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inquiries@azgs.az.gov

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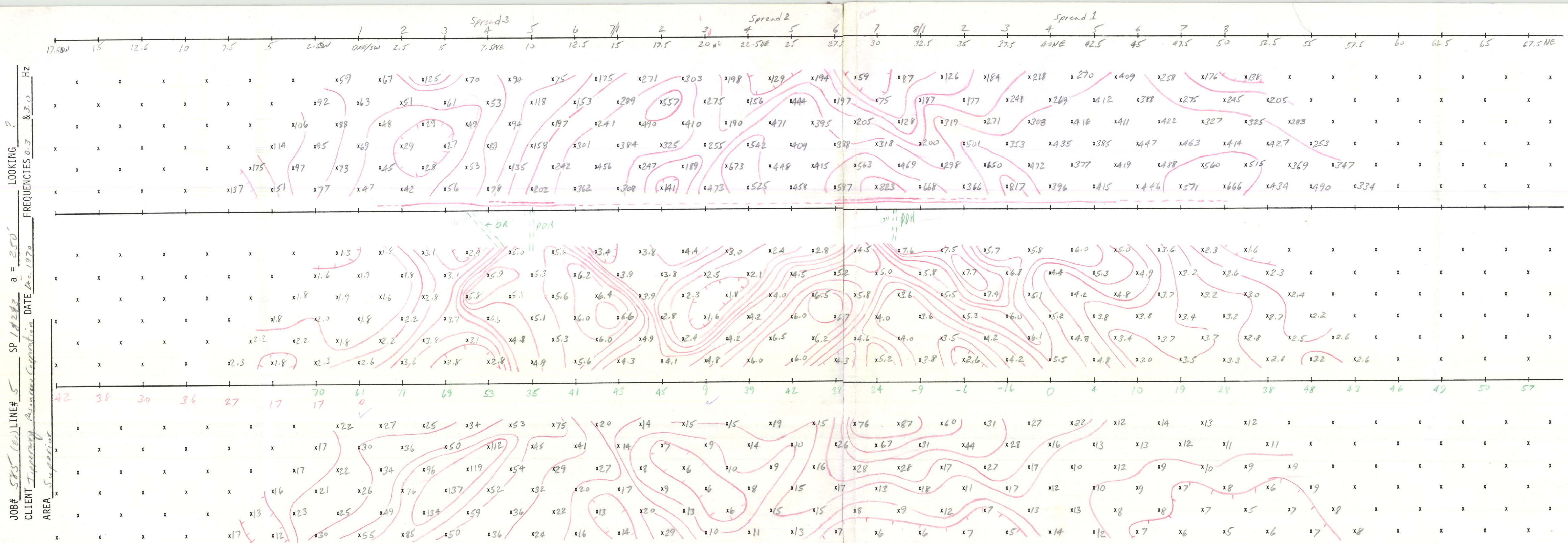
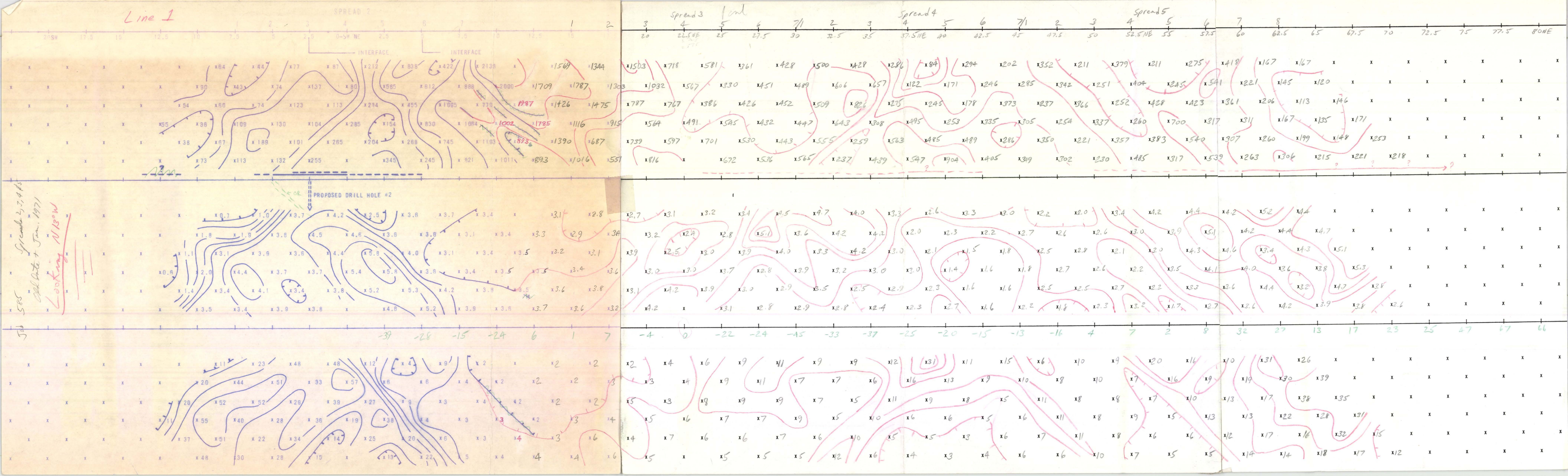
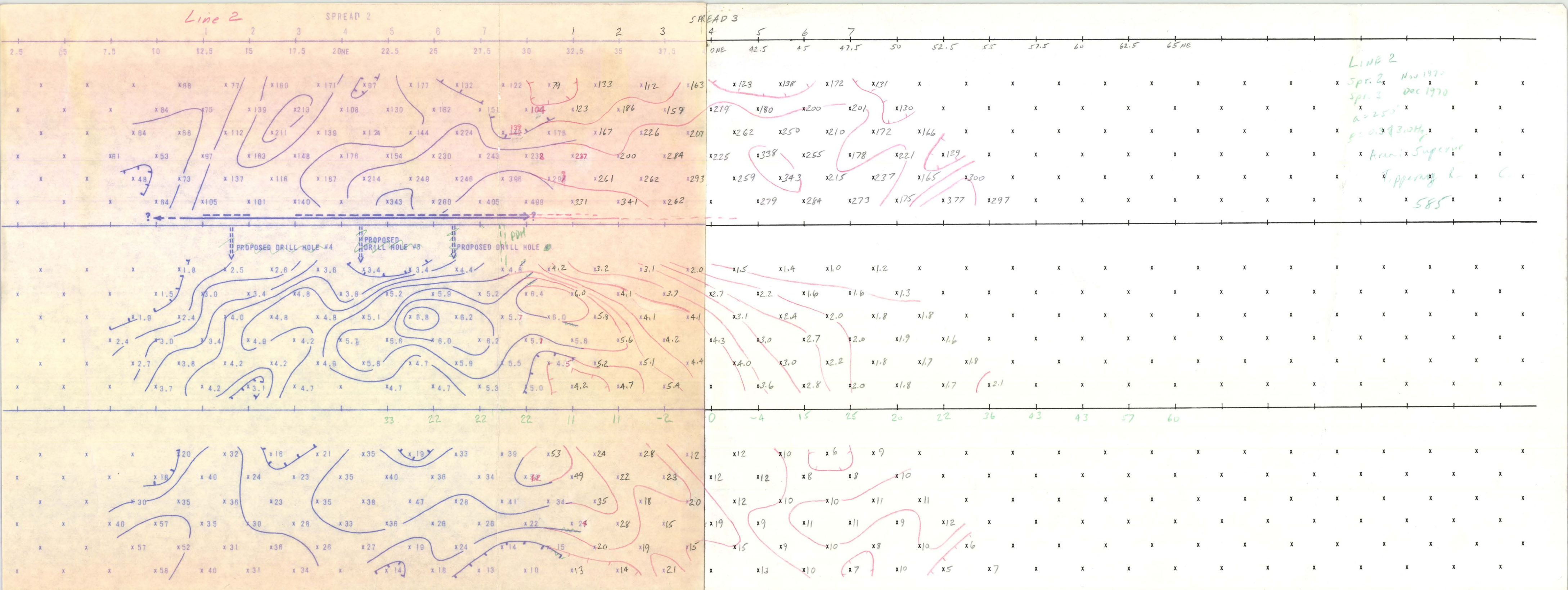
JOB# 585 LINE# 6 SP 1&2 a = 250' LOOKING ?

CLIENT Tipperary Resources Corporation DATE Jun 1971 FREQUENCIES 0.3 & 3.0 Hz

AREA Superior


Spread 3
Spread 2
Spread 1
17.5SW 15 12.5 10 7.5 5 2.5SW ONE/SW 2.5 5 7.5NE 10 12.5 15 17.5 20NE 22.5NE 25 27.5 30 32.5 35 37.5 40NE 42.5 45 47.5 50 52.5 55 57.5 60 62.5 65 67.5NE
LOOKING ?
FREQUENCIES 0.3 & 3.0 Hz
a = 250'
DATE Dec. 1970
SP 18288
LINE# 5
JOB# 585 (a)
CLIENT Typing Pecorec Corporation
AREA Superior
OR
PPH
PPH


Line 1
SPREAD 2
Spread 3
Spread 4
Spread 5
INTERFACE
INTERFACE
PROPOSED DRILL HOLE #2
Looking N13°W


Line 2
SPREAD 2
SPREAD 3
PROPOSED DRILL HOLE #4
PROPOSED DRILL HOLE #3
PROPOSED DRILL HOLE #2
PDH
LINE 2
Spr. 2
Spr. 3
Nov 1970
Dec 1970
Area Supervisor
585

January 28, 1971

Mr. C.R. Williams
Exploration Manager - Southern Region
Tipperary Resources Corp.
500 W. Illinois
Midland, Texas 79701

GEOEX Job 585

Dear Kip:

Enclosed please find an original and two copies of our report entitled "Induced Polarization Survey on the Superior Prospect, Phase II, Pinal County, Arizona, January 1971." Reproducible sepias will follow shortly.

If you have any questions on the report or data please let me know. Godd luck on your drilling and keep us posted on the results.

Also enclosed is a copy of each of the three sheets sent to Mr. Jay E. Fuller as regards our trespass onto his claims so you will be up to date in that regard. He told Mr. Heinrichs that Inspiration does not have an pption on these claims and that they are available now. He would like you to contact him. His address is: Jay E. Fuller Construction Company, 1301 E. Ft. Lowell Road, Tucson, Arizona 85719, Phone 325-1505.

Sincerely,
Heinrichs GEOEX

Chris

Chris Ludwig

Enclosures

CSL/dm

(CONFIDENTIAL) 1/28/71

P.S.: Jay Fuller is apparently connected with (a major stockholder he says) of Western Energy Corp. (Who owe GEOEX Money) of Santa Fe, New Mexico

Alva B. Simpson (Sr.? (Pres.?) or still?) one time? backed by, or tied to King Resources of Denver.

apparently Fuller put up his claims for Western Energy stock

if we dont get paid we may attach a labor lien on some of the claims.

MMA.

S. O. B. CLAIMS
Pinal County, Arizona
of
JAY E. FULLER RESOURCES CO.

Claims : Oct. 1970

Scale: 1:62,500

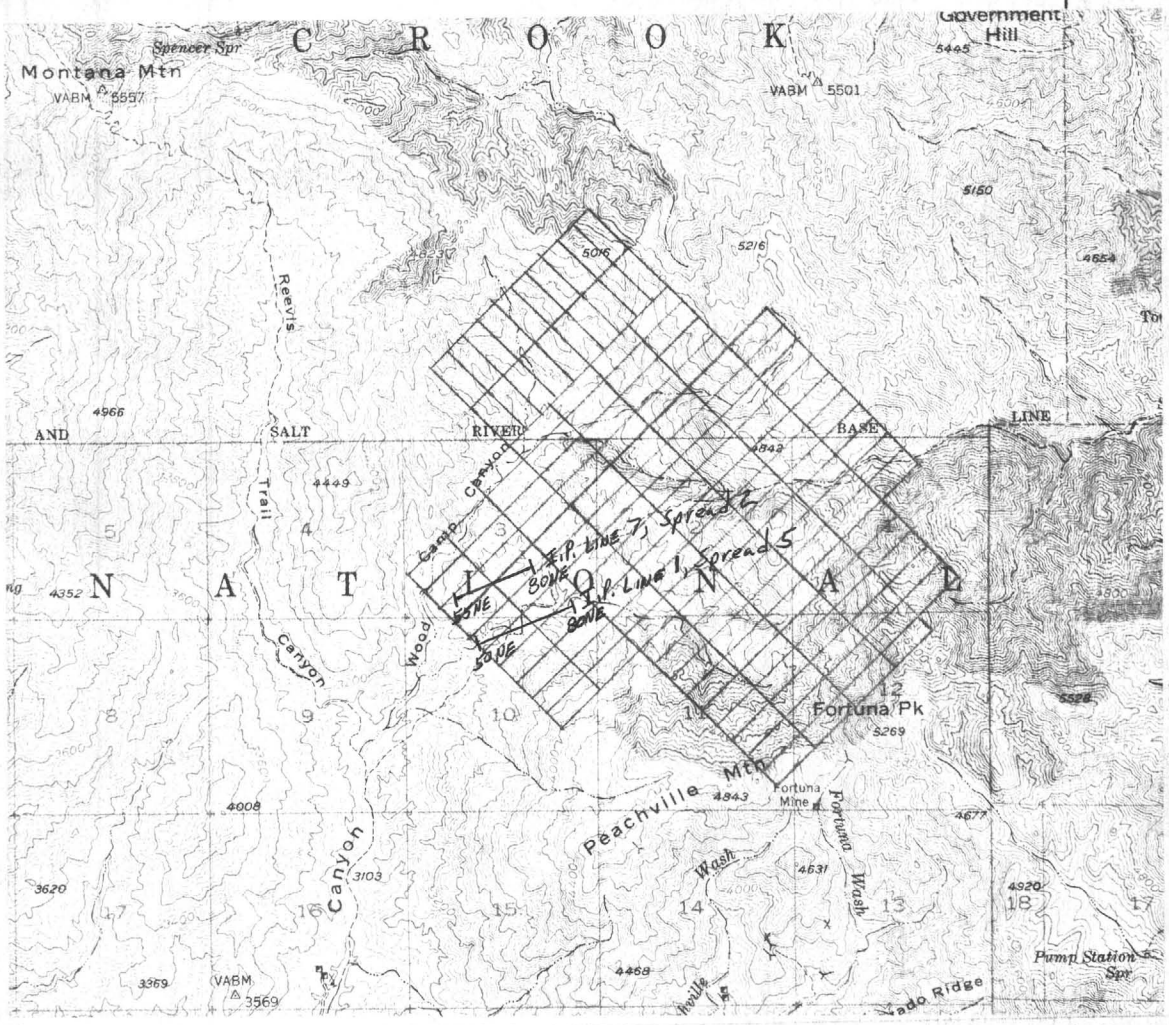
APPROXIMATE CLAIM LOCATION

I.P. : Jan. 1971

R 12 E | R 13 E

T 1 N

T 1 S



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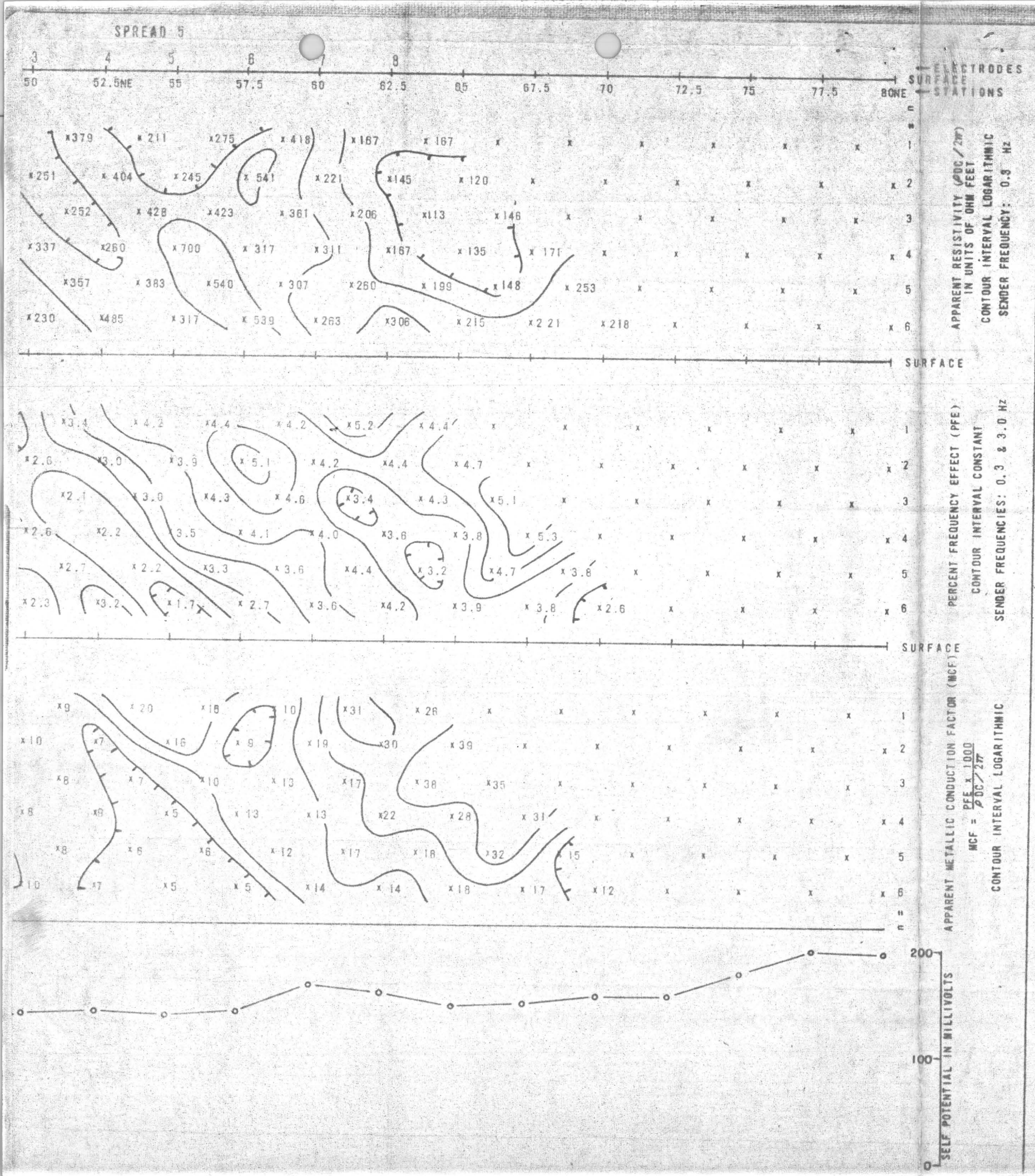
GEOEXPLORATION CO.
GEOPHYSICAL ENGINEERS
Box 5964 Tucson, Arizona 85703
Phone: (602) 623-0578
Cable: GEOEX

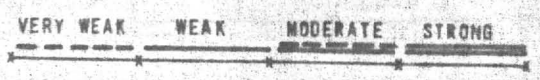


585-70

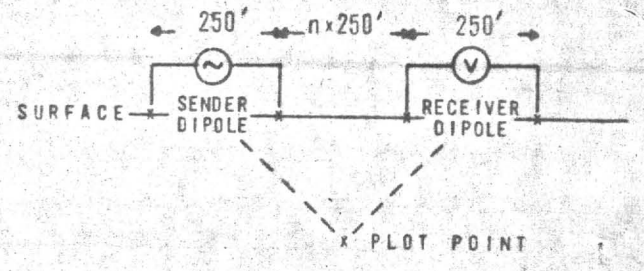
LINE NO
1
SPREAD(S)
5

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

RELATIVE ANOMALY STRENGTH



DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR
LOOKING
N 21° W
DATE
5 - JAN 1971

File

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GEOPHYSICAL ENGINEERS
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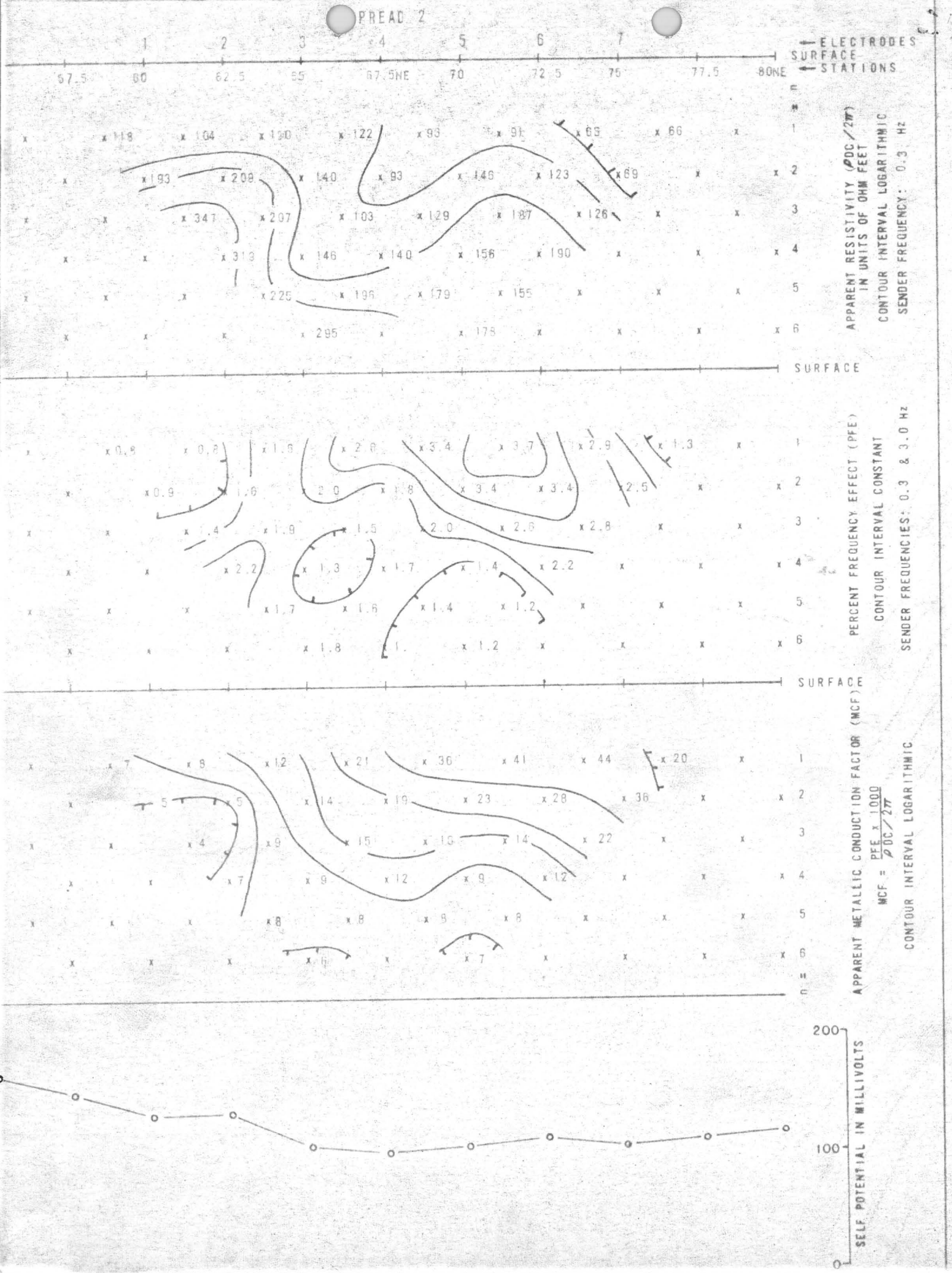
Cable: GEOEX, Tucson

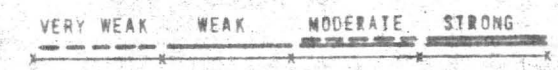


595-70

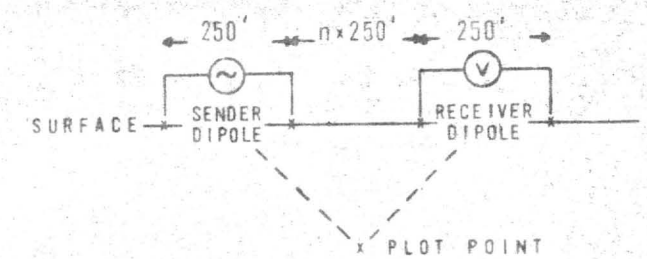
LINE NO.
7
SPREAD(S)
2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

RELATIVE ANOMALY STRENGTH



DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR
LOOKING
N 22° W
DATE
JAN 1971

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GEOEXPLORATION COMPANY
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Tucson, Arizona 85703
Phone: (602) 623-0578
Cable: GEOEX, Tucson

File

January 29, 1971

Mr. Jay E. Fuller
Jay E. Fuller Construction Company
1301 E. Fort Lowell
Tucson, Arizona 85719

Dear Mr. Fuller:

Attached please find a copy of the I.P. data we inadvertently obtained on your S.O.B. claim group near Superior, earlier this month along with a claim sketch that approximately ties these data to your claims.

If you have any questions, feel free to contact us.

Sincerely,
HEINRICHS GEOEXPLORATION COMPANY

Chris S. Ludwig

Chris S. Ludwig
Senior Geophysicist

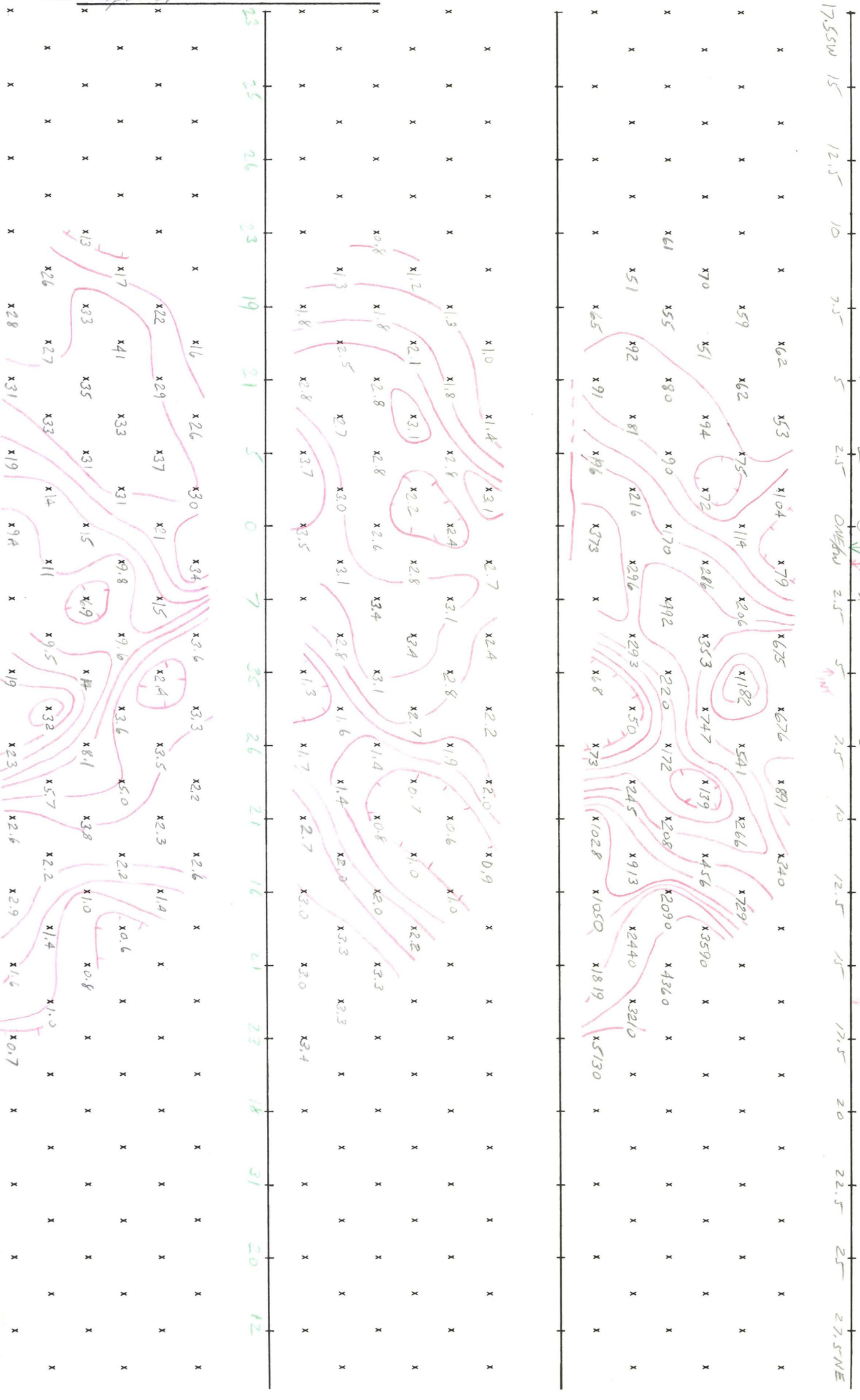
Enclosures:

CSL/re:

JOB# 585 LINE# 7 SP 1 a = 250' LOOKING N~~2~~W 20°

CLIENT Tipperary Resources Corporation DATE Jan. 1971 FREQUENCIES 0.3 & 3.0 Hz

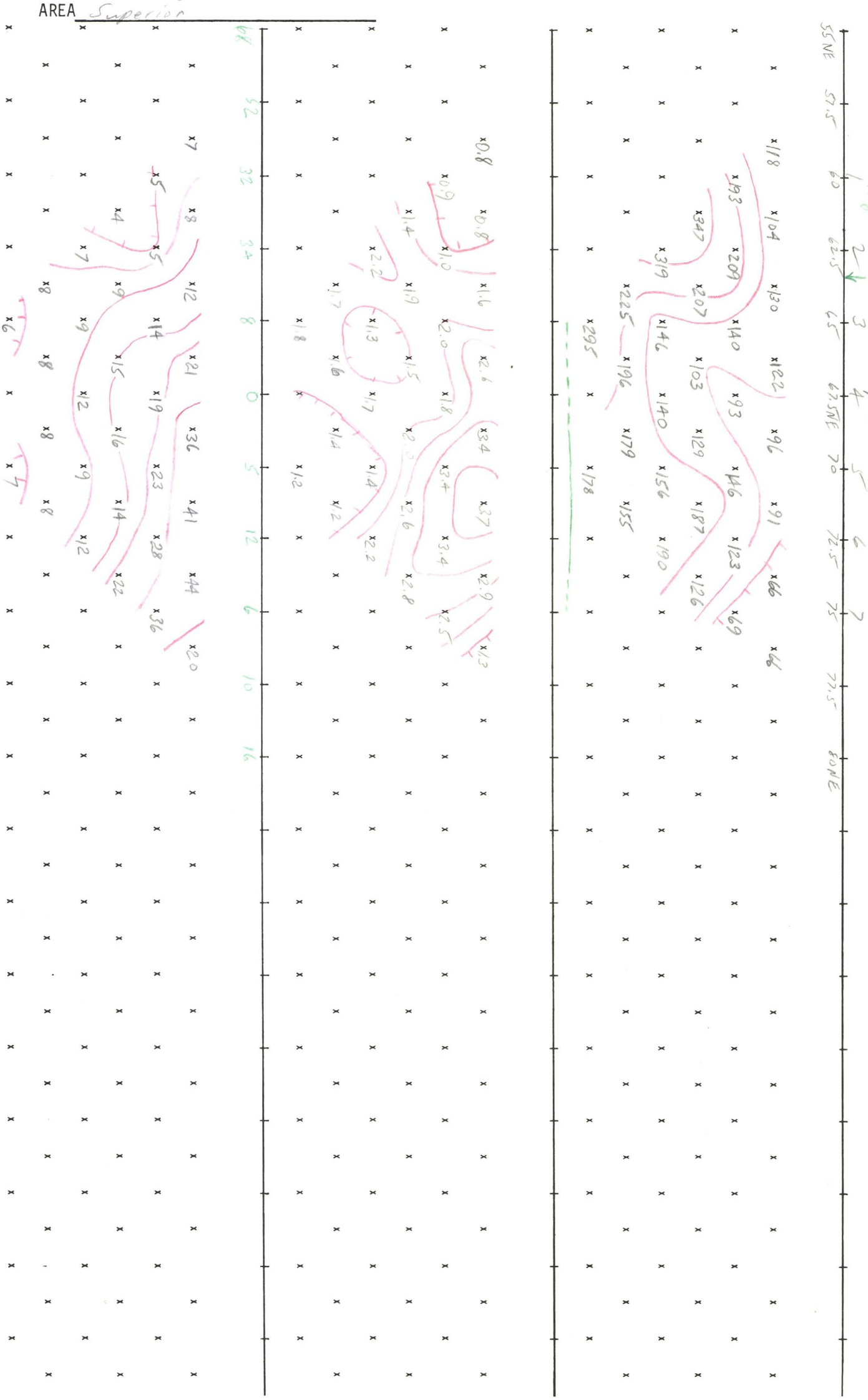
AREA Superior



JOB# 585 LINE# 7 SP 2 a = 250' LOOKING N22W

CLIENT Tipperary Resources Corporation DATE Jan, 1971 FREQUENCIES 0.3 & 3.0 Hz

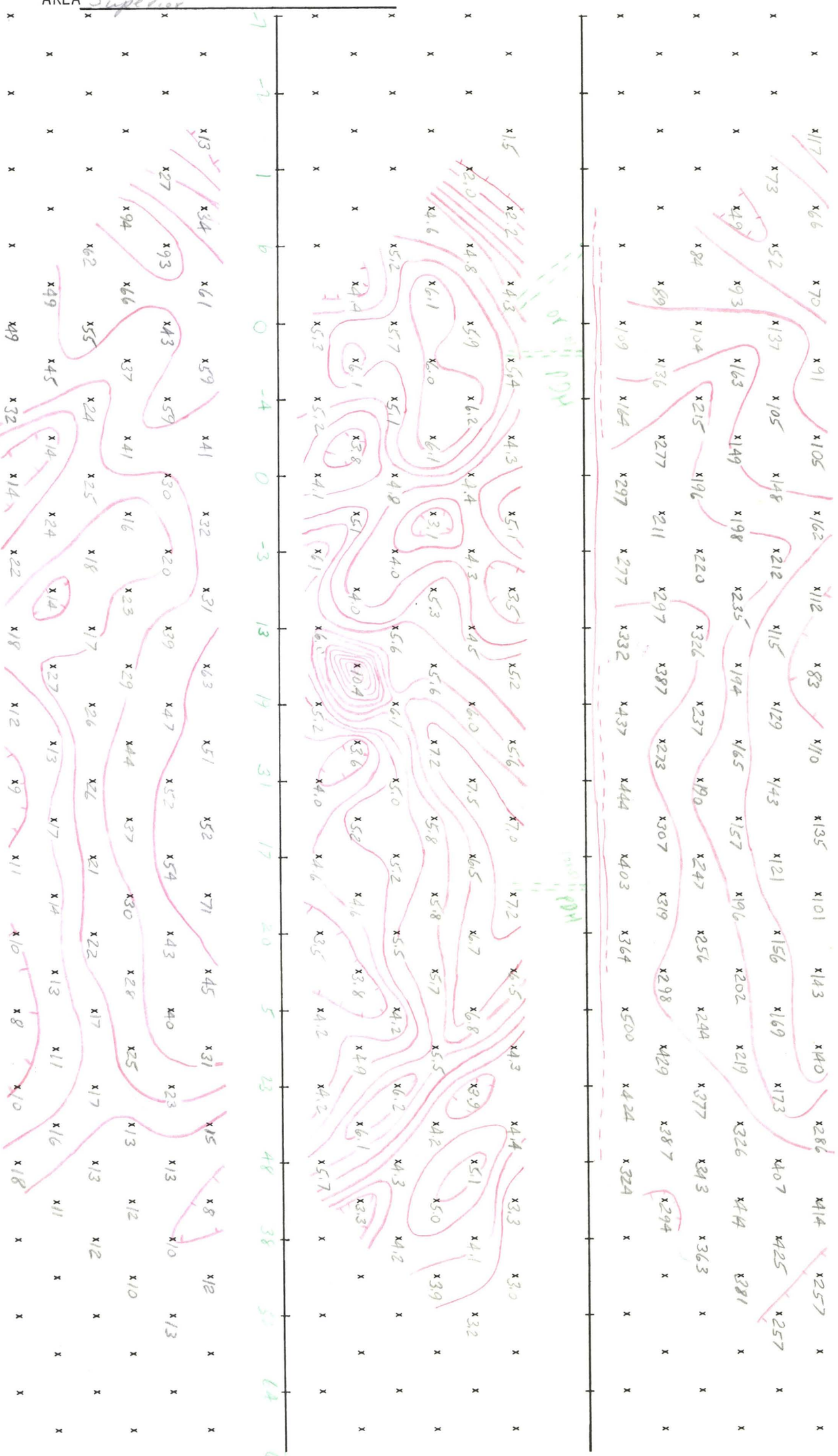
AREA Superior



JOB# 585 LINE# 8 SP 182 a = 250' LOOKING N 23° W

CLIENT Tipperary Resources Corporation DATE Jan. 1971 FREQUENCIES 2.3 & 3.0 Hz

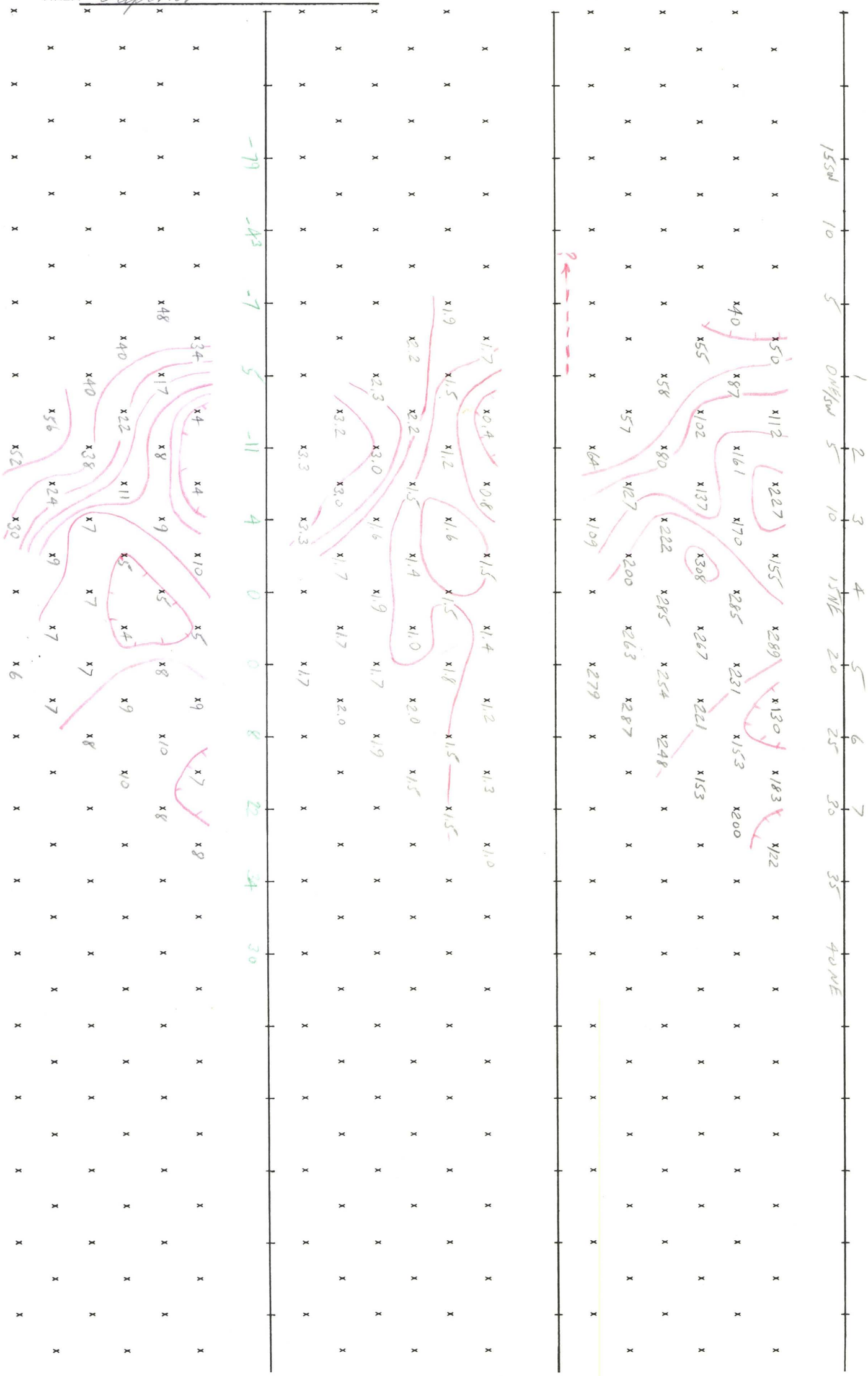
AREA Superior



JOB# 585 LINE# 9 SP 1 a = 500' LOOKING N23°W

CLIENT Tipperary Resources Corporation DATE Jan. 1971 FREQUENCIES 0.3 & 3.0 Hz

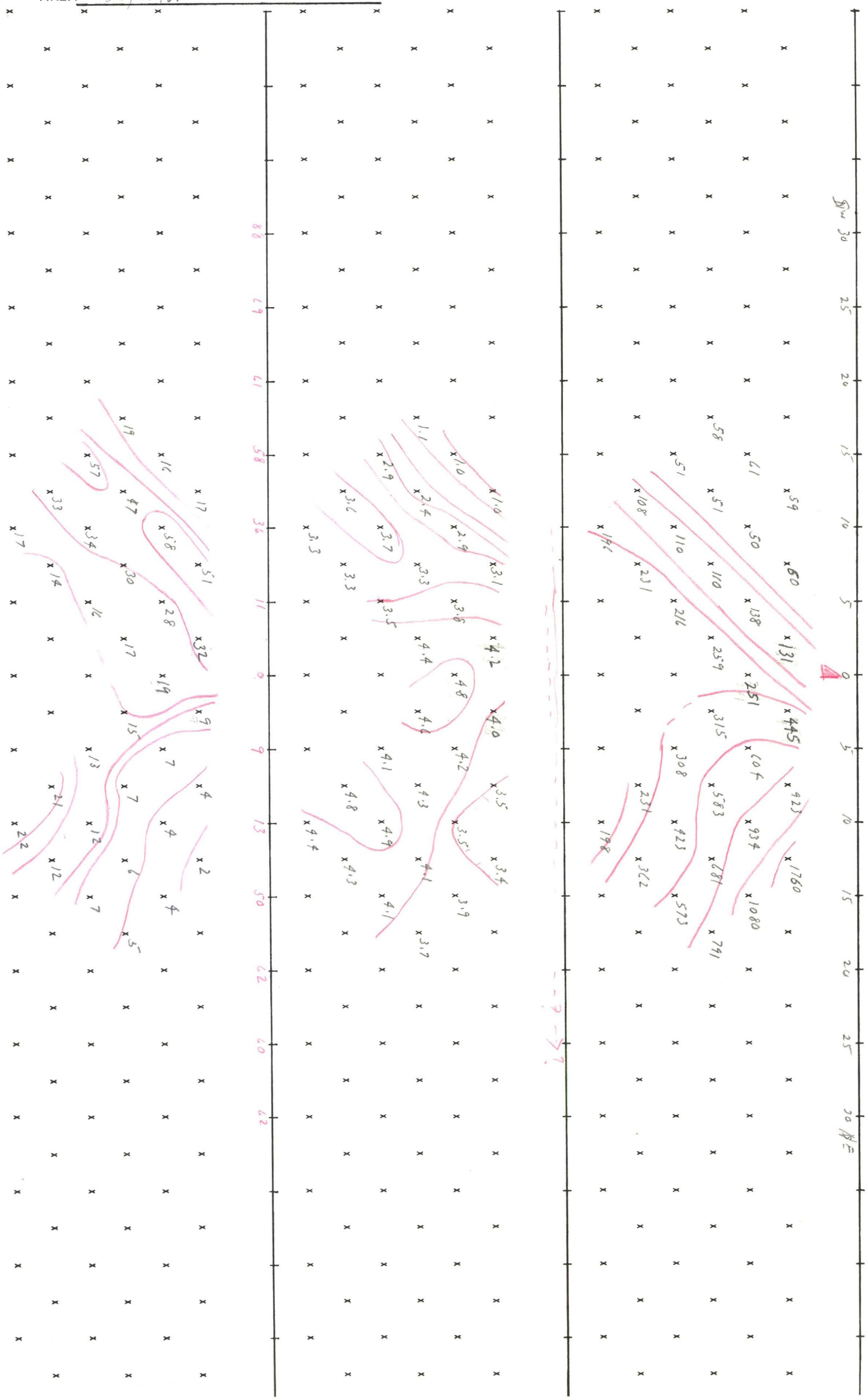
AREA Superior



JOB# 585 LINE# 1 SP 1 a = 500 LOOKING N 21 E

CLIENT Tipperary DATE FREQUENCIES 3.0 & 0.3 Hz

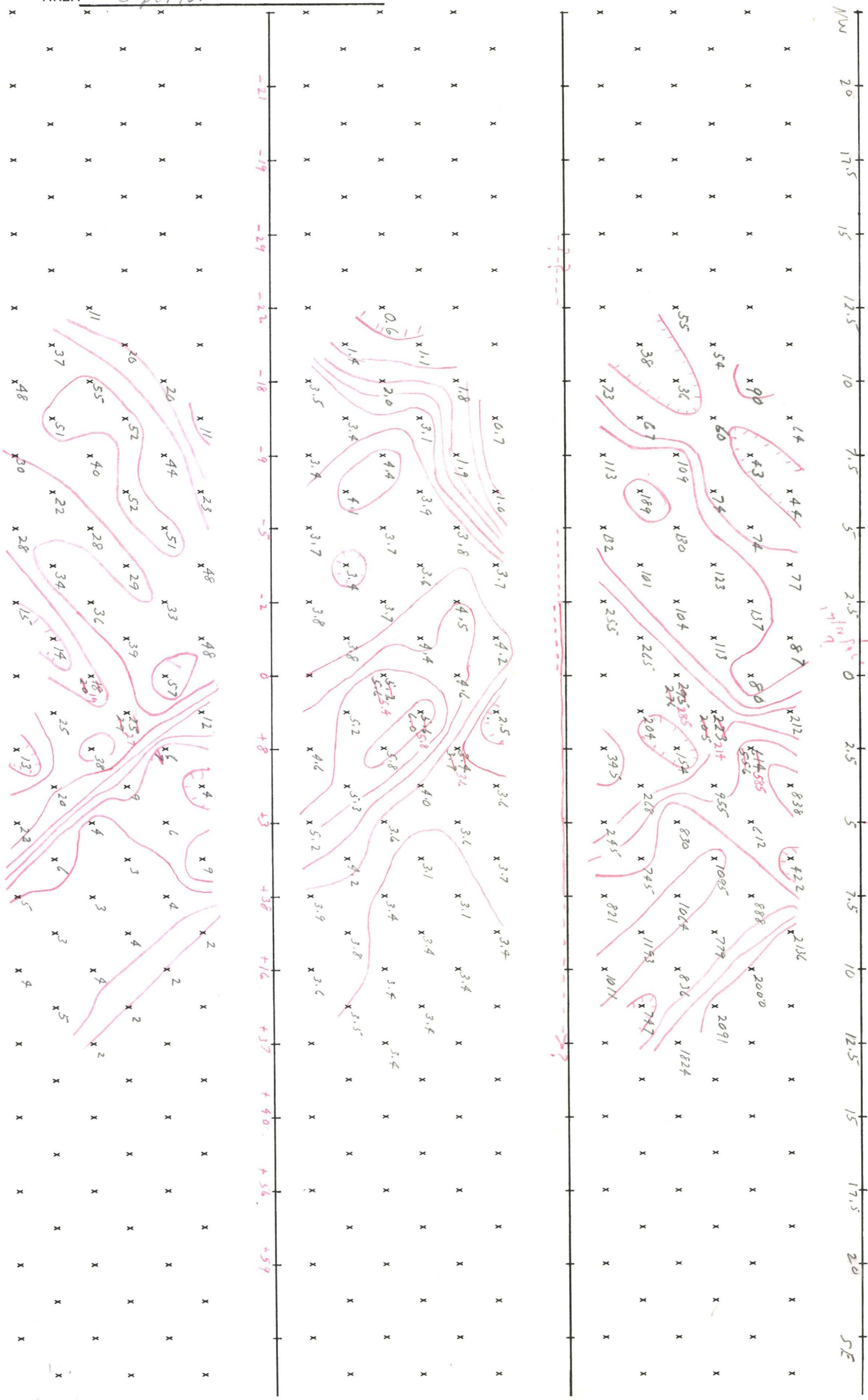
AREA Superior



JOB# 585 LINE# 1 SP 2 a = 250 LOOKING N 21° W

CLIENT Tipperary DATE Nov 11, 1990 FREQUENCIES 3.0 & 0.3 Hz

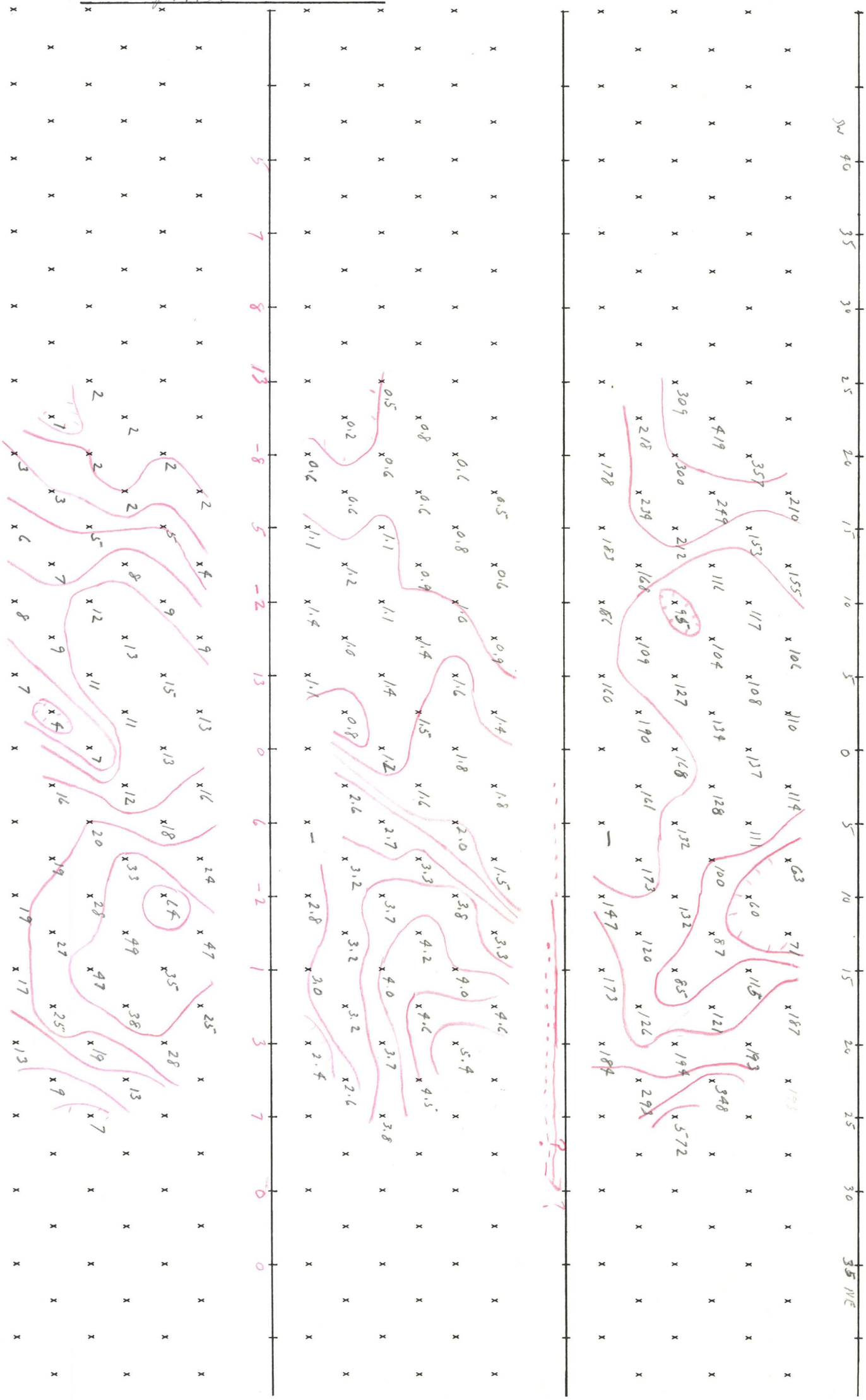
AREA Superior



JOB# 585 LINE# 2 SP 1 a = 500 LOOKING W½ N 40 W

CLIENT Tipperary DATE 11/5/70 FREQUENCIES 3.0 & 0.3 Hz

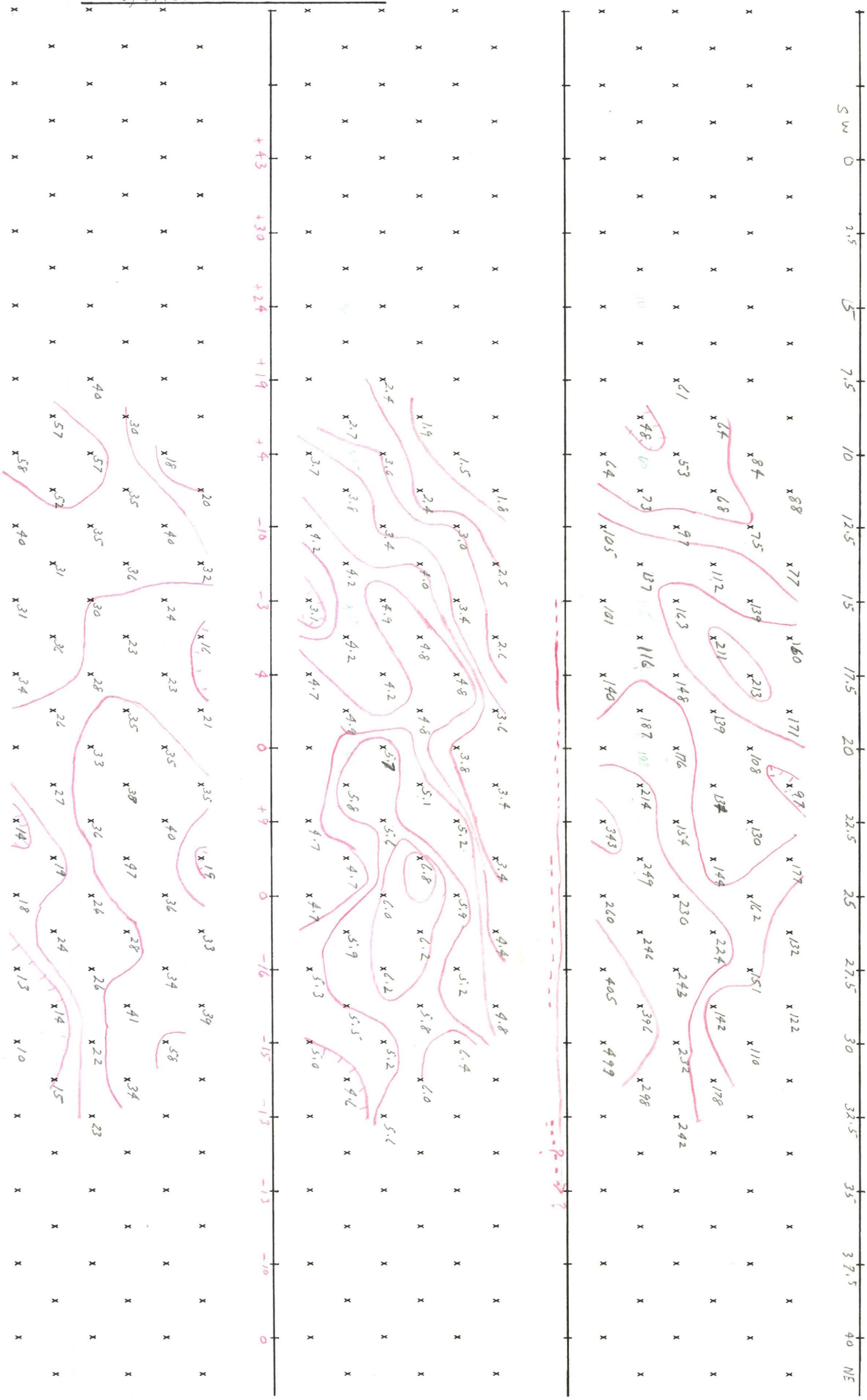
AREA Superior



JOB# 585 LINE# 2 SP 2 a = 250 LOOKING N 22 W

CLIENT Tipperary DATE Nov 12, 70 FREQUENCIES 3.0 & 0.3 Hz

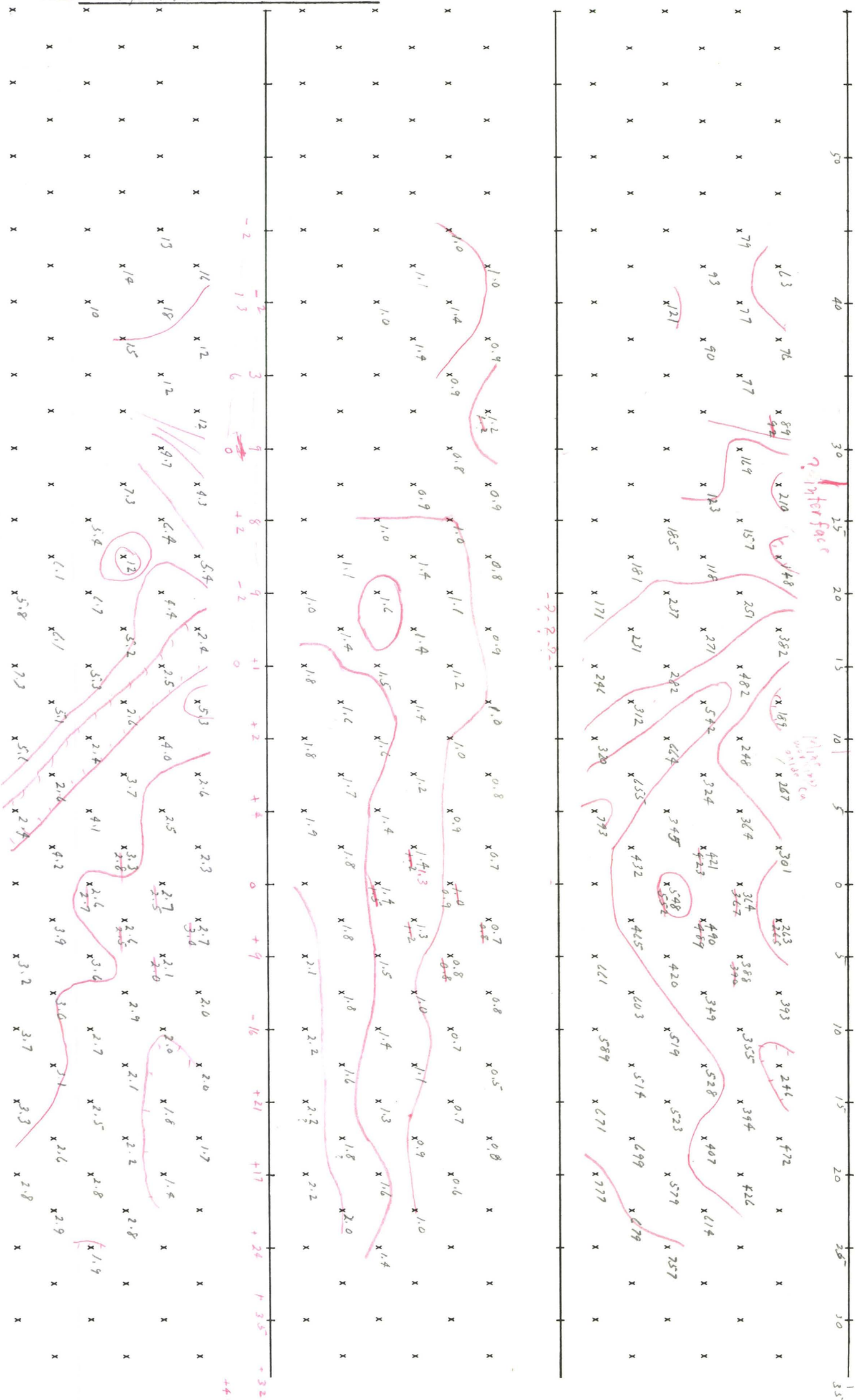
AREA Superior



JOB# 585 LINE# 3 SP 1 + 2 a = 500 LOOKING N 22 W

CLIENT Tipperary DATE Nov 10, 1970 FREQUENCIES 3.0 & 0.3 Hz

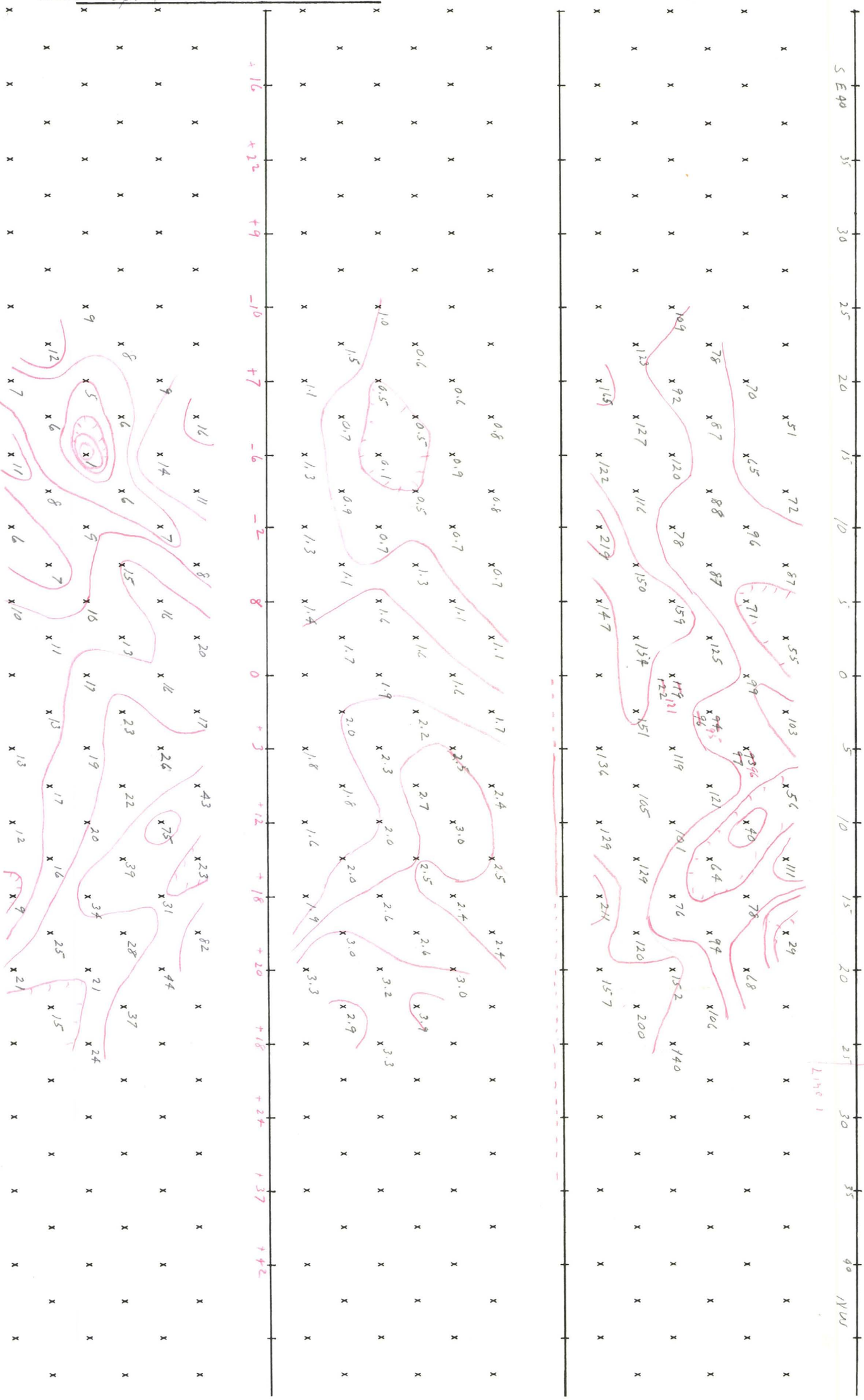
AREA Superior

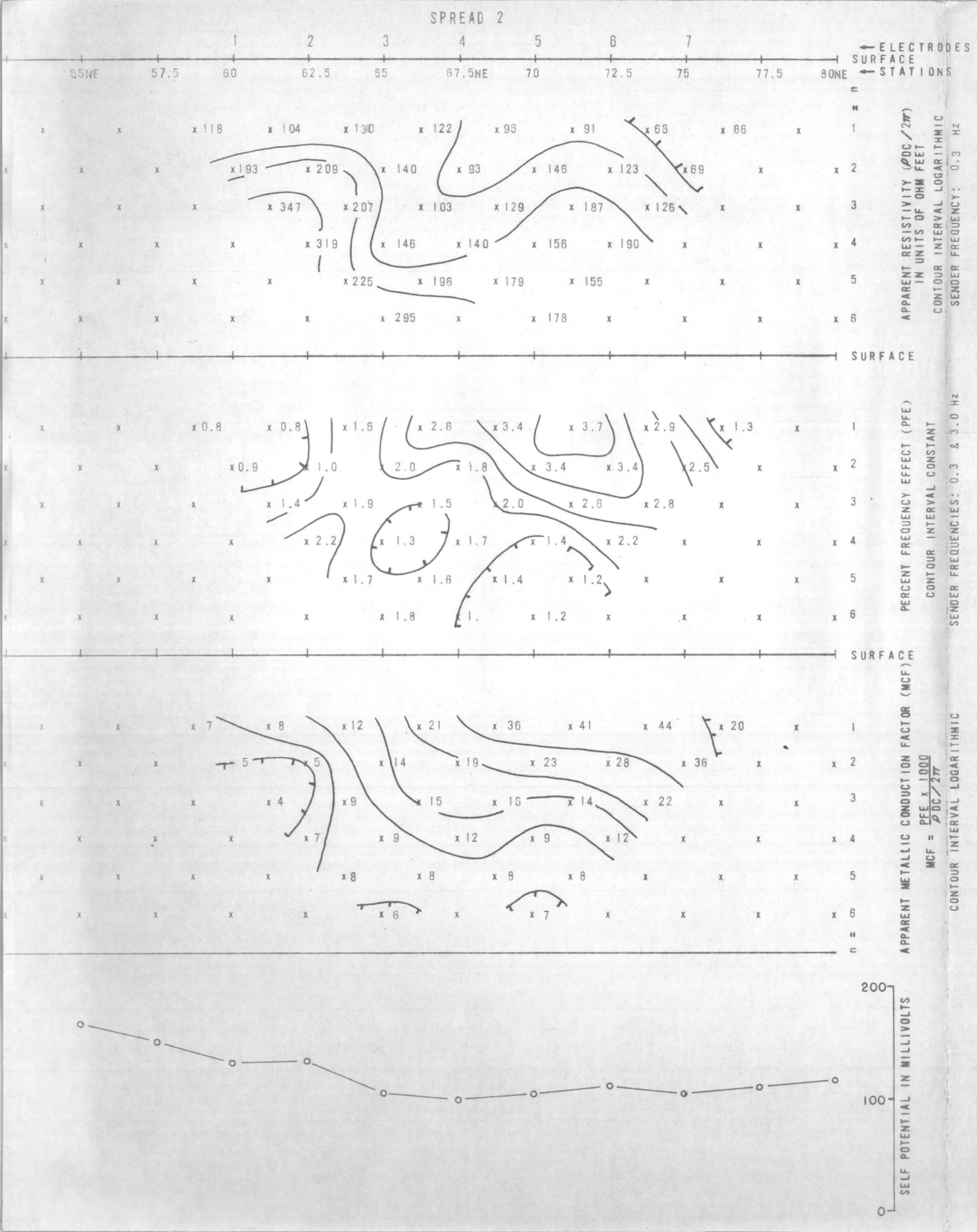


JOB# 585 LINE# 4 SP 1 a = 500 LOOKING S 70 W

CLIENT Tipperary DATE Nov 16, 1970 FREQUENCIES 3.0 & 0.3 Hz

AREA Superior





585-70

LINE NO.
7
SPREAD(S)
2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET

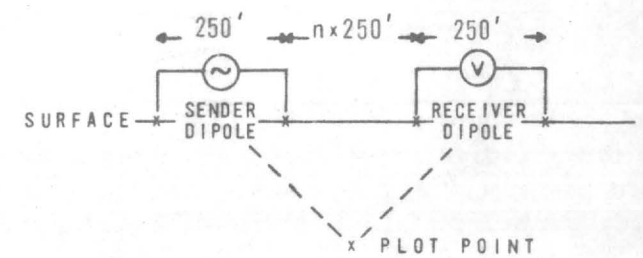
for

[redacted]

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR
LOOKING
N 22° W

DATE
JAN 1971

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Post Office Box 5964
Tucson, Arizona 85703
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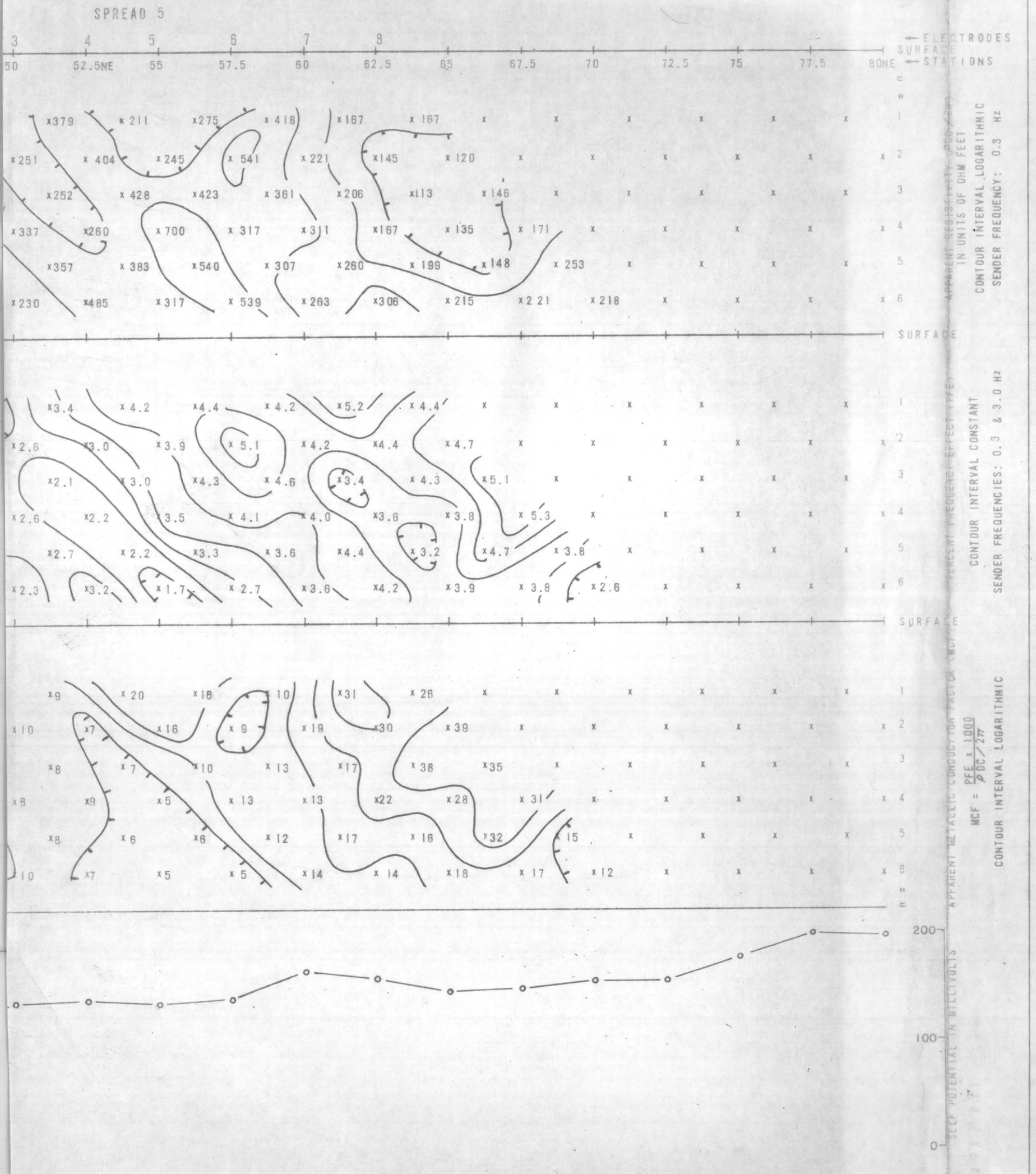
Cable: GEOEX, Tucson



585-70

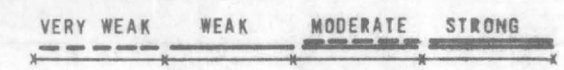
LINE NO.
1
SPREAD(S)
[redacted] 5

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET

for

[redacted]

RELATIVE ANOMALY STRENGTH



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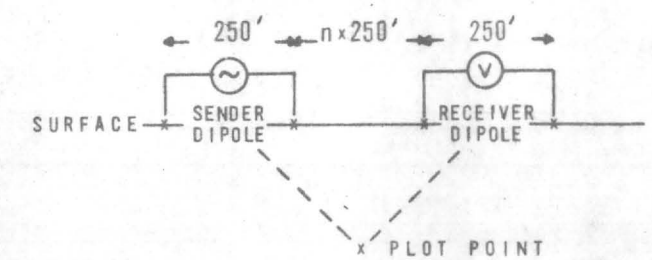

AREA
SUPERIOR
LOOKING
N 21° W
DATE
[redacted] 5 - JAN 1971

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GEOPHYSICAL ENGINEERS
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Crows Nest, NSW
Phone: 439-1793
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Tucson, Arizona 85703
Phone: (602) 623-0578
Cable: GEOEX, Tucson

I.P. Survey

on the

Superior Prospect, Pinal County

Arizona

(PHASE I)

for

Tipperary Resources Corporation

December 1970

GEOEX Job# 585

INDUCED POLARIZATION SURVEY

ON THE

SUPERIOR PROSPECT

PINAL COUNTY, ARIZONA

FOR

TIPPERARY RESOURCES CORPORATION

DECEMBER 1970

By

Heinrichs GEOEXploration Company
P.O. Box 5964, Tucson, Arizona 85703
Tel: 623-0578

GEOEX Job # 585

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General Location

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Comments on Drilling I.P. Targets---------- 6

Interpretation---------- 7

Sectional Data Sheets
- Line 1 (Spread 1, 500 foot dipoles)
- Line 1 (Spread 2, 250 foot dipoles)
- Line 2 (Spread 1, 500 foot dipoles)
- Line 2 (Spread 2, 250 foot dipoles)
- Line 3 (Spreads 1 and 2, 500 foot dipoles)
- Line 4 (Spread 1, 500 foot dipoles)

Basis of the Induced Polarization Method

In Map Pocket
- Induced Polarization Location and Interpretation Plan

Neenah Onionskin
25% COTTON FIBER

GENERAL LOCATION
of
SUPERIOR PROSPECT
for
TIPPERARY RESOURCES CORPORATION

ARIZONA

HEINRICHS
GEOEXPLORATION COMPANY
GEOPHYSICAL ENGINEERS

AUSTRALIA
(SYDNEY)
39 Hume Street
Crows Nest, NSW
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Tucson, Arizona 85703
Phone: (602) 623-0578
Cable: GEOEX, Tucson

INTRODUCTION

At the request of Mr. C.R. Williams of Tipperary Resources Corporation, Heinrichs GEOEXploration Company conducted a preliminary reconnaissance induced polarization survey over a portion of the Superior Prospect near Superior, Pinal County, Arizona. The field work was done during the interim November 4 to November 17, 1970.

A total of four lines as positioned by the client were completed and consist of seven spreads. Lines 1, 2 and 3 are roughly parallel to each other and oriented approximately N70°E. Line 4 crosses the other three lines and is oriented roughly normal to them. Lines 1 and 2 were run both on 500 foot and 250 foot dipole spacings while Lines 3 and 4 were run only with 500 foot spacings. A partial second spread was added to the west end of Line 3 to obtain the desired length of coverage. See the plan map for details of line location.

The dual frequency I.P. technique was used with sending frequencies of 0.3 and 3.0 Hz. The collinear dipole-dipole array was the electrode configuration employed, which on a 500 foot spacing should typically give resolvable penetration within the zone from roughly 150 feet to 600 or 750 feet below surface. The detail 250 foot data would penetrate proportionally less but with a corresponding increase in resolution.

The purpose of this survey was to locate in a reconnaissance fashion any geophysically significant subsurface sulfide zones, hopefully similar to the nearby Magma Mine mineralization, in an area of Pinal Schist with minor surface oxide copper showings, iron staining and alteration.

The data are presented on sectional data sheets, one for each line and spacing, showing resistivity, percent frequency effect (PFE) and metallic conduction factor (MCF) contoured in section and self potential (SP) in profile form. An "Induced Polarization Location and Interpretation Plan" is also included and shows the surface projected plan interpretation at a scale of 1" = 500' to overlay the "Geology of the Superior Prospect" map supplied by Tipperary. For additional details as to theory, interpretation and presentation, refer

to the "Basis of the Induced Polarization Method" appended to the report.

GEOEX personnel involved in the field work were G. Hix, geophysical crew chief, W. Hitchcock and J. Masciandaro, technical assistants. Initial site and office supervision by P. Head, Geophysicist. Final report by C. Ludwig, Senior Geophysicist, assisted by Mr. Head and the GEOEX staff. We hereby wish to express our appreciation to Mr. Zelinski of Tipperary for his assistance to the crew in the field.

CONCLUSIONS

No Induced Polarization response typical of the Magma Vein type of massive sulfide mineralization was located in the area surveyed. However, interesting polarization effects more typical of disseminated mineralization have been partially delineated. The strongest response is noted east of Line 4 on Lines 1 and 2 in an ill-defined complex zone which crudely correlates with a rather heavily fractured and iron stained portion of the Pinal Schist bordering on and south of the rhyolite intrusive as based on the geology map.

Insufficient geophysical coverage is available to interpret this anomalous zone in detail and the zone is open-ended to the east on Line 2 and to the north on Line 4. Based on available data, the strongest response on Line 1 seems to be roughly between 0.0NE/SW and 5.0SW, perhaps bounded on the northeast by the southwest contact of the rhyolite intrusive, and is likely directly related to the heavily iron stained NNW fracture mapped near station 2.5SW. The strongest response on Line 2 is mainly east of 17.5NE to at least 30.0NE and is not obviously related to any particular mapped geologic feature within the schist although several iron stained fractures project into the area of anomalism.

No significant appearing polarization response is noted on Line 3 thereby defining a southern limit to the zone of anomalism noted on Lines 1 and 2. Line 4 is likely just within the western limit of anomalism or may even be a lateral response from polarizable material just to the east.

The cause of the anomalous I.P. response is probably metallic lustered sulfides. However, the lack of well defined directly correlating resistivity lows plus the lack of any correlating self potential lows, suggests that non-sulfide polarizers should not be ruled out as a cause of the anomalism. Metallic lustered non-sulfide polarizers would include magnetite and other iron or manganese oxides and graphite. In rare cases, clay can contribute to the response.

If sulfide caused, the stronger portion of the anomaly suggests roughly from 1 to 3% total sulfide by volume (approximately 2 to 6% by weight) based on the interpreted source geometry and on a comparison with "typical" disseminated sulfide zones in the Southwest. These estimated percentages are only meant to be a crude relative guide and in practice are often found to be at variance with actual average assays for sulfide. Regardless, the indicated polarizer concentration, if mainly sulfide, is high enough to be of economic interest providing the ratio between ore polarizers such as chalcopyrite, molybdenite, etc., to the non-ore polarizers such as pyrite, magnetite or graphite is reasonably high.

The depth to the top of the anomalous source is probably within 150 feet of the surface on the Line 1 anomaly and possibly as deep as 250 feet on the Line 2 anomaly. The Line 1 anomaly appears to be caused by a rather steeply dipping tabular source having good depth persistence and which is probably 250 to 500 feet in width in the strongest portion. The Line 2 anomaly has the aspect of a broad, relatively flat lying, source perhaps with limited thickness as evidenced by the decreased PFEs and MCFs on the deeper readings. A thickness of 200 or 300 feet is suggested.

Conceivably, this layered aspect on the Line 2 anomaly could be reflecting a supergene enriched sulfide blanket although other possibilities such as a weathering phenomenon or lithologic or structural control of mineral emplacement need be considered.

The apparent resistivities show several features of possible interest. Line 1, particularly on Spread 2, shows

two level changes (interfaces) suggesting rock type changes near 2.5SW and 5.0NE which are probably related to the rhyolite intrusive and the iron stained fracture near the southwest margin of the intrusive. East of 5.0NE, the resistivities are very high - perhaps indicating that the intrusive is tight, relatively unaltered and unmineralized. The zone between 5.0NE and 2.5SW is intermediate in resistivity level and west of 2.5SW the resistivity becomes even lower perhaps reflecting rather altered or weathered schist. The stronger portion of the Line I.P. anomaly seems to closely correlate with or be related to the resistivity interface near 2.5SW. Much of the other coverage shows a general increase in apparent resistivity with increased depth, likely the effect of decreased weathering with depth.

The self potentials show only background variations suggestive of a lack of significant quantities of actively oxidizing relatively interconnected sulfides in the vicinity of the lines within several hundred feet of the surface. This is not necessarily in opposition to the anomalous I.P. results which, even if sulfide caused, could possibly be too disseminated and/or too deep for appreciable S.P. effects to develop or be detected. Of course, a non-sulfide cause of the I.P. anomalism would also explain the lack of S.P. response.

RECOMMENDATIONS

Ideally more I.P. coverage should be obtained to better define the zone of anomalism before selecting drilling targets. Additional coverage is particularly recommended between Lines 1, 2 and 3 plus extending Line 2 (and perhaps Line 1) further east to find the eastern limit of the anomalous zone. Some coverage should also be considered north of Line 1.

In lieu of more coverage, some preliminary drilling could be done to see if the anomalism located to date is of enough interest to warrant additional follow up I.P. coverage. In this regard, two drilling recommendations are given in order of geophysical priority:

Proposed Drill Hole #1: A vertical drill hole collared near station 26.0NE on Line 2 is recommended to test the most interesting portion of the Line 2 anomaly. This hole should be programmed to go 500 feet in total depth to evaluate the zone of interest unless the anomalism has obviously been explained at a shallower depth.

Proposed Drill Hole #2: A vertical hole collared near 2.5SW on Line 1 is recommended to evaluate the Line 1 anomaly. This hole should be drilled to at least 500 feet in depth to test the zone of interest although polarizable material should be seen within 150 feet or so of the surface. In that steep dips may be involved in the anomaly, angle drilling could be considered to increase the chances of intersection, particularly if there is any geologic data as to expected dip directions. See the drilling comments section below for further points to consider in this regard.

If either of these two holes produce interesting results, the additional I.P. coverage as recommended above should be obtained to aid in delineating other targets. Two other lower priority drill holes are also suggested depending on results of the initial drilling:

Proposed Drill Hole #3: A vertical hole collared near 21.0NE on Line 2 should sample a geophysically similar zone to proposed hole #1. Likewise, the hole should be programmed to go 500 feet in depth.

Proposed Drill Hole #4: A 500 foot plus vertical hole could be considered on the fringe of the I.P. anomaly on Line 2 near station 14.0NE on a MCF high within a zone of intermediate PFEs and resistivities.

All of the above drilling should of course depend on the results of drilling higher priority holes, or any existing drilling results plus any geological and geochemical or additional geophysical information available, all of which should be in constant correlation.

Additional geophysical drill targets can be located by reference to the surface projected plan interpretation and its correlation with all information to date. The weaker

fringes of the I.P. anomalism should also be given some consideration especially if in an area having evidence of a favorable copper to iron ratio. In some mining areas, it is found that the weaker I.P. zones are of more interest than the stronger portions which may only be reflecting high pyrite concentrations. In this area, initial attention has been focused on the stronger zones in the hope that they would have the highest probability of being economically interesting.

Consideration should also be given to obtaining ground magnetic coverage to further help in delineating the geology and determine if there is any magnetite relating to the polarizable zones. A geochemical survey may also prove useful in defining the more cupriferous areas of the anomalous zone particularly if it is sulfide caused.

COMMENTS ON DRILLING I.P. TARGETS

To maximize the probability that a recommended drill hole will intersect the source of an induced polarization anomaly, the following points should be considered:

1. The anomaly has been caused by some physical property, hopefully a polarizable body containing economically interesting metallic mineralization, and this property should be determined before abandoning the anomaly.

2. Location of drill holes should be made relative to the actual sending and receiving electrode positions as they exist on the ground.

3. Due to inherent limitations in the I.P. method, depth interpretations are only approximate and the determination of dip is severely limited, particularly for angles greater than 45°. Also, targets can generally be laterally resolved no finer than the station spacing (dipole length). Because of these limitations, targets less than one dipole spacing in width, particularly when steeply dipping or deeper than the dipole length, may be difficult to intersect. In these cases, several drill holes in a fence line should be considered. For the steeply dipping cases, angle drilling may also prove advantageous, mainly where the direction of

dip can be geologically inferred and the drill hole oriented such that an optimum intersection of the zone of interest is obtained.

4. An observed anomaly can be the effect of a polarizable body laterally offset to the side of a line and therefore if practical, drilling should be confined to those portions of the anomalous zones well defined by several lines. Also, it should be noted that a single line cannot define the strike direction of an elongate anomalous zone - another reason for utilizing several parallel lines.

5. Logging of the drill core must be done with special care to note the quantity of all possible polarizable material such as pyrite, graphite, magnetite, manganese oxides and clay minerals as well as the polarizable ore minerals. The anomalous source could conceivably be overlooked if the core is not carefully logged.

6. Typical sections of core representing the gross physical properties of material encountered in the drilling should be tested in the laboratory for their I.P. parameters, if there is some doubt about confirmation of the anomalous source.

INTERPRETATION

Line 1 (Spread 1, a = 500' and Spread 2, a = 250'): Spread 1 shows a moderate strength I.P. anomaly mainly between 0.0NE/SW and 5.0SW with weak to very weak fringes extending the zone roughly 500 feet both to the east and west. The anomaly has a near surface source with good depth persistence and appears to be related to the west flank of a gradational resistivity.interface near 2.5NE. The resistivity interface shows quite resistive material to the east on the rhyolite intrusive and lower resistivities to the west in the schist. The resistivity and I.P. pattern east of this interface indicates decreasing resistivity and increasingly anomalous I.P. effects at depth in turn suggesting that anomalous material persists in the schist south of the intrusive - being sensed as a lateral effect to the south of the line rather than effects at depth vertically below the line.

Spread 2 was run to delineate the anomalous zone in more detail and at a somewhat shallower depth. The stronger effects are still mainly between 0.0NE/SW and 5.0SW although the edges are somewhat better defined; the east edge being quite abrupt and the west boundary more gradational. The overall pattern suggests a steeply dipping tabular body between 250 and 500 feet in width coming to within 150 feet of the surface. The gradational resistivity interface noted near 2.5NE on Spread 1 is resolved into two more definite interfaces on Spread 2; near 5.0NE and 2.5SW. The I.P. anomaly appears to be intimately related to the 2.5SW interface. A very weak narrow I.P. anomaly of questionable significance is noted near 12.5SW evidenced mainly as a string of higher PFEs pointing towards that station.

No significant self potential response is seen on Spread 2. A broad low centered near 0.0NE/SW on Spread 1 was not verified by Spread 2 and is therefore not considered to be valid and was perhaps caused by drifting potential electrodes or telluric noise.

Line 2 (Spread 1, a = 500' and Spread 2, a = 250'): Spread 1 shows only background I.P. effects on its west half. The east half of the spread gradually increases to a moderate strength anomaly east of about 12.5NE continuing eastwards to at least 20.0NE where lack of coverage prevents complete interpretation. As on Line 1, the I.P. response is associated with a change in resistivity, namely an increase to the east but no well defined interfaces are noted as on Line 1. The I.P. anomaly appears to have a near surface source with a decrease in strength with increased depth implying a bottom to the anomaly source.

Spread 2 was run across the east half of Spread 1 to better delineate the anomaly with shorter dipoles. The anomaly has a quite pronounced layered aspect suggesting a tabular source, fairly flat lying, perhaps 250 feet in depth to its top and 200 to 300 feet in thickness. There is some indication that the source very gradually becomes shallower to the east limit of coverage near 30.0NE from the deeper west end near 12.5NE. The anomaly is open-ended on the east and may be slightly increasing in strength in that direction. The

resistivities on this spread show decreased values west of about 15.0NE and an increase with depth east of about 20.0NE likely due to decreased weathering with depth. No significant appearing self potentials are noted on either spread.

Line 3 (Spreads 1 and 2, a = 500'): No definitely anomalous I.P. effects are seen on this line. A very weak, questionably significant, narrow zone of slightly increased PFEs are noted near 17.5SW showing no obvious correlation with the geology or other I.P. lines. East of about 10.0SW the PFEs show a general increase with depth but the resistivity is so high that the MCFs are very low background in strength and therefore probably not of interest. There is an ill-defined resistivity interface near 27.5SW west of which the resistivity is lower. A narrow high resistivity zone is seen near 22.5SW not correlating with any obvious geologic feature. The self potential shows only background variations along the traverse.

Line 4 (Spread 1, a = 500'): The south half of the traverse shows only very low background I.P. effects. The north half of the line is weakly but definitely anomalous and ties in with the western fringes of anomalous response on Lines 1 and 2. The anomalism here is similar to that on the Line 2 in that it exhibits a layered aspect in a similar depth range. It is possible that much of this traverse is responding laterally to a polarizable zone lying mainly to the east thereof. The resistivities are quite complex within the zone of I.P. anomalism and show a general increase with depth on Line 2. The south half of the line is somewhat lower than the north half on the average but again shows an increase with depth likely due to decreased weathering with depth. Only background self potential variations are noted.

Respectfully submitted,
HEINRICHS GEOEXPLORATION COMPANY

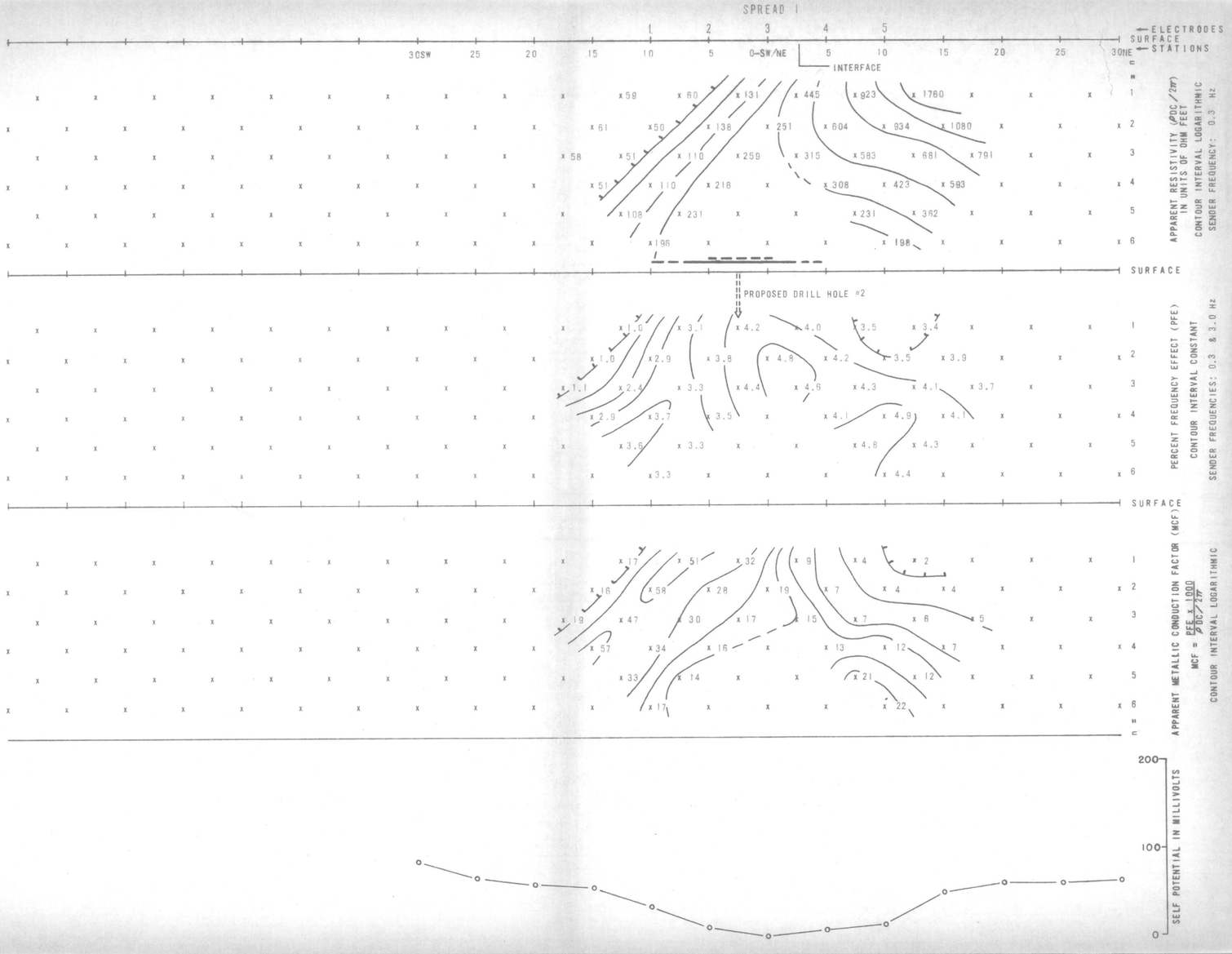
Chris S. Ludwig

Chris S. Ludwig
Senior Geophysicist

P.O. Box 5964
Tucson, Arizona 85703
December 1970
GEOEX Job # 585

LINE NO.
1
SPREAD(S)
1

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION



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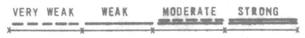

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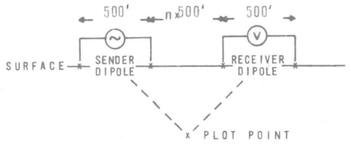

AREA
SUPERIOR

LOOKING
N 21° W

DATE
NOV 1970

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GEOPHYSICAL ENGINEERS
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585-70

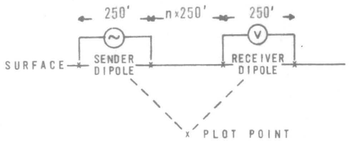
LINE NO.
1
SPREAD(S)
2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR

LOOKING
N 21° W

DATE
NOV 1970

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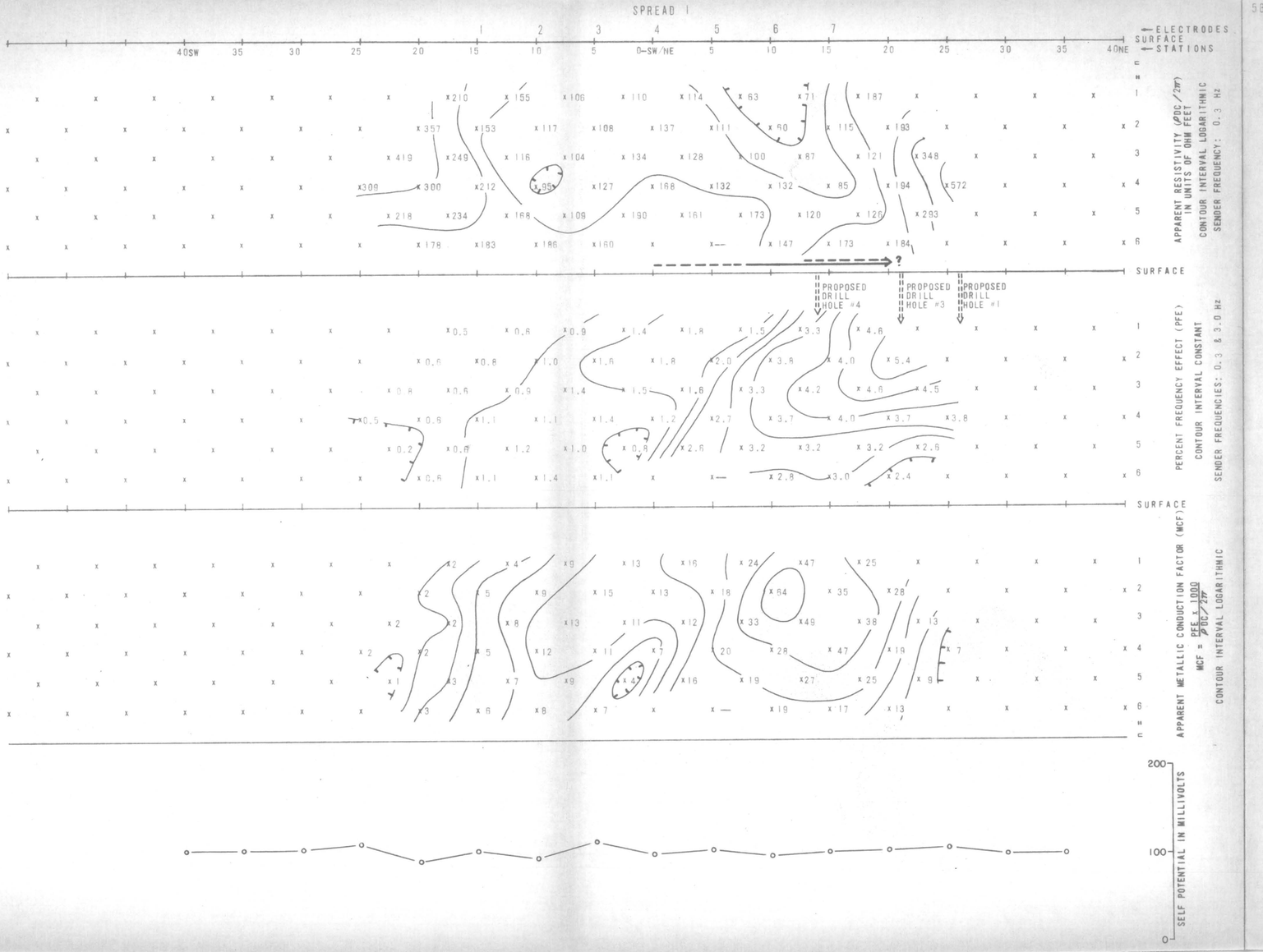

535-70

LINE NO.
2
SPREAD(S)
I

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

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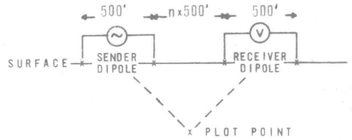
DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR

LOOKING
W½ - N 40° W
E½ - N 22° W

DATE
NOV 1970

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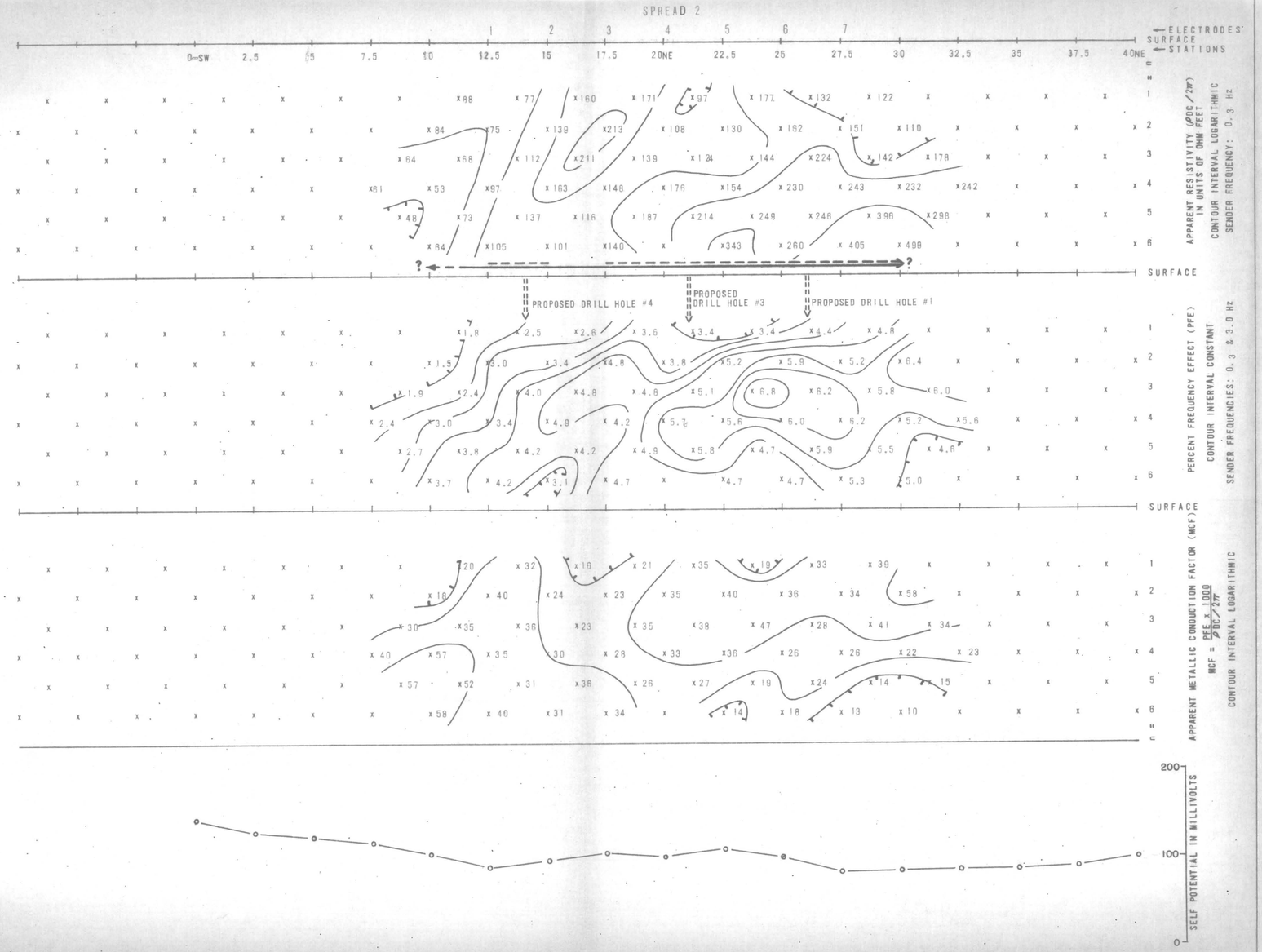


585-70

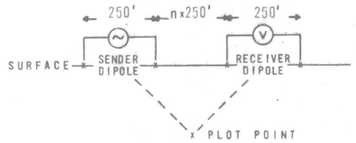
LINE NO. 2
SPREAD(S) 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR

LOOKING
N 22° W

DATE
NOV 1970

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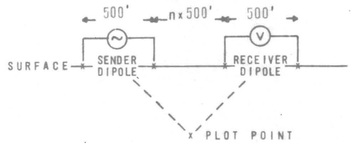
585-70

LINE NO.
3
SPREAD(S)
1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR
LOOKING
N 18° W
DATE
NOV 1970

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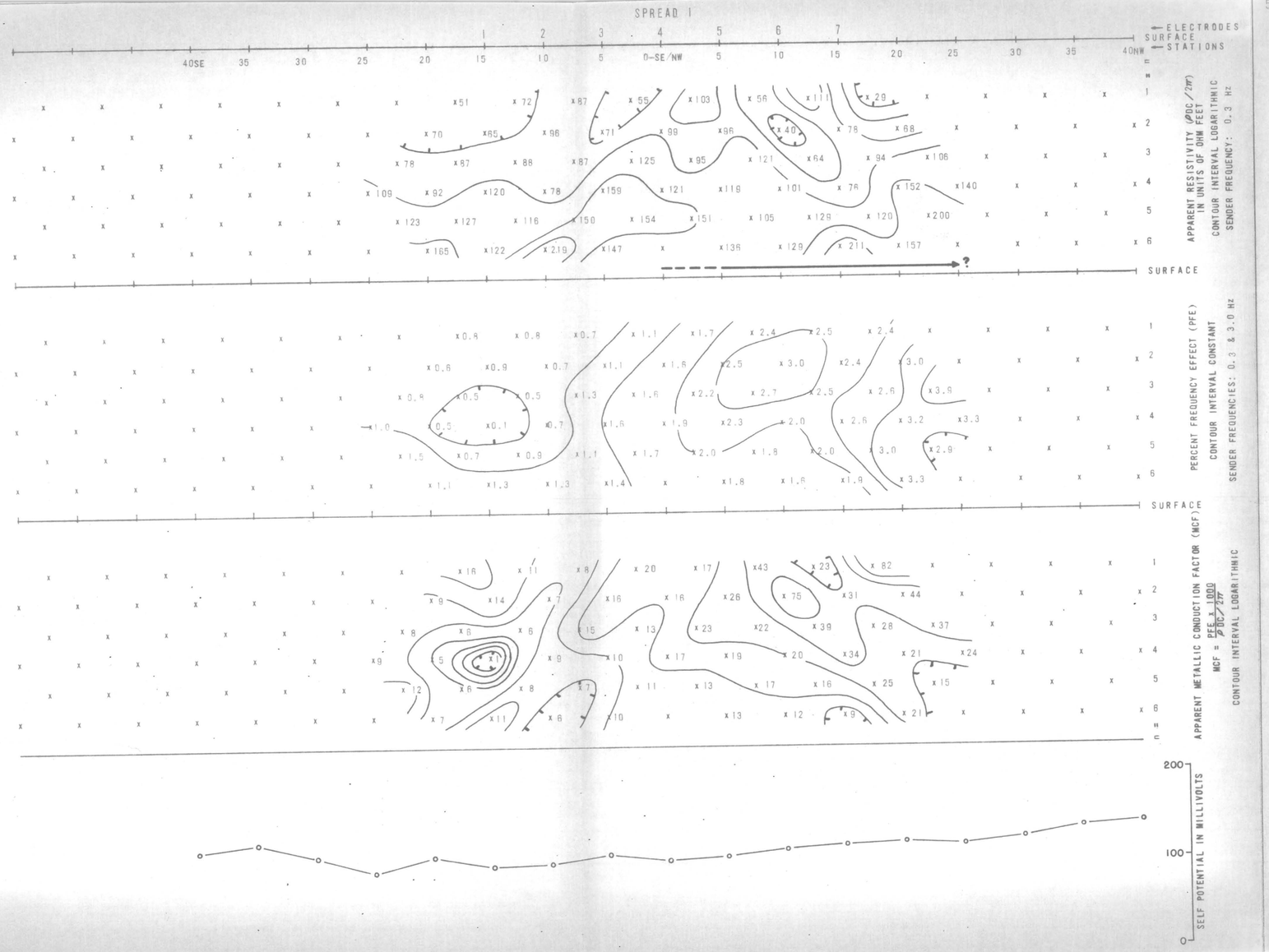


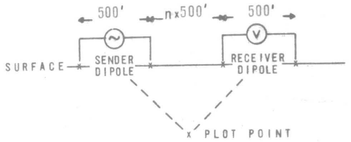
585-70

LINE NO.
4
SPREAD(S)
I

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR

LOOKING
S 70° W

DATE
NOV 1970

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I. P. Survey
on the
Superior Prospect, Pinal County
Arizona

PHASE II

for

Tipperary Resources Corporation

Date: January 1971

GEOEX Job# 585 (Ex)

INDUCED POLARIZATION SURVEY

ON THE

SUPERIOR PROSPECT

PHASE II

PINAL COUNTY, ARIZONA

For

TIPPERARY RESOURCES CORPORATION

January 1971

By

Heinrichs GEOEXploration Company
P.O. Box 5964, Tucson, Arizona 85703

GEOEX Job # 585

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- Line 1 (Spreads 2,3,4 and 5, 250' dipoles)
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In Map Pocket
- Induced Polarization Location and Interpretation Plan

GENERAL LOCATION
of
SUPERIOR PROSPECT
for
TIPPERARY RESOURCES CORPORATION

ARIZONA

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INTRODUCTION

At the request of Mr. C.R. Williams of Tipperary Resources Corporation, Heinrichs GEOEXploration Company conducted a second phase of more detailed induced polarization coverage, as recommended in our initial report dated December 1970, over parts of the Superior Prospect near Superior, Pinal County, Arizona. This Phase II field work was accomplished during the interim December 28, 1970 to January 15, 1971.

Lines 1 and 2 were extended to the east and five new lines (Lines 5 through 9) were run all roughly parallel to and near Lines 1, 2 and 3. A total of 14 new spreads were completed. All the new coverage is on 250 foot dipoles except Line 9 which was run on 500 foot dipoles. The total lineal coverage of both phases, counting both dipole spacings used, is 15.1 line miles of which 10.7 line miles are "subsurface" plotted data.

The new coverage was tied to and is presented with the Phase I coverage and the same sending frequencies of 0.3 and 3.0 Hz were used on both phases. For completeness, all data from both phases is presented in this Phase II report. The "Induced Polarization Location and Interpretation Plan" has been modified to show all coverage and the surface projected relative anomaly strength has been schematically contoured to help show the interpreted sulfide distribution in plan.

GEOEX personnel involved in the Phase II field work were W. Freeman, Geophysicist-Crew Chief; T. Freeman and A. Gotmer, technical assistants. Computations, compilation and final report by C. Ludwig, Senior Geophysicist, assisted by W. Freeman and the GEOEX staff.

CONCLUSIONS

The more detailed coverage of Phase II has outlined a complexly shaped probable sulfide zone, within the Pinal schist, flanking and likely intimately related to the rhyolite intrusive mainly on the south and west but also on the southeast.

As seen in plan, there are two stronger lobes of the anomaly. The more westerly lobe is quite elongate and strikes NNW and lies in the schist along the southwest contact of the

intrusive and its SSE projection. To the SSE, the west lobe truncates somewhere between Lines 9 and 6 and continues to the NNW past Line 7 but is apparently becoming gradually weaker. The source of this anomaly appears to be steeply dipping (with a suggestion of a westerly dip) and has good depth persistence. The anomalous response is perhaps reflecting mineralization in and near the iron stained fracture mapped nearby.

The easterly strong lobe is somewhat elongate in a NNE direction but is considerably broader than the west lobe. The source has a pronounced layered aspect perhaps being 200 or 300 feet in thickness below which the sulfide content is expected to decrease somewhat. As discussed in the Phase I report, this layered aspect could conceivably be reflecting an enriched sulfide blanket or may only be a weathering or structural phenomenon.

There is a pronounced deepening to the top of these anomalous sources southerly from the intrusive suggesting a gentle southerly dip on the east lobe and a slight southward slope of the top of the west lobe.

The most shallow appearing response is noted on Line 5 in both lobes although response on Lines 1, 7 and 8 is nearly as shallow and the interpreted depth to the top of the sulfide zone is probably within 100 feet of the surface on these four lines. The deepest resolvable response is noted on Line 6 where 300 to 400 feet or so is expected to the top of the polarizable zone.

Strength of sulfide indicated in the strongest portions of the two anomalies (Lines 5 and 8) is only slightly more than was estimated in the Phase I report (based on Lines 1 and 2 mainly), that is, roughly 1.5 to 4% total sulfide by volume rather than 1 to 3%. This content would be roughly 3 to 8% total sulfide by weight and is based on the interpreted source geometries and a comparison with "typical" disseminated sulfide zones in the Southwest and is subject to considerable variance based on specific mineralogic parameters, etc.

As suspected and mentioned in the Phase I report, the Phase II data verifies that Line 4 is mainly responding laterally to polarizable material east thereof. Line 9 cuts off most of the significant appearing response to the south

and the eastern cutoff is fairly well defined by Lines 1, 2,5,6 and 8. The anomalous zones are still open to the northwest and northeast but are apparently becoming weaker in that direction.

A weak but possibly interesting anomaly is seen on the east end of Line 1 and on Spread 2 of Line 7 which is similar to and perhaps related to but discrete from the east lobe of the main anomaly. This zone is open to the north, south and east.

The additional coverage on the rhyolite intrusive shows it to be very non-conductive and apparently not significantly mineralized where traversed. The resistivities associated with the stronger I.P. effects in the schist are somewhat lower than the surroundings possibly reflecting the content of conductive sulfide material and associated alteration products or perhaps only increased weathering effects.

The new coverage shows no significant appearing self potential response. This furthers the Phase I conclusion that no appreciable quantities of near surface relatively oxidizing interconnected sulfides occur in the area surveyed. This, of course, does not rule out disseminated sulfides being present as indicated by the I.P. response.

RECOMMENDATIONS

Six drill holes are suggested, in order of geophysical priority, to initially test the two main sources of the anomalous I.P. effects. These holes are mainly designed to evaluate the zones of stronger I.P. response. However, drilling anywhere within the schematic boundaries of the weak response as shown on the plan map should intersect strong enough polarizable mineralization that, if consisting of mainly sulfide ore minerals, could be economically interesting. Initial attention is given to the zones of strongest response in the hope they would have the best chance of being of economic interest but the weaker fringes should not be ignored in the initial drilling, particularly is there is interesting correlating geology or geochemistry.

1. A vertical drill hole collared near 28.5NE on Line 8 is recommended to test a strong portion of the east lobe. This hole should be programmed to go at least 400 feet in depth to completely test the section of interest.

HEINRICHS GEOEXPLORATION COMPANY

2. To help evaluate the west lobe, a vertical drill hole collared near 10NE on Line 5 is recommended and should go to about 500 feet to sample the zone of interest. Alternately (or even preferably if the dip is geologically expected to be near vertical) a 45° easterly angle hole collared near 6.75NE on Line 5 is suggested assuming a steep westerly dip and should be at least 700 feet in length to pass through the zone of interest. If the dip is expected to be vertical or steeply to the east a 45° westerly angle hole collared near 12.5NE may be preferable and would take better advantage of the topographic slope.

3. If the results of recommendation 1.) are interesting, a 400 foot vertical hole near 31NE on Line 5 would test a geophysically equivalent target on the east lobe.

4. If drilling recommendation 2.) proves encouraging the west lobe could be further tested in a strongly anomalous area with a vertical hole about 500 feet in length collared near 11E on Line 8. An east or west angle alternate may be preferable if steep dips and a narrow target is expected.

5. Depending on the results of the above recommended drilling, the east lobe could be further evaluated in a deeper but broader, moderately strong portion by a 500 foot vertical hole collared near 28.75NE on Line 2.

6. The west lobe could be further evaluated by vertical (or angle) drilling on Line 1 near the rhyolite contact. A 500 foot or deeper vertical hole collared near 2.5SW should sample the zone of geophysical interest unless there are adverse depth and width factors which would best be circumvented by angle drilling.

The above drilling should, of course, depend on the results of testing higher priority holes or any other existing drilling information, geological and geochemical or additional geophysical information available, all of which should be in constant correlation.

Additional geophysical drill targets can be chosen by reference to the schematic anomaly strength contours on the interpretation plan correlated with all information to date.

Based on these drilling results, additional I.P. coverage could be justified. Fill in lines between Lines 1 and

5, Lines 2 and 6 and Lines 1 and 7 on 250 feet dipoles would add useful detail in the main sulfide areas. Further coverage of a reconnaissance nature near Spread 5, Line 1 and Spread 2, Line 7 would help evaluate the apparently discrete weak I.P. anomaly in the area.

COMMENTS ON DRILLING I.P. TARGETS

To maximize the probability that a recommended drill hole will intersect the source of an induced polarization anomaly, the following points should be considered:

1. The anomaly has been caused by some physical property, hopefully a polarizable body containing economically interesting metallic mineralization, and this property should be determined before abandoning the anomaly.

2. Location of drill holes should be made relative to the actual sending and receiving electrode positions as they exist on the ground.

3. Due to inherent limitations in the I.P. method, depth interpretations are only approximate and the determination of dip is severely limited, particularly for angles greater than 45°. Also, targets can generally be laterally resolved no finer than the station spacing (dipole length). Because of these limitations, targets less than one dipole spacing in width, particularly when steeply dipping or deeper than the dipole length, may be difficult to intersect. In these cases, several drill holes in a fence line should be considered. For the steeply dipping cases, angle drilling may also prove advantageous, mainly where the direction of dip can be geologically inferred and the drill hole oriented such that an optimum intersection of the zone of interest is obtained.

4. An observed anomaly can be the effect of a polarizable body laterally offset to the side of a line and therefore if practical, drilling should be confined to those portions of the anomalous zones well defined by several lines. Also, it should be noted that a single line cannot define the strike direction of an elongate anomalous zone - another reason for utilizing several parallel lines.

5. Logging of the drill core <u>must</u> be done with special

care to note the quantity of all possible polarizable material such as pyrite, graphite, magnetite, manganese oxides and clay minerals as well as the polarizable ore minerals. The anomalous source could conceivably be overlooked if the core is not carefully logged.

6. Typical sections of core representing the gross physical properties of material encountered in the drilling should be tested in the laboratory for their I.P. parameters if there is some doubt about confirmation of the anomalous source.

INTERPRETATION

Line 1 (Spreads 3, 4 and 5, 250' dipoles): Spread 3 shows very high resistivities, high background PFEs and very low MCFs from Spread 2 easterly to about 24NE where the line leaves the rhyolite and goes into the schist. The schist from about 24NE to 42.5NE is very weakly anomalous and very shallow with most response coming from within 200 feet of the surface. Near 39NE within this broad very weak zone is a questionably significant weak anomaly in the MCF also with a very shallow appearance and within a pronounced resistivity low.

Another broad zone of very weak to weak I.P. response is noted northeast of 50N to at least the end of Spread 5. This response also has a near surface character but with somewhat more depth persistence than the east lobe anomaly generally shows. More coverage to the northeast would be necessary for a complete interpretation.

Line 2 (Spread 3, 250' dipoles): Spread 3 was added on to the eastern end of Spread 2 to determine the easterly edge of the broad zone of moderate strength I.P. response partially delineated by Spread 2. The cutoff is fairly definite and is near 35NE although very weak fringing response is noted out to about 41NE. Lower near surface resistivity seems to relate to the entire length of anomalous I.P. response although it may only be an indirectly associated weathering effect.

Line 5 (Spreads 1, 2 and 3, 250' dipoles): Both the west and east lobe I.P. anomalies are noted on this traverse and on both zones the relative anomaly strength varies from weak to strong with some very weak fringing response outside

and between the two zones. The west anomaly is centered near 10NE and the PFE pattern, in particular, suggests a steeply dipping tabular source with good depth extent and well defined boundaries implying a width of likely no more than one dipole (250 feet). Depth to the top is estimated as less than 100 feet. The MCF pattern, however, suggests a westerly dipping source although this may only be the effect of the gradationally decreasing resistivities to the west. The east lobe I.P. anomaly is centered near 30NE and shows a very pronounced layered aspect best seen in the MCF pattern. Depth to the top is estimated at being well within 100 feet of the surface with an anomalous source thickness of about 200 or 300 feet. The west edge is rather sharp and is near 27.5NE. The east edge is gradational with weak response persisting to about 44NE. Low near surface resistivity seems to relate to most of the width of the anomaly.

Line 6 (Spreads 1 and 2, 250' dipoles): Only the east lobe anomaly is noted on this line and is centered near 12NE. The layered aspect of the east lobe anomaly is not evident here probably because the source is buried deep enough that its bottom is not being sensed by the 250 foot dipoles. The depth to the top of this anomaly is interpreted as 300 or 400 feet below surface. Very weak fringing response increases the width of the zone to between stations 5NE and 22.5NE.

A complexly shaped level change near 2.5SW in the resistivity is probably reflecting a rock type change with more conductive material west of 2.5SW.

Line 7 (Spread 1, 250' dipoles): This spread was run to investigate the west lobe anomaly about 1200 feet north of Line 1. The anomaly is seen to continue to Line 7 and is quite similar in shape but somewhat weaker in strength. A minor, broad self potential low seems to be related to the I.P. effects but its amplitude is too weak to normally be considered as significant. As on Line 1, the anomaly appears to be intimately related to the schist-rhyolite contact which is reflected in the resistivity as a level change (interface) near 1.25NE. The I.P. response is mostly west of this contact, within the schist. The rhyolite is again very high in resistivity and shows several interfaces suggesting some sort of a change in its composition or fabric near 5NE and 16.25NE. The highest resistivities on the survey are noted on the east

end of this spread.

Line 7 (Spread 2, 250' dipoles): Continuous coverage was not obtained on the rhyolite between Spreads 1 and 2 because of time and logistic limitations. Spread 2 was centered near the eastern rhyolite-schist contact (near 63.5NE) to determine if the schist is mineralized on both contacts. Weak to very weak but definite I.P. response was located between 65NE and 75NE in the schist and again has a layered near surface aspect correlating with near surface lower resistivity.

Line 8 (Spreads 1 and 2, 250' dipoles): Line 8 is between Lines 2 and 5 and is quite similar in appearance to Line 5 with both anomaly lobes being up to strong in relative anomaly strength. Again, the west lobe anomaly which is centered near 11NE appears to have a rather steeply dipping tabular source roughly 250 feet in width and showing good depth persistence. Slightly more depth to the top than on Line 5 is indicated, probably about 100 feet. The east lobe anomaly again shows a pronounced layered character with gradational weak fringes. The strongest portion is centered near 28.5NE and is likely not buried more than 100 feet to its top. Both anomalies have associated near surface lower resistivities and even the zone between the two anomalies appears to be significantly mineralized.

Line 9 (Spread 1, 500' dipoles): This line was run to determine if the I.P. anomalism continues at depth south of Line 6 (but north of Line 3). A 500 foot dipole spacing was used because on Line 6 the anomaly appeared quite deep and seemed to be progressively deepening to the south. East of 0 NE/SW, the I.P. response is mostly background in strength although a hint of a layered I.P. anomaly is noted near 15NE on the second "n" level of data - too weak to be of significance at this stage. The west end of the traverse shows a portion of a very weak anomaly apparently not correlating with response on nearby lines and is therefore not considered to be of any particular importance.

Respectfully submitted:
HEINRICHS GEOEXPLORATION COMPANY

Chris S. Ludwig

By: Chris S. Ludwig
Senior Geophysicist

Approved By: W. E. Heinrichs Jr.
Walter E. Heinrichs, Jr.
President

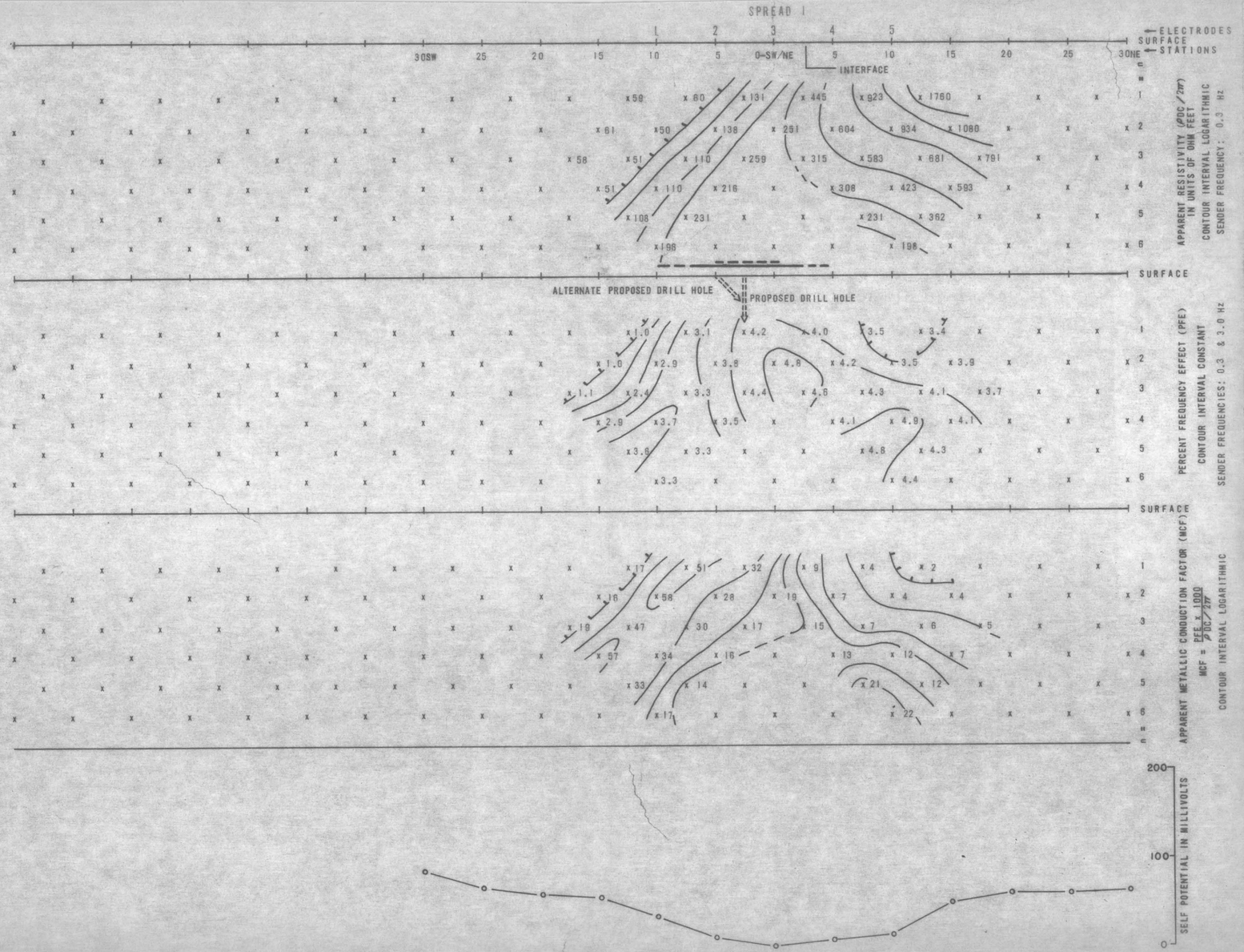
P.O. Box 5964
Tucson, Arizona 85703
January 1971
GEOEX Job # 585

HEINRICHS GEOEXPLORATION COMPANY

585-70

LINE NO.
I
SPREAD(S)
I

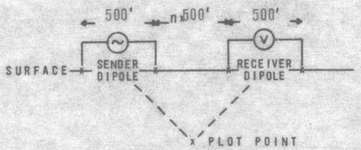
INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION



RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR
LOOKING
N 21° W
DATE
NOV 1970

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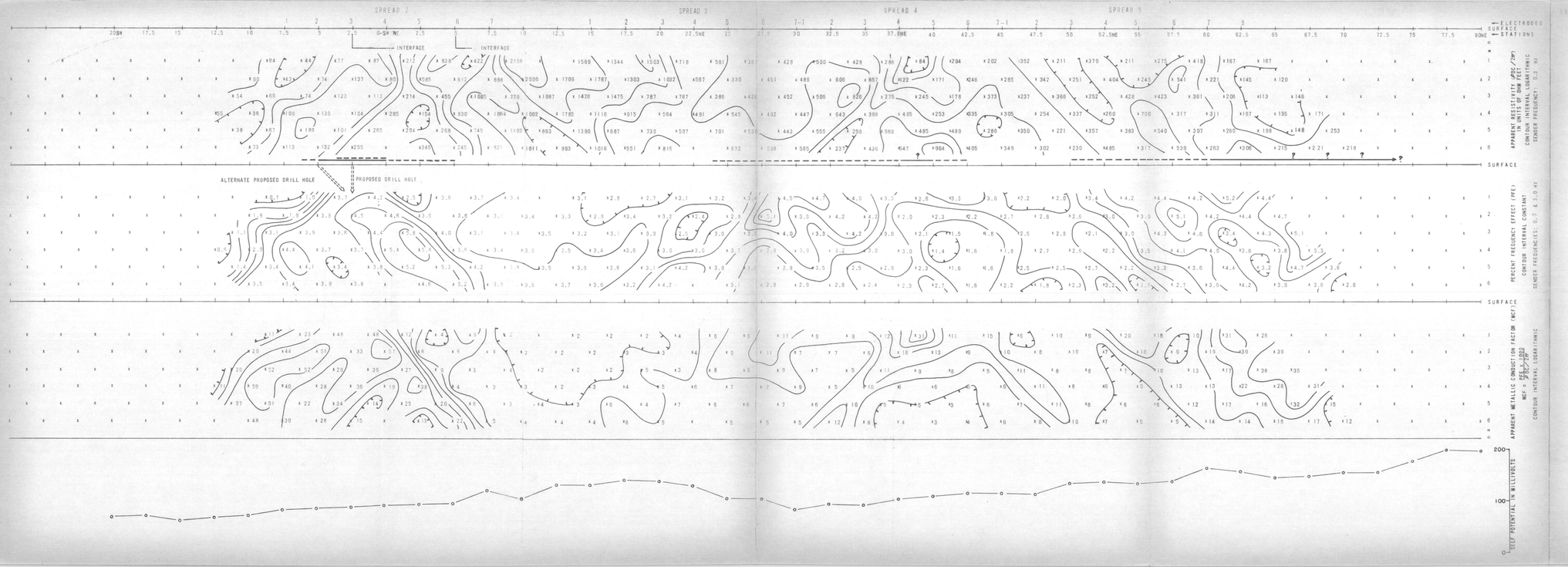


LINE NO.
I

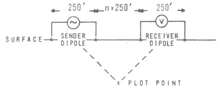
SPREAD(S)
2,3,4 & 5

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



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LOOKING
N 21° W

DATE
SPR 2 - NOV 1970
SPR 3,4 & 5 - JAN 1971

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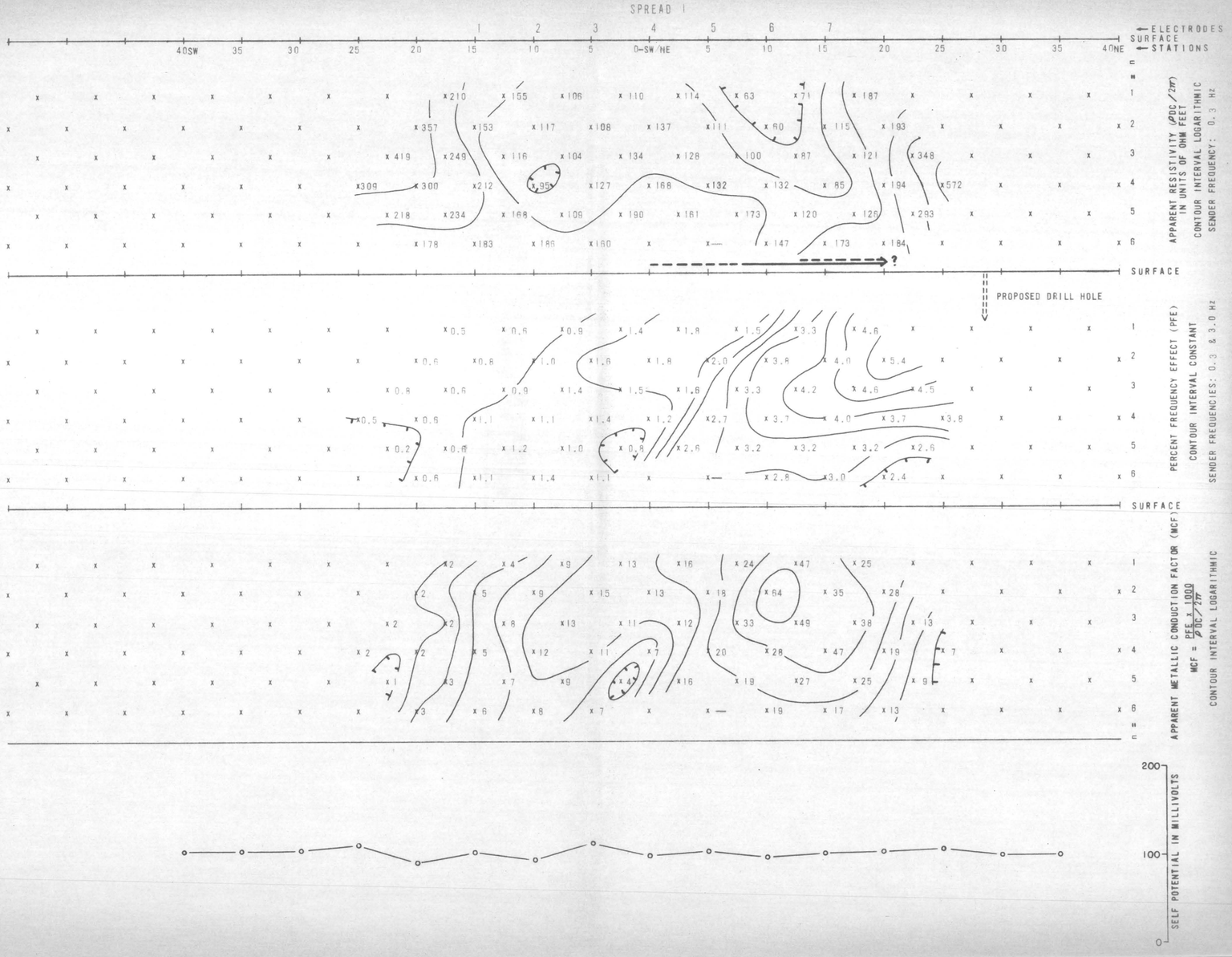


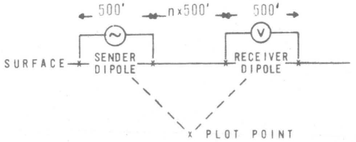
583-70

LINE NO.
2
SPREAD(S)
I

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR

LOOKING
W½ - N 40° W
E½ - N 22° W

DATE
NOV 1970

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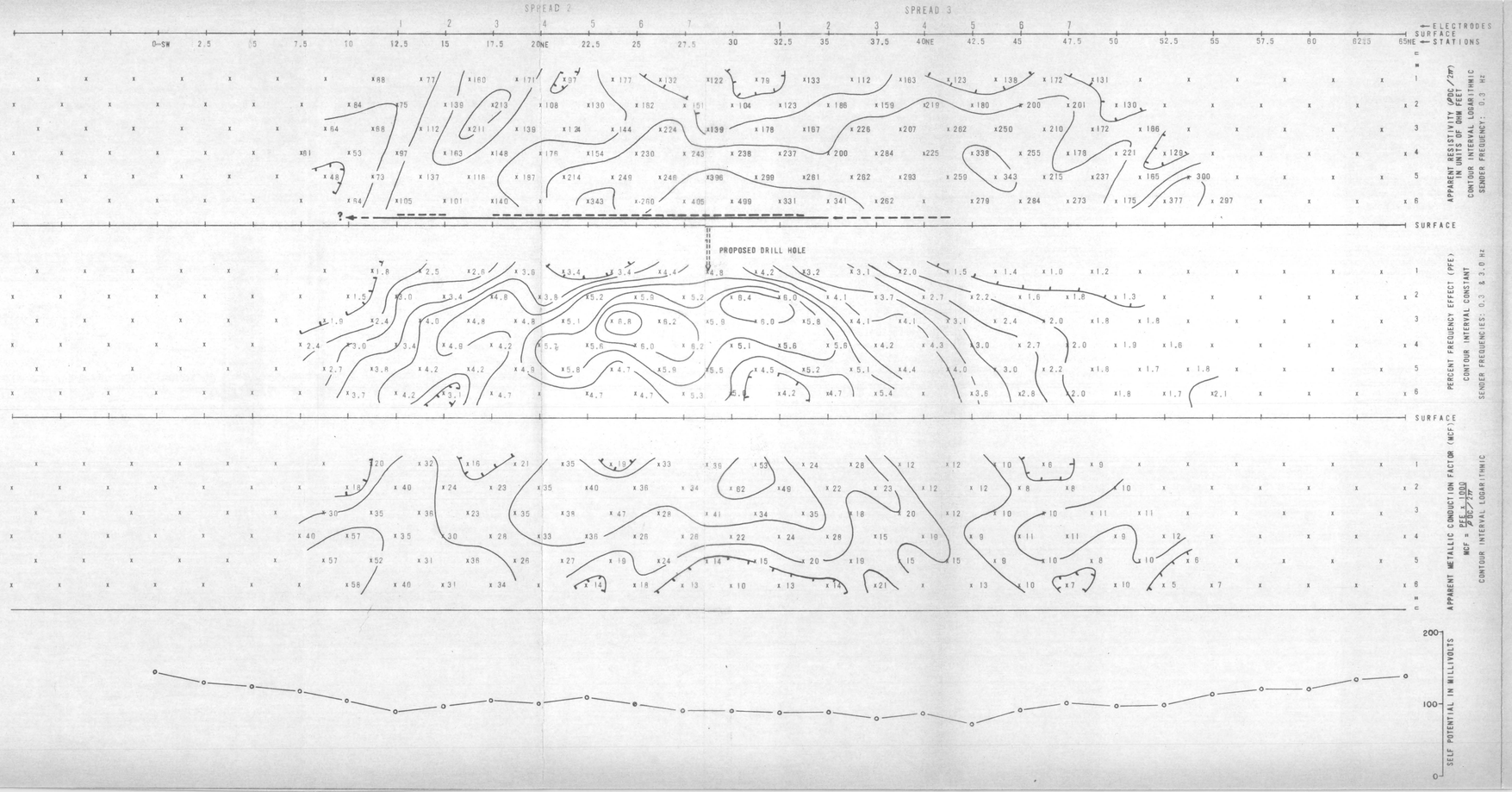


965-70

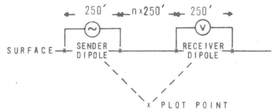
LINE NO.
2
SPREAD(S)
2 & 3

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR
LOOKING
N 22° W

DATE
SPR. 2 - NOV 1970
SPR. 3 - DEC 1970

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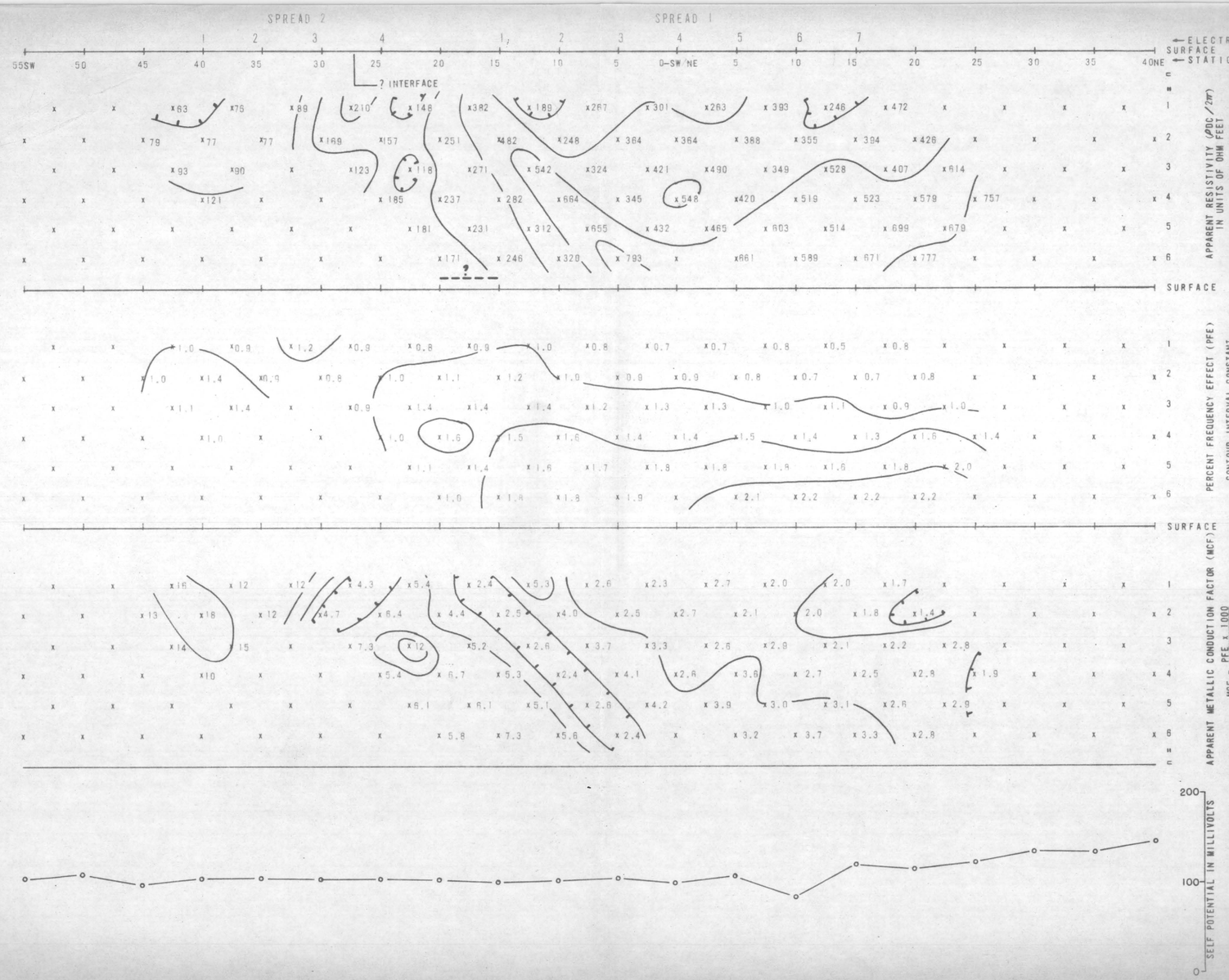
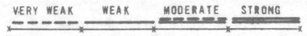


585-70

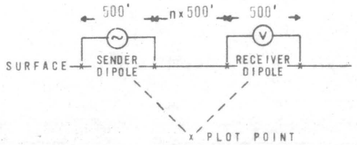
LINE NO.
3
SPREAD(S)
1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH



DIPOLE DIPOLE ELECTRODE ARRAY



AREA
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LOOKING
N 18° W
DATE
NOV 1970

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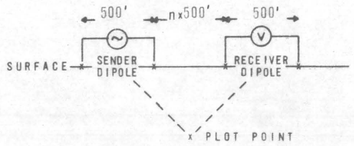
565-70

LINE NO.
4
SPREAD(S)
1

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR

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S 70° W

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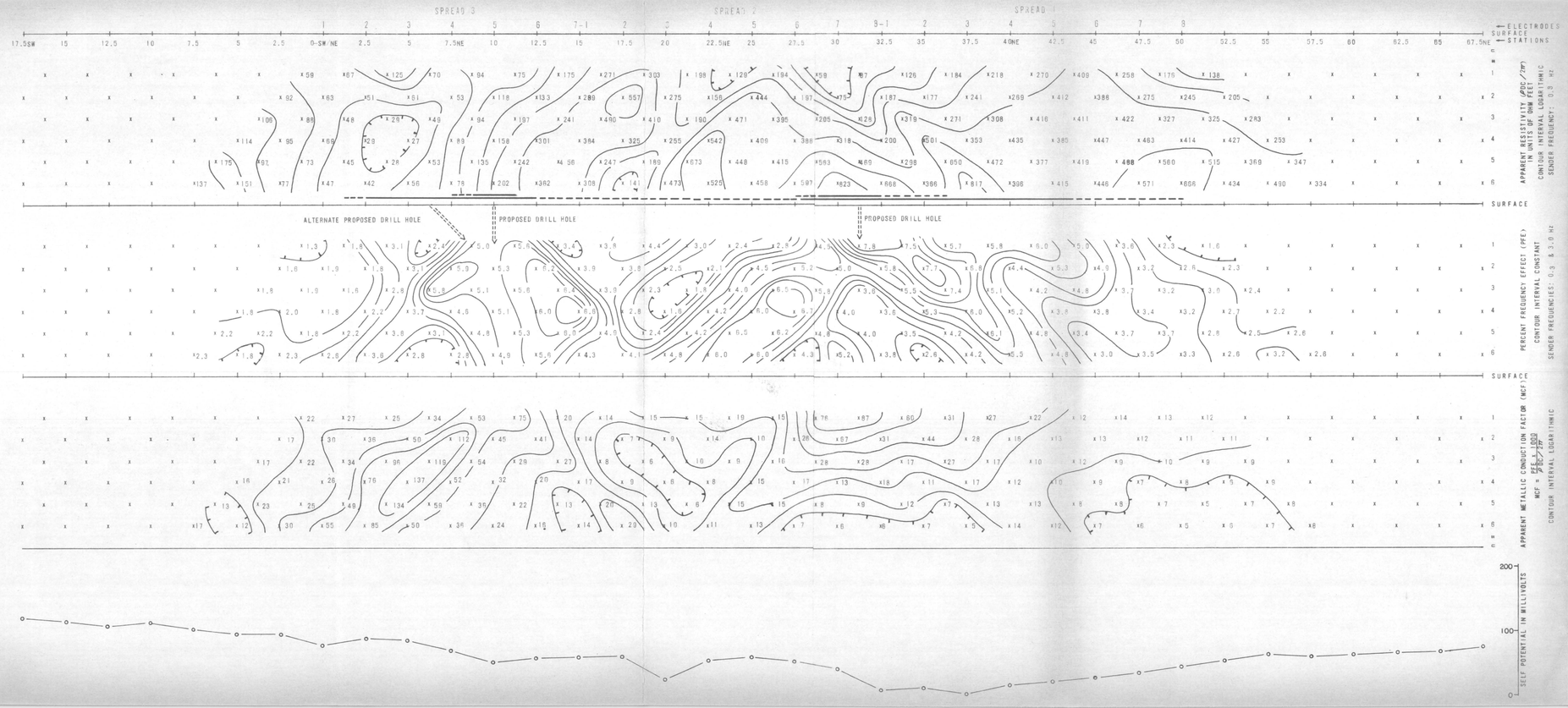


LINE NO.
5
SPREAD(S)
1, 2 & 3

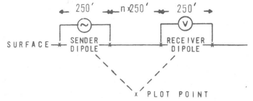
INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
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LOOKING
N 22° W
DATE
DEC 1970

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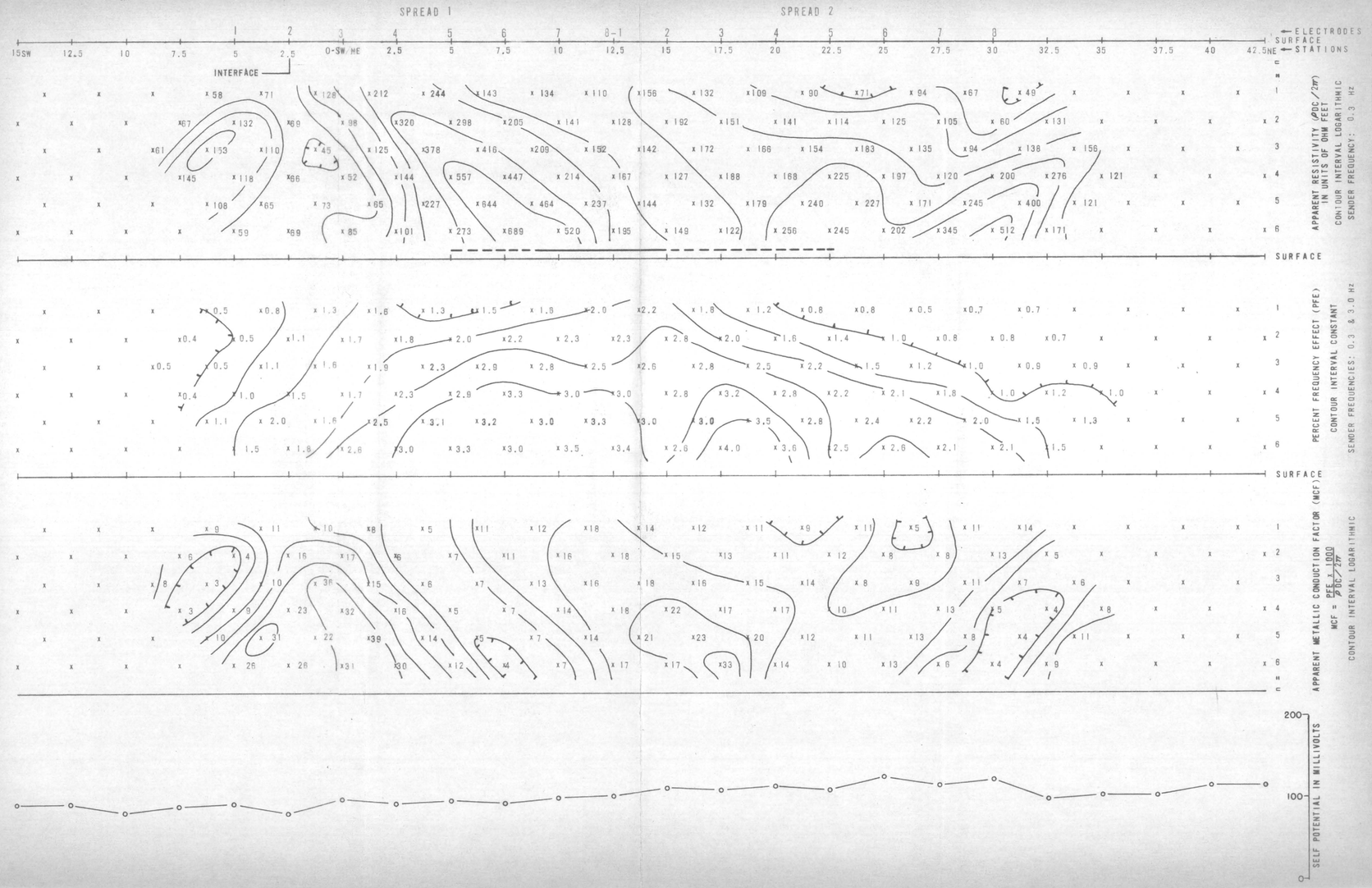


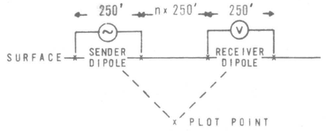
585-70

LINE NO.
6
SPREAD(S)
1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



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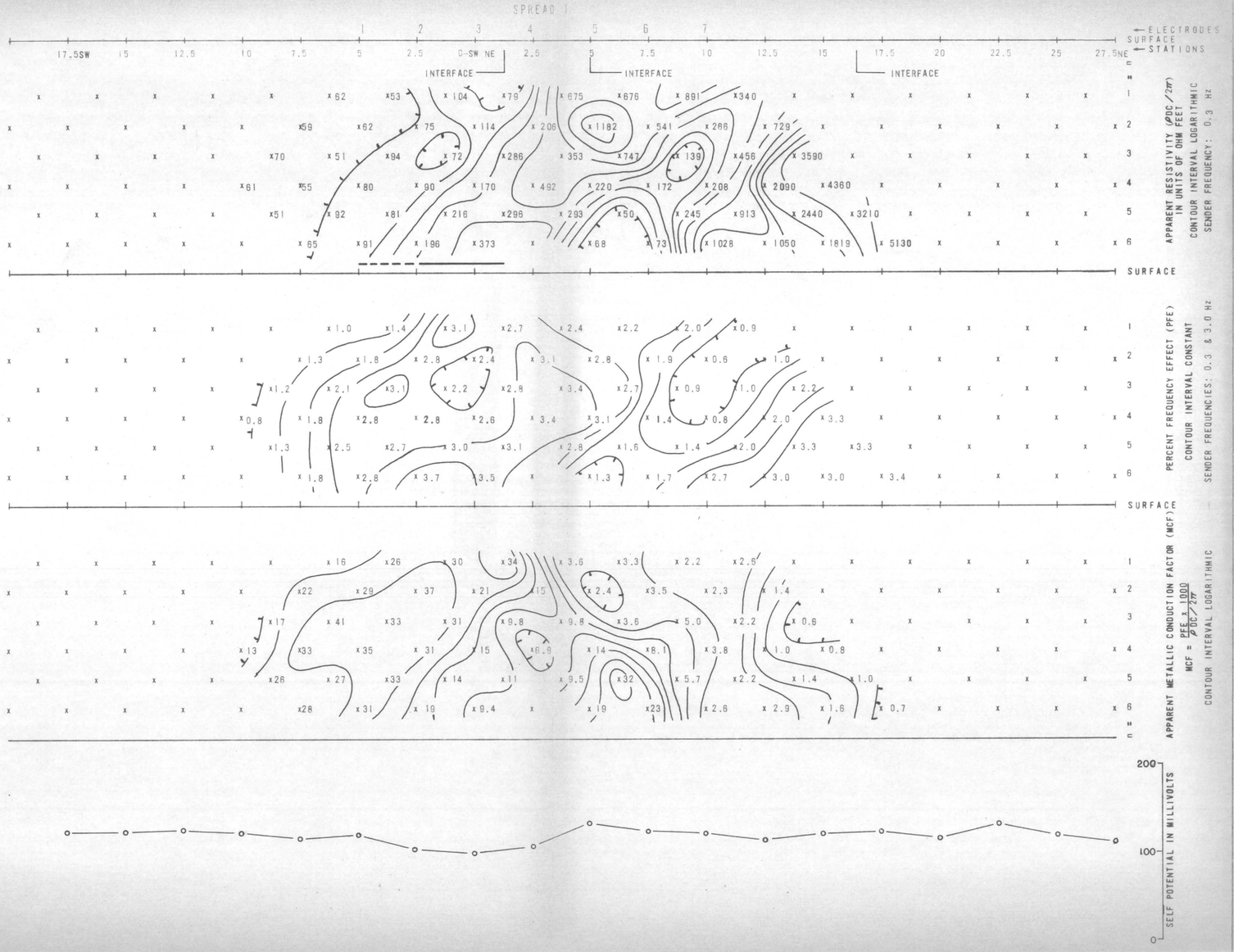


585-70

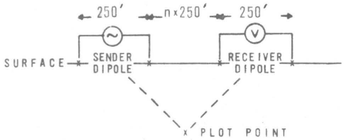
LINE NO.
7
SPREAD(S)
1

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
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LOOKING
N 20° W
DATE
JAN 1971

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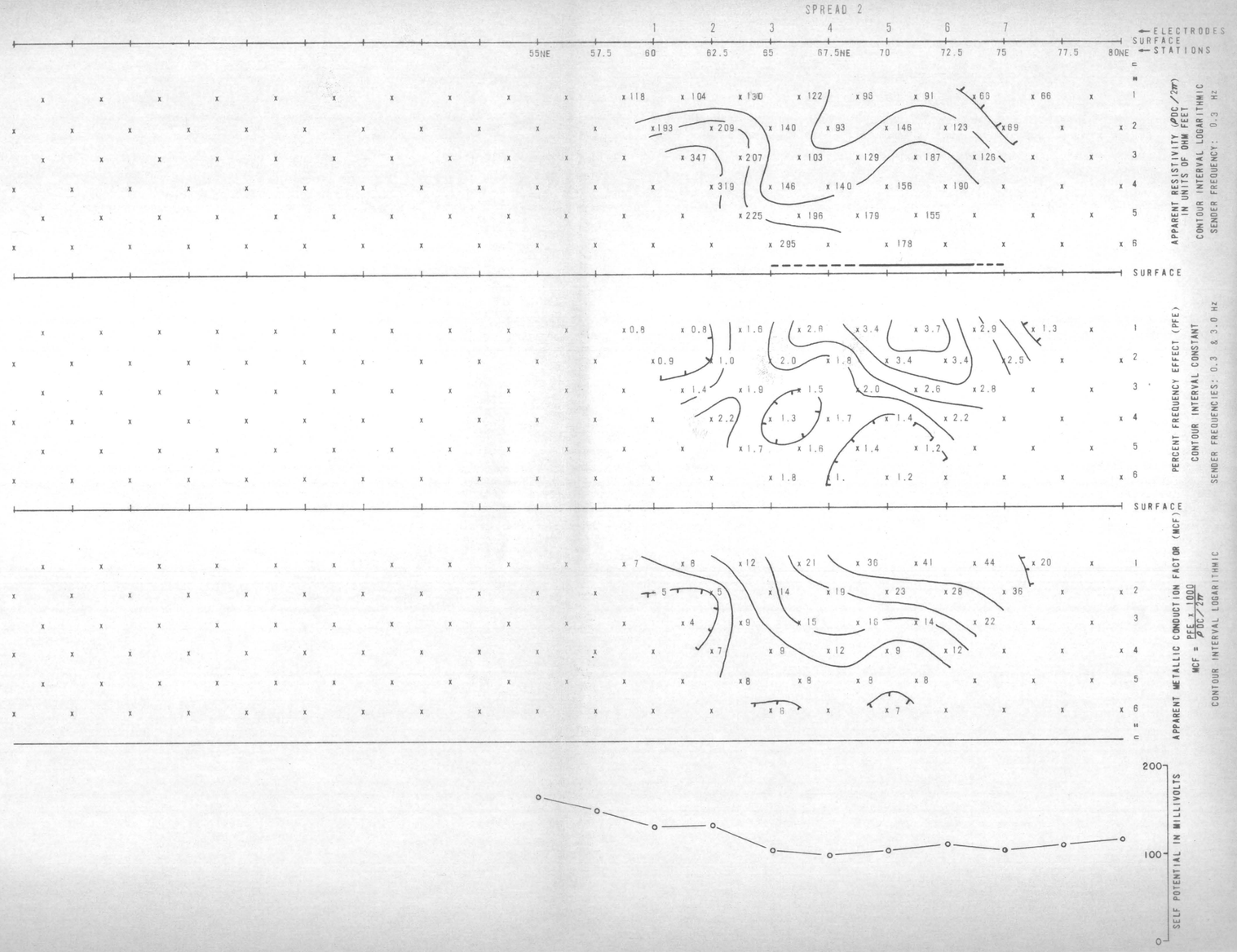


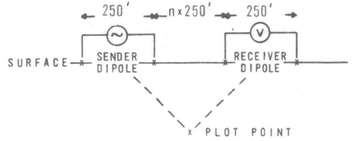
585-70

LINE NO.
7
SPREAD(S)
2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR
LOOKING
N 22° W
DATE
JAN 1971

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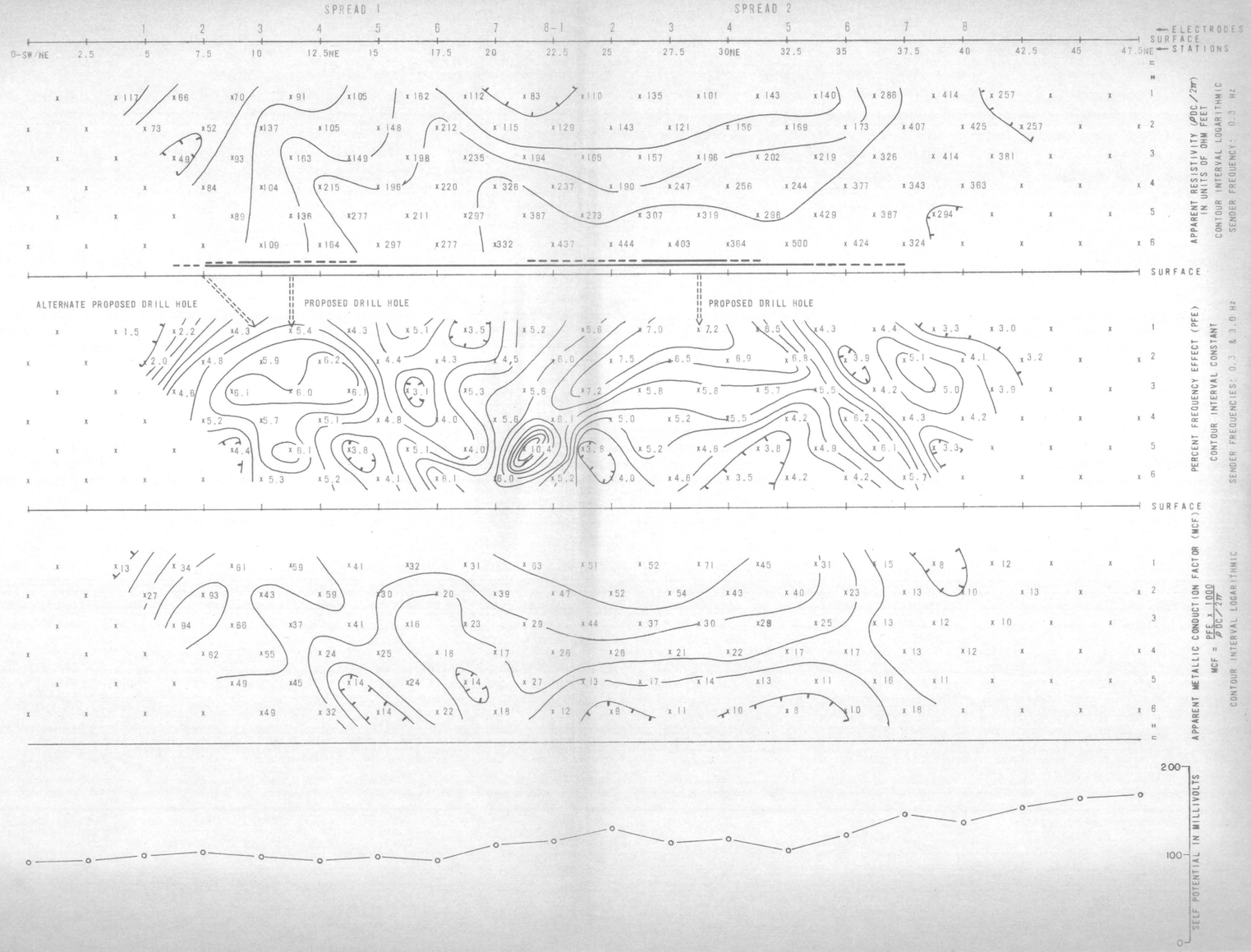


585-70

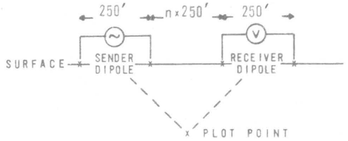
LINE NO.
8
SPREAD(S)
1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR
LOOKING
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DATE
JAN 1971

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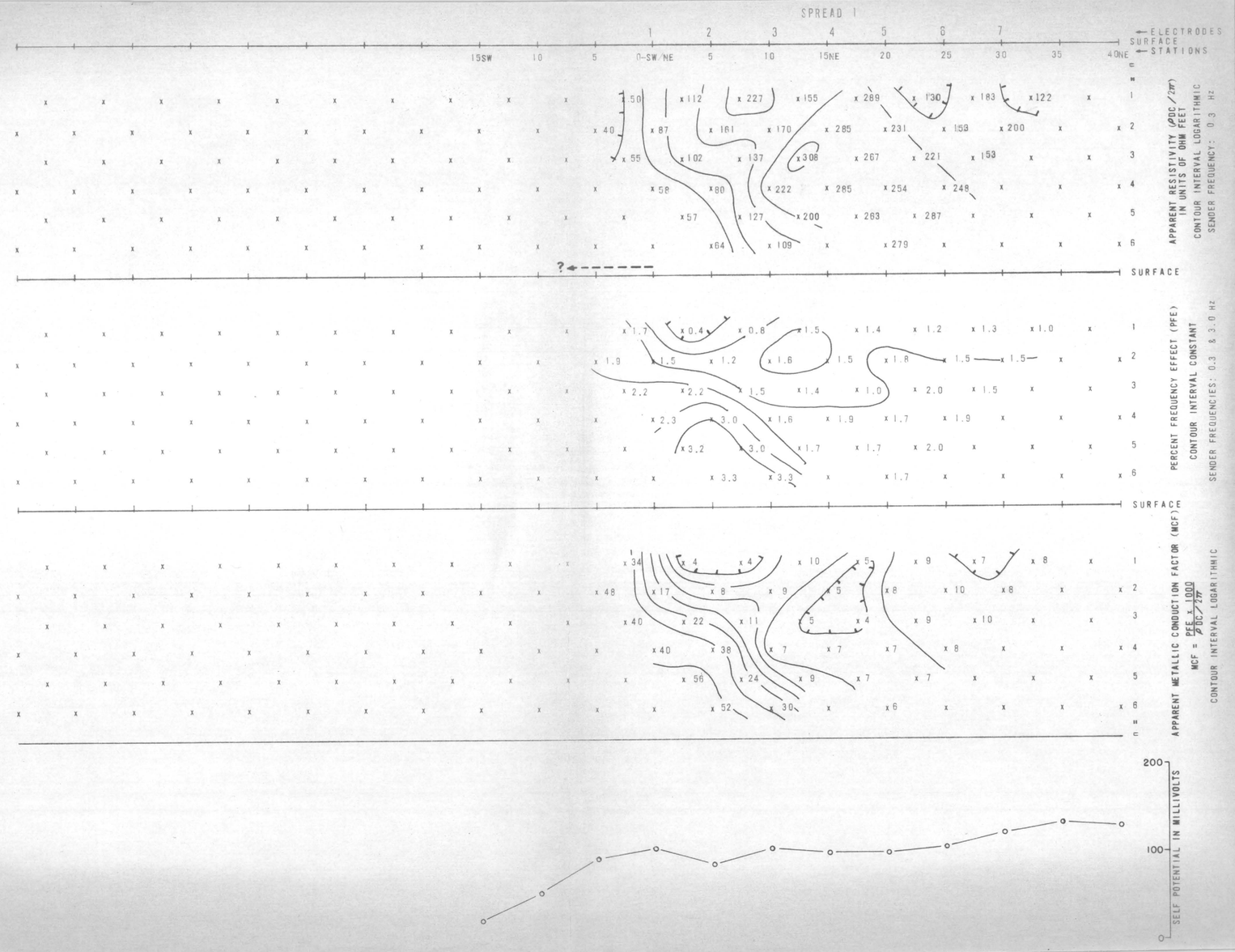


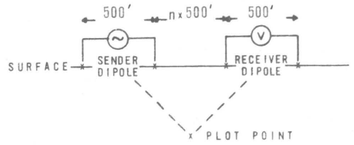
585-70

LINE NO.
9
SPREAD(S)
1

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for TIPPERARY RESOURCES CORPORATION

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
SUPERIOR
LOOKING
N 23° W
DATE
JAN 1971

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Job 58 Ex, LINE 1, Spr. 3, E½, 1/8/71 250.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior # 585
LINE 1 HALF E SP. 3 DATE 1-8-71

PAGE 1

SEND	CAL	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	3-4	22.5-2	5 →	25-27.5	→	→	27.5-30	E	→	→
RANGE	1.0	10	10	10	1.0	1.0	10	1.0	1.0	0.1
DC 1	0.3	3.1	3.3	3.3	2.5	2.7	3.5	2.9	3.1	3.1
DC 2	0.1								2-4	
DC 3									Noisy	
DC 4 Pur	1.0	0.9	1.0	0.3	0.3	0.9	0.3	0.3	0.3	0.3
DC 5 #	1	1	2	3	4	5	6	7	8	9
DC 6 n		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	100.3	847.	344.	226.	56.3	92.1	140.	32.2	15.2	9.98
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0	-21.6		-2.4			-21.0			
AC NOISE	0.3									
POT RES.		20k		7k			14k			

Creek @ 29.8

PAGE 2

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior # 585
LINE 1 HALF E SP. 3 DATE 1-8-91

SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	30-32.5	→	→	→	→	32.5-35	→	→	→	→
RANGE	10	10	1.0	1.0	1.0	10	10	1.0	1.0	1.0
DC 1	4.6	5.2	4.0	3.8	4.0	4.8	3.7	4.1	2.9	3.1
DC 2										
DC 3										
DC 4 Tm	0.9	→	→	→	→	→	→	→	→	→
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 n	1	2	3	4	5	1	2	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	493.	129.	49.4	31.6	23.2	575.	142.	52.3	25.3	17.7
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+12.1					-4.4				
AC NOISE										
POT RES.	9K					5K				

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 1 HALF E SP. 3 DATE 1-8-71

PAGE 3

SEND	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4
RECEIVE	32.5-35	35-37.5	→	→	→	→	37.5-40	→	→	→
RANGE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DC 1	3.2	4.3	3.4	4.0	3.0	2.9	4.3	3.3	3.6	3.0
DC 2										
DC 3										
DC 4 Pm	0.9	→	→	→	→	→	→	→	0.6	0.9
DC 5 #	20	21	22	23	24	25	26	27	28	29
DC 6 n	6	2	3	4	5	6	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	14.0	175.	59.3	25.9	14.8	11.2	95.4	37.5	12.3	11.8
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+11.5					+4.7			
AC NOISE										
POT RES.		8k					9k			

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 1 HALF E SP. 3 DATE 1-8-71

PAGE 4

SEND	6-7	5-6	4-5	6-7	5-6	6-7				
RECEIVE	40-42.5	→	→	42.5-45	→	45-47.5				
RANGE	1.0	0.1	0.1	1.0	0.1	1.0				
DC 1	3.1	2.6	2.9	3.0	2.5	2.4				
DC 2										
DC 3										
DC 4 Cur	0.9	0.9	0.6	0.9	0.9	0.9				
DC 5 #	30	31	32	33	34	35				
DC 6 "	4	5	6	5	6	6				
DC 7										
DC 8										
DC AVG.										
AC 1	18.0	8.70	3.30	18.8	9.22	11.5				
AC 2	0.0	0.0	0.0	0.0	0.0	0.0				
AC AVG.										
S.P.	+4.7			+1.7		+3.6				
AC NOISE										
POT RES.	5K			10K		10K				

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585-
LINE 1 HALF E SP. 3 DATE 1-8-71

SEND	CAL	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	3-4	22.5-25	E →	25-27.5	E →		27.5-30	E →		
RANGE	100×10	300×3	100×10	100×3	100×3	300×3	100×3	100×3	100×3	100×3
VOLTAGE	80.0	670	500	240	220	460	260	230	220	160
CURRENT	1.0	0.9	1.0	0.3	0.3	0.9	0.3	0.3	0.3	0.3
SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	30-32.5	E →				32.5-35	E →			
RANGE	300×3	300×3	300×3	300×3	300×3	300×3	300×3	300×3	300×3	300×3
VOLTAGE	630	760	680	630	460	540	630	760	660	620
CURRENT	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

FREQUENCIES 3 0.3
SENDER NO. 9662-S
OPERATOR Tom Freeman
RECEIVER NO. 20693-R
OPERATOR W.J. FREEMAN

COMMENTS:
Change in currents are due to the inability of the Mite-E-Lite portable electric generator to maintain a constant high-enough RPM to insure sufficient voltage to maintain higher current output (or Load)

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT SUPERIOR #585

LINE 1 HALF E SP. 3 DATE 1-8-71

SEND	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4
RECEIVE	32.5-35	35-37.5	→	→	→	→	37.5-40	→	→	→
RANGE	300x3	300x3	300x3	300x3	300x3	300x3	300x3	300x3	200x3	300x3
VOLTAGE	460	540	630	760	650	610	540	630	500	630
CURRENT	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.6	0.9
SEND	6-7	5-6	4-5	6-7	5-6	6-7				
RECEIVE	40-42.5	→	→	42.5-	45 →	45-47.5				
RANGE	300x3	300x3	200x3	300x3	300x3	300x3				
VOLTAGE	540	630	500	540	630	540				
CURRENT	0.9	0.9	0.6	0.9	0.9	0.9				

FREQUENCIES 3 0.3

SENDER NO. 9662-5

OPERATOR Tom Freeman

RECEIVER NO. 20693-R

OPERATOR WJ Freeman

COMMENTS:

Job 585Ex, Line 1, Spr. 3, W½, 1/8/71 250.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 1 HALF W SP. 3 DATE 1-8-71

PAGE 5

SEND	CAL	S.P.	4-5	5-6	6-7	3-4	4-5	5-6	6-7	2-3
RECEIVE	4-5	22.5-20	20-17.5	→	→	17.5-15	→	→	→	15-12.5
RANGE	1.0		10	10	1.0	100	10	1.0	1.0	100
DC 1	0.1		3.2	2.4	3.1	2.8	3.3	2.5	3.1	2.9
DC 2										
DC 3										
DC 4 Cu	0.9		0.9	→	→	→	→	→	→	→
DC 5 #	2		1	2	3	4	5	6	7	8
DC 6 n			1	2	3	1	2	3	4	1
DC 7										
DC 8										
DC AVG.										
AC 1	91.2		839.	166.	45.2	1780.	295.	89.0	27.8	1590.
AC 2	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0	−3.5	+10.9			−5.7				+5.4
AC NOISE	0.3									
POT RES.		11K	4k			6K				4k

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT SUPERIOR #585

LINE 1 HALF W SP. 3 DATE 1-8-71

SEND	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7
RECEIVE	15-12.5	→	→	→	12.5-10	→	→	→	→	→
RANGE	10	1.0	1.0	1.0	100	10	10	1.0	1.0	1.0
DC 1	3.5	4.0	3.1	4.3	3.2	3.0	3.2	3.7	3.2	4.3
DC 2										
DC 3										
DC 4 Gain	0.9	→	→	→	→	→	→	→	→	→
DC 5 #	9	10	11	12	13	14	15	16	17	18
DC 6 n	2	3	4	5	1	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	383.	92.1	33.3	19.9	1850.	528.	174.	53.7	24.9	17.0
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.					-29.5					
AC NOISE										
POT RES.					10K					

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 1 HALF W SP. 3 DATE 1-8-71

PAGE 7

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2
RECEIVE	10-7.5	→	→	→	→	7.5-5	→	→	→	5-2.5
RANGE	10	10	1.0	1.0	1.0	10	1.0	1.0	1.0	1.0
DC 1	3.4	3.3	3.5	3.9	3.3	3.7	3.6	3.7	3.7	3.7
DC 2										
DC 3										
DC 4 Cu	0.9	→	→	→	→	→	→	→	→	→
DC 5 #	19	20	21	22	23	24	25	26	27	28
DC 6 "	2	3	4	5	6	3	4	5	6	4
DC 7										
DC 8										
DC AVG.										
AC 1	503.	168.	65.6	23.0	11.6	221.	102.6	46.6	21.3	68.6
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+8.7					-12.8				-11.2
AC NOISE										
POT RES.	9K					5K				13K

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 1 HALF W SP. 3 DATE 1.8.71

PAGE 8

SEND	2-3	3-4								
RECEIVE	5-2.5	→								
RANGE	1.0	1.0								
DC 1	3.6	3.8								
DC 2										
DC 3										
DC 4 Cu	0.9	0.9								
DC 5 #	29	30								
DC 6 n	5	6								
DC 7										
DC 8										
DC AVG.										
AC 1	34.9	18.7								
AC 2	0.0	0.0								
AC AVG.										
S.P.										
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585

LINE 1 HALF W SP. 3 DATE 1/8/71

SEND	CAL	4-5	5-6	6-7	3-4	4-5	5-6	6-7	2-3	3-4
RECEIVE	4-5	20-17.5	→	→	17.5-	15	→	→	15-12.5	E →
RANGE	3x300	300x3	300x3	300x3	300x3	300x3	300x3	300x3	300x3	300x3
VOLTAGE	780	750	620	530	570	750	620	530	540	570
CURRENT	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
SEND	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7	1-2
RECEIVE	15-12.5	→	→	12.5-10	→	→	→	→	→	10-7.5
RANGE	300x3	300x3	300x3	300x3	300x3	300x3	300x3	300x3	300x3	300x3
VOLTAGE	750	620	530	450	540	560	750	620	530	450
CURRENT	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR Tom Freeman

RECEIVER NO. 20693-R

OPERATOR WJ Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585

LINE 1 HALF W SP. 3 DATE 1-8-71

SEND	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2	2-3
RECEIVE	10-7.5	→	→	→	7.5-5	→	→	→	5-2.5	c →
RANGE	300x3	300x3	300x3	300x3	300x3	300x3	300x3	300x3	300x3	300x3
VOLTAGE	530	560	750	620	450	530	560	740	440	530
CURRENT	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
SEND	3-4									
RECEIVE	5-2.5c									
RANGE	300x3									
VOLTAGE	560									
CURRENT	0.9									

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR Tom Freeman

RECEIVER NO. 20693-R

OPERATOR WJ Freeman

COMMENTS:

JOB 585 EXT LINE 1 SP3 W 1/2 1/8/71 250 FEET=DIPOLE LENGTH
CAL GROUP NO. 2

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
.900	.10	91.200	0.00	3.00	.30	.1000	.9868

COMPUTED DATA									FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	711.36	3.10	4.4	3.10	4.4	0.00	**	3.20	.90	1	1	839.000	0.00
2	2	558.61	2.30	4.1	2.30	4.1	0.00	**	2.40	.90	2	2	166.000	0.00
3	3	382.86	3.00	7.8	3.00	7.8	0.00	**	3.10	.90	3	3	45.200	0.00
4	1	1503.34	2.70	1.8	2.70	1.8	0.00	**	2.80	.90	4	1	1780.000	0.00
5	2	1001.45	3.20	3.2	3.20	3.2	0.00	**	3.30	.90	5	2	295.000	0.00
6	3	749.47	2.40	3.2	2.40	3.2	0.00	**	2.50	.90	6	3	89.000	0.00
7	4	470.95	3.00	6.4	3.00	6.4	0.00	**	3.10	.90	7	4	27.800	0.00
8	1	1344.18	2.80	2.1	2.80	2.1	0.00	**	2.90	.90	8	1	1590.000	0.00
9	2	1302.70	3.40	2.6	3.40	2.6	0.00	**	3.50	.90	9	2	383.000	0.00
10	3	786.94	3.90	5.0	3.90	5.0	0.00	**	4.00	.90	10	3	92.100	0.00
11	4	564.13	3.00	5.3	3.00	5.3	0.00	**	3.10	.90	11	4	33.300	0.00
12	5	596.84	4.20	7.0	4.20	7.0	0.00	**	4.30	.90	12	5	19.900	0.00
13	1	1568.54	3.10	2.0	3.10	2.0	0.00	**	3.20	.90	13	1	1850.000	0.00
14	2	178.72	2.90	16.2	2.90	16.2	0.00	**	3.00	.90	14	2	52.800	0.00
15	3	1475.28	3.10	2.1	3.10	2.1	0.00	**	3.20	.90	15	3	174.000	0.00
16	4	915.02	3.60	3.9	3.60	3.9	0.00	**	3.70	.90	16	4	53.700	0.00
17	5	738.91	3.10	4.2	3.10	4.2	0.00	**	3.20	.90	17	5	24.900	0.00
18	6	815.78	4.20	5.1	4.20	5.1	0.00	**	4.30	.90	18	6	17.000	0.00
19	2	1709.21	3.30	1.9	3.30	1.9	0.00	**	3.40	.90	19	2	503.000	0.00
20	3	1425.79	3.20	2.2	3.20	2.2	0.00	**	3.30	.90	20	3	168.000	0.00
21	4	1115.63	3.40	3.0	3.40	3.0	0.00	**	3.50	.90	21	4	65.600	0.00
22	5	687.16	3.80	5.5	3.80	5.5	0.00	**	3.90	.90	22	5	23.000	0.00
23	6	551.31	3.20	5.8	3.20	5.8	0.00	**	3.30	.90	23	6	11.600	0.00
24	3	1882.86	3.60	1.9	3.60	1.9	0.00	**	3.70	.90	24	3	221.000	0.00
25	4	1746.56	3.50	2.0	3.50	2.0	0.00	**	3.60	.90	25	4	102.600	0.00
26	5	1389.57	3.60	2.6	3.60	2.6	0.00	**	3.70	.90	26	5	46.600	0.00
27	6	1016.23	3.60	3.5	3.60	3.5	0.00	**	3.70	.90	27	6	21.300	0.00
28	4	1168.91	3.60	3.1	3.60	3.1	0.00	**	3.70	.90	28	4	68.600	0.00
29	5	1039.68	3.50	3.4	3.50	3.4	0.00	**	3.60	.90	29	5	34.900	0.00
30	6	893.05	3.70	4.1	3.70	4.1	0.00	**	3.80	.90	30	6	18.700	0.00

Job 585, Line 1, Spr. 4, E½, 1/11/71

250.

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT SUPERIOR # 585

LINE 1 HALF E SP. 4 DATE 1-11-71

PAGE 1

SEND	CAL	3-4	4-5	5-6	6-7	4-5	5-6	6-7	5-6	6-7
RECEIVE	4-5	1-2	→	→	→	2-3	→	→	3-4	→
RANGE	1.0	10	10	1.0	1.0	10	1.0	1.0	1.0	1.0
DC 1	+0.1	4.1	4.3	3.1	3.1	3.4	2.1	2.2	2.7	2.4
DC 2										
DC 3										
DC 4 Cm	0.9	0.9	0.9	0.9	0.6	0.9	0.9	0.6	0.9	0.3
DC 5 #	1	1	2	3	4	5	6	7	8	9
DC 6 "		1	2	3	4	1	2	3	1	2
DC 7										
DC 8										
DC AVG.										
AC 1	90.9	499.	191.	32.4	19.4	335.	36.2	19.4	99.4	16.9
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0									
AC NOISE	0.3									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR
LINE 1 HALF E SP. 4 DATE 1-11-71

SEND	6-7	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4
RECEIVE	4-5	45-47.5	→			→	47.5-50	E →		
RANGE	10	10	1.0	1.0	1.0	0.1	10	1.0	1.0	1.0
DC 1	3.4	3.1	2.3	1.6	1.5	2.4	2.3	2.8	1.9	1.7
DC 2										
DC 3										
DC 4 Em	0.3	0.9	0.6	0.9	0.9	0.3	0.3	0.9	0.6	0.9
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 n	1	1	2	3	4	5	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	115.	238.	48.7	21.2	15.1	5.47	139.	84.0	29.6	20.0
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		-11.1					+19.7			
AC NOISE										
POT RES.		3K					4K			

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 1 HALF E SP. 4 DATE 1-11-71

SEND	2-3	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5
RECEIVE	47.5-50 →		50-52.5					52.5-	55	→
RANGE	1.0	0.1	1.0	1.0	1.0	0.1	0.1	1.0	0.1	0.1
DC 1	1.7	2.8	2.7	2.6	1.9	1.7	1.7	2.9	2.8	2.6
DC 2										
DC 3										
DC 4 Em	0.6	0.3	0.3	0.6	0.6	0.9	0.6	0.3	0.6	0.6
DC 5 #	20	21	22	23	24	25	26	27	28	29
DC 6 n	5	6	2	3	4	5	6	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	11.1	6.35	33.7	18.7	12.1	9.75	5.75	14.4	10.00	7.88
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.			+2.5					-4.5		
AC NOISE										
POT RES.			8K					4K		

STA 57.5 ON ROAD

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT SUPERIOR #585

LINE 1 HALF E SP. 4 DATE 1-11-71

SEND	3-4	6-7	5-6	4-5	6-7	5-6	6-7			
RECEIVE	52.5-55	55-57.5	→	→	57.5-60	→	60-62.5			
RANGE	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
DC 1	2.3	2.7	2.6	1.9	2.8	2.4	3.3			
DC 2										
DC 3										
DC 4 Am	0.9	0.3	0.6	0.6	0.3	0.6	0.3			
DC 5 #	30	31	32	33	34	35	36			
DC 6 n	6	4	5	6	5	6	6			
DC 7										
DC 8										
DC AVG.										
AC 1	7.40	6.63	4.97	4.28	4.01	3.25	3.39			
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
AC AVG.										
S.P.		+5.8			+23.6		-5.4			
AC NOISE										
POT RES.		4K			7K		7K			

45 47.5 50 52.5 55 57.5

37.5 40 42.5 45

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior 585

LINE 1 HALF 6 SP. 4 DATE 1-11-71

PAGE 1

SEND	CAL	3-4	4-5	5-6	6-7	4-5	5-6	6-7	5-6	6-7
RECEIVE	4-5	1-2	→	→	→	2-3	→	→	3-4	→
RANGE	300x3	300x3	300x3	300x3	200x3	300x3	300x3	200x3	300x3	100x3
VOLTAGE	500	450	510	410	410	520	430	420	430	220
CURRENT	0.9	0.9	0.9	0.9	0.6	0.9	0.9	0.6	0.9	0.3
SEND	6-7	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4
RECEIVE	4-5	45-47.5	→	→	→	→	47.5-50	→	→	→
RANGE	100x3	300x3	200x3	300x3	300x3	100x3	100x3	300x3	200x3	300x3
VOLTAGE	220	430	360	460	540	240	200	450	370	480
CURRENT	0.3	0.9	0.6	0.9	0.9	0.3	0.3	0.9	0.6	0.9

FREQUENCIES 3 0.3

SENDER NO. 9662-5

OPERATOR Tom Freeman

RECEIVER NO. 20693 R

OPERATOR W. J. FREEMAN

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT SUPERIOR # 585

LINE 1 HALF 6 SP. 4 DATE 1-11-71

PAGE 2

SEND	2-3	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5
RECEIVE	47.5-50	→	50-52.5	→	→	→	→	52.5-55	→	→
RANGE	200x3	100x3	100x3	200x3	200x3	300x3	200x3	100x3	200x3	200x3
VOLTAGE	400	250	200	300	350	480	410	200	300	350
CURRENT	0.6	0.3	0.3	0.6	0.6	0.9	0.6	0.3	0.6	0.6
SEND	3-4	6-7	5-6	4-5	6-7	5-6	6-7			
RECEIVE	→	55-57.5	→	→	57.5-60	→	60-62.5			
RANGE	300x3	100x3	200x3	200x3	100x3	200x3	100x3			
VOLTAGE	490	200	300	360	210	300	210			
CURRENT	0.9	0.3	0.6	0.6	0.3	0.6	0.3			

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR Tom Freeman

RECEIVER NO.

OPERATOR WJ Freeman

COMMENTS:

Job 585, LINE 1, Spr. 5, E½, 1/12/71

250.

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT SUPERIOR #585

LINE 1 HALF E SP. 5 DATE 1-12-71

PAGE 1

SEND	CAL	3-4	4-5	5-6	4-5	5-6	5-6	4-5	3-4	2-3
RECEIVE	4-5	1-2	→	→	2-3	→	3-4	6-7	→	→
RANGE	1.0	10	1.0	1.0	10	10	10	10	1.0	1.0
DC 1	0.1	2.1	2.7	2.2	3.5	3.1	4.3	4.5	4.0	3.1
DC 2										
DC 3										
DC 4 Pen	1.0	1	→	→	→	→	→	→	→	→
DC 5 #	1	1	2	3	4	5	6	7	8	9
DC 6 "		1	2	3	1	2	1	1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	100.9	278.	82.2	33.2	493.	132.	272.	355.	79.4	55.9
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0									
AC NOISE	0.3									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior # 585
LINE 1 HALF E SP. 5 DATE 1-12-71

SEND	1-2	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4
RECEIVE	6-7	7-8	→	→	→	→	62.5-65	→	→	→
RANGE	1.0	10	10	1.0	1.0	1.0	10	1.0	1.0	1.0
DC 1	2.3	4.3	5.2	4.4	3.6	2.3	5.3	4.3	4.7	4.2
DC 2										
DC 3										
DC 4 Sm	1	→	→	→	→	→	0.6	1	1	1
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 "	4	1	2	3	4	5	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	17.1	540.	173.	54.6	45.5	14.4	128.	71.4	46.4	20.5
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.							−141			
AC NOISE										
POT RES.							20k			

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR # 585
LINE 1 HALF E SP. 5 DATE 1-12-71

SEND	2-3	1-2	7-8	6-7	5-6	4-5	3-4	2-3	7-8	6-7
RECEIVE	62.5-	65 E	65-67.5	E	→			→	67.5-70	—
RANGE	1.0	0.1	10	1.0	1.0	1.0	1.0	1.0	1.0	0.1
DC 1	3.4	1.8	4.5	4.5	3.5	4.1	3.7	2.8	4.8	4.4
DC 2										
DC 3										
DC 4 Em	1	1	0.6	0.6	1	1	1	1	0.6	0.6
DC 5 #	20	21	22	23	24	25	26	27	28	29
DC 6 M	5	6	1	2	3	4	5	6	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	20.1	7.48	129.	28.0	26.8	20.1	11.4	12.6	23.1	8.75
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.			+3.7						+5.9	
AC NOISE										
POT RES.			4K						5K	

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR #585
LINE 1 HALF E SP. 5 DATE 1-12-71

PAGE 4

SEND	5-6	4-5	3-4	7-8	6-7	5-6	4-5	7-8	6-7	4-5
RECEIVE	65.7 —	70 →	→	70-72.5	→	→	→	72.5 —	75 →	→
RANGE	0.1	0.1	0.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1
DC 1	3.7	4.5	3.7	5.2	3.9	3.3	4.3	5.4	4.8	4.0
DC 2										
DC 3										
DC 4 Cur	1	1	1	0.6	0.6	1	1	0.6	0.6	1
DC 5 #	30	31	32	33	34	35	36	37	38	39
DC 6 n	4	5	6	3	4	5	6	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	10.85	9.58	6.10	11.2	5.23	7.40	7.05	6.57	3.27	4.96
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.				+1.5				+21.7		
AC NOISE										
POT RES.				5K				7K		

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR #585
LINE 1 HALF E SP. 5 DATE 1-12-71

PAGE 5

SEND	7-8	6-7	7-8							
RECEIVE	75-77.5	—	77.5-80							
RANGE	0.1	0.1	0.1							
DC 1	3.9	3.9	2.7							
DC 2										
DC 3										
DC 4 Em	0.6	0.6	0.6							
DC 5 #	40	41	42							
DC 6 "	5	6	6							
DC 7										
DC 8										
DC AVG.										
AC 1	5.63	3.07	3.06							
AC 2	0.0	0.0	0.0							
AC AVG.										
S.P.	+20.2		-0.8							
AC NOISE										
POT RES.	10 K		7K							

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT SUPERIOR #585

LINE 1 HALF E SP. 5 DATE 1-12-71

PAGE 1

SEND	CAL	3-4	4-5	5-6	4-5	5-6	5-6	4-5	3-4	2-3
RECEIVE	4-5	1-2	→	→	2-3	→	3-4	6-7	→	→
RANGE	100x10	100x10	100x10	100x10	100x10	100x10	100x10	100x10	100x10	100x10
VOLTAGE	400	580	420	290	420	290	290	430	590	520
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SEND	1-2	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4
RECEIVE	6-7	7-8	→	→	→	→	62.5-65	—	—	—
RANGE	100x10	100x10	100x10	100x10	100x10	100x10	200x3	100x10	100x10	100x10
VOLTAGE	430	310	440	600	530	440	580	310	440	590
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	0.6	1.0	1.0	1.0

FREQUENCIES 3 0.3

SENDER NO. 9662-5

OPERATOR Tom Freeman

RECEIVER NO. 20693 R

OPERATOR W J Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior # 585
LINE 1 HALF E SP. 5 DATE 1-12-71

SEND	2-3	1-2	7-8	6-7	5-6	4-5	3-4	2-3	7-8	6-7
RECEIVE	62.5-	65 →	65-67.5	—	—	—	—	→	67.5-	70
RANGE	100x10	100x10	200x3	200x3	100x10	100x10	100x10	100x10	200x3	200x3
VOLTAGE	520	430	610	590	310	450	590	520	610	590
CURRENT	1.0	1.0	0.6	0.6	1.0	1.0	1.0	1.0	0.6	0.6
SEND	5-6	4-5	3-4	7-8	6-7	5-6	4-5	7-8	6-7	5-6
RECEIVE	67.5-	70 →	→	70-72.5	—	—	→	72.5-	75	→
RANGE	100x10	100x10	100x10	200x3	200x3	100x10	100x10	200x3	200x3	100x10
VOLTAGE	310	450	590	610	590	310	450	610	590	310
CURRENT	1.0	1.0	1.0	0.6	0.6	1.0	1.0	0.6	0.6	1.0

FREQUENCIES 3 0.3
SENDER NO. 9662-S
OPERATOR Tom Freeman
RECEIVER NO. 20693K
OPERATOR W J Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT SUPERIOR # 585

LINE 1 HALF E SP. 5 DATE 1-12-71

SEND	7-8	6-7	7-8							
RECEIVE	75-77.5	→	77.5-80							
RANGE	200×3	200×3	200×3							
VOLTAGE	610	590	610							
CURRENT	0.6	0.6	0.6							
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 9662-5

OPERATOR T. FREEMAN

RECEIVER NO. 20693R

OPERATOR B. FREEMAN

COMMENTS:

Job 585 Ext, Line 2 sp 3 E½, Dec 29, 70

250.

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT SUPERIOR #585

LINE 2 HALF E SP. 3 DATE 12-29-7

PAGE 1

SEND	CAL	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	3-4	40-42.5	E →	42.5-4	5 E →		45-47.5	E →		
RANGE	1.0	10	10	10	10	1.0	10	10	10	1.0
DC 1	+0.1	2.1	3.7	1.6	2.9	4.2	1.5	2.3	3.2	4.3
DC 2										
DC 3 CUR	1.	3					2	3		
DC 4 #	1	1	2	3	4	5	6	7	8	9
DC 5 "		1	2	1	2	3	1	2	3	4
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	101.5	648.	158.	489.	211.	79.4	368.	183.	104.	44.4
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		−3.6		+18.6			+9.5			
AC NOISE	3.0									
POT RES.	0.3	3K		10K			6K			

1-2

40-42.5

3 Hz	158	
1 Hz	1.8	1.8
0.3 Hz	3.7	
0.1	5.6	5.5

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 2 HALF E SP. 3 DATE 12-29-76

SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	47.5	50 E	→	→	→	50-52. S	→	→	→	→
RANGE	10	10	1.0	1.0	1.0	10	1.0	1.0	1.0	1.0
DC 1	1.1	1.7	2.5	3.1	4.1	1.3	1.7	2.1	2.8	3.1
DC 2										
DC 3 CUR	1	2	3	—	—	1	—	2	3	—
DC 4 #	10	11	12	13	14	15	16	17	18	19
DC 5 #	1	2	3	4	5	1	2	3	4	5
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	230.	133.	99.1	66.7	28.9	175.	66.8	55.7	50.4	38.6
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	-4.6					+2.3				
AC NOISE										
POT RES.	9K					4K				

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 2 HALF E SP. 3 DATE 12-29-76

SEND	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4
RECEIVE	50-52.5E	52.5-55	E	→	→	→	55-57.5	E	→	→
RANGE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DC 1	3.7	1.4	1.9	2.1	2.3	2.9	1.9	2.0	1.9	2.1
DC 2										
DC 3 CUR	—	1	—	2	3	—	1	—	2	3
DC 4 #	20	21	22	23	24	25	26	27	28	29
DC 5 #	4	2	3	4	5	6	3	4	5	6
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	19.5	43.4	22.8	23.6	24.4	20.0	22.1	14.7	18.0	19.4
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+13.5					+7.2			
AC NOISE										
POT RES.		3k					3k			

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 2 HALF E SP. 3 DATE 12-29-7

SEND	6-7	5-6	4-5	6-7	5-6	6-7				
RECEIVE	57.5-60	←		60-62.5	→	62.5-65				
RANGE	0.1	0.1	0.1	1.0	0.1	0.1				
DC 1	1.7	1.8	1.9	1.9	1.8	2.2				
DC 2										
DC 3 OVR	1		2	1						
DC 4 #	30	31	32	33	34	35				
DC 5 #	4	5	6	5	6	6				
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	8.56	6.29	8.30	11.4	8.95	7.02				
AC 2	0.0	0.0	0.0	0.0	0.0	0.0				
AC AVG.										
S.P.	+0.4			+14.0		+2.5				
AC NOISE										
POT RES.	2K			2K		2K				

Job 585, Line 2, Sp 3 W½ Dec 29, 70 250.

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 2 HALF W SP. 3 DATE 12-29-70

SEND	CAL	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7
RECEIVE	4-5	40-37.5	→	37.5-35	→	→	35-32.5	→	→	→
RANGE	1.0	10	1.0	10	1.0	1.0	10	10	1.0	1.0
DC 1 0.3Hz	0.1	1.6	2.3	2.1	2.8	3.2	3.2	3.8	4.2	4.4
DC 2										
DC 3 1Hz	0.1									
DC 4										
DC 5 0.1Hz	0.1									
DC 6 CUR	1	2	1	2	1	—	3	2	1	—
DC 7 #	1	1	2	3	4	5	6	7	8	9
DC 8 #		1	2	1	2	3	1	2	3	4
DC AVG.										
AC 1	101.1	330.	57.9	430.	73.9	33.8	440.	102.	27.3	14.4
AC 2	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		-2.0		+12.9			+0.0			
AC NOISE	3.0									
POT RES.	0.3	3K		2K			3K			

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior 585

LINE 2 HALF W SP. 3 DATE

PAGE 6

SEND	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6
RECEIVE	32.5-30	→	→	→	→	30-27.5	→	→	→	→
RANGE	10	10	1.0	1.0	1.0	10	10	1.0	1.0	0.1
DC 1	3.3	4.2	4.2	4.3	4.5	4.3	6.1	5.9	5.7	5.2
DC 2										
DC 3										
DC 4 CUR	3	—	2	1	—	3	—	—	2	1
DC 5 E	10	11	12	13	14	15	16	17	18	19
DC 6 n	1	2	3	4	5	1	2	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	521.	181.	58.5	18.4	10.8	307.	117.	64.0	25.5	9.61
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+10.9					+0.0				
AC NOISE										
POT RES.	3K					5K				

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior # 585
LINE 2 HALF W SP. 3 DATE 12-29-7

SEND	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5
RECEIVE	30-27.5	27.5-25	→	→	→	→	25-20	→	→	→
RANGE	0.1	1.0	1.0	1.0	1.0	0.1	1.0	1.0	1.0	1.0
DC 1	5.5	6.5	6.1	5.7	5.3	4.8	5.7	5.1	4.5	4.3
DC 2										
DC 3										
DC 4 CUR	1	3	—	—	2	1	3	—	—	2
DC 5 #	20	21	22	23	24	25	26	27	28	29
DC 6 η	6	2	3	4	5	6	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	5.99	93.0	68.4	44.4	19.1	7.84	51.7	47.0	33.2	15.3
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+0.4					+10.5			
AC NOISE										
POT RES.		3K					3K			

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior 585

LINE 2 HALF E SP. 3 DATE 12-29-70

PAGE 1

SEND	CAL	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	3-4	40-42.5	E →	42.5-45	→	→	45-47.5	E	→	→
RANGE	100x10	300x10	300x10	300x10	300x10	300x10	200x10	300x10	300x10	300x10
VOLTAGE	70	220	250	200	215	255	395	200	215	260
CURRENT	1.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	47.5-50	E	→	→	→	50-52.5	E	→	→	→
RANGE	100x10	200x10	300x10	300x10	300x10	100x10	100x10	200x10	300x10	300x10
VOLTAGE	265	395	205	215	260	360	265	395	200	215
CURRENT	1.0	2.0	3.0	3.0	3.0	1.0	1.0	2.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 9662-5

OPERATOR Tom Freeman

RECEIVER NO.

OPERATOR WJ Freeman

COMMENTS:

Mode 4B

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585

LINE ____ HALF ____ SP. 3 DATE 12/29/7

SEND	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4
RECEIVE	50-52.5	52.5-	55 E	→	→	→	55-57.5	E	→	→
RANGE	300 x10	100 x10	100 x10	200 x10	300 x10	300 x10	100 x10	100 x10	200 x10	300 x10
VOLTAGE	255	360	265	395	200	215	360	265	395	200
CURRENT	3.0	1.0	1.0	2.0	3.0	3.0	1.0	1.0	2.0	3.0
SEND	6-7	5-6	4-5	6-7	5-6	6-7				
RECEIVE	57.5-60 E	→	→	60-62.5	→	62.5-65				
RANGE	100 x10	100 x10	200 x10	100 x10	100 x10	100 x10				
VOLTAGE	360	265	390	360	265	360				
CURRENT	1.0	1.0	2.0	1.0	1.0	1.0				

FREQUENCIES 3 0.3

SENDER NO. 9662-5

OPERATOR T Freeman

RECEIVER NO.

OPERATOR WJ Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585
LINE 2 HALF W SP. 3 DATE

SEND	CAL	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7
RECEIVE	4-5	40-37.5	→	37.5-35	→		35-32.5E	→		
RANGE	100x10	(2-C) 200x10	100x10	200x10	100x10	100x10	300x10	200x10	100x10	100x10
VOLTAGE	190	255	355	385	260	355	210	380	260	355
CURRENT	1.0	2.0	1.0	2.0	1.0	1.0	3.0	2.0	1.0	1.0
SEND	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6
RECEIVE	32.5-	30E	→			30-27.5E	→			
RANGE	300x10	300x10	200x10	100x10	100x10	300x10	300x10	300x10	200x10	100x10
VOLTAGE	215	200	380	260	355	255	215	200	380	260
CURRENT	3.0	3.0	2.0	1.0	1.0	3.0	3.0	3.0	2.0	1.0

FREQUENCIES 3 0.3
SENDER NO. 9662-S
OPERATOR T Freeman
RECEIVER NO.
OPERATOR W J Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585

LINE ____ HALF ____ SP. 3 DATE ____

SEND	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5
RECEIVE	30-27.5 E	27.5-25 E	→	→	→	→	25-27.5			
RANGE	100×10	300×10	300×10	300×10	200×10	100×10	300×10	300×10	300×10	200×10
VOLTAGE	355	255	215	200	380	260	255	215	200	380
CURRENT	1.0	3.0	3.0	3.0	2.0	1.0	3.0	3.0	3.0	2.0
SEND	1-2	2-3	3-4							
RECEIVE	27.5 20	E →								
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR T Freeman

RECEIVER NO.

OPERATOR W J Freeman

COMMENTS:

Job 585 Ext, Line 5, Sol E½, Dec 30, 70

250.

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT SUPERIOR #585

LINE 5 HALF E SP. 1 DATE 12-30-70

PAGE 1

SEND	CAL	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	3-4	40-42.5E	→	42.5-45	→		45-47.5	→		
RANGE	1.0	10	10	10	10	1.0	10	10	1.0	1.0
DC 1		5.9	6.9	6.1	4.4	5.2	5.1	5.4	4.2	5.1
DC 2 / Hz	0.1									
DC 3										
DC 4 0.3Hz	0.1									
DC 5										
DC 6 0.1Hz	0.1									
DC 7 CUR	1.0	1	2							
DC 8 #	1	1	2	3	4	5	6	7	8	9
DC AVG. #		1	2	1	2	3	1	2	3	4
AC 1 3Hz	101.3	282.	154.	689.	175.	79.7	1052.	264.	108.1	56.2
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+3.5		+5.7			+9.1			
AC NOISE	3.0									
POT RES.	0.3	3K		5K			5K			

	1-2
	42.5-45
3 Hz	79.7
1 Hz	2.5 2.5
0.3 Hz	5.2
0.1 Hz	7.7 7.7
Dev	0.0

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 5 HALF E SP. 1 DATE 12-30-70

SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	47.5-D	→	→	→	→	50-52.5 E	→	→	→	→
RANGE	10	10	10	1.0	1.0	10	10	10	1.0	1.0
DC 1	3.7	5.0	4.9	3.9	4.8	2.4	3.3	3.8	3.9	3.5
DC 2										
DC 3 CUR										
DC 4 #	10	11	12	13	14	15	16	17	18	19
DC 5 #	1	2	3	4	5	1	2	3	4	5
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	672.	250.	106.	50.1	27.8	466.	180.	110.	58.2	31.3
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+8.6					+9.8				
AC NOISE										
POT RES.	2k					2k				

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior 1585
LINE 5 HALF E SP. 1 DATE 12-30-70

SEND	1-2	7-8	6-7	5-6	4-5	3-4	2-3	7-8	6-7	5-6
RECEIVE	50-52.5	52.5-5	5E	→	→	→	→	55-57.5	E	→
RANGE	1.0	10	10	1.0	1.0	1.0	1.0	10	1.0	1.0
DC 1	4.9	1.7	2.7	3.3	3.5	3.8	3.1	2.4	3.1	3.3
DC 2										
DC 3										
DC 4 CUR	—	—	—	—	—	—	—	—	—	—
DC 5 Z	20	21	22	23	24	25	26	27	28	29
DC 6 η	6	1	2	3	4	5	6	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	19.1	368.	161.	85.5	60.5	36.3	20.9	135.	86.1	54.2
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+10.4						-4.8		
AC NOISE										
POT RES.		2K						2K		

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 5 HALF E SP. 1 DATE 12-30-70

SEND	4-5	3-4	7-8	6-7	5-6	4-5	7-8	6-7	5-6	7-8
RECEIVE	55-57.5	6 →	57.5-60	→	→	→	60-62.5	→	→	62.5-65
RANGE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DC 1	3.8	3.6	2.5	2.8	2.9	3.4	2.3	2.6	2.7	2.7
DC 2										
DC 3										
DC 4 CUB										
DC 5 #	30	31	32	33	34	35	36	37	38	39
DC 6 "	5	6	3	4	5	6	4	5	6	5
DC 7										
DC 8										
DC AVG.										
AC 1	41.7	26.6	74.6	56.1	38.7	31.1	33.4	27.8	20.4	26.1
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.			+2.8				+3.4			+1.4
AC NOISE										
POT RES.			2K				2K			2K

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior # 585
LINE 5 HALF E SP. 1 DATE 12-20-7.

PAGE 5

SEND	6-7	7-8								
RECEIVE	62.5-65	65-67.5								
RANGE	1.0	1.0								
DC 1	3.3	2.7								
DC 2										
DC 3										
DC 4 Cor										
DC 5 E	40	41								
DC 6 N	6	6								
DC 7										
DC 8										
DC AVG.										
AC 1	22.9	15.7								
AC 2	0.0									
AC AVG.										
S.P.		+6.7								
AC NOISE										
POT RES.		2 k								

Job 585 Ext, Line 5 sp 1 W/2 Dec 30, 70 250.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 5 HALF W SP. 1 DATE 12-3-72

SEND	CAL	S.P	4-5	5-6	6-7	7-8	3-4	4-5	5-6	6-7
RECEIVE	4-5	40-37.5E	37.5	35 E	→	→	35-32.5	E	→	→
RANGE	1.0		10	10	1.0	1.0	10	10	1.0	1.0
DC 1			5.9	4.5	4.3	3.9	5.8	6.9	5.2	5.4
DC 2 1 Hz	0.1									
DC 3										
DC 4 0.3 Hz	0.1									
DC 5										
DC 6 0.1 Hz	0.1									
DC 7 CUR	1.		2.							
DC 8 #	2		1	2	3	4	5	6	7	8
DC AVG. #			1	2	3	4	1	2	3	4
AC 1 3 Hz	101.2		546.	173.	107.7	50.1	470.	150.	78.6	55.5
AC 2	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		-15.6	+10.2				-2.6			
AC NOISE	3.0									
POT RES.	0.3	2 K	3 K				2 K			

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior # 585
LINE 5 HALF W SP. 1 DATE 12-30-72

SEND	7-8	2-3	3-4	4-5	5-6	6-7	7-8	1-2	2-3	3-4
RECEIVE	35-32.5	32.5 —	30	→				30-27.5	→	
RANGE	1.0	10	10	1.0	1.0	1.0	1.0	10	10	1.0
DC 1	4.9	7.6	7.8	7.5	6.1	6.2	5.6	7.7	5.9	5.6
DC 2										
DC 3										
DC 4										
DC 5 Cum										
DC 6 #	9	10	11	12	13	14	15	16	17	18
DC 7 n	5	1	2	3	4	5	6	1	2	3
DC 8										
DC AVG.										
AC 1	27.7	316.	111.	68.0	44.9	34.3	18.1	218.	119.	81.5
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+33.3						+14.2		
AC NOISE										
POT RES.		4K						4K		

STA. 25 up slope of creek

PAGE 8

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 5 HALF W SP. 1 DATE 2-30-2

SEND	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3
RECEIVE	30.5-28.5	→		22.5-25.0	→			→	22.5-20	→
RANGE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DC 1	5.4	4.3	4.3	5.1	3.7	3.7	3.6	2.7	5.9	4.1
DC 2										
DC 3										
DC 4 CUM										
DC 5 #	19	20	21	22	23	24	25	26	27	28
DC 6 n	4	5	6	2	3	4	5	6	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	64.2	48.1	37.8	47.9	33.4	26.1	22.2	17.2	52.4	41.2
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.				+4.2					-3.2	
AC NOISE										
POT RES.				2K					3K	

20-17.5 SPANS WASH
17.5 short of road near road fork
PAGE 9

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR #585
LINE 5 HALF W SP. 1 DATE 12-30-2

SEND	3-4	4-5	1-2	2-3	3-4	1-2	2-3	1-2		
RECEIVE	22.5-20	→	22.5-20	←	→	20-17.5	→	17.5-15		
RANGE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
DC 1	4.1	3.9	5.8	4.7	5.3	6.3	4.4	6.1		
DC 2										
DC 3 COR										
DC 4 T	29	30	31	32	33	34	35	36		
DC 5 M	5	6	4	5	6	5	6	6		
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	34.8	31.0	49.5	41.5	37.7	36.1	27.6	20.8		
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
AC AVG.										
S.P.			-30.0			+35.7		-2.1		
AC NOISE										
POT RES.			3K			5K		5K		

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT SUPERIOR #585

LINE 5 HALF E SP. 1 DATE 12-30-70

PAGE 1

SEND	CAL	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	3-4	40-42.5	E →	42.5-45	E →		45-47.5	E →		
RANGE	100×10	100×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10
VOLTAGE	200	220	610	400	430	610	480	400	430	610
CURRENT	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	47.5-50	E	→			50-52.5	E →			
RANGE	200×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10
VOLTAGE	520	480	400	440	610	440	520	480	390	440
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR Tom Freeman

RECEIVER NO.

OPERATOR W J Freeman

COMMENTS:

Mode 2B

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT SUPERIOR #585

LINE 5 HALF E SP. 1 DATE 12-30-70

SEND	1-2	7-8	6-7	5-6	4-5	3-4	2-3	7-8	6-7	5-6
RECEIVE	50-52.5E	52.5-	55 E	→	→	→	→	55-57	5E	→
RANGE	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10
VOLTAGE	610	250	440	520	480	390	440	250	440	520
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SEND	4-5	3-4	7-8	6-7	5-6	4-5	7-8	6-7	5-6	7-8
RECEIVE	55-57	5 E →	57.5 —	60 E	→	→	60-62.5	→	→	62.5-65
RANGE	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10
VOLTAGE	480	390	250	440	520	480	250	440	520	250
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR T Freeman

RECEIVER NO.

OPERATOR W J Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior # 585

LINE 5 HALF E SP. 1 DATE 12/30/7

SEND	6-7	7-8								
RECEIVE	62.5-65	65-67.5								
RANGE	200 x10	200 x10								
VOLTAGE	440	250								
CURRENT	2.0	2.0								
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR Tom Freeman

RECEIVER NO.

OPERATOR W J Freeman

COMMENTS:

It was dark in the valley, but I found my way out!

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior # 585

LINE 5 HALF ω SP. 1 DATE 12-30-76

SEND	CAL	4-5	5-6	6-7	7-8	3-4	4-5	5-6	6-7	7-8
RECEIVE	4-5	37.5-35	→	→	→	35-32.5	E →	→	→	→
RANGE	100×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10
VOLTAGE	230	460	510	430	240	380	460	510	430	240
CURRENT	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SEND	2-3	3-4	4-5	5-6	6-7	7-8	1-2	2-3	3-4	4-5
RECEIVE	32.5-30	E →	→	→	→	→	30-27.5	E →	→	→
RANGE	200×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10	200×10
VOLTAGE	430	380	440	500	420	240	600	430	370	440
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

FREQUENCIES 3 0.3

SENDER NO. 9662-5

OPERATOR T Freeman

RECEIVER NO.

OPERATOR W J Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585

LINE 5 HALF W SP. 1 DATE 12/30/7

SEND	5-6	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	30-27.5E	→	27.5-25	E →				25-22.5	E →	
RANGE	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10
VOLTAGE	500	420	600	430	380	440	500	600	430	380
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SEND	4-5	1-2	2-3	3-4	1-2	2-3	1-2			
RECEIVE	25-22.5	22.5-20	E →		20-17.5	→	17.5-15E			
RANGE	200x10	200x10	200x10	200x10	200x10	200x10	200x10			
VOLTAGE	440	600	430	380	600	430	600			
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0			

FREQUENCIES 3 0.3

SENDER NO. D662-5

OPERATOR Tom F

RECEIVER NO.

OPERATOR

COMMENTS:

Sub. 585 Ext, Line 5 Sp 2 W/2 Dec 30, 70

250

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR #585
LINE 5 HALF W SP. 2 DATE 12-30-72

PAGE 1

SEND	CAL	7-8	6-7	7-8	5-6	6-7	7-8	4-5	5-6	6-7
RECEIVE	3-4	5-6	4-5	→	20-22.5E	→	→	17.5-20	→	→
RANGE	1.0	10	10	10	10	10	1.0	10	10	10
DC 1	0.1	4.6	2.9	5.3	2.5	4.6	6.6	3.1	2.2	4.1
DC 2										
DC 3 CUB	1	3	—	—	2	—	—	3	—	2
DC 4 #	1	1	2	3	4	5	6	7	8	9
DC 5 #		1	1	2	1	2	3	1	2	3
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	101.0	230.	761.	189.	339.	286.	100.	778.	154.	122.
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.										
AC NOISE	3.0									
POT RES.	0.3									

CAL → MORNING OF 31ST

3-4

3 Hz	101.3
1 Hz	0.1
0.3 Hz	0.1
0.1 Hz	0.1
Dev.	0.0

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR # 585
LINE 5 HALF W SP. 2 DATE 12-30-20

PAGE 2

SEND	7-8	3-4	4-5	5-6	6-7	7-8	2-3	3-4	4-5	5-6
RECEIVE	17.5-20	17.5-15	←			→	15-12.5	←		→
RANGE	1.0	10	10	1.0	1.0	1.0	10	10	10	1.0
DC 1	6.1	4.5	2.6	1.9	4.3	6.6	3.9	3.9	2.4	1.7
DC 2										
DC 3 CUR	—	—	3 —	—	2 —	—	—	—	—	—
DC 4 #	10	11	12	13	14	15	16	17	18	19
DC 5 #	4	1	2	3	4	5	1	2	3	4
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	52.0	782.	271.	75.5	70.0	32.4	702.	361.	108.	33.8
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.							-2.0			
AC NOISE										
POT RES.							2K			

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 5 HALF W SP. 2 DATE 12-30-7

SEND	6-7	7-8	1-2	2-3	3-4	4-5	5-6	6-7	1-2	2-3
RECEIVE	15-12.5 E	→	12.5-10 E					→	10-7.5 E	→
RANGE	1.0	1.0	10	10	10	1.0	1.0	1.0	1.0	1.0
DC 1	4.3	6.1	3.5	4.0	4.0	2.9	2.5	4.9	6.3	6.5
DC 2										
DC 3 CUR										
DC 4 #	20	21	22	23	24	25	26	27	28	29
DC 5 #	5	6	1	2	3	4	5	6	2	3
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	49.7	23.8	455.	187.	127.	42.6	14.2	21.7	96.9	60.9
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.			-5.5						+18.1	
AC NOISE										
POT RES.			3K						6K	

OVER!

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 5 HALF W SP. 2 DATE 12-31-70

SEND	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2	2-3	3-4
RECEIVE	10-7.5	→	→	7.5-5	→	→	→	5-2.5	→	→
RANGE	1.0	1.0	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DC 1	6.7	5.0	4.2	5.7	6.1	6.1	4.4	5.2	5.4	5.7
DC 2										
DC 3										
DC 4 CUR	—	—	—	—	—	—	—	—	—	—
DC 5 #	30	31	32	33	34	35	36	37	38	39
DC 6 #	4	5	6	3	4	5	6	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	48.5	18.1	6.51	50.2	38.2	33.1	14.2	20.2	17.7	16.5
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.				+16.3				+2.4		
AC NOISE										
POT RES.				7K				7K		

	3-4
	10-7.5
3Hz	48.5
1Hz	3.1
0.3Hz	6.7
0.1Hz	10.0
Dev.	0.0

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 5 HALF W SP. 2 DATE 12-31-2

SEND	1-2	2-3	1-2							
RECEIVE	2.5-6	→	0-2.5W							
RANGE	0.1	0.1	0.1							
DC 1	4.9	5.0	2.9							
DC 2										
DC 3										
DC 4 CUB										
DC 5 F	F0	F1	F2							
DC 6 M	5	6	6							
DC 7										
DC 8										
DC AVG.										
AC 1	9.93	9.24	3.66							
AC 2	0.0	0.0								
AC AVG.										
S.P.	-9.6		+8.7							
AC NOISE										
POT RES.	5K		3K							

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585

LINE 5 HALF W SP. 2 DATE 12-30-70

PAGE 1

SEND	CAL	7-8	4-5	→	3-4	→	→	4-5	5-6	6-7
RECEIVE	3-4	5-6	6-7	7-8	5-6	6-7	7-8	20-17.5	→	→
RANGE	10x100	10x300	10x300	→	10x200	→	→	10x300	10x300	10x200
VOLTAGE	170	250	320	→	350	→	→	320	260	480
CURRENT	1.0	3.0	3.0	→	2.0	→	→	3.0	3.0	2.0
SEND	7-8	3-4	4-5	5-6	6-7	7-8 *	2-3	3-4	4-5	5-6
RECEIVE	17.5-20	17.5-15e	→	→	→	→	15-12.5e	→	→	→
RANGE	10x200	10x200	10x300	10x300	10x200	10x200	200x10	200x10	200x10	200x10
VOLTAGE	640	360	320	260	470	640	350	350	210	190
CURRENT	2.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR Tom Freeman

RECEIVER NO. 20693-R

OPERATOR B. FREEMAN

COMMENTS:

* CAL 12/31/70
3-4
100x10
180
1.0

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585
LINE 5 HALF W SP. 2 DATE 12/31/7

SEND	6-7	7-8	1-2	2-3	3-4	4-5	5-6	6-7	1-2	2-3
RECEIVE	15-12.5E	→	12.5-10	E →					10-7.5E	
RANGE	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10
VOLTAGE	520	690	280	350	350	210	190	520	280	350
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SEND	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2	2-3	3-4
RECEIVE	10-7.5E	→		7.5-5E	→			5-2.5E	→	
RANGE	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10
VOLTAGE	350	210	200	280	350	350	210	280	350	350
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

FREQUENCIES 3 / 0.3
SENDER NO. 9662-S
OPERATOR Tom Freeman
RECEIVER NO. 20693-R
OPERATOR B. Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior #585

LINE 5 HALF W SP. 2 DATE 12/31/

SEND	1-2	2-3	1-2							
RECEIVE	2.5-0E	→	0-2.5W							
RANGE	200×10	200×10	200×10							
VOLTAGE	280	350	280							
CURRENT	2.0	2.0	2.0							
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO.

OPERATOR T F

RECEIVER NO.

OPERATOR B F

COMMENTS:

Job 585Ex., Line 5, Spr. 3, Wt, 1/5/71 250.

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior 585

LINE 5 HALF W SP. 3 DATE 1-5-71

PAGE 1

SEND	CAL	4-5	3-4	2-3	1-2	3-4	2-3	1-2	2-3	1-2
RECEIVE	4-5	6-7	→	→	→	5-6	→	→	4-5	→
RANGE	1.0	1.0	1.0	1.0	1.0	10	1.0	0.1	1.0	1.0
DC 1	0.1	5.7	5.4	5.2	4.7	5.1	6.0	5.9	2.5	3.2
DC 2										
DC 3										
DC 4 Pos	1.0	1.0	→	→	→	→	→	→	→	→
DC 5 #	1	1	2	3	4	5	6	7	8	9
DC 6 "		1	2	3	4	1	2	3	1	2
DC 7										
DC 8										
DC AVG.										
AC 1	101.1	95.3	37.9	12.1	5.75	121.	16.8	6.20	91.8	20.1
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0									
AC NOISE	0.3									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 5 HALF W SP. 3 DATE 1-5-11

PAGE 2

SEND	1-2	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5
RECEIVE	3-4	0-2.5W	→	→	→	→	2.5-5W	→	→	→
RANGE	10	1.0	1.0	0.1	0.1	0.1	1.0	1.0	0.1	0.1
DC 1	3.2	1.9	1.9	2.9	3.8	3.2	1.4	2.0	1.7	2.3
DC 2										
DC 3										
DC 4 Cur	1.0	→	→	→	→	→	→	→	→	→
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 n	1	1	2	3	4	5	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	164.	88.5	16.8	3.81	1.75	1.98	78.5	20.7	6.32	1.91
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+16.7					-0.0			
AC NOISE										
POT RES.		20 k					15K			

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior 585

LINE 5 HALF W SP. 3 DATE 1-5-11

SEND	5-6	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	25-5W	→	5-7.5W	→	→	→	→	7.5-10W	→	→
RANGE	0.1	0.1	1.0	1.0	0.1	0.1	0.01	1.0	0.1	0.1
DC 1	3.9	2.9	1.7	2.0	1.9	2.3	3.7	1.9	2.1	1.9
DC 2										
DC 3										
DC 4 Em	1.0	→	→	→	→	→	→	→	→	→
DC 5 #	20	21	22	23	24	25	26	27	28	29
DC 6 n	5	6	2	3	4	5	6	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	1.05	1.30	30.6	11.7	4.55	1.69	0.986	14.0	6.29	2.78
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.			+9.7					+9.3		
AC NOISE										
POT RES.			15K					11K		

15 - 17.5W SPRATTES ROAD

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT _____

LINE 5 HALF W SP. 3 DATE _____

SEND	4-5	1-2	2-3	3-4	1-2	2-3	1-2			
RECEIVE	7.5-10W	10-12.5W	→		12.5W	→	15-17.5W			
RANGE	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
DC 1	2.7	1.9	2.3	2.4	2.3	1.9	2.4			
DC 2										
DC 3										
DC 4 Gn	1.0	→								
DC 5 #	30	31	32	33	34	35	36			
DC 6 n	6	4	5	6	5	6	6			
DC 7										
DC 8										
DC AVG.										
AC 1	1.11	7.58	3.65	1.82	6.58	3.58	3.23			
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
AC AVG.										
S.P.		-6.0			+8.2		+4.2			
AC NOISE										
POT RES.		8K			11K		15K			

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior

LINE ____ HALF ____ SP. ____ DATE ____

PAGE 1

SEND	CAL	4-5	3-4	2-3	1-2	3-4	2-3	1-2	2-3	1-2
RECEIVE	4-5	6-7	→	→	→	5-6	→	→	4-5	→
RANGE	100x10	100x10	100x10	100x10	100x10	100x10	100x10	100x10	100x10	100x10
VOLTAGE	350	350	490	450	360	490	450	360	450	360
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SEND	1-2	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5
RECEIVE	3-4	0-2.5w	→	→	→	→	2.5-5w	→	→	→
RANGE	100x10	100x10	100x10	100x10	100x10	100x10	100x10	100x10	100x10	100x10
VOLTAGE	360	450	390	340	280	200	360	460	390	330
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

FREQUENCIES 3 0.5

SENDER NO. 9662-5

OPERATOR Tom Freeman

RECEIVER NO.

OPERATOR WJ Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior

LINE ____ HALF ____ SP. ____ DATE ____

PAGE 2

SEND	5-6	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	2.5-5w	→	5-7.5w	→	→	→	→	7.5-10w	→	→
RANGE	100×10	100×10	100×10	100×10	100×10	100×10	100×10	100×10	100×10	100×10
VOLTAGE	270	190	360	450	380	330	270	360	450	380
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SEND	4-5	1-2	2-3	3-4	1-2	2-3	1-2			
RECEIVE	7.5-10w	10-12.5w	→	→	12.5-15w	→	15-17.5w			
RANGE	100×10	100×10	100×10	100×10	100×10	100×10	100×10			
VOLTAGE	320	350	450	370	350	440	350			
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	1.0			

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR Tom Freeman

RECEIVER NO.

OPERATOR

COMMENTS:

W.J. Freeman

Job 585Ex, Line 6, Spr 1, E½, 1/6/71

250.

Center @ #3

PAGE 1

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR #585
LINE 6 HALF E SP. 1 DATE 1-6-71

SEND	CAL	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3
RECEIVE	2-3	0-2.5E	2.5-5E	→	5-7.5E	→	→	7.5-10E	→	→
RANGE	1.0	10	10	1.0	10	10	1.0	10	10	1.0
DC 1	0.1	1.3	1.7	1.7	1.4	1.9	1.9	1.6	2.1	2.4
DC 2										
DC 3										
DC 4 Per	1.0	2	→	→	→	→	→	→	→	→
DC 5 #	1	1	2	3	4	5	6	7	8	9
DC 6 n		1	1	2	1	2	3	1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	101.1	342.	562.	64.9	650.	212.	33.2	380.	197.	99.7
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0	-5.7	+5.0		-1.6			+4.6		
AC NOISE	0.3									
POT RES.		7K	5K		4K			7K		

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Superior #585
LINE 6 HALF E SP. 1 DATE 1-6-71

PAGE 2

SEND	1-2	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4
RECEIVE	7.5-10e	10-12.5	E				12.5-15			
RANGE	1.0	10	10	1.0	1.0	1.0	10	1.0	1.0	1.0
DC 1	2.4	1.7	2.3	3.0	3.0	3.2	2.1	2.4	2.9	3.4
DC 2										
DC 3										
DC 4 Con	2						1	2	2	2
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 n	4	1	2	3	4	5	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	19.4	356.	135.	109.0	73.0	17.1	145.	93.2	54.8	58.3
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+1.5					+9.0			
AC NOISE										
POT RES.		8 k					6 k			

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR # 585
LINE 6 HALF E SP. 1 DATE 1-6-71

SEND	2-3	1-2	7-8	6-7	5-6	4-5	3-4	2-3	7-8	6-7
RECEIVE	12.5-15	→	15-17.5	E				→	17.5-20	E →
RANGE	1.0	1.0	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DC 1	3.3	3.4	2.3	2.4	2.6	3.1	3.1	3.1	2.9	2.7
DC 2										
DC 3										
DC 4 Run	2	2	1	1	2	2	2	2	1	1
DC 5 #	20	21	22	23	24	25	26	27	28	29
DC 6 n	5	6	1	2	3	4	5	6	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	48.1	12.7	206.	42.3	40.1	28.0	34.7	32.1	62.9	18.7
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.			-1.5						+6.0	
AC NOISE										
POT RES.			7K						7K	

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 6 HALF E SP. ____ DATE ____

SEND	5-6	4-5	3-4	7-8	6-7	5-6	4-5	7-8	6-7	5-6
RECEIVE	17.5-20	E →		20-22.5	E →			22.5-25	E →	
RANGE	1.0	1.0	1.0	1.0	0.1	0.1	0.1	1.0	0.1	0.1
DC 1	3.1	3.4	3.6	2.9	2.9	3.1	3.5	3.3	3.1	2.7
DC 2										
DC 3										
DC 4 Cu	2	2	2	1	1	2	2	1	1	2
DC 5 #	30	31	32	33	34	35	36	37	38	39
DC 6 n	4	5	6	3	4	5	6	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	21.9	17.7	24.2	22.6	8.32	10.74	9.08	12.3	4.94	7.01
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.				-4.6				+16.1		
AC NOISE										
POT RES.				3K				4k		

DIRT ROAD @ 24.5E

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 6 HALF 6 SP. 1 DATE 1-6-71

SEND	7-8	6-7	7-8							
RECEIVE	25-27.5 →		27.5-30E							
RANGE	0.1	0.1	0.1							
DC 1	3.6	4.1	3.7							
DC 2										
DC 3										
DC 4 ten	1	1	1							
DC 5 #	40	41	42							
DC 6 "	5	6	6							
DC 7										
DC 8										
DC AVG.										
AC 1	6.65	2.82	5.95							
AC 2	0.0	0.0	0.0							
AC AVG.										
S.P.	-11.1		+6.9							
AC NOISE										
POT RES.	7K		8K							

5 minutes between stations
1/2 " for AC
1 " " DC

PAGE 1

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior
LINE ____ HALF E SP. 1 DATE ____

SEND	CAL	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3
RECEIVE	2-3	0-2.5E	2.5-5	E →	5-7.5	E →	→	7.5-10E	→	→
RANGE	100x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10	200x10
VOLTAGE	220	600	430	590	510	420	580	500	510	420
CURRENT	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SEND	1-2	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4
RECEIVE	7.5-10	10-12.5	E →	→	→	→	12.5-15	E →	→	→
RANGE	200x10	200x10	200x10	200x10	200x10	200x10	100x10	200x10	200x10	200x10
VOLTAGE	580	500	500	500	420	580	400	500	500	500
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0

FREQUENCIES 3 0.3
SENDER NO. 9662-S
OPERATOR Tom Freeman
RECEIVER NO. 20693-R
OPERATOR W J Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior
LINE ____ HALF E SP. 1 DATE ____

SEND	2-3	1-2	7-8	6-7	5-6	4-5	3-4	2-3	7-8	6-7
RECEIVE	12.5-	15- →	15-17.5	→	→	→	→	→	17.5-20	→
RANGE	200x10	200x10	100x10	100x10	200x10	200x10	200x10	200x10	100x10	100x10
VOLTAGE	420	580	450	400	500	500	500	420	450	400
CURRENT	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	1.0	1.0
SEND	5-6	4-5	3-4	7-8	6-7	5-6	4-5	7-8	6-7	5-6
RECEIVE	17.5-20	→	→	20-22.5	→	→	→	22.5-	25-	→
RANGE	200x10	200x10	200x10	100x10	100x10	200x10	200x10	100x10	100x10	200x10
VOLTAGE	500	490	500	450	400	500	490	450	400	500
CURRENT	2.0	2.0	2.0	1.0	1.0	2.0	2.0	1.0	1.0	2.0

FREQUENCIES 3 0.3
SENDER NO. 9662-5
OPERATOR T Freeman
RECEIVER NO. 20693-R
OPERATOR W J Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior

LINE ____ HALF E SP. 1 DATE ____

SEND	7-8	6-7	7-8							
RECEIVE	25-27.5	→	27.5-30							
RANGE	100 x 10	100 x 10	100 x 10							
VOLTAGE	450	390	440							
CURRENT	1.0	1.0	1.0							
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3.0 0.3

SENDER NO. 9662-S

OPERATOR Tom Freeman

RECEIVER NO. 20693-R

OPERATOR W J Freeman

COMMENTS:

Job 585 Ex, Line 6, Spr. 1, W½, 1/6/71

250.

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 6 HALF W SP. 1 DATE 1-6-71

SEND	CAL	S.P.	3-4	4-5	5-6	6-7	7-8	2-3	3-4	4-5
RECEIVE	3-4	0-2.5W	2.5-5W	→	→	→	→	5-7.5W	→	→
RANGE	1.0		10	1.0	1.0	0.1	0.1	10	1.0	1.0
DC 1	0.1		1.4	1.8	2.1	2.4	3.1	0.9	1.2	1.7
DC 2							DRIFT 2-4			
DC 3										
DC 4 Cur	1.0		2	2	2	1	1	2	2	2
DC 5 #	2		1	2	3	4	5	6	7	8
DC 6 n			1	2	3	4	5	1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	101.0		340.	64.7	32.9	9.50	8.38	189.	45.9	11.8
AC 2	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0	-15.9	+13.2					-3.5		
AC NOISE	0.3									
POT RES.		6K	3K					3K		

ROAD between 2.5 - 5

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 6 HALF W SP. 1 DATE 1-6-71

SEND	5-6	6-7	7-8	1-2	2-3	3-4	4-5	5-6	6-7	1-2
RECEIVE	5-7.5m	→	→	7.5-10	W	→	→	→	→	10-12.5m
RANGE	0.1	0.1	0.1	10	1.0	1.0	0.1	0.1	0.1	1.0
DC 1	1.8	2.6	3.1	0.6	0.6	1.2	1.6	1.7	2.7	0.5
DC 2										
DC 3										
DC 4 cm	2	1	1	2	2	2	2	2	1	2
DC 5 #	9	10	11	12	13	14	15	16	17	18
DC 6 n	4	5	6	1	2	3	4	5	6	2
DC 7										
DC 8										
DC AVG.										
AC 1	6.95	2.44	2.35	156.	88.7	29.4	8.77	5.54	2.00	45.0
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.				-7.1						+8.4
AC NOISE										
POT RES.				7K						5K

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR #SB5
LINE 6 HALF W SP. 1 DATE 1-6-71

PAGE

SEND	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2	2-3
RECEIVE	10-12.5	W →			12.5-15	W →			15-17.5	W →
RANGE	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1		
DC 1	0.6	1.1	2.1	1.9	0.6	0.5	1.2	1.6		
DC 2									Terminate	
DC 3									Line	- No
DC 4 an	2	→							Response!	
DC 5 #	19	20	21	22	23	24	25	26		
DC 6 "	3	4	5	6	3	4	5	6		
DC 7										
DC 8										
DC AVG.										
AC 1	41.1	15.7	4.90	3.25	16.4	19.5	8.22	2.79		
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
AC AVG.										
S.P.					+10.9					
AC NOISE										
POT RES.					7K					

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior
LINE ____ HALF W SP. L DATE ____

SEND	CAL	3-4	4-5	5-6	6-7	7-8	2-3	3-4	4-5	5-6
RECEIVE	3-4	2.5-	5 W	→	→	→	5-7.5W			
RANGE	100x10	200x10	200x10	200x10	100x10	100x10	200x10	200x10	200x10	200x10
VOLTAGE	240	480	470	480	390	440	410	480	470	480
CURRENT	1.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0
SEND	6-7	7-8	1-2	2-3	3-4	4-5	5-6	6-7	1-2	2-3
RECEIVE			7.5-10	→	→	→	→	→	10-12.5	→
RANGE	100x10	100x10	200x10	200x10	200x10	200x10	200x10	100x10	200x10	200x10
VOLTAGE	380	440	550	410	480	460	480	380	550	410
CURRENT	1.0	1.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0

FREQUENCIES 3 0.3
SENDER NO. 9662-5
OPERATOR T Freeman
RECEIVER NO.
OPERATOR WJ Freeman

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior

LINE ____ HALF 4 SP. 1 DATE ____

SEND	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2	2-3	3-4
RECEIVE	10-12.5	→		12.5-15	→	→	→	15-17.5	→	→
RANGE	200x10	200x10	200x10	200x10	200x10	200x10	200x10			
VOLTAGE	480	460	480	550	410	480	460			
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
SEND	1-2	2-3	1-2							
RECEIVE	17.5	-20	20-22.5							
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO.

OPERATOR

RECEIVER NO.

OPERATOR

COMMENTS:

JOB 585 EXT LINE 6 SP1 W 1/2 1/6/71 250 FEET=DIPOLE LENGTH
CAL GROUP NO. 2

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
1.000	.10	101.000	0.00	3.00	.30	.1000	.9901

COMPUTED DATA									FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	127.88	1.30	10.2	1.30	10.2	0.00	**	1.40	2.00	1	1	340.000	0.00
2	2	97.72	1.70	17.4	1.70	17.4	0.00	**	1.80	2.00	2	2	64.700	0.00
3	3	124.60	2.00	16.1	2.00	16.1	0.00	**	2.10	2.00	3	3	32.900	0.00
4	4	144.33	2.30	15.9	2.30	15.9	0.00	**	2.40	1.00	4	4	9.500	0.00
5	5	224.33	3.00	13.4	3.00	13.4	0.00	**	3.10	1.00	5	5	8.380	0.00
6	1	70.73	.80	11.3	.80	11.3	0.00	**	.90	2.00	6	1	189.000	0.00
7	2	68.92	1.10	16.0	1.10	16.0	0.00	**	1.20	2.00	7	2	45.900	0.00
8	3	44.51	1.60	35.9	1.60	35.9	0.00	**	1.70	2.00	8	3	11.800	0.00
9	4	52.49	1.70	32.4	1.70	32.4	0.00	**	1.80	2.00	9	4	6.950	0.00
10	5	65.00	2.50	38.5	2.50	38.5	0.00	**	2.60	1.00	10	5	2.440	0.00
11	6	100.65	3.00	29.8	3.00	29.8	0.00	**	3.10	1.00	11	6	2.350	0.00
12	1	58.21	.50	8.6	.50	8.6	0.00	**	.60	2.00	12	1	156.000	0.00
13	2	132.39	.50	3.8	.50	3.8	0.00	**	.60	2.00	13	2	88.700	0.00
14	3	110.36	1.10	10.0	1.10	10.0	0.00	**	1.20	2.00	14	3	29.400	0.00
15	4	66.10	1.50	22.7	1.50	22.7	0.00	**	1.60	2.00	15	4	8.770	0.00
16	5	73.14	1.60	21.9	1.60	21.9	0.00	**	1.70	2.00	16	5	5.540	0.00
17	6	85.33	2.60	30.5	2.52	29.5	.08	**	2.70	1.00	17	6	2.000	0.00
18	2	67.10	.40	6.0	.40	6.0	0.00	**	.50	2.00	18	2	45.000	0.00
19	3	153.36	.50	3.3	.50	3.3	0.00	**	.60	2.00	19	3	41.100	0.00
20	4	117.75	1.00	8.5	1.00	8.5	0.00	**	1.10	2.00	20	4	15.700	0.00
21	5	64.95	2.00	30.8	2.00	30.8	0.00	**	2.10	2.00	21	5	4.900	0.00
22	6	68.79	1.80	26.2	1.69	24.5	.11	**	1.90	2.00	22	6	3.250	0.00
23	3	61.20	.50	8.2	.50	8.2	0.00	**	.60	2.00	23	3	16.400	0.00
24	4	145.38	.40	2.8	.40	2.8	0.00	**	.50	2.00	24	4	19.500	0.00
25	5	107.99	1.10	10.2	1.10	10.2	0.00	**	1.20	2.00	25	5	8.220	0.00
26	6	58.88	1.50	25.5	1.36	23.1	.14	**	1.60	2.00	26	6	2.790	0.00

Job 585 Ex, Line 6, Spr. 2, E ½, 1/7/71 250.

CENTER @ #25
ALSO = sending electrode #6

PAGE 1

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR #585
LINE 6 HALF E SP. 2 DATE 1-7-71

SEND	CAL	3-4	4-5	5-6	6-7	7-8	4-5	5-6	6-7	7-8
RECEIVE	5-6	1-2	→	→	→	→	2-3	→	→	→
RANGE	1.0	10	1.0	1.0	1.0	0.1	10	1.0	1.0	0.1
DC 1	0.1	1.7	2.1	2.6	2.9	2.9	1.3	1.7	2.3	2.3
DC 2										
DC 3										
DC 4	1.0	1	1	1	1	0.6	1	1	1	0.6
DC 5 #	1	1	2	3	4	5	6	7	8	9
DC 6 "		1	2	3	4	5	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	101.1	175.	49.9	21.8	11.0	5.38	145.	46.7	20.3	8.88
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0									
AC NOISE	0.3									
POT RES.										

$$a(n+1) = \overset{3}{2.5}\,(7) = \cancel{1000}$$

$$\begin{array}{r} 7 \\ 17.50 \end{array}$$

1.75

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT SUPERIOR #585

LINE 6 HALF E SP. 2 DATE 1-7-71

SEND	5-6	6-7	7-8	6-7	7-8	7-8	6-7	5-6	4-5	3-4
RECEIVE	3-4	→	→	4-5	→	5-6	30-32.5	E →	→	→
RANGE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DC 1	0.9	1.5	1.6	0.9	1.1	0.6	0.8	0.9	1.3	2.2
DC 2										
DC 3										
DC 4 Pm	1	1	0.6	1	0.6	0.6	1	1	1	1
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 "	1	2	3	1	2	1	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	120.	37.8	14.6	94.5	24.9	75.4	89.5	35.1	17.9	13.0
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.							-24.0			
AC NOISE										
POT RES.							7K			

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT SUPERIOR #505

LINE 6 HALF E SP. 2 DATE 1-7-71

SEND	2-3	1-2	7-8	6-7	5-6	4-5	3-4	2-3	7-8	6-7
RECEIVE	30.5-32.5	→	32.5-35	→	→	→	→	→	35-37.5	→
RANGE	0.1	0.1	1.0	1.0	1.0	0.1	0.1	0.1	1.0	1.0
DC 1	2.5	2.6	0.8	0.9	1.1	1.7	2.3	2.7	0.8	1.0
DC 2										
DC 3										
DC 4 Gn	1	1	0.6	1	1	1	1	1	0.6	1
DC 5 #	20	21	22	23	24	25	26	27	28	29
DC 6 n	5	6	1	2	3	4	5	6	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	8.54	5.74	39.4	20.2	12.5	7.97	6.42	4.74	26.2	18.4
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.			+5.9						-1.0	
AC NOISE										
POT RES.			6K						5K	

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Superior #585

LINE 6 HALF E SP. 2 DATE 1-7-71

SEND	5-6	4-5	3-4	7-8	6-7	5-6	4-5	7-8	6-7	5-6
RECEIVE	35-37.5	E →		37.5-40	→			40-42.5	E →	
RANGE	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1	0.1	0.1
DC 1	1.1	2.1	2.2	1.0	1.3	1.6	2.2	1.1	1.4	1.6
DC 2										
DC 3										
DC 4 Gain	1	1	1	0.6	1	1	1	0.6	1	1
DC 5 #	30	31	32	33	34	35	36	37	38	39
DC 6 "	4	5	6	3	4	5	6	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	13.3	9.24	8.13	12.5	11.0	9.10	7.24	4.84	4.61	4.04
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.				+11.4				+0.1		
AC NOISE										
POT RES.				11k				3k		

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT SUPERIOR #585

LINE 6 HALF E SP. 2 DATE 1-7-71

PAGE 1

SEND	CAL	3-4	4-5	5-6	6-7	7-8	4-5	5-6	6-7	7-8
RECEIVE	5-6	1-2	→	→	→	→	2-3	→	→	→
RANGE	10X100	10X100	10X100	10X100	10X100	3X200	10X100	10X100	10X100	3X200
VOLTAGE	520	500	600	500	620	600	600	500	620	600
CURRENT	1.0	1.0	1.0	1.0	1.0	0.6	1.0	1.0	1.0	0.6
SEND	5-6	6-7	7-8	6-7	7-8	7-8	6-7	5-6	4-5	3-4
RECEIVE	3-4	→	→	4-5	→	5-6	30-32.5	→	→	→
RANGE	10X100	10X100	3X200	10X100	3X200	3X200	100X10	100X10	100X10	100X10
VOLTAGE	500	620	600	600	600	600	600	490	580	500
CURRENT	1.0	1.0	0.6	1.0	0.6	0.6	1.0	1.0	1.0	1.0

FREQUENCIES 3 0.3

SENDER NO.

OPERATOR

RECEIVER NO. 20693 R

OPERATOR W. J. FREEMAN

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Superior # 585

LINE 6 HALF E SP. 2 DATE 1-7-71

PAGE 2

SEND	2-3	1-2	7-8	6-7	5-6	4-5	3-4	2-3	7-8	6-7
RECEIVE	30-32.5	→	32.5-35E						35-37.5	→
RANGE	100×10	100×10	200×3	100×10	100×10	100×10	100×10	100×10	200×3	100×10
VOLTAGE	480	530	580	580	480	570	490	480	580	570
CURRENT	1.0	1.0	0.6	1.0	1.0	1.0	1.0	1.0	0.6	1.0
SEND	5-6	4-5	3-4	7-8	6-7	5-6	4-5	7-8	6-7	5-6
RECEIVE	35-37.5	→		37.5-40				40-42.5		→
RANGE	100×10	100×10	100×10	200×3	100×10	100×10	100×10	200×3	100×10	100×10
VOLTAGE	470	560	490	570	560	460	550	570	560	450
CURRENT	1.0	1.0	1.0	0.6	1.0	1.0	1.0	0.6	1.0	1.0

FREQUENCIES 3 0.3

SENDER NO. 9662-S

OPERATOR Tom Freeman

RECEIVER NO.

OPERATOR W J Freeman

COMMENTS:

Campbell's Tomato Soup Stain

Job 585, LINE 7, Spr. 1, W+E ½, 1/12/71

250.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR #585
LINE 7 HALF W SP. 1 DATE 1-12-71

PAGE 1

SEND	CAL	4-5	3-4	2-3	1-2	3-4	2-3	1-2	2-3	1-2
RECEIVE	3-4	6-7	→	→	→	5-6	→	→	4-5	→
RANGE	1.0	10	10	1.0	1.0	10	1.0	1.0	1.0	1.0
DC 1	0.1	2.3	2.9	3.5	3.3	2.5	3.2	2.8	2.8	2.4
DC 2										
DC 3										
DC 4 Em	1.0	0.9	1	1	2	1	1	2	1	2
DC 5 #	1	1	2	3	4	5	6	7	8	9
DC 6 M		1	2	3	4	1	2	3	1	2
DC 7										
DC 8										
DC AVG.										
AC 1	100.7	799.	386.	45.8	63.6	885.	67.1	74.4	103.1	75.0
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0									
AC NOISE	0.3									
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT SUPERIOR #585

LINE 7 HALF W SP. 1 DATE 1-12-71

SEND	1-2	S.P.	3-4	4-5	5-6	6-7	2-3	3-4	4-5	5-6
RECEIVE	3-4	0-2.5W	2.5-5W	→	→	→	5-7.5W	→	→	→
RANGE	10		10	1.0	1.0	1.0	1.0	1.0	0.1	1.0
DC 1	3.1		3.3	2.6	2.9	3.7	1.5	2.9	2.3	2.7
DC 2										
DC 3		CAL								
DC 4 Rm	2	3-4	1	→	→	→	→	→	→	→
DC 5 "	10	1.0	11	12	13	14	15	16	17	18
DC 6 "	1	+0.1	1	2	3	4	1	2	3	4
DC 7		100.6								
DC 8		0.0								
DC AVG.										
AC 1	269.		138.	37.8	37.5	32.1	70.6	24.5	9.48	11.1
AC 2	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+4.8	+15.6				-1.9			
AC NOISE										
POT RES.		3K	4K				5K			

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT SUPERIOR #585
LINE 7 HALF W SP. 1 DATE 1-13-71

SEND	6-7	1-2	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4
RECEIVE	5-7.5W	7.5-10W	→	→	→	→	→	10-12.5	→	→
RANGE	1.0	10	1.0	1.0	0.1	0.1	0.1	1.0	0.1	0.1
DC 1	3.2	1.1	1.9	3.2	2.9	3.1	3.6	1.4	2.2	2.9
DC 2										
DC 3										
DC 4 Pin	1	2	2	1	1	0.3	1	2	1	1
DC 5 #	19	20	21	22	23	24	25	26	27	28
DC 6 "	5	1	2	3	4	5	6	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	11.0	164.	40.7	12.2	5.86	2.41	8.65	39.2	6.74	5.24
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+4.4						+3.0		
AC NOISE										
POT RES.		4K						4K		