RI-70001

2192

Assessment Report on Geophysical Work (Induced Polarization) Done on Hudson Bay Mines, Ltd., Property in the Highland Valley, B.C. (121°W, 50°N CLAIMS: BLU 1-48; MO 1-8) Done for Can West Investments, Ltd.

2 November through 15 November, 1969

H.S. Lahman

P. Hirst

Geoscience Incorporated
199 Bent Street
Cambridge, Mass. 02141

January 1970

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

I. INTRODUCTION

During early November, 1969, Geoscience Incorporated undertook an induced polarization survey of the Hudson Bay Mines property in the Highland Valley, B.C. This work was done under contract to Can West Investments, Ltd., of Vancouver, B.C. The objective of the survey was reconnaissance inspection of the property for possible anomalous zones which might reflect metallic mineralization.

Standard frequency domain equipment was employed. The current transmitter was a Geoscience model T2800 and the receiver was a Geoscience model 401. A dipole-dipole array was employed throughout with dipole lengths of 400 ft center to center and separations of two and three dipole lengths. Ten line miles of survey were carried out.

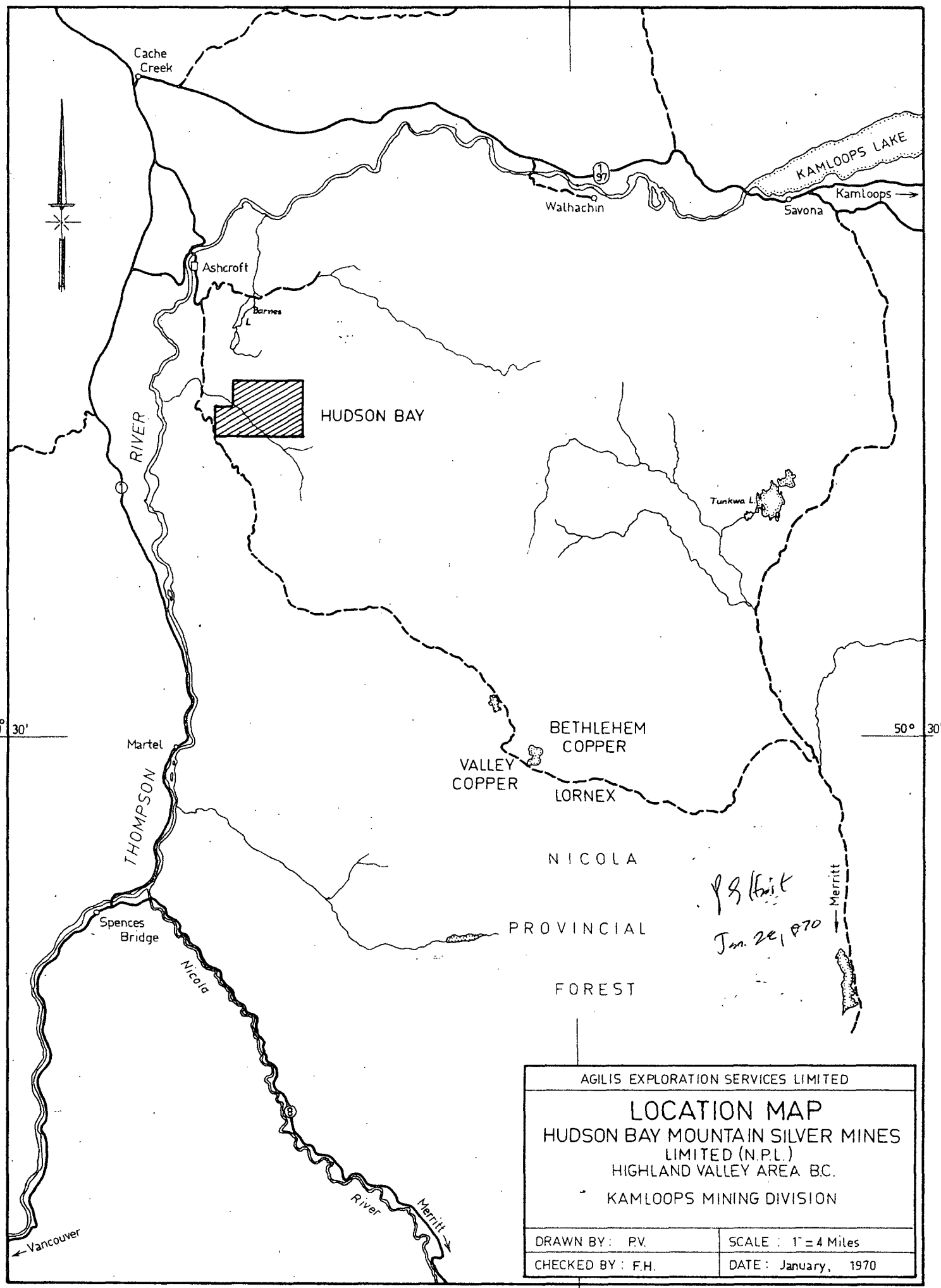
Weather was a factor which slowed work considerably.

II. DISCUSSION

Apparent resistivities were quite high over the area (generally in excess of 1000 ohm-meters). This tends to indicate a thin overburden over rocks of quite low porosity. Background frequency effects appear to be on the order of 0.8 to 1.2%. The metal conduction factors rarely exceeded 1.0. The apparent frequency effect values are typical background values found in the Highland Valley. The metal conduction factors are low for even background values in the Valley.

Two lines (24S and 16S) showed small, very faint trace anomalies. These anomalies were quite weak even by Highland Valley standards. These anomalies are sufficiently small so that it is quite probable that they reflect changes in depth or sand/clay ratios of the overburden.

The lack of significant anomalies and generally low apparent frequency effects and metal conduction factors indicates a low probability of finding a significant amount of metallic mineralization on this property.



Jan. 28, 1970

AGILIS EXPLORATION SERVICES LIMITED

LOCATION MAP

HUDSON BAY MOUNTAIN SILVER MINES LIMITED (N.P.L.)

HIGHLAND VALLEY AREA B.C.

KAMLOOPS MINING DIVISION

DRAWN BY : P.V.	SCALE : 1" = 4 Miles
CHECKED BY : F.H.	DATE : January, 1970

N.T.S. 92-I

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 2192 MAP #1

I, M.P. STADNYK, of 1770 Hornby St., Vancouver, B.C. do declare that the following costs were incurred on an Induced Polarization Survey performed on the following mineral claims :-

BLU 1-48 (75537-75584)
MO 1-8 (82281-82288)

situated in the Kamloops Mining Division, Highland Valley, B.C. Claims owned by Hudson Bay Mountain Silver Mines Ltd.(NPL) Survey performed by Geoscience Incorporated of Cambridge, Massechusetts, U.S.A.

LABOUR

G. Ryan (Party Chief) Nov 2-15/69.	14 days @ $80 per day	$1120.00	
D. Baker Nov 2-15/69.	14 days @ $27 per day	378.00	
J. Curtis Nov 2-4/69.	2 days @ $26 per day	52.00	
B. Phillips Nov 2-4/69.	2 days @ $26 per day	52.00	
E. Sears Nov 2-15/69.	14 days @ $30 per day	420.00	
G. Cole Nov 2-10/69.	8 days @ $70 perday	560.00	
G. Wong Nov 2-15/69.	14 days @ $26 per day	364.00	
			$2946.00

REPORT INTERPRETATION AND PREPARATION

K. Vozoff (Geophysist)	½ day @ $220 per day	$ 110.00	
H. Lahman (")	1 day @ $115 per day	115.00	
J. Cincotti (Draftsman)	1 day @ $65 per day	65.00	
			$ 290.00

DIRECT COSTS

Truck Rental GMC 3/4 Ton 4x4 Panel	14 days @ $14 per day	$ 196.00	
Oil, gas, repairs, mileage,	14 days @ $5 per day	70.00	
Rental I.P. Equipment	14 days @ $50 per day	700.00	
Lodgings (Hotel)	68 days @ $15 per day	1020.00	
Equipment, repairs and sundries		200.00	
General and Administrative Expenses @ 15%		810.00	
			$6232.00

Declared before me at the City

of Vancouver, in the

Province of British Columbia, this 28

day of January, 1970, A.D.

M P Sladnyk

L Jeannotte

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

Sub-mining Recorder

APPENDIX I

Line-By-Line Results

INDUCED POLARIZATION SURVEY

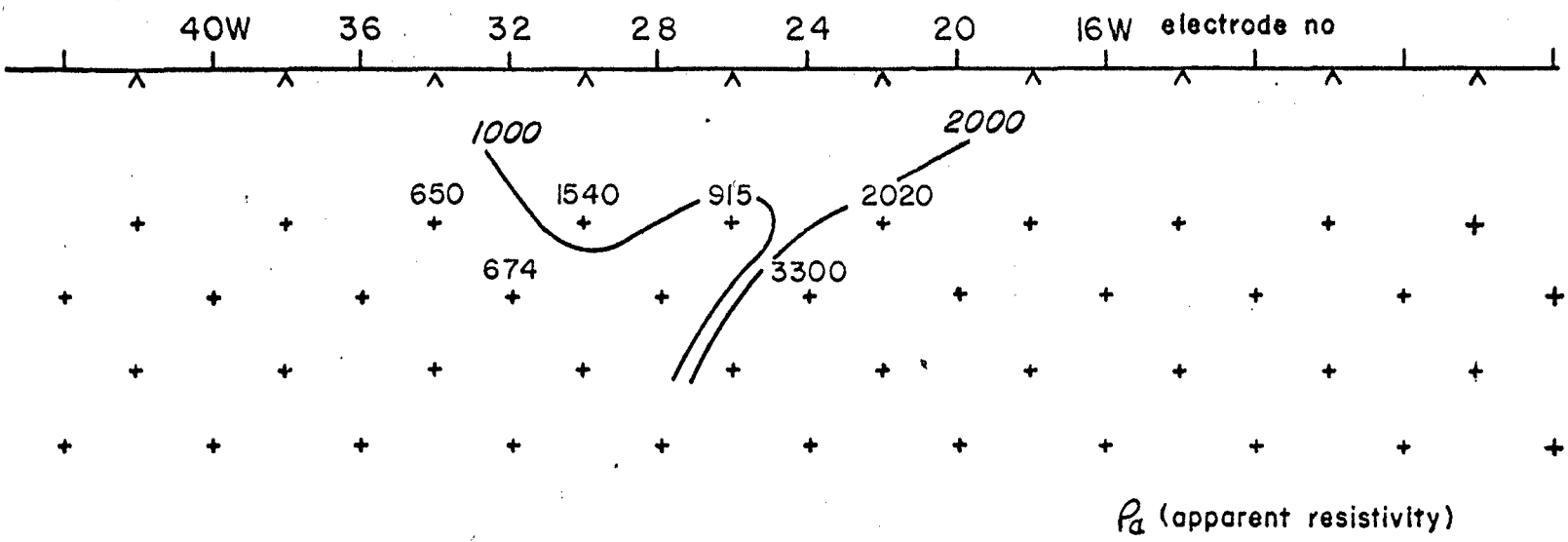
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

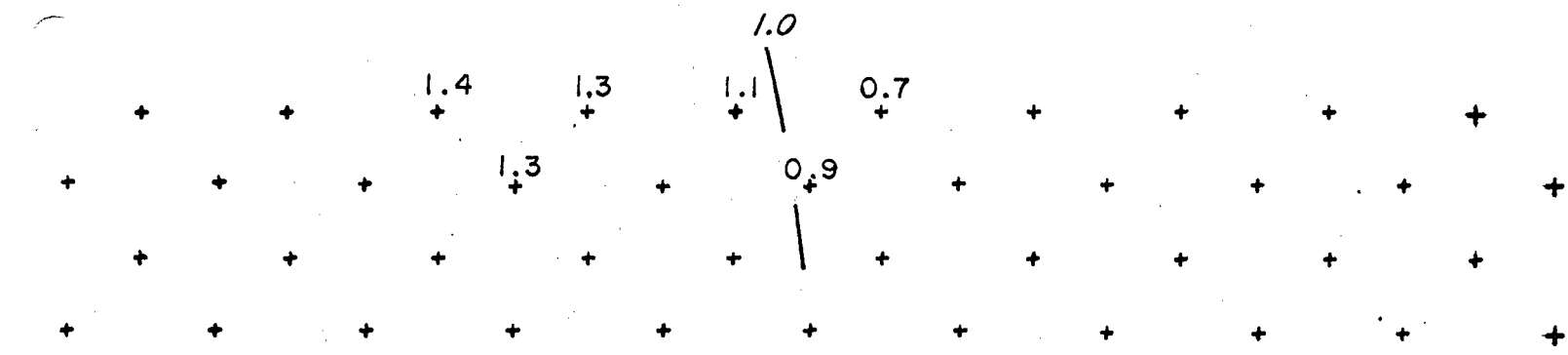
line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

location HIGHLAND VALLEY
map ref.
line no. 24S
bearing

date NOV. 69



ρ_a (apparent resistivity)



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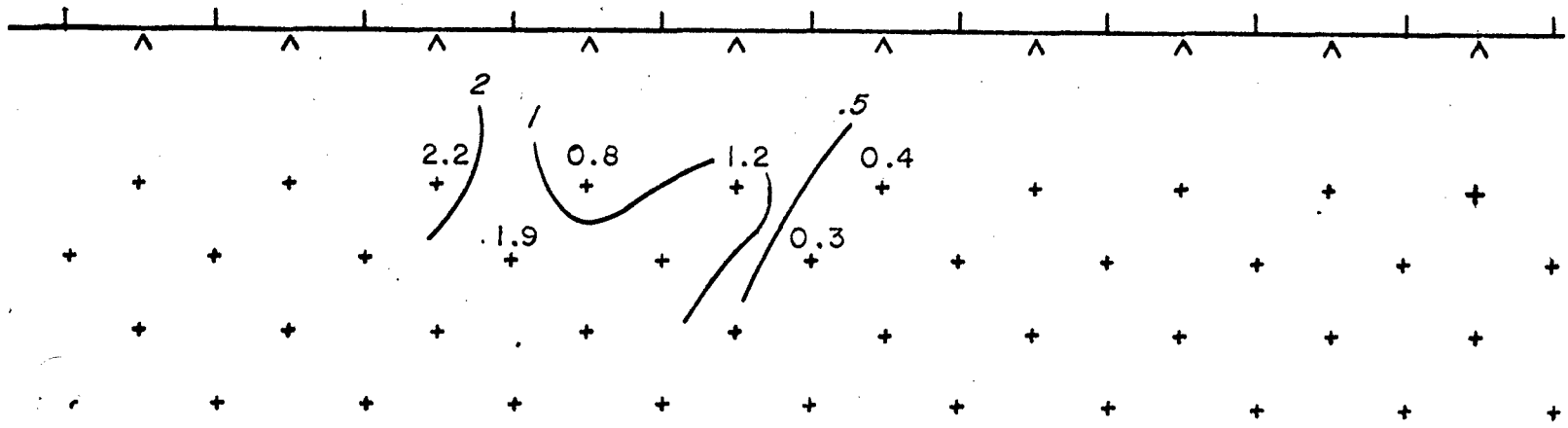


$(M.F.)_a$ Metal Factor

continued from sheet ____ on sheet ____

SEE FIELD WORKSHEET

INDUCED POLARIZATION SURVEY

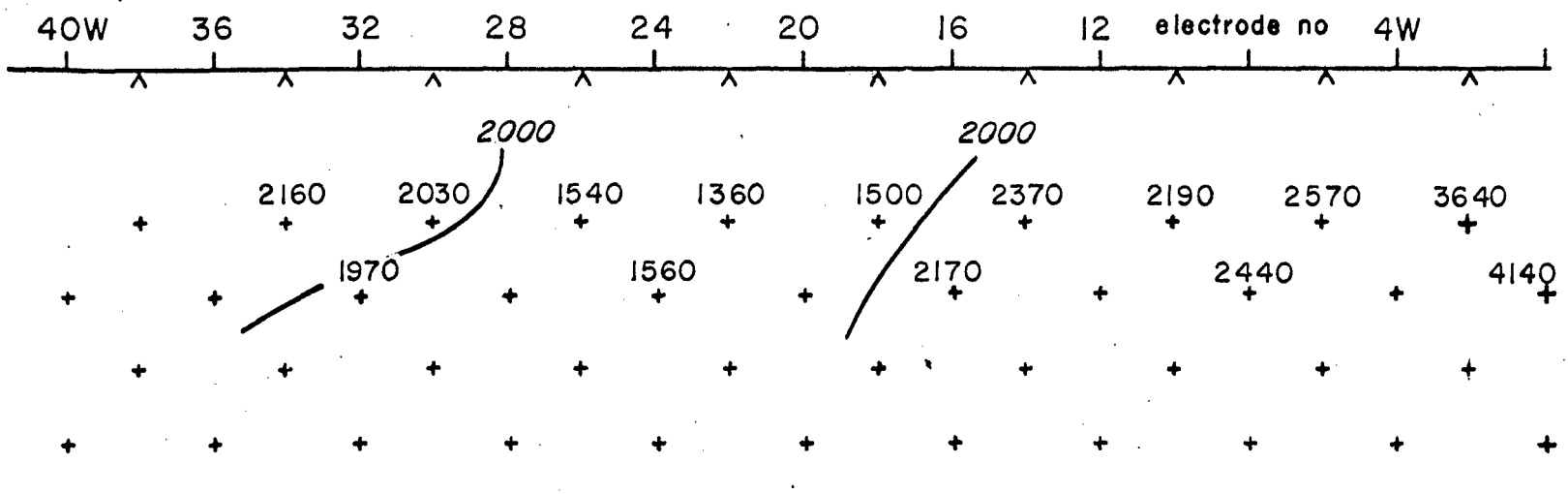
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

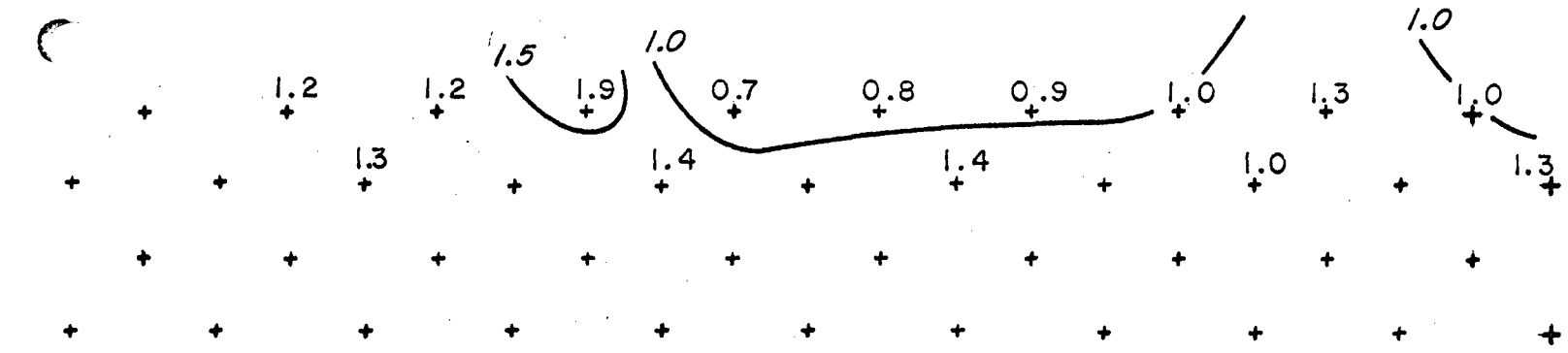
date NOV. 69

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

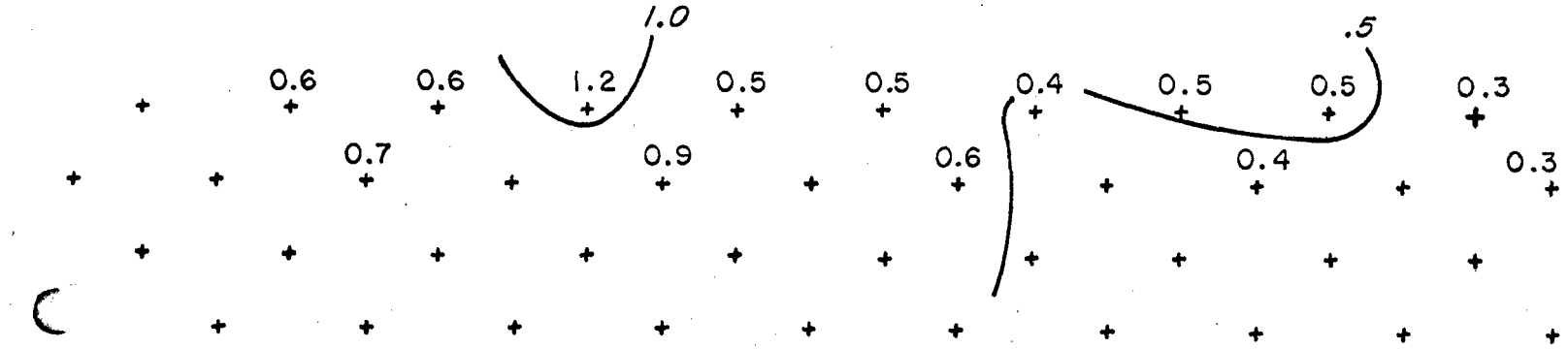
location HIGHLAND VALLEY
map ref.
line no. 16S
bearing



ρ_a (apparent resistivity)



% FE Frequency effect



$(M.F.)_a$ Metal Factor

continued from sheet ____ on sheet ____

SML FLD WORKSHEET

INDUCED POLARIZATION SURVEY

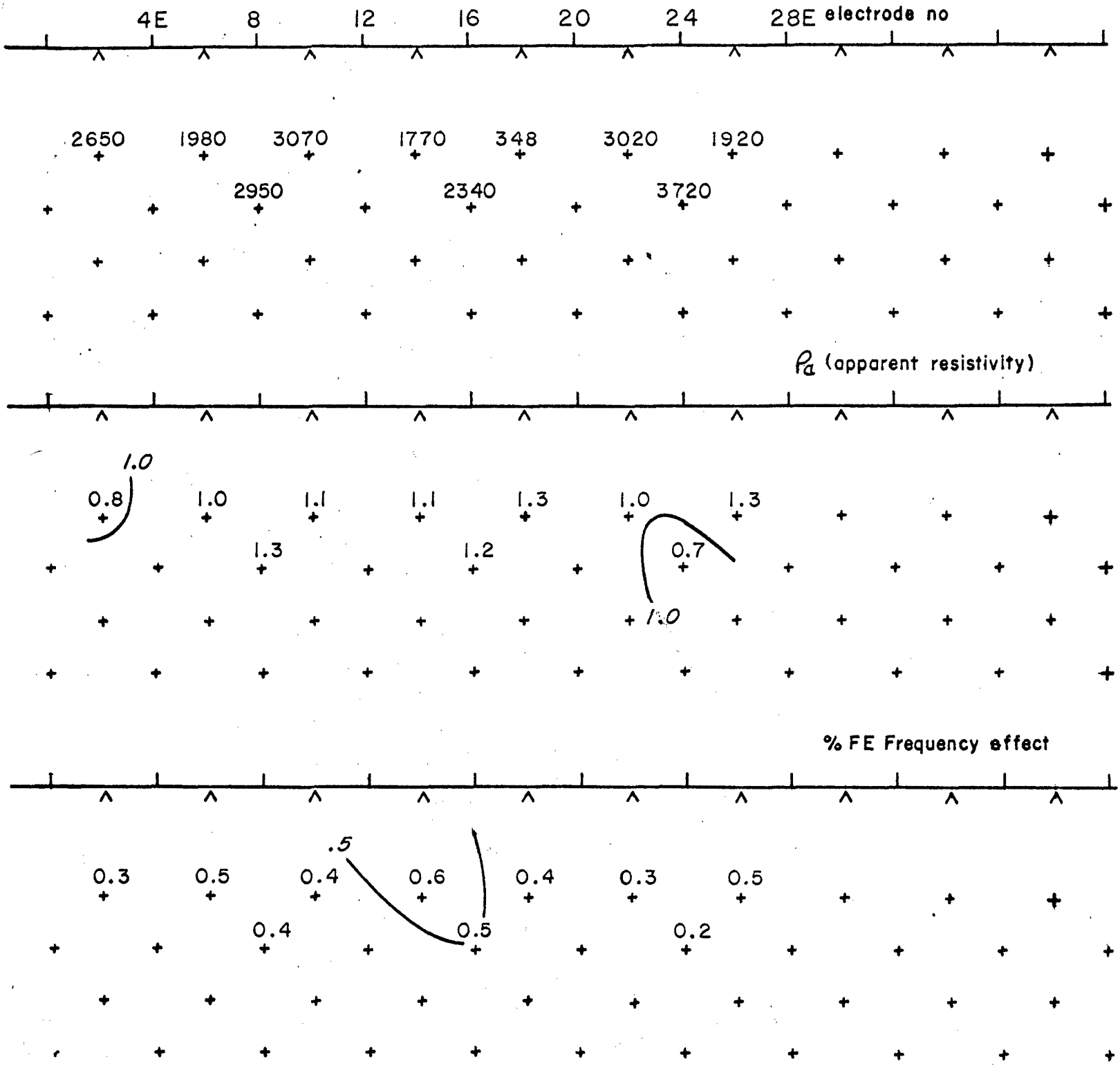
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

date NOV. 69

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

location HIGHLAND VALLEY
map ref.
line no. 16 S
bearing



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SML FLD WORKSHEET

INDUCED POLARIZATION SURVEY

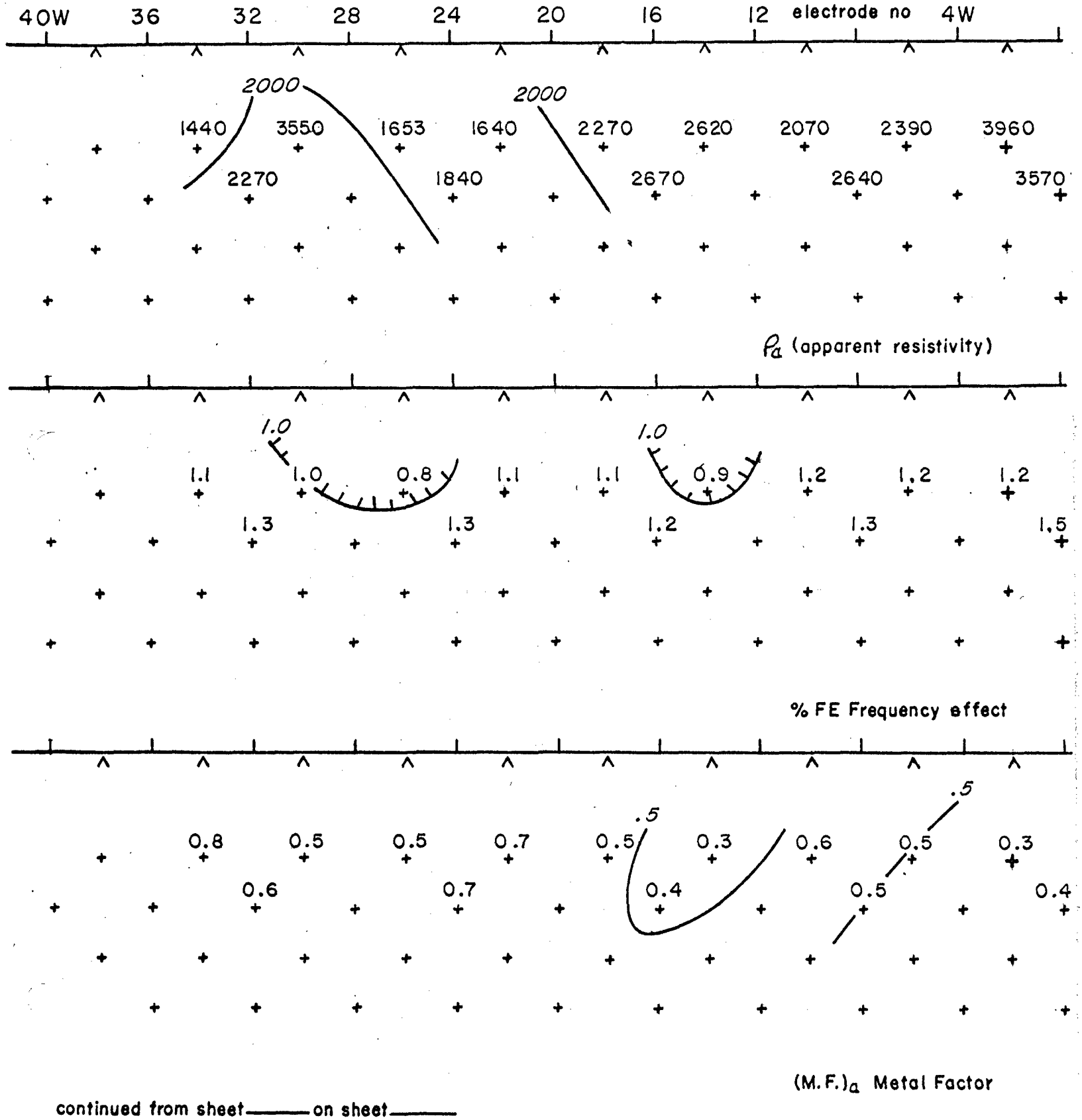
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

date NOV. 69

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

location HIGHLAND VALLEY
map ref.
line no. 8 S
bearing



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SML FLD WORKSHEET 11/66

INDUCED POLARIZATION SURVEY

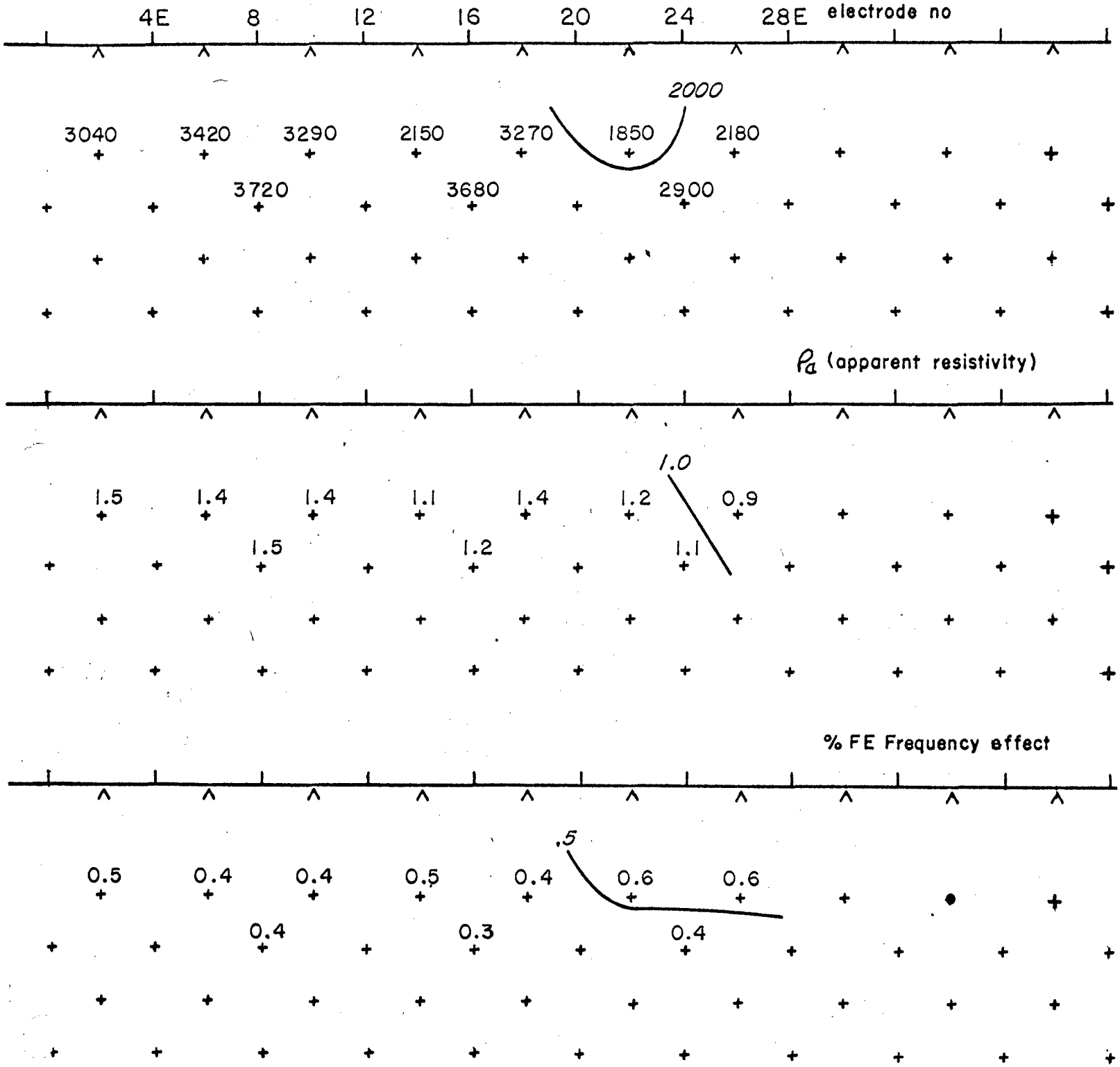
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

date NOV. 69

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

location HIGHLAND VALLEY
map ref.
line no. 8S
bearing



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SML FLD WORKSHEET

INDUCED POLARIZATION SURVEY

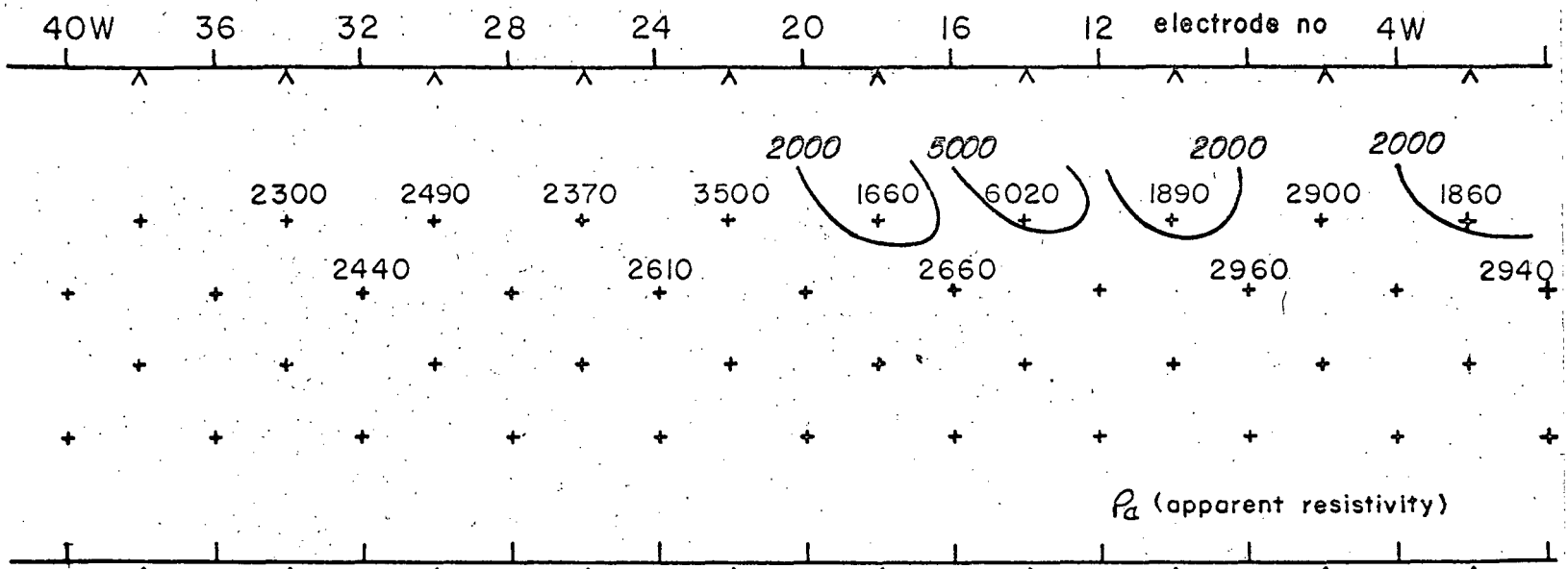
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

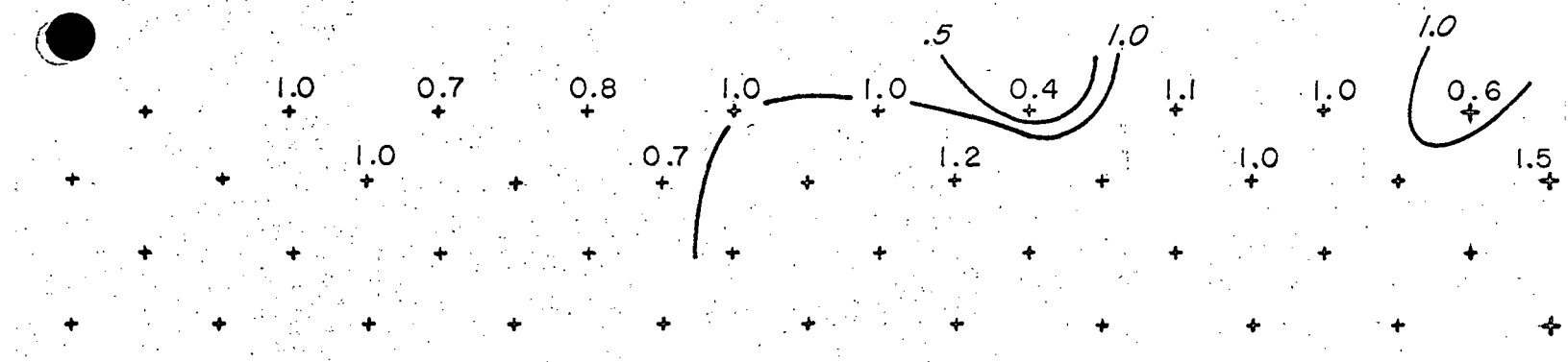
line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

location HIGHLAND VALLEY
map ref.
line no. 00
bearing

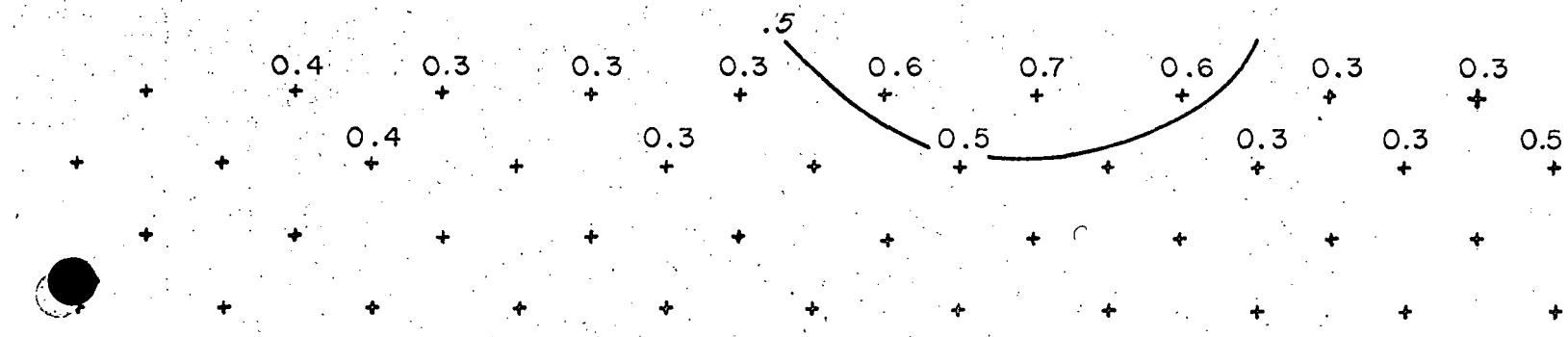
date NOV. 69



ρ_a (apparent resistivity)



% FE Frequency effect



$(M.F.)_a$ Metal Factor

continued from sheet _____ on sheet _____

SML FLD WORKSHEET

INDUCED POLARIZATION SURVEY

Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

line location HUDSON BAY
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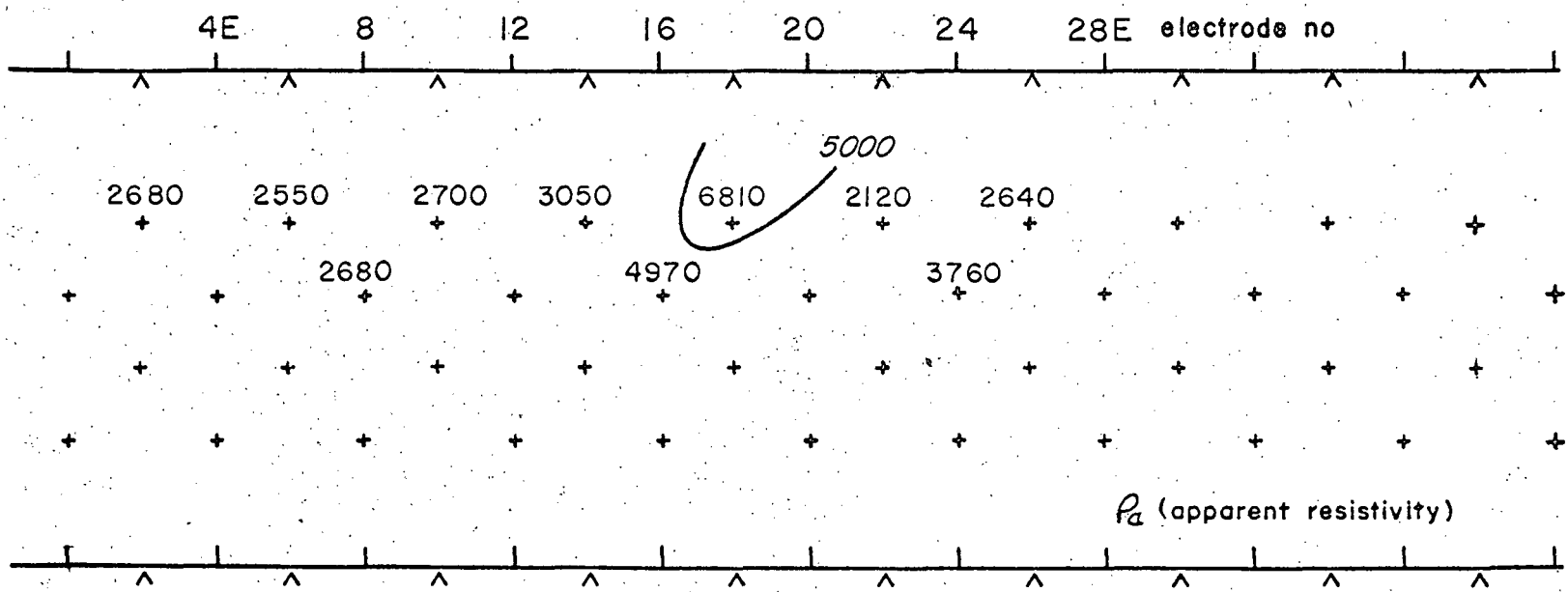

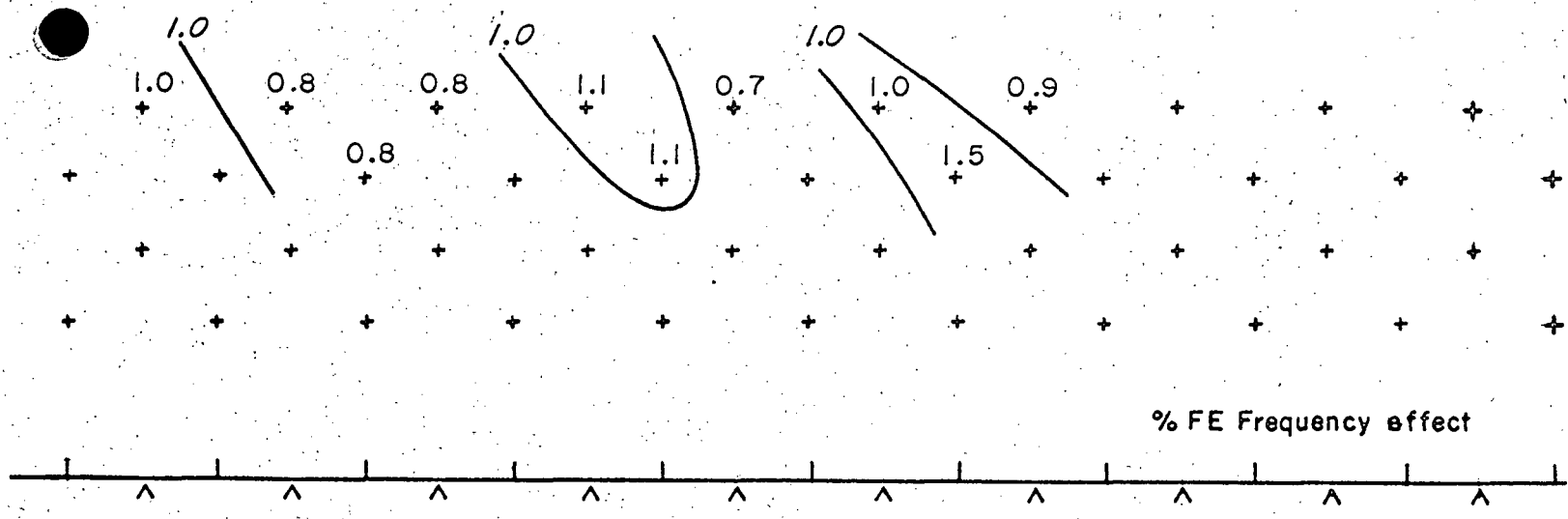

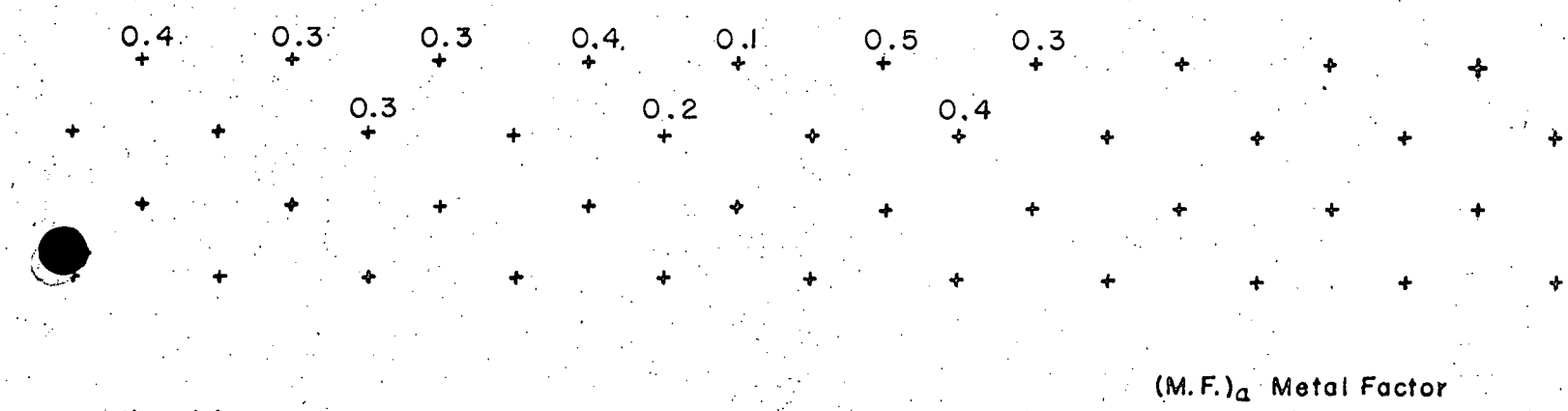

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SML FLD WORKSHEET

INDUCED POLARIZATION SURVEY

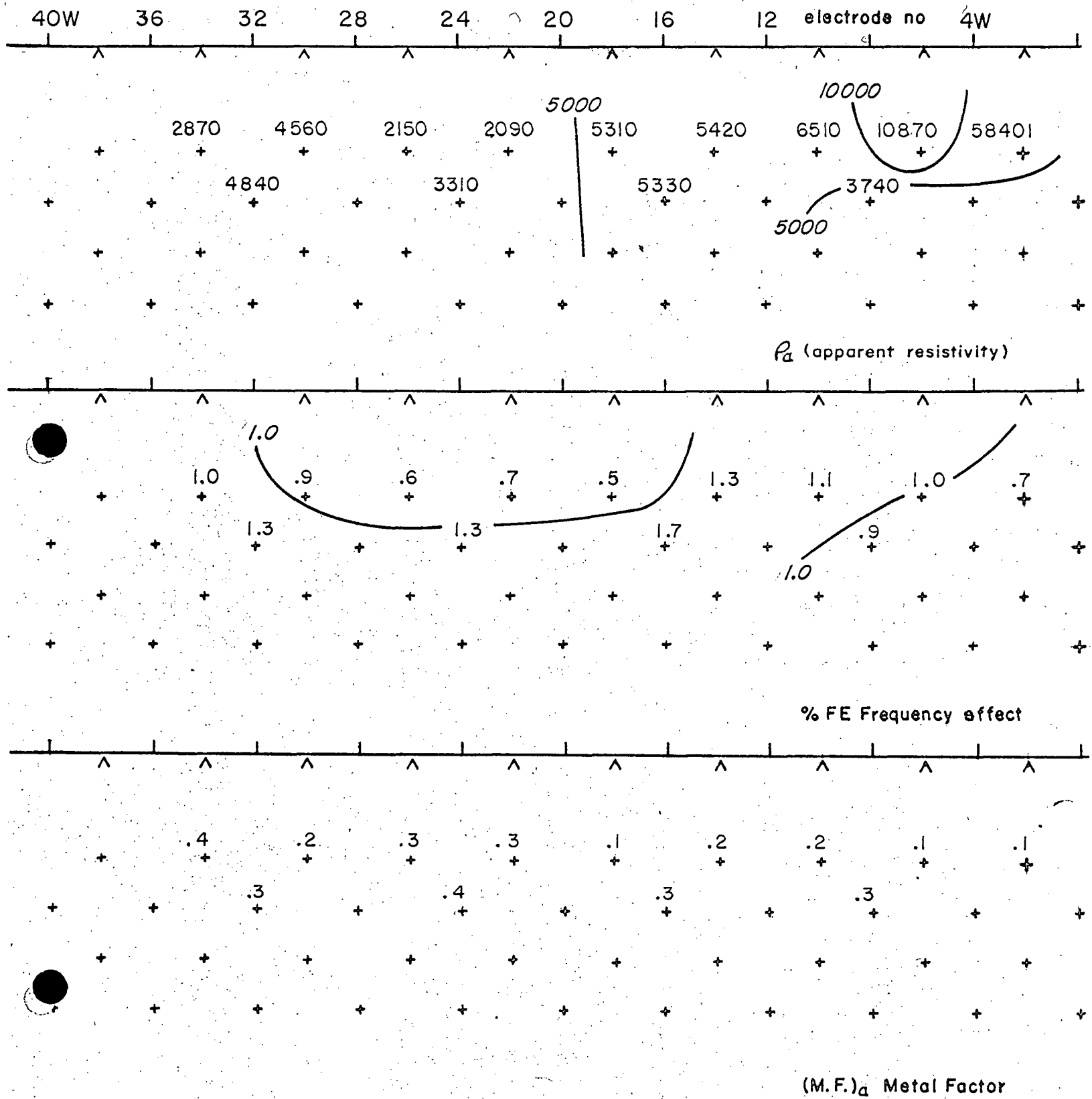
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

date NOV. 69

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

location HIGHLAND VALLEY
map ref.
line no. 8 N
bearing



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SMI FLD WORKSHEET

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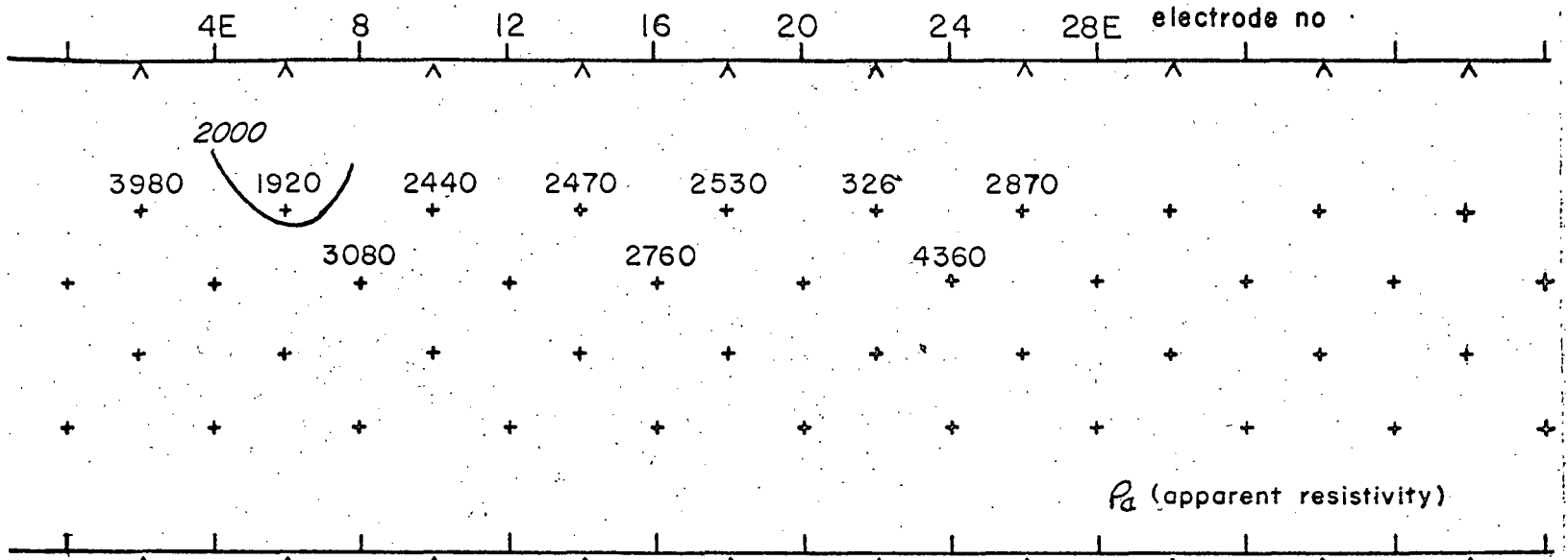
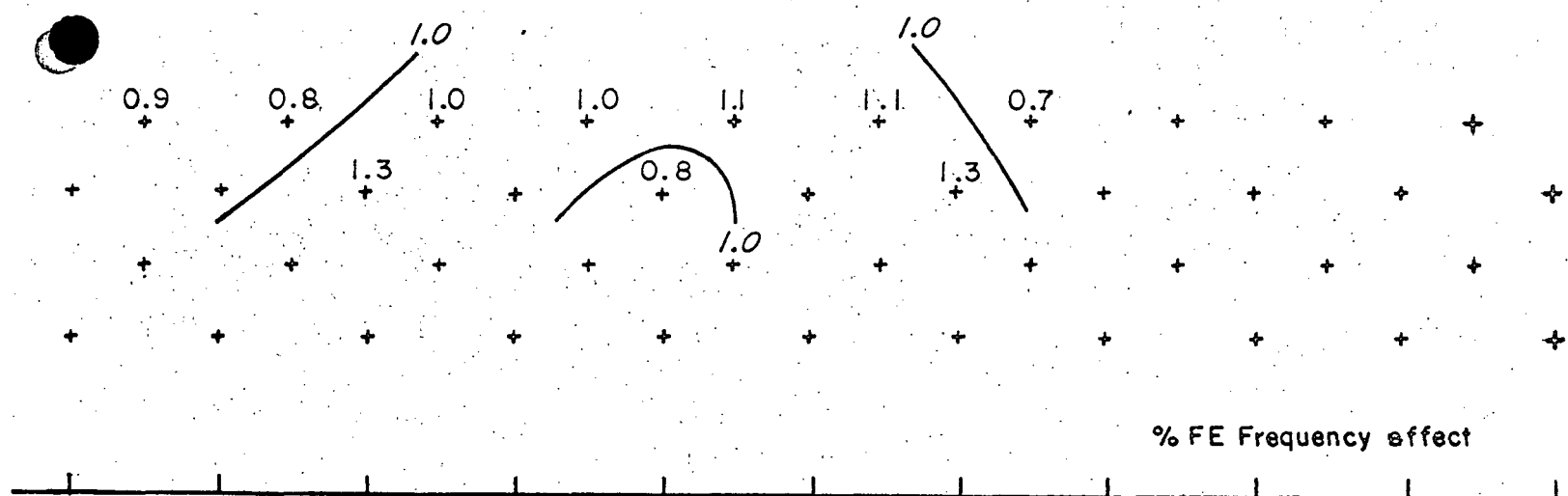
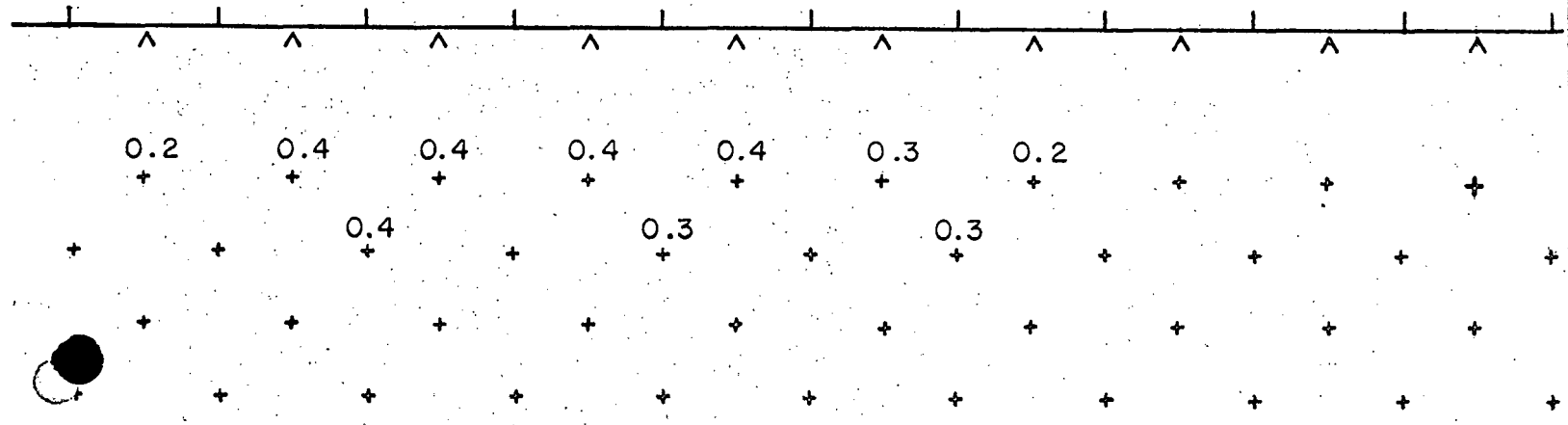
map ref.
line no. 8N
bearing







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INDUCED POLARIZATION SURVEY

Geoscience Incorporated

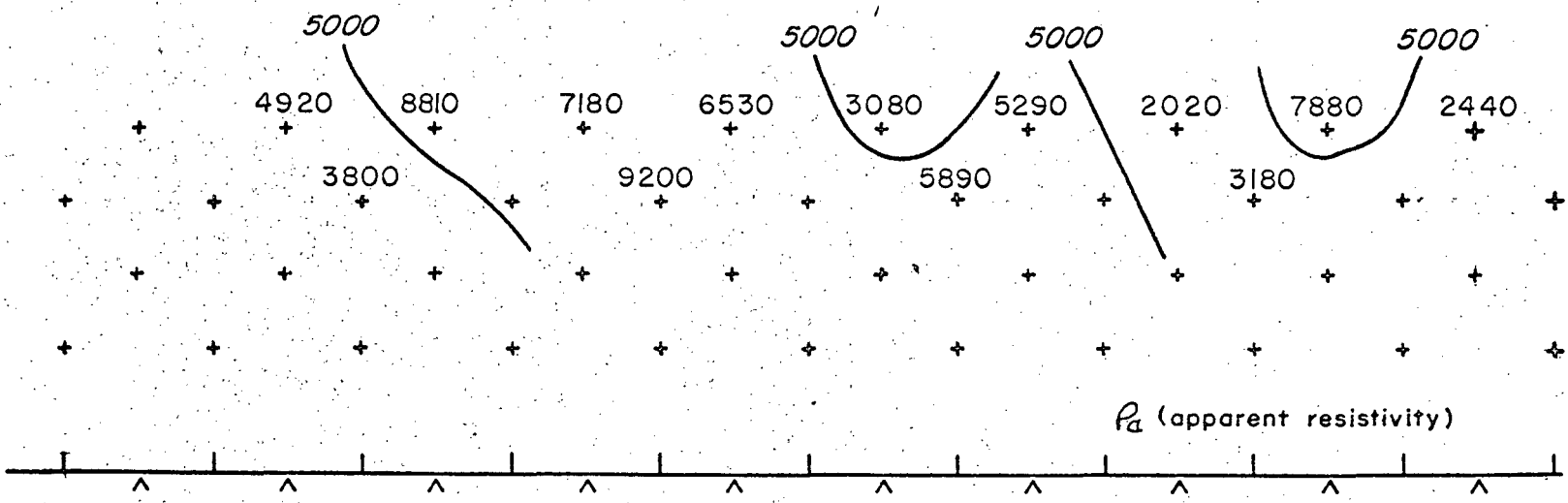
199 BENT STREET, CAMBRIDGE, MASS, 02141

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

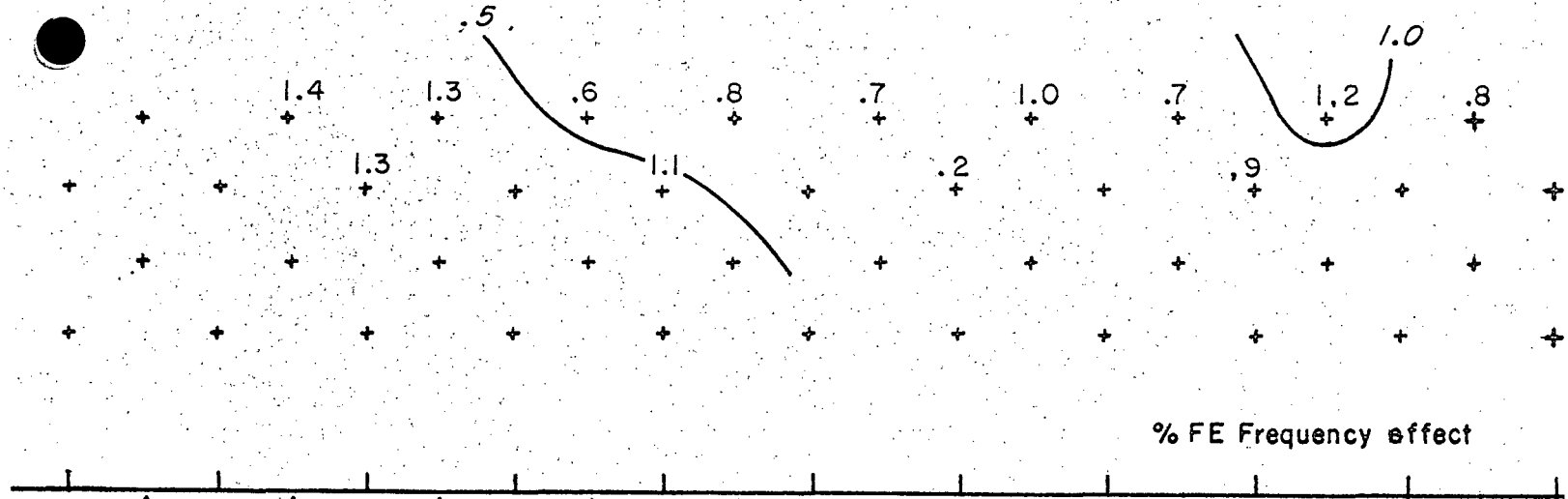
location HIGHLAND VALLEY
map ref.
line no. 16 N
bearing

date NOV. 69

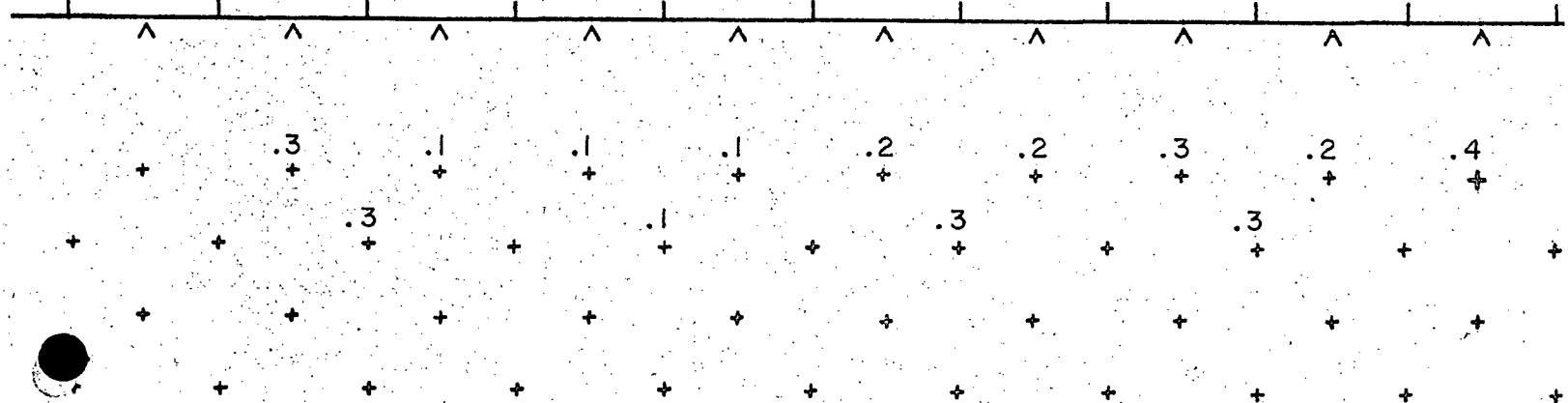
40W 36 32 28 24 20 16 12 electrode no 4W



ρ_a (apparent resistivity)



% FE Frequency effect



$(M.F.)_a$ Metal Factor

continued from sheet _____ on sheet _____

SML FLD WORKSHEET

INDUCED POLARIZATION SURVEY

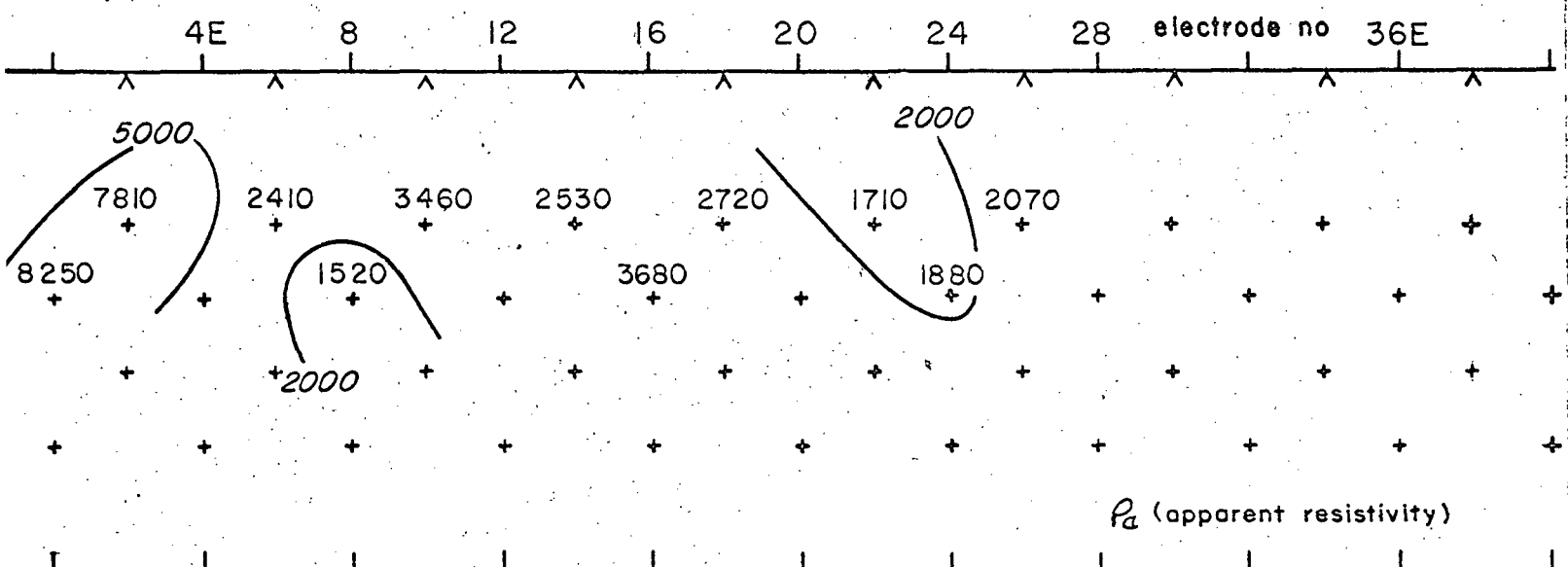
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

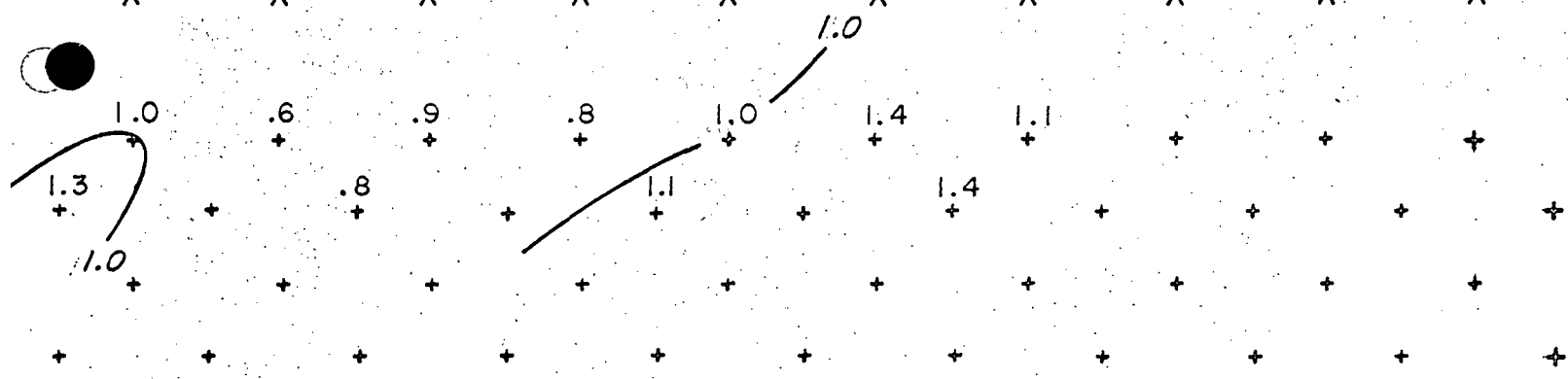
date NOV. 69

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

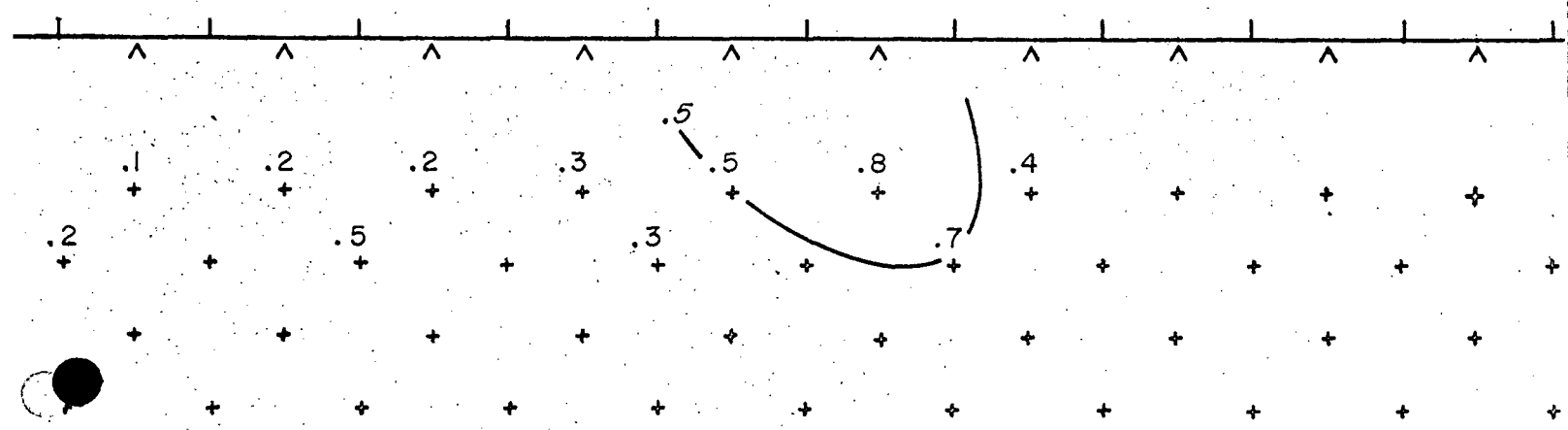
location HIGHLAND VALLEY
map ref.
line no. 16 N
bearing



ρ_a (apparent resistivity)



% FE Frequency effect



$(M.F.)_a$ Metal Factor

continued from sheet _____ on sheet _____

SML FLD WORKSHEET

INDUCED POLARIZATION SURVEY

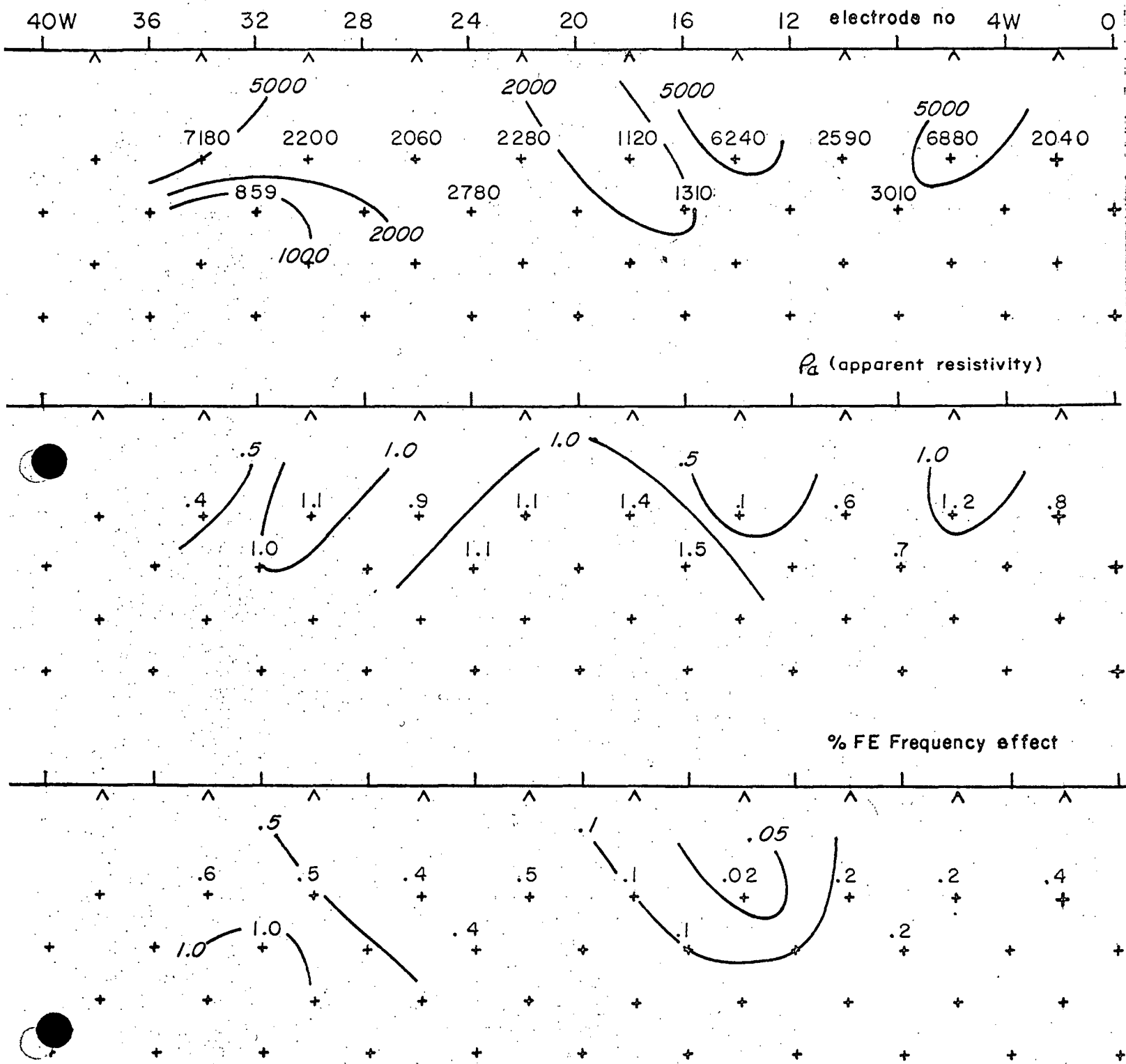
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

date NOV.69

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

location HIGHLAND VALLEY
map ref.
line no. 24N
bearing



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SMI FLD WORKSHEET

INDUCED POLARIZATION SURVEY

Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

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line location HUDSON BAY
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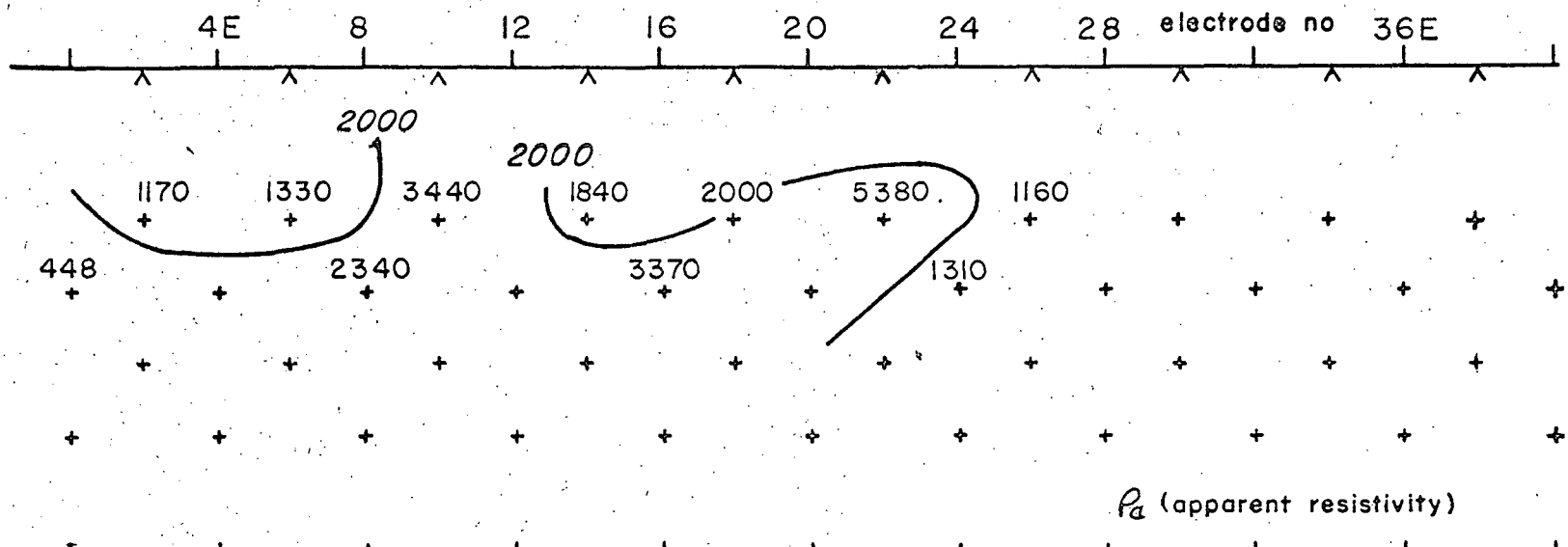
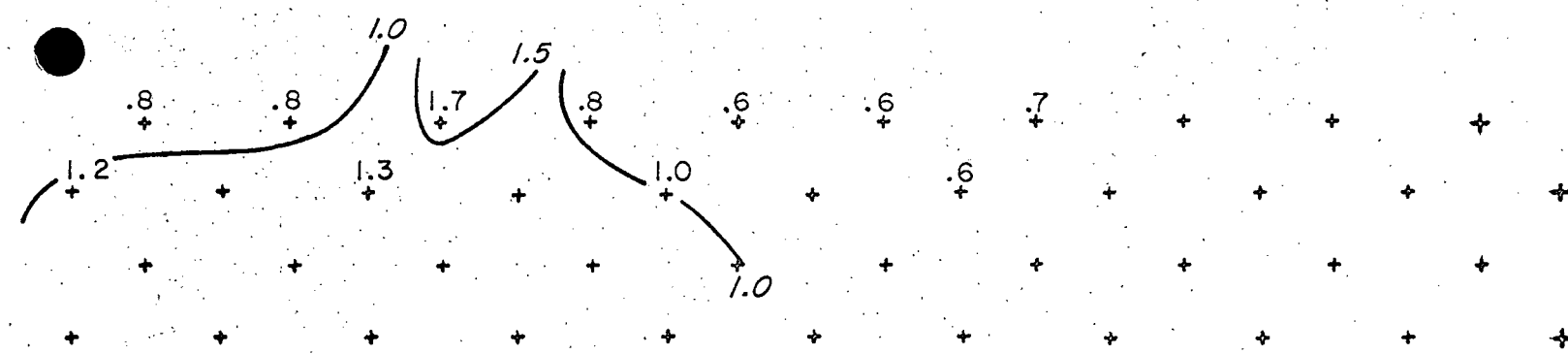
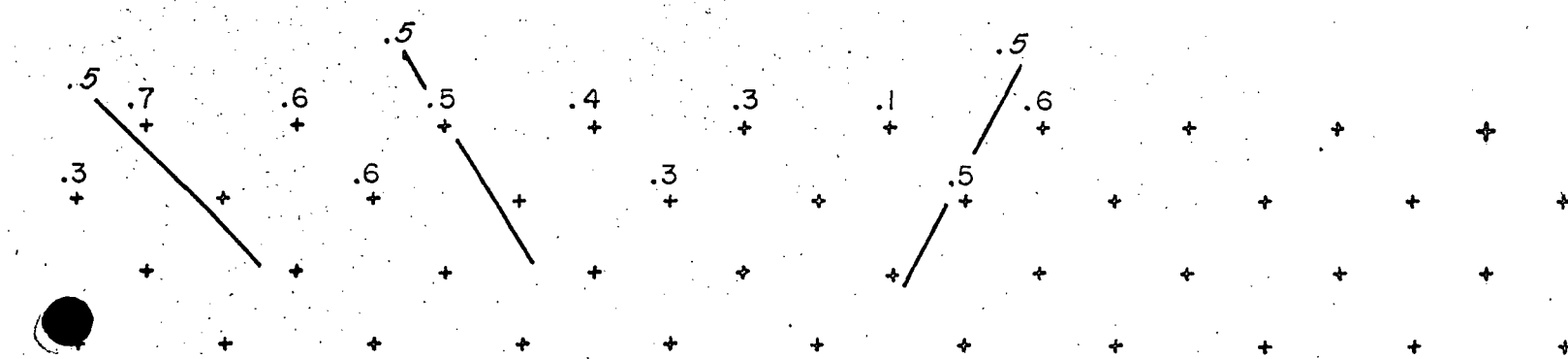


ρ_a (apparent resistivity)



% FE Frequency effect



$(M.F.)_a$ Metal Factor

continued from sheet ____ on sheet ____

SML FLD WORKSHEET

INDUCED POLARIZATION SURVEY

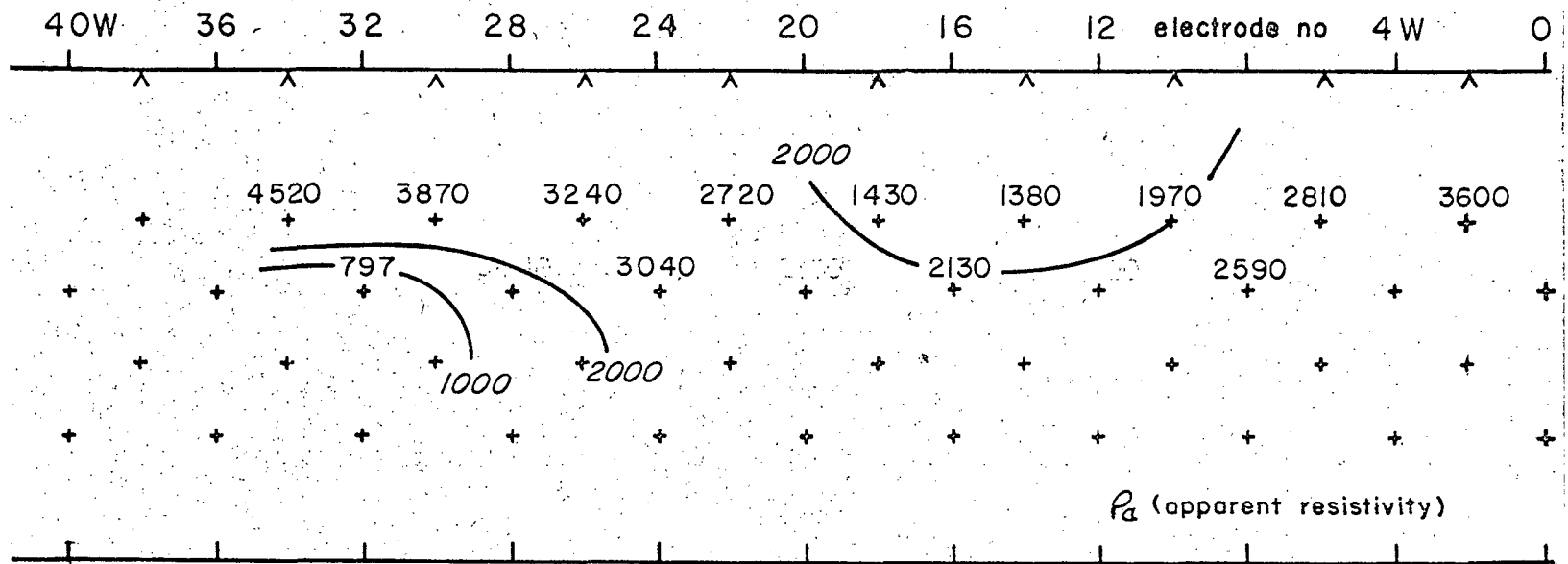
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

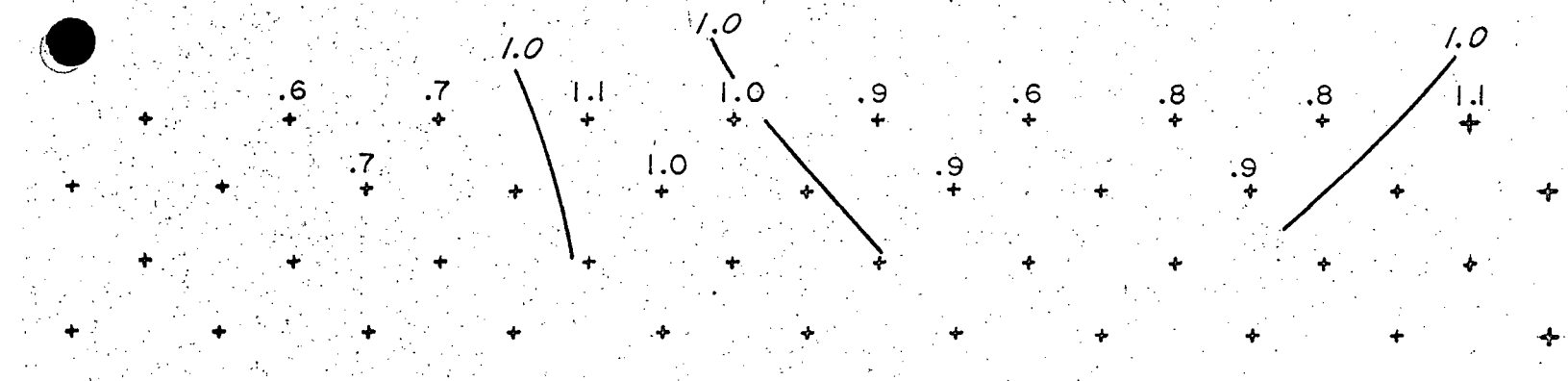
date NOV. 69

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

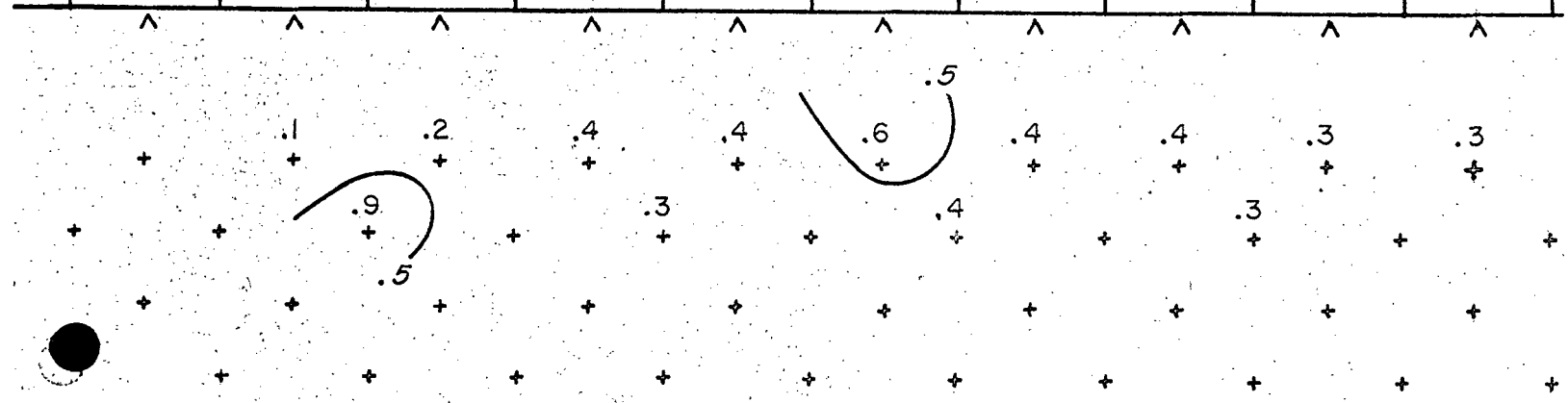
location HIGHLAND VALLEY
map ref.
line no. 32 N
bearing



ρ_a (apparent resistivity)



% FE Frequency effect



$(M.F.)_a$ Metal Factor

continued from sheet ____ on sheet ____

SMI FLD WORKSHEET

INDUCED POLARIZATION SURVEY

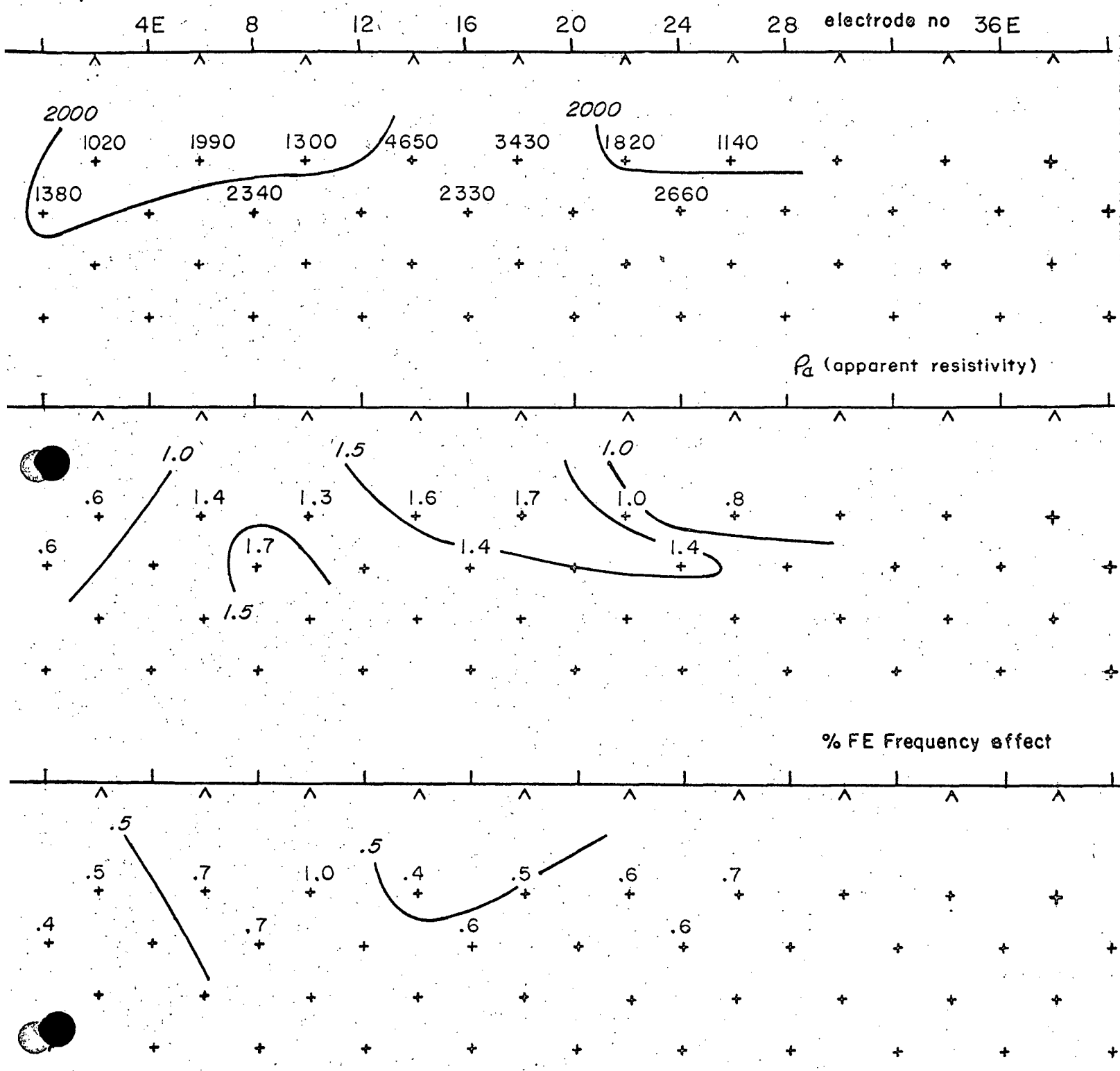
Geoscience Incorporated

199 BENT STREET, CAMBRIDGE, MASS, 02141

date NOV. 69

line location HUDSON BAY
frequencies 3 & .3 cps
dipole length 400'
operators

location HIGHLAND VALLEY
map ref.
line no. 32 N
bearing



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SML FLD WORKSHEET

APPENDIX II

Biography of Personnel Not Registered as Geologist/Geophysicist in British Columbia

HOWARD S. LAHMAN

Senior Geophysicist

Education: B.S., Geology, Massachusetts Institute of Technology

Since joining Geoscience in 1964, Mr. Lahman has had wide experience in all electrical prospecting methods, especially deep crustal resistivity, induced polarization, and Magnetotellurics (both analog and digital systems). In these areas he has experience in field work, data reduction, and data interpretation. He also has field experience in other techniques of geophysical exploration, such as gravity surveys, and has worked in equipment production and maintenance.

HOWARD S. LAHMAN

Electrical Properties of Basement Rock from Deep Resistivity Measurements (April 1968), 49th Annual Meeting of AGU, (with Arnold Orange and Keeva Vozoff).

Detailed Gravity Results on Iron Formation, Tibito, Colombia, S.A. (1966), in preparation for Corporacion Minera Colombiana, (with Keeva Vozoff).

Induced Polarization as a Geophysical Method (1966), Geoscience Publication, (with Keeva Vozoff).

Deep Resistivity Results from D.C. Ground Tests at Hoover Dam (1965), Air Force Contract AF19(628)-2351, Scientific Report No. 6, (with Keeva Vozoff).

Deep Resistivity Results from Six Pre-Cambrian Areas of the Western U.S. (1965), Air Force Contract AF19(628)-2351, Scientific Report No. 7, (with Arnold Orange and Keeva Vozoff).

Deep Resistivity Investigations in the Continental United States (1965), Air Force Contract No. AF19(628)-2351, Scientific Report No. 8, (Final Report) (with Arnold Orange and Keeva Vozoff).

Deep Resistivity Results from North Carolina, Virginia, Pennsylvania, Wisconsin, and Missouri (1964), Air Force Contract AF19(628)-2351, Scientific Report No. 5 (with Philip Nelson).

Guide for Plotting, Manipulation, and Interpretation of Pole-Dipole and Dipole-Dipole Master Curves (1964), Geoscience Bulletin.

GEORGE RYAN

Geophysical Technician

Geophysical Experience:

Geoscience, Inc. Cambridge, Mass.

1965 - present.

Duties - George Ryan has operated on various geophysical field crews: resistivity; magneto-tellurics; electromagnetics; ground magnetometers; and induced polarization. He has had field experience throughout the continental United States and the Ivory Coast. In addition to field responsibilities, he has both constructed and repaired geophysical equipment.

GEOFFREY COLE

Geophysicist

Geophysical Experience

Bureau of Mineral Resources Darwin, N. T.

December 1961 - April 1963
Geophysical Assistant (Darwin Uranium Group)

Duties - Assisting Government Geophysicists with all stages of geophysical surveys and interpretation including E.M., Self-Potential, Radiometric, Magnetic and Resistivity.
Operation, maintenance and interpretation of results from the Darwin Seismic Observatory.
Radiometric assaying.
Radiometric logging of diamond drill holes.
Servicing and maintenance of geophysical equipment.

Western Mining Corporation Kalgoorlie, W. A.

April 1963 - May 1965
Geophysical Party Chief and later Assistant to Chief Geophysicist

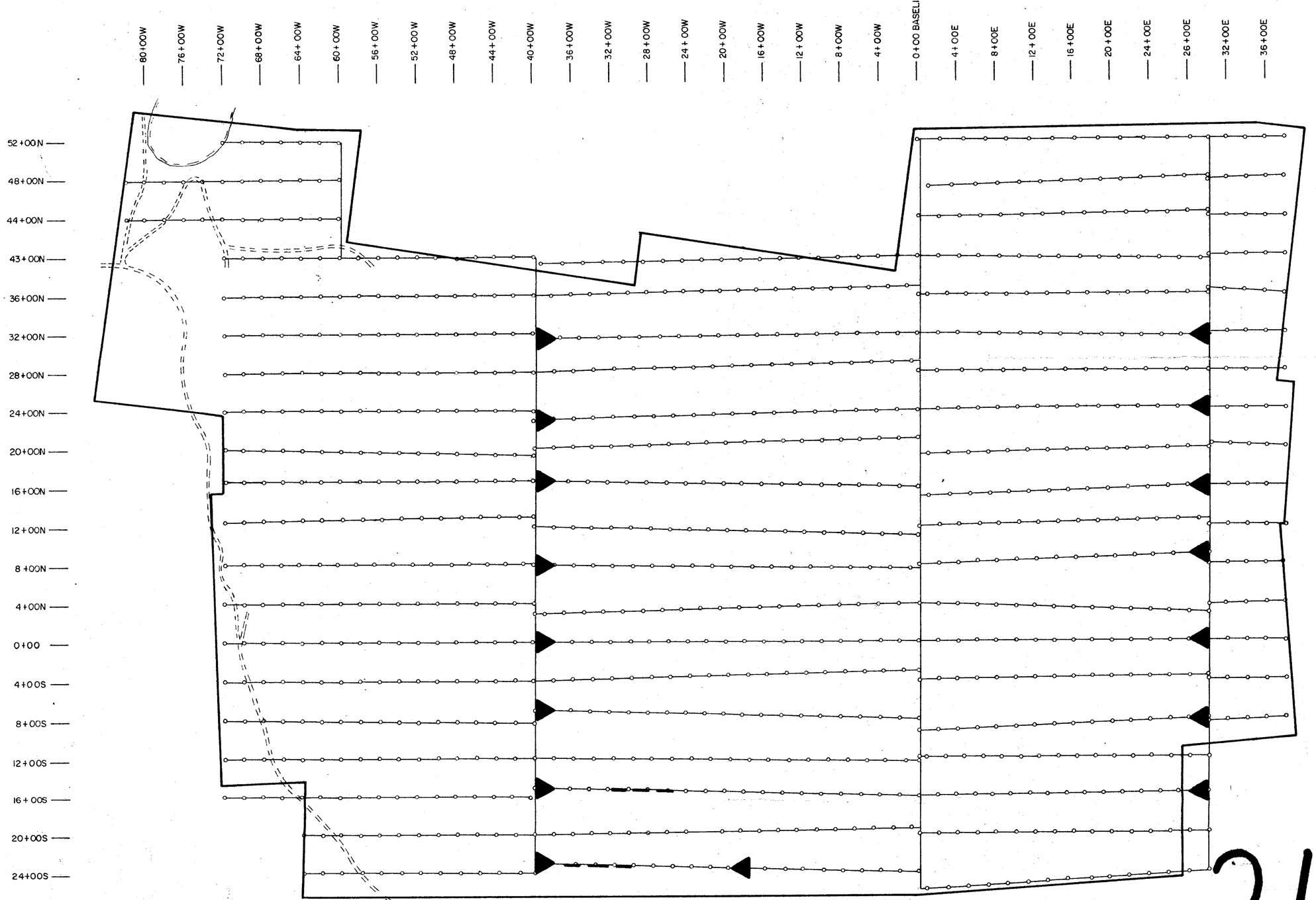
Duties - Carrying out and interpreting results of I.P., and Magnetic surveys under varying climatic conditions from arid desert to heavy rainfall areas.
Aerial magnetic survey work near Perth, W. A.

Later - In charge three/four I.P. field parties and responsible for training of personnel, general organization plus maintenance of equipment.
Assisting Chief Geophysicist with interpretation of I.P. data and report writing etc.

Australian Geophysical Pty. Ltd. Sydney, N. S. W.

May 1965 - August 1968

Duties - Similar to those with Western Mining but with a greater degree of autonomy.
Complete I.P. projects carried out in difficult terrain in N. S. W. and under very dry conditions in the N. T. Also in W. A. and Victoria. Administered Calvert Hills project. Supervision of helicopter gravity survey. Lease selection in W. A.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2192 MAP #2

P.G. Hirst
Jan. 22, 1970

2192

GEOSCIENCE INCORPORATED
199 BENT STREET
CAMBRIDGE, MASS.

INDUCED POLARIZATION SURVEY

PROPERTY : HUDSON BAY MOUNTAIN SILVER MINES
BLU & MO CLAIM GROUPS

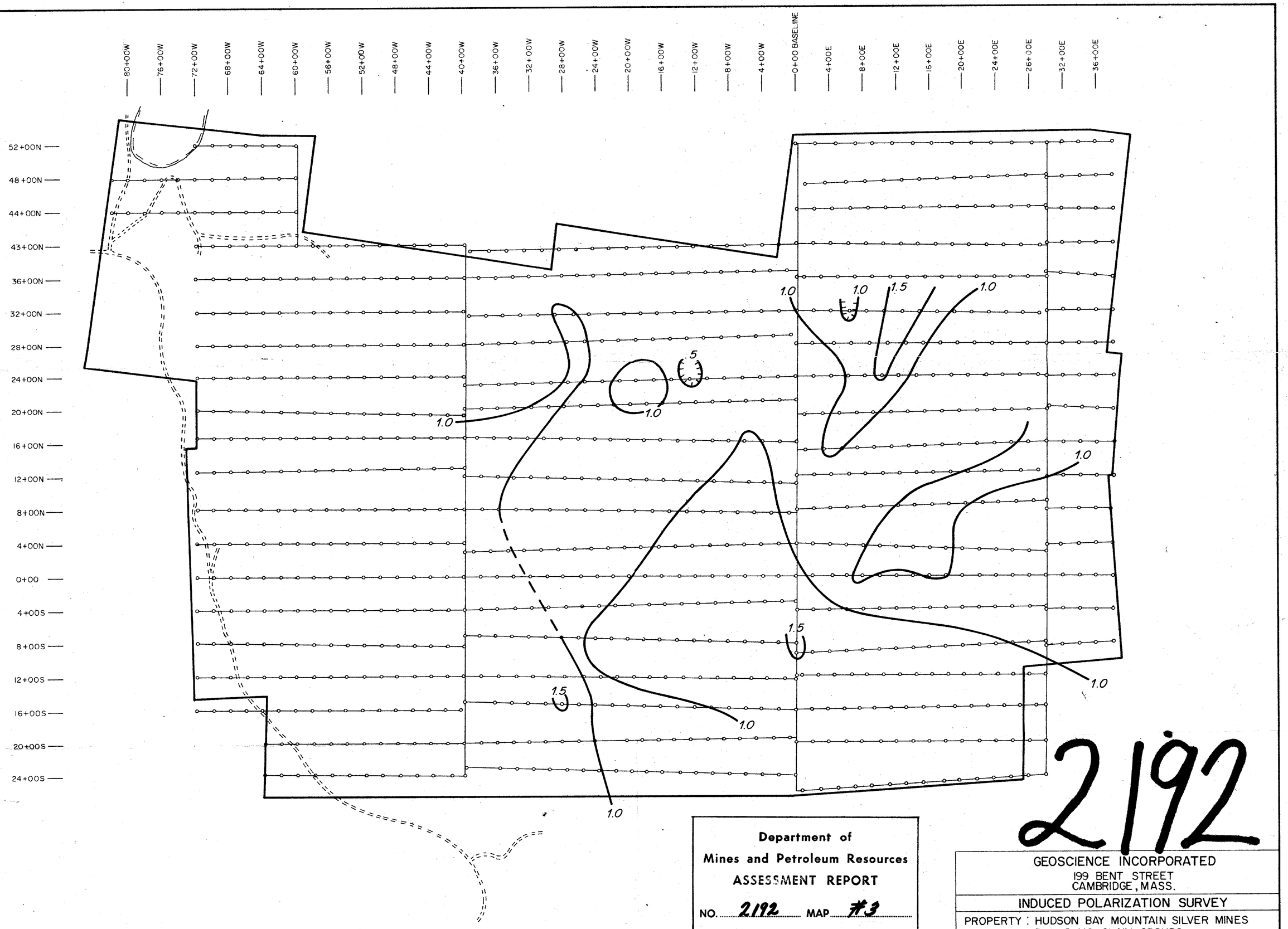
SURVEYED : 10/29/69-11/15/69 | APPROVED:

TITLE ANOMALY LOCATION MAP

—— IP ANOMALY
- - - TRACE IP ANOMALY
▶◀ IP LINE ENDS

DRAWN : 12/19/69 | DRAWN BY : J. Cincotti

SCALE 1" = 400'



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2192 MAP #3

2192

P.S. Hurst
Jan. 22, 1970

GEOSCIENCE INCORPORATED
199 BENT STREET
CAMBRIDGE, MASS.

INDUCED POLARIZATION SURVEY

PROPERTY: HUDSON BAY MOUNTAIN SILVER MINES
BLU & MO CLAIM GROUPS

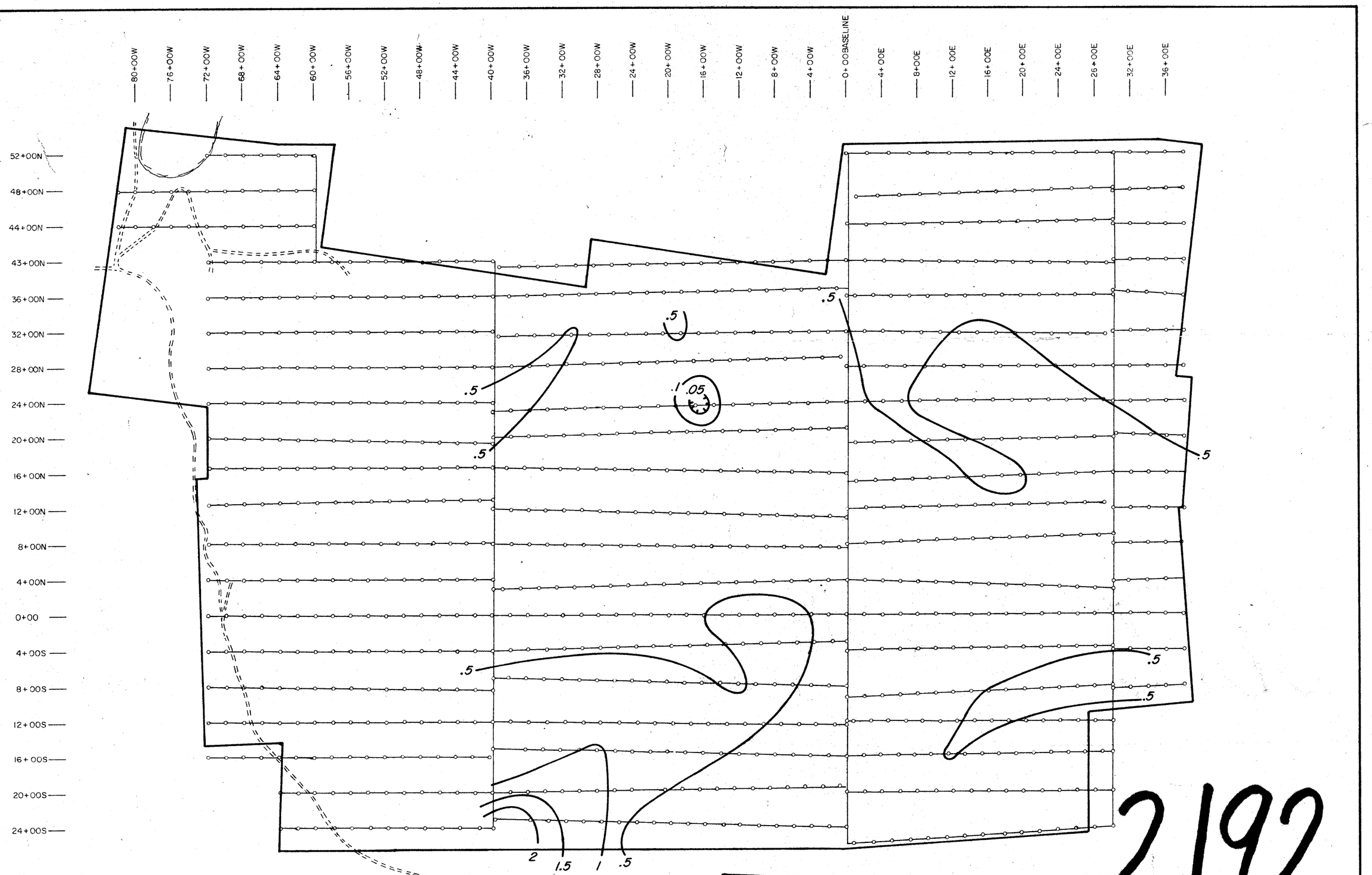
SURVEYED: 10/29/69-11/15/69 | APPROVED:

TITLE

APPARENT FREQUENCY EFFECT

DRAWN: 12/19/69 | DRAWN BY: J. Cincotti

SCALE 1" = 400'



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2192 MAP #4

P.G. Hirst
Jan. 22, 1970

2192

GEOSCIENCE INCORPORATED
199 BENT STREET
CAMBRIDGE, MASS.

INDUCED POLARIZATION SURVEY

PROPERTY : HUDSON BAY MOUNTAIN SILVER MINES
BLU & MO CLAIM GROUPS

SURVEYED : 10/29/69-11/15/69 | APPROVED:

TITLE

METAL CONDUCTION FACTOR

DRAWN : 12/19/69 | DRAWN BY : J. Cincotti

SCALE 1" = 400'