86-415-14812

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Province of British Columbia | Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOPHYSICAL	$ 32,774.54

AUTHOR(S) MICHAEL FOX SIGNATURE(S) Michael Fox

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED MAR. 13, APRIL 1/86 YEAR OF WORK 1986

PROPERTY NAME(S) MICRON, URAL

COMMODITIES PRESENT Au

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION LILLOOET NTS 92-J-15W, 92-O-2W

LATITUDE 51°00' LONGITUDE 122°52'

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

URAL 1, 2, 4, 5, 6, 7; MICRON 1, 2 FR's., LUCKY STRIKE FR. (L 6837), LUCKY STRIKE (L 6820), HOMESTAKE No. 4 (L 6820), BOB 3 - 6 (L 8046 - L 8049)

OWNER(S)

(1) GOLDEN RULE RESOURCES LTD. (2)

MAILING ADDRESS

410 - 1122 4th ST. S.W.
CALGARY, ALBERTA T2R-0X2

OPERATOR(S) (that is, Company paying for the work)

(1) GOLDEN RULE RESOURCES LTD. (2)

MAILING ADDRESS

SAME AS ABOVE

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

STEEPLY DIPPING POLYMETALLIC VEINS IN PERMIAN-TRIASSIC SEDIMENTS AND VOLCANICS

REFERENCES TO PREVIOUS WORK

(over)

E81/K2
14,812

GEOPHYSICAL REPORT
MARCH, 1986 WINTER PROGRAM

GROUND MAGNETIC AND VLF-EM SURVEYS
GOLD BRIDGE (URAL) PROJECT

N.T.S. 92-J-15W and 92-O-2W
LILLOOET MINING DIVISION, BRITISH COLUMBIA

FOR

GOLDEN RULE RESOURCES LTD.
CALGARY, ALBERTA

BY

Michael Fox, B.Sc., P.Geol.
CORDILLERAN RESOURCE MANAGEMENT LTD.
CALGARY, ALBERTA

APRIL 22, 1986

CERTIFICATE

I, the undersigned, of the City of Calgary in the Province of Alberta do hereby certify that:

1. I am a Consulting Geologist with the firm of Cordilleran Resource Management Ltd. with offices at 120 Hawkwood Hill N.W., Calgary, Alberta;

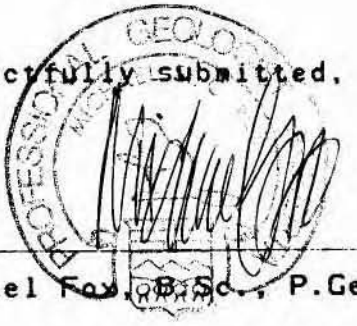
2. I am a graduate of the University of British Columbia with a B.Sc. degree in Geology (1974) and I have practised my profession continuously since graduation;

3. I have worked in the field of mineral exploration since 1965;

4. I am a member in good standing of the Association of Professional Engineers, Geologists, and Geophysicists of Alberta;

5. I personally participated in and supervised the work described in this report;

Respectfully submitted,



Michael Fox, B.Sc., P.Geol.

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SUMMARY

During the period March 6, 1986 to March 31, 1986 a total of approximately 38 km of ground VLF-EM and magnetic surveying was carried out at the Ural claim group in the Gold Bridge area of the Lillooet Mining Division, southwestern British Columbia, some 15 km north of the Bralorne-Pioneer minesites.

A number of magnetic anomalies and VLF-EM conductors, some of them coincident, have been identified. The majority of them exhibit good spatial correlations with previously identified Au-in-soils geochemical anomalies or mineral occurrences, and provide specific new targets for exploration and evaluation.

INTRODUCTION

LOCATION AND ACCESS

The Ural 2, 4, 5, 6, and 7 mineral claims, the Micron 1 and Micron 2 Fractions, the Homestake No. 4, Lucky Strike, Lucky Strike Fraction, and Bob 3, 4, 5, and 6 claims form a contiguous group situated in the Bridge River (Bralorne - Pioneer) placer and lode gold district approximately 180 km north of Vancouver, British Columbia (Figure 1.). The Ural 1 claim is not contiguous with this group. The claims are located at 51 00' N. Lat. and 122 52' W. Long., astride NTS map-sheets 92-J-15 W and 92-O-2 W (Figure 2.).

The claims may be reached via a 13 km long four wheel drive trail into Taylor Basin (headwaters of Taylor Creek) which connects, via the Tyaughton Lake road, with the Gold Bridge - Lillooet gravel highway some 90 km west of Lillooet. Winter access is by skidoo or helicopter.

PROPERTY AND OWNERSHIP

The above claims are located in the Lillooet Mining Division. The Ural and Micron claims are owned 100% by Golden Rule Resources Ltd. of Calgary, Alberta. The Homestake No. 4, Lucky Strike, Lucky Strike Fraction, and Bob 3, 4, 5, and 6 claims are held by Golden Rul e Resources Ltd. subject to the terms of an option agreement. Pertinent claims data is listed below.

Claim Name	No. of Units	Record No.	Date of Record
Ural 1	2	1280(3)	March 13, 1980
Ural 2	18	3418(4)	April 1, 1986
Ural 4	20	1283(3)	March 13, 1980
Ural 5	20	1284(3)	March 13, 1980
Ural 6	20	1285(3)	March 13, 1980
Ural 7	9	1309(3)	March 31, 1980
Micron 1 Fr.	(1)	1464(7)	July 29,1980
Micron 2 Fr.	(1)	1465(7)	July 29,1980
Lucky Strike Fr.(L6827)	11.18ac.	1238(2)	Feb. 11, 1980
Lucky Strike (L6828)	50.58ac.	1239(2)	Feb. 11, 1980
Homestake No.4 (L6829)	35.63ac.	1240(2)	Feb. 11, 1980
Bob No. 3 (L8046)	51.65ac.	1241(2)	Feb. 11, 1980
Bob No. 4 (L8047)	51.65ac.	1242(2)	Feb. 11, 1980
Bob No. 5 (L8048)	48.37ac.	1243(2)	Feb. 11, 1980
Bob No. 6 (L8049)	51.65ac.	1244(2)	Feb. 11, 1980

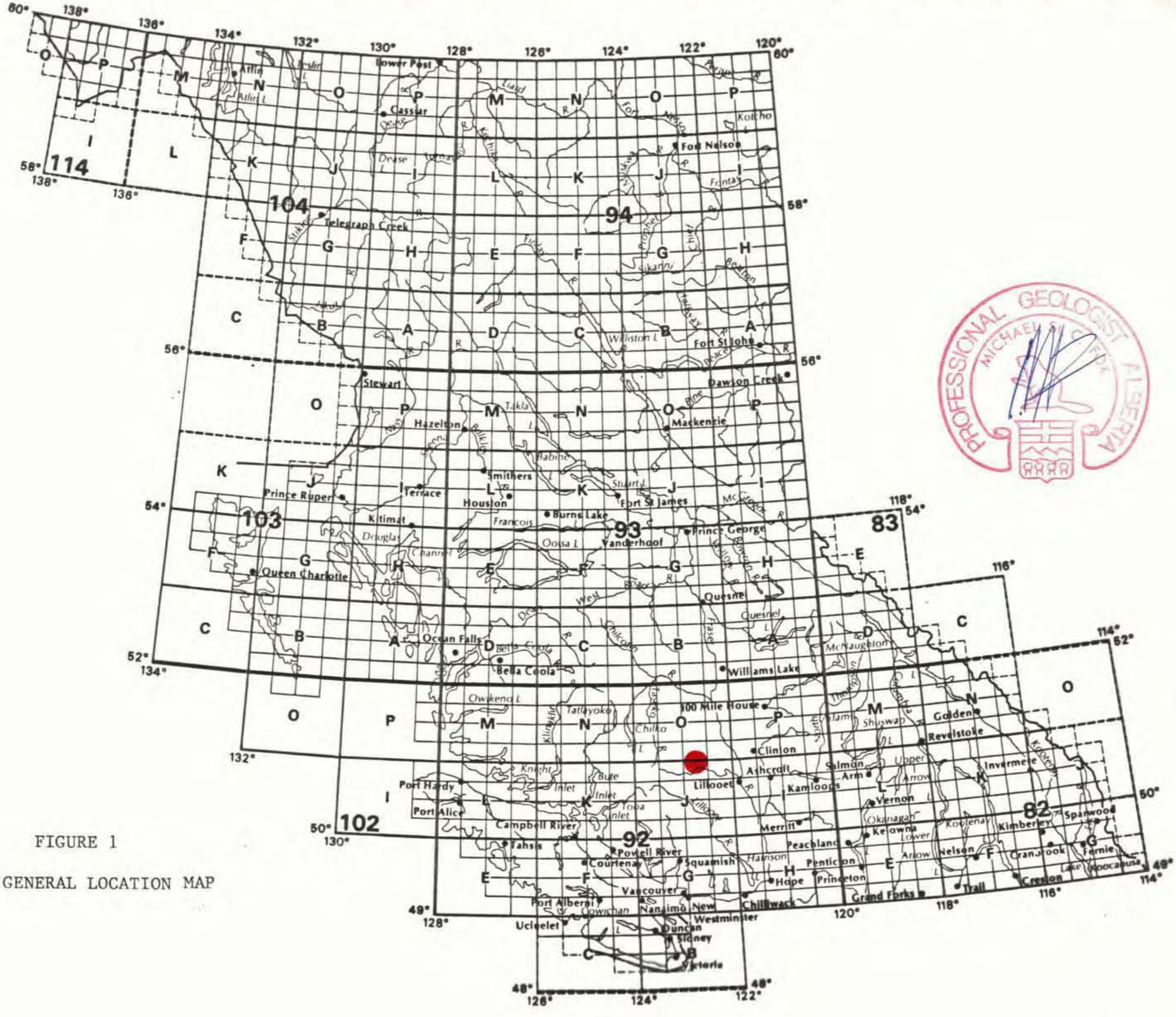


FIGURE 1

GENERAL LOCATION MAP

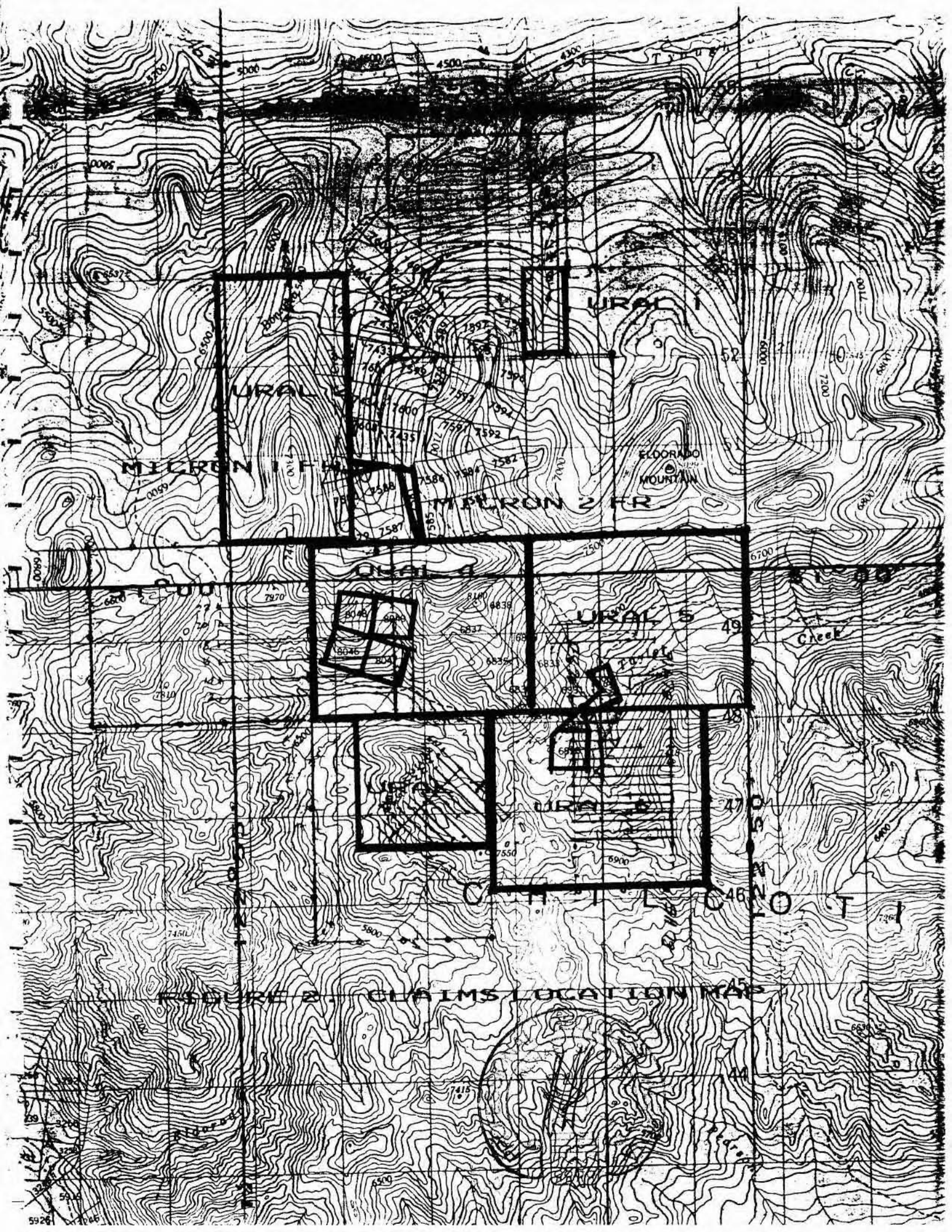


FIGURE 2: CLAIMS LOCATION MAP

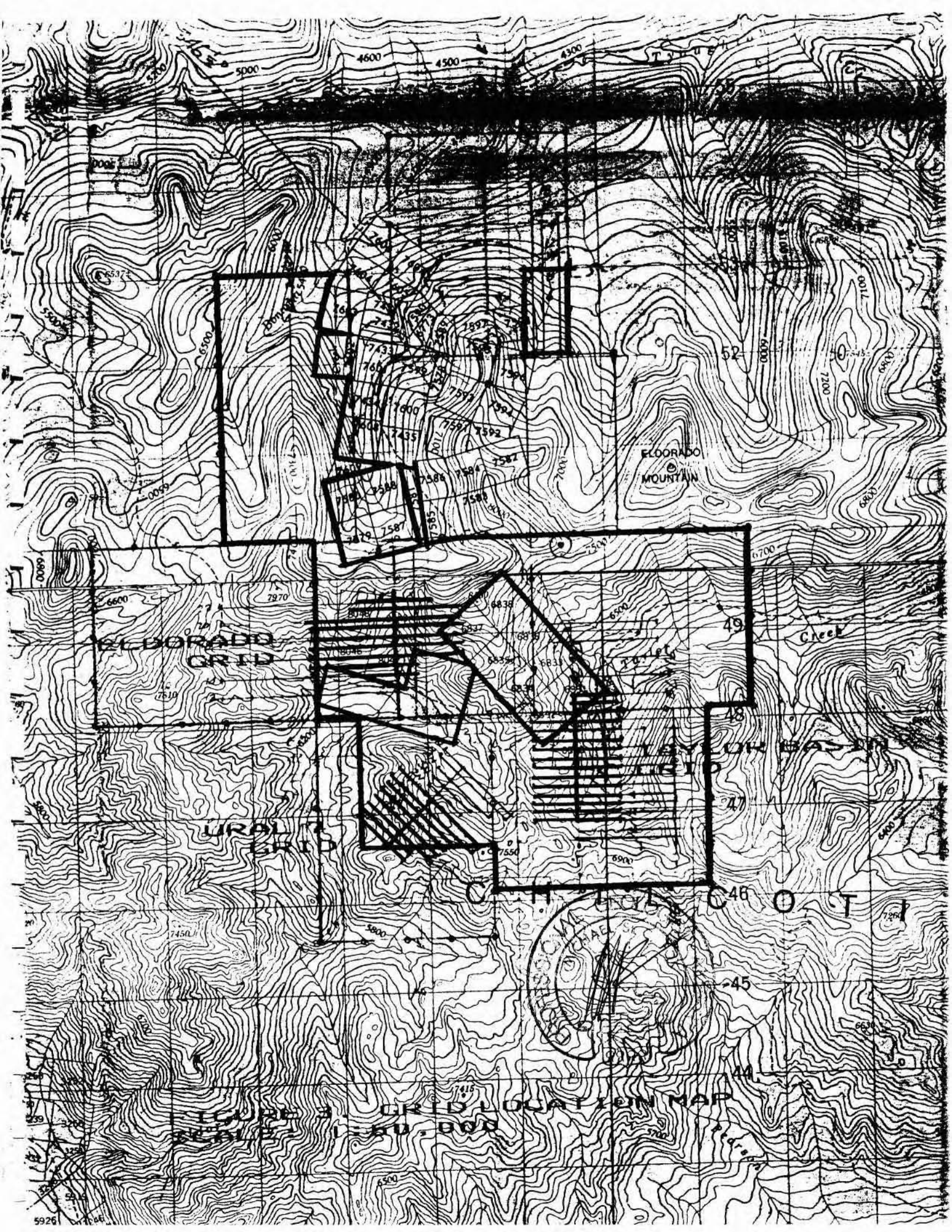


FIGURE 3. GRID LOCATION MAP
SCALE 1:50,000

PHYSIOGRAPHY AND GLACIATION

The physiography and glacial history of the property have been described by the writer in previous assessment reports.

REGIONAL AND PROPERTY GEOLOGY

The geology of the claims and surrounding area has been described by the writer in previous assessment reports.

HISTORY OF PREVIOUS EXPLORATION

Exploration carried out at the property since the discovery of mineral occurrences in the area about 1909 has been reviewed by the writer in previous assessment reports.

1986 EXPLORATION

During the period March 6, 1986 to March 31, 1986 a total of 38 line km of grid was established at the property in three separate grid areas referred to herein as the Taylor Basin grid (15 line km), the Eldorado grid (14 line km), and the Ural 7 grid (9 line km). Ground VLF-EM and magnetic geophysical surveying were carried out over the three grids.

The survey work was carried out under winter conditions. Snow depths averaged 3m to 5m. The surveyed areas were confined mainly to southerly facing slopes where the avalanche hazard ranged from slight to locally extreme (in gullies). Northerly facing slopes were avoided due to the extreme avalanche hazards resulting from heavy snowfalls during the survey period, the development of large overhangs or cornices, and stratified snow conditions on steep slopes.

GEOPHYSICS

SURVEY STATISTICS, INSTRUMENTATION, METHODS

A total of approximately 38 line km of ground VLF-EM and magnetic geophysical surveying were carried out at the property in three separate grid areas at nominal line spacings of 100m. VLF-EM readings were taken at 25m intervals and magnetometer readings were taken at 12.5m intervals. A total of 15 line km were surveyed at the Taylor Basin grid, 14 line km at the Eldorado grid, and 9 line km at the Ural 7 grid (see Figure 3.).

The VLF-EM survey was carried utilizing a Geonics EM-16. Readings were all taken with the instrument operator facing in an easterly direction. The VLF transmitter used was NLK (Seattle), transmitting on a frequency of 24.8 kHz. In phase and quadrature readings are plotted in profile format on the accompanying 1:2500 maps at a profile scale of 1 cm : 20 %, with "positive" values plotted on the northerly side of grid lines.

Ground magnetometer readings weretaken at 12.5 m intervals utilizing a Geometrics G-816 total field proton magnetometer, which reads directly to an accuracy of one gamma. Magnetic survey control was provided by a Geometrics G-826 A base station which cycled at one minute intervals. Survey data is both profiled and contoured on the accompanying maps. Due to the high amplitudes encountered in the Taylor Basin area, a profile scale of 1 cm : 500 gammas was used; for the other two grid areas a profile scale of 1 cm : 200 gammas was used. Actual contoured intervals are listed on each map.

INTERPRETATION

1. TAYLOR BASIN AREA

Ground Magnetic Survey

Ground magnetic survey data in the Taylor Basin area to the west of BL 00 is dominated by a complex pattern of high amplitude, high relief profiles. A contour plot of the data reveals a sinuous, connected trend of magnetic "highs" produced by a gently eastwards to northeastwards dipping horizon of ultramafic rocks. The outcrop/subcrop trend of the ultramafic rocks (and the accompanying magnetic anomaly) is controlled by the complicated topography of the upper Taylor Basin area. Due to the gentle dips of the magnetic strata, this trend winds around the slopes of the basin, following the topographic contours between elevations of 2165m (7100') and 2256m (7400') A.S.L. The main trend extends from L 4S - 1+25 E through to L 00 - 1+50 W, then swings back towards and along BL 00 at L 1N and L 2N, and from there, "contours" around the lower cirque slopes in the basin of the upper fork of Taylor Creek. A second trend, most likely representing another horizon of ultramafic rocks, similarly follows the cirque basin contours, and extends from L 1S - 3 W to L 2S - 4 W and then northwestwards out of the surveyed area at L 3N - 5+00 W.

East of the baseline, the magnetic survey data is characterized by low relief, low amplitude profiles. A 25m to 75m wide strong dipole "low" traces the eastern contact of the main ultramafic trend described above, and extends from L2S-0+75 E to L 5N - 0+50 E. This trend then crosses the baseline between L 3N and L 4N, and still parallelling the ultramafic contact, extends north-northeasterly from L 2N - 0+75W to L 7N - 2+25 W. Several other (probably connected) "lows" parallel the magnetically-indicated contact of the ultramafic rocks in a sinuous pattern on the western side of the grid between L 3N and L 7N. This trend of "lows" can be correlated with surface exposures (along BL 00 at 3N and 4N) of a thick quartz-carbonate alteration zone which underlies

the lower contact of the ultramafic rocks.

To the east of the quartz-carbonate alteration zone, a pair of subparallel magnetic "highs", 100 to 500 gammas above background, 50m to 100m apart, extend from L 1S - 1+25E and 1+75 E to L 6N - 0+75 E and 2+00 E. The main crosscuts in the lower Lucky Strike adit closely follow the western contact of the more westerly of the two zones (see magnetic contour plot). The linear trends of the two zones suggest dyke-like structures, but relatively flat lying strata would here also have a linear outcrop/subcrop trend due to the uniformly sloping terrain. Between L 2N and L 6N, the above described westerly contact (which for part of its length coincides with the surface projection of the underground workings) is also coincident with a 500m+ long VLF-EM conductor. An appreciable strike length of the mineralized zone associated with this contact is indicated. Underground mapping and sampling of the existing workings would assist in evaluating the relationship of the geophysical anomalies and the mineralized zone and may suggest other geophysical exploration targets.

Ground VLF-EM Survey

The most significant conductive trend is a VLF-EM conductor extending from L 7N - 0+25 E to L 2N - 0+62.5 E, which for part of its length, is coincident with the surface projection of the main crosscuts of the lower Lucky Strike adit as well as the western margin of a magnetic anomaly described above. The conductor is interpreted as the VLF-EM response to the massive sulphides present in the Lucky Strike vein system.

A second high quality conductor extends from L 2N - 0+12.5 E to L 4S - 1+00 E. The last 100m of strike length

of the conductor is of moderate quality.

A third conductor of major dimensions extends from L 7N-2+00 W to L 2S - 0+12.5 W. This conductor has no expression on L 3N where it projects under a stream bed, but is subparallel to the strike of the conductors associated with the Lucky Strike vein system, a short distance to the east, making it a prime exploration target.

Several other conductors of lesser strike continuity are also present on the west side of the grid area. In view of the clear spatial association of sulphide mineralization and VLF-EM conductors in the Lucky Strike vein system, all of these conductors warrant further evaluation.

2. ELDORADO GRID AREA

Ground Magnetic Survey

Total field profiles were used to guide the contoured interpretation of magnetic trends on this grid. Some infill surveying at 50m line spacings would be of considerable value in confirming the interpreted trends.

Between stations 21+00 W and 26+00 W, there is a complex pattern of northerly trending positive magnetic anomalies, 200 to 1,000 gammas above background, 50m to 100m in width, which are broken up into short strike length segments of 100 to 300m, probably by a series of east-northeasterly striking steeply dipping faults. Three main trends are present, with faulted offsets of 25m to 150m. Although there is no systematic geological mapping over the surveyed area, reconnaissance mapping indicates that the magnetic anomalies reflect the presence of a series of dyke-like or sill-like quartz diorite intrusive bodies.

Reconnaissance geochemical sampling (50m x 200m grid) carried out partly over the geophysical survey area in 1980 identified a number of strongly anomalous Au-in-soils trends which exhibit a close spatial correlation with the magnetic trends described above, as well as with VLF-EM conductors.

This suggests that underlying gold mineralization is hosted by the intrusive bodies or structures within the intrusives, or by structures which controlled the emplacement of the intrusives.

Additional geochemical sampling and systematic geological mapping will be required to better delineate exploration targets for trenching and drilling.

A second major magnetic trend occurs along L 21 N between 17+50 W and 21+00 W. Here, an east-northeasterly trending magnetic anomaly, 50 to 400 gammas above background, coincides with the mapped outcrop trend of a quartz diorite sill or fault bounded sill-like intrusive mass. The intrusive body is approximately 100m in width and extends east-northeasterly beyond the geophysically surveyed area.

Ground VLF-EM Survey

Four main conductive trends have been interpreted from the data, although topographic effects upon the in phase response are pronounced.

The most westerly zone is a northerly trending conductor, 300m long at stations 26+00 W to 26+25 W on L 16 N to L 19 N. The zone is moderately to strongly conductive and parallels the magnetically indicated western contact of the most westerly intrusive lobe. Geochemical sample points here are widespread; more detailed sampling may establish a more definite correlation between the conductor and anomalous Au-in-soils trends.

The next conductive zone to the east is also a northerly trending zone between stations 23+25 W and 23+50 W on L 15 N to L 20 N, which is offset approximately 35m in a right lateral sense between L 17 N and L 18 N, probably by an east-northeasterly striking, steeply dipping fault. The

northern 300m of the conductive trend follows the eastern side of a magnetic "low", which separates two of the "highs" described above, but the southern 200m of the conductor follows the western side of the "low" for 100m and then follows the eastern side of the faulted offset(?) of the "low" for the last 100m. Although magnetic trends (i.e. the contoured interpretation of them) suggest an east-northeasterly striking fault offset here, no such offset is apparent in the VLF conductive trend. The conductive trend is quite weak, barely above the noise threshold, but it is consistently discernible along its strike length and shows a general correlation with a strong Au-in-soils geochemical anomaly.

The two remaining VLF-EM conductive trends strike northeasterly and show no consistent relationship to the magnetic trends. The more westerly of the two zones lies partly within a 450m wide Au-in-soils anomaly at its southwesterly end. There is no geochemical coverage over the most easterly VLF-EM trend, with the exception of its intercept with BL 20 W, which coincides with a 2600 ppb Au-in-soil value. Since both conductive trends show some kind of relationship, albeit tenuous, to strong Au-in-soils geochemical anomalies, further evaluation, including more complete geochemical coverage and systematic geological mapping, is warranted.

3. URAL 7 GRID AREA

Ground Magnetic Survey

Two main magnetic trends are present.

The first is a narrow northeasterly trending zone, 200 to 1,000 gammas above background, which extends the length of the surveyed area, and is accompanied by a subparallel, weaker trend, 50 to 75m to the west, which is 50 to 200 gammas above background. The latter trend shows a strong correlation with VLF-EM conductors. Between L 2S and L 1S, both trends are offset approximately 100m in a left lateral sense, probably by an easterly striking steeply dipping fault. A

narrow zone of partly serpentinized ultramafic rocks has been mapped in a position coincident with the stronger magnetic trend at L 1S. The remainder of the anomaly is interpreted as being the faulted extension of the same zone to the southwest. Between L 4S and L 5S, a widening of the stronger magnetic trend coincides with a change in the strike of the trend, suggesting a thickening of the magnetic strata at the hinge of a fold, or an apparent widening of the zone due to the outcrop/subcrop geometry produced by the combination of a local flattening of the topography and an easterly dipping magnetic unit. Geochemical sampling carried out previously over the surveyed area indicates a close correlation between strong Au-in-soils anomalies and the stronger magnetic trend, implying a common structural or stratigraphic control of the gold mineralization.

The second trend is a broad magnetic "high", 50 to 200 gammas above background, which trends in a northwesterly direction, subparallel to L 1N. The northwesterly end of the magnetic trend occurs over a zone of fractured, silicified, and weakly pyritized or pyrrhotized fine-grained mafic metavolcanics. Previous mapping in the area indicates that volcanic and sedimentary strata here are folded about a northeasterly trending synformal fold axis. This would carry the outcrop/subcrop trace of the metavolcanics subparallel to L 1N, producing the 'one-line' anomaly. Additional magnetic surveying to the northeast will be required to better delineate and interpret this magnetic trend.

Ground VLF-EM Survey

A northeasterly striking VLF-EM conductor extends across the surveyed area, a length of some 700m, and is open on both ends. The conductor shows a close correlation with the weaker northeasterly striking magnetic trend described above, and may indicate shearing along an intrusive contact, or perhaps fault controlled mineralization.

Two easterly striking weak conductive trends, 50m apart, are present on the southeast side of the surveyed area at L 00 and L 1S. These conductors may indicate the presence of easterly striking, high angle faults. The indicated structures could be of economic importance, as their intercepts with L 00 and L 1S coincide with high Au-in-soil geochemical anomalies.

CONCLUSIONS AND RECOMMENDATIONS

TAYLOR BASIN AREA

Ground magnetic surveying has delineated the complex outcrop/subcrop pattern of a flat lying ultramafic horizon on the western slopes of Taylor Basin in the vicinity of the Lucky Strike workings. A number of VLF-EM conductors are coincident with magnetically indicated geological contacts, including one 500m long conductor which coincides, along part of its length, with the surface projection of the main crosscuts in the lower Lucky Strike adit. In view of the clear association of VLF-EM conductors and sulphide mineralization in the Lucky Strike workings, all of the VLF-EM conductors identified warrant further evaluation by trenching and/or drilling. An extension of geophysical coverage over the large geochemical anomalies on the eastern slopes of Taylor Basin should prove equally useful in defining targets for trenching and drilling. Underground mapping and sampling of the Lucky Strike workings would be of considerable value in confirming the apparent relationship of geophysical anomalies and mineralized zones.

ELDORADO GRID AREA

Ground magnetic surveying has defined a complicated pattern of "positive" magnetic anomalies interpreted as being the magnetic expression of a series of sill-like quartz diorite intrusive masses, which are broken up into short strike segments by a series of easterly to northeasterly striking, steeply diping faults. Four VLF-EM conductors of significant dimensions have also been defined. Two of these are coincident with or closely associated with anomalous magnetic trends as well as strong Au-in-soils geochemical anomalies. The other two VLF conductors do not exhibit a spatial relationship to magnetically indicated intrusive bodies. The more westerly of the latter two trends lies partly within a 450m wide Au-in-soils geochemical anomaly. There is no geochemical coverage over the more easterly of the two trends,

except for its intercept with BL 20 W, where a 2600 ppb Au-in-soil value is present.

Systematic, detailed geological mapping has yet to be carried out over this grid, and existing geochemical coverage is of a semi-reconnaissance density (50m x 200m sampling centres). Geochemical sampling on 25m x 100m or 50m centres and detailed geological mapping should be carried out over the grid prior to initiating a trenching and/or drilling program to evaluate the geophysical targets.

URAL 7 GRID AREA

Geophysical surveying carried out over the Ural 7 grid has delineated an anomalous magnetic trend with a spatially associated VLF-EM conductor, both coincident with strongly anomalous Au-in-soils geochemical trends. Further evaluation of this zone by trenching is recommended.

STATEMENT OF COSTS

WAGES, SALARIES, PROFESSIONAL SERVICES	$17,355.00
EQUIPMENT RENTALS	5,915.00
FUEL, DISPOSABLE SUPPLIES, MISCELLANEOUS	660.12
TRAVEL EXPENSES, FOOD AND ACCOMMODATION	3,515.42
HELICOPTER	5,529.00
TOTAL	$32,974.54

APPENDIX I

INSTRUMENT SPECIFICATIONS

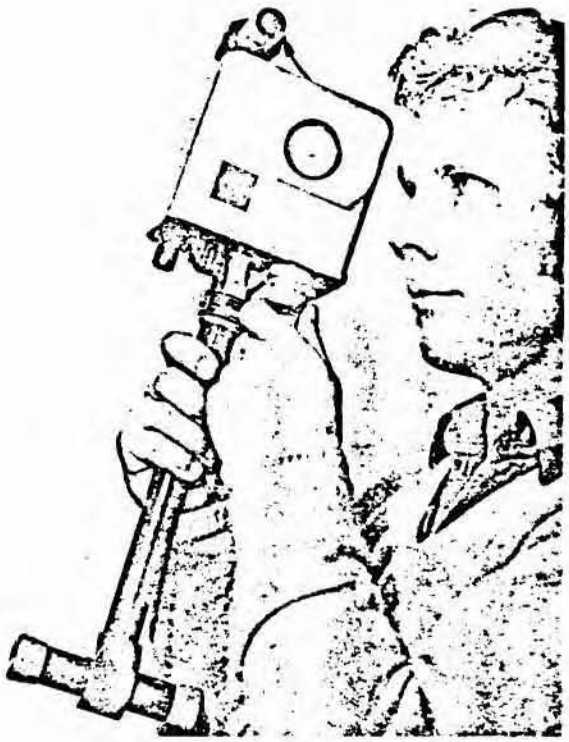
EM16

VLF Electromagnetic Unit

oneered and patented exclusively by Geonics Limited, the VLF method of electromagnetic surveying has been proven to be a major advance in exploration geophysical instrumentation.

nce the beginning of 1965 a large number of mining companies have found the EM16 system to meet the need for a simple, light and effective exploration tool for mining geophysics.

ne VLF method uses the military and time standard VLF transmissions as primary field. Only a receiver is then used to measure the secondary fields radiating from the local conductive targets. his allows a very light, one-man instrument to do the job. Because of the almost uniform primary field, good response from deeper targets is obtained. The EM16 system provides the in-phase and quadrature components of the secondary field with the polarities indicated. Interpretation technique has been highly developed particularly to differentiate deeper targets from the wealth of surface indications.



PRINCIPLE OF OPERATION

e VLF transmitters have vertical antennas. The magnetic signal component is then horizontal and concentric around the transmitter cation.

Specifications

Source of primary field:	VLF transmitting stations.
ansmitting 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.
erating frequency range:	About 15 – 25 kHz.
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).
Method of reading:	In-phase from a mechanical inclinometer; out-of-phase from a calibrated dial. Nulling by audio tone.
ale range:	In-phase ± 150%; Out-of-phase ± 40%.
Readability:	± 1%.
Reading time:	10 – 40 seconds depending on signal strength.
Operating temperature range:	– 40 to 50° C.
Operating controls:	ON-OFF switch, battery testing push button and meter, station selector switch, volume control, quadrature dial ± 40%, inclinometer dial ± 150%.
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).

By selecting a suitable transmitter station as a source, the EM16 ...er can survey with the most suitable primary field azimuth.

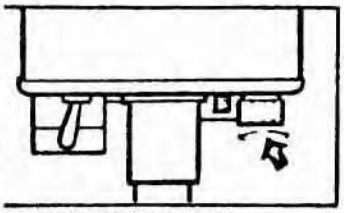
...he EM16 has two receiving coils, one for the pick-up of the horizontal (primary) field and the other for detecting any anomalous ...rtical secondary field. The coils are thus orthogonal, and are ...ounted inside the instrument "handle".

The actual measurement is done by first tilting the coil assembly to ...inimize the signal in the vertical (signal) coil and then further ...arpening the null by using the reference signal to buck out the remaining signal. This is done by a calibrated "quadrature" dial.

The tangent of the tilt angle is the measure of the vertical in-phase component and the quadrature reading is the signal at right angles to the total field. All readings are obtained in percentages and do not depend on the absolute amplitude of the primary signals present.

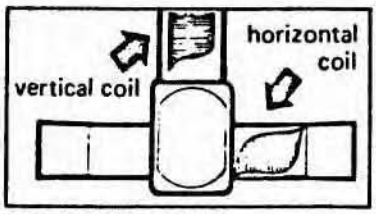
The "null" condition of the measurement is detected by the drop in the audio signal emitted from the patented resonance loudspeaker. A jack is provided for those preferring the use of an earphone instead.

The power for the instrument is from 6 penlight cells. A meter is provided for testing the battery condition.



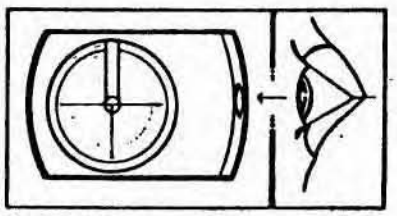
...ATION SELECTOR

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



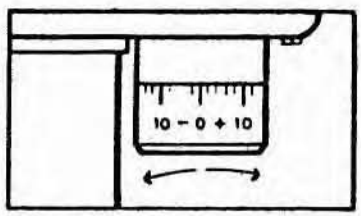
RECEIVING COILS

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.



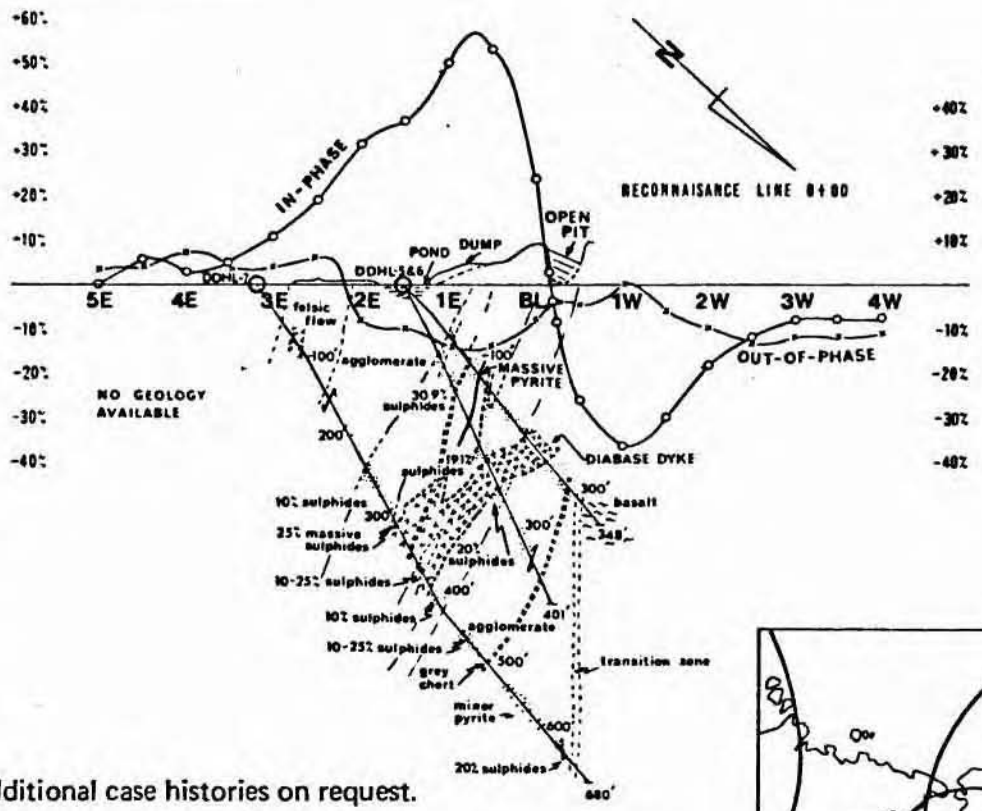
IN-PHASE DIAL

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

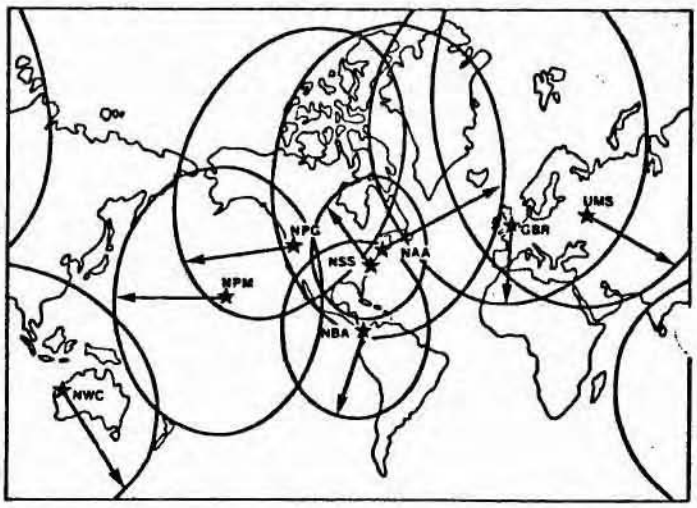
is calibrated in percentage markings and nulls the vertical quadrature signal in the vertical coil circuit.



EM16 PROFILE

over Lockport Mine property, Newfoundland

Additional case histories on request.



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 circles of coverage shown are very conservative and are actually much larger in extent.

"Hands-free" Back Pack Sensor

Based upon the principle of nuclear precession (proton) the G-816 offers absolute drift-free measurements of the total field directly in gammas. (The proton precession method is the officially recognized standard for measurement of the earth's magnetic field.) Operation is worldwide with one gamma sensitivity and repeatability maintained throughout the range. There is no temperature drift, no set-up or leveling required, and no adjustment for orientation, field polarity, or arbitrary reference levels. Operation is very simple with no prior training required. Only 6 seconds are required to obtain a measurement which is always correct to one gamma, regardless of operator experience. Only the Proton Magnetometer offers such repeatability—an important consideration even for 10 gamma survey resolution.

Complete Field Portable System

The Model G-816 comes complete, ready for portable field operation and consists of:

1. Electronics console with internally mounted and easily replaced "D" cell battery pack.
2. Proton sensor and signal cable for attachment to carrying harness or staff.
3. Adjustable carrying harness.
4. 8 foot collapsible aluminum staff.
5. Instruction manual, complete set of spare batteries, applications manual, and rugged field suitcase.

Price and lease rates on the G-816 magnetometer are available upon request.

SPECIFICATIONS

Sensitivity: ±1 gamma throughout range

Range: 20,000 to 100,000 gammas (worldwide)

Tuning: Multi-position switch with signal amplitude indicator light on display

Gradient Tolerance: Exceeds 800 gammas/ft

Sampling Rate: Manual push-button, one reading each 6 seconds

Output: 5 digit numeric display with readout directly in gammas

Power Requirements: Twelve self-contained 1.5 volt "D" cell, universally available flashlight-type batteries. Charge state or replacement signified by flashing indicator light on display.

Battery Type	Number of Readings
Alkaline	over 10,000
Premium Carbon Zinc	over 4,000
Standard Flashlight	over 1,500

NOTE: Battery life decreases with low temperature operation.

Temperature Range: Console and sensor: −40° to +85°C

Battery Pack: 0° to +50°C (limited use to −15°C; lower temperature battery belt operation—optional)

Accuracy (Total Field): ±1 gamma through 0° to +50°C temperature range

Sensor: High signal, noise cancelling, interchangeably mounted on separate staff or attached to carrying harness

Size: Console: 3.5 x 7 x 10.5 inches (9 x 18 x 27 cm)
Sensor: 3.5 x 5 inches (9 x 13 cm)
Staff: 1 inch diameter x 8 ft length (3 cm x 2.44 m)

Weight:

	Lbs.	Kgs.
Console (w/batteries):	5.5	2.5
Sensor & signal cable:	4	1.8
Aluminum staff:	2	0.9
Total:	11.5	5.2

All magnetometers and parts are covered by a one year warranty beginning with the date of receipt but not to exceed fifteen months from the shipping date.

geoMetrics, INC. A SUBSIDIARY OF EG&G
395 JAVA DRIVE
SUNNYVALE, CA 94086 U.S.A.
TEL: (408) 734-4616
CABLE: "GEOMETRICS"
TELEX NO: 357-435

geoMetrics SERVICES (CANADA) LTD.
436 LIMESTONE CRESCENT
DOWNSVIEW (TORONTO),
ONTARIO, CANADA
TEL: (416) 661-1966
TELEX NO: 06-22694

geoMetrics INTERNATIONAL CORP.
80 ALFRED ST
MILSON'S POINT
SYDNEY NSW 2061
AUSTRALIA
TEL: 929-9942
TELEX NO: 790-22624

WORLD-WIDE AGENTS: EUROPE • SCANDINAVIA • UNITED KINGDOM • JAPAN • SO. AFRICA • SO. AMERICA

COMPLETE PORTABLE/BASE STATION SYSTEM

The Model G-826A system includes complete instrumentation and related accessories for remote base station monitoring and portable field applications:

Converter/Timer Console: Complete signal processing and timing circuitry housed within an aluminum watertight cabinet. Includes "pocket" for the G-826 Portable Magnetometer and recessed mounting of the Rustrak recorder.

Portable Magnetometer Console: Compact instrument slides into "pocket" in Converter/Timer. Includes field accessories: shoulder harness, portable sensor, staff, 2 sets of batteries, signal cables for pouch and staff, and storage container.

Analog Recorder: Rustrak, Model 2146, installed in recessed panel mount in Converter/Timer console. Includes 1 roll chart paper. Recessed panel mount not provided when a different recorder is selected.

Base Station Sensor: Noise cancelling, high-signal sensor for use with long signal cables. Includes mounting stud.

Base Station Cables: Shielded 46 m (150 ft.) sensor cable with connectors attached (92 m, or 300 ft., cable optionally available), AC and DC input power cables, and external recorder connector.

Manuals: Operation manual, and 64-page "Applications Manual for Portable Magnetometers".

SPECIFICATIONS

RESOLUTION
±1 gamma throughout tuning range.

TUNING RANGE
20,000 to 100,000 gammas (world-wide).

TUNING MECHANISM
Multi-position rotary switch with twenty-five overlapping positions. Peak signal amplitude indicator light on readout display.

GRADIENT TOLERANCE
Exceeds 800 gammas/foot (portable applications).

SAMPLING RATE
Base Station Mode:
Six-position rotary switch for automatic sampling every 4, 10, 30 seconds or 1, 2, or 5 min. (time base oscillator stable within 10 seconds/week from 0° to 50° C.).
Portable Mode:
Manual pushbutton; new reading every 5 seconds.

DATA OUTPUTS
Visual (Base Station and Portable):
5-digit illuminated incandescent display directly in gammas—visible even in bright sunlight.
Analog (Base Station):
Potentiometric: Calibrated for 100 mv full-scale, maximum load is 20KΩ.
Galvanometric: Calibrated for 1 ma full-scale into 1500Ω.
Digital (Base Station):
5-BCD characters, 1-2-4-8 code (4 line output). .
"0" state = 0 to +0.5V. "1" state = +2.5 to +5V.

EVENT MARKER
Automatic, every 30 minutes (Analog Recorder only).

POWER REQUIREMENTS
Base Station Mode:
External 24V DC or 115/220V, 50/60 Hz AC power (maximum current drain per measurement is 2.18 amps with Rustrak recorder and display on).
Portable Mode:
Internal "D" cell (12 each) universally available flashlight batteries. Charge state or replacement signified by flashing indicator light.

Battery Type	No. of Readings
Alkaline	over 10,000
Premium carbon zinc	over 4,000
Standard carbon zinc	over 1,500

NOTE: Battery life decreases with low temperature operation.

TEMPERATURE RANGE
Consoles and Sensors —40° C. to +85° C.
Analog Recorder (Rustrak) 0° C. to +50° C.
NOTE: For portable operation at temperatures below 0° C., an optional battery belt is recommended.

ACCURACY (TOTAL FIELD)
±1 gamma throughout 0° to +50° C. (±3 gamma from —40° C. to +85° C.).

SENSORS:
Base Station:
High signal. AC noise cancelling for use with long signal cables. Includes threaded aluminum mounting stud.
Portable:
High signal, omnidirectional for use with collapsible staff or in "back pouch" attached to shoulder harness.

GALVANOMETRIC ANALOG RECORDER
Rustrak, Model 2146. Includes 5.1 cm (2 inch) chart width with fixed chart speed of 10.2 cm (4 inch) or 15.2 cm (6 inch) per hour (select), event marker, and inkless writing. Style "N" chart paper (50 divisions f/s), 6.4 cm x 19.2 m (2.5 inch wide x 63 feet long).

SIZE AND WEIGHT

	Size	Kgs.	Lbs.
Converter/Timer Console: (w/o magnetometer or recorder)	23.5 x 41.3 x 40 cm (9¼" x 16¼" x 15¾")	9.5	21.0
Portable Magnetometer: (with batteries)	9.5 x 18 x 27 cm (3¾" x 7" x 10½")	2.5	5.5
Portable Accessories*	2.5 cm dia. x 2.4 m (1" x 8 ft.)	2.8	6.0
Sensors:			
Base Station:	11.4 cm dia. x 17.8 cm (4½" x 7")	2.8	6.0
Portable:	8.9 cm dia. x 12.7 cm (3½" x 5")	1.2	2.5
Sensor Cable:	46 m length (150 ft.)	4.6	10.0
Rustrak Recorder:	13.9 x 8.9 x 11.4 cm (5½" x 3½" x 4½")	1.6	3.5

*Portable Accessories: Includes shoulder harness, batteries, sensor cables, and staff. Only the staff dimensions are shown. Weight shown is for all accessories.

OPTIONS

INCREASED RESOLUTION
Provisions for either 1.0 gamma or 0.25 gamma resolution. Includes internal switch in magnetometer console.

EXTENDED SENSOR CABLE
Special 92 m (300 ft.) shielded sensor signal cable for use with Base Station Sensor.

POTENTIOMETRIC ANALOG RECORDER
Hewlett-Packard, Model 7155B. Includes 12.7 cm (5 inch) chart width, event marker, multiple chart speeds, operation on 24V DC or 115/220V 50/60 Hz AC power.
Calibration: Metric (English optional)
Size: 30.5 x 19.7 x 42 cm (12" x 7¾" x 16½")
Weight: 13.6 kg (30 lbs.)
Temp. Range: —28° to +65° C.

MULTIPLE EVENT MARKS AND ANALOG RESOLUTIONS
Recorder event marks every 0.5 hour, 1 hour and 24 hours (separately coded). Analog outputs (switch selectable) to provide 10, 100 and 1,000 gammas full scale.

BATTERY BELT
Specially designed canvas belt with pockets for 12 "D" cell batteries and appropriate power cables for use with the portable magnetometer in very cold weather (0° to —15° C.).

RACK MOUNTING
Special 48.3 x 26.7 cm (19" x 10½") flush-mount aluminum panel, complete with captive hardware.

RECORDING SUPPLIES
Available upon request for the recorder selected.

geoMetrics, INC. A SUBSIDIARY OF EG&G
395 JAVA DRIVE
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80 ALFRED ST.
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SYDNEY NSW 2061
AUSTRALIA
TEL: 929-9942
TELEX NO. 790-22624

WORLD-WIDE AGENTS: EUROPE SCANDINAVIA UNITED KINGDOM JAPAN SO. AFRICA SO. AMERICA

LOT 6834

LOT 6835

LOT 6831

LOT 6829

LOT 6827

LOT 6828

LOT 6832

URAL 4 URAL 5
URAL 6 URAL 6

5W 4W 3W 2W 1W BL 00 1E 2E 3E 4E 5E

L 10N L 9N L 8N L 7N L 6N L 5N L 4N L 3N L 2N L 1N L 00 L 1S L 2S L 3S L 4S

VLF - EM PROFILES
TRANSMITTER : NLK (SEATTLE)
FREQUENCY : 24.8 KHz
(ALL LINES TRAVERSED FACING EASTERLY)
PROFILE SCALE : 1cm : 20 %

INSTRUMENT : GEONICS EM-16

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,812

GOLDEN RULE RESOURCES LTD.

GROUND ELECTROMAGNETIC SURVEY

VLF EM

TAYLOR BASIN GRID

SCALE	1:2500	NTS	92 J 16 W
DATE	APRIL, 1986		
PROJECT	GR-BC-8	MAP	1

PROFESSIONAL GEOLOGIST ALBERTA
MICHAEL S. CRAIG

LOT 6833

LOT 6834

LOT 6831

LOT 6832

LOT 6829

LOT 6827

LOT 6828

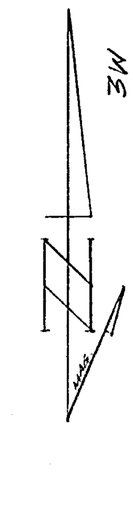
URAL 4 URAL 5 URAL 6

URAL 5 URAL 6

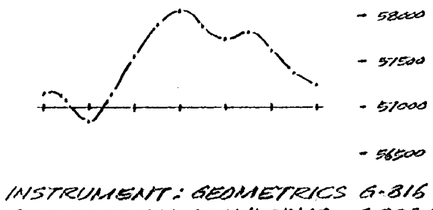
5W 4W 3W 2W 1W BL00 1E 2E 3E 4E 5E

L 7N L 6N L 5N L 4N L 3N L 2N L 1N L 00 L 1S L 2S L 3S L 4S

L 10 N L 9 N L 8 N L 7 N L 6 N L 5 N L 4 N L 3 N L 2 N L 1 N L 00 L 1 S L 2 S L 3 S L 4 S



TOTAL FIELD MAGNETIC PROFILES
SCALE: 1cm : 500 GAMMAS



INSTRUMENT: GEOMETRICS G-816
BASE STATION: GEOMETRICS G-826A

PROFESSIONAL GEOLOGIST ALBERTA
MICHAEL G. C. ...

GOLDEN RULE RESOURCES LTD.

GROUND MAGNETIC SURVEY

TOTAL FIELD PROFILES

TAYLOR BASIN GRID

SCALE	1:2500	NTS	92 J 16 W
DATE	APRIL, 1988		
PROJECT	GR-BC-6	MAP	2

LOT 6834

LOT 6833

LOT 6831

BL 00

1E

2E

3E

4E

5E

L10N

L9N

L8N

LOT 6829

URAL 4 URAL 5
URAL 6

LOT 6832

5W

4W

3W

2W

1W

1W

2W

3W

LOT 6827

LOT 6828

L7N

L6N

L5N

L4N

L3N

L2N

L1N

L00

L1S

L2S

L3S

L4S

57500

57000

56500

56000

55500

55000

54500

54000

53500

53000

52500

52000

51500

51000

50500

50000

49500

49000

48500

48000

47500

47000

46500

46000

45500

45000

44500

44000

43500

43000

42500

42000

41500

41000

40500

40000

39500

39000

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13500

13000

12500

12000

11500

11000

10500

10000

9500

9000

8500

8000

7500

7000

6500

6000

5500

5000

4500

4000

3500

3000

2500

2000

1500

1000

500

0

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,812

TOTAL FIELD MAGNETIC CONTOURS
CONTOURED INTERVALS (GAMMAS):

56,000
56,500
56,750
57,000
57,500
58,000
58,500
59,000
60,000
61,000

INSTRUMENT: GEOMETRICS G-816
BASE STATION: GEOMETRICS G-826A

PROFESSIONAL GEOLOGIST
MICHAEL A. FOX
ALBERTA

GOLDEN RULE RESOURCES LTD.

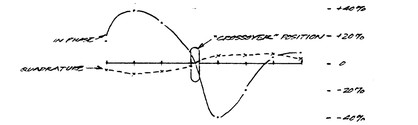
GROUND MAGNETIC SURVEY

TOTAL FIELD CONTOURS

TAYLOR BASIN GRID

SCALE	1:2500	NTS	92 J 15 W
DATE	APRIL, 1988		
PROJECT	GR-BC-6	MAP	3

VLF-EM PROFILES
TRANSMITTER : NLK (SEATTLE)
FREQUENCY : 24.8 kHz
(ALL LINES TRAVERSED FACING EASTERLY)
PROFILE SCALE : 1 cm : 20%



INSTRUMENT : GEONICS EM-16

GOLDEN RULE RESOURCES LTD.

GROUND ELECTROMAGNETIC SURVEY

VLF EM

ELDORADO GRID

SCALE 1:2500	NTS 92 J 15W
DATE APRIL, 1986	
PROJECT GR-BC-6	MAP 5

GEOLOGICAL BRANCH
ASSESSMENT REPORT
14,812

PROFESSIONAL GEOLOGIST
PROVINCE OF BRITISH COLUMBIA
ALBERTA

UTM ZONE 4 WEST SWISS

L 21 N

L 20 N

L 19 N

L 18 N

L 17 N

L 16 N

L 15 N

L 14 N

L 13 N

LOT 8048

LOT 8049

LOT 8046

LOT 8047

LOT 6958

LOT 6957

LOT 6956

25 W 24 W 23 W 22 W 21 W 20 W 19 W 18 W 17 W 16 W 15 W 14 W 13 W

30 W 29 W 28 W 27 W 26 W 25 W 24 W 23 W 22 W 21 W 20 W 19 W 18 W 17 W 16 W 15 W 14 W 13 W

TOTAL FIELD MAGNETIC PROFILES
SCALE: 1 cm : 200 GAMMAS

57400
57200
57000
56800

INSTRUMENT: GEOMETRICS G-816
BASE STATION: GEOMETRICS G-826A

GEOLOGICAL BRANCH
ASSESSMENT REPORT

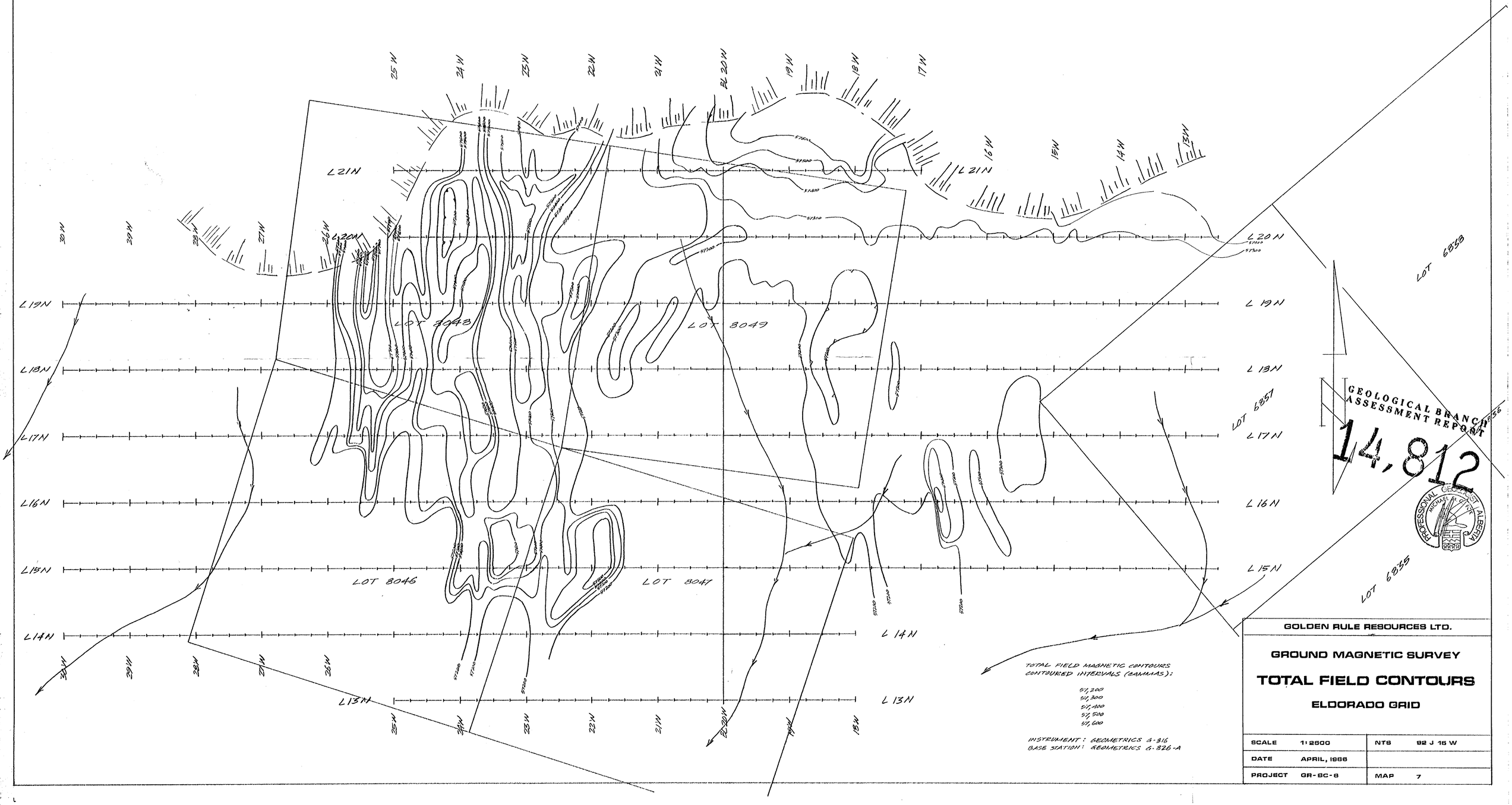
14,812

PROFESSIONAL GEOLOGIST
MICHAEL J. FOX
BRITISH COLUMBIA

GOLDEN RULE RESOURCES LTD.

GROUND MAGNETIC SURVEY
ELDORADO GRID
TOTAL FIELD PROFILES

SCALE: 1:2500	NTS 92 J 15W
DATE: APRIL, 1988	
PROJECT: GR-BC-6	MAP 6



TOTAL FIELD MAGNETIC CONTOURS
CONTOURED INTERVALS (GAMMAS):

57,200
57,300
57,400
57,500
57,600

INSTRUMENT: GEOMETRICS G-816
BASE STATION: GEOMETRICS G-826-A

GEOLOGICAL BRANCH
ASSESSMENT REPORT
14,812

PROFESSIONAL GEOPHYSICIST
MICHAEL R. WHITE
ALBERTA

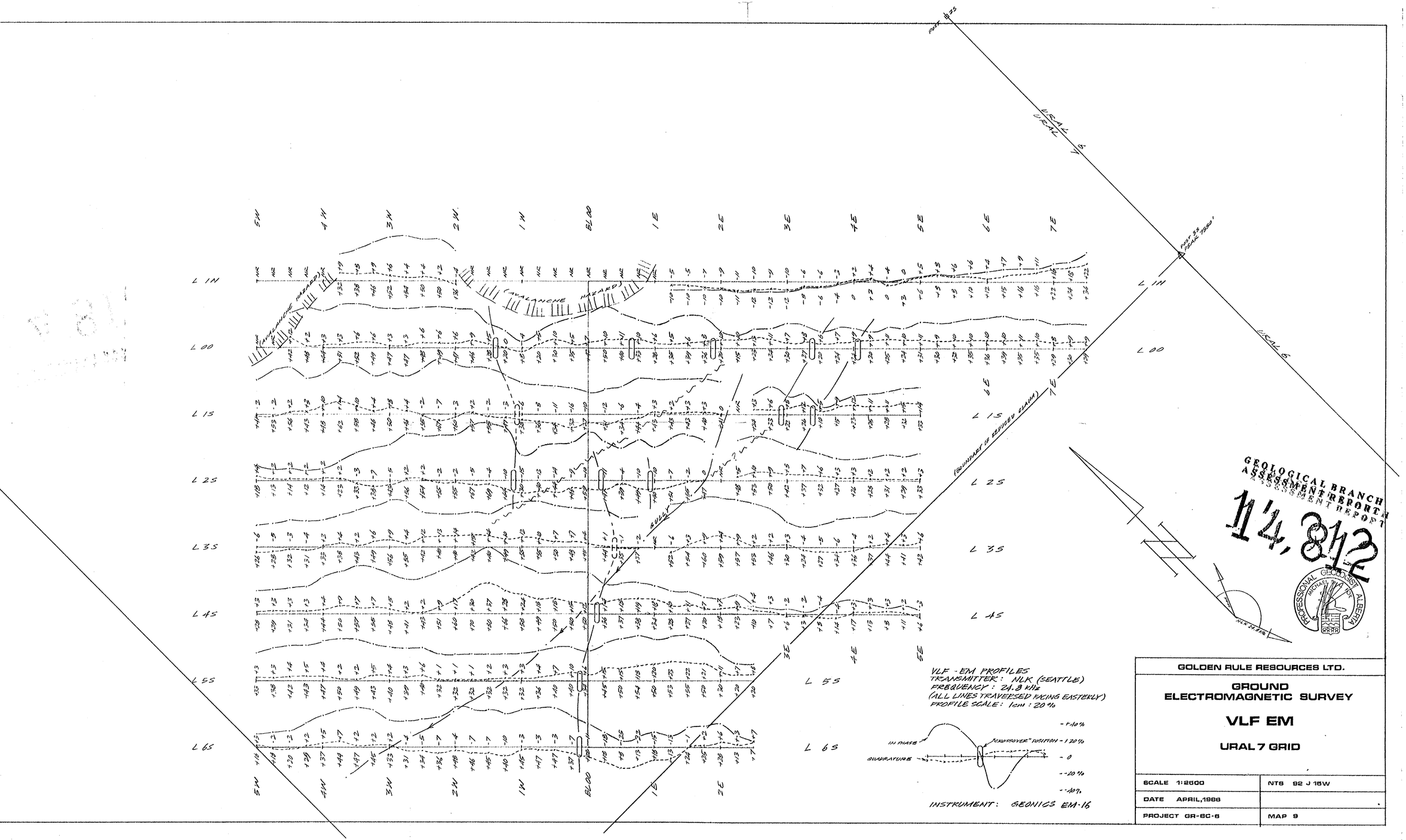
GOLDEN RULE RESOURCES LTD.

GROUND MAGNETIC SURVEY

TOTAL FIELD CONTOURS

ELDORADO GRID

SCALE	1:2500	NTS	92 J 16 W
DATE	APRIL, 1986		
PROJECT	GR-8C-8	MAP	7



GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,812

PROFESSIONAL GEOLOGIST
MICHAEL
ALBERTA

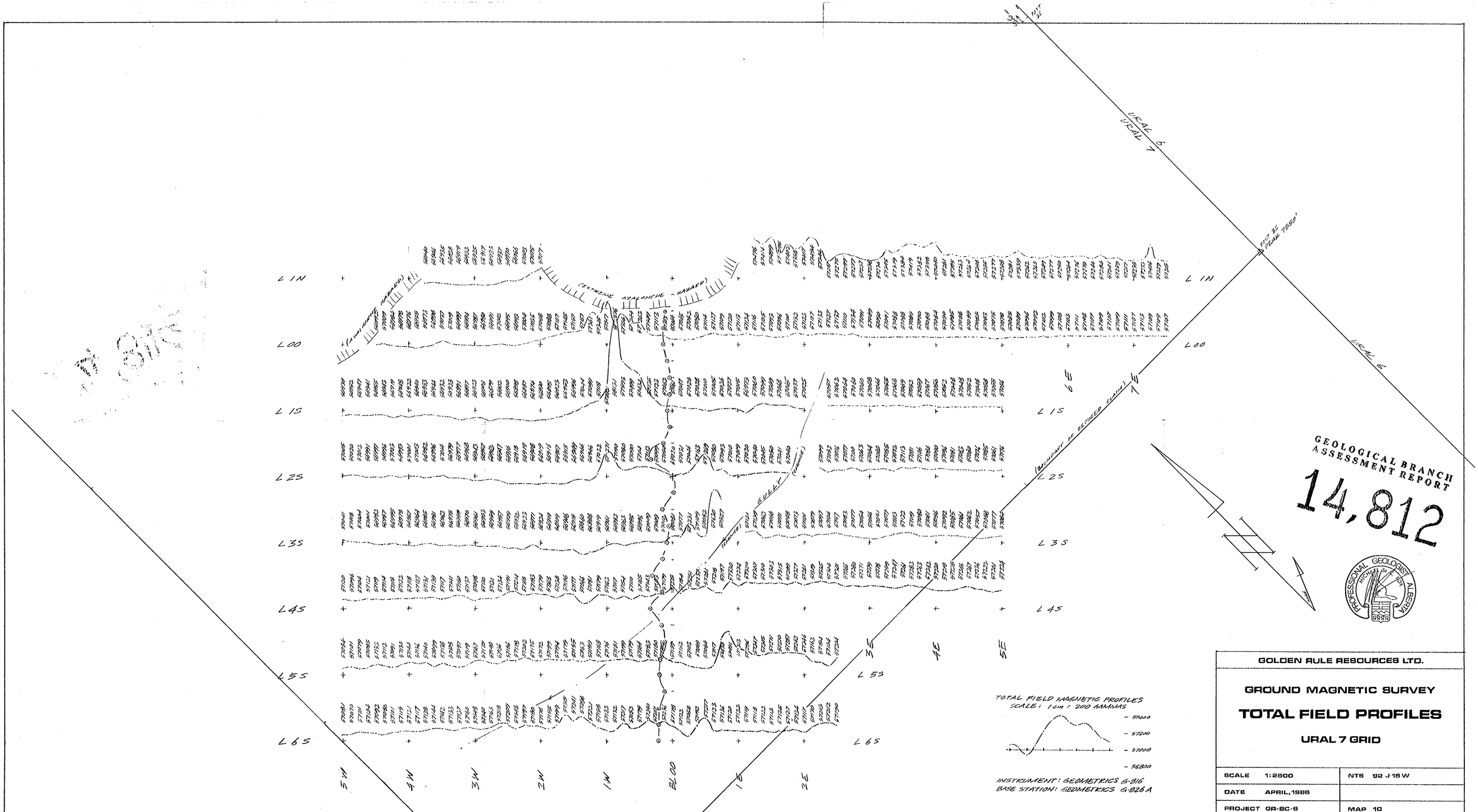
GOLDEN RULE RESOURCES LTD.

GROUND ELECTROMAGNETIC SURVEY

VLF EM

URAL 7 GRID

SCALE 1:2500	NTS 82 J 15W
DATE APRIL, 1988	
PROJECT GR-86-6	MAP 9



GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,812

PROFESSIONAL GEOLOGIST
MICHAEL A. SMITH
PROVINCE OF ALBERTA

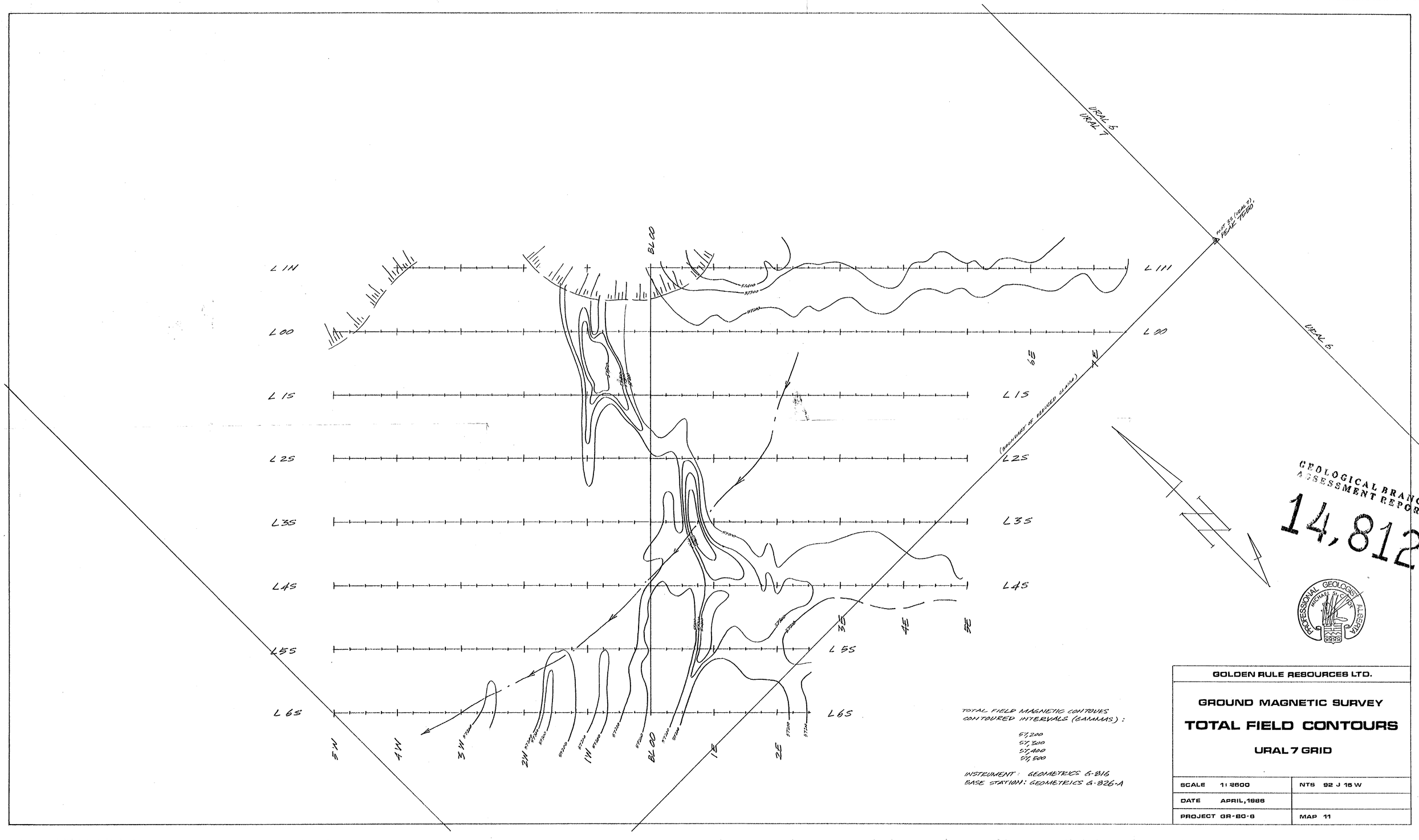
GOLDEN RULE RESOURCES LTD.

GROUND MAGNETIC SURVEY

TOTAL FIELD PROFILES

URAL 7 GRID

SCALE 1:2500	NTS 92 J 16 W
DATE APRIL, 1986	
PROJECT GR-86-6	MAP 10



GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,812

PROFESSIONAL GEOLOGIST
MICHAEL A. CLAPP
ALBERTA

TOTAL FIELD MAGNETIC CONTOURS
CONTOURED INTERVALS (GAMMAS):

57,200
57,300
57,400
57,500

INSTRUMENT: GEOMETRICS G-816
BASE STATION: GEOMETRICS G-826-A

GOLDEN RULE RESOURCES LTD.

GROUND MAGNETIC SURVEY

TOTAL FIELD CONTOURS

URAL 7 GRID

SCALE 1:2500	NTS 92 J 15 W
DATE APRIL, 1986	
PROJECT GR-86-6	MAP 11