ELECTRUM RESOURCE CORP.
REPORT ON A
MAXMIN SURVEY
PIMPERNEL PROJECT
HOUSTON, B.C.

Omineca Mining Division

Latitude: 54 10
Longitude: 127 03
NTS 93L/3

by

Cliff Candy, P. Geo.

January, 1997

Project No. FGI-311

CONTENTS

ILLUSTRATIONS

1.0 INTRODUCTION

During September of 1996, Frontier Geosciences Inc. conducted a brief program of MaxMin electromagnetometer surveying on the Pimpernel Claims on behalf of Electrum Resources Corp. The claims are situated approximately 32 kilometres south of Houston, B.C. in the Omineca Mining Division. The objective of this brief test was to traverse three interpreted airborne EM anomalies.

The claim group is underlain by Lower Jurassic Hazelton group volcanics and Eocene Buck Creek volcanics which have been intruded by an Eocene alkaline gabbro. The geology of the claim group thus closely resembles that on the nearby Equity Silver Mines property where silver-copper ore bodies have been mined since 1979. The MaxMin method has a history of effectiveness in this environment.

2.0 PIMPERNEL CLAIMS

The registered owner of the Pimpernel claims, listed below and shown in Figure 3, is Electrum Resources Corp. of Vancouver, British Columbia.

Claim Name	Units	Record No.	Due Date Before Submission of This Report
PIMPERNEL	20	342909	Jan. 10, 1997

3.0 HISTORY AND PREVIOUS WORK

A series of geochemical and geophysical surveys have been done on the Pimpernel Property (previously named the Hagas property) since 1970 in a search for an Equity type ore body. Four short diamond drill holes were drilled in 1973 and 1977 which encountered silver and copper values in pyrite.

During September, October, 1977 Aquitaine commissioned a Scintrex HEM 801 airborne electromagnetic and magnetometer survey over the claim group, with follow-up MaxMin surveying. Several anomalies were located.

Max-Min, EM, magnetometer, and geochemical soil sampling was conducted which located a deep conductor on the fry claims. Drill testing of this conductor in February 1979 intersected predominantly volcanic tuffs, rhyolite, and andesite with some massive sulphides.

In April, 1980, a regional airborne EM survey, conducted by Aerodat for Equity Mines, overflew the Hagas claim group. Six anomalies were interpreted by John Boniwell of Excalibur International Consultants.

Geochemical stream sediment sampling and sporadic outcrop rock chip sampling was conducted in July 1983. In 1984, heavy mineral soil samples, regular geochemical soil samples and rock samples were taken. In 1985, 1986 and 1987, geochemical soil samples were again taken.

An Induced Polarization survey was undertaken in 1987, along with a program of backhoe trenching. Progold resources drilled four NQ diamond holes in November/December 1989.

4.0 REGIONAL GEOLOGY

The Smithers-Houston area of central B.C. is situated in the central interior plateau, physiographic division of the Cordillera. The region consists predominantly of rolling country, showing gentle to moderate relief with low rounded hills interspersed by flat bottomed valleys which are generally filled with variable thicknesses of glacial debris. Outcrop is generally scarce and can be misleading as the softer, more recessive units are sometimes completely unrepresented in outcrop.

The oldest rocks in the region forming what may be referred to as the basement belonging to the Lower to Middle Jurassic Hazelton group which in turn is subdivided into the Sinemurian and lower Pliensbachian Telkwa formation which consists of variagated red, maroon, grey-green breccias, tuffs and flows of basaltic to andesitic composition. This in turn is overlain by middle Toarclan breccias. This is in turn overlain by the upper Nilkitkwa formation consisting of dark grey shale and andesitic to rhyolitic tuff and minor greywacke and these are in turn are overlain by the upper part of the Hazelton group which is the Smithers formation of grey greywackes, sandstone, siltstone, shale, tuff, glauconitic sandstone and minor conglomerate. The Hazelton has been extensively faulted. The major block faults strike NW-SE.

The Hazelton group, which is mostly volcanic, is considered to be of middle to lower Jurassic age and is in turn overlain by the Middle and Upper Jurassic mostly sedimentary Bowser Lake group, by the volcanic and sedimentary lower Cretaceous Skeena group and the later Tertiary volcanic Endako and Ootsa Lake groups.

Unfortunately in outcrop the Tertiary volcanics can be easily confused with some of the Jurassic units making field mapping difficult. The early Jurassic Topley intrusions cut the lower part of the Hazelton group and a variety of intermediate to acidic plutons of late Cretaceous to Eocene age intrude most older units throughout the area.

Structurally, the area is dominated by a multitude of steep normal faults. Few contacts between map units are unfaulted and these are mainly intrusive or contacts between younger map units. Folding is common only in a few sedimentary units and is spatially and genetically related to the Eocene thrust faults.

In the Goosley Lake area, shown on Church's BCDM Preliminary Map 11, a series of lower Jurassic acid to intermediate lavas and pyroclastics is overlain uncomformably by flat lying Eocene volcanic rocks of the Goosley Lake and Buck Creek formations. The Goosley Lake volcanics consists mainly of biotite-pyroxene-plagloclase trachy andesite lavas and thick sills or flows. The Buck Creek volcanics are predominantly flows, mostly aphanitic andesites, some dacites and basalts. The assemblage has been intruded by syeno-monzonite alkalic gabbro stocks referred to as the Parrott Lake and Goosley Lake intrusions. These are of Eocene age and are probably coeval with the volcanics.

5.0 PROPERTY GEOLOGY

Rock outcrop is generally scarce in the central and northern part of the property but is more abundant at higher elevations to the south and west. Mostly overburden consists of dense glacial till containing up to 15% rounded boulders. Although the till is extensive, it is often shallow because in many cases logging road construction has exposed bedrock. The oldest rocks exposed on the property are the lower Jurassic Hazelton group which underlies most of the central and northern part of the property and is mostly volcanics. H. Salat of Aquitaine divided them into two successive volcanic assemblages. At the base, a series of green andestie breccias and pyroclastics, outcrop over the entire southwestern corner of the claim group and these show a strong pervasive epidotization associated with chlorite, calcite, and quartz. Salat interpreted this as regional metamorphic alteration. The top of this unit is marked by dark green fragmental volcanic rocks interlayered with red brown argillite containing green flattened fragments, similar to volcanic material seen in the underlying flows.

Overlying this predominantly dark green volcanic breccia and pyroclastic assemblage are a series of bedded maroon and brown andesite flows, lapilli tuffs and andesitic pyroclastics which outcrop in nearly horizontal horizons in the northern part of the property. These units also show the same epidote alteration. Aquitaine interpreted these units as sub-aerially deposited and thin sections and other studies identified tephra, welded tuffs, hematized flow tops and numerous vesicles, etc. The underlying unit was interpreted as of a more subaqueous depositional nature.

Uncomformably overlying the Hagas 78 claim a small gabbroic stock intrudes the Hazelton volcanics. It is composed of green coarse grained gabbro with well developed plagbioclase laths and polkilitic augite. Several small dykes of very fine grained diorite cut through the property. These generally strike in an NW-SE direction. The gabbro intrusive is believed to be of Eocene age and of similar composition to that occurring at the Equity Silver Mine property.

6.0 MAXMIN ELECTROMAGNETOMETER SURVEY

The instrument employed in this survey was the Apex Parametrics Limited MaxMin I-10 EM System which consists of two components: a transmitter (Tx) that creates the primary energising field, and a receiver (Rx) that measures the earth's response as a secondary magnetic field. The MaxMin transmitter contains 10 system frequencies ranging from 110 Hz to 56000 Hz to deal effectively with a wide range of overburden and bedrock conductor conductivities.

In operation, the MaxMin I-10 E.M. is a two-man continuously portable EM system designed to measure both the vertical and horizontal in-phase (IP) and Quadrature phase (QP) components of the anomalous field from electrically conductive zones. The directions of the measured components are perpendicular and parallel to the mean slope between the transmitting coil and the receiving coil.

The plane of the transmitter is kept parallel to the mean slope between the transmitter and receiver for each reading. When the receiver measures anomalous components perpendicular to the mean slope between the transmitter and receiver, the system is in effect a horizontal loop (HL) system. When the receiver measures anomalous components parallel to the mean slope, the system becomes a minimum-coupled (Min C) system.

The field measured by the receiver is a seconday field generated indirectly by the transmitter. The field generated by the transmitter induces a current in the earth. This current follows a path which is affected upon by the presence of subsurface conductors. This current then generates a secondary EM field of its own. It is this secondary field which is measured and subsequently examined to determine the presence, size, and orientation of subsurface conductors.

7.0 GEOPHYSICAL RESULTS

7.1 General

The location of the survey lines is displayed at a scale of 1:10000 on Figure 4. The survey data for the two test lines is plotted at a scale of 1:5000 on Figures 5 and 6.

7.2 Discussion

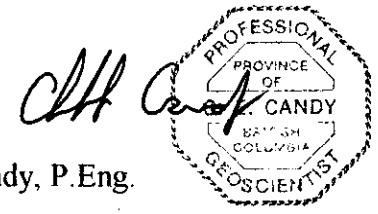
The coverage on Line 1 (Figure 5) traversed two airborne anomalies designated 13X and 9A on Figure 4. The 13X zone corresponds to a moderate response, primarily in the high frequency (3520 Hz) information, located at station 1150. This appears to have a weak parallel response located at station 1300. The 9A airborne anomaly is associated with a similar response located at station 250.

The Line 2 data shows the presence of a weak feature which at station 300. (Figure 5) This response shows poor character and is likely due to a weak near surface conductive zone, or possibly contact effect.

8.0 CONCLUSIONS AND RECOMMEDATIONS

A brief test survey consisting of 2050 metres of coverage on two survey lines was conducted on the Pimpernel Claims. The data detected two conductors corellated with the 13X and 9A airborne survey anomalies. A third response of low quality was found to correlate with the approximate location of airborne anomaly 10. It is recommended that further MaxMin survey coverage be obtained such that more details of anomaly character, depth, dip and strike length to the zones may be determined.

for Frontier Geosciences Inc.



Cliff Candy, P.Eng.

9.0 STATEMENT OF QUALIFICATIONS, CLIFF CANDY

I, Cliff Candy, Hereby certify that:

1) I am a geopysicist with buisness offices at 237 St. Geores Ave., North Vancouver, B.C., V7L 4T4.

2) I am a principle of Frontier Geosciences Inc., a company performing geophysical consulting and surveys.

3) I am a graduate of the University of British Columbia in Geophysics (B.Sc., 1977).

4) I am a member of the Assotiation of Professional Engineers and Geoscientists of British Columbia.

5) I have practiced my profession as geophysicist for over 19 years.

Signed _____
Cliff Candy, P.Geo.

North Vancouver, B.C., January 1997.

MAXMIN I-10 ELECTROMAGNETIC SYSTEM SPECIFICATIONS:

FREQUENCIES:	110, 220, 440, 880, 1760, 3520, 7040, 14080, 28160 and 56320 Hz.
COIL SEPARATIONS:	SET NO. 1: 12.5, 25, 50, 75, 100, 125, 150, 200, 250, 300 and 400 metres (the standard set). SET NO. 2: 10, 20, 40, 60, 80, 100, 120, 160, 200, 240 and 320 metres (selected with grid switch in receiver). SET NO. 3: 50, 100, 200, 300, 400, 500, 600, 800, 1000, 1200 and 1600 feet (selected with grid switch in receiver).
TRANSMITTER DIPOLE MOMENTS:	110 Hz: 200 Atm² — 3520 Hz: 80 Atm² 220 Hz: 190 Atm² — 7040 Hz: 40 Atm² 440 Hz: 170 Atm² — 14080 Hz: 20 Atm² 880 Hz: 140 Atm² — 28160 Hz: 10 Atm² 1760 Hz: 110 Atm² — 56320 Hz: 5 Atm²
MODES OF OPERATION:	MAX 1: Horizontal loop or slingram - transmitter and receiver coil planes horizontal and coplanar. MAX 2: Vertical coplanar loop mode transmitter and receiver coil planes vertical and coplanar. MIN 1: Perpendicular mode 1 - transmitter coil plane horizontal and receiver coil plane vertical. MIN 2: Perpendicular mode 2 - transmitter coil plane vertical and receiver coil plane horizontal.
PARAMETERS MEASURED:	In-phase and quadrature componets of the secondary magnetic field, in % of primary field.
READOUTS:	Analog direct edgewise meter readouts for in-phase, quadrature and tilt. Additional digital LCD readouts provided in the optional MMC computer. Interfacing and controls are provided for ready plug-in of the MMC.
RANGES OF READOUTS:	Switch activated analog in-phase and quadrature scales: 0±4 %, 0±20 % and 0±100 %, and digital 0±199.9 % autorange with optional MMC. Analog tilt 0±75 % and 0±99 % grade with MMC.
RESOLUTION:	Analog in-phase and quadrature 0.1 to 1 % of primary field, depending on scale used, digital 0.01 % with autoranging MMC; tilt 1 % grade.
REPEATABILITY:	0.01 to 1 % of primary field, typical, depending on frequency, coil separation and conditions.
SIGNAL FILTERING:	Powerline comb filter, continuous spheric noise clipping, autoadjusting time constant, and more.
WARNING LIGHTS:	Receiver signal and reference warning lights to indicate potential error conditions.
SURVEY DEPTH PENETRATION:	From surface down to 1.5 times coil separation for large horizontal target and 0.75 times coil separation for large vertical target, values typical.
REFERENCE CABLE:	Lightweight unshielded 4/2 conductor teflon cable for maximum operating temperature range and for minimum pulling friction.
INTERCOM:	Voice communication link provided for operators via the reference cable.
TEMP. RANGE:	Minus 30 to plus 60 degrees Celsius, operating.
RECEIVER BATTERIES:	Four standard 9 V - 0.6 Ah alkaline batteries. Life 25 hours continuous duty, less in cold weather. Optional 1.2 Ah extended life lithium batteries available (recommended for very cold weather).
TRANSMITTER BATTERIES:	Standard rechargeable gel-type lead-acid 6 V -28 Ah batteries (4 x 6 V - 7.2 Ah) in nylon belt pack. Optionally rechargeable long life 6 V - 28 Ah nickel-cadmium batteries (20 x 1.2 V - 7 Ah) with ni-cad chargers - best choice for cold climates.
TRANSMITTER BATTERY CHARGERS:	Lead acid battery charger: 7.3 V @ 2.8 A, Ni-cad battery charger: 2.8 A @ 8 V nominal output. Operation from 110 - 120 and 220 - 240 VAC, 50 -60 Hz, and 12 - 15 VDC supplies.
RECEIVER WEIGHT:	8 Kg carrying weight (including the two ferrite cored antenna coils), 9 Kg with MMC computer.
TRANSMITTER WT:	16 Kg carrying weight.
SHIPPING WEIGHT:	60 Kg plus weight of reference cables at 3 Kg per 100 metre, plus optional items if any. Shipped in two aluminum lined field / shipping cases.
STANDARD SPARES:	Spare transmitter battery pack, spare transmitter battery charger, two spare transmitter retractile connecting cords, spare set of receiver batteries.
OPTIONS AND ACCESSORIES, PLEASE SPECIFY:	◆ MMC, MaxMin Computer option ◆ Data interpretation and presentation programs ◆ Reference cables, lengths as required ◆ Reference cable extension adapter ◆ Handheld inclinometer for rough terrain ◆ Receiver extended life lithium batteries ◆ Transmitter ni-cad battery & charger option ◆ Minimal, regular or extended spare parts kit

Specifications subject to changes without notification

93 - 10 - 05

MAXMIN COMPUTER MMC SPECIFICATIONS:

OPERATING SYSTEM:	Menu driven user-friendly hierarchial operating system, interfacing with MaxMin EM System receiver and with personal computers.
DISPLAY:	Liquid Crystal Display, with two lines of 24 alphanumeric characters each.
KEYBOARD:	18 tactile pushbutton keys
BEEPER:	To provide audible operator guidance and to speed up operations, especially in very cold weather.
CLOCK CALENDAR:	Date and Time (year, month, day, hour and minute)
COIL TILT:	Tilt display, with built in tilt sensor and circuitry, with 0±99% grade range and with 1% resolution
IN-PHASE & QUADRATURE:	0±199.9% autoranging programmable gain system with 0.1% resolution for displayed data and 0.01% resolution for stored data
APPARENT CONDUCTIVITY:	0.1 to 3276 milliSiemens (millimho) per metre available conductivity range, with conductivity arrived at using the quadrature, in-phase, frequency and coil separation data
PROCESSOR:	16 bit low power CMOS CPU and bus at 6 MHz clock rate
MEMORY:	ROM: 16 Kb, expandable to 64 Kb RAM: 256 Kb, static CMOS
PHYSICAL SIZE:	24.2 x 17.3 x 4.3 cm, to fit inside MaxMin receiver leather case notebook pocket.
WEIGHT:	1.0 Kilogram
BATTERIES:	Two 9 Volt- 0.57 Ampere-hour alkaline batteries. Battery life 28 hours continuous duty, less in cold weather. Optional 1.2 Ah lithium batteries recommended for very cold weather operation. One lithium 3 Volt back-up battery, type 2032.
CONNECTIONS:	19 pin bayonet connector receptacle to connect to MaxMin receiver with the supplied aluminum tube connectors. One each of DB25S and DB9S data transfer cords supplied for downloading data to personal computer serial port.
TEMPERATURE RANGE:	Minus 30 to plus 60 degree Celsius. Temperature sensor and temperature display built-in.

Specifications subject to changes without notification

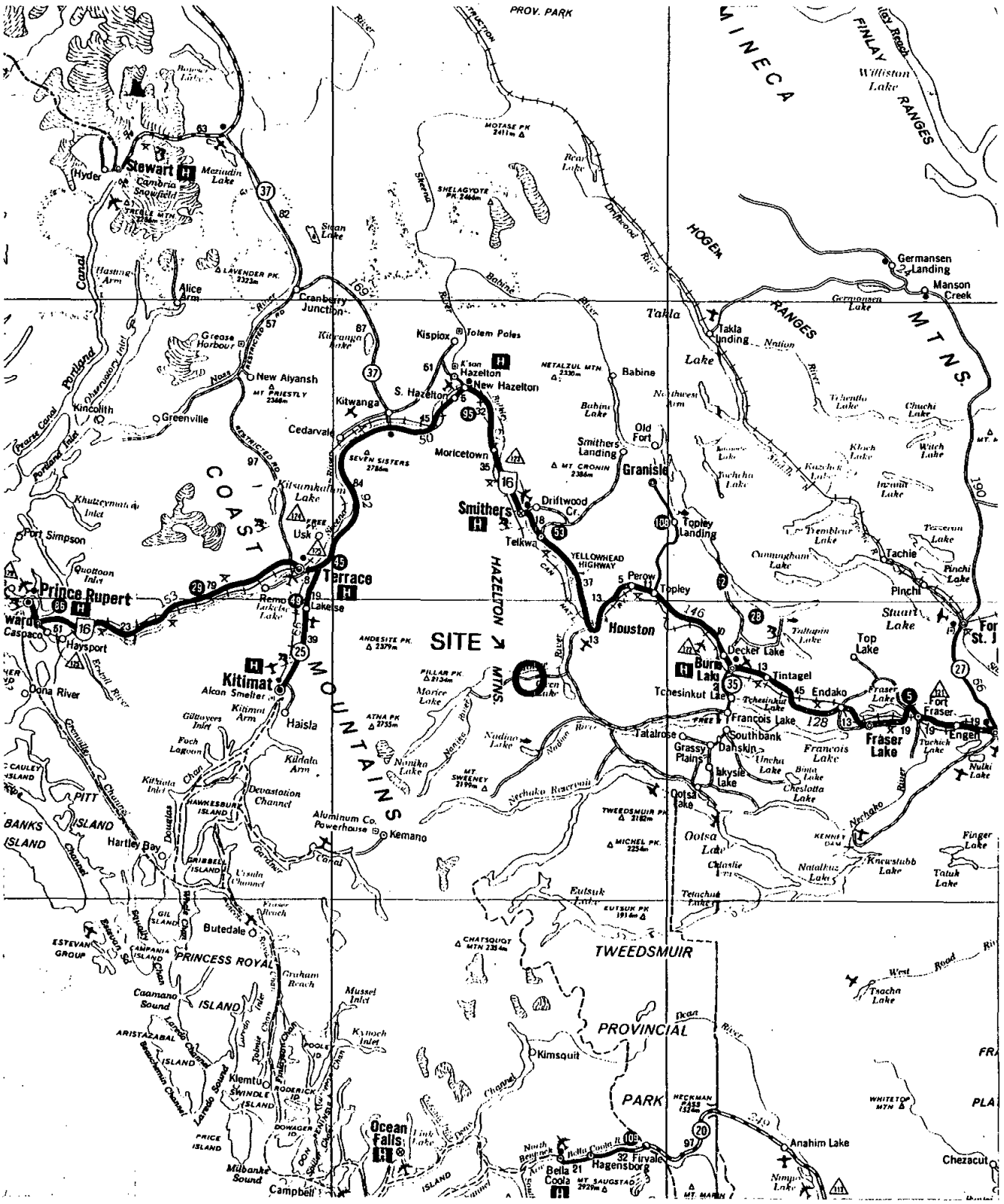
1993-10-04

10.0 COST STATEMENT

For claim year ending September 12th, 1997:

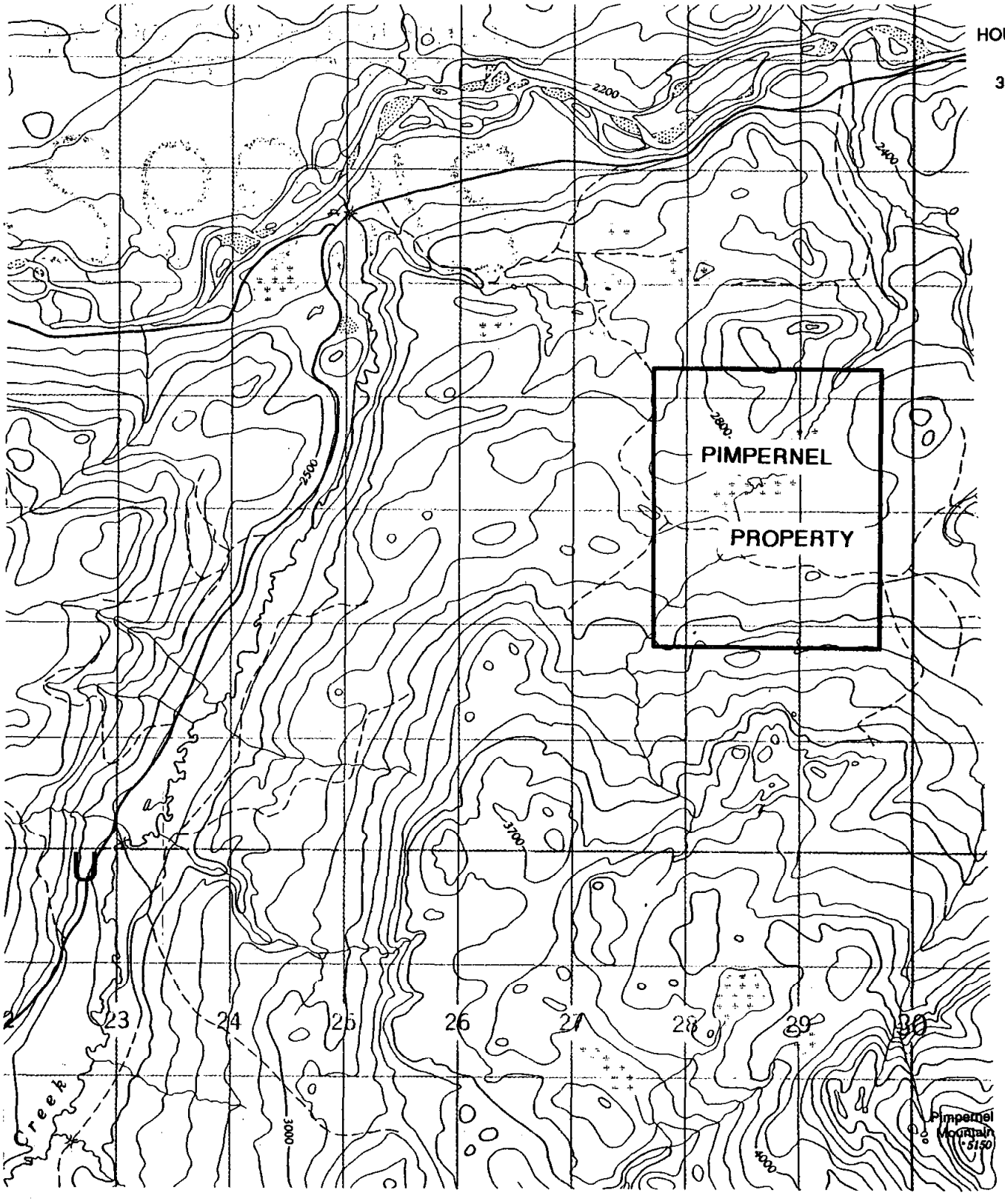
Frontier Geosciences Inc.:

Item	Days	Unit Cost
Geophysicist	1	$460.00
Technician	1	$240.00
MaxMin Instrument	1	$170.00
Board and Lodging	1	$152.00
Vehicle	1	$120.00
Mob/demob	1	$200.00
Data processing and reporting		$600.00
		$1942.00



SCALE: 1 CM EQUALS APPROX. 24 KM

ELECTRUM RESOURCE CORP. PIMPERNEL PROJECT		
MAXMIN SURVEY		
SURVEY LOCATION PLAN		
FRONTIER GEOSCIENCES INC.		
JANUARY, 1997		FIG. 1

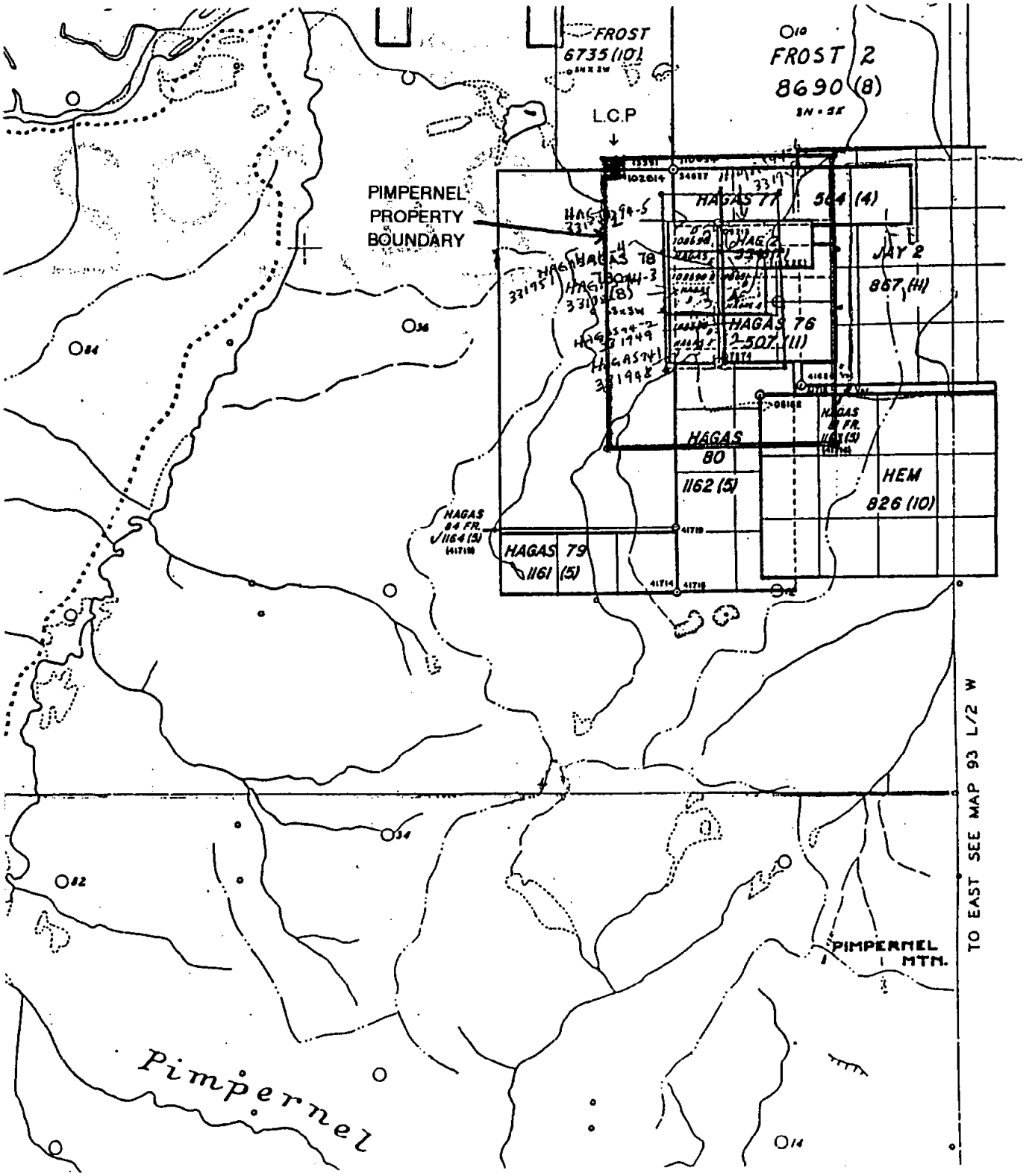


Scale 1:50 000

Metres 1000 0 1000 2000 3000

NOTE; LOCATION MAP IS A SEGMENT OF
NTS MAP SHEET 93 L/3, "LAMPREY CREEK"

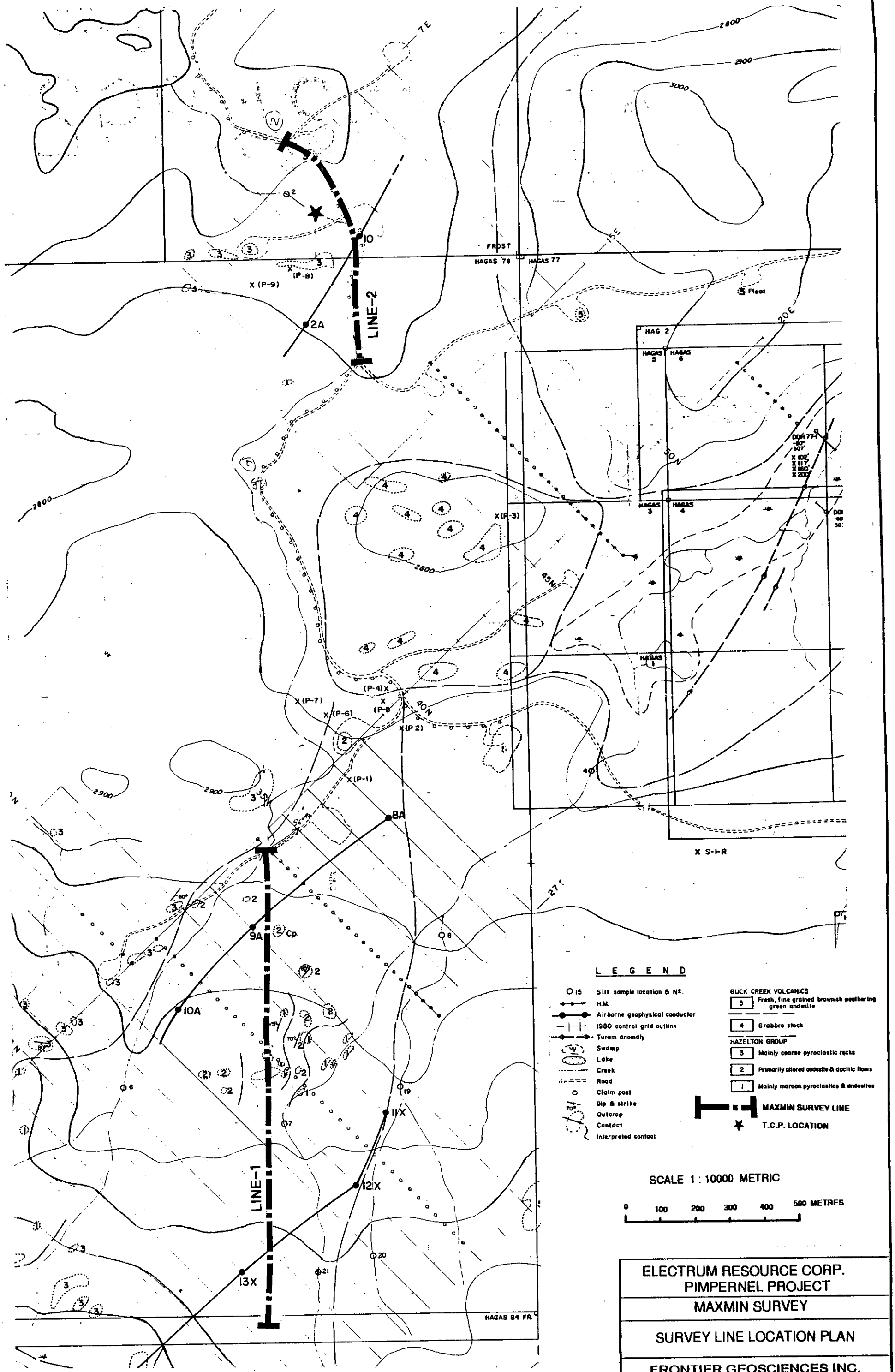
ELECTRUM RESOURCE CORP. PIMPERNEL PROJECT
MAXMIN SURVEY
PIMPERNEL PROPERTY LOCATION MAP
FRONTIER GEOSCIENCES INC.
JANUARY, 1997 | | FIG. 2



Scale 1:50 000

Metres 1000 0 1000 2000 3000

ELECTRUM RESOURCE CORP. PIMPERNEL PROJECT
MAXMIN SURVEY
CLAIM MAP
FRONTIER GEOSCIENCES INC.
JANUARY, 1997 | | FIG. 3



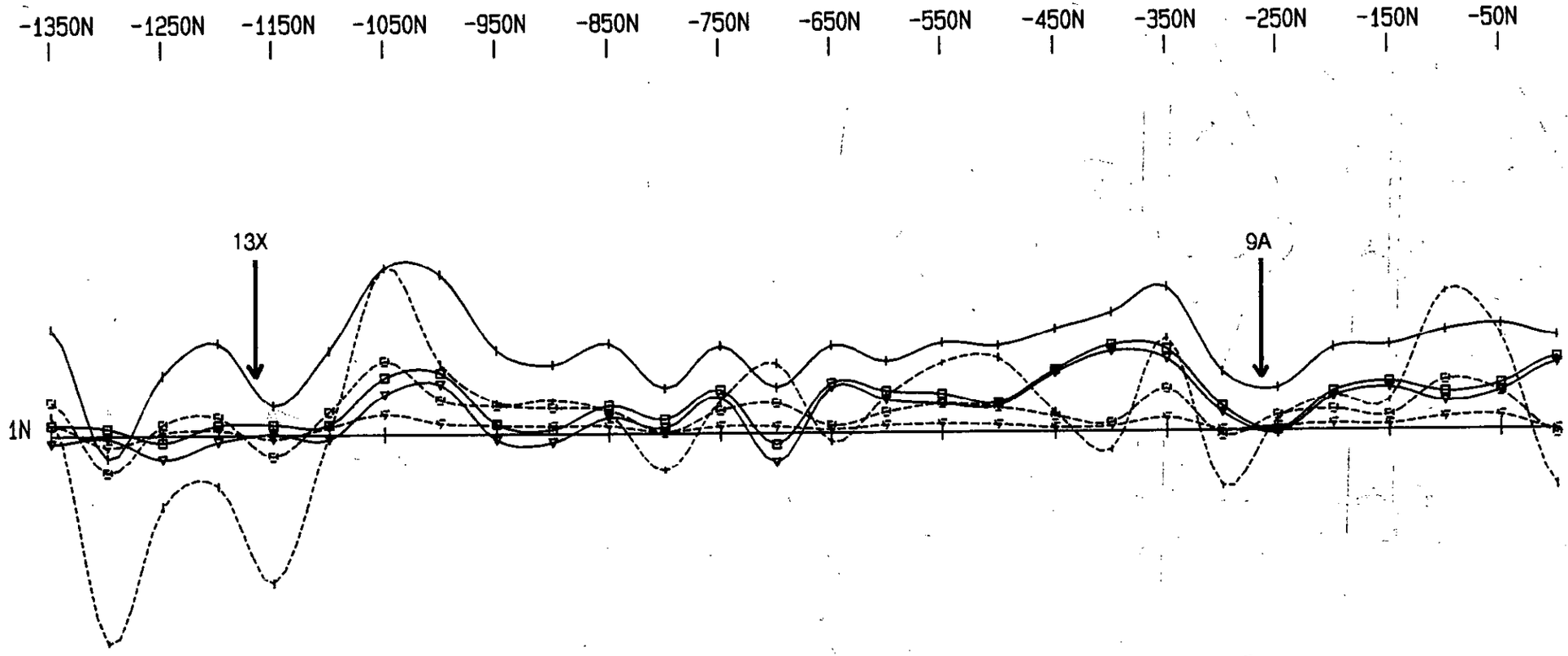
ELECTRUM RESOURCE CORP.
PIMPERNEL PROJECT

MAXMIN SURVEY

SURVEY LINE LOCATION PLAN

FRONTIER GEOSCIENCES INC.

JANUARY, 1997 | FIG. 4



NOTES:

INPHASE	(3520 HZ):	—+—+—
QUADRATURE	(3520 Hz):	--□-□--
INPHASE	(880 HZ):	—▽—▽—
QUADRATURE	(880 Hz):	--×-×--
INPHASE	(220 Hz):	—+—+—
QUADRATURE	(220 Hz):	--▽-▽--

VERTICAL SCALE: 1 cm = 10 %
HORIZONTAL SCALE: 1:5000 m
INSTRUMENT: APEX PARAMETRICS MAXMIN II

ELECTRUM RESOURCE CORP.

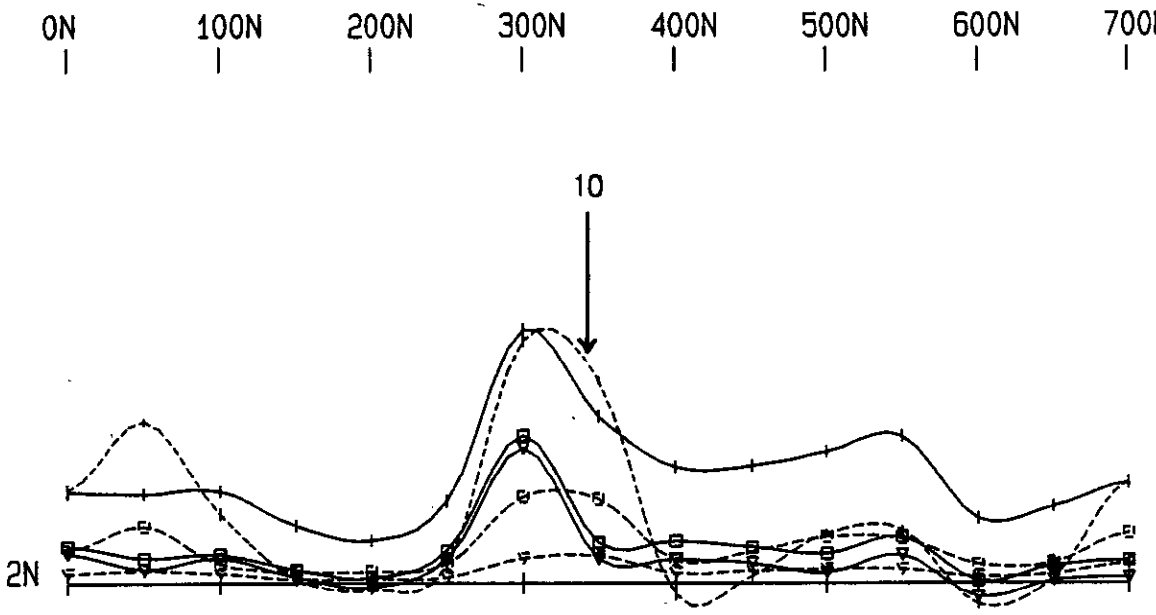
PIMPERNEL PROJECT - HOUSTON AREA - B.C

MAXMIN SURVEY

STACKED PROFILES LINE-1

FRONTIER GEOSCIENCES INC.

DATE: JAN. 1996		FIG.5



NOTES:

INPHASE (3520 HZ):
QUADRATURE (3520 Hz):
INPHASE (880 HZ):
QUADRATURE (880 Hz):
INPHASE (220 Hz):
QUADRATURE (220 Hz):

VERTICAL SCALE: 1 cm = 10 %
HORIZONTAL SCALE: 1:5000 m
INSTRUMENT: APEX PARAMETRICS MAXMIN II

ELECTRUM RESOURCE CORP.

PIMPERNEL PROJECT - HOUSTON AREA - B.C

MAXMIN SURVEY

STACKED PROFILES LINE-2

FRONTIER GEOSCIENCES INC.

DATE: JAN. 1996 | | FIG.6