

MAP NO.: ASSESSMENT REPORT X
115 I 11 PROSPECTUS
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 093012
MINING DISTRICT: WHITEHORSE
TYPE OF WORK: LINECUTTING
MAG-VLF

REPORT FILED UNDER: TECK EXPLORATION LIMITED

DATE PERFORMED: AUGUST 15-SEPT 18, 1991

DATE FILED: MARCH 3, 1992

LOCATION: LAT.: 62°36'N

AREA: MINTO

LONG.: 137°14'W

VALUE \$: 2,100

CLAIM NAME & NO.: MINTO 19-20 Y61906-907 MINTO 41-44 Y61926-929
MINTO 23-28 Y61914-919
MINTO 29-30 Y61932-933
MINTO 37-38 Y61910-911

WORK DONE BY: PETER FOLK; TECK EXPLORATION

WORK DONE FOR: ASARCO INCORPORATED ; TECK CORPORATION

DATE TO GOOD STANDING:	REMARKS:
	115I 021 THE WORK CONSISTED OF LINECUTTING FOR CONTROL
	FOLLOWED BY MAGNETOMETER AND VLF SURVEYS. MOST OF THE SURVEY
	COVERED 21 YEAR LEASE BUT 16 ANNUAL GRANTS WERE ALSO PARTIALLY SUR
	VEYED. THE BOUNDARY (DEF-MINTO) DEPOSIT WAS INCLUDED IN THE SURVEY.
	THE COMPUTER CONTOURED AND CORRECTED SURVEY CLEARLY SHOWS THE DEPOS
	IT. THE SURVEY ALSO DELINEATED SEVERAL SMALLER MAGNETIC ANOMALIES.
	OPEN PITTABLE SULPHIDE RESERVES ARE STATED TO BE 7.2 M TONS GRADING
	1.86% CU AND 0.015 OPT AU, CONSIDERED TO BE TOO SMALL TO JUSTIFY
	THE CAPITAL EXPENDITURE FOR INFRASTRUCTURE.

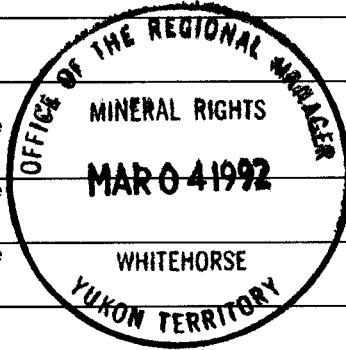


TRANSMITTAL FORM

M.R. file no.
R.M.M.R. file no.
Date forwarded 3 March 1992

From Mining Recorder at: **Whitehorse**

To Regional Manager, Mineral Rights at Whitehorse, Y.T.



For action are:

- NEW APPLICATION FOR PLACER LEASE TO PROSPECT Name
- RENEWAL APPLICATION PLACER LEASE TO PROSPECT Name Lease no.
- AFFIDAVIT OF EXPENDITURE ON PLACER LEASE Name Lease no.
- SECURITY DEPOSIT
- FINANCIAL ABILITY

ASSIGNMENT OF PLACER LEASE NO. From To

GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT. Owner

DIAMOND DRILL LOGS Claims Claim sheet no.

QUARTZ ASSESSMENT REPORT Claims Claim sheet no.
Type of report **Minto 19, 20, 23-28, 29, 30, 37, 38, 41-44**
Submitted by **Teck Corp / Asarco Inc.**
Cls. work performed on **Minto** \$ req. for ren. application **2100.00**

H. S. Southwick
Signature

Date returned

REPLY ACTION

093012

Signature

**MINTO PROJECT
YUKON TERRITORY**

1991 MAG-VLF SURVEY ASSESSMENT REPORT

093012 by

P. Folk, P.Eng.

LOCATION: NTS 115I/11
Lat. 62 degrees, 36 minutes
Long. 137 degrees, 14 minutes

CLAIM GROUP: Minto 1 Group comprising 16 claims

REGISTERED OWNERS: ASARCO INCORPORATED--50%
TECK CORPORATION--50%

WORK DONE: Aug. 15 - Sept. 18, 1991

**VALUE OF WORK TO BE
APPLIED FOR ASSESSMENT:** \$2108.17



February 18, 1992

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 2,100.

for Denis / Cuelletto
Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

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MAPS AND FIGURES

FIGURE	
1. LOCATION MAP	After Page 1
2. CLAIM MAP	After Page 2
3. TOTAL FIELD MAGNETIC CONTOURS	Enclosed
4. TOTAL FIELD MAGNETIC POSTINGS	Enclosed
5. VLF-EM PROFILES	Enclosed
6. Anomaly 1 Sketch Map	After Page 3

MINTO COPPER 1991 ASSESSMENT REPORT

INTRODUCTION

The original claims at Minto were staked in July 1971 by the Dawson Syndicate comprised of SILVER STANDARD ML and ASARCO. The SILVER STANDARD portion of the joint venture is now controlled by TECK CORPORATION. Eventually an open-pit mineable sulphide reserve (Boundary Deposit) containing 7.2 million tons grading 1.86% Cu, 0.015 opt Au was delineated, but the reserve is divided by a claim boundary with UNITED KENO, (now FALCONBRIDGE) to the north. Approximately 270 million pounds of copper, 1.4 million ounces of silver and 108,000 ounces of gold are contained in the deposit which is currently considered to be uneconomic because it is too small to justify the capital costs of the required infrastructure. Previous studies described the deposit as having a magnetite-bornite high-grade core zone within a lower grade chalcopyrite-pyrite envelope. It was therefore decided that a magnetic survey utilizing modern technology on a close-spaced grid would be of value and would substantially improve the understanding of the property. The work described in this report was funded by ASARCO EXPLORATION OF CANADA LTD., and executed by TECK EXPLORATION LTD.

CLAIMS

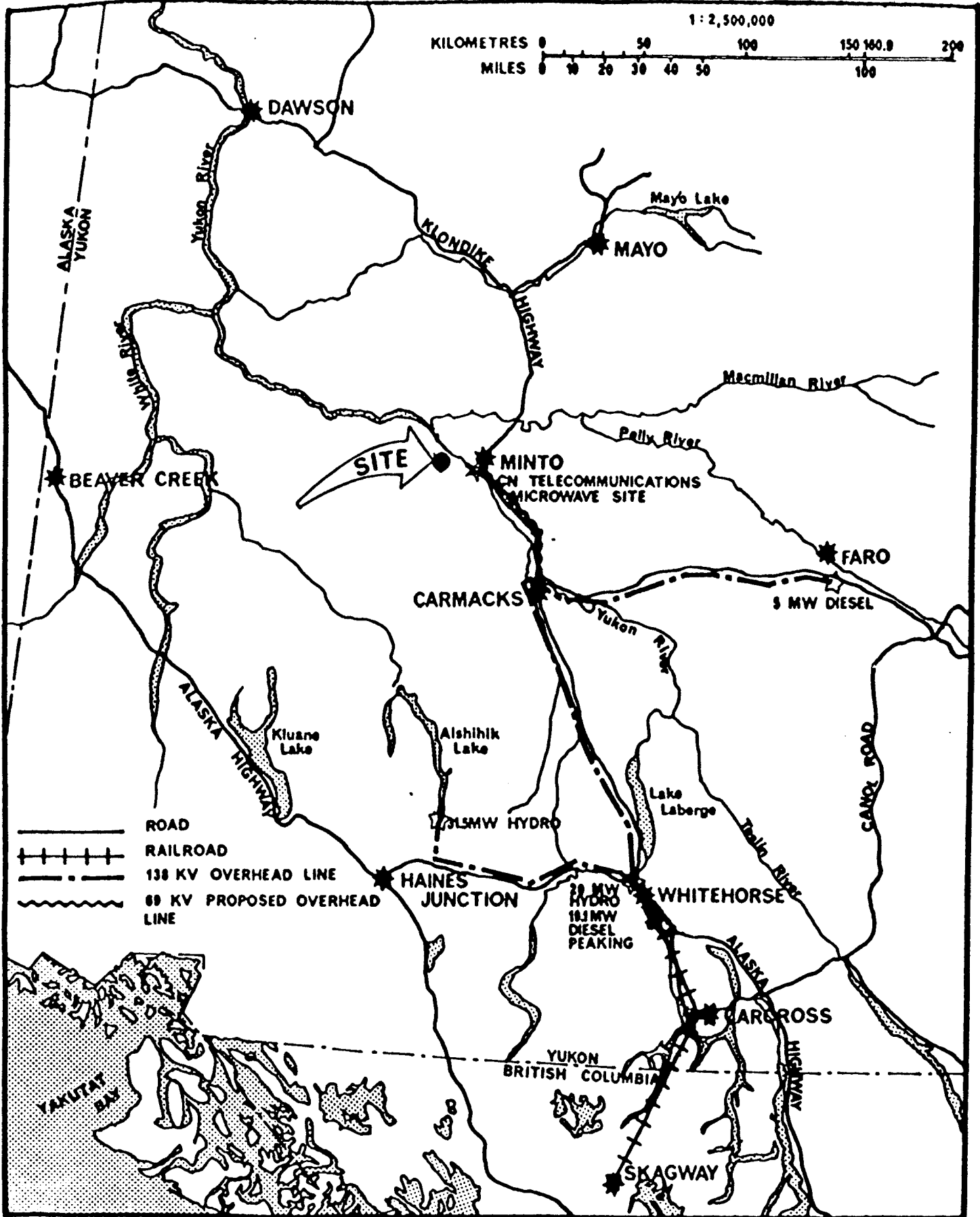
The ASARCO/TECK claim holdings at Minto Copper comprise a 21 year mining lease, 57 mineral claims and 4 fractional claims of less than 25 acres. Work was done on the 21 year mining lease and the following group of 16 claims on which assessment credits are being applied:

MINTO 1 GROUP

<u>Claim Name</u>	<u>Grant No.</u>
Minto 19-20	Y61906-907
Minto 23-28	Y61914-919
Minto 29-30	Y61932-933
Minto 37-38	Y61910-911
Minto 41-44	Y61926-929

GEOLOGY

Mineralization at Minto occurs in an assemblage of foliated biotite granodiorite, biotite gneiss, and biotitic schists of unknown pre-metamorphic derivation which has been intruded by unfoliated biotite granodiorite. It has been described as having been formed prior to metamorphism and is parallel to the foliation in a broad synform with the Boundary Deposit at the hinge zone. Mineralization is zoned outwards from a bornite-chalcopyrite-magnetite core through chalcopyrite-bornite, chalcopyrite, and



MINTO PROJECT

LOCATION MAP

FIG. 1

pyrite-chalcopyrite. Magnetite and pyrite are antipathetic. High-grade zones occur in quartzofeldspathic gneiss, in siliceous material and in biotite-rich gneiss. The unfoliated granodiorite, comprising the predominant rock type is essentially barren. Original "ore" related alteration which is now reflected to some degree by quartz, potassium feldspar, and biotite has been overprinted by intense zones of chlorite, hematite, sericite, clays, epidote, and laumontite which are related to post-mineral events and have no relation to mineralization. Oxide copper minerals are minor.

WORK DONE

A helicopter-supported tent camp was constructed near the centre of the area of interest and a new flagged grid was established to replace the old grid which was destroyed by fire in 1980. Just over 100 km of Mag-VLF readings on lines 200 ft apart were taken utilizing an EDA proton magnetometer-VLF unit with a computerized base station recorder. Readings were taken every 100 ft, decreasing to 50 ft in areas of magnetic variation. The unit automatically took VLF readings utilizing the Hawaii signal. All data was corrected, contoured, and plotted in the field utilizing GEOSOFT software and a lap-top computer and a portable printer. Final maps were produced in the TECK Vancouver office. Several magnetic features of potential interest were outlined and were further tested by prospecting.

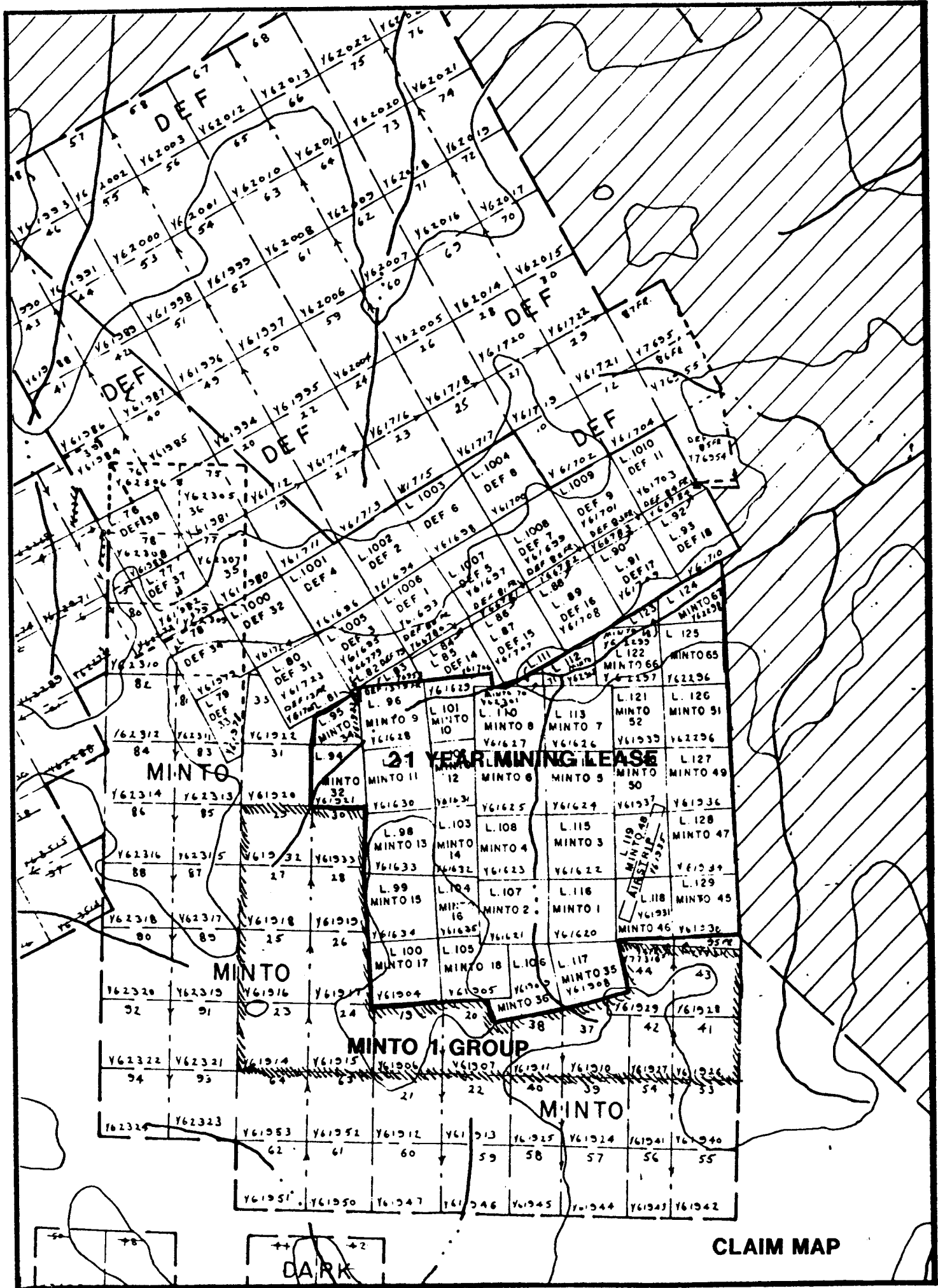
ASSESSMENT CREDITS

Most of the work done on the project was concentrated on the 21 year mining lease and is not applicable for assessment credit on the surrounding claims. About 10% of the work, however, was done on the adjoining claims and the expenditures attributable to physical work on these claims (running lines) are eligible for assessment credits. A statement of eligible costs totalling \$2108.17 is appended at the end of this report.

RESULTS

The computer-contoured and corrected magnetometer survey showing the outline of the proposed open-pit over the Boundary Deposit, the exploration drill holes on the ASARCO-TECK property, and important claim boundaries is displayed on Figure 3. Actual magnetic readings are posted on Figure 4. The VLF survey (Fig. 5) did not yield significant results but is enclosed for reference.

The survey clearly outlines the Boundary Deposit as a distinctive magnetic high underlying the northwest part of the map. Several other interesting magnetic features which are indicated on Figure 3 are described below.



CLAIM MAP

FIG 2

AREA 1

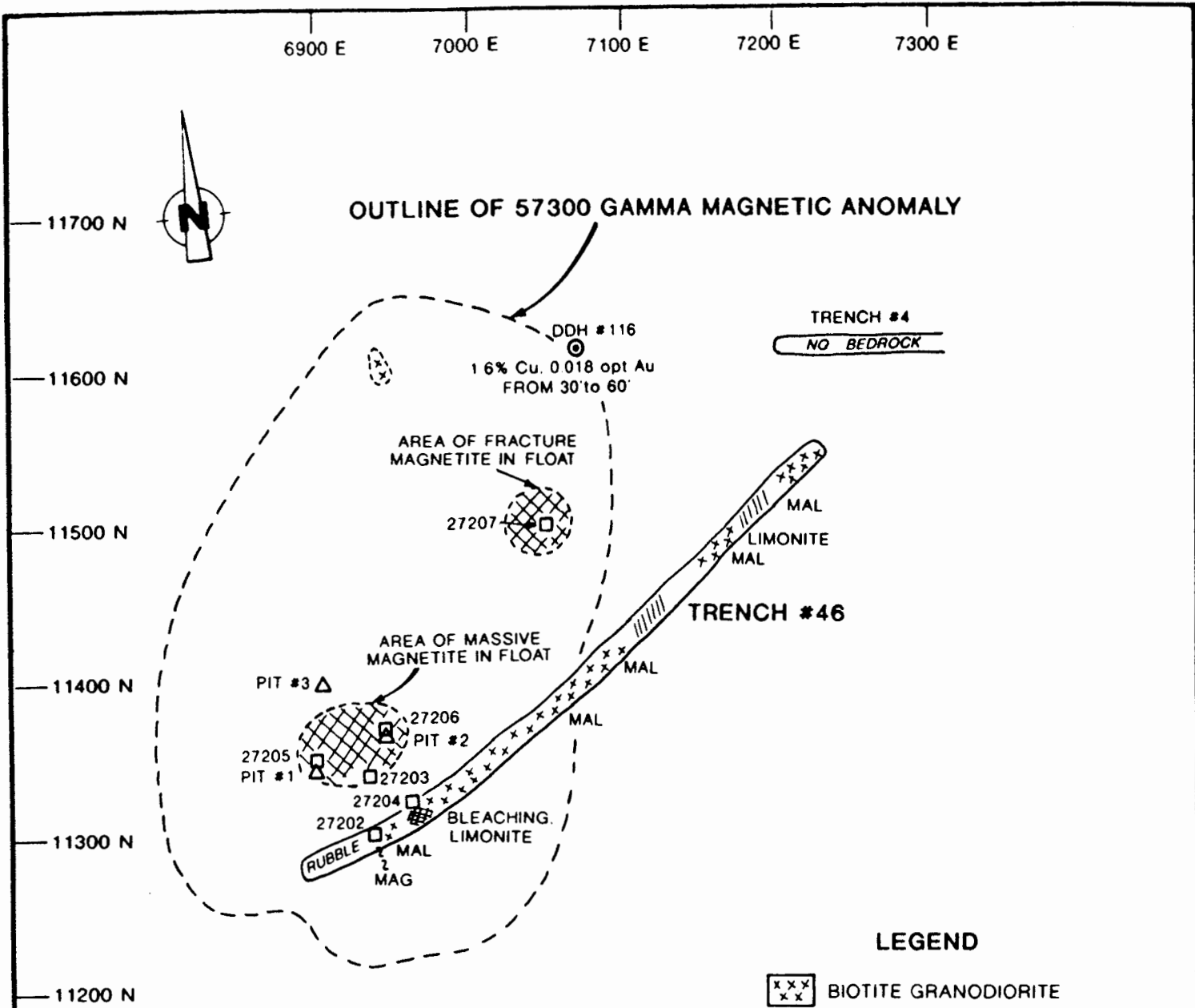
An anomaly similar in character to the one overlying the Boundary Deposit, but smaller in extent, occurs at 11400N, 7000E. The area is not well explored with only one diamond drill hole at the edge of the anomaly and one trench nearby. An examination of the anomaly, which contains very little outcrop except in the old trenches, unearthed fairly abundant, angular, massive and fracture-filled magnetite-bearing boulders at shallow depths. Some of the magnetite has a banded aspect and contains small vuggy spaces formed from the surface leaching of pre-existing sulphides. Chalcopyrite was located in some of the vugs but no bornite was seen. Small amounts of pyrite are also present in the somewhat siliceous rock. A sketch map of the area (Fig. 6) shows the location and results of some rock sampling and three test soil pits in relation to the magnetic feature, trenches, and DDH #116. Some of the rock samples contain a very good gold content, up to 0.101 opt Au, with relatively poor copper-probably as a result of surface leaching. Likewise the soil test pits yielded some highly anomalous results with better values downward. There is relatively little mineralization exposed in the trench but records show that DDH #116, a vertical hole, contains two interesting mineralized zones which presumably dip to the east-northeast. The first assayed 1.6% Cu, 0.018 opt Au from 30 ft to 60 ft, and the second returned 1.2% Cu, 0.012 opt Au from 323 ft to 363 ft in depth. With these values at the edge of the anomaly the central portion of the anomaly would be considered to be an excellent exploration target possibly with a better than average precious metal content.

AREA 2

A second magnetic anomaly which encloses an area about 900 ft by 1000 ft is located only about 1000 ft from the edge of the proposed open pit, centred at about 13600N, 8000E. This is the old "zone 52" located near the burnt-out main camp. The area has been tested by several diamond drill holes which contain some values of interest. The open-pit potential of the zone is small, however, due to prohibitive depths to the mineralization.

AREA 3

Small magnetic anomalies in the vicinity of and west of the airstrip represent low priority targets. The best area would be a magnetic anomaly north of DDH #105 which assayed 1.00% Cu over 30 ft commencing at a depth of 194 ft. North and east of the airstrip numerous strong magnetic features are attributable to various intrusive phases some of which contain disseminated magnetite and are therefore relatively magnetic.



SAMPLE DATA

Sample Number	Cu (%)	Ag (oz/t)	Au (oz/t)	NOTE:
27202	0.27	0.12	0.005	1 FT. SAMPLE
27203	0.07	0.16	0.027	FLOAT
27204	0.21	0.02	0.002	2 FT. RUSTY ZONE
27205	0.30	0.33	0.044	FLOAT
27206	0.19	0.37	0.084	FLOAT
27207	1.05	0.44	0.101	FLOAT
	Cu (ppm)	Ag (ppm)	Au (ppb)	NOTE:
PIT-1 A	1952	4.5	457	SOIL 0-14"
PIT-1 B	7313	4.7	999	SOIL 14-28"
PIT-2 A	5745	19.9	1805	SOIL 8"
PIT-3 A	4049	1.1	165	SOIL 8"

TECK EXPLORATION LIMITED

MINTO PROJECT

ANOMALY 1

SCALE: 1 in. = 100 ft.

P.F	NOV. 1991	FIG.8
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SUMMARY AND CONCLUSIONS

The magnetometer survey completed this summer has outlined at least one excellent, and some lower priority surface targets. The presence of good Cu-Au values in float in the central portion of the magnetic anomaly (AREA 1) and some good values in DDH #116 at the edge of the anomaly indicate that further exploration in this area with an objective of finding near surface open-pittable mineralization is clearly warranted. Although the target anomaly is relatively small there are indications of a better than average gold content.

RECOMMENDATIONS

A program of diamond drilling is recommended to test AREA 1. Specifically, two 450 ft. holes are recommended. An alternative to drilling in AREA 1 would be a program of mechanized trenching with a contingency for shallow drilling at a later date.

REFERENCES

Sinclair, W.D., 1977, Geology and Mineral Deposits of the Minto Area, Yukon Territory: Canadian Dept. Indian & Northern Affairs, EGS 1977-1, p. 68-82.

Pearson, W.N., and Clark, A.H., The Minto Copper Deposit, Yukon Territory: A Metamorphosed Orebody in the Yukon Crystalline Terrane: Economic Geology, Vol. 74, 1979, p. 1577-1599.

McMichael, R.C., 1973, Silver Standard Mines Ltd., 1972 Progress Report, Minto Creek Project-Yukon Territory.

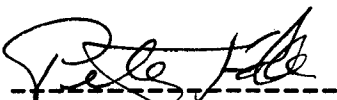
McMichael, R.C., 1991, Personal Communication.

Courtney, A.W., and Olson, D.H., 1975, ASARCO, Final Report Minto 1974 Drill Program.

TECK CORPORATION, Various memoranda in files.

A. Archer, P. Eng., 1991, Personal Communication.

Respectfully submitted,



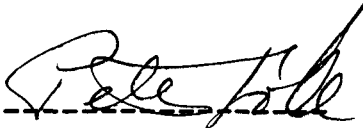
P. Folk, P.Eng

February, 1992

STATEMENT OF QUALIFICATIONS

I, Peter G. Folk, P. Eng., of Surrey, B. C. do hereby certify that:

1. I graduated in 1971 from the University of British Columbia with a bachelor's degree in Geological Engineering.
2. I have been actively engaged since that time as a mine geologist and exploration geologist at many locations in Canada, the U.S. and South America.
3. I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
4. I am currently employed as a Senior Geologist for TECK EXPLORATION LTD., Vancouver, B. C.
5. The work described herein was done under my direct supervision.



P. Folk, P. Eng.

MINTO CLAIMS

STATEMENT OF ELIGIBLE COSTS

LABOUR

K. Chubb, 4 days @ \$179.45/day \$717.80

FIELD COSTS APPLICABLE TO ASSESSMENT WORK \$790.37

REPORT PREPARATION, DRAFTING, PRINTS \$600.00
\$2108.17

Method of calculation of eligible field costs:

A total of 4 man-days of physical work (running lines) of the total 71 man-days spent in the field are eligible for assessment filing. The portion of travel, living, and other field expenses applicable to assessment work is therefore 4/71 of the total \$14,029.08 actually spent on these items = \$790.37

Details of applicable field expenditures on the entire project are:

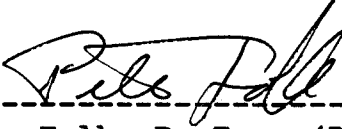
LABOUR

P. Folk, Surrey, B. C., supervisor, Aug. 18-25, 14 days
Sept. 10-15
K. Chubb, Vancouver, B. C., technician, 28 days
Aug. 18-Sept. 14
G. Lovang, Vancouver, B. C., prospector, 29 days
Aug. 18-Sept. 15 71 days

HELICOPTER \$8708.19
FIELD SUPPLIES \$493.81
TELEPHONE \$252.73
LIVING EXPENSES (food, fuel, camp costs) \$2656.15
TRAVEL AND TRANSPORT COSTS \$1918.20
\$14029.08

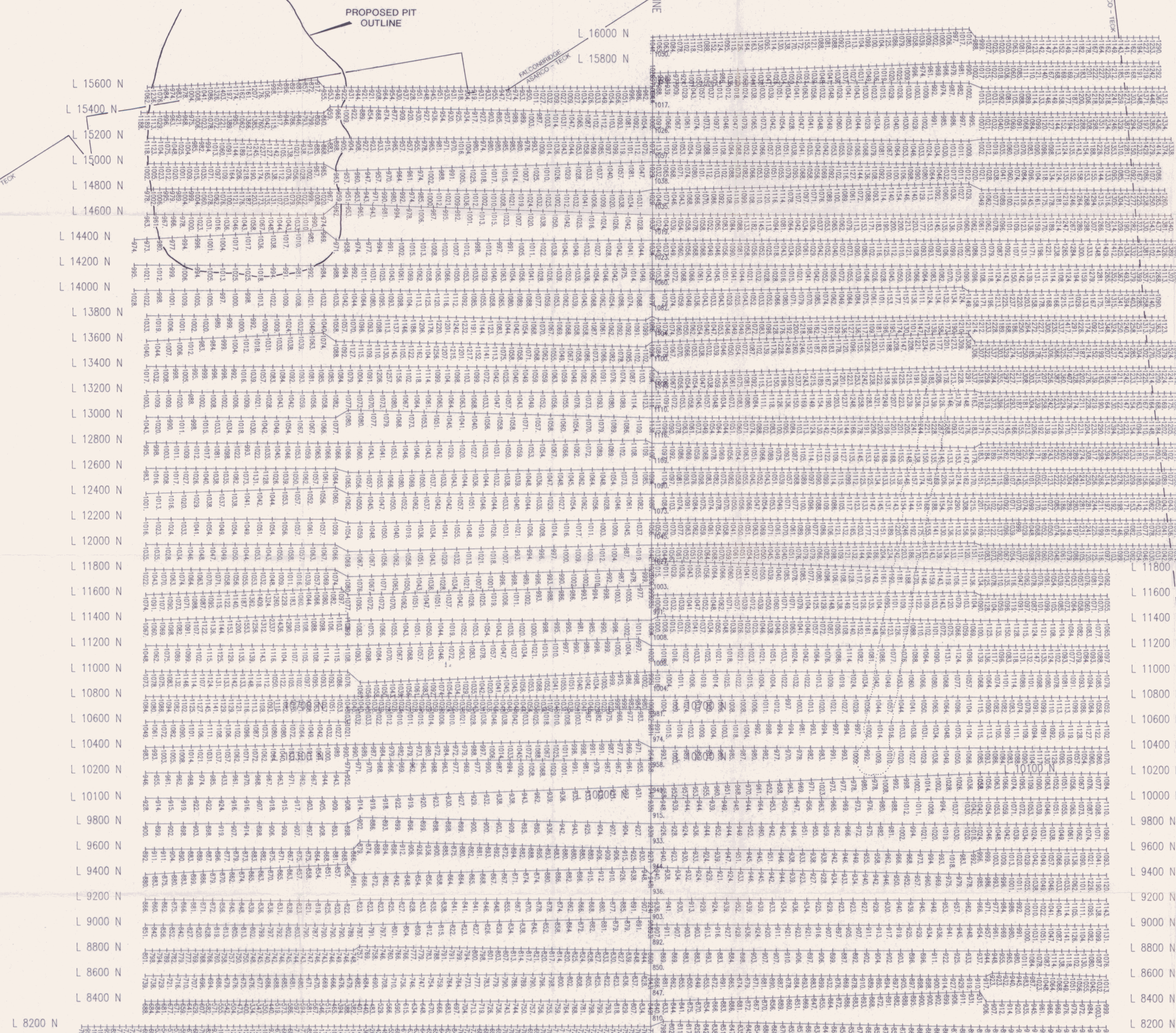
Portion applicable to assessment = $4/71 \times \$14029.08 = \790.37

Submitted by:



P. Folk, P. Eng. (B.C.)

5000 E 5500 E 6000 E 6500 E 7000 E 7500 E 8000 E 8500 E 9000 E 9500 E 10000 E 10500 E 11000 E 11500 E 12000 E 12500 E 13000 E 13500 E 14000 E



Scale 1:4800
0 250 500 750 1000 1250
(feet)

093012
(385)

MAP#115311

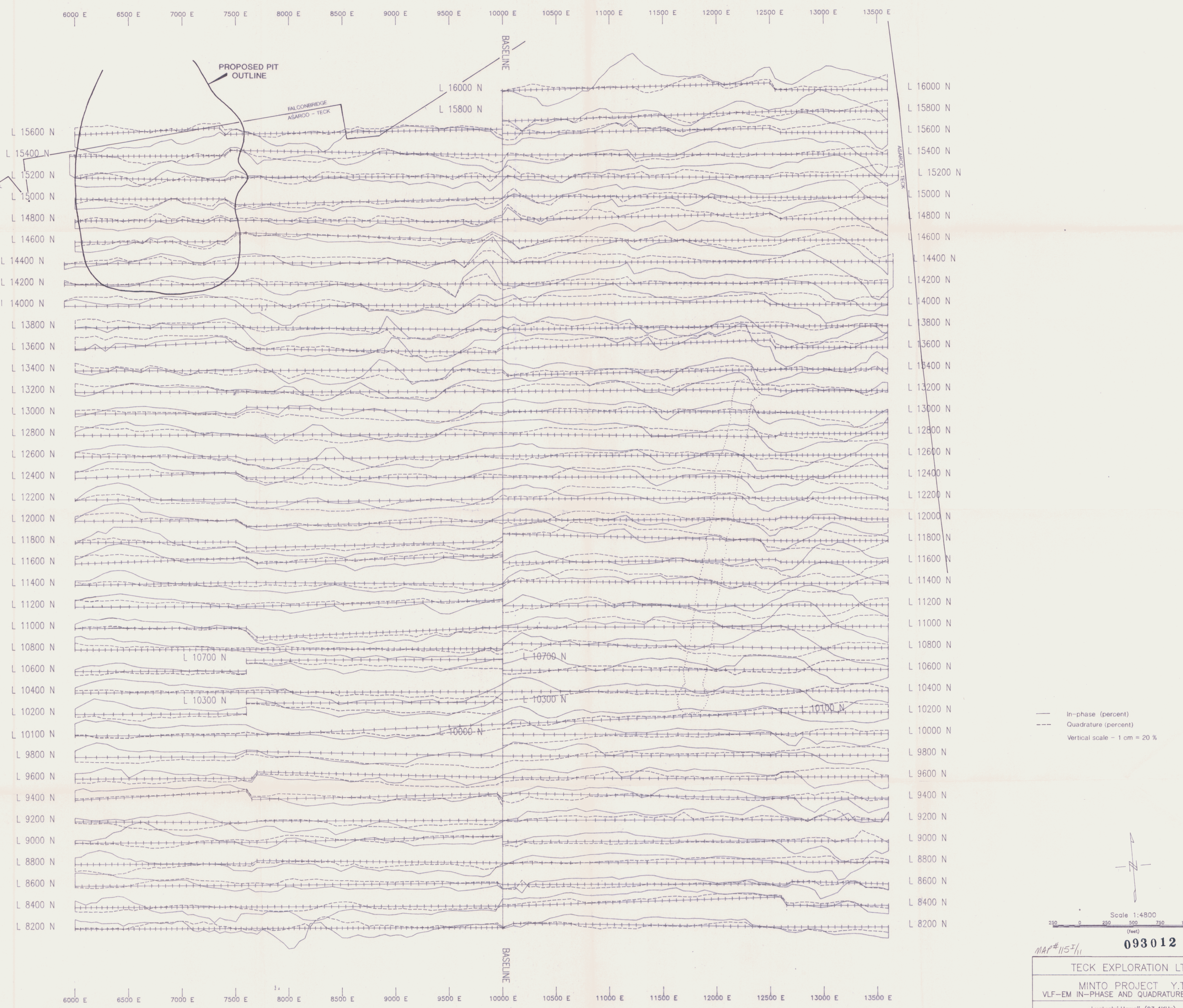
TECK EXPLORATION LTD.

MINTO PROJECT Y.T.
TOTAL FIELD MAGNETIC POSTINGS

September 1991 Scale 1"=400'

Figure: 5600nT removed

TECK EXPLORATION LTD.



MAP# 1157/11

Scale 1:4800
(feet)

0 250 500 750 1000 1250

093012 (387)

TECK EXPLORATION LTD.

MINTO PROJECT Y.T.
VLF-EM IN-PHASE AND QUADRATURE PROFILES

Lualualui, Hawaii (23.4KHz)

September 1991 Scale: 1"=400'

TECK EXPLORATION LTD. FIG 5

APPENDIX 1

Survey and Equipment Specifications

SURVEY SPECIFICATIONS

- Line separation - 200 feet
- Station spacing - 100 feet
 - readings were taken at 50 ft intervals in areas of magnetic variability.
- Horizontal control - a base line and two tie lines were cut and the stations chained in and marked with permanent metal tags.
- Otherwise the stations were marked with two colours of flagging and were measured with a hip-chain with corrections made at the tie-lines and base line.
- The grid is approximately 5 degrees off of true north measured by compass.

EQUIPMENT SPECIFICATIONS

- An EDA Omni Plus combined VLF-EM and magnetometer was used.
- In-phase and quadrature were measured in percent at each station.
- The transmitting station utilized was Lualualei, Hawaii--23.4 kHz.
- Earth's total magnetic field in gammas (nanoteslas) was measured.
- An automatic base station recorder was used to correct for diurnal magnetic variations.
- Instrument accuracy is +/- 0.1 gamma
- Station repeatability was field checked to be within 5 gammas

Further specifications are listed on the next two pages.

OMNI PLUS VLF Magnetometer System



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.,
5151 Ward Road,
Wheat Ridge, Colorado
U.S.A. 80033
(303) 422-9112

Printed In Canada

OMNIV 'Tie-Line' Magnetometer



Specifications

Dynamic Range	18,000 to 110,000 gammas. Roll-over display feature suppresses first significant digit upon exceeding 100,000 gammas.
Tuning Method	Tuning value is calculated accurately utilizing a specially developed tuning algorithm
Automatic Fine Tuning	± 15% relative to ambient field strength of last stored value
Display Resolution	0.1 gamma
Processing Sensitivity	± 0.02 gamma
Statistical Error Resolution	0.01 gamma
Absolute Accuracy	± 1 gamma at 50,000 gammas at 23°C ± 2 gamma over total temperature range
Standard Memory Capacity	
Total Field or Gradient	1,200 data blocks or sets of readings
Tie-Line Points	100 data blocks or sets of readings
Base Station	5,000 data blocks or sets of readings
Display	Custom-designed, ruggedized liquid crystal display with an operating temperature range from -40°C to +55°C. The display contains six numeric digits, decimal point, battery status monitor, signal decay rate and signal amplitude monitor and function descriptors.
RS 232 Serial I/O Interface	2400 baud, 8 data bits, 2 stop bits, no parity
Gradient Tolerance	6,000 gammas per meter (field proven)
Test Mode	A. Diagnostic testing (data and programmable memory) B. Self Test (hardware)
Sensor	Optimized miniature design. Magnetic cleanliness is consistent with the specified absolute accuracy.
Gradient Sensors	0.5 meter sensor separation (standard), normalized to gammas/meter. Optional 1.0 meter sensor separation available. Horizontal sensors optional.
Sensor Cable	Remains flexible in temperature range specified, includes strain-relief connector
Cycling Time (Base Station Mode)	Programmable from 5 seconds up to 60 minutes in 1 second increments
Operating Environmental Range	-40°C to +55°C; 0-100% relative humidity; weatherproof
Power Supply	Non-magnetic rechargeable sealed lead-acid battery cartridge or belt; rechargeable NiCad or Disposable battery cartridge or belt; or 12V DC power source option for base station operation.
Battery Cartridge/Belt Life	2,000 to 5,000 readings, for sealed lead acid power supply, depending upon ambient temperature and rate of readings
Weights and Dimensions	
Instrument Console Only	2.8 kg, 238 x 150 x 250mm
NiCad or Alkaline Battery Cartridge	1.2 kg, 235 x 105 x 90mm
NiCad or Alkaline Battery Belt	1.2 kg, 540 x 100 x 40mm
Lead-Acid Battery Cartridge	1.8 kg, 235 x 105 x 90mm
Lead-Acid Battery Belt	1.8 kg, 540 x 100 x 40mm
Sensor	1.2 kg, 56mm diameter x 200mm
Gradient Sensor (0.5 m separation - standard)	2.1 kg, 56mm diameter x 790mm
Gradient Sensor (1.0 m separation - optional)	2.2 kg, 56mm diameter x 1300mm
Standard System Complement	Instrument console; sensor; 3-meter cable, aluminum sectional sensor staff, power supply, harness assembly, operations manual.
Base Station Option	Standard system plus 30 meter cable
Gradiometer Option	Standard system plus 0.5 meter sensor

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