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REPORT ON
AIRBORNE GEOPHYSICAL SURVEY
OF THE
OLIVE GOLD PROPERTY, FORT FRANCES, ONTARIO
FOR
HOMESTAKE EXPLORATIONS LIMITED
BY
KENTING EARTH SCIENCES LIMITED, OTTAWA
PROJECT NO. 83041

KENTING EARTH SCIENCES LIMITED • 380 HUNT CLUB ROAD, OTTAWA, ONTARIO K1G 3N3

REPORT ON

AIRBORNE GEOPHYSICAL SURVEY

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PROJECT NO. 83041

OTTAWA, CANADA

June, 1983

Kenting

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ACCOMPANYING THIS REPORT:

Appendix A- KDSS-5, Kenting Digital Survey System

1 Isomagnetic contour map

1 VLF profile map

1 Geophysical interpretation map

All at a scale of 1:20,000.

REPORT ON
AIRBORNE GEOPHYSICAL SURVEY
OF THE
OLIVE GOLD PROPERTY, FORT FRANCES, ONTARIO AREA
FOR
HOMESTAKE EXPLORATIONS LIMITED

1. INTRODUCTION

This report pertains to a combined airborne magnetic and VLF-EM survey carried out of the Olive Gold Property, near Fort Frances, Ontario for Homestake Explorations Limited. The survey was flown on April 22, 1983 with Kenting Earth Sciences Limited geophysically equipped Cessna aircraft (registration C-GJEM) based at Fort Frances, Ontario.

The traverses were oriented northwesterly and spaced 200 meters apart. A mean terrain clearance of 66 m was maintained throughout the survey. The geophysical data acquired totalled 182 line kilometers.

The following Kenting personnel were associated with this project:

G. Carter	-	Pilot
D. Johnstone	-	Aircraft Engineer
I. MacDonald	-	Electronic Engineer
D. Graham	-	Data Compiler
J. Irvine	-	Chief Geophysicist - Projects

2. INSTRUMENTATION

The total field airborne magnetometer utilized was a Geometrics G-803 proton precession magnetometer which has been modified by Kenting. The modifications improved the capability of the unit to produce a ± 0.25 nanotesla (nT) sensitivity and a noise envelope in straight and level flight in an area of low magnetic relief of ± 0.25 nT. The magnetometer is sampled once per second.

The magnetic field of the aircraft has been greatly reduced by the use of a passive, 3 term compensation system for permanent magnetic effects and the use of high permeability "Permalloy" metallic strips to reduce the induced magnetic effects. The magnetic compensation of the aircraft produces a "figure of merit" (FOM) index as obtained by summing, without regard to sign, the peak to peak amplitudes of the 12 magnetic signatures when the aircraft carries out repeated 20^{o} rolls peak-to-peak (ie $\pm 10^{o}$), 10^{o} pitches peak-to-peak (ie $\pm 5^{o}$) and 10^{o} yaws peak-to-peak (ie $\pm 5^{o}$) over periods of 4 - 5 seconds in flight for the four cardinal directions. For this aircraft, the FOM is 4 nT or better.

The VLF-EM system employed was a Hertz Totem-1A which was tuned to receive Cutler, Maine. This unit measures both the total field and the quadrature component of the transmitted signal.

Recording of both geophysical techniques was both analog and digital formats. The analog recorder used were Hewlett-Packard HP-7100B (25 cm/10 in.) rectilinear recorders with the following recorded:

Recorder 1.	Barometric altimeter; Total field response	(250 nT full scale)
Recorder 2.	VLF-EM total field; quadrature	2.5 cm = 25%

Digital recording was by the KDSS-5. A full description is in Appendix A.

Ancillary equipment included:

Honeywell radar altimeter

Rosemount barometric altimeter

Automax 35 mm frame camera

Sperry C-12 gyro-stabilized compass

3. PRESENTATION OF RESULTS

The magnetic data were presented in contour form, using a 10 gamma contour interval, where gradients permit.

The VLF-EM data were presented in a profile form, plotted along the flight lines using the following scales:

Total field	1 cm = 20%
Quadrature	1 cm = 20%

4. GEOLOGY

The majority of the survey area is underlain by undifferentiated metavolcanics, namely, basaltic and andesitic massive lavas, pillow lava, tuff, agglomerate, hornblende and chlorite schist. A band of basic intrusive material occurs along the northwest shore of Bad Vermilion Lake and is known to contain iron formation. A major east-west fault occurs along the south shore of Little Turtle Lake, just inside the northern boundary of the survey area.

5. DISCUSSION OF RESULTS

A. Magnetic Interpretation

The banded iron formation is characterized by the northeasterly trending magnetic feature of strong amplitude. Terminations and minor off-sets are noted and are indicative of northwesterly trending faults.

The metavolcanics are characterized by a somewhat broken pattern which exhibits numerous maxima and minima values. The general strike is northeasterly with a swing to east-west in the northern portion. A faulted-contact is interpreted as the northern extent of the metavolcanics with granite interpreted to occur in contact to the north. This places the granite metavolcanic contact about 1.5 km south of the position indicated by Map 2115, Ontario Geological Survey (Kenora - Fort Frances sheet, 1:253,440 scale).

The east-west regional fault indicated by the OGS is characterized by a well-defined magnetic low-indicative of extensive weathering and oxidation along the fault.

The mapped basic intrusions are not well defined by the magnetics and correlation is not good.

Two gold occurrences known to the authors appear closely associated with the iron formation and interpreted W-NW trending faults. The third occurrence occurs between the two east-west faults and no faulting can be recognized from the magnetic map.

B. VLF-EM Interpretation

As expected, the strongest EM signatures, denoted by a zero cross-over in quadrature and a maximum in total field, are observed along the cultural features such as the power line, railroad and the highway that run east-west across the area. In addition, several conductor responses trending NE can also be observed in the area, characterized by their small aerial extent (less than 1 mile). Some of these conductors seem to correlate with the geological features, for example, the EM conductor observed near the north shore of Bad Vermilion Lake. The geological and structural associations of weaker EM conductor responses are hard to delineate in detail due to the camouflaging effects of strong EM responses of cultural

features and conductive lake and stream sediments. However, with the availability of detailed geological information, the structural and geological significance of observed VLF-EM conductors can be ascertained.

CONCLUSIONS AND RECOMMENDATIONS

A careful study of a detailed geology map with the geophysical results is required prior to any recommendations being made. In particular the structure of the gold occurrences must be considered in any study.

Respectfully submitted,

J. L. Irvine
Chief Geophysicist - Projects

APPENDIX A

KDSS-5 ABBREVIATED SPECIFICATION SHEET

The Kenting Digital Survey System 5 is the latest refinement of the highly successful and proven KDSS family. Eight years and more than one million kilometers of surveying with the original KDSS and its derivatives provided Kenting with a wealth of knowledge and experience which were incorporated into the all new KDSS-5 -- the most flexible and sophisticated airborne digital acquisition system ever built. Flexibility and dependability are prime features of the KDSS-5 as it is a software based system, thus requiring a minimum of hardware components. Fabrication techniques based on experience acquired from operations in extreme environments are also a key function for reliability. The memory resident software system is stored internally on EPROMS and provides for data acquisition and logging functions from magnetometers, spectrometers, electromagnetic systems, and a host of navigational aids, namely, Doppler, Loran C and micro- wave ranging systems.

Data reliability, synonomous with the KDSS, has been improved upon in this new version. The KDSS-5 has incorporated numerous error messages which are displayed in striking reverse video on the operator's CRT making it both fail-safe

and user friendly. The following short form specification summarizes the features of the KDSS-5; a more comprehensive description is available upon request.

GENERAL

1. Electrical Requirements

Standard aircraft power of 28 volts DC at 3 amps current nominal.

2. Physical Dimensions

Weight:	14 kg (30 lbs.)
Size:	49 cm W, 22 cm H, 36 cm D (19" x 8¾" x 14")
Mounting:	Horizontal in standard 19" racking.
	Vertical for helicopter pedestal area.
	Compact desktop enclosure.

3. Operator Interaction

Standard typewriter style keyboard input with output to a video monitor in a 32 character by 16 line format. Dot addressable graphics in the video mode is included.

INSTALLED SYSTEM SOFTWARE

General

The software which governs the entire operation of the KDSS-5 resides in non-volatile EPROM memory, and is activated when system power is applied. An operator may choose, by simple keyboard commands, any of the installed subsystems listed below. The general software design philosophy is to ensure data reliability and minimize downtime due to unserviceable components.

System Definition Mode

Survey parameters, sensor configuration, hardcopy output, etc. are selected by the operator and stored in non-volatile memory. Thus, the KDSS-5 operation may be customized in the field for each client's requirements.

Survey Mode

Regular sensor scanning and data logging are performed in this mode. In addition, the integrity of all system

hardware is monitored and the operator is instantly notified of the specific nature of any errors. This innovation allows system repair at the circuit card level while in flight.

Tape Deck Mode

Standard data handling utilities, such as tape duplication, data verification and data search, are supported in this mode.

Spectrometer Tuning

A sophisticated gamma ray spectrum analysis package which, in conjunction with the KDSS screen graphics feature, allows the operator to calibrate the spectrometer system quickly.

System Diagnostics

Component level repairs in the field are effected using this pattern generation and analysis software plus the KDSS-5 System Reference Manual.

Additional Software

Several packages for specific applications have been developed already. Kenting can quickly respond to the needs of a user who requires custom data acquisition arrangements.

PRIMARY GEOPHYSICAL SYSTEMS

Spectrometer

Modes

Single or dual 256 channel or single 512 channel. Maximum number of counts per channel is 65, 536. Channel resolution is 11.8 keV per channel in the 256 channel modes. Up to 14 windows may be selected by the operator in addition to an optional 256 channel full spectrum recording.

Signal Processing

Scintillation pulses are converted in a high speed analog to digital converter with dead time between 6 and 12 microseconds. Spectra are formed in the KDSS-5 memory for subsequent real time processing.

Detector Package

16" x 4" x 4" scintillation crystals with intimate electronics are enclosed in temperature stable containers. Package resolutions are better than 12%.

Magnetometer

Currently supported magnetometer technologies are:

Fluxgate, AN/ASQ8.
Ultra high sensitivity cesium vapour sensor in either single or gradiometer configuration.
Proton precession type, Geometrics G803 or G813.

ANCILLARY DATA SYSTEMS

Altimeters

Collins ALT 50 radar altimeter.
Honeywell HG7502 radar altimeter.
Rosemount 1241A barometric altimeter.

Navigation Aid Recording Capability

Doppler, Omega, satellite, Loran C, microwave ranging systems, or positional systems which can communicate on the KDSS-5 dual channel ARINC interface.

Camera

Any continuous strip or frame camera. Kenting provides AS-5 strip, PSC Mark VII and Automax II frame cameras. Film is annotated with either time of day or numerical fiducials. Software monitors the quantity of film remaining.

Real Time Clock

Time of day and calendar date are maintained, even during power off conditions.

Relay Output

Six software controlled relay outputs are provided to support contact closure type devices.

Communications Ports

Extra synchronous, asynchronous (RS-232) and bit input/output ports are available.

Analog Input Recording

Sixteen analog input channels with resolution to one part in 4000 are provided. These inputs are general purpose in nature but are utilized to record altimeter, EM, VLF and other instruments. Messages to the CRT alert the operator should the analog dynamic range of a particular channel be exceeded.

DATA MANAGEMENT

In Flight Data Recording

Dual redundant DC300 type cartridge tape drives with software control of failure modes and monitoring of tape quantities.

Hard Copy

Analog recorder or standard dot matrix printer output. Time fiducial marks annotate the charts at periodic intervals.

Data Transcribing

Cartridge tapes generated in the field are transcribed to ½" 9 track reels in any format specified by the customer.

FWM 2.5688

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

95-84

W0401-95

The Minin

52C15SE0017 2.6568 BLISS LAKE

900

Type of Survey(s): Airborne Magnetic, VLF-EM	Township or Area: Bad Vermillion Lake, Bliss Lake, Porter Inlet, Little 2487
Claim Holder(s): 1) Dave Pitkanen 2) Ray Pitkanen 3) Tom Pitkanen 4) A.E. LAFRENIERE 5) A.G. HUBER	Prospector's Licence No.: Turtle Lake 1) H-11326 2) E-24147 M2874 3) H-9817
Address: R. R. #2 Ft. Frances, Ontario	
Survey Company: Kenting Earth Sciences, Ltd.	Date of Survey (from & to): 22 Day | 4 Mo. | 83 Yr. | 22 Day | 5 Mo. | 83 Yr.
Total Miles of line Cut: 113 km (56) m.	
Name and Address of Author (of Geo-Technical report): J.L. Irving, 380 Hunt Club Road, Ottawa, Ontario K1G 3N3	

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical - Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	- Magnetometer	
	- Radiometric	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	20
	Magnetometer	20
	Radiometric	

RECEIVED
APR 04 1984
MINING LANDS SECTION

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
K	695924	
	25	
	26	
	27	
	28	
	29	
	30	
	31	
	32	
	33	
	34	
	35	
	36	
	37	
	38	
	39	
	40	
	41	
	42	
	43	
	44	
	45	
	46	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
K	695947	
	48	
	49	
	771737	
	38	
	39	
	629137	
	629174	
	75	
	76	
	77	
	78	
	695816	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
	25	

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

KENORA MINING DIV. RECEIVED MAR 14 1984 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work: 70

629137

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
2800	March 14/84	
	Date Approved as Recorded	Branch Director
	84.11.28	

Date	Recorded Holder or Agent (Signature)
March 8, 1984	

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying	Date Certified	Certified by (Signature)
916-111 Richmond St. W. Toronto, Ont. M5H 2G4	March 8, 1984	

670384
85
86
87
88
89
90
91
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95
96
97
98
670153
54
55
695950
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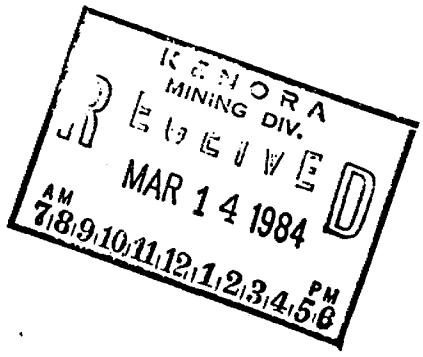
52
695804
805
806
807



Ministry of Natural Resources
Ontario

Geotechnical Report Approval

File 2.6568

Mining Lands Comments

-corner claims should be identified-

☑ To: Geophysics Mr. R. Barlow

Comments

☑ Approved ☐ Wish to see again with corrections | Date May 14/84 | Signature R R L

☐ To: Geology - Expenditures

Comments

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Geochemistry

Comments

Lgd. L.D.

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1593 (81/10)

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Airborne Magnetic, VLF-EM

Township or Area Little Turtle - Bad Vermillion
Bliss Lake - Porter Inlet

Claim Holder(s) Dave Pitkanen, Ray Pitkanen, Tom Pitkanen

Survey Company Kenting Earth Sciences Limited

Author of Report J.L. Irvine

Address of Author 380 Hunt Club Rd. Ottawa, Ont. K1G 3N3

Covering Dates of Survey April 22, 1983 (linecutting to office)

Total Miles of Line Cut 113

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
--Electromagnetic _____
--Magnetometer _____
--Radiometric _____
--Other _____
Geological _____
Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer 20 Electromagnetic 20 Radiometric _____ (enter days per claim)

DATE: March 27/84 SIGNATURE: C.E. Pye
Author of Report or Agent

Res. Geol. _____ Qualifications 63.2201

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
K	695924
	25
	26
	27
	28
	29
	30
	31
	32
	33
	34
	35
	36
	37
	38
	39
	40
	41
	42
	43
	44
	45

If space insufficient, attach list

TOTAL CLAIMS 70

RECEIVED
MAR 30 1984
MINING LANDS SECTION

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

_____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION
RESISTIVITY

Instrument _____

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____
(type, depth -- include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) Magnetometer, VLF-EM

Instrument(s) Geometrics G-803 Proton Precession Mag, Hertz Totem 1-A
(specify for each type of survey)

Accuracy ± 0.25 nanotesla (nT) sensitivity
(specify for each type of survey)

Aircraft used Cessna (C-GJEM)

Sensor altitude 66m

Navigation and flight path recovery method Gyro-stabilized compass and continuous strip or frame camera

Aircraft altitude 66M Line Spacing 200M

Miles flown over total area 113 Over claims only 69

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken_____

_____

_____

Total Number of Samples_____

Type of Sample_____
(Nature of Material)

Average Sample Weight_____

Method of Collection_____

_____

Soil Horizon Sampled_____

Horizon Development_____

Sample Depth_____

Terrain_____

_____

Drainage Development_____

Estimated Range of Overburden Thickness_____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis_____

_____

_____

_____

General_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others_____

Field Analysis (_____tests)

Extraction Method_____

Analytical Method_____

Reagents Used_____

Field Laboratory Analysis

No. (_____tests)

Extraction Method_____

Analytical Method_____

Reagents Used_____

Commercial Laboratory (_____tests)

Name of Laboratory_____

Extraction Method_____

Analytical Method_____

Reagents Used_____

General_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

695946	695947	670384
	48	85
	49	86
	771737	87
	38	88
	39	89
	629137	90
	629174	91
	75	92
	76	93
	77	94
	78	95
	695816	96
	17	97
	18	98
	19	670153
	20	54
	21	55
	22	695950
	23	51
	24	52
	25	695804
		805
		806
		807

TELEPHONE
(416) 3[redacted]182

SUITE 916
111 RICHMOND ST. WEST
TORONTO, ONTARIO
M5H 2G4

CABLE: PROMANS
TELEX: 06-219521

March 27, 1984

Mr. J. Smith
Supervisor,
Mining Lands,
Ministry of Natural Resources,
Room 645, Whitney Block,
Queen's Park,
TORONTO, Ontario
M7A 1W3

Dear Mr. Smith:

Re: TECHNICAL DATA STATEMENT

Please find enclosed a Technical Data Statement covering an airborne geophysical survey carried out over claims in the Bad Vermillion Lake area. A work report was filed with the Mining Recorder in Kenora on March 8, 1984.

I trust this is satisfactory.

Yours very truly,

HOMESTAKE EXPLORATIONS LIMITED

C.E. Page
V.P. Explorations

CEP:pw
Encl.

1984 04 03

Your file:
Our file : 2.6568

Mr. Wade Mathew
Mining Recorder
Ministry of Natural Resources
808 Robertson Street
Box 5160
Kenora, Ontario
P9N 3X9

Dear Sir:

We have received reports and maps for an Airborne (Electromagnetic and Magnetometer) Survey submitted on Mining Claims K 695924 et al in the Areas ofBBad Mermillion Lake, Bliss Lake, Porter Inlet and Little Turtle Lake.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto,Ontario
M7A 1W3
Phone:(416)965-6918

A.Barr:mc

cc: Dave Pitkanen, Ray Pitkanen, Tom Pitkanen
R.R.#2
Fort Frances, Ontario P9A 3M3

cc: J.L. Irvine
380 Hunt Club Road
Ottawa, Ontario
K1G 3N3

Ontario Ministry of Natural Resources

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

The Mining Act

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s): Airborne Magnetic, VLF-EM	Township or Area: Bad Vermillion Lake, Bliss Lake, Porter Inlet, Little Turtle Lake
Claim Holder(s): 1) Dave Pitkanen 2) Ray Pitkanen 3) Tom Pitkanen	Prospector's Licence No.: 1)H-11326 2)E-24147 3)H-9817
Address: R. R. #2 Ft. Frances, Ontario	
Survey Company: Kenting Earth Sciences, Ltd.	Date of Survey (from & to): 22 Day | 4 Mo. | 83 Yr. | 22 Day | 5 Mo. | 83 Yr.
	Total Miles of line Cut: 113 km (56) m.
Name and Address of Author (of Geo-Technical report): J.L. Irving, 380 Hunt Club Road, Ottawa, Ontario K1G 3N3	

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days		**Days per Claim**
Complete reverse side and enter total(s) here	Geophysical	
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits		**Days per Claim**
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	20
	Magnetometer	20
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
K	695924		K	695947	
	25			48	
	26			49	
	27			771737	
	28			38	
	29			39	
	30			629137	
	31			629174	
	32			75	
	33			76	
	34			77	
	35			78	
	36			695816	Marks
	37			17	
	38			18	
	39			19	
	40			20	
	41			21	
	42			22	
	43			23	
	44			24	
	45			25	
	46				

Total number of mining claims covered by this report of work: 70

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

RECEIVED
MAR 30 1984
MINING LANDS SECTION

Calculation of Expenditure Days Credits

Total Expenditures: $ ÷ 15 = Total Days Credits

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Date	Recorded Holder or Agent (Signature)
March 8, 1984	

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Branch Director

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying	Date Certified	Certified by (Signature)
916-111 Richmond St. W. Toronto, Ont. M5H 2G4	March 8, 1984	

1362 (81/9)

670384
85
86
87
88
89
90
91
92
93
94
95
96
97
98
670153
54
55
695950
51
52
695804
805
806
807


"EXTENT OF AIRBORNE SURVEY"
PORTER INLET M-2459
LITTLE TURTLE LAKE M-2433
BLISS LAKE M-2467
BAD VERMILION LAKE M-2474
FARRINGTON TWP. FOR STATUS REFER TO TWP. PLAN
FARRINGTON TWP. FOR STATUS REFER TO TWP. PLAN (M.-2081)
SEINE RIVER INDIAN RESERVE 23 B
Seine River I.R. No. 23 B
Bad Vermilion Lake
Little Turtle Lake
Turtle River
Shoal Lake
Grassy L.
Seine Bay
BLISS LAKE
BELL CITY
Island Bay
Potato L.
Little Otterfall Lake
Low L.

200

AIRBORNE MAGNETOMETER SURVEY
TOTAL FIELD

OLIVE GOLD PROPERTY

ONTARIO

HOMESTAKE EXPLORATIONS LIMITED

SCALE 1: 20,000

KENTING EARTH SCIENCES LIMITED, OTTAWA

LEGEND

10 GAMMA CONTOUR
50 GAMMA CONTOUR
500 GAMMA CONTOUR
MAGNETIC LOW

TRAVERSE INTERVAL . . . . . . 1/8 MILE
CLEARANCE . . . . . . 200 FEET

HORIZONTAL CONTROL . . . . (APPROX.) BASED ON PHOTO LAYDOWN

C.E. Page June 25/83

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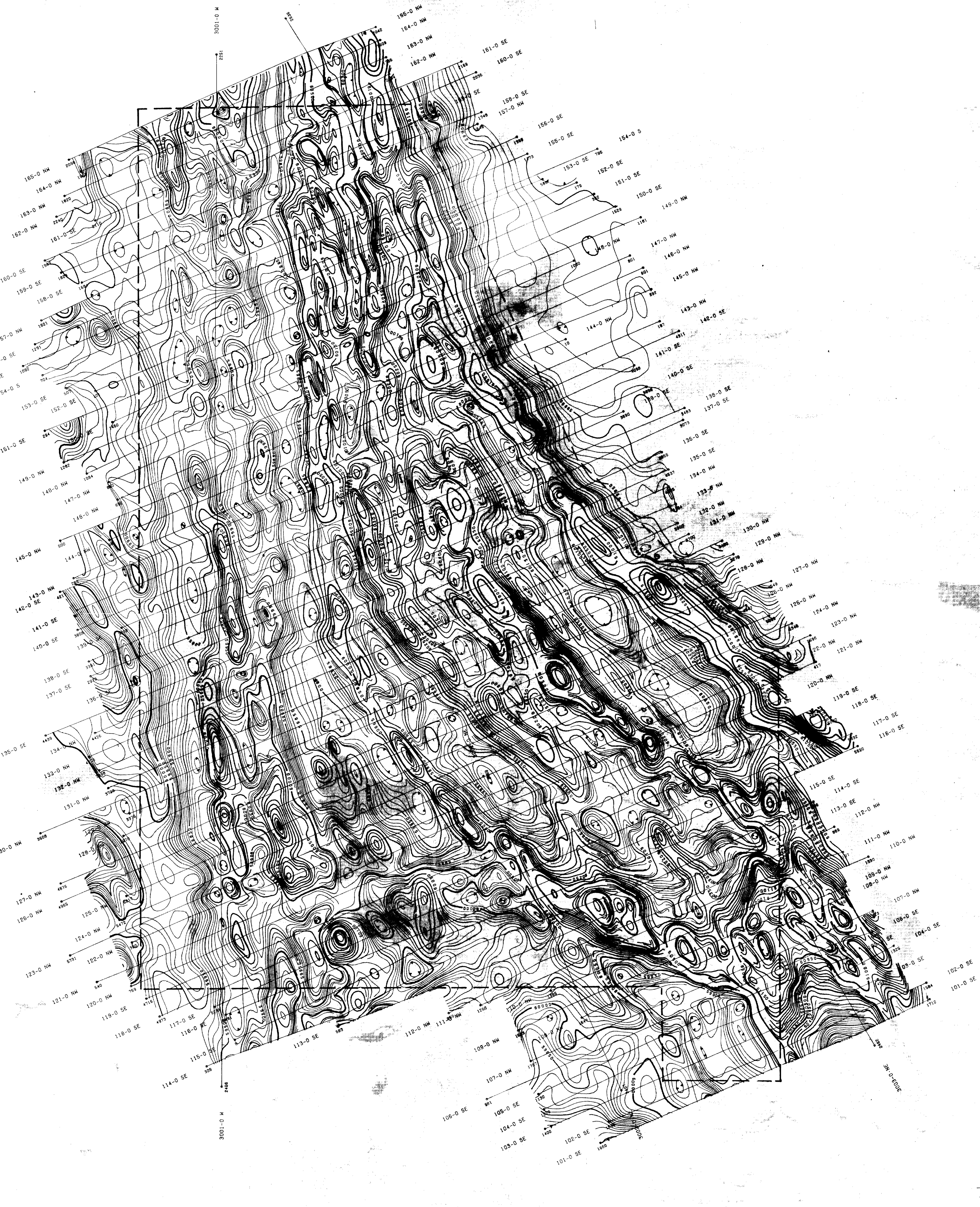

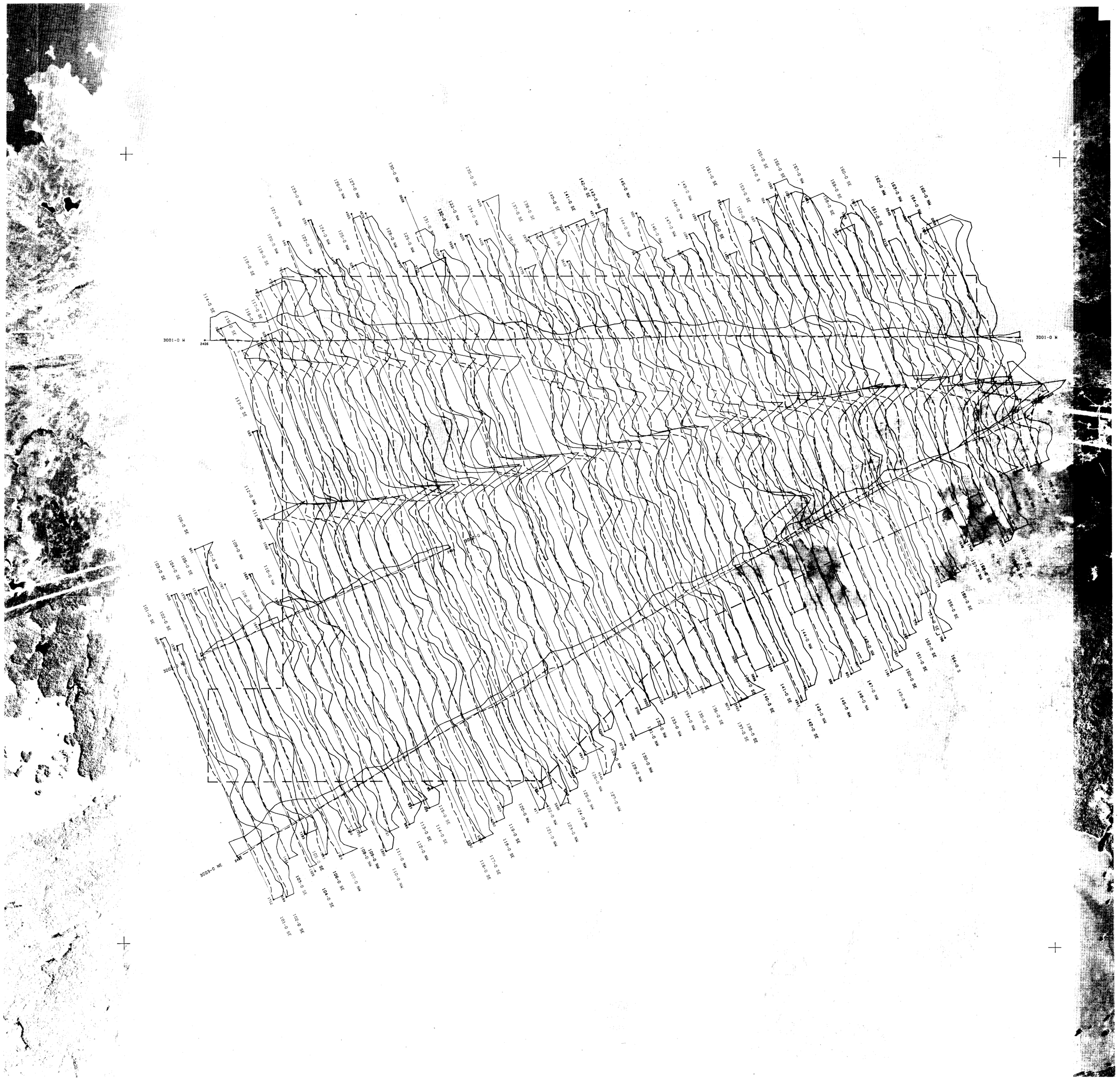

(APPROX)
HORIZONTAL CONTROL. . . . . BASED ON PHOTO LAYDOWN

TOTEM VLF EM

SOLID LINE IS TOTAL FIELD
SCALE IS 1 CM = 20%

DASHED LINE IS QUADRATURE
SCALE IS 1 CM = 20%

TRANSMITTER	FREQ. IN KHZ
NAA, CUTLER, MAINE	17.8

TRAVERSE INTERVAL . . . . . 1/8 MILE
CLEARANCE . . . . . 200 FEET

AIRBORNE ELECTROMAGNETIC SURVEY
PROFILE
OLIVE GOLD PROPERTY
ONTARIO
HOMESTAKE EXPLORATIONS LIMITED
SCALE 1:20,000
KENTING EARTH SCIENCES LIMITED, OTTAWA

C.E. Page June 21/83
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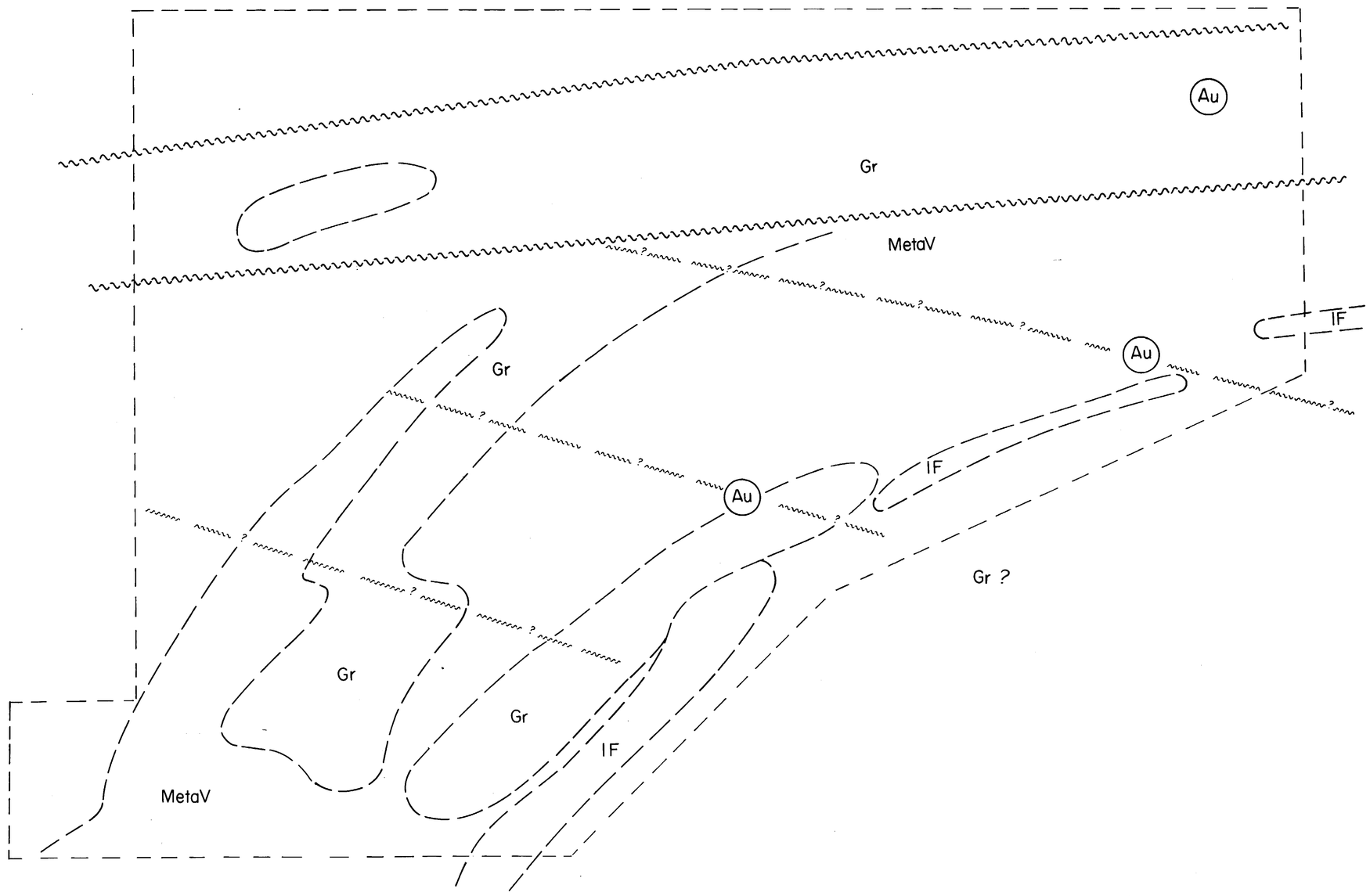

MAGNETIC INTERPRETATION

METAVOLCANICS ..... MetaV

BANDED IRON FORMATION ..... IF

GRANITE ..... Gr

FAULT .....

POSSIBLE FAULT .....

REPORTED GOLD SHOWING ..... Au

GEOPHYSICAL INTERPRETATION

OLIVE GOLD PROPERTY

ONTARIO

HOMESTAKE EXPLORATIONS LIMITED

SCALE 1:20,000

KENTING EARTH SCIENCES LIMITED, OTTAWA

June 20/83

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