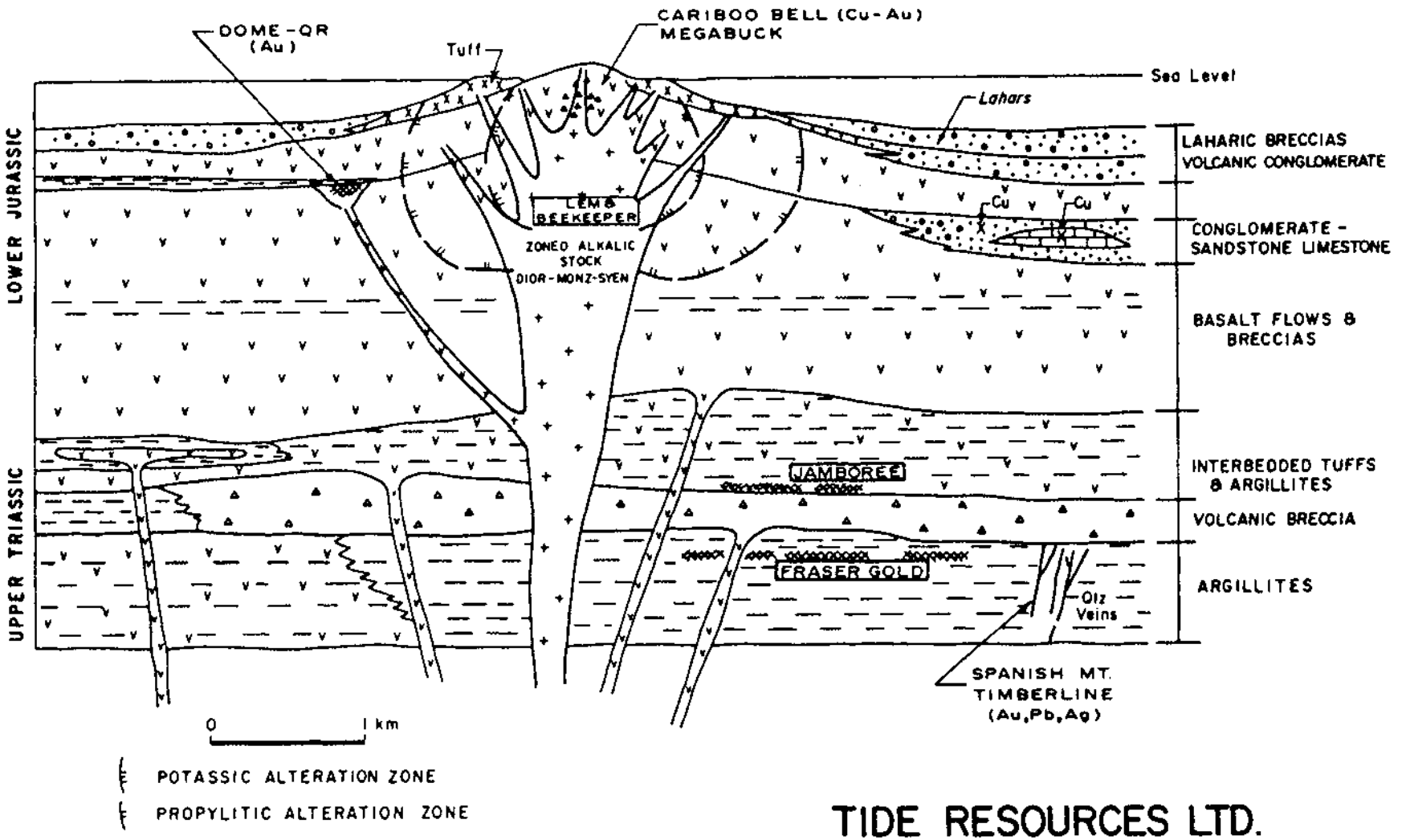
FIG. 3

A linear band of alkalic stocks composed of diorite, monzonite and syenite intruded the volcanic/sedimentary strata at these volcanic centres. These intrusives are hosts for alkalic suite copper-gold porphyry mineral deposits such as Copper Mountain, Afton, Cariboo-Bell and the recently discovered QR gold mine. The Cariboo-Bell and QR deposits near Likely are located about 70 kms north of the claim block Figure 3). Both deposits are presently undergoing further exploration. The QR deposit is reported to have reserves of 950,000 tons grading 0.21 oz/ton gold and the Cariboo-Bell, 117 million tons grading 0.31% copper and 0.012 oz/ton gold (Saleken and Simpson, 1981).

Figure 4 is a diagrammatic cross section through the Quesnel Trough from Saleken and Simpson (1981), showing relative stratigraphic positions of the known mineral deposits and their relationship to an alkalic intrusive complex. There are three main exploration targets:

1) Semi-conformable, stratabound gold mineralization hosted by permeable volcaniclastic or sedimentary rocks and associated with comagmatic feeder stocks or dykes (e.g. QR and Frasergold). According to Saleken and Simpson (1981), these deposits are believed to be products of marine exhalative activity which resulted in gold-pyrite deposition in permeable horizons on, or slightly below, the sea floor. Strong carbonate alteration consisting of quartz, ankerite and epidote may be present directly below mineralized horizons.

2) Copper-gold porphyry deposits hosted in brecciated stockwork zones within magnetite-rich alkalic stock and dyke complexes (e.g. Cariboo-Bell and Megabuck). These deposits form large-tonnage orebodies amenable to open pit mining.



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Diagrammatic Cross-section Through the Quesnel Trough Volcanic Complex, Showing Relative Stratigraphic Positions of Known Mineral Deposits

From Saleken and Simpson (1981)

FIG. 4

3) Vein-hosted gold deposits where the gold mineralization has been remobilized and concentrated in quartz veins in the vicinity of stratabound deposits. These deposits form small, high-grade orebodies which, because of previous discouraging results, have a low exploration priority.

PROPERTY GEOLOGY:

Campbell and Tipper (1972) show the property as being composed of Nicola Group andesites, augite porphyries, argillites, conglomerates and limestones in the southwest, and Takomkane hornblende-biotite quartz diorite and granodiorite intrusives in the northeast (Figure 5). However, Hodgson and DePaoli (1972) have mapped Nicola volcanics along the western boundary of the northeast part of the property in contact with the Takomkane intrusives.

Nicola Group volcanics, sediments and related intrusives probably underlay most of the southwest part of the property. Hodgson and DePaoli (1972) have subdivided the Nicola rocks northwest of the property into units of: 1) andesite, amygdaloidal andesite, augite porphyry andesite, 2) polymictic volcanic breccia with minor interbanded tuff, greywacke and conglomerate, and 3) banded volcanic siltstone, greywacke, and argillite.

Two outliers of capping plateau basalts have been mapped by Campbell and Tipper (1972) and Hodgson and DePaoli (1972) in the southwest part of the property on the **Aquarius 1** and **Aquarius 3-5** claims.

The G.S.C. regional aeromagnetic maps reproduced in Figure 6 generally confirm the geologic mapping of Hodgson and DePaoli (1972). The magnetic low in the northeast part of the property is due to the Takomkame quartz monzonite intrusive. The magnetic high in the centre of the southwest part of the property over the **Aquarius 5** claim is coincident with a Nicola syenodiorite

LEGEND FOR FIGURE 5

QUATERNARY
PLEISTOCENE AND RECENT

22 — Glacial deposits and recent alluvium; till, gravel, sand, silt, and clay; few if any bedrock exposures

TERTIARY
MIOCENE AND/OR LATER

20 — Basaltic flows; minor tuff, conglomerate, and sandstone

JURASSIC AND/OR CRETACEOUS AND (?) EARLIER

17 — 17a, hornblende-biotite and biotite-quartz monzonite and granodiorite, minor hornblende-biotite syenite and monzonite; 17b, hornblende-biotite syenite and monzonite; 17c, hornblende diorite; 17d, muscovite granite and quartz monzonite including pegmatite; 17e, gneissose biotite granodiorite, altered and gneissose diorite, and augen granite (part of unit 17e may be Palaeozoic); 17f, trachyte porphyry (may be volcanic); 17g, green andesite and fine-grained diorite (may be volcanic)

TRIASSIC
UPPER TRIASSIC

10 — 10a, green and purplish brown pebble and cobble conglomerate and sandstone; 10b, green andesitic volcanic rocks, andesitic feldspar porphyry, argillite, limestone, and pebble conglomerate

QUATERNARY
PLEISTOCENE AND RECENT

28 — *Till, gravel, clay, silt, alluvium, (few if any bedrock exposures)*

TERTIARY
MIOCENE AND/OR PLIOCENE

25 — *Plateau lava; olivine basalt, basalt andesite, related ash and breccia beds; basaltic arenite;* 25a, *olivine gabbro plugs*

EOCENE AND (?) OLIGOCENE
KAMLOOPS GROUP (21, 22)

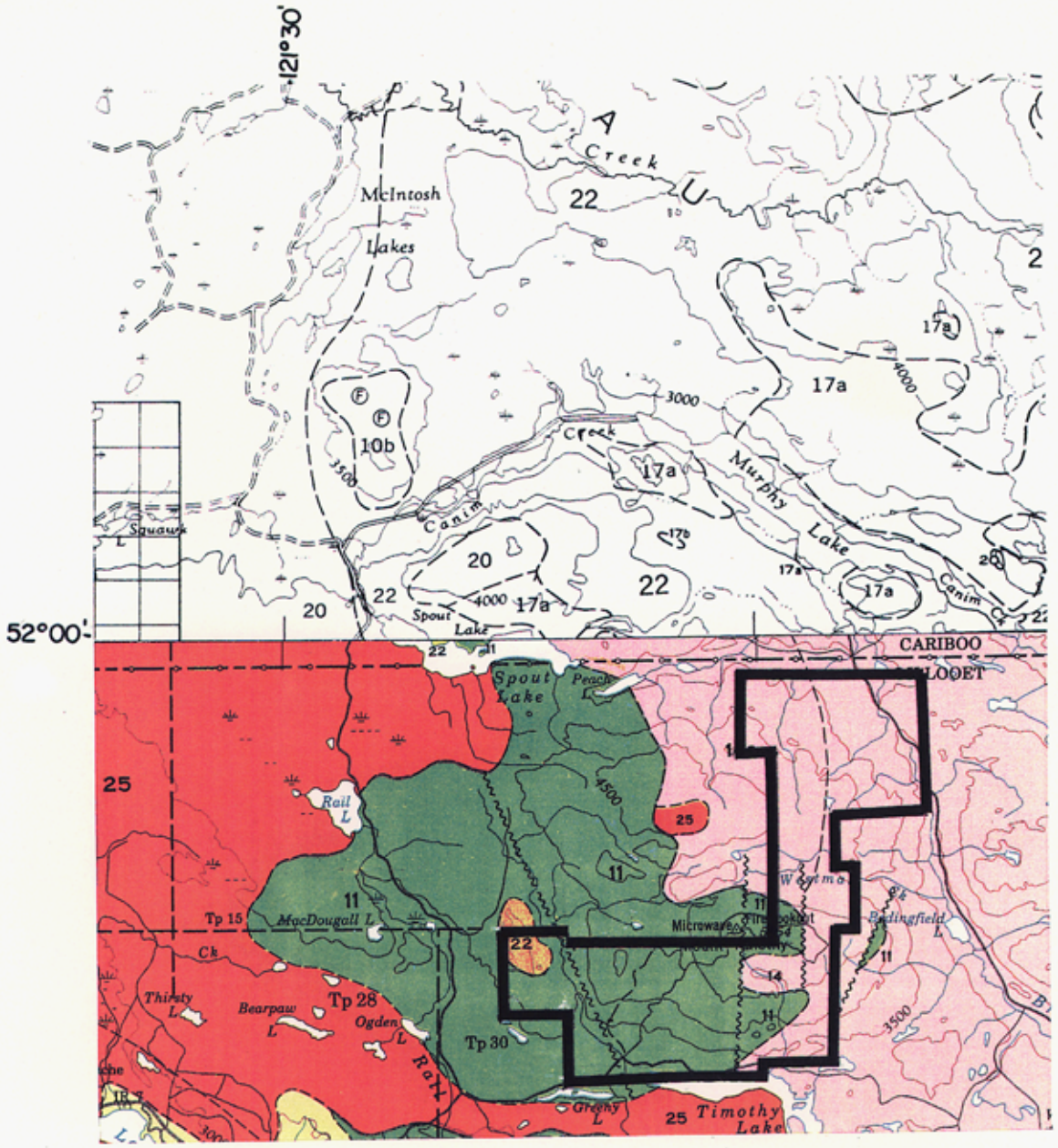
22 — *SKULL HILL FORMATION: dacite, trachyte, basalt, andesite, rhyolite, related breccias*

TRIASSIC OR JURASSIC
RHAETIAN OR HETTANGIAN

14 — *THUYA AND TAKOMKANE BATHOLITHS AND SIMILAR GRANITIC ROCKS: hornblende-biotite quartz diorite and granodiorite, minor hornblende diorite, monzonite, gabbro, hornblendite;* 14a, *diorite and syenodiorite;* 14b, *leuco-quartz monzonite and granodiorite*

TRIASSIC
KARNIAN AND NORIAN
NICOLA GROUP

11 — *Augite andesite flows and breccia, tuff, argillite, greywacke, grey limestone;* 11a, *includes minor 3 and 10*



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GINA 1-4, DAVE 1-3 AND AQUARIUS 1-13 CLAIMS

LOCAL GEOLOGY

N.T.S. 92P/14W

SCALE = 1:250 000

FIG. 5

intrusive mapped by Hodgson and DePaoli (1972). Other magnetic highs in the southeast corner of the property on the **Aquarius 7** and **10** claims are also probably caused by magnetite-rich alkalic intrusives within the Nicola rocks.

PREVIOUS WORK:

Although the Cariboo-Quesnel Gold Belt has a long history of placer gold exploration, there has been relatively little mineral exploration in the general vicinity of the claim group. Quartz vein gold occurrences where discovered in the 1930's at Frasergold and Spanish Mountain to the north and east (Figure 3), however it was not until the mid 1960's that significant exploration began in the region following the discovery of the Cariboo-Bell porphyry copper deposit.

A reconnaissance geochemical soil sampling program was conducted over most of the Spout Lake area by Coranex Limited (Janes,1967). Holman kits with Biquinoline and colorimetric determinations were the order of the day. The results of this work precipitated the staking of claims immediately south of the property and the eventual discovery of the WC, Peach, Tim and Miracle showings.

Coranex carried out follow-up magnetic and IP surveys and defined a number of anomalous IP zones in the vicinity of Peach Lake. Amax Potash Limited outlined the Tim showings with follow-up geological mapping and discovered the WC magnetite-copper skarn deposit south of Spout Lake (Hodgson and DePaoli, 1972). Percussion drilling by Amax intersected 160 feet of 1.63% copper with one 80 foot section running 2.28% copper (Hodgson and DePaoli, 1973). Additional diamond drilling on the WC deposit by Craigmont Mines returned good copper values in a number of holes; the best giving 20 feet of 2.47% copper (Vollo, 1975). No assays were done for gold.

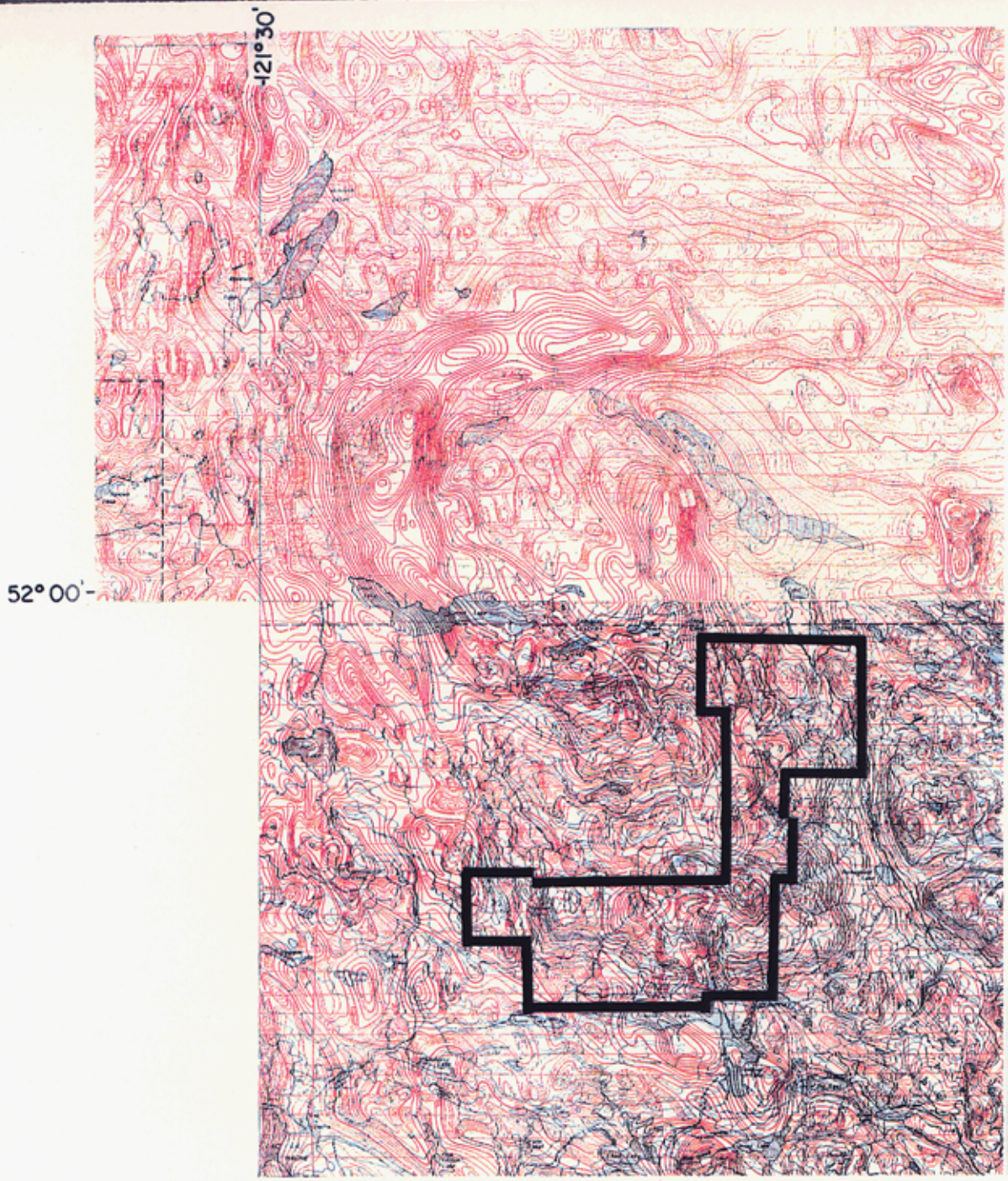
The low base metal prices and introduction of super-royalties in the mid 1970's resulted in the expiration of many of the mineral claims. Exploration began again in the early 1980's for gold. BP-Selco conducted a broad scale soil sampling program and located several strong copper-gold geochemical anomalies that were not explored (Gamble and Hoffman, 1984). The Tim showings were tested by Stallion Resources Ltd. in the fall of 1983, and a zone of 10.7 meters assayed 4.6% copper, 1.7 oz/ton silver and a 1.5 m section with 0.119 oz/ton gold (Butler, 1984).

Following earlier reconnaissance work by Guichon Explorco Limited (Gamble,1983), the Miracle showing was located by prospectors Neils Kriberg and Don Fuller. Recent work by G.W.R. Resources Inc. has outlined a zone of copper-gold mineralization coincident with a magnetic high and an strong IP anomaly (White, 1987). Grab samples from the trench on the showing yielded over 1.5 oz/ton gold.

AIRBORNE MAGNETIC AND VLF-EM SURVEY:

This geophysical survey simultaneously monitors and records the output signal from a Develco tri-axis ringcore magnetometer and a Herz dual-frequency VLF-EM receiver. The sensors are installed in an aerodynamically stable "bird" which is towed sixty metres below a helicopter. Fixed to the helicopter skid is a shock and gimbal-mounted, downward-facing video camera. A video signal is recorded and later reviewed and correlated with a recent air photomosaic in order determine the precise locations of the flight paths. The elevation of the helicopter above the ground is recorded by a radar altimeter and monitored by the pilot and navigator in order to maintain a constant ground clearance.

A computer records readings of the magnitude of the earth's magnetic field and of the fields induced by two powerful VLF-EM transmitters (located in Annapolis, Maryland and Seattle, Washington). This data, the time and date it was observed, radar



TIDE RESOURCES LTD.

GINA 1-4, DAVE 1-3 AND AQUARIUS 1-13 CLAIMS

G.S.C. REGIONAL AEROMAGNETICS

N.T.S. 92P/14W

SCALE = 1:250 000

FIG. 6

altimeter values, and survey fiducial points are all superimposed on the video image and recorded on both video cassettes and 3.5 inch computer diskettes.

Data quality is assured by the survey operator monitoring a real-time display of direct and unfiltered recordings of all the geophysical output signals while a navigator directs the helicopter pilot from an air photograph.

DATA PROCESSING:

The video image, with superimposed line-fiducial identification, recording times, and the recorded data, is correlated with both the navigator's and operator's field notes and topographic features observed from the photomosaic. The "recovered" flight paths are digitized to obtain relative x and y positions which are then merged with the data. Subsequently, all geophysical data is filtered to remove spurious noise bursts and chatter, and then plotted as flight path profiles and contour maps for each of the sensors.

Both the total field magnetometer signal and the total field and quadrature components of VLF-EM signal are sensitive to topographic changes and bird oscillations. Short wavelength (less than 200 meters) oscillations, are attenuated by filtering the data with a digital low-pass filter. Long wavelength effects (anomalies greater than 2000 metres) attributed to topography, are also removed from the VLF-EM data by high-pass filtering.

DISCUSSION OF RESULTS:

The **Gina 1-4, Dave 1-3** and **Aquarius 1-13** claims were surveyed on 30 September - 5 October 1988. Approximately 800 line kilometers of airborne magnetic and VLF-EM survey data have been recovered and evaluated.

Survey lines were flown east-west with an average line spacing of 200 metres. The geophysical survey data were recorded two times per second for an effective average sampling interval of 15 metres. The sensors were towed below the helicopter with an average terrain clearance of 30 metres.

Magnetic data are useful for mapping the position and extent of regional and local geological structures which have varying concentrations of magnetically susceptible minerals. Many lithological changes correlate with a change in magnetic signature. VLF-EM data is useful for mapping conductive zones. These zones usually consist of argillaceous graphitic horizons, conductive clays, water-saturated fault and shear zones, or conductive mineralized bodies. Conductors are located at a change in sign (cross-over) of the quadrature component and a total field VLF-EM high.

The magnetic and VLF-EM data are plotted on photomosaic base maps of the entire survey area at 1:20,000 scale in Figures 7, 8 and 9 representing magnetic, SEattle VLF and Annapolis VLF respectively. Interpretations have been marked directly on these plots.

The magnetic data in this area can be divided into five distinct domains, each with a unique pattern of magnetic response.

1. The eastern boundary of the survey area lies almost completely within a large area of generally low magnetic intensity. This area is mapped as underlain by a granitic batholith probably consisting of quartz diorite, granodiorite, monzonite or similar granitic rocks. The magnetic data indicates the western edge of the batholith traverses the **Gina 1, Gina 3** and **Dave 3** claims, with the **Dave 1, Dave 2, Gina 2** and **Gina 4** claims being completely underlain by the granitic rocks. In the southwestern corner of the survey area the edge of the batholith appears to

meander through the **Aquarius 6, 7, 8** and **10** claims, with **Aquarius 9** claim again being completely underlain by the granitic rocks.

2. A large magnetic high dominates the west-central region of the survey area. This high delineates the extent of the magnetite-rich syenodioritic stocks and dykes mapped by Hodgson and Depaoli which have intruded the Nicola volcanics south of Spout Lake.

3. The region of high magnetic intensity extending towards the northwest from the northwest corner of **Aquarius 1** claim is probably the signature of a remnant of the Skull Hill Formation. This Tertiary formation consisting of dacite, trachyte, basalt, andesite, rhyolite and related breccias appears to overlay the Triassic Nicola volcanics in this region. The strong magnetic signature is probably sourced in the magnetite rich volcanics.

4. The region of high magnetic intensity in the southwest corner of the survey area appears to straddle both the Nicola volcanics and the granitic batholith to the east. This region spanning the Aquarius 4, 5, 6, 7, 10 and 11 claims is likely sourced in a series of magnetite-rich syenodioritic stocks and dykes similar to those mapped by Hodgson and DePaoli south of Spout Lake.

5. The sinuous magnetic low traversing this region from the northwest to southeast may be sourced in Nicola volcanics with a much thicker Tertiary basalt cover, plateau basalts filling a paleo valley or an local expression of the Pinchi fault.

The most pronounced magnetic gradients and lineations have been identified as possible faults on Figure 7. Additional faults could be identified, however those shown are clearly the most significant structures in the survey area.

Numerous VLF-EM conductors have been located on FIgures 8 and 9. Due to the high noise content in the VLF-EM data, even after processing and filtering, many of these conductors should be considered to be somewhat speculative. Even so, there appears to be consistent pattern to the VLF-EM response for both transmitters: there are more conductors in the central region of the survey area than elsewhere. This is probably related to the greater depth of glacial cover over the northern part of the survey area, and the plateau basalt cover in the southern regions.

CONCLUSIONS AND RECOMMENDATIONS:

A reconnaissance, helicopter-borne magnetic and VLF-EM survey has been carried out over the **Gina 1-4, Dave 1-3,** and **Aquarius 1 - 13** claims of **Tide Resources Ltd.** Approximately 796 line kilometres of magnetic and VLF-EM data have been recovered to evaluate these claims.

The data indicated most of the property is underlain by the Nicola volcanics and volcaniclastic rocks. High magnetic intensities in the north central area of the property indicate the presence of magnetite rick alkalic intrusives within the Nicola volcanics which are known to host copper-gold porphyry deposits in surrounding regions. Major fault structures have also been interpreted from the magnetic data which may facilitate hydrothermal gold deposition.

The short strike length conductors do not appear to have a preferred orientation and hence may be relatied to mineralization in shear or fault structures rather than graphitic sedimentary horizons.

Further exploration is recommended on the property, focussing on the high magnetic anomalies and associated fault structures in the central regions. Ground follow-up should initially proceed with geological mapping and prospecting, followed by a regional geochemical survey. Areas of interest should then be selected and surveyed by detailed ground magnetics, VLF-EM and soil geochemistry. Given encouraging results, an induced polarization survey should be carried out in advance of drilling to isolate the most favorable zones of mineralization.

Respectfully submitted,

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Consulting Geophysicist.

REFERENCES:

Butler, P., Diamond Drilling Report on the Tim 2 Claim, Clinton Mining Division, Stallion Resources Ltd., April 1984.

Campbell, R.B.,Geology, Quesnel Lake (West Half), British Columbia, G.S.C. Map 3-1961, 1961.

Campbell, R.B. and Tipper, H.W., Geology Of The Bonaparte Lake Map Area, G.S.C. Memoir 363, 1972.

Fox, P.E., Cameron, R.S., Hoffman, S.J., Geology and Soil Geochemistry of the Quesnel River Gold Deposit, British Columbia, GEOEXPO/86, The Association of Exploration Geochemists.

Gamble, D., Geochemical Survey, Core Claims, Clinton Mining Division, Guichon Explorco Limited, August 1983.

Gamble, A.P.D. and Hoffman, S.J., Assessment Report Soil Geochemical Survey on the Core 8 -13 Claims, Selco Division BP Resources Canada Limited, October 1984.

Hodgson, C.J., and DePaoli, G.M., 1971 Property Report, Spout Lake Copper Property, Amax Potash Limited, January 1972.

Hodgson, C.J., and DePaoli, G.M., Final 1973 Property Report, Spout Lake Copper Property, Amax Potash Limited, November 1973.

Janes, R.H., A Report on the Geochemistry of the Peach North & South Groups, Clinton Mining Division, Coranex Limited, August 1967.

Saleken, L.W. and Simpson, R.G., Cariboo-Quesnel Gold Belt, A Geological Overview, Western Miner, April 1981.

Vollo, N.B., Diamond Drilling Report, WC Group, Craigmont Mines Ltd., May 1975.

White, G.E., Geological, Geochemical and Geophysical Report, Miracle 2, 3, 4 and 5 Mineral Claims, Timothy Mt. Area, B.C., G.W.R. Resources Inc., October 1987.

INSTRUMENT SPECIFICATIONS

DEVELCO RINGCORE MAGNETOMETER

Model:	1210
Sensor:	3-axis ringcore fluxgate
Orthogonality:	±1° degree with respect to other axes and reference surface
Sensitivity:	0.0025 Milligauss (0.25 gamma)
Range:	±1000, ±300, ±100, ±30, ±10, ±3 mG
Analog Output:	±5V dc for above ranges
Output Impedance:	600 ohms
Zero Field Offset:	< ±7 mG absolute
Linearity:	±0.5%
Noise:	0.1 to 1 Hz, 0.0025 mG peak-to-peak 1.0 to 10 Hz, 0.0025 mG peak-to-peak 1.0 to 100 Hz, 0.01 mG peak-to-peak
Gain Stability:	±3%, 0 to +60° C
Field Nulling:	±0.04 mG to full scale
Low-Pass Filtering:	Switch selectable 1, 10, 100 and 500 Hz (-3 dB with -18 dB/octave roll-off, Butterworth response)
High-Pass Filtering:	DC, 0.1, and 1 Hz (-3 dB with -18 dB/octave roll-off, Butterworth response)
Notch Filter:	40-dB notch at 60 Hz, switch selectable, in or out
Battery Life:	25-hour minimum, rechargeable
AC Power:	115-230V; 1/4 A
Size:	Sensor: 3.2 cm x 3.5 cm x 10.16 cm Control Unit: 43 cm x 13 cm x 41 cm
Weight:	Sensor Probe: 0.62 kg Control Unit: 13.6 kg

INSTRUMENT SPECIFICATIONS

DATA ACQUIISITION UNIT

Model:	HP-3852A
Mainframe Supports:	Eight function module slots Data acquisition operating system System timer Measurement pacer Full alphanumeric keyboard, command and result displays
Number of Channels:	20 channel relay multiplexer HP44708A/H
Voltmeter:	5 1/2 to 3 1/2 digit intergrating voltmeter HP44701A measures: DC voltage resistance AC voltage Range ±30V, ±0.008%, +300uV Intergration Time 16.7 msec Number of converted digits 6 1/2 Reading rate (readings/ sec) 57 Min-Noise rejection (dB) Normal Mode Rejection at 60 Hz ±0.09% 60 DC Common Mode Rejection with 1 KΩ in low lead 120 Effective Common Mode Rejection at 60 Hz ±0.09% with 1 KΩ in low lead 150
Communication:	HPIB interface with Compaq
Power Requirements:	110/220 Volts AC at 60/50 Hz
Dimensions:	45.7 cm x 25.4 cm x 61.0 cm
Weight:	9.5 kg.

INSTRUMENT SPECIFICATIONS

CONTROLLER AND RECORDING SYSTEM

Type:	Compaq Portable II
	An 80286 microprocessor
	640 Kbytes of RAM
	2 three and a half inch 720 Kbyte drives
	one 20-Megabyte fixed disk drive
	Monochrome, dual-mode, 9-inch internal monitor
	Asynchronous communications interface
	Parallel interface
	Composite-video monitor interface
	RGB monitor interface
	RF modulator interface
	Two expansion slots
	Real-time clock
	An 80287 coprocessor
	A HPIB Interface Card
Data Storage:	3 1/2 inch diskettes in ASCII
	Roland 1012 printer for printed output
	Beta I video cassettes
Power Requirements:	115 Volt AC at 60 Hz
Weight:	11 kg
Dimensions:	45 cm x 25 cm x 30 cm

INSTRUMENT SPECIFICATIONS

HERZ TOTEM - 2A VLF-EM SYSTEM

Source of Primary Field: -Global network of VLF "OMEGA" radio stations in the frequency range of 14 KHz to 30 KHz

Number of Channels: Two; Field selectable by 100 Hz steps. Ex:
Seattle, Washington at 24.8 KHz
Annapolis, Maryland at 21.4 KHz

Type of Measurement: Total Field Strength
(Location of Conductors)
Vertical Quadrature
(useful in interpreting the quality and depth to a conductor)
Horizontal Quadrature
(orientation of field & structures)

Type of Sensor: Ferrite antennae array of 3 orthoganal coils mounted in a fiberglass bird with preamp.

Output: -0 to ± 1000 mV displayed on two switch selectable analogue meters.
-noise monitoring light.
- audio monitor speaker.

Filters:	Noise blanking spherics (lightning) Anti Aliasing filters (Adjacent Stations) Crystal Controlled Phase Lock loop digital tuning. 1 sec. output Time Constant.
Sensitivity:	130 micro V/m at 20 kHz.

INSTRUMENT SPECIFICATIONS

BARRINGER AIRBORNE MAGNETOMETER

MODEL:		M 1041
TYPE:		Proton Precession
RANGE:		20,000 to 100,000 gammas
ACCURACY:		+ 1 gamma at 24 V d.c.
SENSITIVITY:		1 gamma throughout range
CYCLE RATES:		
Manual	-	Pushbutton single cycle
External	-	Actuated by a contact closure (short) longer than 10 microseconds
Continuous	-	1.114 seconds with external pins shorted
Internal	-	1 second to 3 minutes in 1 second steps
OUTPUTS:		
Analogue	-	2 channels, 0 to 99 gammas or 0 TO 990 gammas at 1 m.a. or 100 mV full scale deflection.
Digital	-	Parallel output 5 figure 1248 BCD, TTL compatible
Visual	-	5 digit numeric display directly in gammas
SIZE:		Instrument set in console 19" x 3.5" x 10"
WEIGHT:		10.6 lbs.
POWER REQUIREMENTS:		28 ± 5 volts dc, @ 1.5 amps - polarizing 4 amps
DETECTOR:		Noise cancelling torroidal coil installed in air foil.

INSTRUMENT SPECIFICATIONS

FLIGHT PATH RECOVERY SYSTEM

i) T.V. Camera:

Model:	RCA TC2055 Vidicon
Power Supply:	12 volt DC
Lens:	variable, selected on basis of expected terrain clearance.
Mounting:	Gimbal and shock mounted in housing, mounted on helicopter skid.

ii) Video Recorder:

Model:	Sony SLO-340
Power Supply:	12 volt DC / 120 volt AC (60Hz)
Tape:	Betamax 1/2" video cassette - optional length.
Dimensions:	30 cm X 13 cm X 35 cm
Weight:	8.8 Kg
Audio Input:	Microphone in - 60 db low impedance microphone
Video Input:	1.0 volt P-P, 75Ω unbalanced, sync negative from camera.

iii) Altimeter:

Model:	King KRA-10A Radar Altimeter
Power Supply:	0-25 volt (1 volt/1000 feet) DC signal to analogue meter, 0-10 v (4mv/ft) analogue signal to data acquisition unit
Mounting:	fixed to T.V. camera housing, attached to helicopter skid.

STATEMENT OF QUALIFICATIONS

NAME: WOODS, Dennis V.

PROFESSION: Geophysicist

EDUCATION:
B.Sc. Applied Geology
Queens' University

M.Sc. Applied Geophysics
Queen's University

Ph.D. Geophysics
Australian National University

PROFESSIONAL ASSOCIATIONS:
Registered Professional Engineer
Province of British Columbia

Society of Exploration Geophysicists

Canadian Society of Exploration Geophysicists

Australian Society of Exploration Geophysicists

President, B.C. Geophysical Society

EXPERIENCE:

1971-79 - Field Geologist with St. Joe Mineral Corp. and Selco Mining Corp. (summers).
- Teaching assistant at Queen's University and the Australian National University.

1979-86 - Professor of Applied Geophysics at Queen s University.
- Geophysical consultant with Paterson Grant & Watson Ltd., M.P.H. Consulting Ltd., James Neilson and Assoc. Ltd., Foundex Geophysics Geophysics Ltd.
- Visiting research scientist at Geological survey of Canada and the University of Washington.

1986-88 - Project Geophysicist with Inverse Theory and Applications Inc.
- Chief Geophysicist with White Geophysical Inc.

COST BREAKDOWN:

The geophysical data was collected, processed and analyzed. Geological information was researched and compiled. This report and survey was prepared for an all inclusive fee of $47,688.00. This total is based upon a survey acquisition and processing cost of $53 per kilometre of collected total field magnetic data and two stations of VLF-EM data. The survey was conducted by Western Geophysical Aero Data Ltd. employees Ian Braidek, Bob Acheson and Tim Watson.

Mob/Demob - truck rental, helicopter ferry	$ 1,250.00
Photomosaic preparation	1,750.00
Survey - 796 kilometres of magnetic and VLF-EM data at $53 per kilometre	42,188.00
Report/Interpretation	2,500.00
TOTAL	$47,688.00

TOTAL ASSESSMENT VALUE OF THIS REPORT **$47,688.00**

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TO VLF TRANSMITTER

—— VLF-EM CONDUCTOR

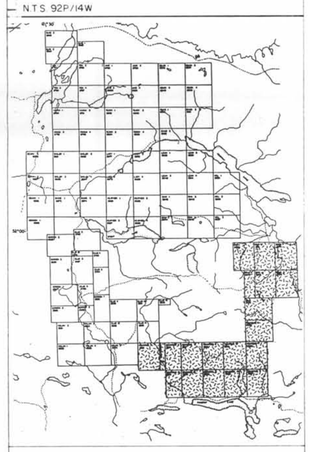
+ TOTAL FIELD - Base=0
Scale = 50/cm

—— QUADRATURE - Base=0
Scale= 50% /cm

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,348

N.T.S. 92P/14W



TIDE RESOURCES LTD.

LAC LA HACHE PROJECT
Southeast Block
VLF-EM Profiles (Seattle)
Scale 1: 20000.0

0 400 800 1200 1600 2000 M

Date: January 1988	Survey: September 1988	Fig.8

WESTERN GEOPHYSICAL AERO DATA LTD.

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TO VLF TRANSMITTER

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Scale= 50/cm

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GEOLOGICAL BRANCH
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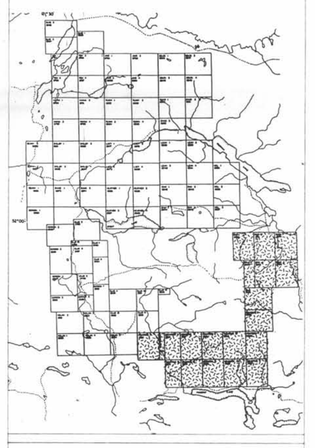

TIDE RESOURCES LTD.

LAC LA HACHE PROJECT
Southeast Block
VLF-EM Profiles (Annapolis)
Scale 1: 20000.0

0 400 800 1200 1600 2000 m

Date: January 1988	Survey: September 1988	Fig.9

WESTERN GEOPHYSICAL AERO DATA LTD.