



42A13SE8906 2.1192 MAHAFFY

010

GEOPHYSICAL SURVEYS, MAHAFFY TOWNSHIP

GROUP 8

TIMMINS AREA

PORCUPINE MINING DIVISION, ONTARIO

D. & C. LTD. A 14672

Toronto, Ontario
April, 1973.

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INTRODUCTION

As a follow-up to a previous airborne Turair survey, a programme of ground geophysical work was carried out on claim group 8 during June and July, 1972. Seigel Associates Ltd. carried out these surveys using a fluxgate magnetometer, a turam unit and a gravity meter. In March of 1973 this work was followed up by two diamond drill holes.

LOCATION AND ACCESS (See Location Map Attached)

Work is submitted for claims 344408, 344413 and 344418. This property, held "In Trust" by Duncan R. Derry Ltd., 401 Bay Street, Toronto, is located in Mahaffy Township approximately 24 miles north of Timmins, Ontario. The claims are in Lot 7 and the east half of Lot 8 of Concessions I and II. Access to the claims is by boat down the Mattagami River and bush trail, by helicopter or by winter road from Smooth Rock Falls.

GENERAL GEOLOGY (Ref. O.D.M. Map P.698)

Most of Mahaffy Township is believed to be underlain by northwest trending bands of intermediate to mafic and felsic metavolcanic rocks. It is interpreted that ultrabasic and felsic intrusive rocks lie conformably within these metavolcanic rocks in the northern and west-central portions of the township. The Pamour Sheet (P.698) shows two major and two minor faults (including the Mattagami River Fault) trending north through the township. These faults are believed to control the western limits of some of the felsic and ultrabasic intrusions.

Claim Group 8 is believed to be underlain by felsic and intermediate to mafic metavolcanic rocks, although no outcrop was found on the claim group. Two holes were drilled on the claim group (See Location Map) and revealed the following underlying geology. Hole 8-1 encountered 166 feet of mainly clay overburden, then sericitized fragmental acid rock for 84 feet, 18 feet of fragmental rhyolite, and finally 222 feet of rhyolite with associated quartz veins to the end of the hole. Hole 8-2 was drilled through 240 feet of clay, sand and boulder overburden, 13 feet of andesite (tuff?), 113 feet of felsic, dacitic and rhyolitic tuff and 166 feet of rhyolite and rhyolitic tuff to the end of the hole.

PREVIOUS WORK

In 1965, Barrington Exploration Corporation Ltd. carried out ground magnetic and JEM surveys on claim 344412 adjacent to the west of claim group 8. No EM conductors were located; however, a large magnetic response indicated a dyke striking northwest through the eastern portion of Concession I, Lot 8. The Keevil Mining Group Ltd. in 1965 and 1966 carried out airborne magnetic and electromagnetic, as well as ground magnetic and vertical loop electromagnetic surveys, over the south central part of Mahaffy Twp., and immediately south of claim group 8. They located three magnetic anomalies which they attributed to N-S diabase dykes and a small E-W basic intrusive. Several E-W trending EM conductors were located by ground surveys. Drilling results in the area indicate an overburden depth of over 250 feet and underlying serpentinized peridotite, dacite, tuffs and andesite. Results of 1972 drilling by the Caltor Syndicate (about 1 mile southwest of claim group 8) indicate between 59 and 123 feet of overburden, and underlying bedrock consisting of felsic agglomerate, intermediate to mafic volcanic rocks, gabbro and tuffs.

ELECTROMAGNETIC, MAGNETIC AND GRAVITY SURVEYS (Plates 2E, 2M and 2G)

The surveys were conducted using a Scintrex SE-71 three frequency Turam unit, a Scintrex MF-2 vertical intensity fluxgate magnetometer and a Scintrex CG-2 gravity meter. The Turam survey (horizontal loop) utilized a fixed source (consisting of a 2000' x 2000' wire loop laid northeast from the base line) and two moving receivers (consisting of coils separated by a 100' wire).

A grid of six lines at 400 foot intervals, for a total of 2.3 line miles, was cut from a base line bearing 312°. The grid originally consisted of 5 lines and was extended to the northeast on the basis of the original ground results. At approximately 100 foot intervals, 99 Turam readings were taken along the grid lines. Magnetic readings, taken between the EM stations, came to a total of 108. A base station was read at the intersection of Line 8W with the base line and the magnetic survey was looped back on the base station. As the survey was completed in less than three hours, no diurnal correction was necessary. The gravity survey was carried out over lines 16W and 20W of the grid. A total of 26 readings were taken at approximately 100 foot intervals along the grid lines.

RESULTS AND CONCLUSIONS

In a report by Seigel Associates Ltd. to Derry, Michener & Booth dated September, 1972, the survey results are described as follows:

"The Turam results show a conductor on the three most westerly lines (lines 12, 16 and 20W) with weaker, more diffuse conductor indications to the south. The conductor appears to strike north-south and is in substantial agreement with the airborne results. Conductivity width is estimated to be about 8 mhos and depth may be as great as 200 - 250 feet. The magnetic results show no marked correlation with the electromagnetic conductor. The general strike direction inferred from the magnetics is, however, parallel to the conductor. Depth interpretations on magnetic features gave results in the range of 80 - 100 feet".

"Gravity measurements were carried out over two lines (lines 16W and 20W) in an attempt to determine whether the conductor resulted from overburden conduction, related to bedrock topography or was within the basement. The results show no features correlating with the conductor. It is concluded that the conductor is probably not related to variations in overburden depth and may well be within the basement. Because the depth may be as great as 250 feet, the conductor may contain a considerable excess mass and still not produce a significant gravity anomaly. It is considered that the conductor should be further investigated by a diamond drill hole. Evidence of a previous grid was located on the property, but no data is presently available as to surveys on this grid".

Field investigation related to assessment data on file indicated the old grid lines, cut for the Keevil survey, and crossing our grid 8, were not surveyed.

April, 1973.

S. J. McCance


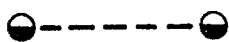



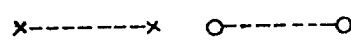
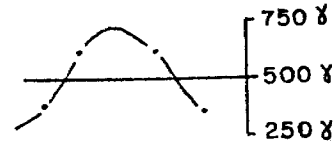
S. J. McCance.

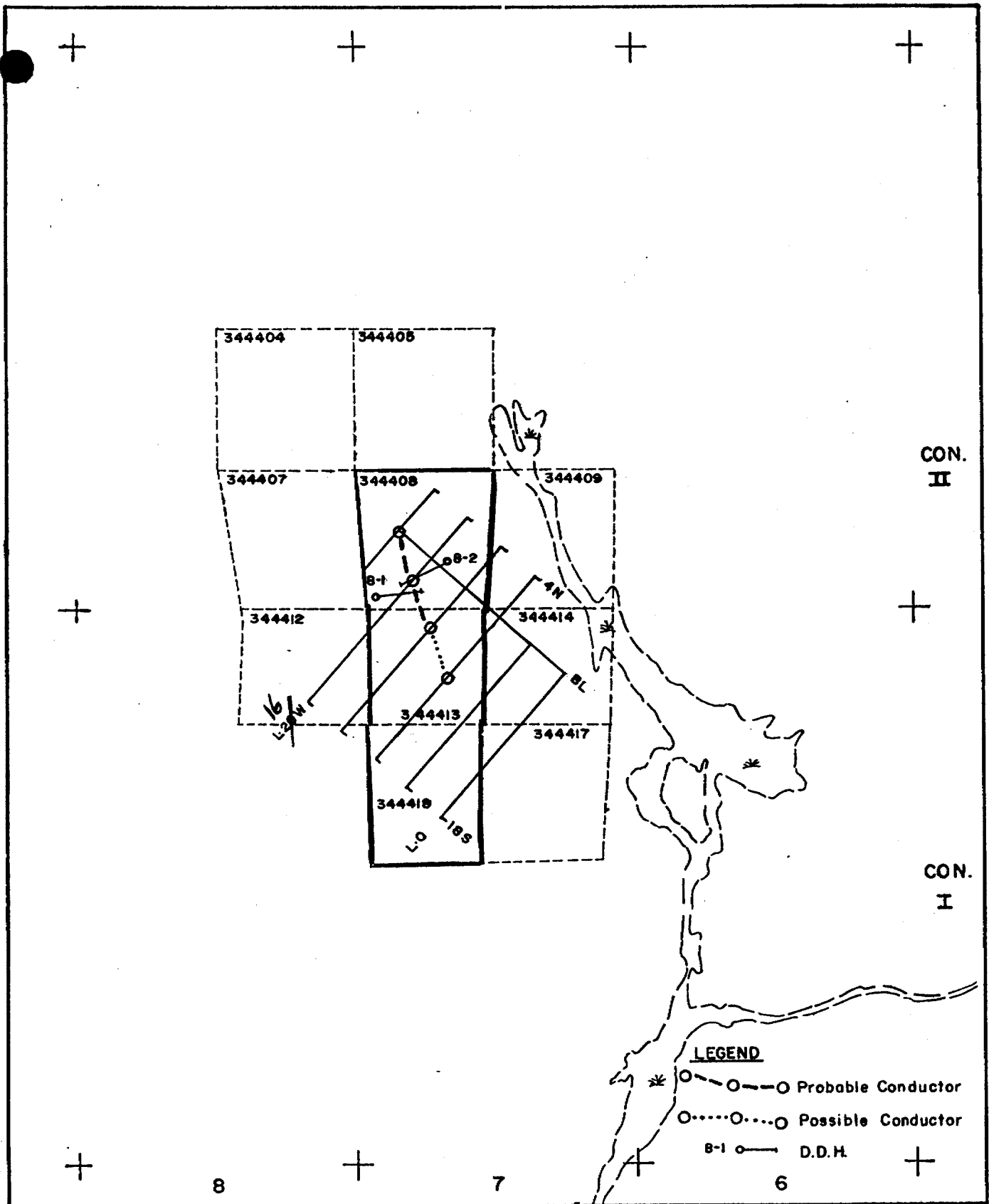
ADDITIONS to LEGEND

for

TURAM ELECTROMAGNETIC and MAGNETIC SURVEY

Timmins Area

	Possible Conductor - (positive)
	Probable Conductor - (positive)
	Definite Conductor - (positive)
	Possible Conductor - (negative)
	Field strength ratio readings
	Phase difference readings
	All positive readings - profile values below line are < 500 γ



DERRY, MICHENER & BOOTH
 GRID No. 8 , MAHAFFY TOWNSHIP, TIMMINS AREA, ONTARIO
LOCATION MAP
 SCALE : 1" = 1320'



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GEOPHYSICAL - GEO TECHNICAL 1

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SECTION

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 Geophysical - Magnetometer, Turam E.M. and Gravity

Township or Area Mahaffy Township

Claim holder(s) Duncan R. Derry Ltd. ("in trust")

Author of Report S. J. McCance

Address 401 Bay St., Toronto, Ontario

Covering Dates of Survey June - July 1972
(linecutting to office)

Total Miles of Line cut 2.3

MINING CLAIMS TRAVERSED

List numerically

EM + Mag Gravity

P	1/3 not covered	344408	1/2
(prefix)		(number)	
P		344403	N/C
P	1/3	344418	N/C

SPECIAL PROVISIONS CREDITS REQUESTED

DAYS
per claim

Geophysical

--Electromagnetic 40

--Magnetometer 20

--Radiometric _____

--Other Gravity 20 - 344408

Geological _____

Geochemical _____

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

ENTER 20 days for each
additional survey using
same grid.

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

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

DATE: April 10/73 SIGNATURE: S. J. McCance
Author of Report or Agent

PROJECTS SECTION

Res. Geol. _____ Qualifications 2.1162

Previous Surveys 63-1670 (6 in & mag) diff
instruments to 1965 L.D.

Checked by _____ date _____

GEOLOGICAL BRANCH _____

Approved by _____ date _____

GEOLOGICAL BRANCH _____

Approved by _____ date _____

EM
 $3 \times 40 = 120 \div (3 + \frac{1}{2})$
= 34.3 days per claim

Mag
 $3 \times 20 = 60 \div (3 + \frac{1}{2})$
= 17.1 days per claim

Gravity
P. 344408 1/2 covered
10 days

TOTAL CLAIMS 3

OFFICE USE ONLY

If space insufficient, attach list

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 108 Number of Readings Mag, 108 EM 99 Gravity 26
Station interval 100 feet
Line spacing 400 feet
Profile scale or Contour intervals Mag. 1" = 200', Turam 1" = 10° phase, 1" = 20% FSR
(specify for each type of survey)
Gravity 1" = 0.5 mgals.

MAGNETIC

Instrument Scintrex MF-2 vertical intensity fluxgate magnetometer
Accuracy - Scale constant ± 0.5% of full scale
Diurnal correction method closed loop system plus base station values
Base station location Base line at line 8W

ELECTROMAGNETIC

Instrument Scintrex SE-71 3 frequency Turam unit
Coil configuration Horizontal
Coil separation 100 feet
Accuracy ± 0.5% FSR, ± 0.25° phase difference
Method: Fixed transmitter Shoot back In line Parallel line
Frequency 400 Hz.
(specify V.L.F. station)
Parameters measured field strength ratio and phase difference

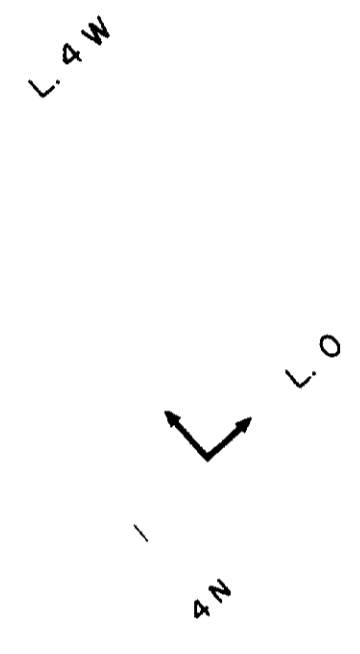
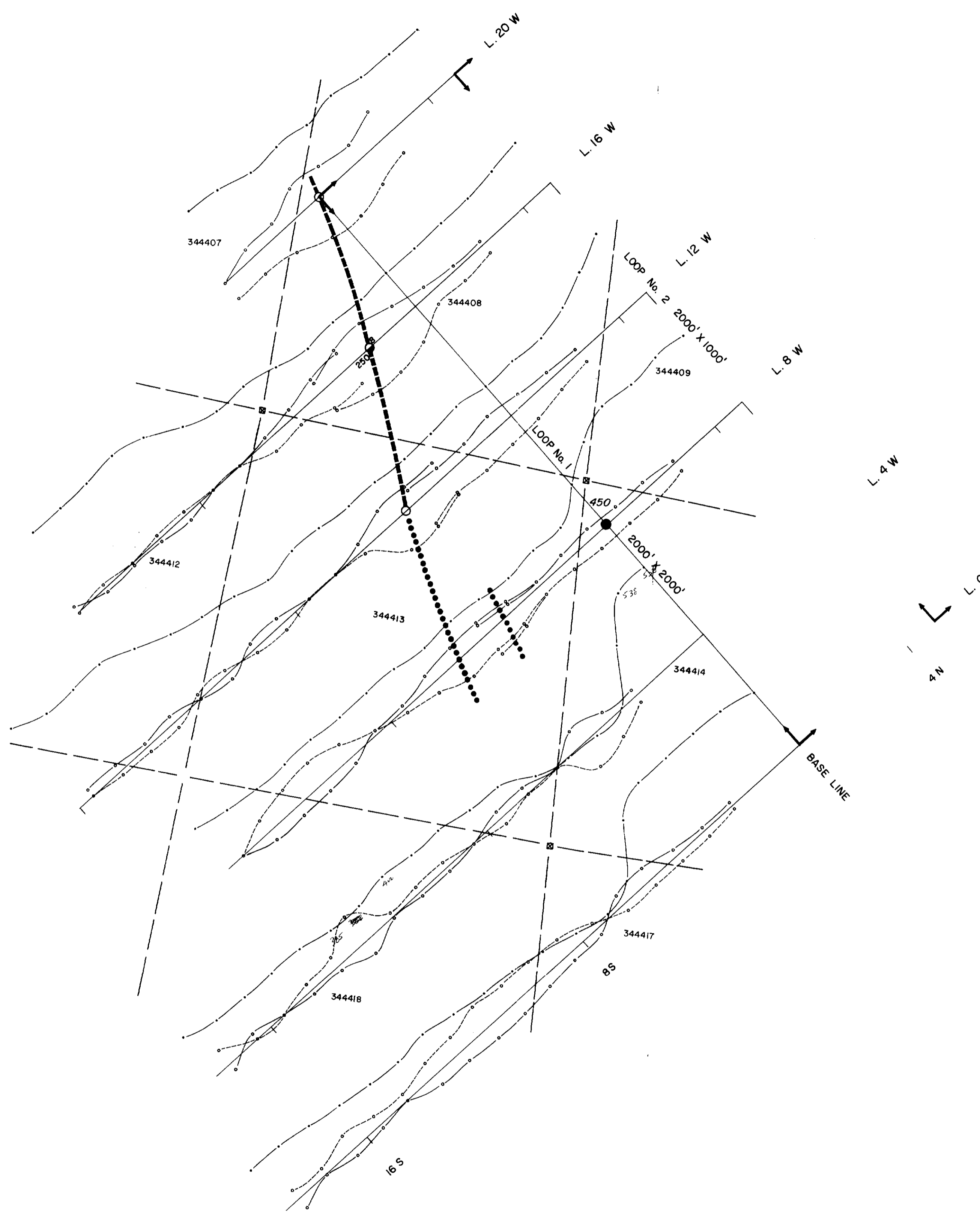
GRAVITY

Instrument Scintrex CG-2 Prospector
Scale constant .09831
Corrections made height, Bouguer
Base station value and location no absolute base station was used

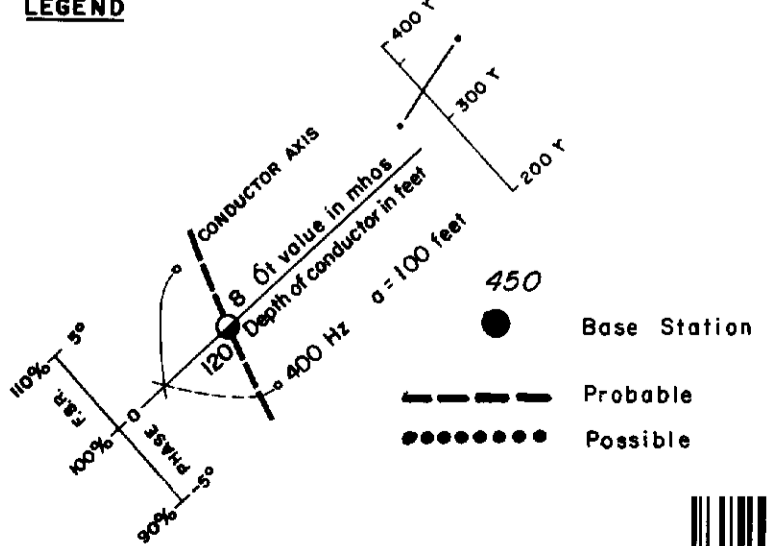
Elevation accuracy 1/10th foot

INDUCED POLARIZATION - RESISTIVITY

Instrument _____
Time domain _____ Frequency domain _____
Frequency _____ Range _____
Power _____
Electrode array _____
Electrode spacing _____
Type of electrode _____




LEGEND

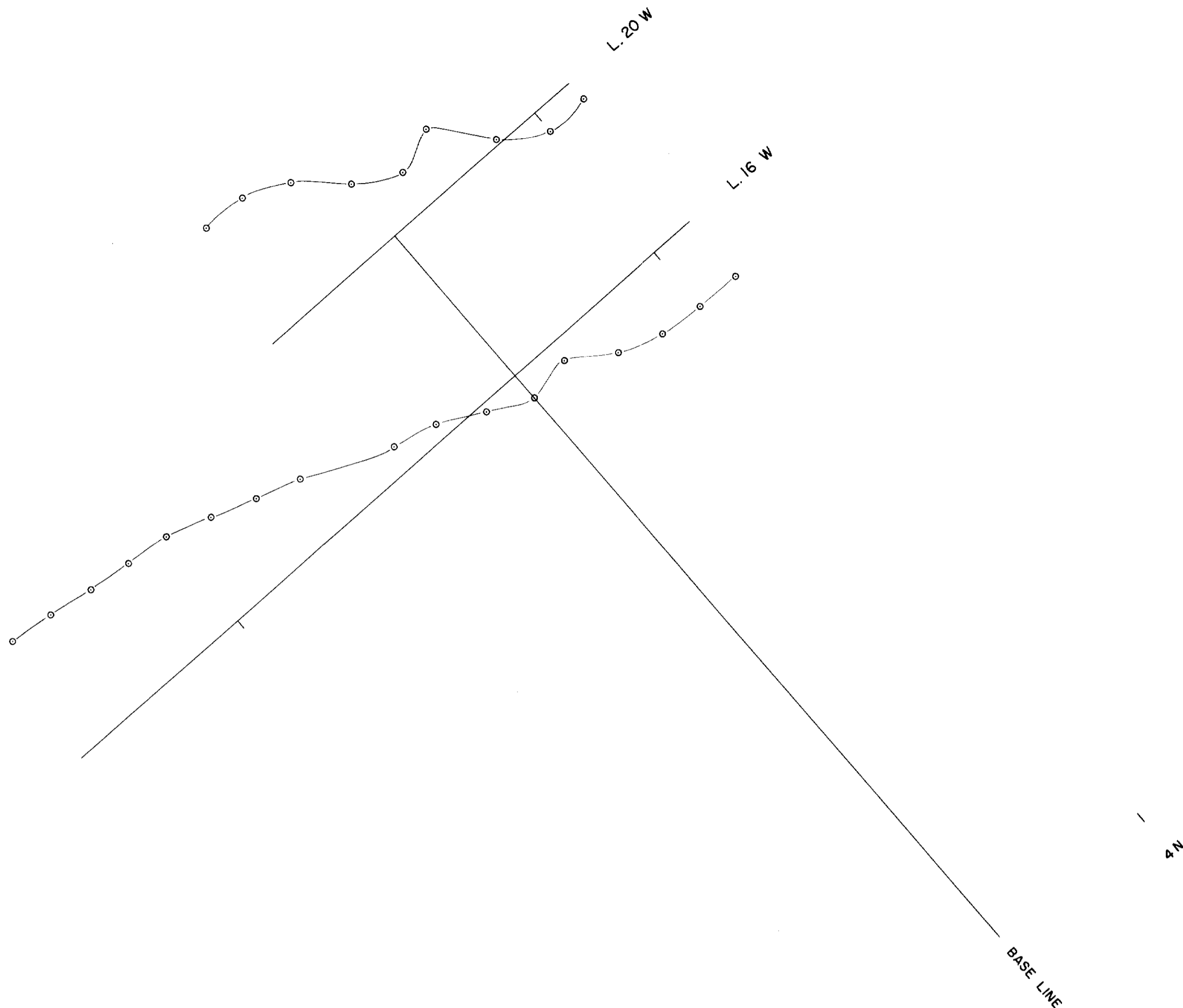


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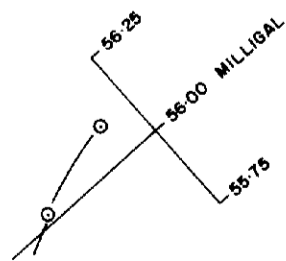
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DUNCAN R. DERRY LIMITED
S. J. McCance


DEEPEX PROJECT - GROUND FOLLOW UP	
GRID No. 8 , MAHAFFY TOWNSHIP TIMMINS AREA, ONTARIO	
TURAM ELECTROMAGNETIC AND MAGNETIC SURVEY SCINTREX SE-71 EM and MF-2 MAGNETOMETER	
SCALE : 1" = 200'	
 SURVEY BY SEIGEL ASSOCIATES LIMITED JUNE - JULY 1972	PLATE 2 E



LEGEND



DUNCAN R. DERRY LIMITED
S. J. McConce

DEEPEX PROJECT - GROUND FOLLOW UP	
GRID No. 8 , MAHAFFY TOWNSHIP TIMMINS AREA, ONTARIO	
GRAVITY SURVEY SCINTREX CG-2 GRAVIMETER	
SCALE : 1" = 200'	
 SURVEY BY SEIGEL ASSOCIATES LIMITED JUNE - JULY 1972	PLATE 2 G

