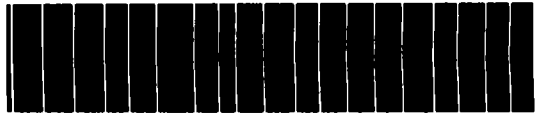


KENNETH H. DARKE (



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GEOPHYSICAL SURVEY REPORT
on the
ANDERSON/MEIKLE/LAFOREST PROPERTY
GODFREY TOWNSHIP, ONTARIO
Porcupine Mining Division
District of Cochrane
for
ANDERSON/MEIKLE/LAFOREST
JOINT VENTURE PARTNERSHIP

RECEIVED
JAN 30 1995
MINING LANDS BRANCH

Deal. # 63.2388

K.H. Darke, P.Eng.
KENNETH H. DARKE CONSULTANTS LIMITED
November 4, 1994

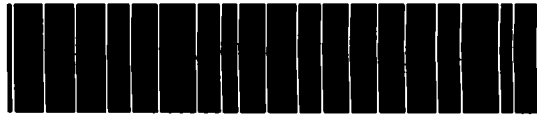


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CERTIFICATE

ADDENDA:

- (i) Brochure: EDA Omni Plus VLF/Magnetometer System.
- (ii) Article: S. Breiner; Proton Magnetometers.
- (iii) VLF-EM Theory/Stations (EM16 Brochure).

ACCOMPANYING MAPS:

- Fig. 1: Township Location Map
- Fig. 2: Claim Location Map G-3991
- Geophysical Compilation Map; Scale: 1:5000
- Isomagnetic Contour Map: " "
- VLF-EM; Fraser Filter Product: " "
- VLF-EM; In-Phase Dip Angles: " "

GEOPHYSICAL SURVEY REPORT
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INTRODUCTION:

This Geophysical Survey Report describes the results of ground geophysical surveys (magnetic & electromagnetic) conducted on the Anderson/Meikle/Laforest Property by contractor D. Laforest Exploration Services during the period December 15, 1992 to January 25, 1993. The instrument used in the geophysical surveys was an EDA OMNI PLUS VLF/Proton Precession Magnetometer with an EDA Recording Base Station.

The area covered by the geophysical surveys consists of a contiguous group of 13 unpatented mining units/claims located in Godfrey Township, Porcupine Mining Division, Ontario. The property is situated within the extensive limits of the City of Timmins, and is accessible via paved Highway 576 (Kamiskotia Lake Road) that extends through Godfrey Township and the area one-half mile north of the subject claim group.

All the consolidated rocks in the general Godfrey Township Region are of Precambrian age and constitute part of the Abitibi Greenstone Belt. Much of the bedrock in the region is masked by a thin pervasive cover of glacial-derived overburden (sand, gravel) and more recent alder & muskeg swamps.

The general Timmins Region is noted for both major gold mines and polymetallic (copper, zinc, lead; gold, silver) massive sulphide-type volcanogenic deposits. These massive sulphide zones (pyrite, chalcopyrite) constitute excellent E.M. conductors; while the more zinc-rich (sphalerite, lesser pyrite) or disseminated sulphide portions may be only moderately to poorly conductive.

The gold-bearing quartz-carbonate veins/stockworks (gold mines) found throughout the region in general are locally structurally controlled; that is, they are directly associated with fracture/shear/fault zones. In places these gold-bearing structural zones

contain associated disseminated sulphide mineralization that upon surficial oxidation form associated weak electrolytic solutions. That is, these structural features containing weak electrolytes constitute weak E.M. conductors.

The purpose of the aforementioned geophysical surveys (Proton Mag; VLF-EM) on the property was to aid in the delineation of the bedrock stratigraphy (magnetic features) and structural features (E.M. conductive shear/fault zones); and/or to detect more massive local concentrations of sulphide mineralization (E.M. conductors) in areas where the bedrock is masked or only poorly exposed.

The geophysical surveys completed on the property outlined areas of magnetic highs (Gabbroic Intrusives; Quartz Diorite Intrusives; Diabase Dikes) and magnetic lows (Quartz Porphyry; Felsic Metavolcanics?); and 25 VLF-EM Conductive Zones (conductive fault/shear zones; local concentrations of sulphide mineralization).

Previous limited exploration on the property located two zones containing base metal sulphide (copper; zinc) mineralization; and a number of quartz veins associated with shear/fracture zones.

Additional detailed work on the subject Anderson/Meikle/Laforest Property in an exploratory search for gold and/or base metal sulphide type orebodies is definitely warranted and herein recommended.

PROPERTY DESCRIPTION:

The Anderson/Meikle/Laforest Property consists of a contiguous group of three Block Claims (13 units) all located in Godfrey Township, Porcupine Mining Division, District of Cochrane, Ontario. Since Godfrey is a surveyed township, the claims can also be described as being located in Lot Nos. 11 & 12, Concession Nos. V & VI; and further described as follows: ...

<u>Claim No.:</u>	<u>No. of Units:</u>	<u>Date Recorded:</u>
P. 1189591	2	Oct. 5, 1992
P. 1189595	10	Oct. 5, 1992
P. 1190797	1	Oct. 5, 1992
	<u>13 units</u>	

The owner of record (Recorded Holder) of the aforesaid mining claims is Steven D. Anderson. It has been attested to by others (not independently ascertained by the writer) that by subsequent private agreement (Joint Venture) said claim group is currently held by S.D. Anderson (35%), R.J. Meikle (35%) and D. Laforest (30%).

LOCATION & ACCESS:

The subject property is located in the northwest quadrant of Godfrey Township, Ontario (N.T.S. 42 A/NW) at Longitude 81°35'W / Latitude 48°32'N. The property is situated within the extensive limits of the City of Timmins approximately 10 airmiles northwest of the city centre.

The property is accessible via paved Highway 576 (Kamiskotia Lake Road) that extends through Godfrey Township and the area approximately one-half mile north of said property.

REGIONAL GEOLOGY:

All the consolidated rocks in the general Godfrey Township Region are of Precambrian age and constitute part of the "Abitibi Greenstone Belt" that lies within the Superior Structural Province of the Precambrian Shield that underlies much of Northern Ontario and adjacent Northwestern Quebec. Said Greenstone Belt consists essentially of Early to Middle Precambrian (Archean-age) metamorphosed volcanic & sedimentary rocks that have been intruded by felsic plutons and mafic/ultramafic stocks & plugs. All the aforementioned rock types have been cut by younger (Proterozoic-age) mafic dikes (diabase, olivine diabase).

The volcanism is cyclic in nature and consists of an initial ultramafic-mafic phase followed by more intermediate & felsic rock types with intercalated clastic sediments & exhalites, and ends with felsic pyroclastic-volcaniclastic material at the top.

Because of several periods of extensive regional folding most of the original essentially flat-lying volcanic strata & sediments in adjacent basins are now vertical to steeply dipping. Due to subsequent intense erosion (peneplanation) throughout the region, the entire volcanic pile from bottom to top, and the adjacent in-folded basinal sediments are generally exposed; that is, a complete cross-section of the volcanic pile-sedimentary basin often can be seen as bedrock outcrop.

ECONOMIC GEOLOGY:

The general Timmins area is noted for both major gold mines and polymetallic (copper, zinc, lead; gold, silver) massive sulphide-type volcanogenic deposits. The gold mineralization in most part is associated with quartz-carbonate veins/stockworks hosted by a variety of rock types; and the polymetallic sulphide deposits are hosted by felsic-intermediate metavolcanic stratigraphy.

Godfrey Township contains two significant polymetallic sulphide deposits (Canadian Jamieson & Genex) ... two other deposits (past producers) are located to the northwest in adjacent Jamieson Township (Jameland Mines) and Robb Township (Kam-Kotia Mine). The Canadian Jamieson Mine (past producer; Cu, Zn) is located approximately 3,000 ft. east of the subject property, and the Genex deposit is situated approximately 2.5 miles southeast of the property.

PROPERTY GEOLOGY:

The general geology of the area encompassing the subject property is shown on Ont. Department of Mines' Geological Map No. 1954-4, Township of Godfrey; at a scale of 1 inch to 1,000 feet.

The aforementioned reconnaissance geological mapping by the O.D.M. indicates that the principal rock types present on the property are felsic intrusives (granite, quartz porphyry) and mafic intrusives (gabbro, diabasic gabbro). The northern part of an extensive Quartz Diorite plug intrudes the extreme easterly located claims (P.1189591). Northerly-trending (N 5°-15° W) linear-shaped diabase dikes intrude through the western & north-eastern parts of the property. Thin lamprophyre/trap dikes are also present and represent the youngest rock type on the property... in general they trend at N 40° E and Due North; however, a few trend east or northwest.

The diabase dikes on the property are part of an extensive dike swarm that reflects regional northerly-trending fault zones. The lamprophyre dikes reflect more local fault & fracture zones.

Previous work by others in the general area now encompassed by the subject property had been of limited extent and consisted initially of the investigation of the gold potential of a number of quartz veins hosted by quartz porphyry or quartz diorite. Six diamond drill holes tested a sericitic shear zone/quartz vein (Zone #1) located on the southeastern part of the property ... refer to accompanying Compilation Map for details as to location.

A number of prospect pit/trenches tested sulphide showings (pyrite, pyrrhotite; chalcopryrite, sphalerite) located on the northwestern part of the property within an area underlain principally by Mafic (Gabbroic) Intrusives. One narrow sulphide showing (Zone #2) consisting of 10% disseminated sulphides (pyrite, sphalerite, chalcopryrite) was tested by 2,000 feet of diamond drilling.

A disseminated sulphide zone (pyrite, chalcopryrite) located on the northeastern part of the property (Allerston Showing) was tested by only one diamond drill hole.

The current Anderson/Meikle/Laforest Property has never been covered by detailed geological mapping; and thus, the exact locations of the aforementioned quartz veins & sulphide showings with respect to the current control grid (picket lines) is unknown.

GEOPHYSICAL SURVEYS:**1. LINECUTTING:**

During the period Dec. 5, 1992 to Jan. 22, 1993 contractor Exsics Exploration Limited completed the linecutting of a control grid of picket lines (24 km) covering the entire property. Said grid, with the main "Control Hub" (0+00) at the northeastern corner of the property, consists of north-south-bearing picket lines at an 100-metre line-spacing (00+00 to 12+00W) with stations at 25-metre intervals (0+00 to 20+00S) thereupon.

2. MAGNETOMETER SURVEY:

Instrument:- EDA Omni Plus Proton Precession Magnetometer

Station Interval:- 25m

Line Interval:- 100m

No. of Readings:- 936

Diurnal Correction Method:- EDA Recording Base Station

Data Presentation:- Isomagnetic Contour Map

- Contour Interval: 100 nano-teslas (nT)

- Base Level Removed: 57,000 nT

- Map Scale: 1:5000

The Proton Precession Magnetometer used in the magnetic survey has a sensitivity of one gamma (nT) or better, absolute accuracy, no moving parts, and measures total field intensity with freedom from orientation errors. Refer to the accompanying Addenda to this report for additional details as to the Proton Magnetometer (EDA brochure) used in the survey and for general theory (article by S. Breiner) re such magnetometers.

The following comments are based upon a Total Magnetic Field Intensity that for sake of convenience has been reduced by 57,000 nT (Background Removed).

The most prominent magnetic features on the property are three northerly-trending, linear-shaped magnetic highs (generally 2,300-4,800 nT; local high of 8,399 nT) that represent Diabase Dikes which contain variable amounts of magnetite mineralization. These three Diabase Dikes have been offset in places by northeasterly, or easterly trending fault zones. Since the picket lines upon which the mag readings were taken parallel said dikes then the locations of some portions of these dikes as shown (accompanying Compilation Map) are approximate only.

A large portion of the property has a relatively uniform magnetic intensity that varies from approximately 1,100-1,400 nT and is indicative of areas mapped as being underlain predominantly by Granitic Intrusives.

Areas on the property containing the lowest magnetic responses (less than 1100 nT) may indicate Quartz Porphyry and/or felsic metavolcanics.

The eastern margin of the property (Claim P.1189591) contains a known Quartz Diorite Intrusive. Magnetic intensities in this area are highly variable from about 2,000 to 3,000 nT.

Mafic (Gabbroic) Intrusives occur throughout the west-central claims. Magnetic intensities throughout this area are highly variable from 1,400-2,500 nT. Magnetic interpretations in the area are further complicated by the presence of the aforementioned cross-cutting Diabase Dikes (mag highs).

3. VLF-EM SURVEY:

Instrument:- EDA Omni Plus Combined VLF/Mag. System
Station Interval:- 25m
Line Interval:- 100m
No. of Readings:- 901
Parameter Measured:- In-Phase Component (Dip Angle)
Transmitting Station:- NAA Cutler, Maine
Transmitting Frequency:- 24.0 kHz
Reading Direction:- All readings taken facing north
Data Presentation:- Fraser Filter Map (contoured dip angles)
- Geophysical Compilation Map.
- Map Scale: 1:5000

Refer to the Addenda of this report for details as to the instrument used.

Electromagnetic (E.M.) prospecting methods rely on the measurement of secondary fields generated by conducting bodies in the ground when subjected to a primary E.M. signal. The VLF-EM method utilizes the electromagnetic radiation from powerful military radio transmitters as the primary signals. In essence, VLF-EM conductors are detected by using a receiver coil that measures the components (In-Phase; Quadrature) of a secondary field induced in the conductor by a primary transmitted signal.

The VLF-EM survey delineated 25 conductive zones on the property ... refer to the accompanying Compilation Map for locations and designated numbers. Since there has been no follow-up detailed geological mapping on the property the causes of said E.M. anomalies in most cases is currently unknown.

Many of the weak to moderately conductive zones on the property trend northeasterly (N 45°-70° E) or northwesterly (N 45°-55° W) parallel to regional fault/shear zones and thus probably represent E.M. conductive portions of said fault/shear zones.

Easterly trending E.M. Conductor #19b appears to be coincidental with a sericite shear zone containing quartz veins (Zone #1) that was previously tested by diamond drilling.

E.M. Conductor #4 is located in the general vicinity of a narrow sulphide showing (Zone #2); however, it is not currently known whether or not they coincide. A trench on this showing exposed a 14-inch wide shear zone containing 10% sulphides (pyrite, sphalerite, chalcopyrite) ... this zone subsequently was tested by diamond drilling.

A number of moderate to strong E.M. Conductive Zones (Nos. 6, 7, 10, 11, 12, 13, 15 & 17) are located in the western part of the property within an area underlain principally by Mafic (Gabbroic) Intrusives. These generally easterly-trending conductive zones may represent local concentrations of sulphide mineralization along shear zones.

A single drill hole by prospector Ralph Allerston reportedly intersected disseminated sulphides (including chalcopyrite) in the general vicinity of E.M. Conductive Zone #2; however, the exact location of this drill hole with respect to said conductor is currently unknown.

CONCLUSIONS & RECOMMENDATIONS:

The magnetometer survey results corroborate previous reconnaissance geological mapping that indicates the subject property is underlain by three main rock types: Felsic Intrusives (granite; local quartz porphyry); Mafic Intrusives (gabbro); and more locally, a Quartz Diorite Intrusive. All these rock types are cut by northerly-trending Diabase Dikes.

The VLF-EM Survey detected 25 conductive zones on the property. Most of these conductors trend northeasterly and/or northwesterly (refer to accompanying Compilation Map for details) and are considered to represent fault/shear zones. Since elsewhere in the region such conductive shear zones in places have associated gold-bearing quartz veins/stockworks all these conductive zones should be investigated further by detailed prospecting in an exploratory search for gold deposits.

Previous limited work on the property has shown the presence of base metal sulphides (copper-zinc) at two locations ... in the general vicinity of or coincidental with E.M. Conductive Zones #4 & #2. Eight moderate to strong E.M. Conductors (Nos. 6, 7, 10, 11, 12, 13, 15 & 17) occur within an area underlain principally by Gabbroic Intrusives. Since said eight conductive zones could in part represent local concentrations of sulphide mineralization then they should be further investigated specifically for their base metal (nickel, copper; zinc) potential.

Additional limited geophysical surveys (HEM; Max-Min) should also be undertaken to further define and assess the base metal potential of the aforementioned eight E.M. Conductive Zones.

Additional detailed work on the subject Anderson/Meikle/Laforest Property in an exploratory search for gold and/or base metal sulphide-type orebodies is definitely warranted and hereby recommended.

* * * * *

Respectfully submitted,

November 4, 1994
Timmins, Ontario

K.H. Darke

K.H. Darke, P.Eng.
Consulting Geological Engineer



KENNETH H. DARKE CONSULTANTS LIMITED

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Mr. Denis Laforest
730 McClinton Dr.
TIMMINS, ON
P4N 4P8

C E R T I F I C A T E

With reference to my Geophysical Survey Report on the Anderson/Meikle/Laforest Property dated November 4, 1994 ...

I, KENNETH H. DARKE, of the city of Timmins, Ontario do hereby certify that:

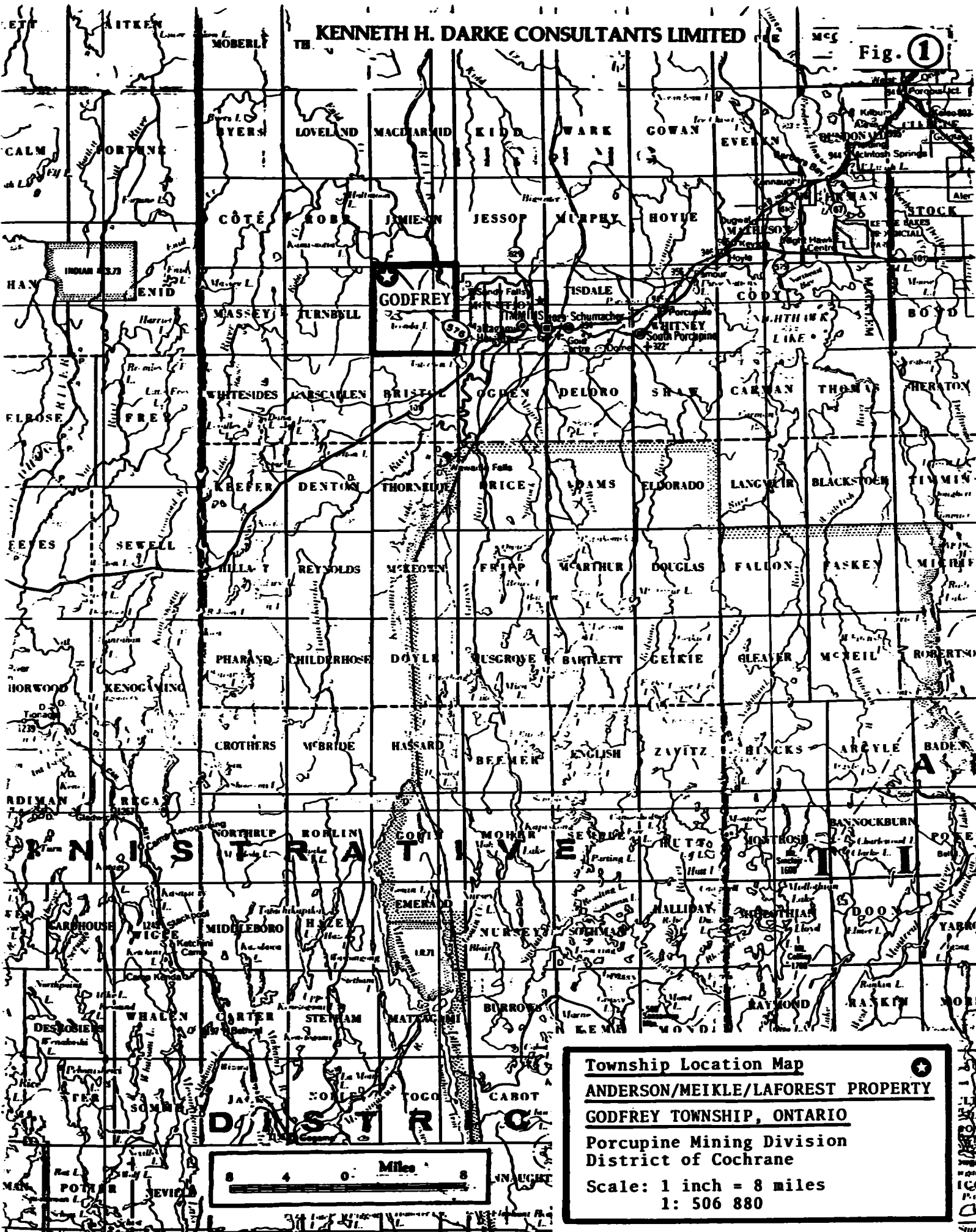
1. I am a graduate of the University of British Columbia in Geological Engineering and have practised my profession in this capacity continuously for the past 38 years;
2. I am and have been an independent Consulting Geological Engineer (Exploration) with an office situated in Timmins, Ontario for the past 30 years;
3. I am a registered Professional Engineer in the Province of Ontario; and
4. I have no interest direct or indirect in the Anderson/Meikle/Laforest Property; Godfrey Township, Ontario described in this report nor do I expect to receive any.


Dated this 4th day of November, 1994
Timmins, Ontario

K. H. Darke

K.H. Darke, P.Eng.
Consulting Geological Engineer





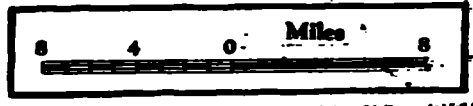
Township Location Map 

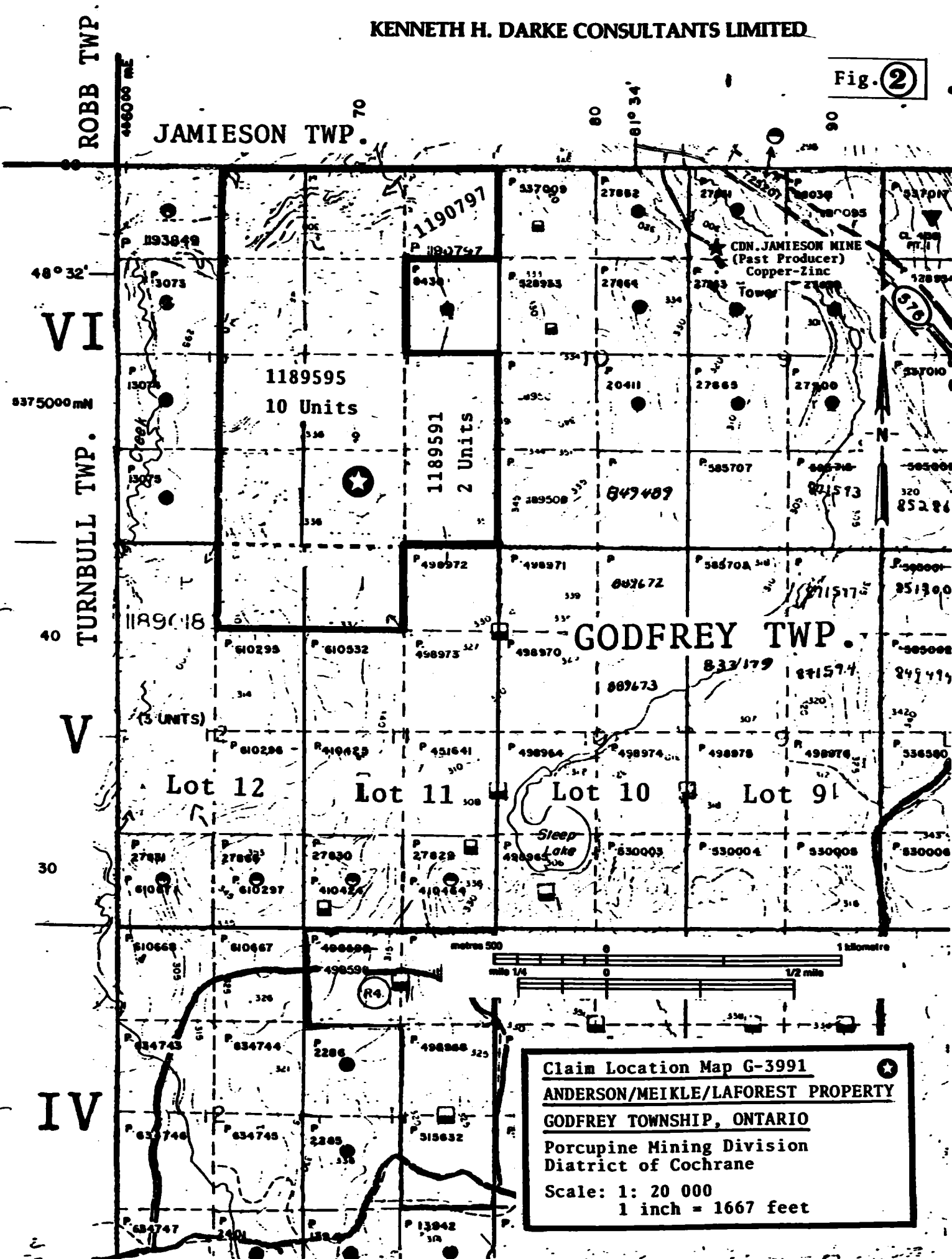
ANDERSON/MEIKLE/LAFOREST PROPERTY


GODFREY TOWNSHIP, ONTARIO

Porcupine Mining Division
District of Cochrane

Scale: 1 inch = 8 miles
1: 506 880





Claim Location Map G-3991 
ANDERSON/MEIKLE/LAFOREST PROPERTY
GODFREY TOWNSHIP, ONTARIO
 Porcupine Mining Division
 District of Cochrane
 Scale: 1: 20 000
 1 inch = 1667 feet

OMNI PLUS VLF/Magnetometer System



Major Benefits of the OMNI PLUS

- Combined VLF/Magnetometer/Gradiometer System
- No Orientation Required
- Three VLF Magnetic Parameters Recorded
- Automatic Calculation of Fraser Filter
- Calculation of Ellipticity
- Automatic Correction of Primary Field Variations
- Measurement of VLF Electric Field



Specifications*

- Frequency Tuning Range** 15 to 30 kHz, with bandwidth of 150 Hz; tuning range accommodates new Puerto Rico station at 28.5 kHz
- Transmitting Stations Measured** .. Up to 3 stations can be automatically measured at any given grid location within frequency tuning range
- Recorded VLF Magnetic Parameters** Total field strength, total dip, vertical quadrature (or alternately, horizontal amplitude)
- Standard Memory Capacity** 800 combined VLF magnetic and VLF electric measurements as well as gradiometer and magnetometer readings
- Display** Custom designed, ruggedized liquid crystal display with built-in heater and an operating temperature range from -40°C to +55°C. The display contains six numeric digits, decimal point, battery status monitor, signal strength status monitor and function descriptors.
- RS232C Serial I/O Interface** 2400 baud rate, 8 data bits, 2 stop bits, no parity
- Test Mode** A. Diagnostic Testing (data and programmable memory)
B. Self Test (hardware)
- Sensor Head** Contains 3 orthogonally mounted coils with automatic tilt compensation
- Operating Environmental Range** -40°C to +55°C;
0 - 100% relative humidity;
Weatherproof
- Power Supply** Non-magnetic rechargeable sealed lead-acid 18V DC battery cartridge or belt; 18V DC disposable battery belt; 12V DC external power source for base station operation only.
- Weights and Dimensions**
- | | | |
|-----------------------------|-------|----------------------------|
| Instrument Console | | 2.8 kg, 128 x 150 x 250 mm |
| Sensor Head | | 2.1 kg, 130 dia. x 130 mm |
| VLF Electronics Module | | 1.1 kg, 40 x 150 x 250 mm |
| Lead Acid Battery Cartridge | ... | 1.8 kg, 235 x 105 x 90 mm |
| Lead Acid Battery Belt | | 1.8 kg, 540 x 100 x 40 mm |
| Disposable Battery Belt | | 1.2 kg, 540 x 100 x 40 mm |

*Preliminary

EDA Instruments Inc.,
4 Thorncliffe Park Drive,
Toronto, Ontario
Canada M4H 1H1
Telex: 06 23222 EDA TOR,
Cables: Instruments Toronto
(416) 425-7800

In USA,
EDA Instruments Inc.,
151 Ward Road,
Wheat Ridge, Colorado
U.S.A. 80033
(303) 422-9112

3.

Applications Manual for Portable Magnetometers.

Sheldon Breiner; GeoMetrics

Instrument Use

The common types of portable magnetometers in use today are fluxgate, proton precession, Schmidt field balance, dip needle and other special purpose instruments. Field balances and dip needles are mechanical devices comprised of pivoted magnets measuring vertical or horizontal intensity or field direction, and are not much used today being replaced by the more sensitive and less cumbersome fluxgate and proton magnetometers. Portable fluxgate magnetometers employ a saturable core sensor held in a vertical direction to measure vertical intensity with an effective sensitivity on the order of several gammas. Fluxgate magnetometers, too, are slowly being replaced by the proton magnetometer which has greater sensitivity (1 gamma or better), absolute accuracy, no moving parts, and measures total field intensity with freedom from orientation errors. For reasons of its increasing utilization and because many applications require these features, the proton magnetometer will be the principal instrument under discussion in the Manual. Much of the Manual from Chapters III through IX nevertheless applies to vertical component flux gate magnetometers as well. Anomaly signatures at high latitudes (magnetic dip 70° or greater) are practically identical for the two instruments; at other latitudes they differ significantly.

Proton Magnetometer

The proton precession magnetometer is so named because it utilizes the precession of spinning protons or nuclei of the hydrogen atom in a sample of hydrocarbon fluid to measure the total magnetic intensity. The spinning protons in a sample of water, kerosene, alcohol, etc., behave as small, spinning magnetic dipoles. These magnets are temporarily aligned or polarized by application of a uniform magnetic field generated by a current in a coil of wire. When the current is removed, the spin of the protons causes them to precess about the direction of the ambient or earth's magnetic field, much as a spinning top precesses about the gravity field. The precessing protons then generate a small signal in the same coil used to polarize them, a signal whose frequency is

PROTON PRECESSION MAGNETOMETER

precisely proportional to the total magnetic field intensity and independent of the orientation of the coil, i.e., sensor of the magnetometer. The proportionality constant which relates frequency to field intensity is a well known atomic constant: the gyromagnetic ratio of the proton. The precession frequency, typically 2000 Hz, is measured by modern digital counters as the absolute value of the total magnetic field intensity with an accuracy of 1 gamma, and in special cases 0.1 gamma, in the earth's field of approximately 50,000 gammas.

Total Field Measurement

The total magnetic field intensity, as measured by a proton magnetometer, is a scalar measurement, or simply the magnitude of the earth's field vector independent of its direction. The measurement can be expressed as in *Figure 1a* as simply the length of the earth's field vector, F , shown here to be 50,000 gammas. A local perturba-

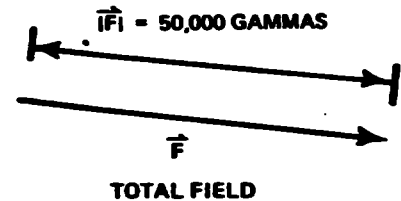


Figure 1a.

tion, T , of 10 gammas, as might be measured in any of the applications discussed herein, is shown in *Figure 1b* as a vector of arbitrary direction. This disturbance vector adds to the undisturbed field in the usual manner of vector addition as shown in *Figure 1b*, paying special notice to how the figure would actually appear if both the 50,000 and 10 gamma vectors were drawn to scale. It is clear from the figure, then, that since the proton magnetometer measures only the *magnitude* of the resultant vector whose direction is almost exactly parallel

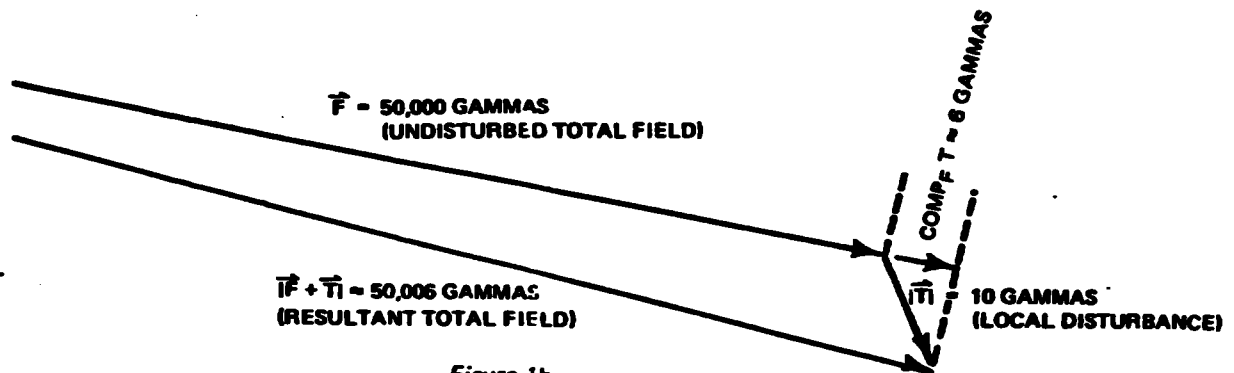


Figure 1b.

Proton Magnetometers continued: . . .

to the undisturbed total field vector, that which is measured is very nearly the component of the disturbance vector in the direction of the original undisturbed total field, or where

$$|\vec{F} + \vec{T}| \approx F + \text{comp}_F T$$

where

$$|\vec{F}| \gg |\vec{T}|.$$

Such conditions are almost always valid except in the near field of large steel objects or in the vicinity of iron ore deposits or certain ultrabasic rocks which produce anomalies larger than 10,000 gammas. Thus, the change in total field, $\Delta F = \text{comp}_F T$, i.e., the component of the anomalous field, T , in the direction of F . (Except where noted, $\text{comp}_F T$ will be referred to simply as the anomaly T .) The proton precession magnetometer, for small perturbations, can therefore be considered to be an *earth's-field-determined component magnetometer*.

This property of measuring this scalar magnitude of the field, otherwise called total field intensity, is very significant with respect to the asymmetric signatures of anomalies, interpretation of anomalies, and in various special applications. Furthermore, the fact that what is measured is independent of the orientation of the sensor, allows the magnetometer to be operated without attention to orientation or leveling such as would be the case with

a fluxgate magnetometer on the mobile platform of a person, vehicle, or aircraft. The only limitation of such a scalar measurement, albeit a minor one, is the fact that the component of the anomalous field which is measured is not normally under the control of the observer, but rather at the whim of the local direction of the earth's magnetic field.

Limitations of a Proton Magnetometer

The proton magnetometer has no moving parts, produces an absolute and relatively high resolution measurement of the field and usually displays the measurement in the form of an unambiguous digital lighted readout. Several operational restrictions exist, however, which may be of concern under special field conditions. First, the proton precession signal is sharply degraded in the presence of a large magnetic field gradient greater than 200 gammas per foot (approximately 600 gammas per meter). Also, the signal amplitude from the sensor is on the order of microvolts and must be measured to an accuracy of 0.04 Hz of the precession frequency of several thousand Hz. This small signal can be rendered immeasurable by the effects of nearby alternating current electrical power sources. For these two reasons, a *proton magnetometer cannot usually be operated within the confines of a typical building*. Developments and procedures are presented which minimize these effects for the applications to be described in the Manual.



GEONICS LIMITED

2 Thorncliffe Park Drive, Toronto 17, Ontario, Canada. Tel. (416) 425-1821, Cables: Geonics

EM 16

VLF ELECTROMAGNETIC UNIT

Pioneered exclusively by Geonics Limited the VLF-method of electromagnetic surveying by utilization of the uniform horizontal fields generated by an existing network of reliable, fully operational Very Low Frequency transmitting stations has proved to be a major advance in geophysical exploration.

Very extensive world-wide experience since the beginning of 1965 by a large and rapidly increasing number of users, including a high proportion of major mining and exploration companies, has provided conclusive evidence of the effectiveness of the technique and the EM 16 has gained general acceptance as a basic electromagnetic tool. This evidence has also indicated the response of disseminated bodies to the VLF-method.

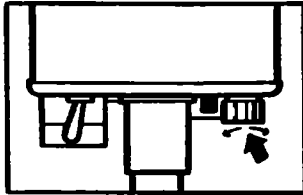
The unique self-contained EM 16 offers the unrivalled combination of **LIGHT WEIGHT, ONE-MAN OPERATION** and **DEEP PENETRATION** allowing rapid, economical surveys. Assessing the data is simplified due to the use of the uniform horizontal primary field. The patented design feature of the measurement of both the in-phase and out-of-phase (quadrature) component of the vertical field provides the information necessary for comprehensive interpretation of the field results.



SPECIFICATIONS

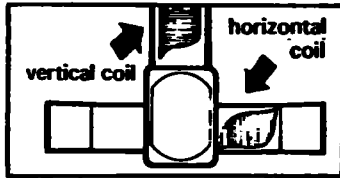
Source of primary field:	VLF transmitting stations.	Scale range:	In-phase $\pm 150\%$; Out-of-phase $\pm 40\%$.
Transmitting stations used:	Any desired station frequency supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.	Readability:	$\pm 1\%$
Operating frequency range:	About 15 – 25 kHz	Reading time:	10 – 40 seconds depending on signal strength.
Parameters measured:	(1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component the short axis of the polarization ellipsoid compared to the long axis.	Operating temperature range:	-40 to 50°C
Method of reading:	In-phase from a mechanical inclinometer; out-of-phase from a calibrated dial. Nulling by audio tone.	Power Supply:	6 size AA (penlight) alkaline cells. Life about 200 hours.
		Dimensions:	16 x 5.5 x 3.5 in (42 x 14 x 9 cm)
		Weight:	2.5 lbs (1.1 kg)
		Instrument supplied with:	Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional), set of batteries.
		Shipping weight:	10 lbs (4.5 kg)

SIMPLE ONE-MAN OPERATION



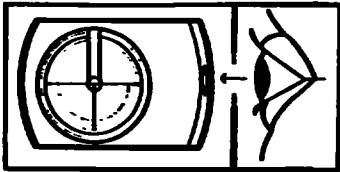
STATION SELECTOR

after selection of 2 VLF stations and insertion of proper plug-in units, knob rotation allows switching.



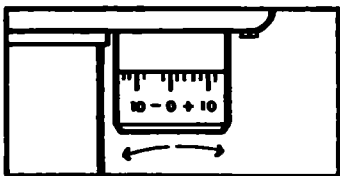
RECEIVING COILS

vertical receiving coil circuit in instrument picks up any vertical signal present. Horizontal receiving coil circuit, after automatic 90° signal phase shift, feeds signal into out-of-phase dial in series with the receiving coil.



IN-PHASE DIAL

shows the tilt-angle of the instrument for minimum signal. This angle is the measure of the vertical in-phase signal expressed in percentage when compared to the horizontal field.

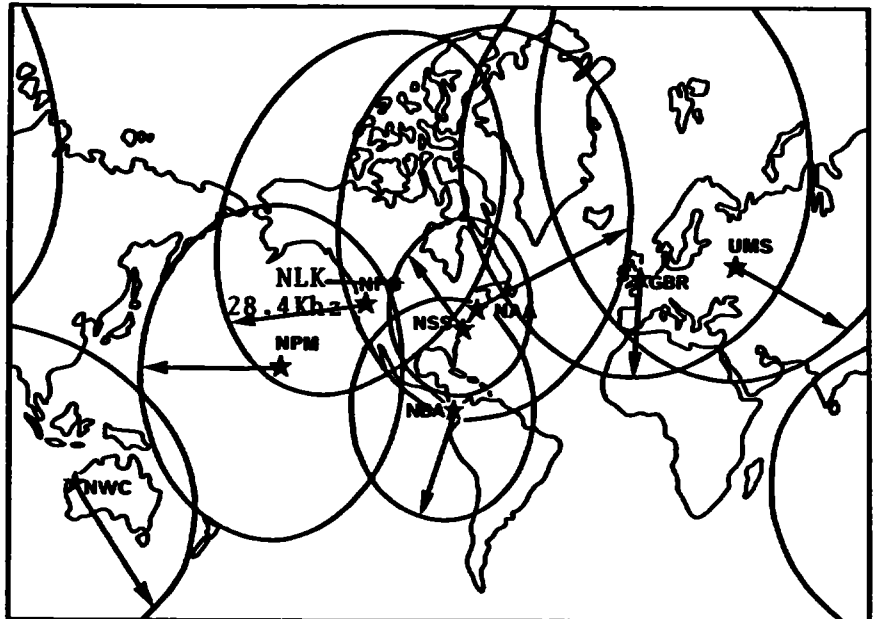


OUT-OF-PHASE DIAL

is calibrated in percentage markings and nulls the vertical quadrature signal in the vertical coil circuit.

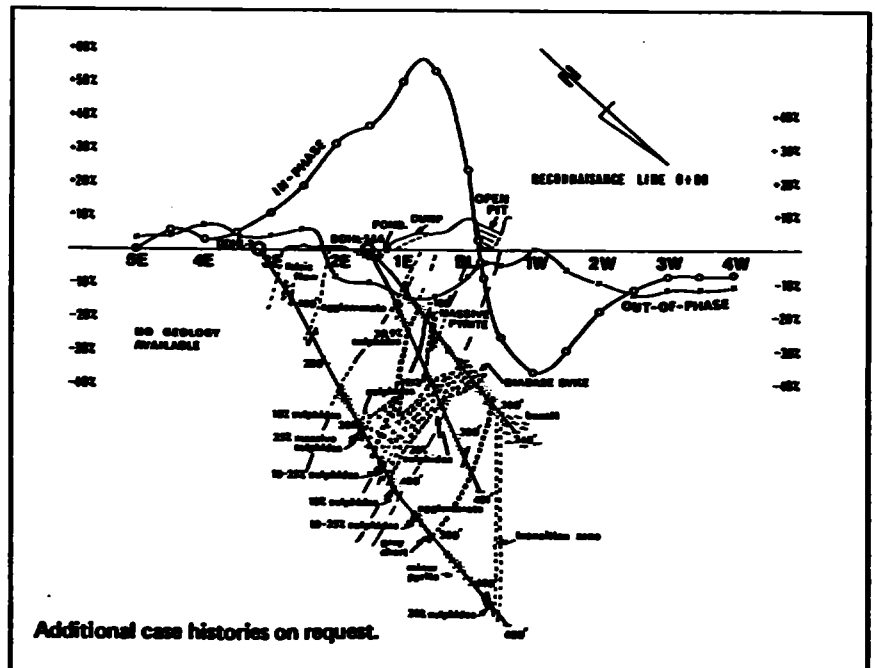
AUTHORIZED AGENT.

AREAS OF VLF SIGNALS



△ Coverage shown only for well-known stations. Other reliable, fully operational stations exist. For full information regarding VLF signals in your area consult Geonics Limited. Extensive field experience has proved that the above circles of coverage are very conservative and are actually much larger in extent.

EM 16 PROFILE over Lockport Mine property, Newfoundland



Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, South Street 400, Sudbury, Ontario, P2E 6A5, telephone (705) 670-7284.

- Instructions:
- Please type or print and submit in duplicate.
 - Refer to the Mining Act and Regulations for the Recorder.
 - A separate copy of this form must be complete.
 - Technical reports and maps must accompany this form in duplicate.
 - A sketch, showing the claims the work is assigned to, must accompany this form.

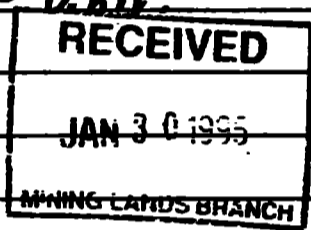


900

Recorded Holder(s) Steve Anderson	Client No. 102430
730 McClinton Dr. Timmins Ontario	Telephone No. 705-268-2851
Mining Division Pelapine	U or G Plan No.
Date Work Performed From: Nov 1/92	To: Jan 25/93

Work Performed (Check One Work Group Only)

Work Group	Type
Geotechnical Survey	
Physical Work, including Drilling	Geophysical Survey Map & U.G.F.
Rehabilitation	
Other Authorized Work	line cutting.
Assays	
Assignment from Reserve	



Total Assessment Work Claimed on the Attached Statement of Costs \$ ~~10000.00~~ **8560.00**

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
Dennis Lafollet	730 McClinton Dr. Timmins Ontario P4N-4P8
Epsilon Exploration	Box 1880 Timmins, Ontario P4N-7K1

(attach a schedule if necessary)

Certification of Beneficial Interest - See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.

Date: **Nov 26/94** Recorded Holder or Agent (Signature): **[Signature]**

Certification of Work Report

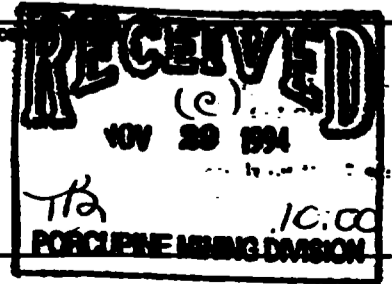
I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying: **Dennis Lafollet, 730 McClinton Dr. Timmins Ontario, P4N-4P8**

Telephone No.: **705-268-2961** Date: **Nov. 26/94** Certified by (Signature): **[Signature]**

For Office Use Only

Total Value Cr. Recorded \$8,560	Date Recorded November 29/94	Mining Recorder Jay White	Recorder [Signature]
	Deemed Approval Date FEB. 27, 1995	Date Approved [Signature]	
	Date Notice for Amendments Sent		



Work Report Number for Applying Reserve	Claim Number (see Note 1)	Number of Claim Units
	1189599	9
	1189595	10
	1180797	1
Total Number of Claims		3

Value of Assessment Work Done on the Claim	Value Applied to the Claim
1816.00	1816.00
6580.00	6580.00
400.00	400.00
Total Value Work Done	Total Value Work Applied
8560.00	8560.00

Value Assigned from the Claim	Reserve Work to be Claimed at a Future Date
<i>Greenway Dec 1/94</i>	
<i>as per mining</i>	
<i>Report of 1/1/94</i>	
Total Assigned from	
	Total Reserve

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

- Credits are to be cut back starting with the claim listed last, working backwards.
- Credits are to be cut back equally over all claims contained in this report of work.
- Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature	Date
---	-----------	------



Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des mines

Statement of Costs
for Assessment Credit

État des coûts aux fins
du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction

W9460.00 239

2.158 2 3

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7284.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4^e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7284.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	2000. ⁰⁰	
	Field Supervision Supervision sur le terrain	1000. ⁰⁰	
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type Lime cutting		
	Class. L.A.	1000. ⁰⁰	
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type Geophysical		
	Mag. D.L.F		
Total Direct Costs Total des coûts directs		3000. ⁰⁰	3000. ⁰⁰

Less .50%
1750
2250

2. Indirect Costs/Coûts indirects

** Note: When claiming Rehabilitation work indirect costs are not allowable as assessment work. Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type Fuel Rental		
	30 days / 30.	900. ⁰⁰	
Food and Lodging Nourriture et hébergement			
	JAN 30 1995	100. ⁰⁰	
Mobilization and Demobilization Mobilisation et démobilisation			
Sub Total of Indirect Costs Total partiel des coûts indirects			900. ⁰⁰

Amount Allowable (not greater than 20% of Direct Costs)
Montant admissible (n'excédant pas 20 % des coûts directs)

Total Value of Assessment Credit
(Total of Direct and Allowable indirect costs)

Value total de crédit d'évaluation
(Total des coûts directs et indirects admissibles)

Total 8560.⁰⁰

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note: Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
3500. ⁰⁰ x 0.50 =	1750. ⁰⁰

Certification Verifying Statement of Costs

I hereby certify: that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as D. J. J. J. I am authorized

to make this certification "Partner in claim"

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100% de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50% de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Value total de crédit d'évaluation	x	RECEIVED
------------------------------------	---	----------

Attestation de l'état des coûts 10/29/94

J'atteste par la présente: que les montants indiqués sont exacts et que les dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de MB je suis autorisé

à faire cette attestation.

Signature D. J. J. J. Date Nov. 26/94

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Geoscience Approvals Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (705) 670-5853
Fax: (705) 670-5863

February 06, 1995

Our File: 2.15825
Transaction #: W9460.00239

Mining Recorder
Ministry of Northern Development
and Mines
60 Wilson Avenue
1st Floor
Timmins, Ontario
P4N 2S7

Dear Mr. White:

**Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS
1189591 et al. IN GODFREY TOWNSHIP**

Assessment work credits have been approved as outlined on the report of work form. The credits have been approved under Section 14 (Geophysical) of the Mining Act Regulations.

The approval date is February 06, 1995.

If you have any questions regarding this correspondence, please contact Steven Beneteau at (705) 670-5858.

ORIGINAL SIGNED BY:



Ron C. Gashinski
Senior Manager, Mining Lands Section
Mining and Land Management Branch
Mines and Minerals Division

SBB/jl
Enclosure:

SBB cc: Resident Geologist
Timmins, Ontario

✓ Assessment Files Library
Sudbury, Ontario

MAP SYMBOLOLOGY

Aerial Cableway	Pipeline
Boundary	Single Track
International	Double Track
Provincial	Abandoned
Dist. Comm.	Turbine
Appreciate	Road
Lot, Concession	Highway, County
Appreciate	Trail, Back Road
Park Boundary	Access (road of doubtful significance)
Rock, Railroad	Trail, Back Road
Building	Trail, Back Road
Chimney	Rapids
Cliff, Pit, Pile	Double line river with multiple rapids
Contours	Double line river with multiple rapids
Interpretation	Reservoir
Approximate	River, Stream, Canal
Control Points	Approximate
Horizontal	Approximate
Vertical	Approximate
Culvert	Lock
Falls	Spot Elevation
Dead-end river	Tower
Fence, Hedge, Wall	Transmission Line
Feature Outline	Pole
(Construction features, etc.)	Pylon
Flooded Land	Tunnel
Lock	Utility Pole
Marsh or Swamp	Wharf, Dock, Pier
Moat	Wooded Area
Mine Head Frame	
Outcrop	

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY
 S.R.O. - SURFACE RIGHTS ONLY
 M.S. - MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
① - S.R.O. UNDER APPLICATION FOR AGRICULTURAL PURPOSES				
② - CERTIFIED AGRICULTURAL LAND - 26/8/82 SUBJECT TO SEC 41(1) OF THE MINING ACT				
③ - BONA FIDE APPLICATION				
④ - Pending S.R. Disposition Under P.L.A.				
⑤ - Pending proceedings, land not open				
⑥ - FILED ONLY NUMBERS R35628				

MINING AND SURFACE RIGHTS WITHDRAWN
 PROSPECTING, STAMMING, SALE OR LEASE
 UNDER SECTION 36 OF THE MINING ACT RSD 1980

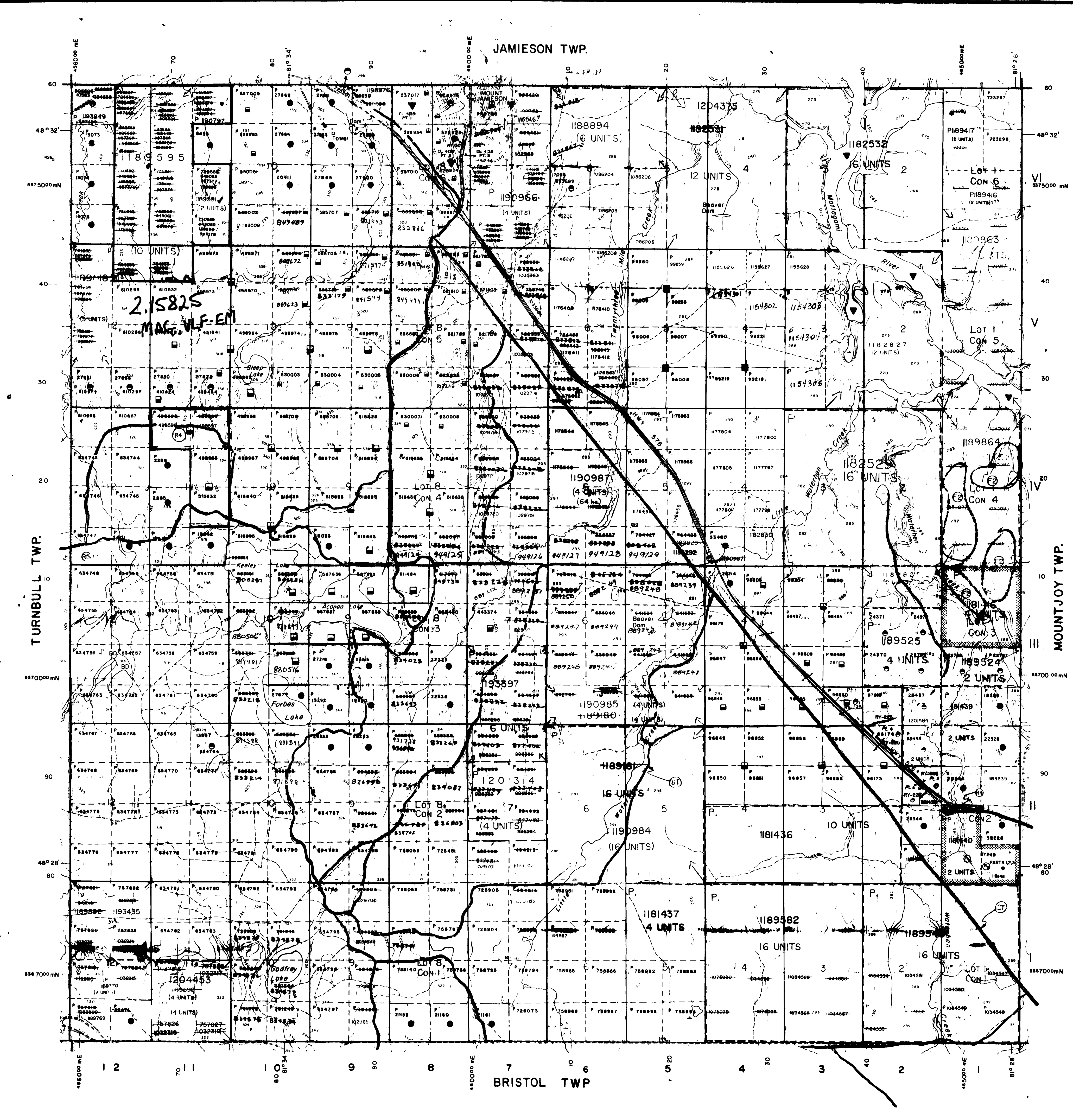
SECTION 36 OF THE MINING ACT RSD 1980
 MINING AND SURFACE RIGHTS ARE OPENED TO PROSPECTING, STAMMING, SALE, OR LEASE UNDER SECTION 36 OF THE MINING ACT RSD 1980 EFFECTIVE AUGUST 31 AT 11:00 AM '87
 ORDER NO. OF O.N. IN ORDER NUMBERS

PENDING APPLICATION UNDER THE PUBLIC LANDS ACT
 NOTICE RECEIVED UNDER SECTION 10(2) OF THE PUBLIC LANDS ACT RSD 1980

MINING AND SURFACE RIGHTS WITHDRAWN FROM PROSPECTING, STAMMING, SALE OR LEASE UNDER SECTION 36 OF THE MINING ACT RSD 1980
 EFFECTIVE FEB. 1, 1984, AT 7:00 AM, E.S.T.
 ORDER NO. OF O.N. IN ORDER NUMBERS

MINING AND SURFACE RIGHTS REQUIRED FOR PROSPECTING, STAMMING, SALE OR LEASE UNDER SECTION 36 OF THE MINING ACT RSD 1980
 EFFECTIVE FEB. 1, 1984, AT 7:00 AM, E.S.T.
 ORDER NO. OF O.N. IN ORDER NUMBERS

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.



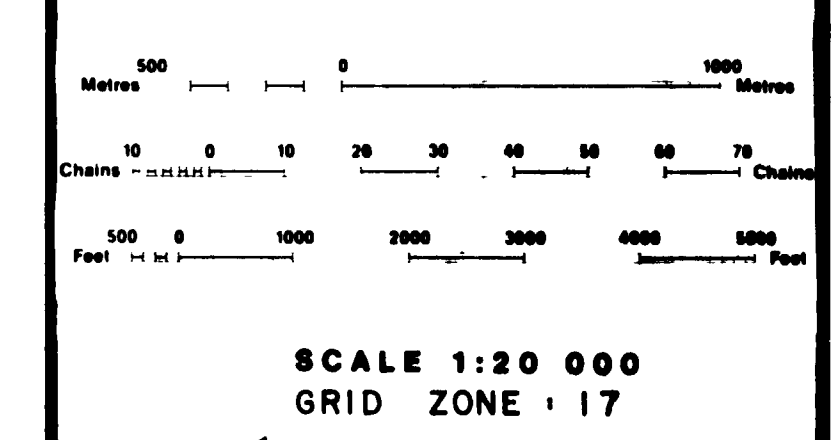
LEGEND

HIGHWAY AND ROUTE No.
 OTHER ROADS
 TRAILS
 SURFACE RIGHTS ONLY
 TOWNSHIP BASE LINES ETC.
 LOTS, MINING CLAIMS, PARCELS, ETC.
 UNSURVEYED LINES
 LOT LINES
 PARCEL BOUNDARY
 MINING CLAIMS ETC.
 RAILWAY AND RIGHT OF WAY
 UTILITY LINES
 NON PERENNIAL STREAM
 FLOODING OR FLOODING RIGHTS
 SUBDIVISION OR COMPOSITE PLAN
 RESERVATIONS
 ORIGINAL SHORELINE
 MARSH OR MUSKEG
 MINES
 TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	○
SURFACE RIGHTS ONLY	●
MINING RIGHTS ONLY	○
LEASE, SURFACE & MINING RIGHTS	○
SURFACE RIGHTS ONLY	○
MINING RIGHTS ONLY	○
LICENCE OF OCCUPATION	○
ORDER IN COUNCIL	○
RESERVATION	○
CANCELLED	○
SAND & GRAVEL	○

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 8, 1913, VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT R.S.O. 1970 CHAP. 300, SEC. 82, SUBSEC. 1.



NOTES

FLOODING RIGHTS ON EITHER SIDE OF THE MATTAGAMI RIVER TO H.E.R.C.

THIS TWP. IS SUBJECT TO FOREST ACTIVITIES IN 1983. FURTHER INFORMATION - AVAILABLE ON FILE.

THIS TWP. IS SUBJECT TO FOREST ACTIVITY IN 1983. FURTHER INFORMATION ON FILE.

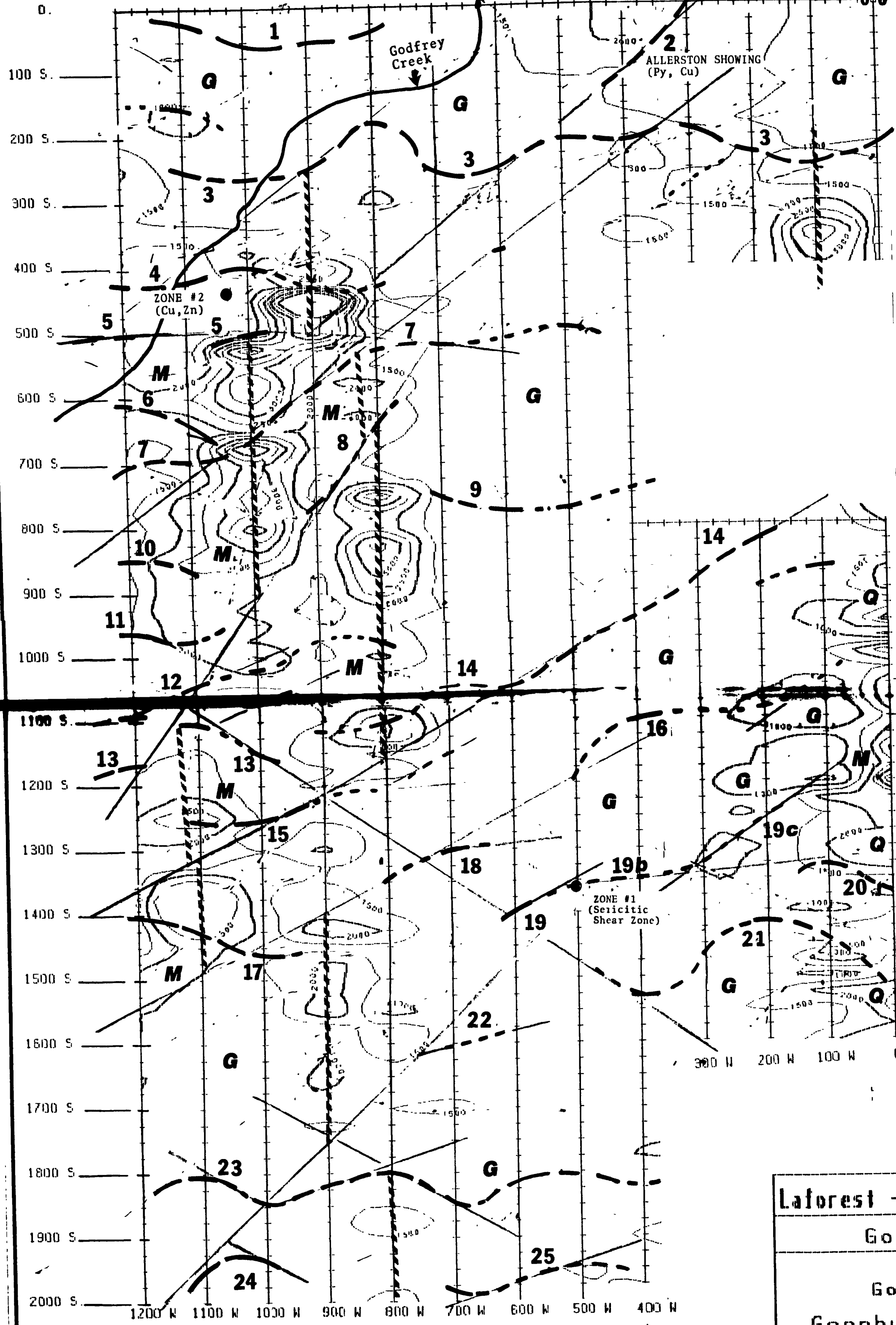
PROPOSED SNOWMOBILE TRAIL NOT IN RECD 93-MAY-20

2.15825

TOWNSHIP
GODFREY RECEIVED
 JAN 30 1995
 M.N.R. ADMINISTRATIVE DISTRICT
 TIMMINS
 MINING DIVISION
 PORCUPINE
 LAND TITLES / REGISTRY DIVISION
 COCHRANE

Ministry of Natural Resources
 Land Management Branch

ORIGINAL COMPILATION: JULY 1984
 REVISED: **G-3991**



LEGEND*

Total Field Magnetic Contours
 500 nT Contour Intervals
 Limits: 0-5000 nanoTeslas
 Base Removed: 57000 nT

G Felsic Intrusives (Granitic)
 Q Quartz Diorite Intrusive
 M Mafic (Gabbroic) Intrusives

— Fault/Shear Zone
 - - - Diabase Dike
 8 - - - VLF-EM Conductive Axis (Fraser Filter)

*Base Map Modified
 (Geological/Geophysical)
 Interpretation By:
 K.H. Darke, P.Eng.;
 Nov. 4, 1994.

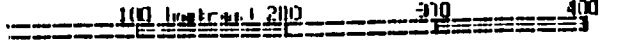
RECEIVED
 JAN 30 1995
 MINING LANDS BRANCH

2.15825



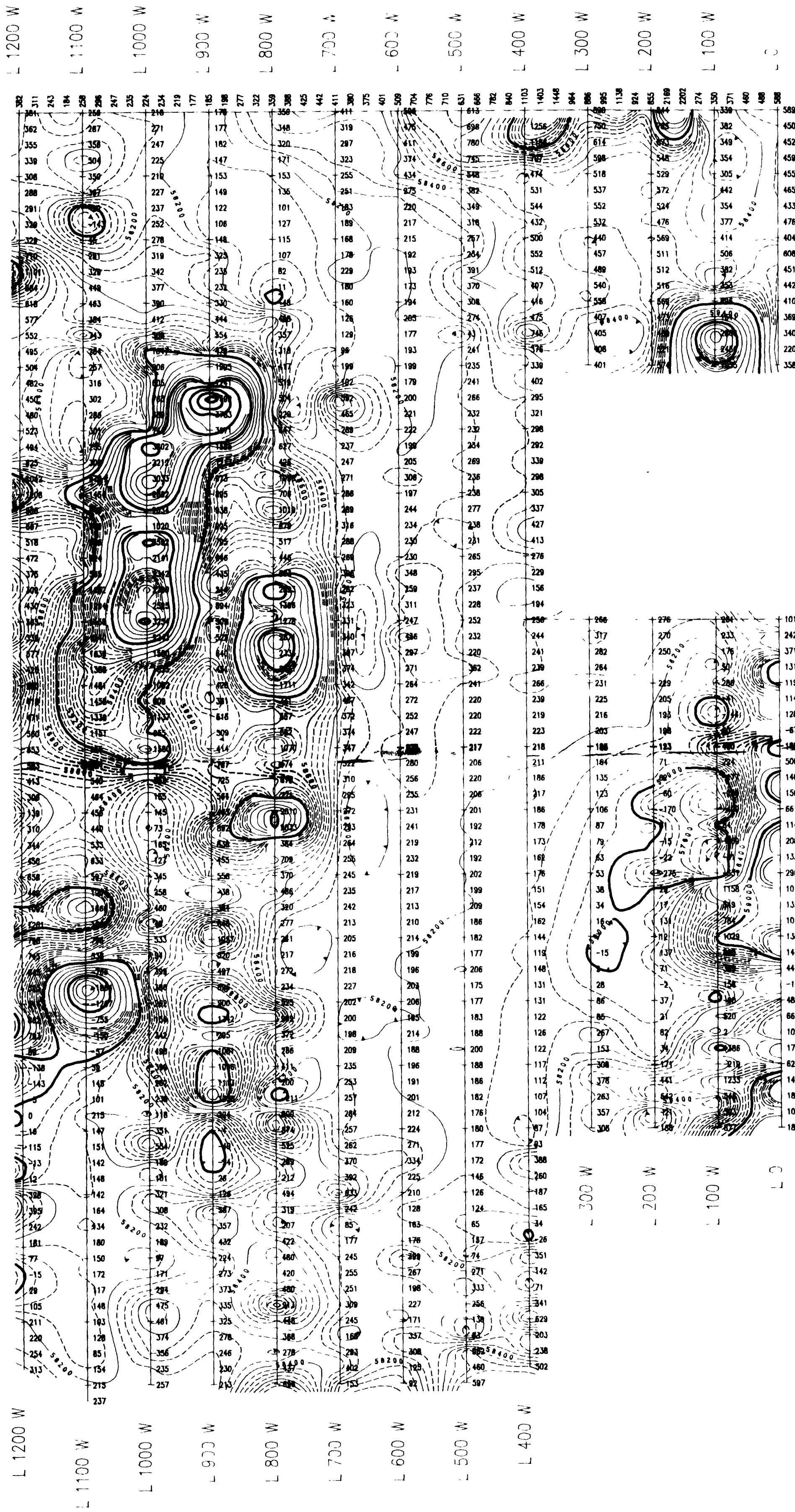
Laforest - Meikle - Anderson J.V.
 Godfrey Township
 Godfrey West Grid
 Geophysical Compilation
 D. Laforest Exploration Services
 January 26th, 1993

SCALE 1 : 5000



BASELINE

BASELINE



TL 800 S

2.15825

RECEIVED
 JAN 30 1995
 CLAIMING LANDS BRANCH

LEGEND

Total Field Magnetic
 57000nT Base Subtracted
 Pen 1, 50 nT Interval, 56150-65300 nT's
 Pen 2, 200 nT Interval, 56200-64800 nT's
 Pen 3, 1000 nT Interval, 57000-65000 nT's
 Base Station Approx 100m's East of Highway 576.
 58500 nT Reference Field, 30Sec Sample Intvl's
 975 Survey Points, Range; 56136 to 65399 nT's

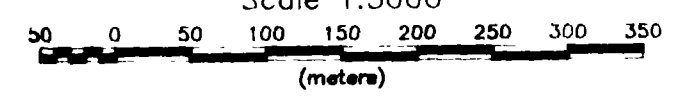
INSTRUMENTS

OMNI IV PPM 400, portable unit
 OMNI IV PPM - 400, base station unit

Established Claim Post Location
 Assumed Claim Post Location
 Established Claim Line Location
 Assumed Claim Line Location
 Established DDH Location
 Established ATV road

PLAN 2

Scale 1:5000

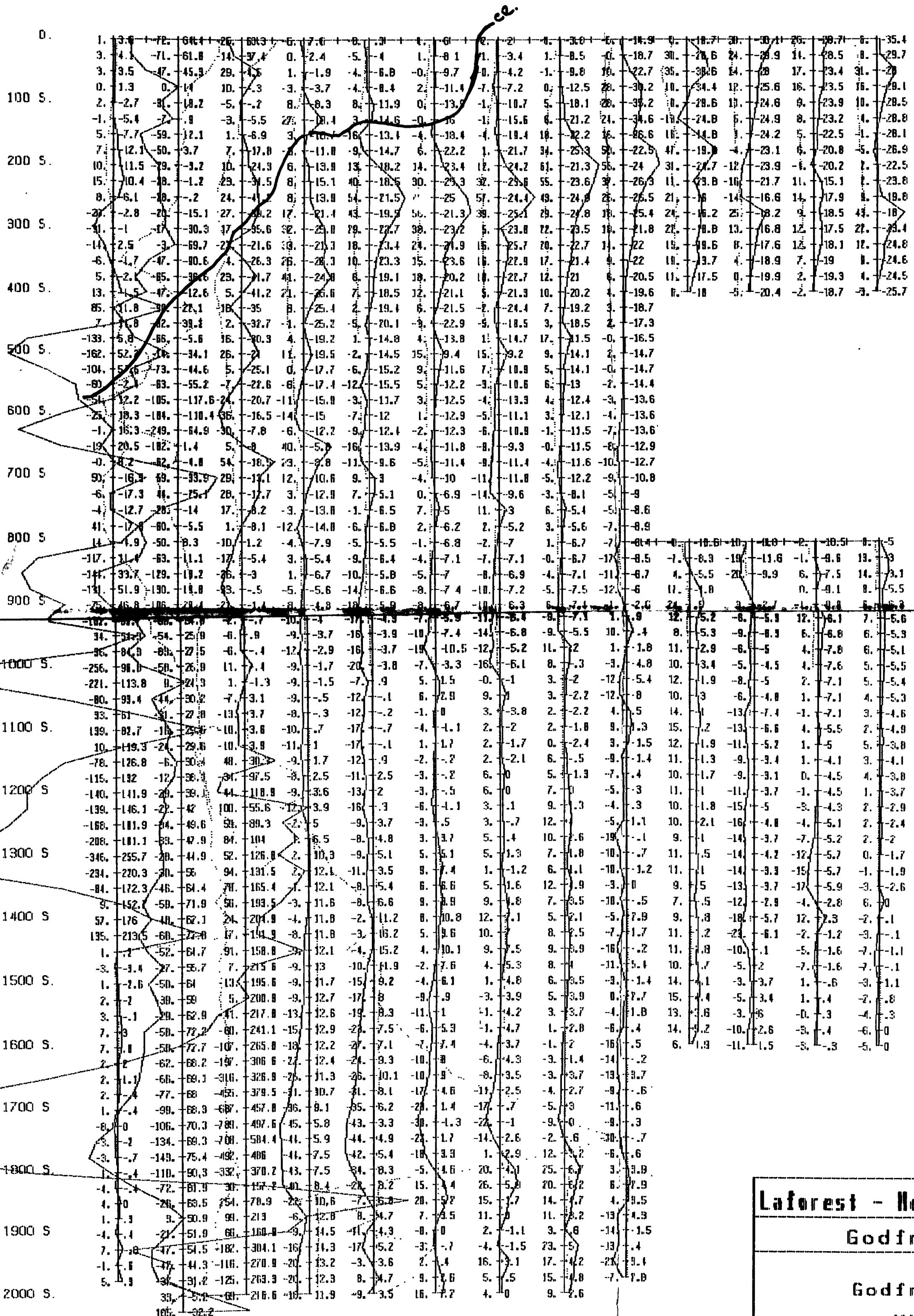


Laforest-Meikle-Anderson J
 Magnetic Survey
 Godfrey West Grid
 Godfrey Twp. NTS: 42-A / NW
 Porcupine Mining Division
 M. C. Exploration Services Ltd. Nov. 1991

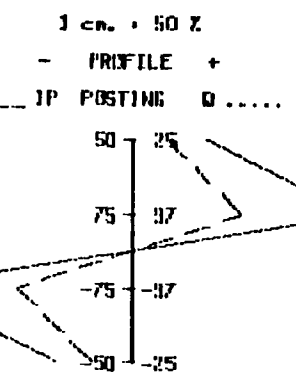
220

42A125E007 2 15825 GODFREY

1200 W 1100 W 1000 W 900 W 800 W 700 W 600 W 500 W 400 W 300 W 200 W 100 W 0



VLF PROFILES



NVA CUTLER, VE. 24 Hz.
INSTRUMENT : EM 16

RECEIVED
JAN 30 1995
MINING LANDS BRANCH

2.15825

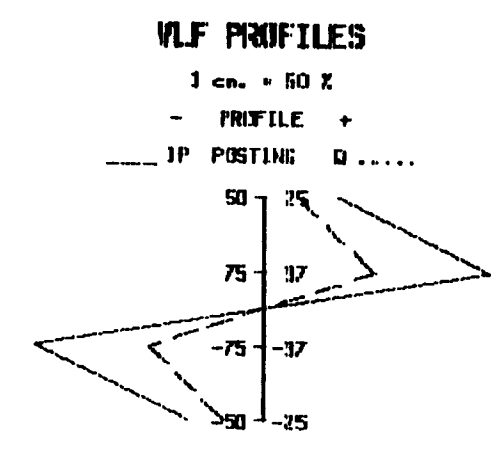
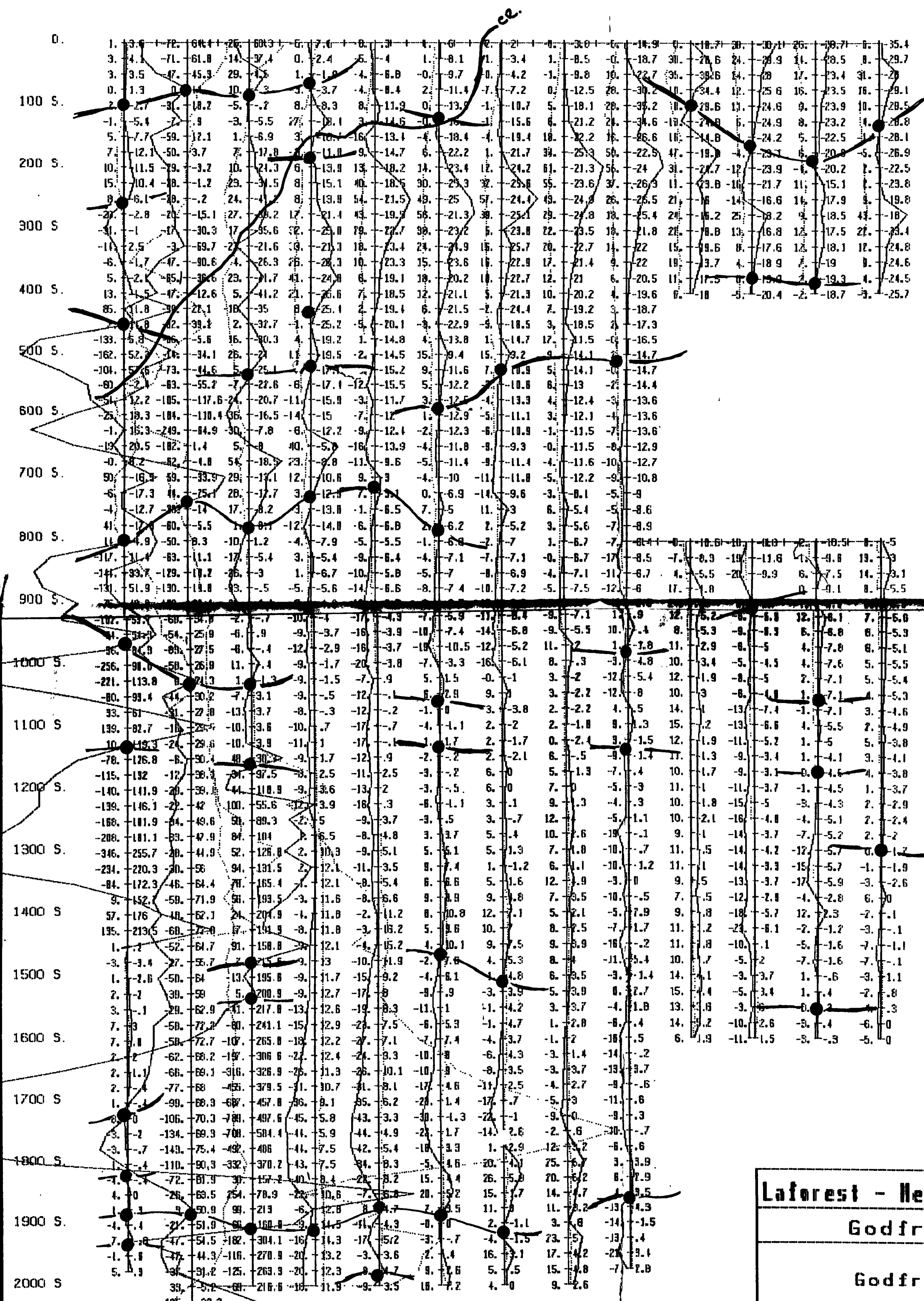
SCALE 1 : 5000



Laforest - Heikle - Anderson J.V.
Godfrey Township
Godfrey West Grid
VLF Survey
D. Laforest Exploration Services
January 26th, 1993



1200 W 1100 W 1000 W 900 W 800 W 700 W 600 W 500 W 400 W 300 W 200 W 100 W 0



VLF PROFILES
 1 cm = 50 Z
 - PROFILE +
 - 1P POSTING 0.....
 50 25
 75 37
 75 37
 50 25
 NVA CUTLER, VE. 24 kHz.

RECEIVED
 JAN 30 1995
 MINING LANDS BRANCH

2.15825

SCALE 1 : 5000



Lalorest - Heikle - Anderson J.V.
 Godfrey Township
 Godfrey West Grid
 VLF Survey
 D. Lalorest Exploration Services
 January 26h, 1993

