



CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
<http://www.azgs.az.gov>
inquiries@azgs.az.gov

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Malfunction of our equipment in excess of one hour per day will be made up or not charged. Standby time due to inclement weather or client request will be charged at half the daily rate plus expenses as above.

Final data compilation, computation and drafting will be charged at \$10.00 per hour. Final interpretation and report if desired will be charged at \$150.00 per staff day.

Assuming that about 10 field days would be involved, the 15 line miles of coverage plus computing and drafting would cost roughly \$3500.00 with a three man crew and about \$2900.00 with a two man crew. If a final report and interpretation are desired, this will be roughly \$500.00 additional.

Our crew availability at this time is such that we probably couldn't start until about the last week in August or first week in September.

All property permits, brushing and trespass-liability and related costs which are incurred on behalf of the client will be chargeable to the client. Charges for extra equipment and personnel employed, if mutually desired, are extra.

GEOEX will save the client harmless from all Workmen's Compensation, public liability and property damage liability incurred by GEOEX employees.

Payments are due on presentation. Billings may be submitted periodically with final payment due on presentation of final report.

Your understanding and approval of the above may be indicated by signing and checking the desired option as provided below on the attached copy of this letter and returning it to us together with an advance payment of \$800.00, to be credited against work to be done, for definite crew commitment.

Cont'd.....

Cont'd.....

Sincerely yours,
HEINRICHS GEOEXPLORATION COMPANY

Chris S Ludwig

Chris S. Ludwig
Senior Geophysicist

Date: Sept 31, 1970

Accepted By: Ronald D. Harunen

Title: Geologist

Options:

3 Man Crew: _____ or 2 Man Crew: X (Check one)

Drafting Only: None formal or Interpretation X (Check one)
& Report

Enclosures: Extra cc:

GSL/re:

I, P. Survey

in the

Mineral Butte Area

Pinal County, Arizona

for

Norandex Incorporated

November, 1970

HEINRICHS
GEOEXPLORATION CO.



Box 5964 Tucson, Arizona 85703
Phone: (602) 623-0578
Cable: GEOEX

INDUCED POLARIZATION SURVEY

IN THE

MINERAL BUTTE AREA

PINAL COUNTY, ARIZONA

FOR

NORANDEX INCORPORATED

NOVEMBER 1970

By

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

GEOEX Job # 572

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Basis of the Induced Polarization Method

In Map Pocket: (total two pieces)

Induced Polarization Location and Interpretation Plan
Self Potential Overlay

GENERAL LOCATION
of
MINERAL BUTTE AREA
for
NORANDEX INC.

ARIZONA



**HEINRICHS
GEOEXPLORATION COMPANY**

**GEOPHYSICAL
ENGINEERS**

AUSTRALIA
(SYDNEY)
39 Hume Street
Crows Nest, NSW
Phone: 439-1793

U.S.A.
Post Office Box 5964
Tucson, Arizona 85703
Phone: (602) 623-0578
Cable: GEDEX, Tucson

INTRODUCTION

At the request of Mr. Ron Karvinen of Norandex Incorporated, Heinrichs GEOEXploration conducted and completed a comprehensive induced polarization survey in the Mineral Butte area near Coolidge, Pinal County, Arizona. The field work was done during the interim September 8 to October 10, 1970.

A total of 22 lines were completed, all oriented N-S. Except for Lines 56E and 28W, which were run with 1000 foot dipole spacings all lines were run on 400 foot dipole spacings. The line separation was 400 feet except for one 800 foot gap between Lines 44E and 52E. The total surface coverage amounts to 28.4 miles of which 18.6 miles is subsurface plotted data. All lines were single 6 electrode spreads except for Lines 40E, 24E, 12E, 8E, 4E, 0 and 12W which had an additional end-on spread to the north.

The ON/S coordinate is roughly along the extended south section line of Section 36, T 3 S, R 7 E which is also a grounded fence line and the northern boundary of the Gila River Indian Reservation. The OE/W coordinate is approximately 1850 feet west of the southeast corner of Section 36. The lines are numbered in hundreds of feet east and west of the OE/W line and stations are indicated as hundreds of feet north and south of the ON/S line.

The dual frequency I.P. technique was used with sending frequencies of 0.3 and 3.0 Hz except on Line 56E which was run with 0.1 and 1.0 Hz to minimize possible adverse inductive coupling interference incurred by the larger spacing and lower resistivity on that line. The collinear dipole-dipole array was the electrode configuration employed, which on a 400 foot spacing should typically give resolvable penetration within the zone from roughly 100 feet to about 500 or 600 feet below surface. The 1000 foot spacing coverage would penetrate proportionally deeper but with a corresponding decrease in resolution.

The purpose of this survey was to aid in delineating subsurface sulfide zones hopefully related to overlying oxide copper deposition and to help define drilling targets in an area of strongly altered schists and granite showing some surface evidence of copper mineralization.

The data are presented on sectional data sheets, one for each line, showing resistivity, percent frequency effect (PFE) and metallic conduction factor (MCF) contoured in section. An "Induced Polarization Location and Interpretation Plan" is also included and shows the surface projected plan interpretation of all lines at a scale of 1" = 400'. The self potentials are shown on a separate 1" = 400' overlay as profiles in plan and is entitled "Self Potential Overlay". For additional details concerning 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 W. Freeman, Geophysicist-Crew Chief and P. McManus, technical assistant. The third man on the crew was supplied by the client. Report and interpretation are by C. Ludwig, Senior Geophysicist assisted by the GEOEX staff. We hereby wish to express our appreciation to Mr. Pete Young of Norandex for his assistance to the crew in the field.

CONCLUSIONS

Two quite elongate easterly-westerly trending zones of anomalous I.P. effects are noted on this survey. The southern stronger and wider zone lies mainly between Lines 44E and 20W and is roughly centered near 4N on the western half and gradually angles northward to about 12N on the eastern end. The northern somewhat weaker and narrower zone lies mainly between Lines 56E and OE/W and is centered near 32N except on the east and where it appears to shift northward to about 38N.

The width of the southern zone varies from about 600 feet to 1200 feet not counting the very weak fringes. On the western portion, the south boundary of the anomalous zone has not been accurately established due to lack of coverage to the south.

The width of the northern zone where coverage was sufficient to delineate both edges varies from about 400 to 600 feet, again neglecting the very weak fringes.

The two 1000 foot dipole spreads, Lines 56E and 28W both suggest that the southern polarizable zone extends at depth further east and west than the limits mentioned above suggest.

This is particularly true on the east end of the zone where a well defined deep anomaly was found whereas the west extension is quite weak and is shifted to the south considerably. The northern anomaly is not obviously noted at depth on the two 1000 foot spreads, perhaps because it has merged with the southern anomaly or is too close thereto or too narrow to be individually resolved or of course it could be absent. Actually, the northern and southern anomalies through the entire area may be connected at depth (below 600 feet or so) outside the resolvable penetration of the array used.

The cause of the anomalous I.P. response is likely metallic lustered sulfide mineralization although other metallic lustered minerals such as iron and manganese oxides or graphite or even clay could be contributing to the response. Within the strongest portion of the southern anomaly, about 3 to 8% total sulfide average by volume (or roughly 6 to 16% by weight) is estimated based on the interpreted source geometry and on a comparison with "typical" disseminated sulfide zones in the southwest. The weaker portions of the southern anomaly may range from roughly 1 to 4% by volume sulfide and the very weak fringes from less than 0.5 to 2% by volume sulfide. The northern anomaly has been drilled in one portion and is apparently caused mainly by magnetite with minor pyrite. Since magnetite is much less responsive than most sulfides it takes rather high concentration (say 5 to 20%) by volume to produce appreciable I.P. effects. This seems to be the case here. These estimated percentages are only meant to be a crude relative guide and in practice are often found to be at considerable variance with actual average assays for sulfide. Regardless, the indicated sulfide concentration is high enough that the two zones could be of definite economic interest providing the ratio between common ore polarizers such as sulfides of copper, molybdenum etc., to the common non-ore polarizers such as pyrite or magnetite is reasonably high.

The depth to the top of the anomalous source of the southern zone may be as shallow as 100 feet below surface in the central and western portions and deepening to perhaps as deep as 1200 to 1500 feet below surface near Line 56E. Most of the southern anomaly has a pattern which suggests a flattish lying or

gently southerly dipping, depth limited, tabular body 200 to 400 or so feet in vertical thickness. Below this tabular body, the mineralization should markedly decrease in strength or possibly even disappear. Or, conceivably, the sulfide content could persist in strength below this interpreted tabular zone but be rendered less responsive due to a change in rock type, weathering or mineralogy. This flat lying tabular body pattern is best evidenced on Lines 24E through 36E.

This flattish-lying sulfide body interpretation is somewhat difficult to rationalize with the surface indicated geology but could be a weathering phenomenon or a structurally and/or lithologically controlled sulfide emplacement. Another unlikely but conceivable possibility is that the anomalous source is a supergene enriched sulfide "blanket".

The northern anomaly in its stronger portions generally appears to have a source whose top is roughly 200 to 400 feet below surface. It is not known if the northern anomaly is also depth limited in that the depth of penetration limitation of the geophysical array used precludes sensing the bottom of this deeper source. As with the southern anomaly, the northern zone rapidly deepens east of Line 36E.

Based on results of an existing Norandex drill hole near coordinates 6E, 32N, to initially test the northern anomaly, below about 150 feet in depth strong magnetite with minor pyrite was encountered for at least several hundred feet which more than likely explains this anomaly. A 1000 gamma magnetic high also correlates with the anomaly in this area.

Based on the limited geologic information available to us, it appears that most of the significant southern I.P. response is originating from mineralization within the schist rather than within the granite. In fact, the granite in the southern portion of the area surveyed seems to form the southern boundary of the stronger I.P. response and is reflected by higher apparent resistivities to the south. The resistivity "interface" (rock type change effect) noted on Lines 8E through 36E may be indicating the actual granite-schist contact in that area or perhaps a change in degree of alteration, with more altered material to the north of the interface.

Some of the stronger I.P. response is associated with a definite lower resistivity zone probably caused by the concentration of conductive sulfide mineralization and associated alteration. Near surface lower resistivities are also noted on some of the eastern lines to the north probably reflecting a veneer of relatively conductive recent alluvium overlying more resistive crystalline bedrock. The highest resistivities encountered on the survey were where Mineral Butte was crossed on Lines 8W and 12W near ON/S and are likely the results of the topographic effects of the erosion-resistant ridge and perhaps tighter or more silicified material on the ridge.

Many of the stronger I.P. anomalies on the southern zone are associated with broad but definite self potential lows which are probably reflecting concentrations of relatively interconnected, actively oxidizing sulfides within several hundred feet of the surface. The more significant self potential lows have been symbolically indicated on the interpretation plan and sectional data sheets.

RECOMMENDATIONS

The two anomalous zones are of sufficient potential economic interest as to definitely warrant further testing by drilling. Six drill holes are proposed in order of geophysical priority. All drill sites should of course depend on the results of drilling higher priority holes, or existing drilling results plus any geological and geochemical or additional geophysical information available, all of which should be in constant correlation.

1. On Line 24E near station 9N a drill hole is recommended to test a portion of one of the stronger southern zones of I.P. anomalism showing a very pronounced flat lying tabular body effect. This anomaly has a correlating self potential low and a related pronounced resistivity low. The drill hole should be in the polarizable source within about 200 feet of the surface and should be carried to a total depth of about 600 feet to properly evaluate the zone of interest.

2. On Line OE/W near 4N a drill hole is suggested to evaluate another relatively strong portion of the southern anomaly. This hole should be programmed for about 600 feet in depth to properly evaluate the target. Sulfides will likely be first encountered within 200 feet of the surface.

3. To further test the northern anomaly, elsewhere along strike from the existing hole, a drill hole collared near 35N on Line 24E is recommended. This hole should sample the strongest portion of the northern anomaly based on available coverage and polarizable material should be seen within 200 or 300 feet of the surface. The hole should be drilled to at least 600 feet in depth to obtain a sufficient vertical sampling of the anomaly.

4. Another drill hole on the strongest portion of the southern anomaly is recommended particularly if drilling near station 9N on Line 24E (Recommendation 1.) is at all encouraging. This additional hole should be collared near 10N on Line 32E and be drilled to about 600 feet total depth. This target appears to be somewhat deeper than the zone on Line 24E but of similar strength, vertical thickness and horizontal width. Again, there is a good correlation with a resistivity low and a self potential low.

5. On Line 12W near 4N a drill hole is suggested particularly if drilling near 4N on Line OE/W (Recommendation 2.) is encouraging. This hole will possibly be within the granite and is near the base of Mineral Butte. The hole should sample the source of a moderate strength I.P. anomaly near a sharp resistivity flexure and a broad self potential low. Sulfides should be seen within about 200 feet of the surface and the hole should be carried to about 600 feet total depth to be reasonably certain of intersecting the entire thickness of indicated mineralization.

6. If the northern anomaly is still interesting after drilling near 35N on Line 24E, (Recommendation 3.) a similar target is suggested near station 31N on Line 12E. Depth to top of polarizable material (magnetite and/or sulfides) is indicated at 200 or 300 feet below surface and the hole should be drilled to at least 600 feet to obtain a representative intersection of the anomalous source.

All of the above drilling is considered vertical as recommended. Inclined drilling could be considered in the unlikely event initial drilling suggests a thin steeply dipping anomaly source, for a more efficient sampling of the zones of interest.

Additional geophysical drill targets can be located by reference to the interpretation plan surface projected anomalousness and its correlation with all information to date. The weaker fringes of the I.P. anomalies should also be given some consideration especially if in areas having evidence of a high copper to iron ratio. In fact, in many mining areas, the weaker I.P. zones are of more interest than the stronger portions which may only be reflecting high pyrite concentrations. In this area, because of the medium to low strength sulfide concentrations indicated, initial attention has been focused on the stronger sulfide zones in the hope that they would have the highest probability of being economically interesting.

Additional deeper penetrating I.P. coverage is recommended (1000 foot dipoles) mainly to the east but also to the west of the existing grid particularly if either of the easterly-westerly trending anomalies continue to be of interest after drilling. Also, coverage to the south on the western lines could help better define the southern boundary of the south anomaly if this information becomes important. In addition, more coverage on the northern anomaly could be useful if it is still of interest after initial drilling.

A semi-detailed magnetic survey should also be considered, not only to delineate the diorite intrusive involved with the northern anomaly, but to attempt to gain additional geologic information near the southern zone.

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 56E (a = 1000'): This spread was run east of the 400 foot dipole coverage to determine whether the anomalism noted west of about Line 44E had actually been truncated or had become too deep for detection by 400 foot dipoles. The latter seems to be the case in that a definite but weak and deep appearing I.P. anomaly is noted roughly between

15N and 35N with some minor very weak fringing effects both north and south thereof. The depth to the top of the anomaly source could be in excess of 1200 feet. The source is too deep, even for the 1000 foot dipole coverage, to determine if it is a flat lying body, as indicated on many of the lines further west, or if it persists indefinitely with depth.

Resistivities on the north half of the spread indicate a rather thick (roughly 500 to 1000 feet) conductive zone overlying more resistive material at depth. Probably this contrast is reflecting conductive recent alluvium overlying crystalline bedrock. The south half of the line suggests outcropping or shallow bedrock. No significant self potential variation is noted.

Line 52E (a = 400'): No significant appearing I.P. response is seen although the PFEs do increase somewhat with depth possibly just barely detecting the top of the deep mineralized zone seen on Line 56E with the larger dipoles. The resistivities decrease to the north on the north half of the line perhaps caused by an increased thickness of alluvium to the north. No anomalous self potentials are noted.

Line 44E (a = 400'): The PFEs show a definite increase with depth but suggest a deep source north of 10N to at least 22N. The top of the anomaly source may be 800 to 1000 feet or so below surface - too deep to be properly resolved on a 400 foot dipole spacing. A very weak questionably significant anomaly is seen near 6S likely due to a narrow source. Again, the resistivities decrease to the north on the north half of the line probably due to an increasing thickness of alluvium to the north. No important appearing self potential variations are noted.

Line 40E (Spreads 1 and 2, a = 400'): A deep appearing weak I.P. anomaly similar to but more distinct than on Line 44E is noted mainly between 10N and 20N. The depth to the top of its source is roughly 600 to 800 or so feet with no indicated bottoming effects. To the north, a broad zone of deep very weak I.P. response is seen to about 44N including a narrow and minor weak high near 38N. The anomaly near 38W is too deep to be interpreted in detail but likely relates to the "northern" anomaly seen on many of the lines to the west. As on Line 44E a minor questionable narrow anomaly is noted near 6S associated with a pronounced narrow low

resistivity zone.

The resistivities show a near surface high resistivity zone south of about 12N perhaps reflecting the more resistive granite. North thereof, the resistivity decreases again likely indicating increased alluvial thicknesses to the north. The self potential is fairly flat except for a minor broad low centered near 14N which seems to correlate with the main I.P. anomaly on the line.

Line 36E (a = 400'): A very well defined moderate strength I.P. anomaly is present between about 8N and 16N with weak to very weak fringing response both north and south. The south boundary appears more abrupt and is likely related to the resistivity level change (interface) near 8N, possibly reflecting resistive granite to the south and conductive schists to the north. The pattern of I.P. anomalism here suggests a rather flat lying tabular body having a horizontal width of 800 to 1000 feet and a vertical thickness of 300 or 400 feet and with the top buried roughly 300 or 400 feet below surface. There may be polarizable mineralization both above and below these estimated depths but the bulk of the response would appear to come from within the tabular body as interpreted. A very broad slight self potential low centered near 14N seems to correlate with the I.P. anomaly.

Line 32E (a = 400'): This spread is quite similar to Line 36E except that the top of the tabular source may only be buried 200 or 300 feet below surface and the anomaly together with the south interface have shifted about 200 feet south. A resistivity low seems also to be correlating with the I.P. high as does a broad self potential low. The south limit of a weak I.P. anomaly is noted on the north end of the spread likely correlating with the high noted on traverses directly west and perhaps with the high noted near 38N on Line 40E.

Line 28E (a = 400'): This line is very similar to Line 32E except that the south boundary and associated interface have again shifted about 200 feet further south and the boundary is somewhat more abrupt. The depth to the top may be a bit more shallow than on Line 32E. Again there is a correlating resistivity and self potential low plus

indications of a weak I.P. anomaly on the north end of the line.

Line 24E (Spreads 1 and 2, a = 400'): Spread 1 is almost identical to Line 28E in anomaly location and strength. The main difference is that there is a pronounced near surface apparent resistivity low centered near 16N of unknown significance. Also, the center of the self potential low has apparently moved 400 feet southwards to about 6N.

Spread 2 was run to help define the northern zone of anomalism. A weak but fairly well defined narrow anomaly is noted centered near 34N or 35N and likely has a source 400 to 600 feet in width and a depth of burial of from 200 to 400 feet below surface. There is no associated self potential or resistivity low obviously relating to the anomaly - a condition fairly typical of anomalies mainly caused by magnetite as this probably is. A near surface resistivity low above the I.P. anomaly, however, is probably the effect of 100 or 200 feet of conductive alluvial overburden.

Line 20E (a = 400'): This spread again shows a well defined moderate strength I.P. anomaly fairly similar to that seen on Spread 1 of Line 24E. However, the top of the source may be as shallow as 100 feet and may be only 600 feet in horizontal width. Both the north and south boundaries are relatively sharp and again the source appears tabular with a thickness of 300 or 400 feet. The south boundary is again apparently related to a resistivity interface (near 8N). Well defined resistivity and self potential lows correlate with the stronger zone of I.P. response. Again, the north end of the line indicates the presence of weak response likely correlating with the response on Line 24E near 34N.

Line 16E (a = 400'): Except for being weaker in strength of response, the spread is quite similar to Line 20E. A well defined resistivity interface near 10N again seems to be related to the south edge of the stronger effects. The depth to the top of the source may be slightly deeper than on Line 20E. The correlating resistivity and self potential lows are still present but less well defined than on Line 20E and

again there is an indication of weak I.P. effects on the north end of the line.

Line 12E (Spreads 1 and 2, a = 400'): Spread 1 is quite similar to Line 16E except the anomaly appears to have a source with more depth persistence but with a similar depth to its top. In addition, there is indication that the tabular source, if present, may have a gentle southerly dip - an effect also present to some degree on Line 16E. Norandex has drilled this anomaly near 12N and below about 190 feet, several percent of sulfides average, mainly pyrite, were seen for about 200 feet in a strongly altered schist. This explains the anomaly very well although perhaps the hole should be deepened to obtain more information on possible sulfide depth persistence.

There are minor resistivity and self potential lows centered near 14N which likely relate to the anomalous I.P. effects.

Spread 2 shows a weak I.P. anomaly centered near 31N which looks very similar to the weak anomaly near 34N on Line 24E except for being slightly wider. A similar depth and strength of response is indicated and again there appears to be several hundred feet of conductive overburden in the area. North of about 48N, there appears to be resistive bedrock near surface.

Line 8E (Spreads 1 and 2, a = 400'): This line on both spreads is very similar to Line 12E except that the southern anomaly has shifted several hundred feet south and its southern boundary is less well defined. There is less evidence of a gentle southerly dip of the source and somewhat less apparent depth persistence. The conductive overburden is likely still present but somewhat thinner over the northern anomaly. Very minor self potential lows seem to relate to portions of the southern I.P. anomaly.

Line 4E (Spreads 1 and 2, a = 400'): Spread 1 shows an anomaly fairly similar to the anomaly seen on Spread 1 on Line 8E but is classified as moderate in strength rather than weak. The south boundary is not seen at all due to lack of coverage to the south but can be inferred to be in the vicinity of 2N. Also, the resistivity interface

that has been in evidence on most lines further east is not as well defined or even absent here. The source of this moderate anomaly is still probably a flat lying tabular body 300 or 400 feet in vertical thickness and whose top is buried 100 or 200 feet below surface.

The northern anomaly is very similar in appearance to the northern anomaly on Line 8E. Between Lines 4E and 8E this anomaly was drilled by Norandex and below roughly 150 feet of overburden a diorite was intersected which contains a considerable concentration of magnetite and some pyrite which undoubtedly explains this anomaly. However, the depth to the top of the anomaly as intersected is somewhat shallower than would have been expected based on the anomaly pattern. But the strength and thickness of polarizable material intersected is certainly sufficient to be its cause. No significant appearing self potential response is noted on this Line.

Line 0 (Spreads 1 and 2, a = 400'): With minor exceptions these two spreads are quite similar to the two spreads on Line 4E. Exceptions are the moderate strength southern anomaly centered near 4N may be somewhat narrower but still the southern boundary is ill-defined. The northern anomaly is somewhat wider than on Line 4E and only very weak in strength. A broad self potential low is centered near 14N correlating with the northern very weak fringe of the southern anomaly.

Line 4W (a = 400'): This spread again shows a moderate strength anomaly mainly lying between ON/S and 6N with a slight suggestion of a definite southerly dip. The south boundary of this zone is not defined due to lack of coverage and the northern boundary is rather gradational. The moderate I.P. effects seem to be related to higher resistivities with depth although this is perhaps the topographic effect of traversing Mineral Butte. A questionably significant, very weak I.P. anomaly, on the north end of the Line is probably indicative of the termination to the west of the northern zone. A broad self potential low is centered near 8N correlating with the weak fringe of the southern anomaly and lends some support to a possible southerly dip.

Line 8W (a = 400'): This spread is reasonably similar to Line 4W except for the rather extreme topographic interference near 2N due to traversing Mineral Butte. Again a southerly dip is suggested although this is highly speculative because of the adverse topographic influence. Again the northern fringe of this anomaly is rather gradational. North of about 24N very weak I.P. effects are noted which are likely due to a weak re-continuation of the northern anomalous zone. The resistivities in this area suggest a conductive overburden several hundred feet in thickness. Again, a broad self potential low seems to relate to the weak northern fringe of the southern anomaly.

Line 12W (Spreads 1 and 2, a = 400'): Spread 1 on this line is quite similar to Line 8W and again severe topographic effects are noted near ON/S crossing Mineral Butte. The I.P. response appears to be about the same strength in PFE but somewhat stronger in MCF due to lower apparent resistivities involved. A very weak I.P. high is centered near 26N again seemingly a very weak re-continuation of the northern anomaly noted further east. North of this very weak anomaly is a broad zone of background I.P. effects in relatively high resistivity material. As on Line 8W a broad self potential low appears to correlate with the northern weak fringe of the southern anomaly.

Line 16W (a = 400'): Except for a rather pronounced decrease in anomaly strength and a lack of severe topographic interference the southern anomaly is fairly similar to that seen on Line 12W. Again there is evidence of a definite southerly dip and a broad self potential low correlates with the northern fringe of this anomaly. The northern anomaly is absent on this spread except possibly for a string of slightly higher PFEs near 26N.

Line 20W (a = 400'): The southern I.P. anomaly is represented on this spread by a zone of very weak I.P. effects between 2N and 10N perhaps indicative of the western truncation of this zone or a pronounced weakening. A zone of high resistivity material seems to overlay this zone. A broad self potential low again correlates with the northern portion of this anomaly.

Line 24W (a = 400'): No anomalous I.P. effects are noted on this spread suggesting that some I.P. anomalies noted further east have either been terminated or have become too weak or too deep for detection by 400 foot dipoles. Except for a near surface high resistivity zone on the south half of this spread the apparent resistivities are quite uniform. No significant appearing self potential variations are noted.

Line 28W (a = 1000'): This spread was run in an attempt to see if the anomalous I.P. effects noted further east were truncated by Line 24W or had become too deep for detection. Very weak effects are noted south of ON/S which suggest that the anomaly does persist west of Line 24W but with a pronounced bend to the south and increase in depth. Not enough coverage was obtained for a detailed interpretation of this anomaly. Based on the available data, however, the source would appear to be a tabular body fairly flat lying, and buried roughly 750 feet. There does appear to be a low resistivity zone associated with the anomaly but no significant self potential variations. A very weak, narrow, questionably significant I.P. anomaly is noted near 45N within a zone of lower resistivity.

Line 32W (a = 400'): No significant appearing I.P. response is noted on this spread although there is an increase in background effects on the south end of the line. These increased background effects may be the effect of just barely detecting a westerly continuation of the very weak anomaly noted at depth of the south end of Line 28W. Except for a narrow high resistivity zone near 4N the resistivities on the rest of the spread are quite uniform. No significant appearing self potential variations are seen.

Respectfully submitted,
HEINRICHS GEOEXPLORATION COMPANY

Chris S. Ludwig

Chris S. Ludwig
Senior Geophysicist

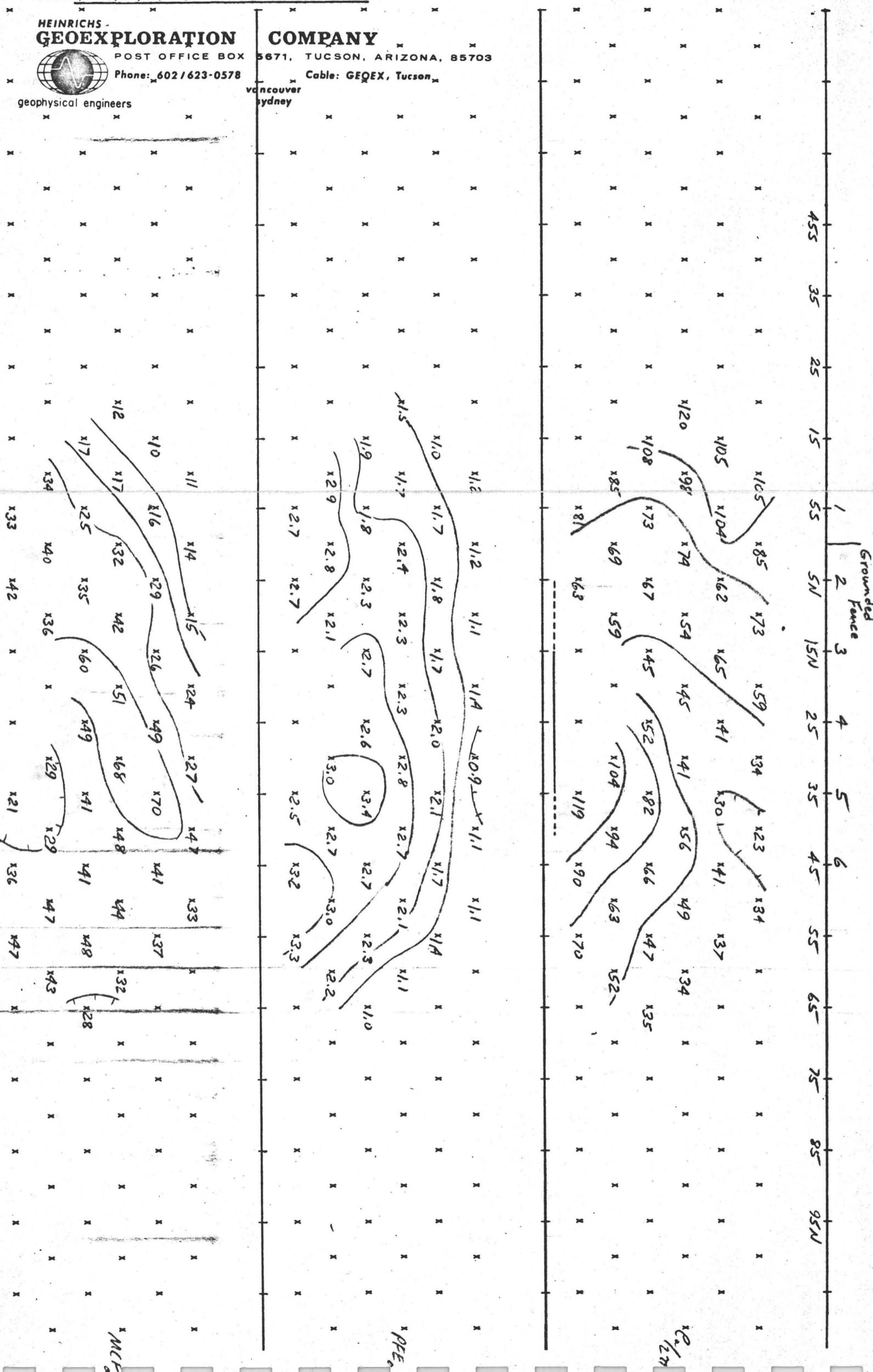
APPROVED:

Walter E. Heinrichs, Jr.
Walter E. Heinrichs, Jr.
President

P.O. Box 5964
Tucson, Arizona 85703
November 1970

JOB# 572 LINE# 56E SP 1 a = 1000' LOOKING West
 CLIENT Norander Inc. DATE Oct. 1970 FREQUENCIES 0.1 & 1.0 Hz
 AREA Mineral Butte Note: Inductive Coupling Corrected PFE & MCF₂

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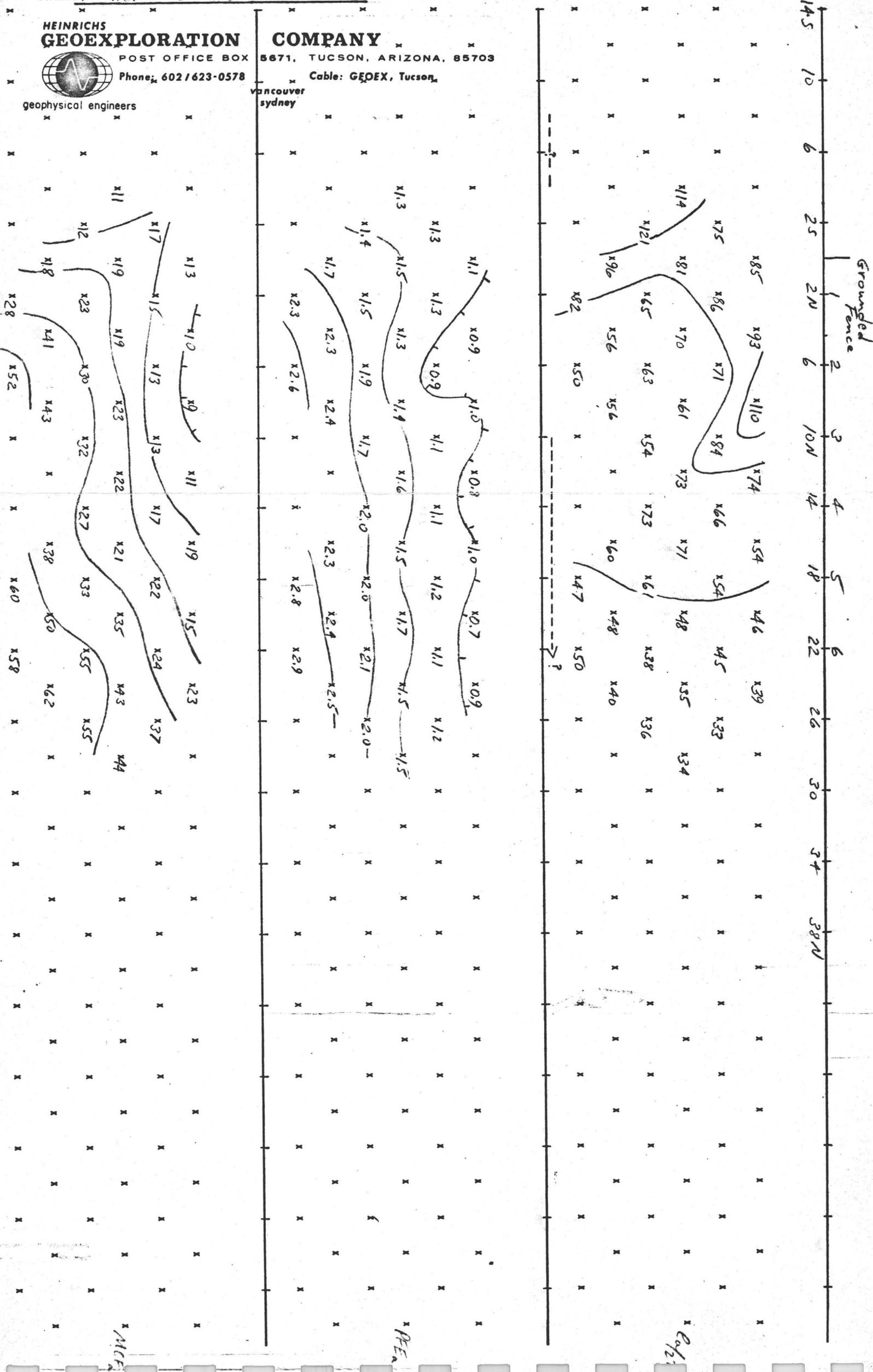
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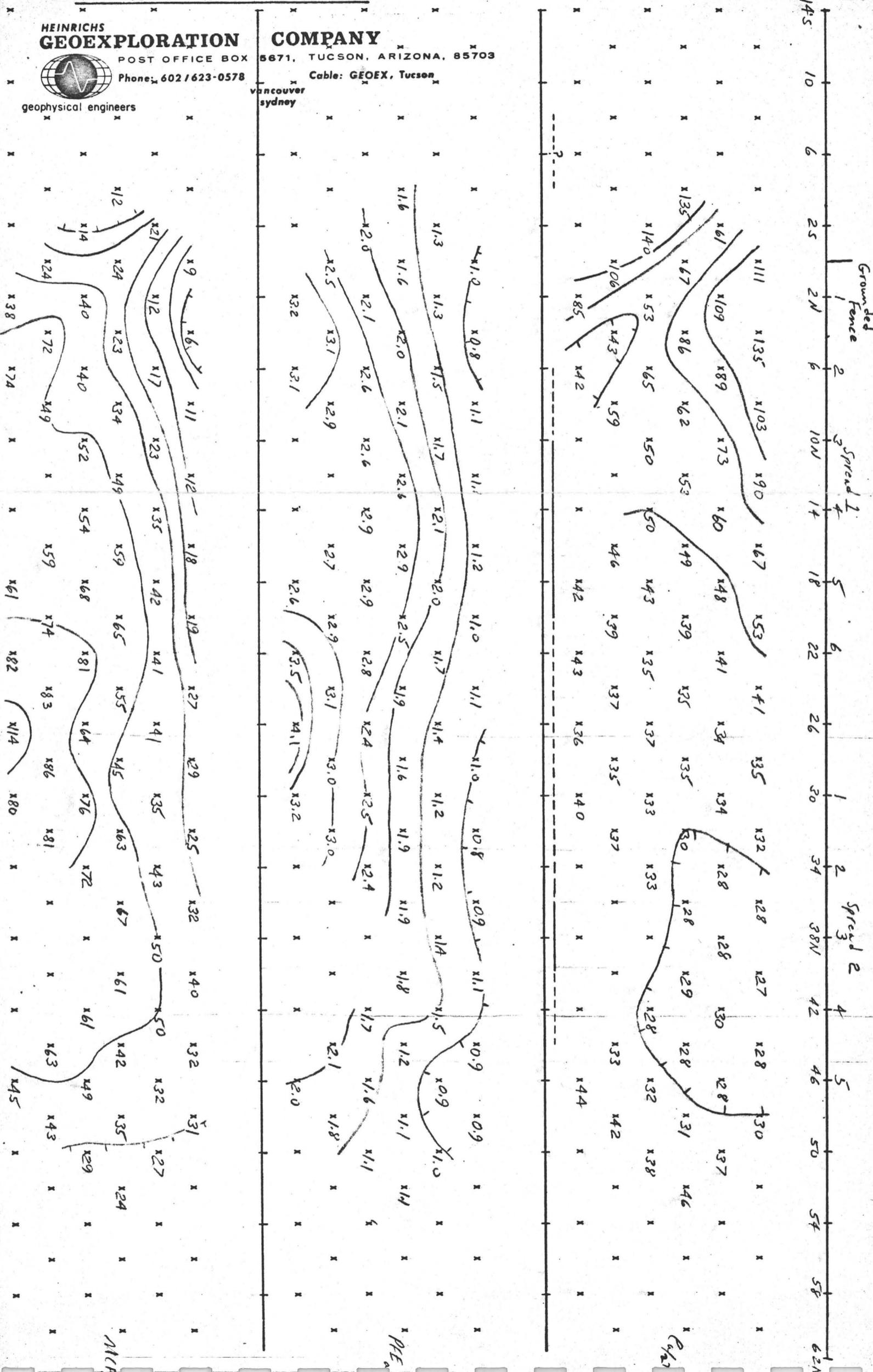
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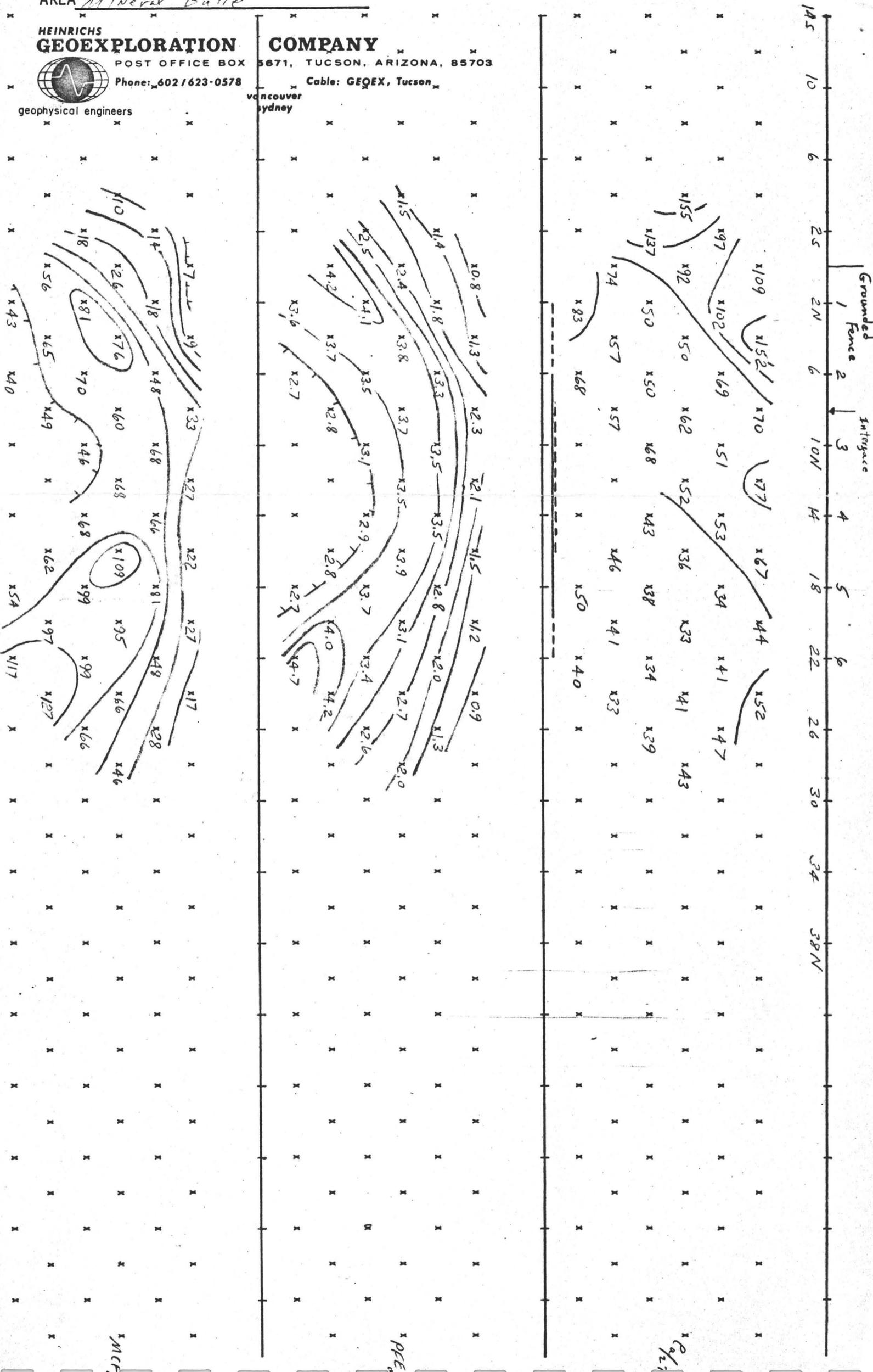
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JOB# 572 LINE# 36E SP 1 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz

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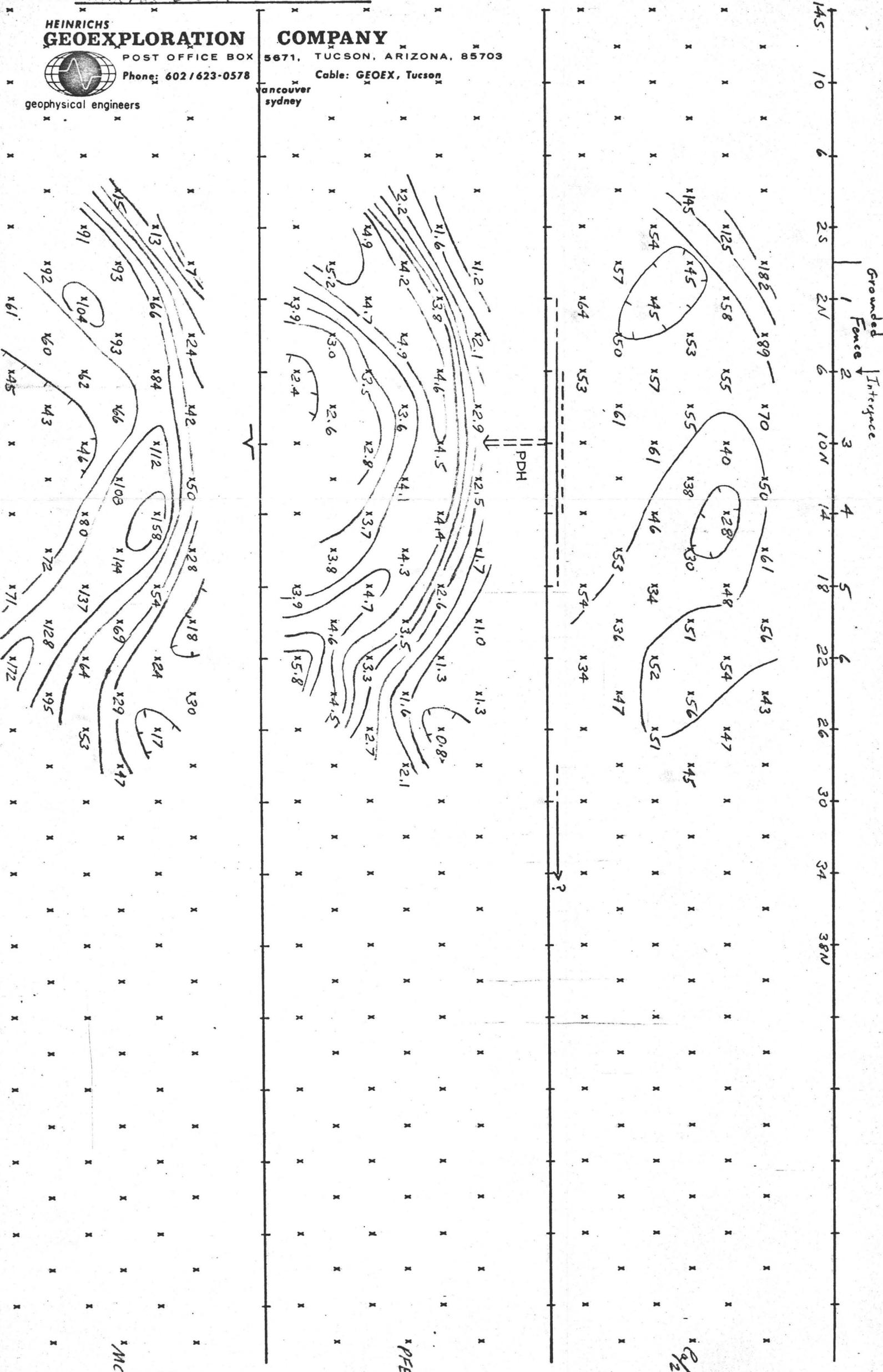


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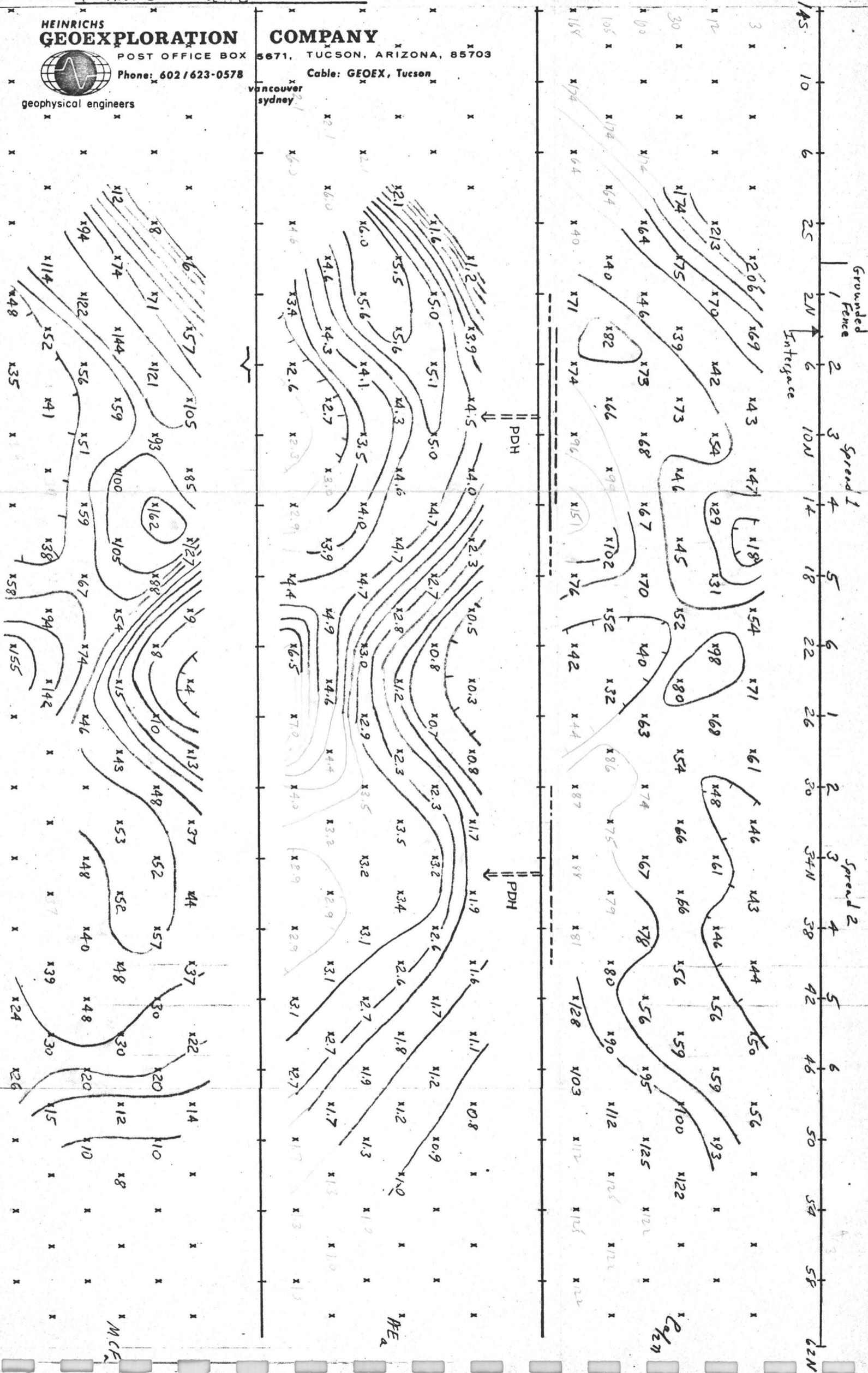
MCF

PEE

8/27

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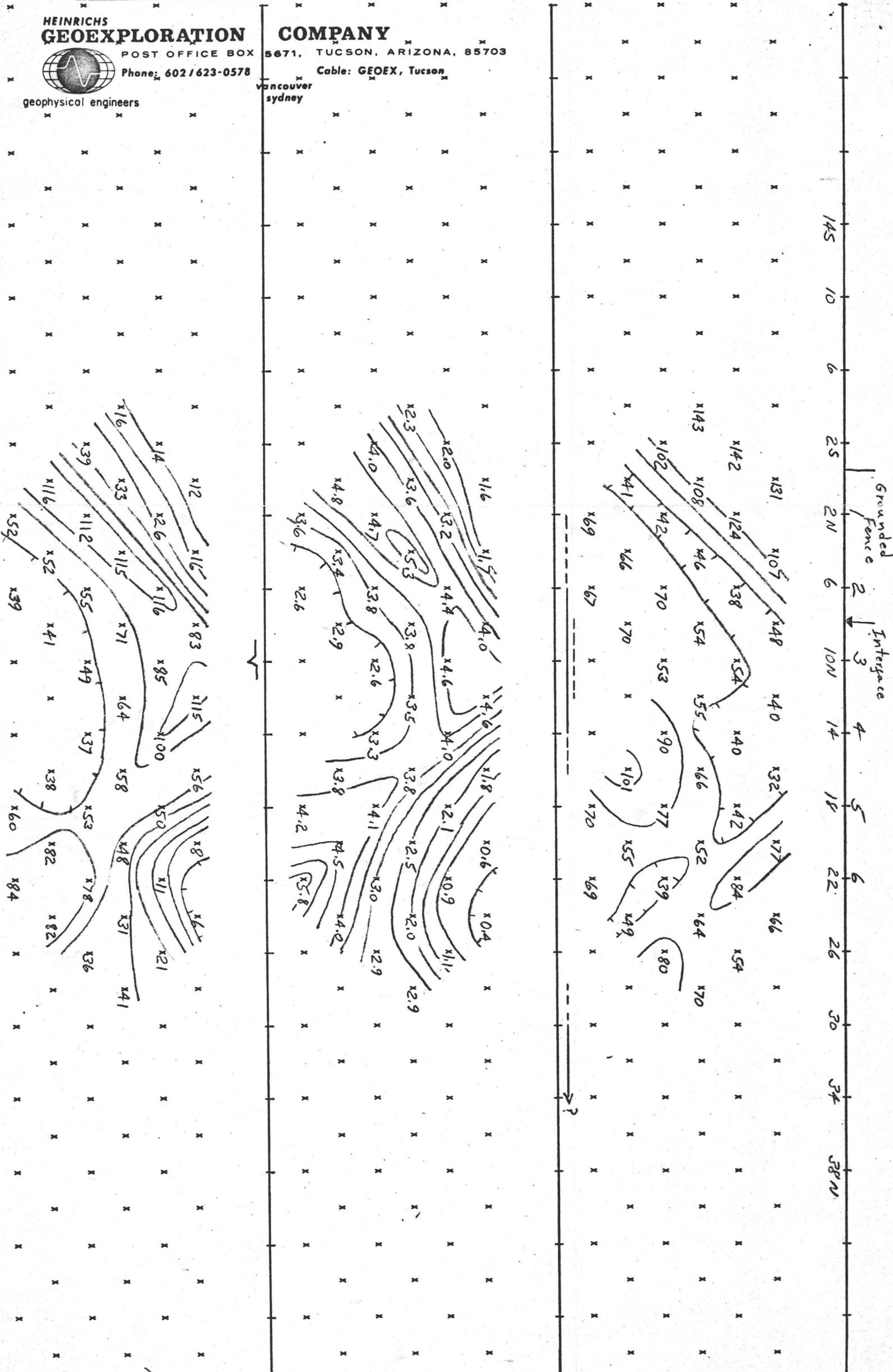
MCF

NEA

Lot 27

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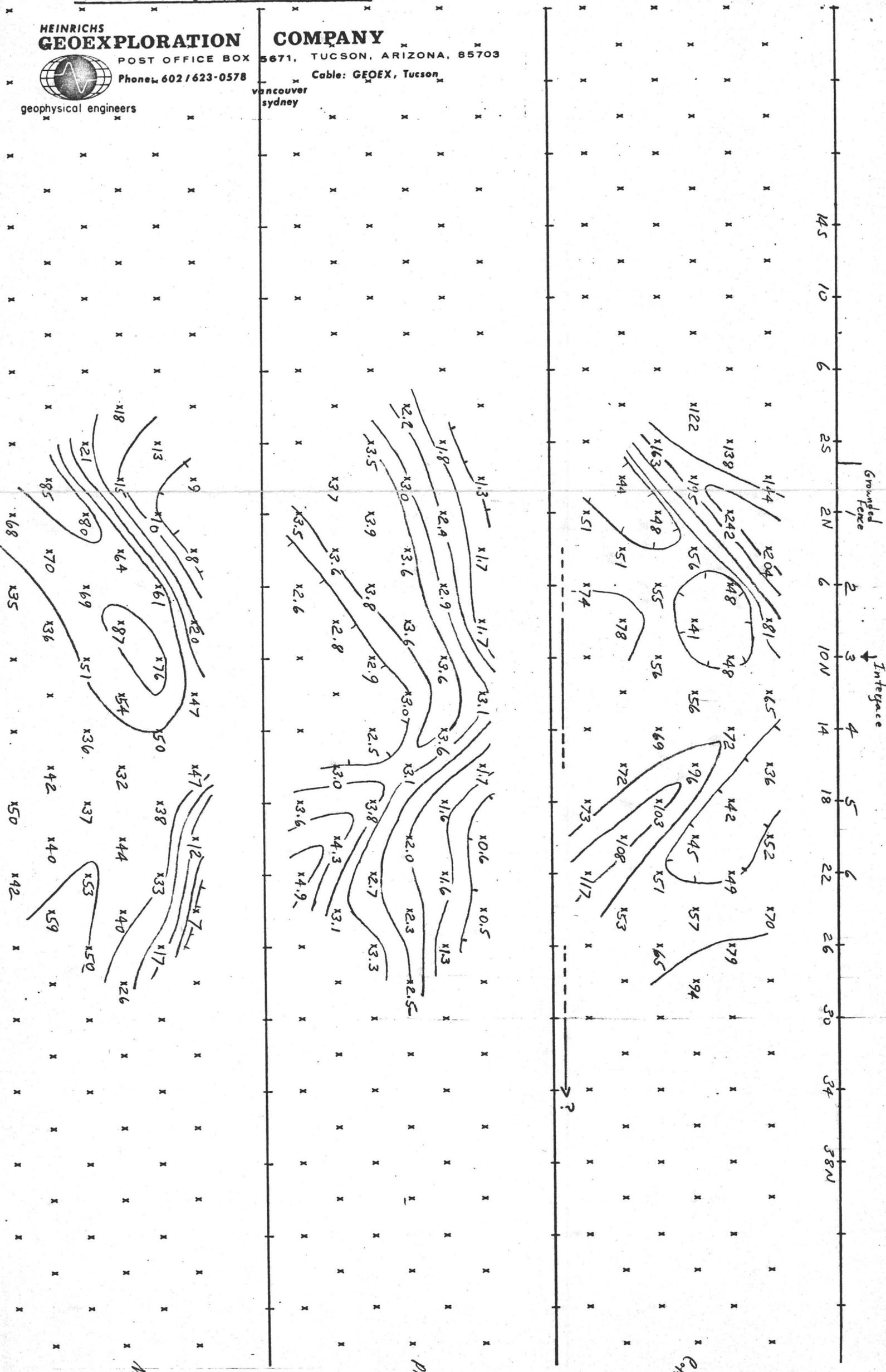
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JOB# 572 LINE# 16E SP 1 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz

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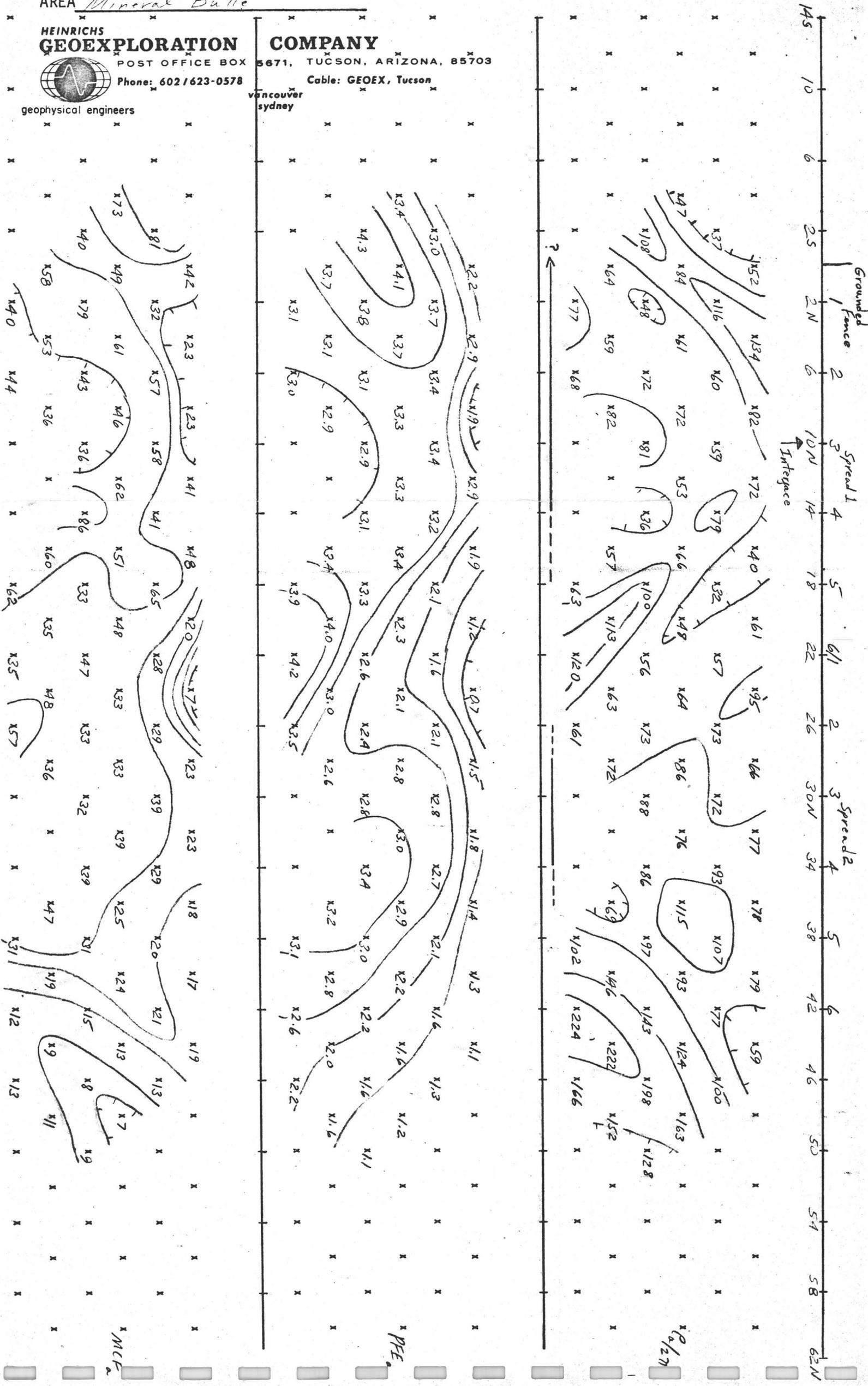


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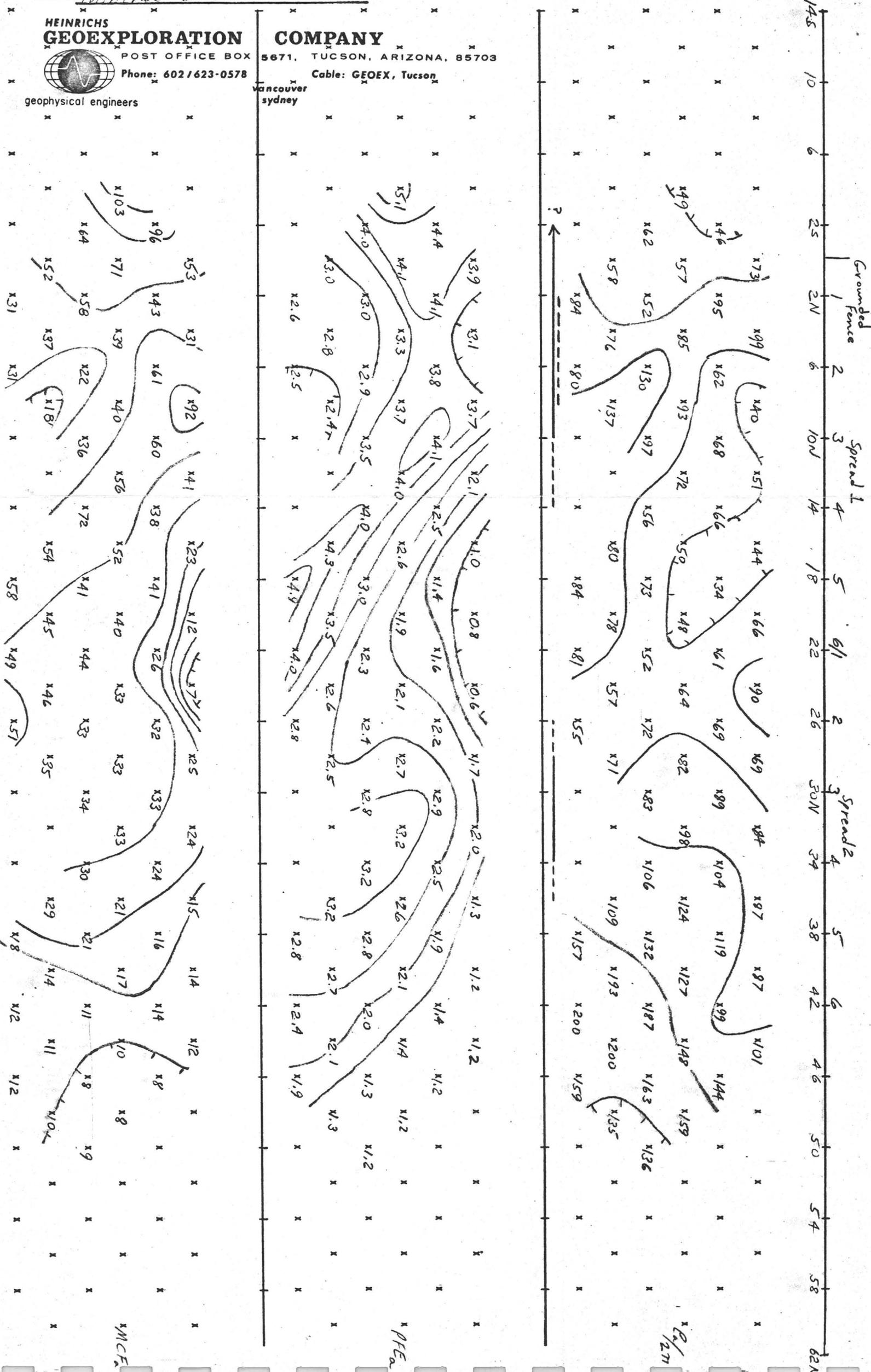
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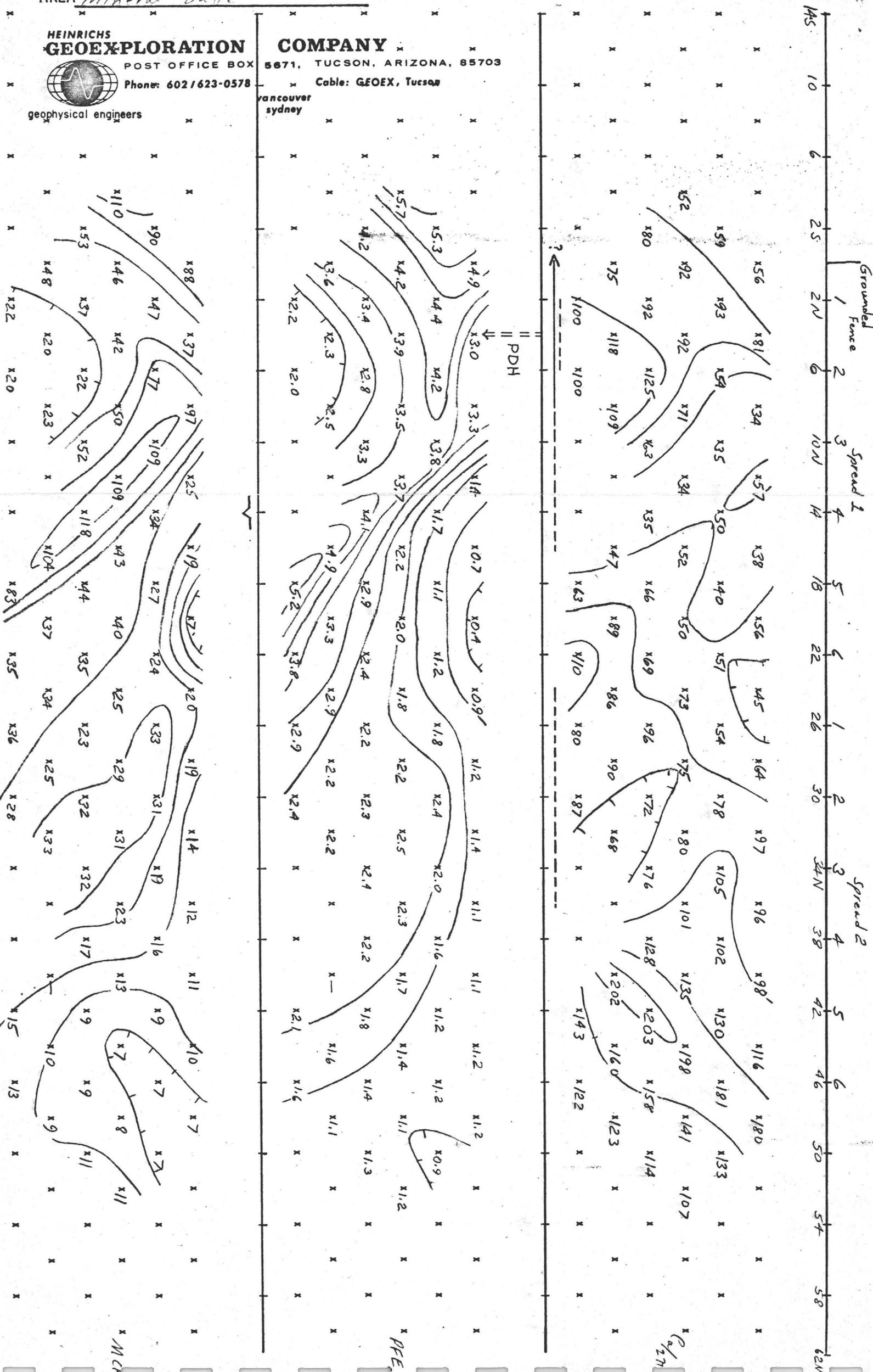
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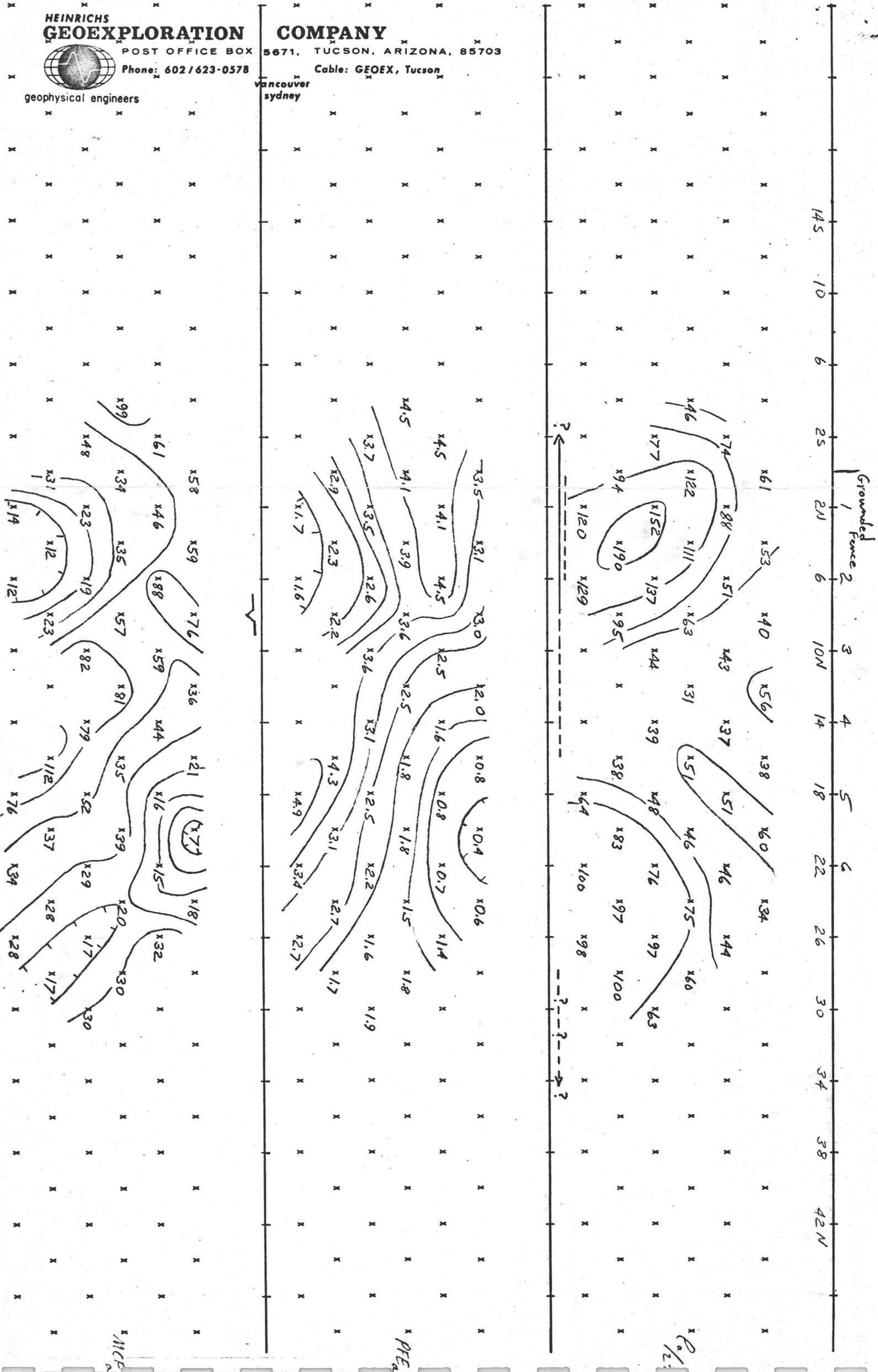
MCF

PPE

P₂/27

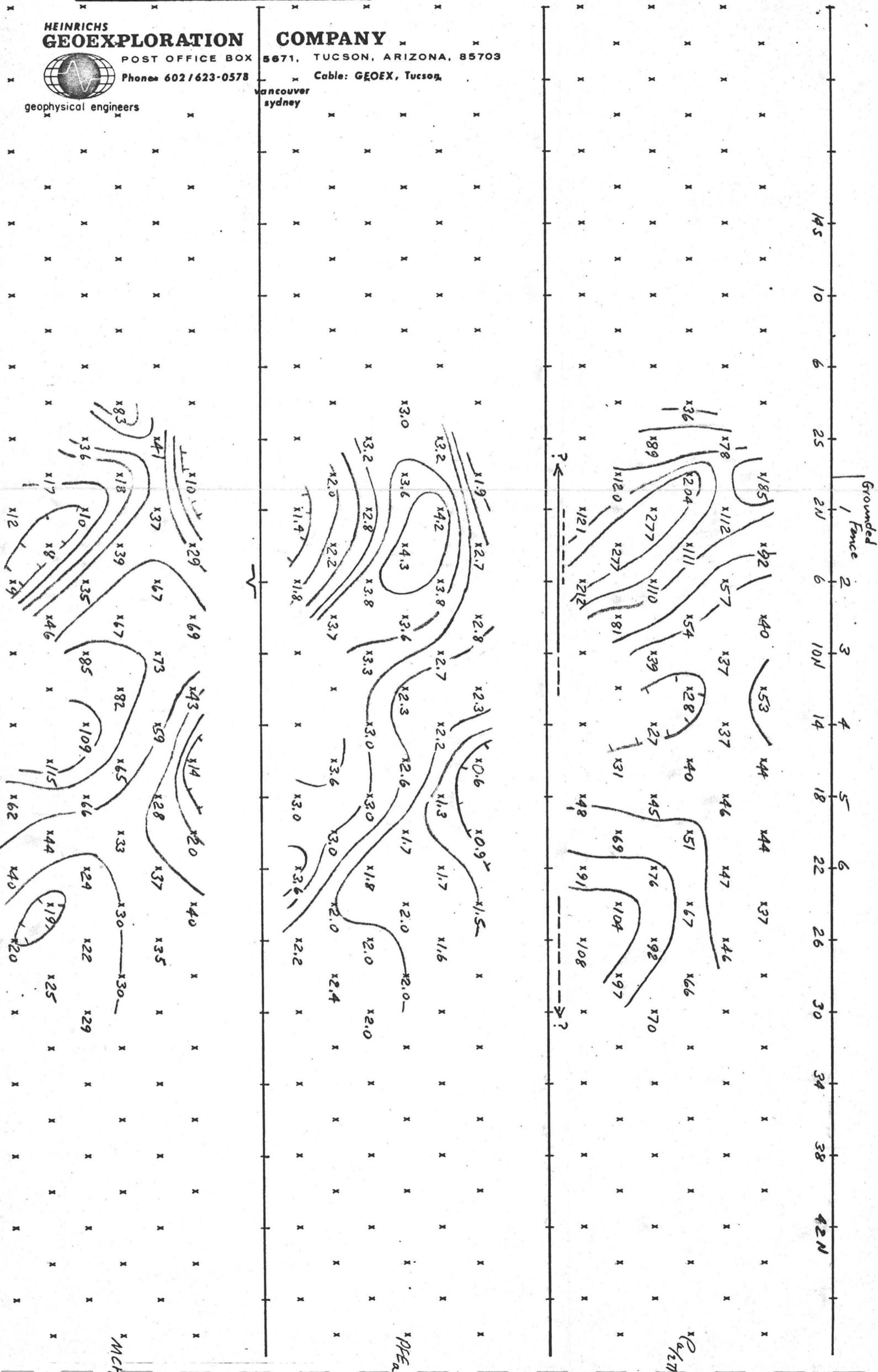
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JOB# 572 LINE# 12W SP 1 & 2 a = 400' LOOKING West

CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz

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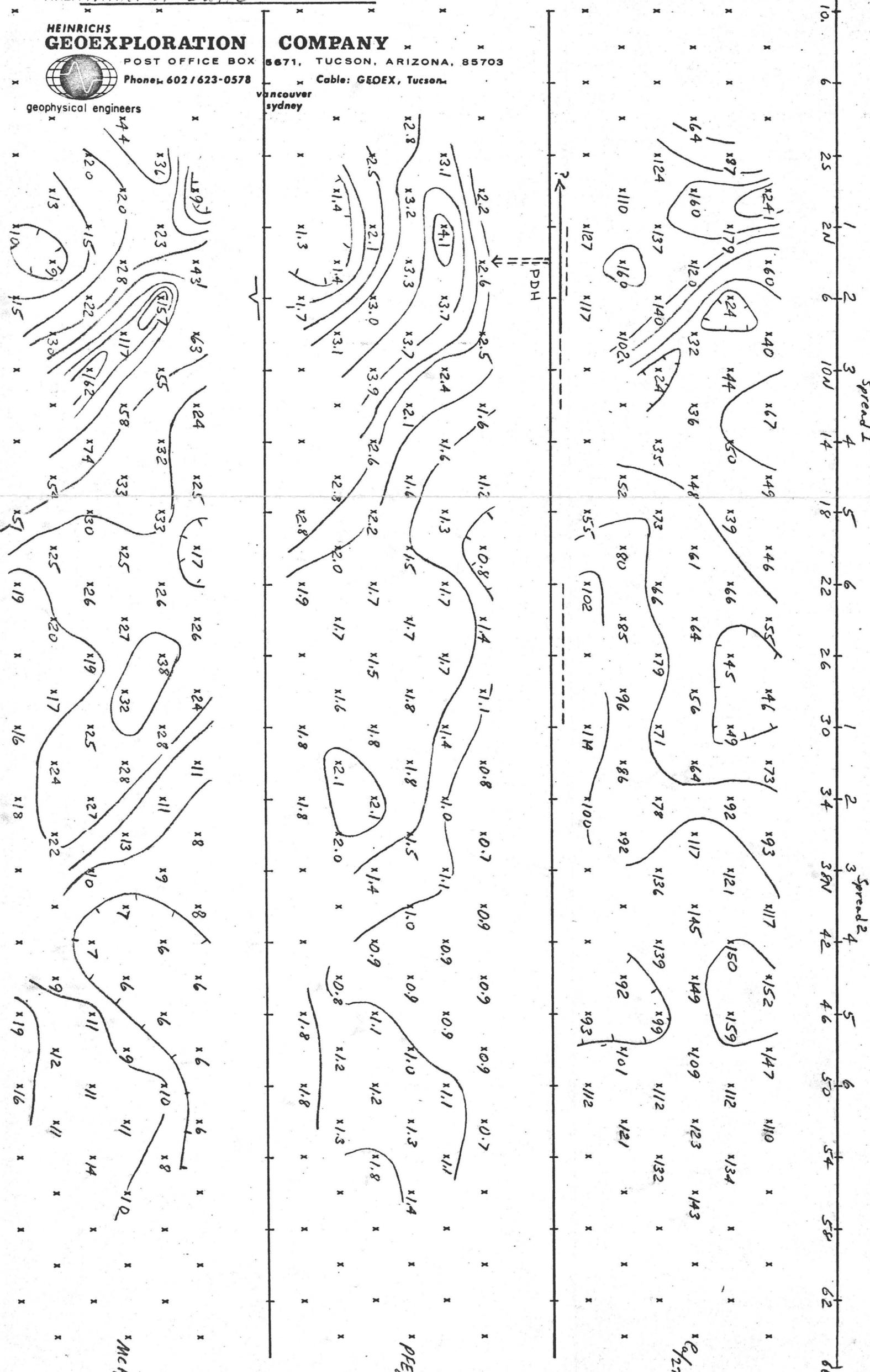


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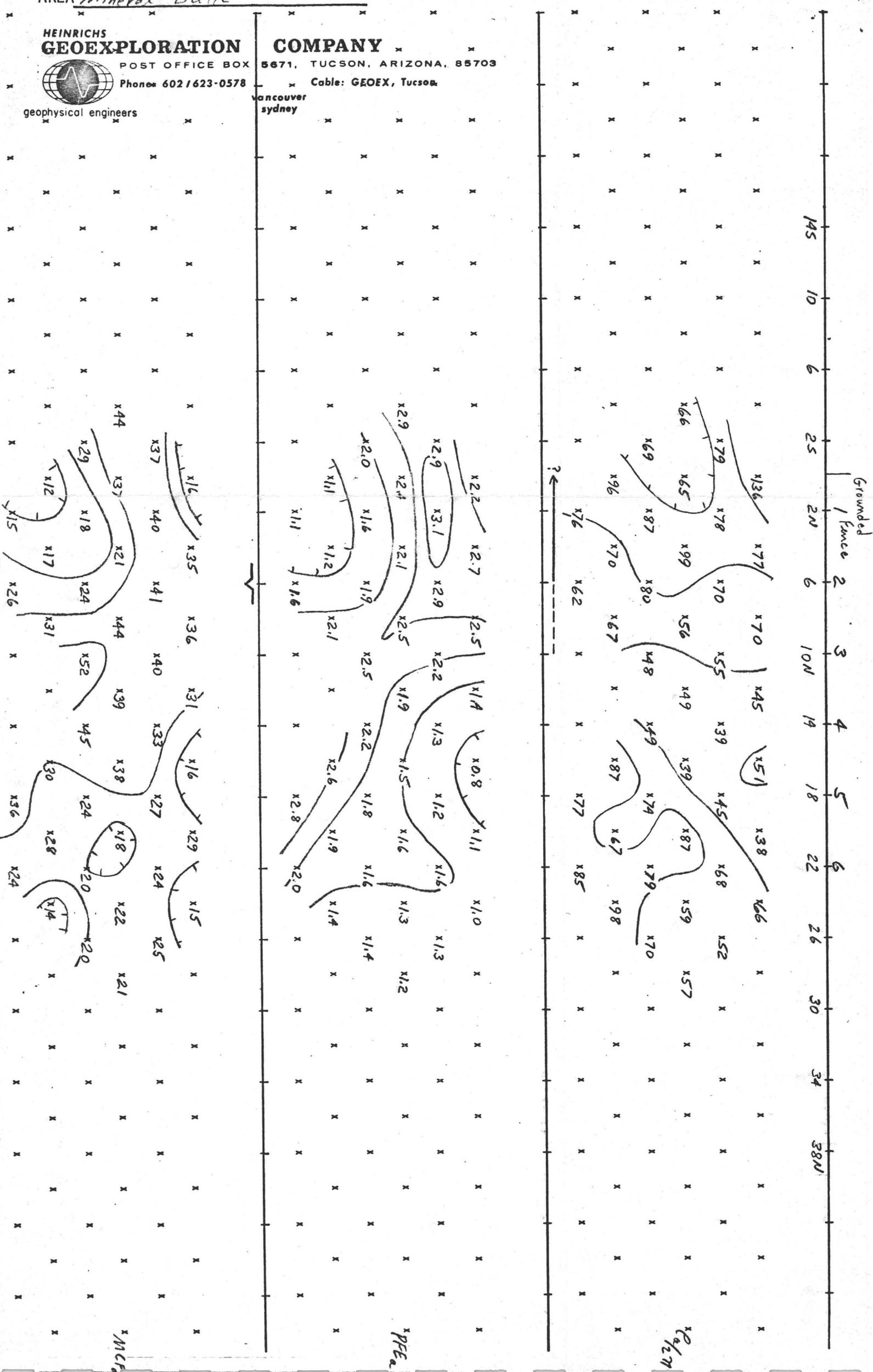
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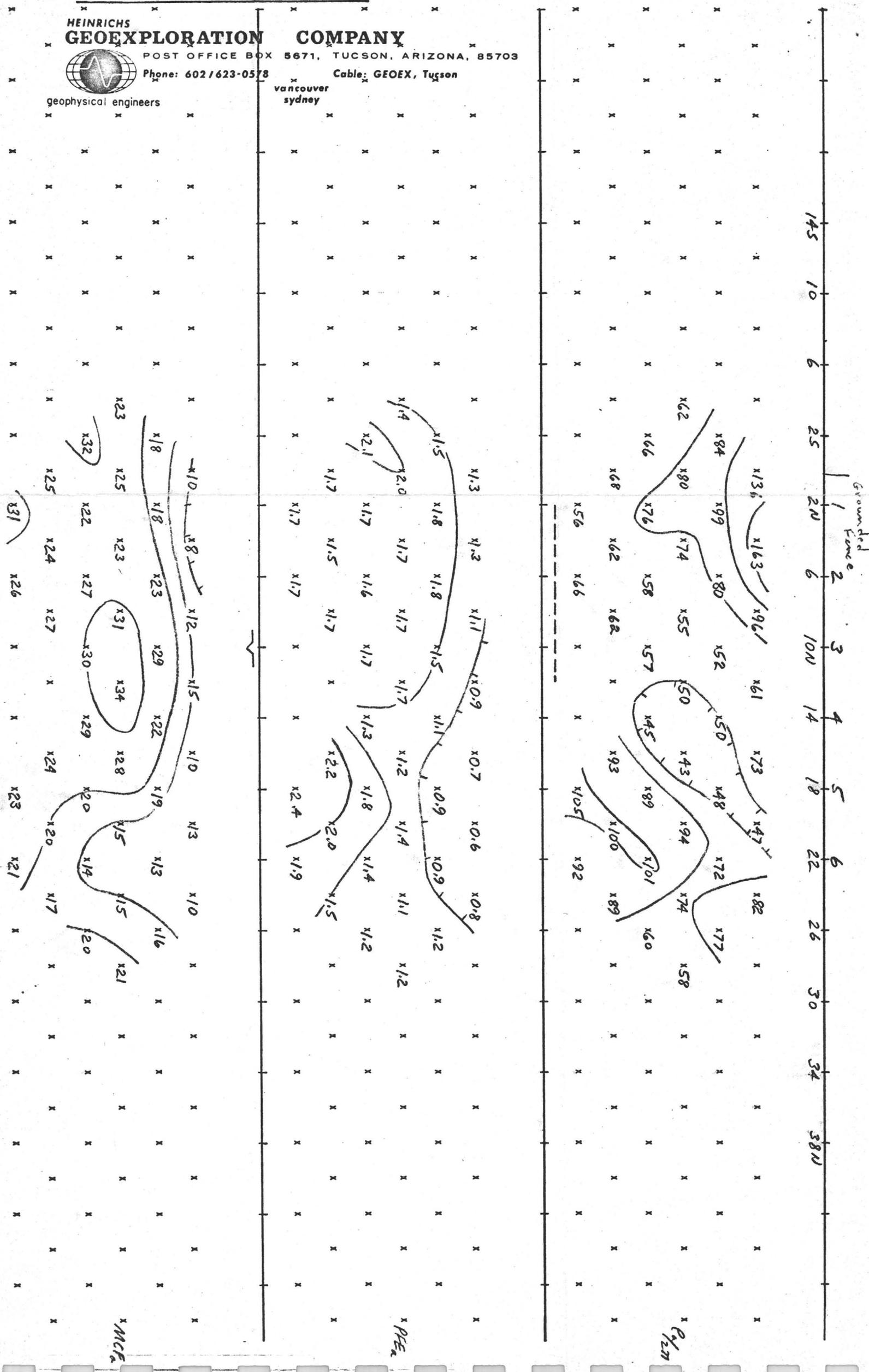
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JOB# 572 LINE# 28W SP 1 a = 1000' LOOKING West
 CLIENT Norandex Inc. DATE Oct. 1970 FREQUENCIES 0.3 & 3.0 Hz
 AREA Mineral Butte Note: Inductive Coupling Corrected PFE_a & MCF_a

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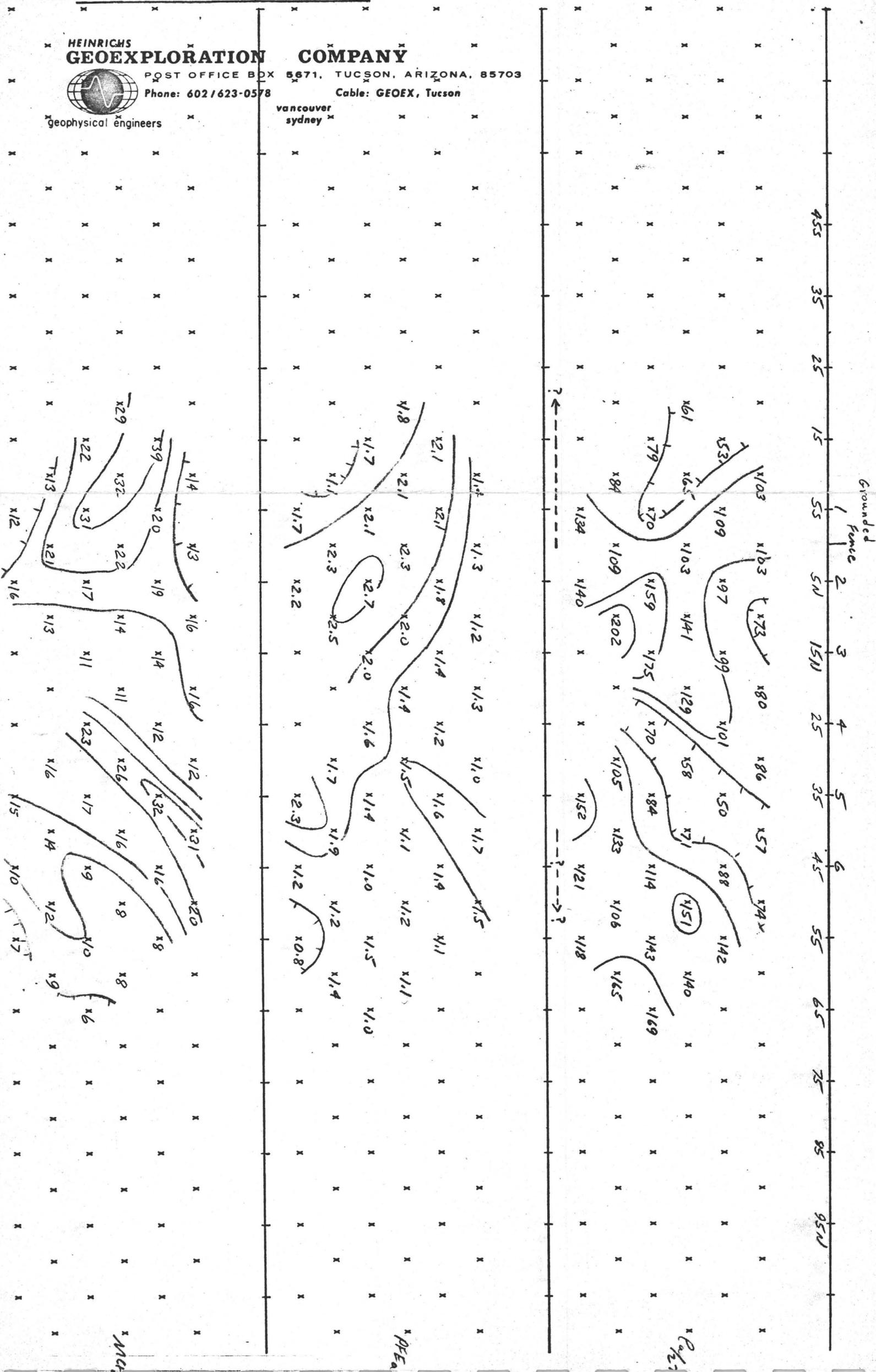
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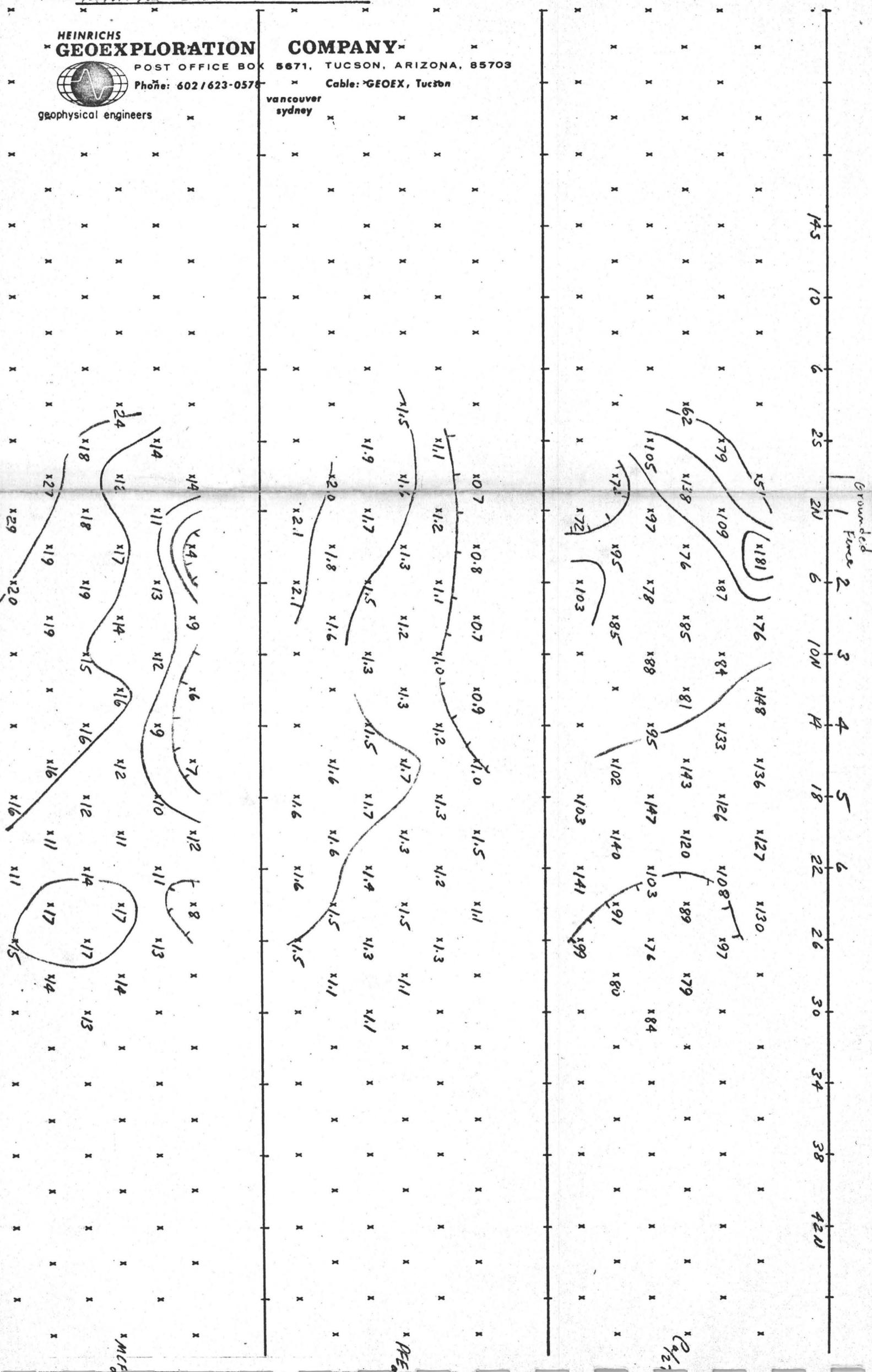


JOB# 572 LINE# 32W SP 1 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Oct. 1970 FREQUENCIES 0.3 & 3.0 Hz

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145 10 6 25 20 6 10N 4 18 22 26 30 34 38 420

Grounded

1

2

3

4

5

6

10N

18

22

26

30

34

38

420

MCF

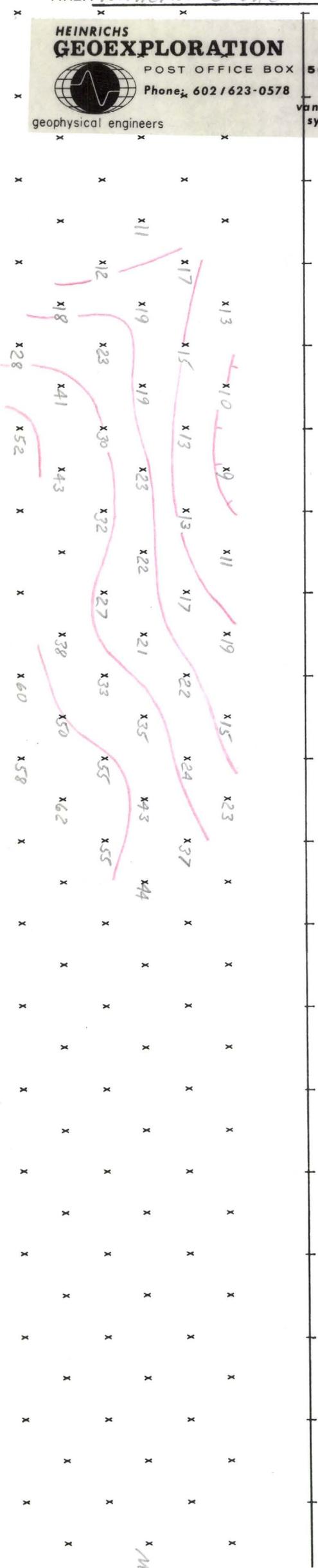
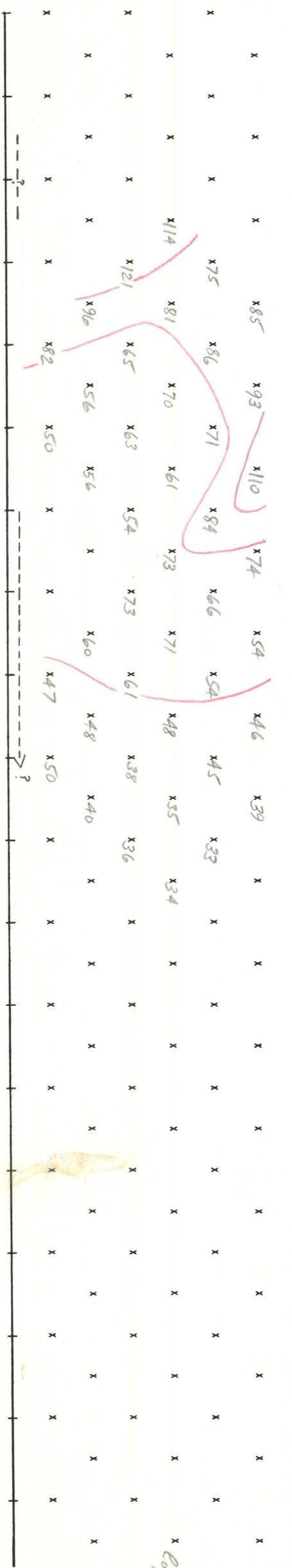
PEE

PEE

JOB# 572 LINE# 44E SP 1 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz

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MCF

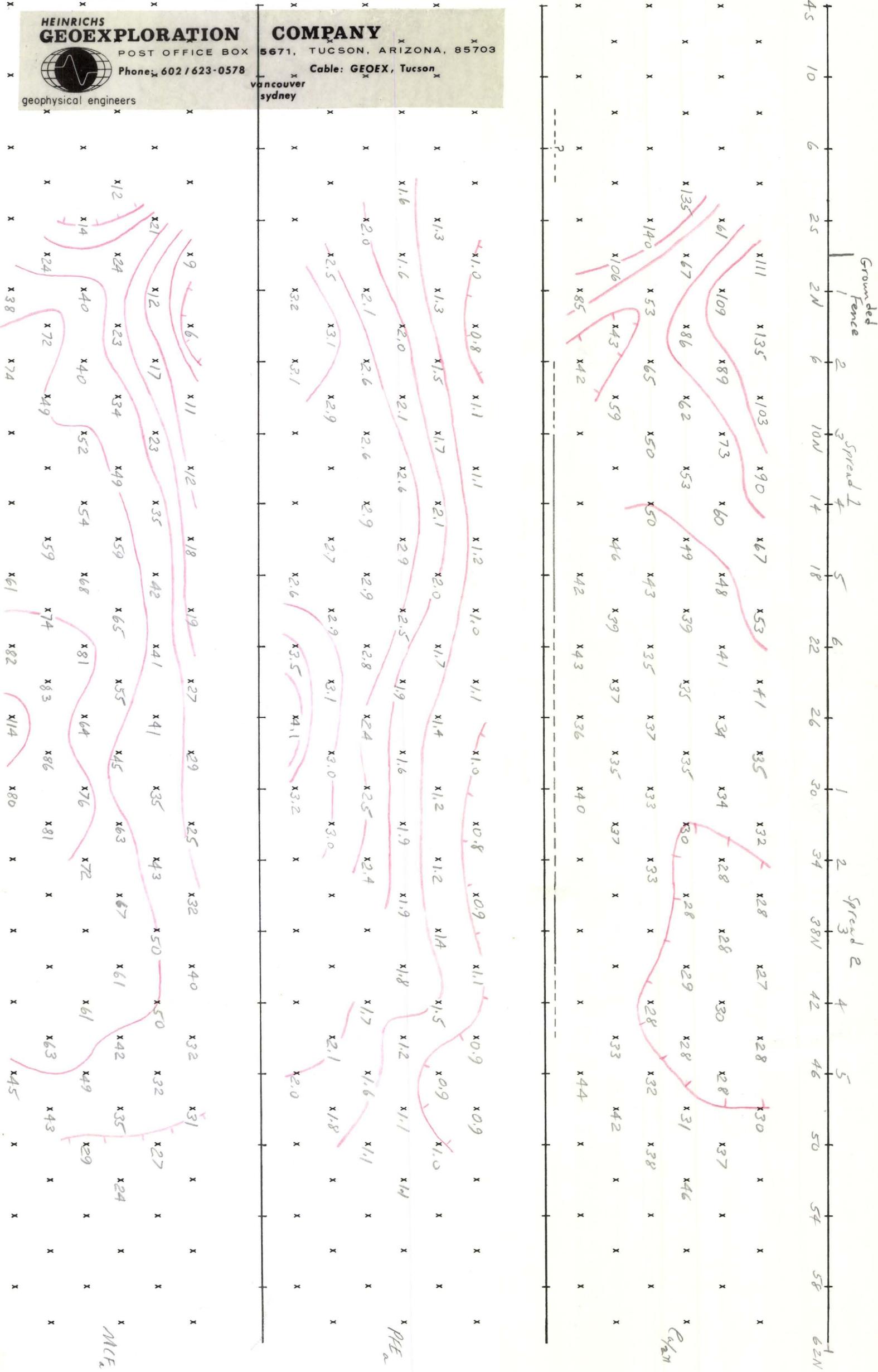
PEE

20/27

JOB# 572 LINE# 40E SP 1F2 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz

AREA Mineral Butte

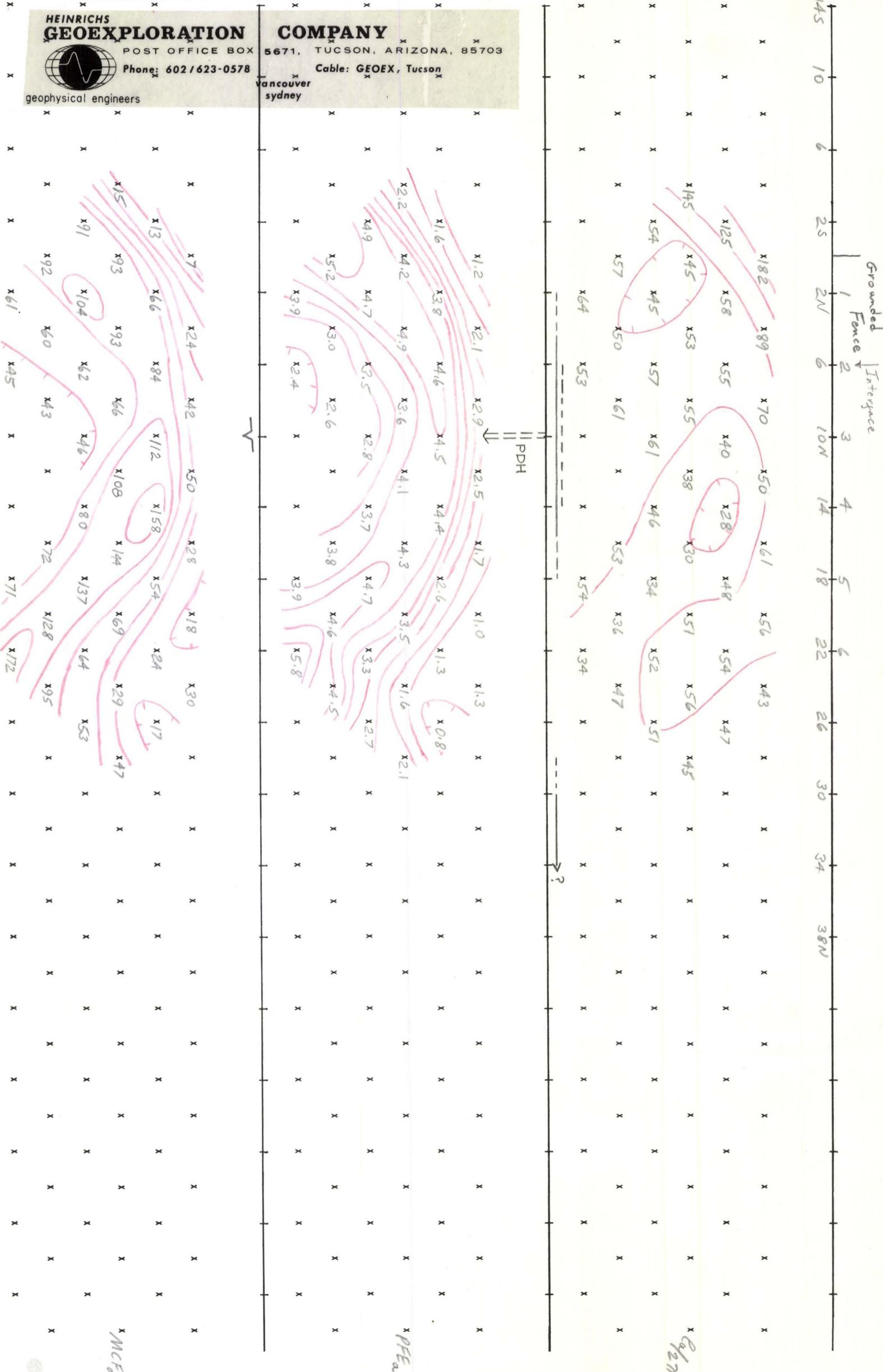
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JOB# 572 LINE# 32E SP 1 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 9.0 Hz

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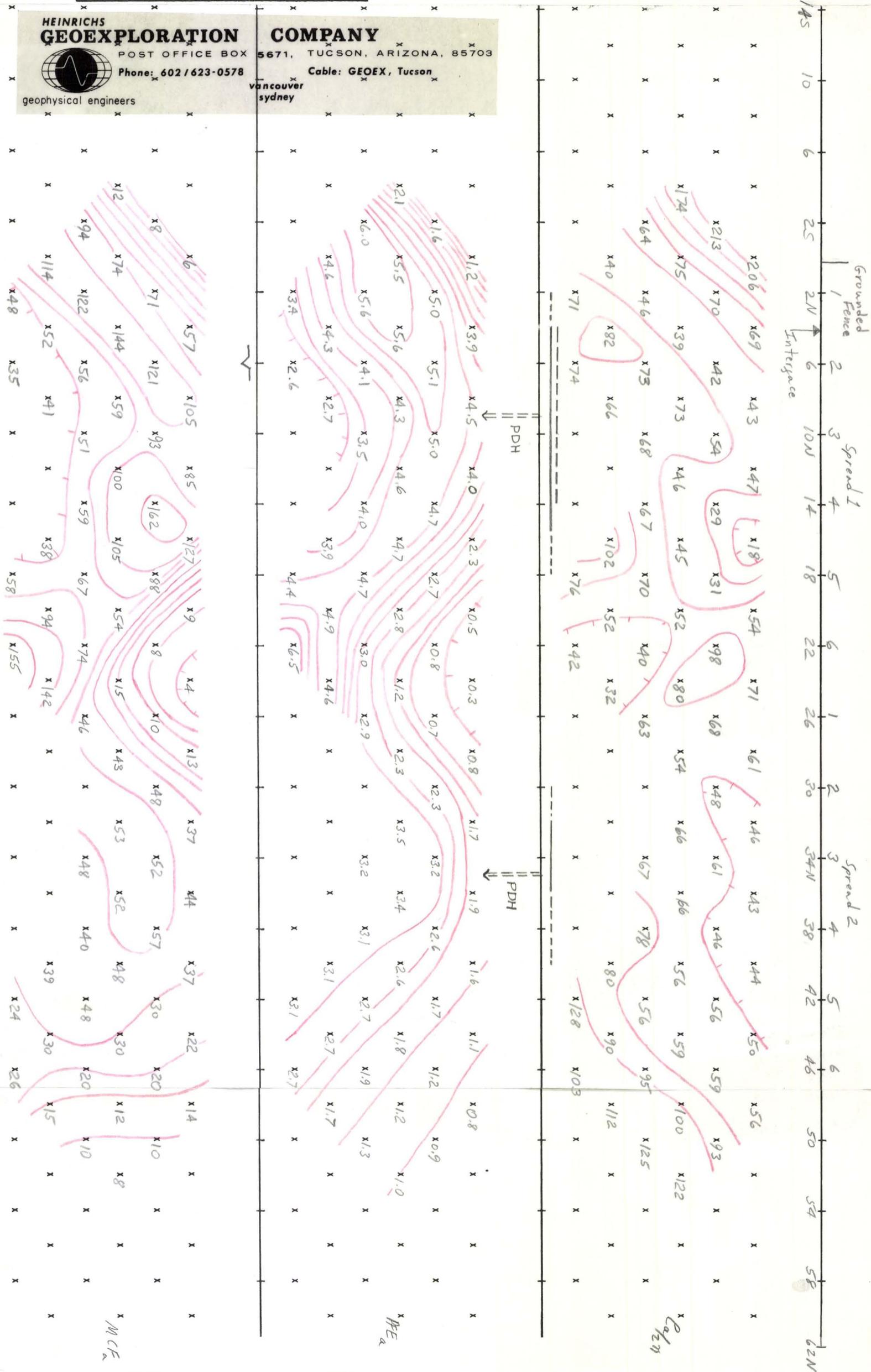
MCF_a

PFE_a

0/27

JOB# 572 LINE# 24E SP 1 & 2 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz
 AREA Mineral Butte

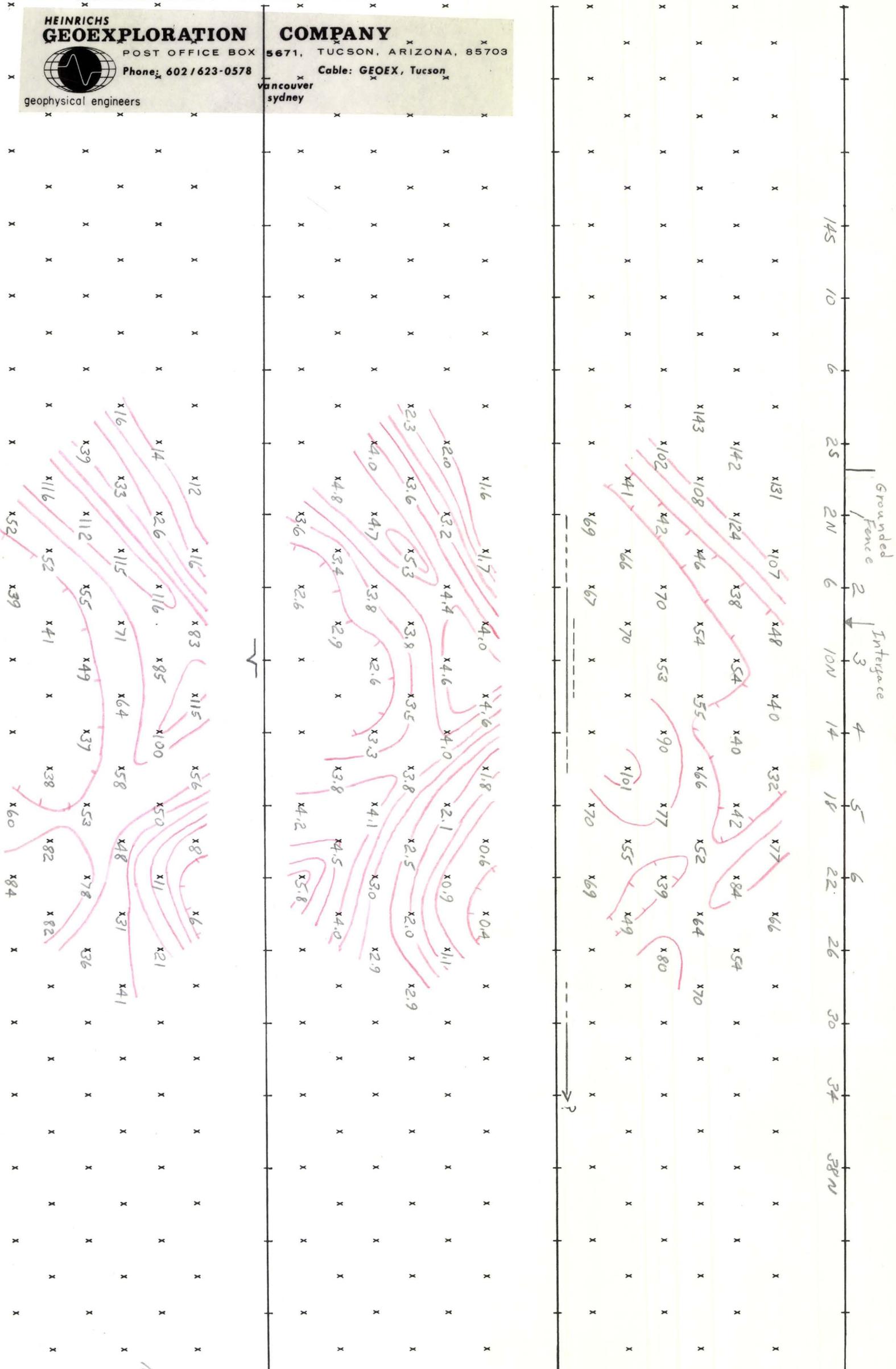
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JOB# 572 LINE# 20E SP 1 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz

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MCFa

PFEa

P127a

JOB# 572 LINE# 4E SP 1#2 a = 400' LOOKING West
 CLIENT Norandex, Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz

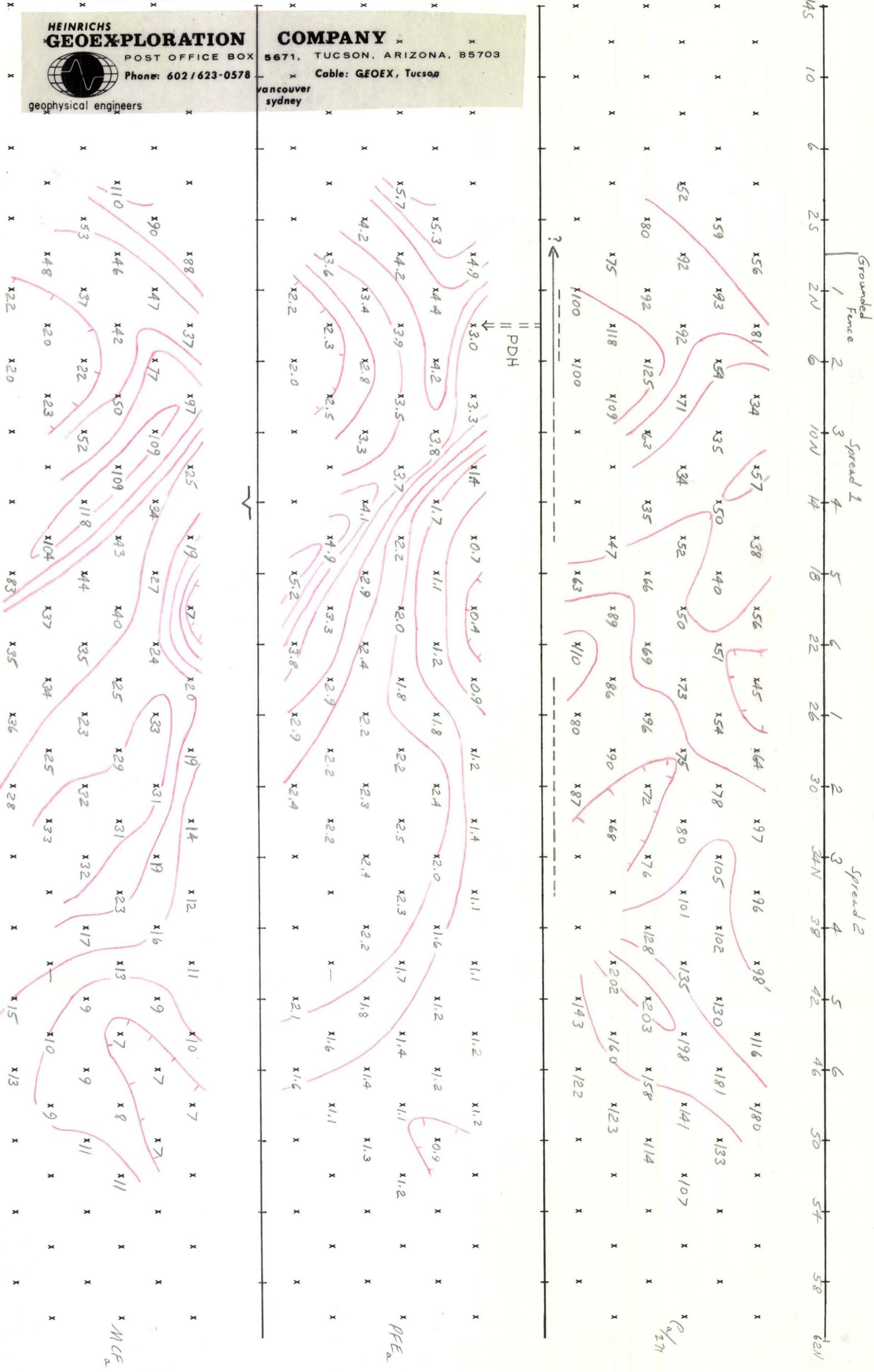
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JOB# 572 LINE# 0 SP 1 & 2 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz
 AREA Mineral Butte

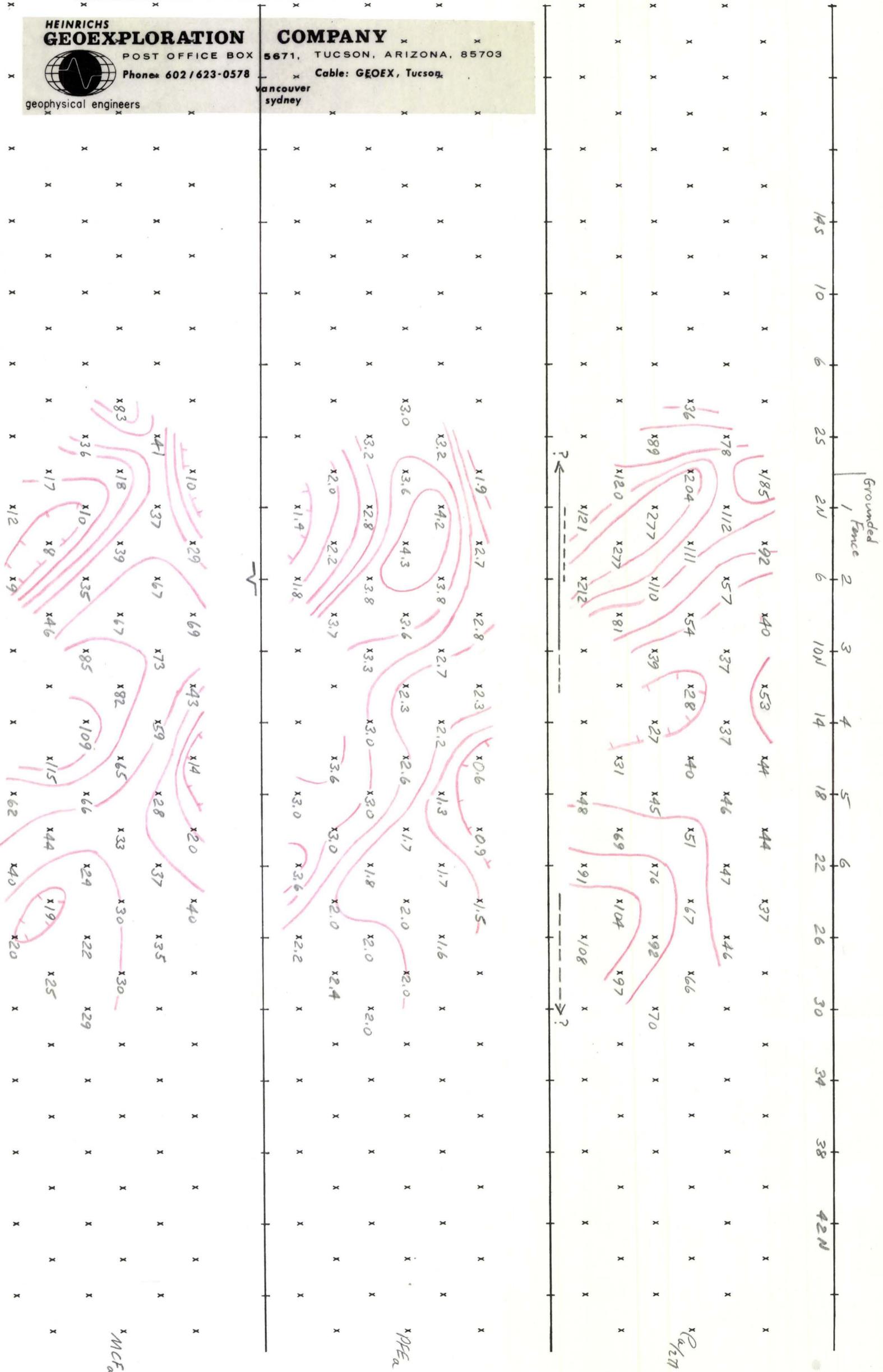
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JOB# 572 LINE# 8W SP 1 a= 400' LOOKING West
 CLIENT Norandex Inc. DATE Oct. 1970 FREQUENCIES 0.3 & 3.0 Hz

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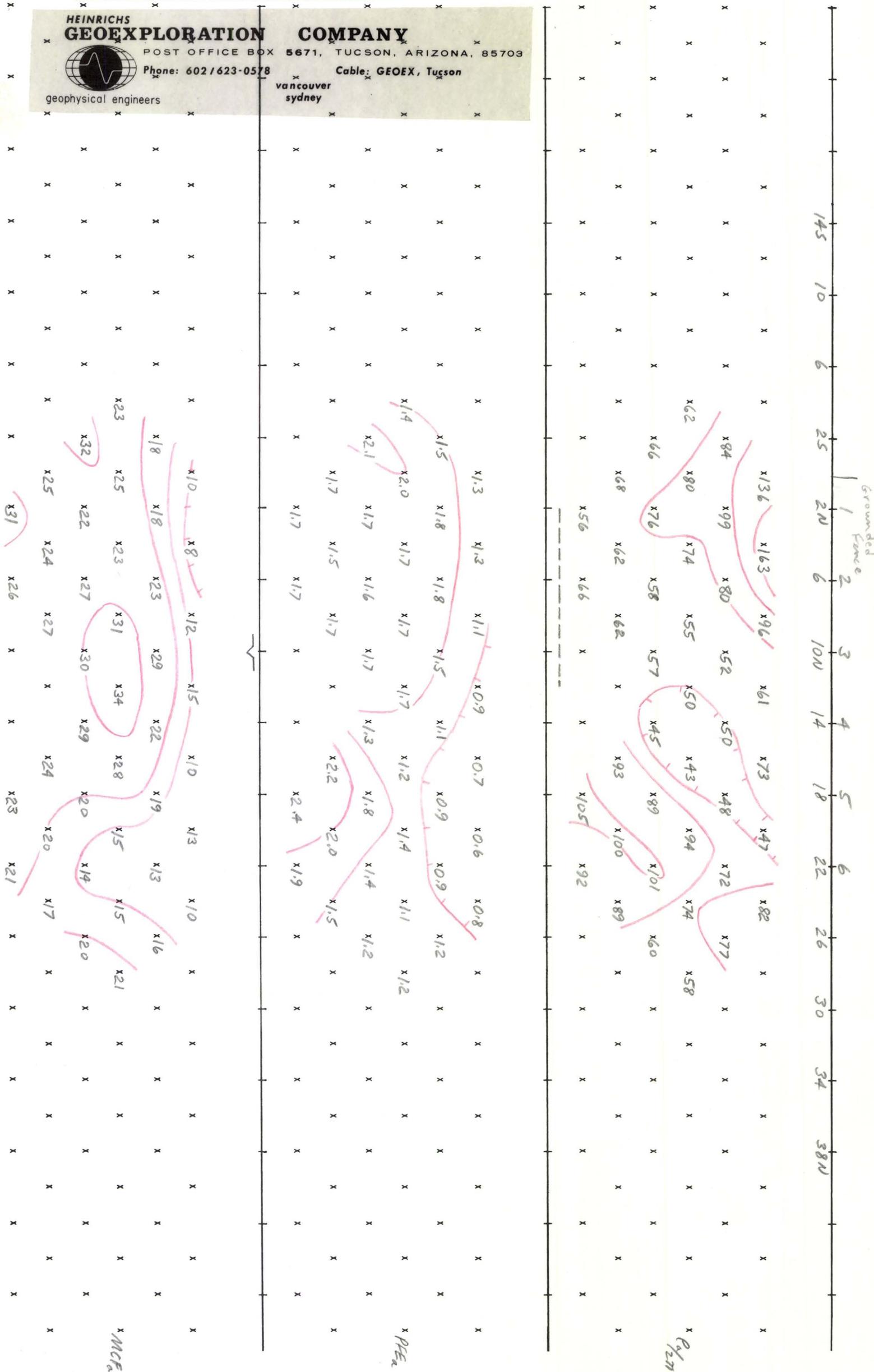
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JOB# 572 LINE# 20W SP 1 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz

AREA Mineral Butte

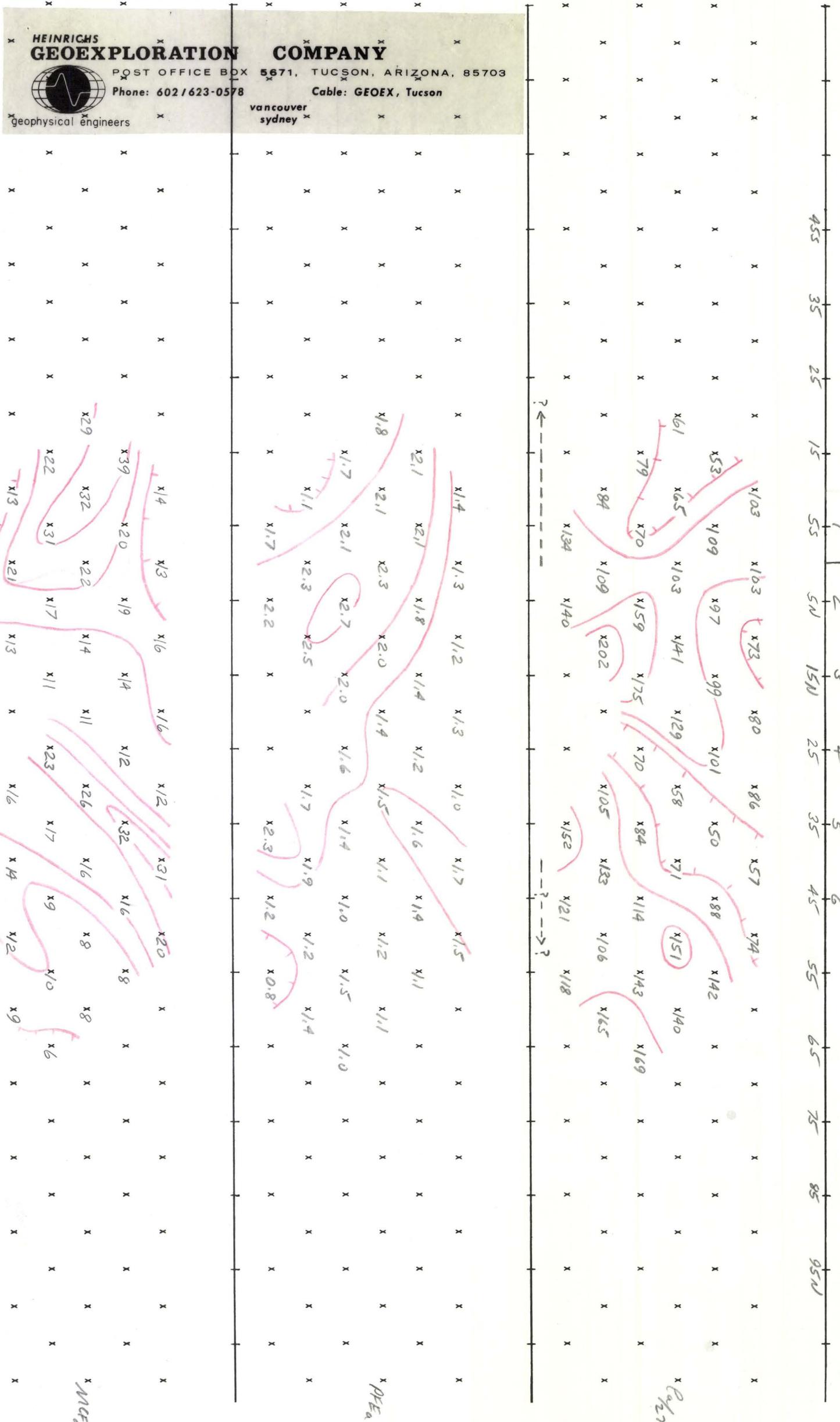
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JOB# 572 LINE# 28W SP 1 a = 1000' LOOKING West

CLIENT Norandex Inc. DATE Oct. 1970 FREQUENCIES 0.3 & 3.0 Hz

AREA Mineral Butte Note: Inductive Coupling Corrected PFE_a & MCF_a



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Grounded fence 1 2 3 4 5 6

455 35 25 15 55 5N 15N 25 35 45 55 65 75 85 95N

MCF_a

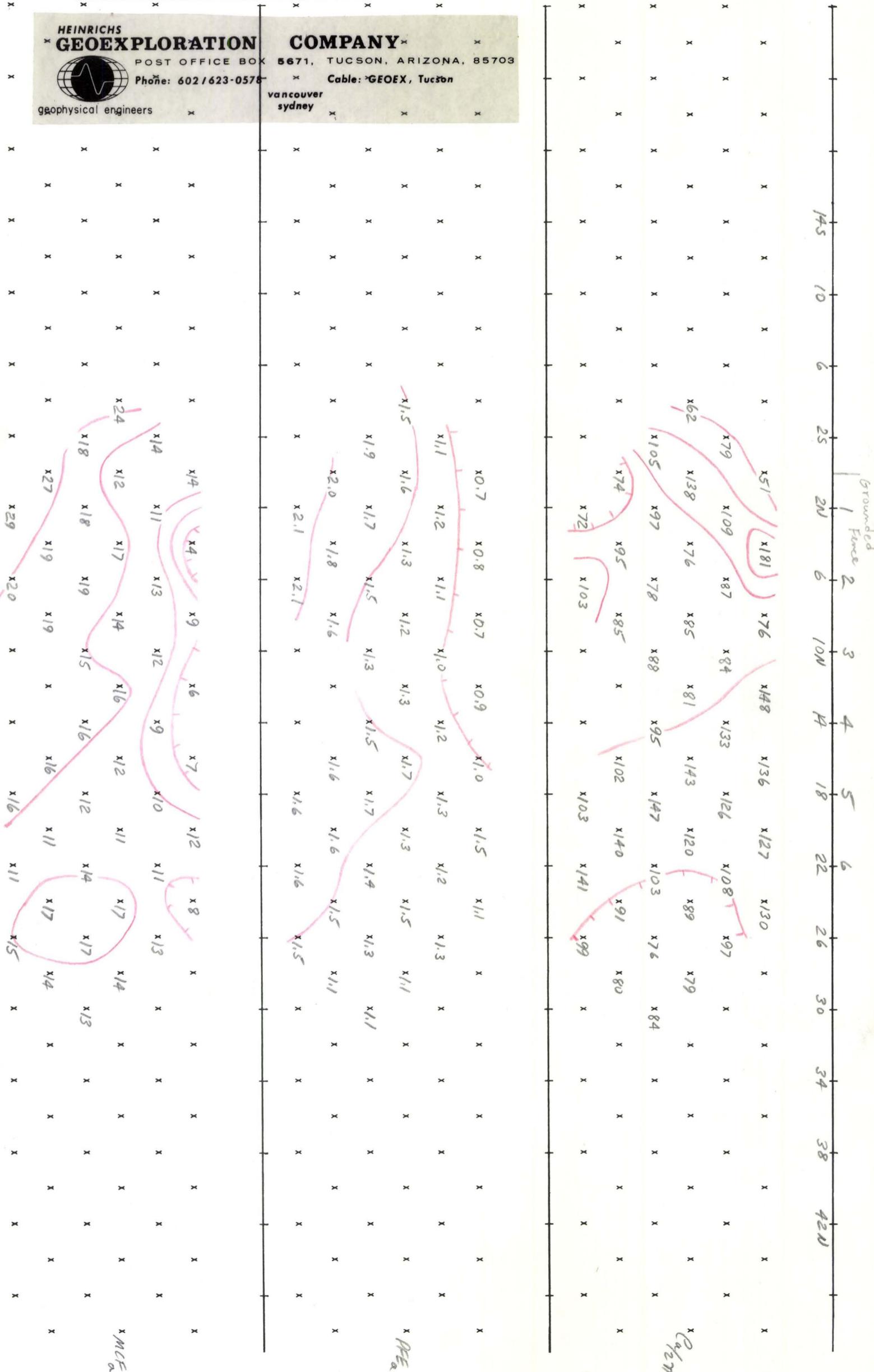
PFE_a

PFE_a

JOB# 572 LINE# 32W SP 1 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Oct. 1970 FREQUENCIES 0.3 & 3.0 Hz

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x MCF

x PCE

x P/27

Grounded Fence 2

From GEOEX IP Report to Norandex, Inc., November, 1970
Mineral Butte Area, Pinal County, Arizona

The data are presented on sectional data sheets, one for each line, showing resistivity, percent frequency effect (PFE) and metallic conduction factor (MCF) contoured in section. An "Induced Polarization Location and Interpretation Plan" is also included and shows the surface projected plan interpretation of all lines at a scale of 1" = 400'. The self potentials are shown on a separate 1" = 400' overlay as profiles in plan and is entitled "Self Potential Overlay". For additional details concerning 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 W. Freeman, Geophysicist-Crew Chief and F. McManus, technical assistant. The third man on the crew was supplied by the client. Report and interpretation are by C. Ludwig, Senior Geophysicist assisted by the GEOEX staff. We hereby wish to express our appreciation to Mr. Pete Young of Norandex for his assistance to the crew in the field.

CONCLUSIONS

Two quite elongate easterly-westerly trending zones of anomalous I.P. effects are noted on this survey. The southern stronger and wider zone lies mainly between Lines 44E and 20W and is roughly centered near 4N on the western half and gradually angles northward to about 12N on the eastern end. The northern somewhat weaker and narrower zone lies mainly between Lines 56E and 0E/W and is centered near 32N except on the east and where it appears to shift northward to about 38N.

The width of the southern zone varies from about 600 feet to 1200 feet not counting the very weak fringes. On the western portion, the south boundary of the anomalous zone has not been accurately established due to lack of coverage to the south.

The width of the northern zone where coverage was sufficient to delineate both edges varies from about 400 to 600 feet, again neglecting the very weak fringes.

The two 1000 foot dipole spreads, Lines 56E and 28W both suggest that the southern polarizable zone extends at depth further east and west than the limits mentioned above suggest.

This is particularly true on the east end of the zone where a well defined deep anomaly was found whereas the west extension is quite weak and is shifted to the south considerably. The northern anomaly is not obviously noted at depth on the two 1000 foot spreads, perhaps because it has merged with the southern anomaly or is too close thereto or too narrow to be individually resolved or of course it could be absent. Actually, the northern and southern anomalies through the entire area may be connected at depth (below 600 feet or so) outside the resolvable penetration of the array used.

The cause of the anomalous I.P. response is likely metallic lustered sulfide mineralization although other metallic lustered minerals such as iron and manganese oxides or graphite or even clay could be contributing to the response. Within the strongest portion of the southern anomaly, about 3 to 8% total sulfide average by volume (or roughly 6 to 16% by weight) is estimated based on the interpreted source geometry and on a comparison with "typical" disseminated sulfide zones in the southwest. The weaker portions of the southern anomaly may range from roughly 1 to 4% by volume sulfide and the very weak fringes from less than 0.5 to 2% by volume sulfide. The northern anomaly has been drilled in one portion and is apparently caused mainly by magnetite with minor pyrite. Since magnetite is much less responsive than most sulfides it takes rather high concentration (say 5 to 20%) by volume to produce appreciable I.P. effects. This seems to be the case here. These estimated percentages are only meant to be a crude relative guide and in practice are often found to be at considerable variance with actual average assays for sulfide. Regardless, the indicated sulfide concentration is high enough that the two zones could be of definite economic interest providing the ratio between common ore polarizers such as sulfides of copper, molybdenum etc., to the common non-ore polarizers such as pyrite or magnetite is reasonably high.

The depth to the top of the anomalous source of the southern zone may be as shallow as 100 feet below surface in the central and western portions and deepening to perhaps as deep as 1200 to 1500 feet below surface near Line 56E. Most of the southern anomaly has a pattern which suggests a flattish lying or

gently southerly dipping, depth limited, tabular body 200 to 400 or so feet in vertical thickness. Below this tabular body, the mineralization should markedly decrease in strength or possibly even disappear. Or, conceivably, the sulfide content could persist in strength below this interpreted tabular zone but be rendered less responsive due to a change in rock type, weathering or mineralogy. This flat lying tabular body pattern is best evidenced on Lines 24E through 36E.

This flattish-lying sulfide body interpretation is somewhat difficult to rationalize with the surface indicated geology but could be a weathering phenomenon or a structurally and/or lithologically controlled sulfide emplacement. Another unlikely but conceivable possibility is that the anomalous source is a supergene enriched sulfide "blanket".

The northern anomaly in its stronger portions generally appears to have a source whose top is roughly 200 to 400 feet below surface. It is not known if the northern anomaly is also depth limited in that the depth of penetration limitation of the geophysical array used precludes sensing the bottom of this deeper source. As with the southern anomaly, the northern zone rapidly deepens east of Line 36E.

Based on results of an existing Norandex drill hole near coordinates 6E, 32N, to initially test the northern anomaly, below about 150 feet in depth strong magnetite with minor pyrite was encountered for at least several hundred feet which more than likely explains this anomaly. A 1000 gamma magnetic high also correlates with the anomaly in this area.

Based on the limited geologic information available to us, it appears that most of the significant southern I.P. response is originating from mineralization within the schist rather than within the granite. In fact, the granite in the southern portion of the area surveyed seems to form the southern boundary of the stronger I.P. response and is reflected by higher apparent resistivities to the south. The resistivity "interface" (rock type change effect) noted on Lines 8E through 36E may be indicating the actual granite-schist contact in that area or perhaps a change in degree of alteration, with more altered material to the north of the interface.

Some of the stronger I.P. response is associated with a definite lower resistivity zone probably caused by the concentration of conductive sulfide mineralization and associated alteration. Near surface lower resistivities are also noted on some of the eastern lines to the north probably reflecting a veneer of relatively conductive recent alluvium overlying more resistive crystalline bedrock. The highest resistivities encountered on the survey were where Mineral Butte was crossed on Lines 8W and 12W near ON/S and are likely the results of the topographic effects of the erosion-resistant ridge and perhaps tighter or more silicified material on the ridge.

Many of the stronger I.P. anomalies on the southern zone are associated with broad but definite self potential lows which are probably reflecting concentrations of relatively interconnected, actively oxidizing sulfides within several hundred feet of the surface. The more significant self potential lows have been symbolically indicated on the interpretation plan and sectional data sheets.

RECOMMENDATIONS

The two anomalous zones are of sufficient potential economic interest as to definitely warrant further testing by drilling. Six drill holes are proposed in order of geophysical priority. All drill sites should of course depend on the results of drilling higher priority holes, or existing drilling results plus any geological and geochemical or additional geophysical information available, all of which should be in constant correlation.

1. On Line 24E near station 9N a drill hole is recommended to test a portion of one of the stronger southern zones of I.P. anomalism showing a very pronounced flat lying tabular body effect. This anomaly has a correlating self potential low and a related pronounced resistivity low. The drill hole should be in the polarizable source within about 200 feet of the surface and should be carried to a total depth of about 600 feet to properly evaluate the zone of interest.

2. On Line OE/W near 4N a drill hole is suggested to evaluate another relatively strong portion of the southern anomaly. This hole should be programmed for about 600 feet in depth to properly evaluate the target. Sulfides will likely be first encountered within 200 feet of the surface.

3. To further test the northern anomaly, elsewhere along strike from the existing hole, a drill hole collared near 35N on Line 24E is recommended. This hole should sample the strongest portion of the northern anomaly based on available coverage and polarizable material should be seen within 200 or 300 feet of the surface. The hole should be drilled to at least 600 feet in depth to obtain a sufficient vertical sampling of the anomaly.

4. Another drill hole on the strongest portion of the southern anomaly is recommended particularly if drilling near station 9N on Line 24E (Recommendation 1.) is at all encouraging. This additional hole should be collared near 10N on Line 32E and be drilled to about 600 feet total depth. This target appears to be somewhat deeper than the zone on Line 24E but of similar strength, vertical thickness and horizontal width. Again, there is a good correlation with a resistivity low and a self potential low.

5. On Line 12W near 4N a drill hole is suggested particularly if drilling near 4N on Line OE/W (Recommendation 2.) is encouraging. This hole will possibly be within the granite and is near the base of Mineral Butte. The hole should sample the source of a moderate strength I.P. anomaly near a sharp resistivity flexure and a broad self potential low. Sulfides should be seen within about 200 feet of the surface and the hole should be carried to about 600 feet total depth to be reasonably certain of intersecting the entire thickness of indicated mineralization.

6. If the northern anomaly is still interesting after drilling near 35N on Line 24E, (Recommendation 3.) a similar target is suggested near station 31N on Line 12E. Depth to top of polarizable material (magnetite and/or sulfides) is indicated at 200 or 300 feet below surface and the hole should be drilled to at least 600 feet to obtain a representative intersection of the anomalous source.

All of the above drilling is considered vertical as recommended. Inclined drilling could be considered in the unlikely event initial drilling suggests a thin steeply dipping anomaly source, for a more efficient sampling of the zones of interest.

Additional geophysical drill targets can be located by reference to the interpretation plan surface projected anomalism and its correlation with all information to date. The weaker fringes of the I.P. anomalies should also be given some consideration especially if in areas having evidence of a high copper to iron ratio. In fact, in many mining areas, the weaker I.P. zones are of more interest than the stronger portions which may only be reflecting high pyrite concentrations. In this area, because of the medium to low strength sulfide concentrations indicated, initial attention has been focused on the stronger sulfide zones in the hope that they would have the highest probability of being economically interesting.

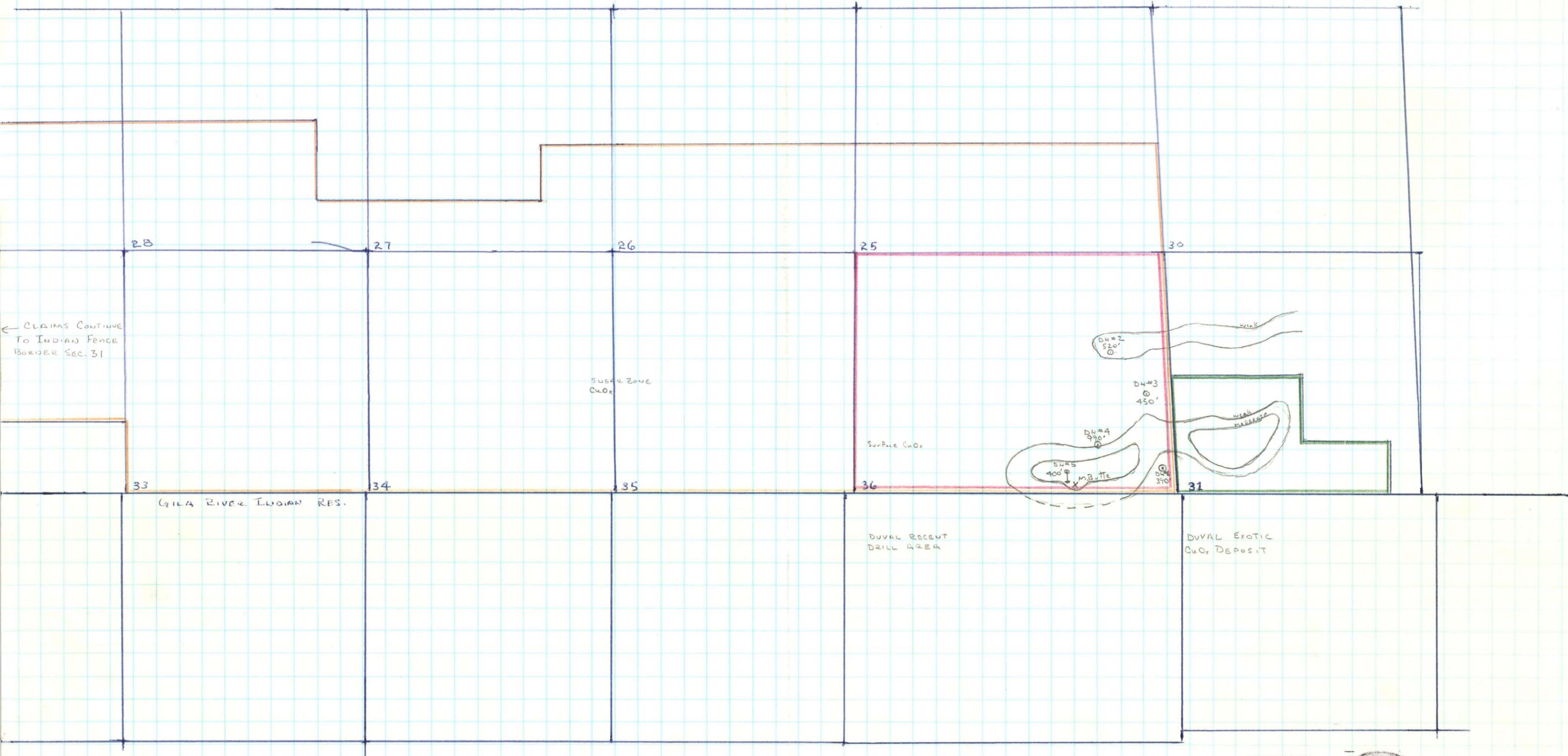
Additional deeper penetrating I.P. coverage is recommended (1000 foot dipoles) mainly to the east but also to the west of the existing grid particularly if either of the easterly-westerly trending anomalies continue to be of interest after drilling. Also, coverage to the south on the western lines could help better define the southern boundary of the south anomaly if this information becomes important. In addition, more coverage on the northern anomaly could be useful if it is still of interest after initial drilling.

A semi-detailed magnetic survey should also be considered, not only to delineate the diorite intrusive involved with the northern anomaly, but to attempt to gain additional geologic information near the southern zone.

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.



RODNEY LAND STATUS: 164 CLAIMS

ORANGE BORDER - APPARENT CLEAR TITLE MINING CLAIMS
 RED BORDER - RODNEY LEASE TO NORANDEX 1970
 GREEN BORDER - CLEAR TITLE TO BE OBTAINED - SURFACE
 PATENTED - LITIGATION 1941 INDICATED CLAIMS CAN
 BE LOCATED. RODNEY CLAIMED 1955.

NORANDEX DATA:

I.P. LINES APPROXIMATE - HEINRICHS
 DRILL HOLES BASED ON COORDINATES.
 DH#1 - 36' OF 0.40% Cu

HEINRICHS
GEOEX
 GEOTECHNICAL ENGINEERS
 TUCSON, ARIZONA



SEP 11 1972

BOX 5954 TUCSON, ARIZONA 85703
 Phone: (AREA 602) 623-8578

10K 1st year
more 2nd

Duvol

60-90 MT

+0.6 all Ox

Sulfide to west

Duvol approached
Rodney twice!

not consummated
as recently as two
years ago

\$2500

2.5 million
0.5% royalty

2 years

M. F. DIBBLE, P. E.
CONSULTING MINERALS ENGINEER

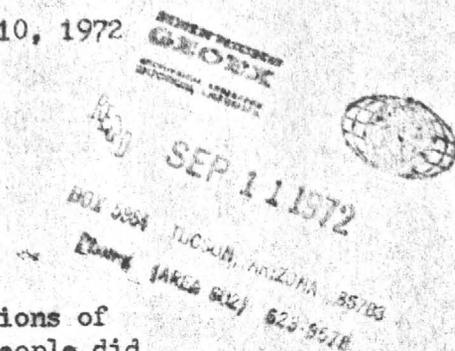
8537 EAST SAN MIGUEL

602-945-6023

SCOTTSDALE, ARIZONA 85253

September 10, 1972

Chris Ludwig
Heinrich Geocexploration Co.
P. O. Box 5964
Tucson, Arizona



Dear Chris:

Inclosed find a rough map showing the approximate locations of Mr. Ted Rodney's claims at Mineral Buttes. Since you people did the geophysical work for Norandex you probably have more technical data on the property than I do. We were able to obtain the I.P. interpretation plan, magnetic survey, and drill hole logs and summaries. The drill hole cores are also available. I also have a copy of Bear Creeks I.P. data and some of their surface geology.

In evaluating Norandex's results, my impression is that the drill holes were not located properly (drill hole coordinates do not match locations indicated on your interpretation plan map) and do not utilize the I.P. anomalies you indicated. I also feel that the drill holes were way too shallow. Even at that all holes showed some sulfide mineralization with one 36 foot intercept in hole #1 showing 0.40% Cu.

Mr. Rodney is looking for some one to come in and give his property a decent exploration program. You will note on the sketch he is including a great deal more land than he had optioned to Norandex. One of the apparent reasons they dropped their option was that he refused to include his section 31 holdings in the deal. I personally feel that the western part of section 36 and section 35 hold as much promise as the immediate area of Mineral Butte. Bear Creeks I.P. work indicated the anomalous area continued up in that direction.

If any of your clients would be interested in pursuing a possible exploration program at Mineral Buttes please contact either Mr. R. B. Rodney at 265 W. First st. Mesa, Arizona. ph964 3677 or myself at your earliest convience. I will be looking forward to hearing from you.

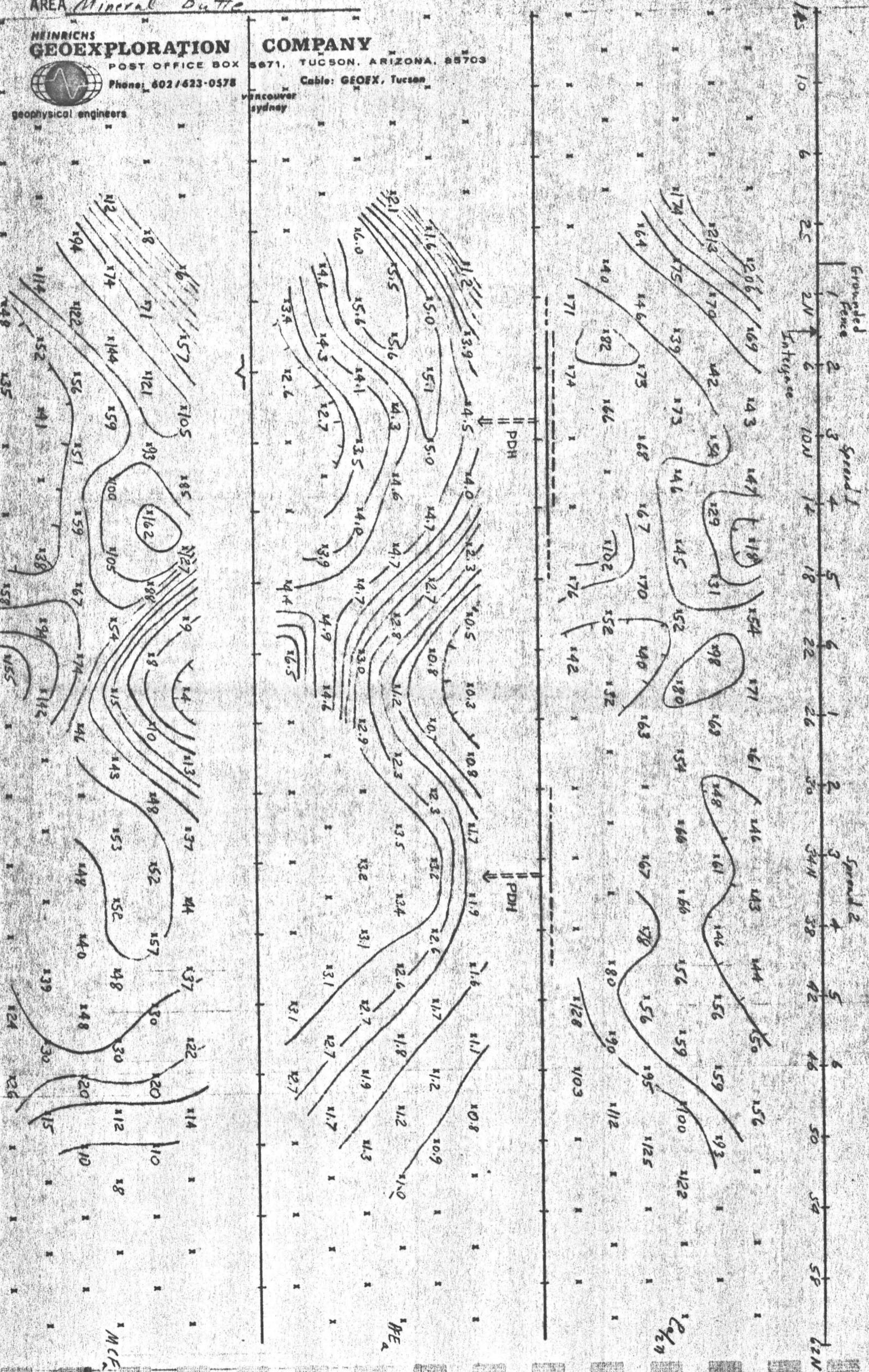
Sincerely Yours

M. F. Dibble
M. F. Dibble,

JOB# 572 LINE# 24E SP. 1 & 2 a = 400' LOOKING West
 CLIENT Norandex Inc. DATE Sept. 1970 FREQUENCIES 0.3 & 3.0 Hz

AREA Mineral Butte

HEINRICHS GEOEXPLORATION COMPANY
 POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
 Phone: 602/623-0578
 Cable: GEOEX, Tucson
 geophysical engineers
 vancouver sydney



MCF

ME

2 1/2

M. F. DIBBLE, P. E.
CONSULTING MINERALS ENGINEER

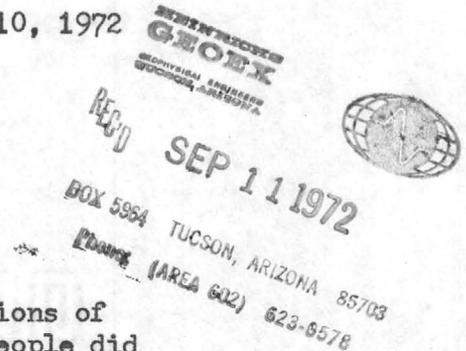
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Sincerely Yours

Mike Dibble
M. F. Dibble,

Job 572, LINE 32W, Sp 1, S & N $\frac{1}{2}$, 10/8/70

400.

DP 45

FENCE @ 200'

572

PAGE
1HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTESPROJECT MINERAL BUTTE
LINE 32W HALF 5 SP. 1 DATE 10-8-70

SEND	CALD	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	3-4	6-10N	→	2-6N	→	→	2s-2N	→	→	→
RANGE	0.0	10	1.0	10	1.0	1.0	10	1.0	1.0	1.0
DC 1	0.0	0.9	1.2	0.7	1.0	1.3	0.8	1.1	1.2	1.3
DC 2										
DC 3										
DC 4 <i>Am</i>	1.0	3	3	2	3	3	3	2	3	3
DC 5 <i>#</i>		1	2	3	4	5	6	7	8	9
DC 6 <i>#</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	98.0	333.	78.4	124.	48.7	19.5	439.	35.2	20.5	10.6
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.	3.0	+12.3		+4.3			-1.7			
AC NOISE	0.3									
POT RES.		2K		2K			2.5K			



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 32W HALF 5 SP. 1 DATE 10-8-70

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2

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6	
RECEIVE	2-65	→				6-105	→				
RANGE	10	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1	
DC 1	0.7	1.2	1.3	1.5	1.6	1.1	1.6	1.7	1.8	2.1	
DC 2											
DC 3											
DC 4 <i>cm</i>	3	3	2	3	3	3	3	2	3	3	
DC 5 <i>#</i>	10	11	12	13	14	15	16	17	18	19	
DC 6 <i>n</i>	1	2	3	4	5	2	3	4	5	6	
DC 7											
DC 8											
DC AVG.											
AC 1	125.	66.1	12.2	9.40	5.88	47.8	33.2	7.77	6.55	4.43	
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.	413.5					412.3					
AC NOISE											
POT RES.	3K					2K					



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 32W HALF N SP. 1 DATE 10-8-78

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SEND	S.P	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	10-14N	14-18N	→	18-22N	→	→	22-26N	→	→	→
RANGE		10	1.0	10	1.0	1.0	10	1.0	1.0	1.0
DC 1		1.0	1.1	1.0	1.3	1.3	1.5	1.3	1.7	1.5
DC 2										
DC 3										
DC 4 <i>cur</i>		3	3	2	3	3	3	2	3	3
DC 5 #		24	25	26	27	28	29	30	31	32
DC 6 <i>h</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1		386.	53.8	220.	82.3	19.9	307.	50.9	34.4	11.5
AC 2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+21.0	+11.2		+20.0			+7.6			
AC NOISE										
POT RES.	4.5K	3K		2.5K			1.7K			



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 32W HALF N SP. 1 DATE 10-8-70

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SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	26-30N	→				30-34N	→			
RANGE	10	1.0	1.0	1.0	0.1	1.0	1.0	0.1	0.1	0.1
DC 1	1.1	1.2	1.3	1.7	1.6	1.3	1.5	1.4	1.6	1.6
DC 2										
DC 3										
DC 4 <i>cm</i>	3	3	2	3	3	3	3	2	3	3
DC 5 #	33	34	35	36	37	38	39	40	41	42
DC 6 <i>n</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	316.	65.5	19.3	17.7	7.05	58.9	21.4	8.26	9.64	4.42
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.	-5.8					+15.5				
AC NOISE										
POT RES.	3.8K					3.7K				



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 32W HALF N SP. 1 DATE 10-8-70

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SEND	5-6	4-5	3-4	2-3	5-6	4-5	3-4			
RECEIVE	34-38N	→			38-42N	→				
RANGE	1.0	0.1	0.1	0.1	1.0	0.1	0.1			
DC 1	1.1	1.3	1.5	1.6	1.1	1.1	1.5			
DC 2										
DC 3										
DC 4 <i>cur</i>	3	3	2	3	3	3	2			
DC 5 #	43	44	45	46	47	48	49			
DC 6 <i>n</i>	3	4	5	6	4	5	6			
DC 7										
DC 8										
DC AVG.										
AC 1	19.2	9.15	4.19	6.09	10.2	5.54	2.85			
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
AC AVG.										
S.P.	+11.5				+8.1					
AC NOISE										
POT RES.	1.7K				25K					



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE
LINE 32W HALF 5 SP. 1 DATE 10-8-70

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SEND	3-4	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	CAH	10-6w	→	6-2w	→	→	2w-2s	→	→	→
RANGE	10x100	10x300	10x300	10x200	10x300	10x300	10x300	10x200	10x300	10x300
VOLTAGE	340	850	520	680	840	520	620	680	840	520
CURRENT	1.0	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0
SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6s	→	→	→	→	6-10s	→	→	→	→
RANGE	10x300	10x300	10x200	10x300	10x300	10x300	10x300	10x200	10x300	10x300
VOLTAGE	400	620	680	840	520	400	620	680	840	520
CURRENT	3.0	3.0	2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

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PAGE 2
PROJECT MINERAL BUTTE
LINE 32 W HALF 5 SP. 1 DATE 10-8-70

SEND	1-2	2-3	3-4	4-5						
RECEIVE	10-14s	—————→								
RANGE	10x300	10x300	10x200	10x300						
VOLTAGE	400	620	670	840						
CURRENT	3.0	3.0	2.0	3.0						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR Pat McManus

RECEIVER NO. 20693A

OPERATOR Bill Freeman

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 32W HALF N SP. 1 DATE 10-8-70

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SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6
RECEIVE	14-18	→	18-22	→	→	22-26	→	→	→	26-30
RANGE	10X300	10X300	10X200	10X300	10X300	10X300	10X200	10X300	10X300	10X300
VOLTAGE	600	400	660	600	400	820	660	600	400	510
CURRENT	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6
RECEIVE	26-30	→	→	→	30-34	→	→	→	→	34-38
RANGE	10X300	10X200	10X300	10X300	10X300	10X300	10X200	10X300	10X300	10X300
VOLTAGE	820	660	600	400	510	820	650	600	390	510
CURRENT	3.0	2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

#572
PAGE 4
PROJECT MINERAL BUTTE
LINE 32W HALF W SP. 1 DATE 10-80

SEND	4-5	3-4	2-3	5-6	4-5	3-4				
RECEIVE	34-38	→	→	38-42	→	→				
RANGE	10x300	10x200	10x300	10x300	10x300	10x200				
VOLTAGE	810	650	590	510	810	640				
CURRENT	3.0	2.0	3.0	3.0	3.0	2.0				
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3
SENDER NO. 66445
OPERATOR PAT McMANUS
RECEIVER NO. 20693R
OPERATOR BILL FREEMAN

COMMENTS :

JOB 572 LINE 32 W SP1 S AND N 1/2 10/8/70
 CAL GROUP NO. 1

400 FEET=DIPOLE LENGTH

COMPUTED DATA								FIELD DATA					
CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL	PFE	CUR	PT.	N	AC1	AC2
1.000	0.00	98.000	0.00	3.00	.30	0.0000	1.0204						
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE						
1	1	137.14 ¹³⁷	.90	6.6	.90	6.6	0.00	**	.90	3.00	1	1	333.000 0.00
2	2	129.54	1.20	9.3	1.20	9.3	0.00	**	1.20	3.00	2	2	78.400 0.00
3	1	76.45	.70	9.2	.70	9.2	0.00	**	.70	2.00	3	1	124.000 0.00
4	2	80.31	1.00	12.5	1.00	12.5	0.00	**	1.00	3.00	4	2	48.700 0.00
5	3	80.63	1.30	16.1	1.30	16.1	0.00	**	1.30	3.00	5	3	19.500 0.00
6	1	180.62	.80	4.4	.80	4.4	0.00	**	.80	3.00	6	1	439.000 0.00
7	2	87.15	1.10	12.6	1.10	12.6	0.00	**	1.10	2.00	7	2	35.200 0.00
8	3	84.68	1.20	14.2	1.20	14.2	0.00	**	1.20	3.00	8	3	20.500 0.00
9	4	87.66	1.30	14.8	1.19	13.5	.11	**	1.30	3.00	9	4	10.600 0.00
10	1	51.38	.70	13.6	.70	13.6	0.00	**	.70	3.00	10	1	125.000 0.00
11	2	109.21	1.20	11.0	1.20	11.0	0.00	**	1.20	3.00	11	2	66.100 0.00
12	3	75.66	1.30	17.2	1.30	17.2	0.00	**	1.30	2.00	12	3	12.200 0.00
13	4	77.89	1.50	19.3	1.37	17.5	.13	**	1.50	3.00	13	4	9.400 0.00
14	5	85.34	1.60	18.7	1.40	16.4	.20	**	1.60	3.00	14	5	5.880 0.00
15	2	78.90	1.10	13.9	1.10	13.9	0.00	**	1.10	3.00	15	2	47.800 0.00
16	3	137.68	1.60	11.6	1.60	11.6	0.00	**	1.60	3.00	16	3	33.200 0.00
17	4	96.76	1.70	17.6	1.60	16.5	.10	**	1.70	2.00	17	4	7.770 0.00
18	5	95.26	1.80	18.9	1.63	17.1	.17	**	1.80	3.00	18	5	6.550 0.00
19	6	103.38	2.10	20.3	1.86	18.0	.24	**	2.10	3.00	19	6	4.430 0.00
20	3	62.14	1.50	24.1	1.40	22.6	.10	**	1.50	3.00	20	3	15.000 0.00
21	4	104.81	1.90	18.1	1.81	17.3	.09	**	1.90	3.00	21	4	12.600 0.00
22	5	73.66	2.00	27.2	1.75	23.8	.25	**	2.00	2.00	22	5	3.370 0.00
23	6	72.35	2.10	29.0	1.71	23.7	.39	**	2.10	3.00	23	6	3.100 0.00
24	1	159.13	1.00	6.3	1.00	6.3	0.00	**	1.00	3.00	24	1	386.000 0.00
25	2	88.80	1.10	12.4	1.10	12.4	0.00	**	1.10	3.00	25	2	53.800 0.00
26	1	136.04	1.00	7.4	1.00	7.4	0.00	**	1.00	2.00	26	1	220.000 0.00
27	2	136.11	1.30	9.6	1.30	9.6	0.00	**	1.30	3.00	27	2	82.300 0.00
28	3	82.28	1.30	15.8	1.30	15.8	0.00	**	1.30	3.00	28	3	19.900 0.00
29	1	127.19	1.50	11.8	1.50	11.8	0.00	**	1.50	3.00	29	1	307.000 0.00
30	2	126.27	1.30	10.3	1.30	10.3	0.00	**	1.30	2.00	30	2	50.900 0.00
31	3	142.80	1.70	11.9	1.70	11.9	0.00	**	1.70	3.00	31	3	34.400 0.00
32	4	95.29	1.50	15.7	1.40	14.7	.10	**	1.50	3.00	32	4	11.500 0.00

33	1	130.40	1.10	8.4	1.10	8.4	0.00	**	1.10	3.00	33	1	316.000	0.00
34	2	108.22	1.20	11.1	1.20	11.1	0.00	**	1.20	3.00	34	2	65.500	0.00
35	3	119.70	1.30	10.9	1.30	10.9	0.00	**	1.30	2.00	35	3	19.300	0.00
36	4	146.95	1.70	11.6	1.70	11.6	0.00	**	1.70	3.00	36	4	17.700	0.00
37	5	102.33	1.60	15.6	1.45	14.1	.15	**	1.60	3.00	37	5	7.050	0.00
38	2	97.41	1.30	13.3	1.30	13.3	0.00	**	1.30	3.00	38	2	58.900	0.00
39	3	88.66	1.50	16.9	1.50	16.9	0.00	**	1.50	3.00	39	3	21.400	0.00
40	4	102.56	1.40	13.7	1.31	12.8	.09	**	1.40	2.00	40	4	8.260	0.00
41	5	139.92	1.60	11.4	1.50	10.7	.10	**	1.60	3.00	41	5	9.640	0.00
42	6	102.65	1.60	15.6	1.36	13.3	.24	**	1.60	3.00	42	6	4.420	0.00
43	3	79.23	1.10	13.9	1.10	13.9	0.00	**	1.10	3.00	43	3	19.200	0.00
44	4	75.66	1.30	17.2	1.16	15.3	.14	**	1.30	3.00	44	4	9.150	0.00
45	5	91.13	1.50	16.5	1.32	14.5	.18	**	1.50	2.00	45	5	4.190	0.00
46	6	141.43	1.60	11.3	1.45	10.2	.15	**	1.60	3.00	46	6	6.090	0.00
47	4	84.18	1.10	13.1	.98	11.6	.12	**	1.10	3.00	47	4	10.200	0.00
48	5	80.01	1.10	13.7	.88	11.0	.22	**	1.10	3.00	48	5	5.540	0.00
49	6	99.18	1.50	15.1	1.25	12.6	.25	**	1.50	2.00	49	6	2.850	0.00

~~Job~~ 572, LINE 28W, Sp 1, N 45 1/2, 10/9/70 1000.

DP 45



a = 1000'

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PAGE

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HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTESPROJECT MINERAL BUTTE
LINE 28W HALF N SP. 1 DATE 10-9-70

SEND	CA40	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3
RECEIVE	2-3	15-25N	25-35N	→	35-45N	→	→	45-55N	→	→
RANGE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1
DC 1	0.0	1.3	1.4	1.7	1.1	1.5	1.8	1.9	2.3	2.8
DC 2										
DC 3										
DC 4 <i>Pres</i>	1.0	3	3	3	3	3	3	3	3	3
DC 5 #		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	97.6	69.9	76.7	23.7	83.1	24.2	12.4	54.5	11.9	5.52
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	+20.4	+0.0		+4.2			+8.6		
AC NOISE	0.3									
POT RES.		1K	15K		1K			1.7K		



HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 28W HALF N SP. 1 DATE 10-9-70

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SEND	1-2	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3
RECEIVE	45-55A	55-65W	—————→				65-75W	—————→		
RANGE	0.1	1.0	1.0	0.1	0.1	0.1	1.0	1.0	0.1	0.1
DC 1	3.5	1.6	1.7	2.1	2.9	3.5	1.3	1.6	2.0	3.2
DC 2										
DC 3										
DC 4	3	3	3	3	3	3	3	3	3	3
DC 5	10	11	12	13	14	15	16	17	18	19
DC 6	4	1	2	3	4	5	2	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	3.30	71.0	21.0	6.75	3.96	2.64	34.1	14.5	5.47	3.59
AC 2	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+2.4					+3.4			
AC NOISE										
POT RES.		1.6 K					3K			



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAC BUTTE
LINE ZBW HALF N SP. 1 DATE 10-9-70

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SEND	1-2	5-6	4-5	3-4	2-3	5-6	4-5	3-4		
RECEIVE	65-75N	75-85N	—————→			85-95N	—————→			
RANGE	0.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1		
DC 1	4.0	1.5	2.2	3.0	3.4	1.6	2.4	3.1		
DC 2										
DC 3										
DC 4 <i>cm</i>	3	3	3	3	3	3	3	3		
DC 5 #	20	21	22	23	24	25	26	27		
DC 6 #	6	3	4	5	6	4	5	6		
DC 7										
DC 8										
DC AVG.										
AC 1	2.55	13.5	6.82	2.86	2.04	8.14	4.50	1.99		
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
AC AVG.										
S.P.		+2.5				+40.8				
AC NOISE										
POT RES.		3K				2.5K				



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 28W HALF S SP. 1 DATE 10-9-70

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SEND	S.P.	3-4	4-5	5-6	2-3	3-4	4-5	5-6	1-2	2-3
RECEIVE	5-15N	53-5N	—————→		5-15S	—————→			15-25	—————→
RANGE		1.0	1.0	1.0	1.0	1.0	1.0	0.11	1.0	1.0
DC 1		1.3	1.7	1.8	1.4	2.1	2.4	2.5	1.5	2.4
DC 2										
DC 3										
DC 4 <i>Am</i>		3	3	3	3	3	3	3	3	3
DC 5 <i>#</i>		29	30	31	32	33	34	35	36	37
DC 6 <i>n</i>		1	2	3	1	2	3	4	1	2
DC 7										
DC 8										
DC AVG.										
AC 1		71.4	23.9	12.4	98.9	23.1	13.4	8.34	99.2	26.0
AC 2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+34.4	-2.5			+5.7				+4.9	
AC NOISE										
POT RES.	2.5K	5K			4K				3K	



HEINRICH'S GEOPHYSICAL EXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 28W HALF 5 SP. 1 DATE 10-9-70

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SEND	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3
RECEIVE	15-25	→		25-35	→			3-5-45	→	
RANGE	0.1	0.1	0.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1
DC 1	2.9	3.3	3.3	2.7	3.2	4.0	4.0	4.1	3.0	3.3
DC 2										
DC 3										
DC 4 <i>lv</i>	3	3	3	3	3	3	3	3	3	3
DC 5 <i>H</i>	38	39	40	41	42	43	44	45	46	47
DC 6 <i>n</i>	3	4	5	2	3	4	5	6	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	9.76	7.50	5.45	12.6	6.18	3.30	2.93	2.34	5.77	3.72
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					15.4	
AC NOISE										
POT RES.				2/K					1/K	



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE
LINE 28W HALF N SP. 1 DATE 10-9-70

PAGE
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SEND	2-3	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3
RECEIVE	04L	15-25 _N	25-35 _N	→	35-45 _N	→	→	45-55 _N	→	→
RANGE	10X100	10X300	10X300	10X300	10X300	10X300	10X300	10X300	10X300	10X300
VOLTAGE	100	400	340	400	220	340	400	240	220	340
CURRENT	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
SEND	1-2	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3
RECEIVE	45-55	55-65	→	→	→	→	65-75	→	→	→
RANGE	10X300	10X300	10X300	10X300	10X300	10X300	10X300	10X300	10X300	10X300
VOLTAGE	400	220	240	220	340	400	220	240	220	340
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMINNUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

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PAGE 2
PROJECT MINERAL BUTTE
LINE 28w HALF N SP. 1 DATE 10-9-78

SEND	1-2	5-6	4-5	3-4	2-3	5-6	4-5	3-4		
RECEIVE	65-75	75-85	—————→			85-95	—————→			
RANGE	10X300									
VOLTAGE	400	220	240	220	340	220	240	220		
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3
SENDER NO. 66445
OPERATOR PAT McMANUS
RECEIVER NO. 20693R
OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 28W HALF 5 SP. 1 DATE 10-9-72

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SEND	3-4	4-5	5-6	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	5W-5S	→	→	5-15	→	→	→	15-25	→	→
RANGE	10X300									
VOLTAGE	220	240	220	320	230	250	230	380	320	220
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
SEND	4-5	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	→	→	25-35	→	→	→	→	35-45	→	→
RANGE	10X300									
VOLTAGE	250	220	380	320	220	240	220	380	330	220
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR B. H. F.

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 28W HALF 8 SP. 1 DATE 10-9-72

PAGE
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SEND	4-5																			
RECEIVE	35-45																			
RANGE	10x300																			
VOLTAGE	240																			
CURRENT	3.0																			
SEND																				
RECEIVE																				
RANGE																				
VOLTAGE																				
CURRENT																				

FREQUENCIES 3 0.3
 SENDER NO. 108445
 OPERATOR PAT McMANUS
 RECEIVER NO. 20693R
 OPERATOR BILL FREEMAN

COMMENTS :

Job 572, Line 24W, Sp 1, 5½, 10/1/70

400.

DP 42



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 24W HALF S SP. 1 DATE 10-1-70

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SEND	3-4	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	CAL(1)	6-10N	→	2-6N	→	→	2s-2N	→	→	→
RANGE	1.0	10	1.0	10	1.0	1.0	10	1.0	1.0	0.1
DC 1	-0.2	1.0	0.9	0.8	1.0	1.0	0.8	1.1	1.1	1.1
DC 2										
DC 3										
DC 4 <i>cm</i>	1.0	3	3	3	3	3	2	3	3	3
DC 5 #		1	2	3	4	5	6	7	8	9
DC 6 <i>v</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	97.6	327.	37.6	348.	60.5	14.2	304.	67.3	22.2	7.92
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	+5.5		+17.6			-7.8			
AC NOISE	0.3									
POT RES.		5K		6K			11K			


 HEINRICHS GEOEXPLORATION CO.
 I.P. RECEIVER NOTES

 PROJECT MINERAL BUTTE
 LINE 24W HALF S SP. 1 DATE 10-1-70

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SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6s	—————→				6-10s	—————→			
RANGE	10	1.0	1.0	1.0	0.1	1.0	1.0	1.0	0.1	0.1
DC 1	0.9	1.0	1.2	1.2	1.2	1.1	1.3	1.5	1.3	1.6
DC 2										
DC 3										
DC 4 <i>Sur</i>	2	2	3	3	3	2	2	3	3	3
DC 5 <i>#</i>	10	11	12	13	14	15	16	17	18	19
DC 6 <i>#</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	250.	39.8	20.5	10.1	4.72	38.1	15.0	11.6	6.88	3.69
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.	+24.6					+19.5				
AC NOISE										
POT RES.	15K					9K				



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 24w HALF 5 SP. 1 DATE 10-1-70

SEND	3-4	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	CAL	6-10w	→	2-6w	→	→	2w-2s	→	→	→
RANGE	10X100	10X300	10X300	10X300	10X300	10X300	10X200	10X300	10X300	10X300
VOLTAGE	100	200	340	290	200	340	400	300	200	340
CURRENT	1.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6s	→	→	→	→	6-10s	→	→	→	→
RANGE	10X200	10X200	10X300	10X300	10X300	10X200	10X200	10X300	10X300	10X300
VOLTAGE	560	390	290	200	340	560	390	290	200	340
CURRENT	2.0	2.0	3.0	3.0	3.0	2.0	2.0	3.0	3.0	3.0

FREQUENCIES 3 D.3

COMMENTS :

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693 R

OPERATOR BILL FREEMAN



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE
LINE 24W HALF S SP. 1 DATE 10-1-70

SEND	1-2	2-3	3-4	4-5						
RECEIVE	10-14s	—	—	→						
RANGE	10X200	10X200	10X300	10X300						
VOLTAGE	550	390	290	200						
CURRENT	2.0	2.0	3.0	3.0						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :

Job 572, LINE 24W, Sp 1, N $\frac{1}{2}$, 1 $\frac{1}{2}$ 170

400.



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

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PROJECT MINERAL BUTTE
LINE 24W HALF N SP. 1 DATE 10-2-70

SEND	CAL @ S.P.	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	
RECEIVE	2-3	10-14W	14-18W	→	18-22W	→	22-26W	→	→	
RANGE	-0.1		10	1.0	10	1.0	0.1	10	1.0	1.0
DC 1			1.0	1.2	0.7	1.0	1.1	1.1	1.1	1.2
DC 2										
DC 3										
DC 4 <i>Cur</i>	1.0		2	2	3	3	2	3	3	3
DC 5 <i>#</i>			1	2	3	4	5	6	7	8
DC 6 <i>n</i>			1	2	1	2	3	1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	97.8		199.	37.8	193.	40.7	9.88	240.	38.5	14.1
AC 2	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	3.0	-1.5	+14.3		+10.5			-4.5		
AC NOISE	0.3									
POT RES.		4K	6K		10K			6K		

COULD BE ONAN!

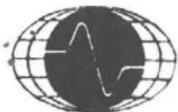
TROUBLE WITH
D.C. Readings!

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2HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTESPROJECT MINERAL BUTTE
LINE 24N HALF N SP. 1 DATE 10-2-70

SEND	1-2	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3
RECEIVE	22-26N	26-30N	—————→			30-34N	—————→			
RANGE	0.1	10	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1
DC 1	1.3	0.7	1.1	1.2	1.7	1.6	1.0	1.1	1.4	1.6
DC 2										
DC 3										
DC 4 <i>Pen</i>	3	3	3	3	3	3	3	3	3	3
DC 5 <i>#</i>	9	10	11	12	13	14	15	16	17	18
DC 6 <i>n</i>	4	1	2	3	4	5	2	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	7.51	234.	42.5	16.8	8.99	5.87	54.2	18.8	9.37	5.77
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.		+3.8					-5.7			
AC NOISE										
POT RES.		6K					8K			

U.S. COAST & GEODETIC SURVEY MARKER FOR
MINERAL BUTTE AT ABOUT 60' NW 85°
OF STA. 34 N NEAR ROAD
AZIMUTH MARK



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 24w HALF N SP. 1 DATE 10-2-70

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SEND	2-3	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	CAH	14-18	→	18-22	→	→	22-26	→	→	→
RANGE	10X100	10X200	10X200	10X300	10X300	10X200	10X300	10X300	10X300	10X300
VOLTAGE	100	400	580	300	610	580	200	300	610	900
CURRENT	1.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0
SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	26-30	→	→	→	→	30-34	→	→	→	→
RANGE	10X300	10X200								
VOLTAGE	340	200	300	610	890	340	200	300	600	580
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0

FREQUENCIES 3 13

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE
LINE 24W HALF N SP. 5 DATE 10-2-70

SEND	5-6	4-5	3-4	2-3						
RECEIVE	2438	—————→								
RANGE	10X300	10X300	10X300	10X300						
VOLTAGE	340	200	300	600						
CURRENT	3.0	3.0	3.0	3.0						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 D.3

SENDER NO. 66445

OPERATOR PAT McMAHON

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :

JOB 572 LINE 24 W SP1 S1/2 10/1/70
 CAL GROUP NO. 1

400 FEET=DIPOLE LENGTH

CAL CUR 1.000 PFE -.20 AC1 97.600 AC2 0.00 AC FREQ 3.00 DC FREQ .30 PFE CAL -.2000 RHO CAL 1.0246

COMPUTED DATA

FIELD DATA

POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	135.62	1.20	8.8	1.20	8.8	0.00	**	1.00	3.00	1	1	327.000	0.00
2	2	62.32	1.10	17.7	1.10	17.7	0.00	**	.90	3.00	2	2	37.600	0.00
3	1	144.05	1.00	6.9	1.00	6.9	0.00	**	.80	3.00	3	1	348.000	0.00
4	2	100.37	1.20	12.0	1.20	12.0	0.00	**	1.00	3.00	4	2	60.500	0.00
5	3	58.90	1.20	20.4	1.10	18.6	.10	**	1.00	3.00	5	3	14.200	0.00
6	1	188.75	1.00	5.3	1.00	5.3	0.00	**	.80	2.00	6	1	304.000	0.00
7	2	111.76	1.30	11.6	1.30	11.6	0.00	**	1.10	3.00	7	2	67.300	0.00
8	3	92.17	1.30	14.1	1.30	14.1	0.00	**	1.10	3.00	8	3	22.200	0.00
9	4	65.76	1.30	19.8	1.13	17.2	.17	**	1.10	3.00	9	4	7.920	0.00
10	1	155.38	1.10	7.1	1.10	7.1	0.00	**	.90	2.00	10	1	250.000	0.00
11	2	99.04	1.20	12.1	1.20	12.1	0.00	**	1.00	2.00	11	2	39.800	0.00
12	3	85.19	1.40	16.4	1.40	16.4	0.00	**	1.20	3.00	12	3	20.500	0.00
13	4	83.95	1.40	16.7	1.28	15.2	.12	**	1.20	3.00	13	4	10.100	0.00
14	5	68.65	1.40	20.4	1.13	16.5	.27	**	1.20	3.00	14	5	4.720	0.00
15	2	94.91	1.30	13.7	1.30	13.7	0.00	**	1.10	2.00	15	2	38.100	0.00
16	3	93.60	1.50	16.0	1.50	16.0	0.00	**	1.30	2.00	16	3	15.000	0.00
17	4	96.70	1.70	17.6	1.60	16.6	.10	**	1.50	3.00	17	4	11.600	0.00
18	5	100.17	1.50	15.0	1.34	13.4	.16	**	1.30	3.00	18	5	6.880	0.00
19	6	86.21	1.80	20.9	1.50	17.3	.30	**	1.60	3.00	19	6	3.690	0.00
20	3	75.58	1.60	21.2	1.60	21.2	0.00	**	1.40	2.00	20	3	12.100	0.00
21	4	76.85	1.30	16.9	1.16	15.1	.14	**	1.10	2.00	21	4	6.170	0.00
22	5	82.65	1.80	21.8	1.59	19.3	.21	**	1.60	3.00	22	5	5.660	0.00
23	6	87.76	1.70	19.4	1.40	16.0	.30	**	1.50	3.00	23	6	3.760	0.00

JOB 572 LINE 24 W SP1 N1/2 10/2/70
 CAL GROUP NO. 2

400 FEET=DIPOLE LENGTH

CAL CUR 1.000 PFE -.10 AC1 97.800 AC2 0.00 AC FREQ 3.00 DC FREQ .30 PFE CAL -.1000 RHO CAL 1.0225

COMPUTED DATA

FIELD DATA

POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	123.43	1.10	8.9	1.10	8.9	0.00	**	1.00	2.00	1	1	199.000	0.00
2	2	93.97	1.30	13.8	1.30	13.8	0.00	**	1.20	2.00	2	2	37.800	0.00
3	1	79.57	.80	10.1	.80	10.1	0.00	**	.70	3.00	3	1	193.000	0.00
4	2	67.32	1.10	16.3	1.10	16.3	0.00	**	1.00	3.00	4	2	40.700	0.00
5	3	61.34	1.20	19.6	1.10	18.0	.10	**	1.10	2.00	5	3	9.880	0.00
6	1	99.34	1.20	12.1	1.20	12.1	0.00	**	1.10	3.00	6	1	240.000	0.00
7	2	63.74	1.20	18.8	1.20	18.8	0.00	**	1.10	3.00	7	2	38.500	0.00
8	3	58.42	1.30	22.3	1.19	20.5	.11	**	1.20	3.00	8	3	14.100	0.00
9	4	62.29	1.40	22.5	1.22	19.5	.18	**	1.30	3.00	9	4	7.510	0.00
10	1	96.47	.80	8.3	.80	8.3	0.00	**	.70	3.00	10	1	234.000	0.00
11	2	70.36	1.20	17.1	1.20	17.1	0.00	**	1.10	3.00	11	2	42.500	0.00
12	3	69.60	1.30	18.7	1.22	17.5	.08	**	1.20	3.00	12	3	16.800	0.00
13	4	74.86	1.80	24.0	1.66	22.1	.14	**	1.70	3.00	13	4	8.990	0.00
14	5	85.46	1.70	19.9	1.50	17.6	.20	**	1.60	3.00	14	5	5.870	0.00
15	2	89.65	1.10	12.3	1.10	12.3	0.00	**	1.00	3.00	15	2	54.200	0.00
16	3	77.81	1.20	15.4	1.20	15.4	0.00	**	1.10	3.00	16	3	18.800	0.00
17	4	77.80	1.50	19.3	1.37	17.6	.13	**	1.40	3.00	17	4	9.370	0.00
18	5	84.00	1.70	20.2	1.50	17.8	.20	**	1.60	3.00	18	5	5.770	0.00
19	6	95.92	1.90	19.8	1.64	17.1	.26	**	1.80	2.00	19	6	2.740	0.00
20	3	84.11	1.30	15.5	1.30	15.5	0.00	**	1.20	3.00	20	3	20.300	0.00
21	4	79.04	1.50	19.0	1.37	17.3	.13	**	1.40	3.00	21	4	9.520	0.00
22	5	83.61	1.40	16.7	1.19	14.3	.21	**	1.30	3.00	22	5	5.760	0.00
23	6	91.78	1.70	18.5	1.42	15.5	.28	**	1.60	3.00	23	6	3.940	0.00

Job 572, Line 20W, Sp1, 5 $\frac{1}{2}$, 9/30/70

400.

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HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 20 W HALF 5 SP. 1 DATE 9-30-70

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SEND	3-4	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	CA4	6-10N	→	2-6N	→	→	2s-2n	→	→	→
RANGE	-0.2	10	1.0	10	1.0	1.0	10	1.0	1.0	0.1
DC 1		0.7	1.0	0.9	1.3	1.5	1.1	1.6	1.5	1.5
DC 2										
DC 3										
DC 4 <i>Sum</i>	1.0	3	3	2	3	3	2	2	3	3
DC 5 #		1	2	3	4	5	6	7	8	9
DC 6 <i>n</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	97.5	152.	30.8	154.	31.6	12.2	261.	31.8	13.2	6.82
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	+13.5		19.5			+11.7			
AC NOISE	0.3									
POT RES.		6K		7K			17K			



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

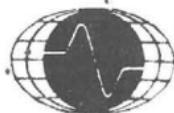
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PROJECT MINERAL BUTTE
LINE 20W HALF 5 SP. 1 DATE 9-30-72

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6s	—————	—————	—————	—————	6-10s	—————	—————	—————	—————
RANGE	10	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1
DC 1	1.1	1.6	1.5	1.4	1.5	1.3	1.8	1.5	1.3	1.5
DC 2										
DC 3										
DC 4 <i>Pen</i>	2	2	2	3	3	2	2	2	3	3
DC 5 <i>#</i>	10	11	12	13	14	15	16	17	18	19
DC 6 <i>v</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	218.	39.5	11.8	7.01	4.27	33.6	12.7	6.07	4.27	2.84
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.	+9.4					+19.1				
AC NOISE										
POT RES.	17K					18K				



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE
LINE 20w HALF 5 SP. 1 DATE 9-30-63

SEND	3-4	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	CHL	10-6w	→	6-2w	→	→	2-2s	→	→	→
RANGE	10X100	10X300	10X300	10X200	10X300	10X300	10X200	10X200	10X300	10X300
VOLTAGE	170	380	300	340	380	300	480	340	380	300
CURRENT	1.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	3.0	3.0
SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6s	→	→	→	→	6-10s	→	→	→	→
RANGE	10X200	10X200	10X200	10X300	10X300	10X200	10X200	10X200	10X300	10X300
VOLTAGE	550	480	340	380	300	550	480	340	380	300
CURRENT	2.0	2.0	2.0	3.0	3.0	2.0	2.0	2.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693 R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

#572

PROJECT MINERAL BUTTE
LINE 20W HALF 5 SP. 1 DATE 7-30-72

SEND	1-2	2-3	3-4	4-5						
RECEIVE	10-10's	—————>								
RANGE	10x200	10x200	10x200	10x300						
VOLTAGE	550	480	340	380						
CURRENT	2.0	2.0	2.0	3.0						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3
 SENDER NO. 66445
 OPERATOR PAT McMAHUS
 RECEIVER NO. 20693R
 OPERATOR BILL FREEMAN

COMMENTS :

Job 572, Line 20W, Sp 1, N $\frac{1}{2}$, 9/30/70

400.



HEINRICH'S GEOPHYSICAL EXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 20W HALF N SP. 1 DATE 9-30-72

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SEND	S.P.	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	10-14N	14-18	→	18-22N	→	→	22-26W	→	→	→
RANGE		1.0	1.0	1.0	1.0	0.1	1.0	1.0	0.1	0.1
DC 1		0.8	1.3	0.6	0.9	1.5	0.5	0.8	1.1	1.2
DC 2										
DC 3										
DC 4 <i>low</i>		2	2	2	2	2	3	2	2	2
DC 5 <i>#</i>		1	2	3	4	5	6	7	8	9
DC 6 <i>n</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1		96.4	20.7	118.	20.0	7.98	114.	19.5	6.88	3.61
AC 2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+20.7	+6.2		+31.0			+3.4			
AC NOISE										
POT RES.	4K	3K		5K			2K			


 HEINRICH'S GEOEXPLORATION CO.
 I.P. RECEIVER NOTES

 PROJECT MINERAL BUTTE
 LINE 20 W HALF N SP. 1 DATE 9-30-70

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SEND	CA 4	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	
RECEIVE	5-6	26-30N	—————→				30-34N	—————→			
RANGE	1.0	10	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	
DC 1	-0.1	0.7	0.8	1.3	1.7	2.1	1.1	1.0	1.3	1.9	
DC 2											
DC 3											
DC 4 <i>Am</i>	1.0	3	3	2	2	2	3	3	2	2	
DC 5 <i>H</i>		10	11	12	13	14	15	16	17	18	
DC 6 <i>H</i>		1	2	3	4	5	2	3	4	5	
DC 7											
DC 8											
DC AVG.											
AC 1	97.7	199.	43.6	15.1	7.13	4.25	46.3	17.8	8.13	4.57	
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	+1.5					+12.2				
AC NOISE	0.3										
POT RES.		19K					16K				



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE
LINE 20 W HALF N SP. 1 DATE 9-20-70

SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6
RECEIVE	14-18 _N	→	18-22 _N	→	→	22-26 _N	→	→	→	26-30 _N
RANGE	10X200	10X200	10X200	10X200	10X200	10X300	10X200	10X200	10X200	10X300
VOLTAGE	480	540	340	470	540	370	340	480	540	290
CURRENT	2.0	2.0	2.0	2.0	2.0	3.0	2.0	2.0	2.0	3.0
SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6
RECEIVE	26-30 _N	→	→	→	30-34 _N	→	→	→	→	34-38 _N
RANGE	10X300	10X200	10X200	10X200	10X300	10X300	10X200	10X200	10X200	10X300
VOLTAGE	370	340	480	550	290	370	340	470	540	290
CURRENT	3.0	2.0	2.0	2.0	3.0	3.0	2.0	2.0	2.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 20w HALF W SP. 1 DATE 9-30-72

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SEND	4-5	3-4	2-3							
RECEIVE	34-38	→	→							
RANGE	10X300	10X200	10X200							
VOLTAGE	370	340	470							
CURRENT	3.0	2.0	2.0							
SEND	5-6									
RECEIVE	CAH									
RANGE	10X100									
VOLTAGE	120									
CURRENT	1.0									

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR Pat McManus

RECEIVER NO. 20693R

OPERATOR Bill Freeman

COMMENTS :

JOB 572 LINE 20W SP1 S1/2 9/30/70
 CAL GROUP NO. 1

400 FEET=DIPOLE LENGTH

CAL CUR 1.000 PFE -.20 AC1 97.500 AC2 0.00 AC FREQ 3.00 DC FREQ .30 PFE CAL -.2000 RHO CAL 1.0256

COMPUTED DATA

FIELD DATA

POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	62.92	.90	14.3	.90	14.3	0.00	**	.70	3.00	1	1	152.000	0.00
2	2	51.15	1.20	23.5	1.20	23.5	0.00	**	1.00	3.00	2	2	30.800	0.00
3	1	95.81	1.10	11.5	1.10	11.5	0.00	**	.90	2.00	3	1	154.000	0.00
4	2	52.63	1.50	28.5	1.50	28.5	0.00	**	1.30	3.00	4	2	31.600	0.00
5	3	50.90	1.70	33.4	1.57	30.9	.13	**	1.50	3.00	5	3	12.200	0.00
6	1	162.70	1.30	8.0	1.30	8.0	0.00	**	1.10	2.00	6	1	261.000	0.00
7	2	79.69	1.80	22.6	1.80	22.6	0.00	**	1.60	2.00	7	2	31.800	0.00
8	3	55.07	1.70	30.9	1.59	28.8	.11	**	1.50	3.00	8	3	13.200	0.00
9	4	56.91	1.70	29.9	1.49	26.2	.21	**	1.50	3.00	9	4	6.820	0.00
10	1	135.90	1.30	9.6	1.30	9.6	0.00	**	1.10	2.00	10	1	218.000	0.00
11	2	98.98	1.80	18.2	1.80	18.2	0.00	**	1.60	2.00	11	2	39.500	0.00
12	3	73.85	1.70	23.0	1.70	23.0	0.00	**	1.50	2.00	12	3	11.800	0.00
13	4	58.44	1.60	27.4	1.40	23.9	.20	**	1.40	3.00	13	4	7.010	0.00
14	5	62.36	1.70	27.3	1.39	22.3	.31	**	1.50	3.00	14	5	4.270	0.00
15	2	83.95	1.50	17.9	1.50	17.9	0.00	**	1.30	2.00	15	2	33.600	0.00
16	3	79.72	2.00	25.1	2.00	25.1	0.00	**	1.80	2.00	16	3	12.700	0.00
17	4	75.98	1.70	22.4	1.56	20.5	.14	**	1.50	2.00	17	4	6.070	0.00
18	5	62.23	1.50	24.1	1.19	19.1	.31	**	1.30	3.00	18	5	4.270	0.00
19	6	66.36	1.70	25.6	1.26	19.0	.44	**	1.50	3.00	19	6	2.840	0.00
20	3	62.21	1.40	22.5	1.30	21.0	.10	**	1.20	2.00	20	3	9.970	0.00
21	4	66.35	2.10	31.7	1.93	29.1	.17	**	1.90	2.00	21	4	5.280	0.00
22	5	68.34	1.70	24.9	1.43	20.9	.27	**	1.50	2.00	22	5	3.120	0.00
23	6	55.61	1.70	30.6	1.15	20.6	.55	**	1.50	3.00	23	6	2.380	0.00

JOB 572 LINE 20W SP1 N1/2 9/30/70
 CAL GROUP NO. 2

400 FEET=DIPOLE LENGTH

CAL CUR 1.000 PFE -.10 AC1 97.700 AC2 0.00 AC FREQ 3.00 DC FREQ .30 PFE CAL -.1000 RHO CAL 1.0235

COMPUTED DATA

FIELD DATA

POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	59.73	.90	15.1	.90	15.1	0.00	**	.80	2.00	1	1	96.400	0.00
2	2	51.56	1.40	27.2	1.40	27.2	0.00	**	1.30	2.00	2	2	20.700	0.00
3	1	72.97	.70	9.6	.70	9.6	0.00	**	.60	2.00	3	1	118.000	0.00
4	2	49.62	1.00	20.2	1.00	20.2	0.00	**	.90	2.00	4	2	20.000	0.00
5	3	49.79	1.60	32.1	1.47	29.5	.13	**	1.50	2.00	5	3	7.980	0.00
6	1	46.95	.60	12.8	.60	12.8	0.00	**	.50	3.00	6	1	114.000	0.00
7	2	48.33	.90	18.6	.90	18.6	0.00	**	.80	2.00	7	2	19.500	0.00
8	3	42.76	1.20	28.1	1.04	24.3	.16	**	1.10	2.00	8	3	6.880	0.00
9	4	44.92	1.30	28.9	1.01	22.5	.29	**	1.20	2.00	9	4	3.610	0.00
1	1	1.24	.60	483.2	-1.77	-1426.7	2.37	**	1.00	1.00	1	1	1.000	1.00
10	1	82.13	.80	9.7	.80	9.7	0.00	**	.70	3.00	10	1	199.000	0.00
11	2	72.04	.90	12.5	.90	12.5	0.00	**	.80	3.00	11	2	43.600	0.00
12	3	94.03	1.40	14.9	1.40	14.9	0.00	**	1.30	2.00	12	3	15.100	0.00
13	4	89.15	1.80	20.2	1.69	18.9	.11	**	1.70	2.00	13	4	7.130	0.00
14	5	93.36	2.20	23.6	2.02	21.7	.18	**	2.10	2.00	14	5	4.250	0.00
15	2	76.73	1.20	15.6	1.20	15.6	0.00	**	1.10	3.00	15	2	46.300	0.00
16	3	73.68	1.10	14.9	1.02	13.9	.08	**	1.00	3.00	16	3	17.800	0.00
17	4	101.25	1.40	13.8	1.31	12.9	.09	**	1.30	2.00	17	4	8.130	0.00
18	5	100.19	2.00	20.0	1.84	18.4	.16	**	1.90	2.00	18	5	4.570	0.00
19	6	104.94	2.40	22.9	2.17	20.7	.23	**	2.30	2.00	19	6	2.980	0.00
20	3	58.01	1.20	20.7	1.09	18.9	.11	**	1.10	3.00	20	3	14.000	0.00
21	4	60.08	1.20	20.0	1.01	16.8	.19	**	1.10	3.00	21	4	7.250	0.00
22	5	89.45	1.50	16.8	1.31	14.7	.19	**	1.40	2.00	22	5	4.100	0.00
23	6	91.82	1.90	20.7	1.62	17.7	.28	**	1.80	2.00	23	6	2.620	0.00

Job 572, Line 16W, Sp 1, Sand N $\frac{1}{2}$, 9/29/70

400.

42 DP



FENCE = 200' From 1st electrode
 HEINRICHS GEOEXPLORATION CO.
 I.P. RECEIVER NOTES

PROJECT MINERAL BUTTELINE 16W HALF S SP. 1 DATE 9-29-70

SEND	3-4	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	CALO	6-10N	→	2-6N	→	→	2s-2N	→	→	→
RANGE	1.0	1.0	0.1	1.0	1.0	0.1	1.0	1.0	0.1	0.1
DC 1	-0.1	1.3	1.1	2.4	2.1	1.9	2.6	2.8	2.4	2.4
DC 2										
DC 3										
DC 4 <i>Am</i>	1.0	1	1	1	1	1	1	1	1	1
DC 5 #		1	2	3	4	5	6	7	8	9
DC 6 <i>n</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	97.7	36.2	7.75	55.3	11.1	3.90	61.1	13.9	4.47	1.90
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	-0.6		+23.3			+21.8			
AC NOISE	0.3									
POT RES.		2K		30K			60K			



STARTED USING
ONAN HERE @ 6-10s

572

PAGE
2

HEINRICH'S GEOPHYSICAL SERVICES
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 16W HALF S SP. 1 DATE 9-29-77

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6s	→				6-10s	→			
RANGE	10	1.0	0.1	0.1	0.1	1.0	1.0	1.0	0.1	0.1
DC 1	2.1	3.0	2.0	1.8	2.0	2.8	2.3	1.5	1.1	1.5
DC 2										
DC 3										
DC 4 <i>Cur</i>	1	1	1	1	1	3	3	3	3	3
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 <i>n</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	108.	15.4	7.93	3.19	1.53	47.0	15.5	10.5	4.81	2.65
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.	+14.7					18.0				
AC NOISE										
POT RES.	15K					4K				


 HEINRICH'S GEOPHYSICAL EXPLORATION CO.
 I.P. RECEIVER NOTES

 PROJECT MINERAL BUTTE
 LINE 16W HALF N SP. 1 DATE 9-29-70

 PAGE
 4

SEND	S.P	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	10-14N	14-18N	→	18-22N	→	→	22-26N	→	→	→
RANGE		10	1.0	1.0	1.0	0.1	1.0	1.0	0.1	0.1
DC 1		1.3	2.1	0.7	1.3	1.7	1.0	1.1	1.4	2.1
DC 2										
DC 3										
DC 4 <i>Pen</i>		3	2	2	2	2	2	2	2	2
DC 5 <i>#</i>		24	25	26	27	28	29	30	31	32
DC 6 <i>n</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1		109.	21.8	83.1	16.1	7.93	61.7	18.1	6.30	3.89
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	+12.2		+22.5			+11.9			
AC NOISE										
POT RES.	2K	2K		3K			3K			


 HEINRICH'S GEOEXPLORATION CO.
 I.P. RECEIVER NOTES
OVER!
 PROJECT MINERAL BUTTE
 LINE 16W HALF N SP. 1 DATE 9-29-70

 PAGE
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SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	26-30N					30-34				
RANGE	10	1.0	1.0	0.1	0.1	1.0	0.1	0.1	0.1	0.1
DC 1	0.9	1.5	1.5	1.7	2.5	1.2	1.2	1.5	1.8	2.7
DC 2										
DC 3										
DC 4 <i>km</i>	2	2	2	2	2	2	2	2	2	2
DC 5 <i>#</i>	33	34	35	36	37	38	39	40	41	42
DC 6 <i>#</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	107.	27.1	13.9	5.90	3.94	20.9	9.43	6.30	3.07	2.19
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.	+6.3					+20.5				
AC NOISE										
POT RES.	3K					3K				

TROUBLE WITH THE NEW BRIGGS & STRATTON:
POWER FAILURE QUITE OFTEN -

JIM B. STARTED THE GENERATOR + MOTOR; STAYED A
WHILE (SOUTH 1/2 OF LINE 16W) HAD SOME TROUBLE
WITH THE B. & S. - CLEANED CARBUERATOR + IT SEEMED
TO WORK O.K. WITH HIGH MODE ON SENDER WE GO,
3 amps. JIM B. LEFT AS SOON AS IT WORKED (2 12:30
OR SO), WE HAD TROUBLE AS SOON AS HE LEFT!
SEEMS LOGICAL ALMOST

WE STARTED THIS HALF AT 12:45 }
WE FINISHED THIS HALF AT 3:40 }



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 16W HALF S SP. 1 DATE 9-29-53

PAGE
1

SEND	4-5	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	Cal	6-10N	→	2-6W	→	→	2-2S	→	→	→
RANGE	10X100									
VOLTAGE	80	80	100	60	80	100	80	60	80	100
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	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6S	→	→	→	→	6-10S	→	→	→	→
RANGE	10X100	10X100	10X100	10X100	10X100	10X300	10X300	10X300	10X300	10X300
VOLTAGE	160	80	60	80	100	480	280	180	240	310
CURRENT	1.0	1.0	1.0	1.0	1.0	3.0	3.0	3.0	3.0	3.0

FREQUENCIES 3. 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 16 W HALF S SP. 1 DATE 9-29-78

SEND	1-2	2-3	3-4	4-5						
RECEIVE	10-18	—————→								
RANGE	10X300	10X300	10X300	10X300						
VOLTAGE	480	270	180	240						
CURRENT	3.0	3.0	3.0	3.0						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3. 0.3
SENDER NO. 66445
OPERATOR PAT McMANUS
RECEIVER NO. 20693K
OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

#572
PAGE 3
PROJECT MINERAL BUTTE
LINE 16W HALF N SP. 1 DATE 9-29-22

SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6
RECEIVE	14-18	→	18-22	→	→	22-26	→	→	→	26-30
RANGE	10x300	10x200	10x200	16x200	10x200	10x200	10x200	10x200	10x200	10x200
VOLTAGE	260	310	120	170	310	160	120	170	310	200
CURRENT	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6
RECEIVE	26-30	→	→	→	30-34	→	→	→	→	34-38
RANGE	10x200									
VOLTAGE	160	110	170	300	200	150	120	170	310	200
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. 66445

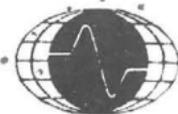
OPERATOR PAT McMAHUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS:

GENERATOR CUTTING OUT SERIAL No
B-712023



HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

572

PAGE

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PROJECT

MINERAL BUTTE

LINE

16W

HALF

SP.

1

DATE

9-29-70

SEND	4-5	3-4	2-3								
RECEIVE	34-38	→									
RANGE	10x200										
VOLTAGE	150										
CURRENT	2.0										
SEND											
RECEIVE											
RANGE											
VOLTAGE											
CURRENT											

FREQUENCIES 3 0.3SENDER NO. 66445OPERATOR PAT McMANUSRECEIVER NO. 28693ROPERATOR BILL FREEMAN

COMMENTS :

JOB 572 LINE 16 W SP1 S AND N 1/2 9/29/70
 CAL GROUP NO. 1

400 FEET=DIPOLE LENGTH

COMPUTED DATA								FIELD DATA														
CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL	POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE	PFE	CUR	PT.	N	AC1	AC2	
1.000	-.10	97.700	0.00	3.00	.30	-.1000	1.0235															
								1	1	45.09	1.40	31.1	1.40	31.1	0.00	**	1.30	1.00	1	1	36.200	0.00
								2	2	38.53	1.20	31.1	1.12	29.1	.08	**	1.10	1.00	2	2	7.750	0.00
								3	1	69.62	2.50	35.9	2.50	35.9	0.00	**	2.40	1.00	3	1	55.300	0.00
								4	2	55.73	2.20	39.5	2.20	39.5	0.00	**	2.10	1.00	4	2	11.100	0.00
								5	3	48.86	2.00	40.9	1.86	38.2	.14	**	1.90	1.00	5	3	3.900	0.00
								6	1	77.07	2.70	35.0	2.70	35.0	0.00	**	2.60	1.00	6	1	61.100	0.00
								7	2	70.27	2.90	41.3	2.90	41.3	0.00	**	2.80	1.00	7	2	13.900	0.00
								8	3	56.28	2.50	44.4	2.39	42.5	.11	**	2.40	1.00	8	3	4.470	0.00
								9	4	47.84	2.50	52.3	2.23	46.7	.27	**	2.40	1.00	9	4	1.900	0.00
								10	1	135.57	2.20	16.2	2.20	16.2	0.00	**	2.10	1.00	10	1	108.000	0.00
								11	2	78.01	3.10	39.7	3.10	39.7	0.00	**	3.00	1.00	11	2	15.400	0.00
								12	3	99.45	2.10	21.1	2.10	21.1	0.00	**	2.00	1.00	12	3	7.930	0.00
								13	4	79.85	1.90	23.8	1.77	22.2	.13	**	1.80	1.00	13	4	3.190	0.00
								14	5	67.15	2.10	31.3	1.82	27.1	.28	**	2.00	1.00	14	5	1.530	0.00
								15	2	79.20	2.90	36.6	2.90	36.6	0.00	**	2.80	3.00	15	2	47.000	0.00
								16	3	64.98	2.40	36.9	2.31	35.5	.09	**	2.30	3.00	16	3	15.500	0.00
								17	4	87.35	1.60	18.3	1.49	17.0	.11	**	1.50	3.00	17	4	10.500	0.00
								18	5	69.75	1.20	17.2	.94	13.4	.26	**	1.10	3.00	18	5	4.810	0.00
								19	6	61.73	1.60	25.9	1.12	18.1	.48	**	1.50	3.00	19	6	2.650	0.00
								20	3	65.72	2.90	44.1	2.81	42.8	.09	**	2.80	3.00	20	3	15.600	0.00
								21	4	68.65	2.00	29.1	1.84	26.8	.16	**	1.90	3.00	21	4	8.220	0.00
								22	5	95.62	1.10	11.5	.93	9.7	.17	**	1.00	3.00	22	5	6.600	0.00
								23	6	76.03	1.10	14.5	.74	9.7	.36	**	1.00	3.00	23	6	3.280	0.00
								24	1	45.25	1.40	30.9	1.40	30.9	0.00	**	1.30	3.00	24	1	109.000	0.00
								25	2	54.73	2.20	40.2	2.20	40.2	0.00	**	2.10	2.00	25	2	21.800	0.00
								26	1	51.44	.80	15.6	.80	15.6	0.00	**	.70	2.00	26	1	83.100	0.00
								27	2	40.10	1.40	34.9	1.32	33.0	.08	**	1.30	2.00	27	2	16.100	0.00
								28	3	49.58	1.80	36.3	1.67	33.6	.13	**	1.70	2.00	28	3	7.930	0.00
								29	1	38.31	1.10	28.7	1.10	28.7	0.00	**	1.00	2.00	29	1	61.700	0.00
								30	2	45.00	1.20	26.7	1.20	26.7	0.00	**	1.10	2.00	30	2	18.100	0.00
								31	3	39.27	1.50	38.2	1.32	33.5	.18	**	1.40	2.00	31	3	6.300	0.00
								32	4	48.83	2.20	45.1	1.94	39.8	.26	**	2.10	2.00	32	4	3.890	0.00

33	1	66.37	1.00	15.1	1.00	15.1	0.00	**	.90	2.00	33	1	107.000	0.00
34	2	67.64	1.60	23.7	1.60	23.7	0.00	**	1.50	2.00	34	2	27.100	0.00
35	3	86.73	1.60	18.4	1.60	18.4	0.00	**	1.50	2.00	35	3	13.900	0.00
36	4	73.77	1.80	24.4	1.65	22.4	.15	**	1.70	2.00	36	4	5.900	0.00
37	5	86.89	2.60	29.9	2.41	27.7	.19	**	2.50	2.00	37	5	3.940	0.00
38	2	52.01	1.30	25.0	1.30	25.0	0.00	**	1.20	2.00	38	2	20.900	0.00
39	3	58.66	1.30	22.2	1.20	20.4	.10	**	1.20	2.00	39	3	9.430	0.00
40	4	78.62	1.60	20.4	1.47	18.7	.13	**	1.50	2.00	40	4	6.300	0.00
41	5	67.24	1.90	28.3	1.62	24.1	.28	**	1.80	2.00	41	5	3.070	0.00
42	6	77.43	2.80	36.2	2.45	31.6	.35	**	2.70	2.00	42	6	2.190	0.00
43	3	56.80	1.20	21.1	1.09	19.2	.11	**	1.10	2.00	43	3	9.140	0.00
44	4	70.12	1.40	20.0	1.24	17.7	.16	**	1.30	2.00	44	4	5.630	0.00
45	5	98.08	1.40	14.3	1.24	12.6	.16	**	1.30	2.00	45	5	4.500	0.00
46	6	84.89	2.00	23.6	1.69	19.9	.31	**	1.90	2.00	46	6	2.420	0.00

Job 572, LINE 12W, Sp 2, S & N $\frac{1}{2}$, 10/6/70

400.

38 DP



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

NEW Readings
AFTER FIXING SENDER.

PROJECT MINERAL BUTTE
LINE 12W HALF 5 SP. 2 DATE 10-6-70

PAGE

1

SEND	CA40	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	3-4	2-3	4-5	1-2	—	→	26-30N	—	—	→
RANGE	1.0	10	1.0	10	1.0	1.0	1.0	1.0	1.0	1.0
DC 1	0.0	0.9	0.9	0.7	1.1	0.9	0.8	1.0	1.5	1.4
DC 2										
DC 3										
DC 4 Y	1.0	2	2	2	2	2	1	2	2	2
DC 5 #		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	98.1	189.0	60.0	151.	48.8	23.3	59.5	37.2	18.8	11.0
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						-8.1			
AC NOISE	0.3									
POT RES.							3K			



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 12W HALF 5 SP. 2 DATE 10-5-70
18-6-70
18-2-70

PAGE
2

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	22-26					18-22				
RANGE	1.0	0.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DC 1	1.1	1.4	1.8	2.1	2.0	1.6	1.9	1.8	2.1	1.8
DC 2										
DC 3										
DC 4 <i>len</i>	1	1	2	2	2	1	1	2	2	2
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 <i>n</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	37.5	9.96	10.2	6.22	4.20	9.16	4.48	5.72	3.93	2.87
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					+9.5				
AC NOISE										
POT RES.	2K					2K				

GENERATOR RAN OUT AFTER 2 STATIONS

50

54

58

62

66

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HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 12W HALF N SP. 2 DATE 10-6-70

PAGE
4

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	38-42	42-46	→	46-50	→	→	50-54	→	→	→
RANGE	S.P.	S.P.		10	1.0	1.0	10	1.0	1.0	0.1
DC 1	ONLY	ONLY		0.9	0.9	1.1	0.9	0.9	0.9	0.9
DC 2										
DC 3										
DC 4 <i>Cur</i>				2	1	1	2	2	1	1
DC 5 <i>#</i>				24	25	26	27	28	29	30
DC 6 <i>#</i>				1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1				247.	30.8	11.8	238.	64.3	12.1	5.63
AC 2				0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+20.1	-7.7		+4.1			+13.0			
AC NOISE										
POT RES.	2K	2K		2K			2K			



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 12W HALF N SP. 2 DATE 10-6-73

PAGE
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SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	54-58					58-62				
RANGE	10	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1
DC 1	0.7	1.1	1.0	1.1	0.8	1.1	1.3	1.2	1.2	1.8
DC 2										
DC 3										
DC 4	2	2	2	1	1	2	2	2	1	1
DC 5	31	32	33	34	35	36	37	38	39	40
DC 6	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	178.	45.1	17.6	4.01	2.13	54.0	19.9	9.06	2.33	1.33
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.	+30.0					-20.4				
AC NOISE										
POT RES.	1K					2K				



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 12W HALF S SP. 2 DATE 10-5-72

PAGE

1

SEND	3-4	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	CAL	34-38N	→	30-34	N	→	26-30N	→	→	→
RANGE	10X100	10X200	10X200	10X200	10X200	10X200	10X100	10X200	10X200	10X200
VOLTAGE	220	380	360	480	400	360	250	480	400	360
CURRENT	1.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0
SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	22-26	→	→	→	→	18-22	N	→	→	→
RANGE	10X100	10X100	10X200	10X200	10X200	10X100	10X100	10X200	10X200	10X200
VOLTAGE	380	250	480	400	360	380	250	480	400	360
CURRENT	1.0	1.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20623R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 12W HALF 5 SP. 2 DATE 10-5-70

PAGE
2

SEND	1-2	2-3	3-4	4-5						
RECEIVE	14-18N									
RANGE	10X100	10X100	10X200	10X200						
VOLTAGE	380	250	480	400						
CURRENT	1.0	1.0	2.0	2.0						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 03

SENDER NO. 66445

OPERATOR Pat McMillan

RECEIVER NO. 20693R

OPERATOR Bill Freeman

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

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3

PROJECT MINERAL BUTTE
LINE 12W HALF W SP. 2 DATE 10-8-70

SEND	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6	4-5	3-4
RECEIVE	46-50	→	→	50-54	→	→	→	54-58	→	→
RANGE	10X200	10X100	10X100	10X200	10X200	10X100	10X100	10X200	10X200	10X200
VOLTAGE	480	250	380	400	480	250	380	360	400	470
CURRENT	2.0	1.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0
SEND	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4
RECEIVE	→	→	58-62	→	→	→	→	62-66	→	→
RANGE	10X100	10X100	10X200	10X200	10X200	10X100	10X100	10X200	10X200	10X200
VOLTAGE	240	370	360	400	470	240	370	360	400	470
CURRENT	1.0	1.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0

FREQUENCIES 3 0.3
 SENDER NO. 66445
 OPERATOR PAT McMANUS
 RECEIVER NO. 20693K
 OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PAGE 4
PROJECT MINERAL BUTTE
LINE 12W HALF N SP. 2 DATE 10/2/57

SEND	2-3									
RECEIVE	6266									
RANGE	10x100									
VOLTAGE	240									
CURRENT	1.0									
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :

Job 572, LINE 12W, Sp 1, N and $5\frac{1}{2}$, 9/30/70 400.

~~42~~ (42)



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 12W HALF N SP. 1 DATE 9-30-70

PAGE

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SEND	CALD	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3
RECEIVE	2-3	10-14N	14-18N	→	18-22N	→	→	22-26N	→	→
RANGE	-0.1	1.0	1.0	1.0	1.0	1.0	0.1	1.0	1.0	0.1
DC 1		2.4	1.5	2.3	1.1	1.5	2.0	0.7	1.2	1.5
DC 2										
DC 3										
DC 4 <i>Cur</i>	1.0	2	2	2	2	2	2	2	2	2
DC 5 <i>#</i>		1	2	3	4	5	6	7	8	9
DC 6 <i>#</i>		1	1	2	1	2	3	1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	97.3	61.5	107.	16.9	78.3	19.9	5.87	74.3	15.8	7.65
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	+9.5	+20.9		+28.5			+16.3		
AC NOISE	0.3									
POT RES.		4K	6K		7K			4K		



HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 12W HALF N SP. 1 DATE 9-30-70

PAGE
2

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SEND	1-2	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3
RECEIVE	22-26W	26-30	→			→	30-34	→		
RANGE	0.1	10	1.0	0.1	0.1	0.1	1.0	1.0	0.1	0.1
DC 1	2.5	1.3	1.6	1.4	2.1	2.7	1.6	1.7	1.6	1.9
DC 2										
DC 3										
DC 4 <i>cm</i>	2	3	2	2	2	2	3	2	2	2
DC 5 <i>#</i>	10	11	12	13	14	15	16	17	18	19
DC 6 <i>n</i>	4	1	2	3	4	5	2	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	2.78	131.	26.2	9.73	5.83	2.36	26.8	10.3	5.26	3.63
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.		+15.6					+8.8			
AC NOISE										
POT RES.		5K					6K			

BUT STATION 25 15 \approx 100' South of FLAGHEINRICH'S GEODEXPLORATION CO.
I.P. RECEIVER NOTESPROJECT MINERAL BUTTE
LINE 12W HALF 5 SP. 1 DATE 9-30-70

SEND	S.P.	3-4	4-5	5-6	2-3	3-4	4-5	5-6	1-2	2-3
RECEIVE	6/10N	2-6N	→	→	2s-2n	→	→	→	2-6s	→
RANGE		1.0	1.0	0.1	1.0	0.1	0.1	0.1	10	1.0
DC 1		2.4	2.3	2.0	2.5	3.6	3.6	3.8	2.1	4.0
DC 2										
DC 3										
DC 4 <i>cm</i>		3	2	2	2	2	2	2	2	2
DC 5 #		25	26	27	28	29	30	31	32	33
DC 6 <i>n</i>		1	2	3	1	2	3	4	1	2
DC 7										
DC 8										
DC AVG.										
AC 1		94.1	17.7	5.65	95.0	9.20	4.96	1.88	382.	69.7
AC 2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+8.7	+10.0			+9.6				+20.4	
AC NOISE										
POT RES.	6K	4K			5K				8K	


 HEINRICHS GEOEXPLORATION CO.
 I.P. RECEIVER NOTES

 572
 PROJECT MINERAL BUTTE
 LINE 12W HALF 5 SP. 1 DATE 9-30-70

 PAGE
 5

SEND	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3
RECEIVE	2.65	→	→	6-10s	→	→	→	→	10-14s	→
RANGE	1.0	1.0	0.1	1.0	1.0	1.0	0.1	0.1	1.0	0.1
DC 1	3.2	2.9	3.0	3.0	3.1	2.0	1.3	1.6	2.7	2.4
DC 2										
DC 3										
DC 4	2	2	2	2	2	2	2	2	2	2
DC 5	34	35	36	37	38	39	40	41	42	43
DC 6	3	4	5	2	3	4	5	6	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	18.8	11.0	4.60	34.1	25.2	10.9	7.29	3.32	10.1	9.81
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.				+23.0					+14.5	
AC NOISE										
POT RES.				6K					5K	



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

#572
PAGE 1
PROJECT MINERAL BUTTE
LINE 12W HALF W SP. 1 DATE 9-30-70

SEND	2-3	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3
RECEIVE	CAL	10-14	14-18	→	18-22	→	→	22-26	→	→
RANGE	10X100	10X200								
VOLTAGE	160	550	320	560	220	320	560	290	210	310
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	5-6	4-5	3-4	2-3
RECEIVE	22-26	26-30	→	→	→	→	30-34	→	→	→
RANGE	10X200	10X300	10X200	10X200	10X200	10X200	10X300	10X200	10X200	10X200
VOLTAGE	550	480	280	220	320	550	480	280	220	310
CURRENT	2.0	3.0	2.0	2.0	2.0	2.0	3.0	2.0	2.0	2.0

FREQUENCIES 3 0.3
SENDER NO. 66445
OPERATOR PAT McMANUS
RECEIVER NO. 20693R
OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

#572
PAGE 2
PROJECT MINERAL BUTTE
LINE 12W HALF N SP. 1 DATE 9-30-70

SEND	1-2	5-6	45	3-4	2-3					
RECEIVE	30-34	34-38	—————→							
RANGE	10X200	10X300	10X200	10X200	10X200					
VOLTAGE	550	480	280	210	310					
CURRENT	2.0	3.0	2.0	2.0	2.0					
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20643K

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 12W HALF 5 SP. 1 DATE 9-30-72

PAGE

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SEND	3-4	4-5	5-6	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	2-6 _N	→	→	2-2 _g	→	→	→	2-6 _N	→	→
RANGE	10X300	10X200	10X200	10X200	10X200	10X200	10X200	10X200	10X200	10X200
VOLTAGE	320	280	310	310	210	280	300	540	310	210
CURRENT	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SEND	4-5	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	→	→	6-10 _N	→	→	→	→	10-14	→	→
RANGE	10X200	10X200	10X200	10X200	10X200	10X200	10X200	10X200	10X200	10X200
VOLTAGE	280	300	540	310	210	280	300	540	310	210
CURRENT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

FREQUENCIES 3 03

SENDER NO. 66-145

OPERATOR Pat McManus

RECEIVER NO. 2043R

OPERATOR Bill Freeman

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

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4

PROJECT MINERAL BUTTE
LINE 12w HALF 5 SP. 1 DATE 9-30-70

SEND	4-5									
RECEIVE	10-152									
RANGE	10x200									
VOLTAGE	280									
CURRENT	2.0									
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3
 SENDER NO. 66475
 OPERATOR PAT McMANUS
 RECEIVER NO. 20693R
 OPERATOR BILL FREEMAN

COMMENTS :

JOB 572 LINE 12 W SP1 N AND S1/2 9/30/70
 CAL GROUP NO. 1

400 FEET=DIPOLE LENGTH

COMPUTED DATA								FIELD DATA					
CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL	PFE	CUR	PT.	N	AC1	AC2
1.000	-.10	97.300	0.00	3.00	.30	-.1000	1.0277						
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE						
1	1	38.87	2.50	64.3	2.50	64.3	0.00	**	2.40	2.00	1	1	61.500 0.00
2	1	67.04	1.60	23.9	1.60	23.9	0.00	**	1.50	2.00	2	1	107.000 0.00
3	2	42.69	2.40	56.2	2.40	56.2	0.00	**	2.30	2.00	3	2	16.900 0.00
4	1	48.86	1.20	24.6	1.20	24.6	0.00	**	1.10	2.00	4	1	78.300 0.00
5	2	49.87	1.60	32.1	1.60	32.1	0.00	**	1.50	2.00	5	2	19.900 0.00
6	3	36.96	2.10	56.8	1.90	51.4	.20	**	2.00	2.00	6	3	5.870 0.00
7	1	46.18	.80	17.3	.80	17.3	0.00	**	.70	2.00	7	1	74.300 0.00
8	2	39.48	1.30	32.9	1.22	31.0	.08	**	1.20	2.00	8	2	15.800 0.00
9	3	47.93	1.60	33.4	1.46	30.5	.14	**	1.50	2.00	9	3	7.650 0.00
10	4	35.18	2.60	73.9	2.19	62.4	.41	**	2.50	2.00	10	4	2.780 0.00
11	1	54.61	1.40	25.6	1.40	25.6	0.00	**	1.30	3.00	11	1	131.000 0.00
12	2	65.72	1.70	25.9	1.70	25.9	0.00	**	1.60	2.00	12	2	26.200 0.00
13	3	60.90	1.50	24.6	1.40	23.0	.10	**	1.40	2.00	13	3	9.730 0.00
14	4	73.48	2.20	29.9	2.05	28.0	.15	**	2.10	2.00	14	4	5.830 0.00
15	5	52.36	2.80	53.5	2.41	46.0	.39	**	2.70	2.00	15	5	2.360 0.00
16	2	44.82	1.70	37.9	1.70	37.9	0.00	**	1.60	3.00	16	2	26.800 0.00
17	3	64.66	1.80	27.8	1.71	26.4	.09	**	1.70	2.00	17	3	10.300 0.00
18	4	65.97	1.70	25.8	1.53	23.2	.17	**	1.60	2.00	18	4	5.260 0.00
19	5	79.91	2.00	25.0	1.78	22.3	.22	**	1.90	2.00	19	5	3.630 0.00
20	9	163.33 55	2.80	17.1 51	2.46	15.1	.34	**	2.80	2.00	20	9	1.560 .20
21	3	56.08	1.80	32.1	1.69	30.1	.11	**	1.70	3.00	21	3	13.400 0.00
22	4	81.91	1.40	17.1	1.27	15.6	.13	**	1.30	2.00	22	4	6.550 0.00
23	5	84.95	1.70	20.0	1.50	17.6	.20	**	1.60	2.00	23	5	3.870 0.00
24	6	102.40	1.90	18.6	1.66	16.2	.24	**	1.80	2.00	24	6	2.910 0.00
25	1	39.65	2.50	63.0	2.50	63.0	0.00	**	2.40	3.00	25	1	94.100 0.00
26	2	44.71	2.40	53.7	2.40	53.7	0.00	**	2.30	2.00	26	2	17.700 0.00
27	3	35.57	2.10	59.0	1.89	53.1	.21	**	2.00	2.00	27	3	5.650 0.00
28	1	60.10	2.60	43.3	2.60	43.3	0.00	**	2.50	2.00	28	1	95.000 0.00
29	2	23.53	3.70	157.2	3.54	150.4	.16	**	3.60	2.00	29	2	9.200 0.00
30	3	31.72	3.70	116.7	3.45	108.9	.25	**	3.60	2.00	30	3	4.960 0.00
31	4	24.09	3.90	161.9	3.22	133.7	.68	**	3.80	2.00	31	4	1.880 0.00

6.7.8 = .339
 9.10.11

2.2 4 56
 3 11 5 165

32	1	240.74	2.20	9.1	2.20	9.1	0.00	**	2.10	2.00	32	1	382.000	0.00
33	2	178.97	4.10	22.9	4.10	22.9	0.00	**	4.00	2.00	33	2	69.700	0.00
34	3	119.76	3.30	27.6	3.30	27.6	0.00	**	3.20	2.00	34	3	18.800	0.00
35	4	139.73	3.00	21.5	3.00	21.5	0.00	**	2.90	2.00	35	4	11.000	0.00
36	5	102.36	3.10	30.3	2.95	28.8	.15	**	3.00	2.00	36	5	4.600	0.00
37	2	86.72	3.10	35.7	3.10	35.7	0.00	**	3.00	2.00	37	2	34.100	0.00
38	3	160.37	3.20	20.0	3.20	20.0	0.00	**	3.10	2.00	38	3	25.200	0.00
39	4	137.25	2.10	15.3	2.10	15.3	0.00	**	2.00	2.00	39	4	10.900	0.00
40	5	159.54	1.40	8.8	1.32	8.3	.08	**	1.30	2.00	40	5	7.290	0.00
41	6	116.60	1.70	14.6	1.50	12.9	.20	**	1.60	2.00	41	6	3.320	0.00
42	3	64.03	2.80	43.7	2.71	42.3	.09	**	2.70	2.00	42	3	10.100	0.00
43	4	124.01	2.50	20.2	2.50	20.2	0.00	**	2.40	2.00	43	4	9.810	0.00
44	5	110.08	1.40	12.7	1.26	11.4	.14	**	1.30	2.00	44	5	5.030	0.00
45	6	126.98	1.30	10.2	1.12	8.8	.18	**	1.20	2.00	45	6	3.630	0.00

Job 572, LINE 8W, Sp1, S&N $\frac{1}{2}$, 10/7/70

400.

DP 45



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 8W HALF 5 SP. 1 DATE 10-7-70

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SEND	CA40	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	3-4	6-10N	→	2-6N	→	→	2s-2N	→	→	→
RANGE	1.0	10	1.0	1.0	1.0	0.1	10	1.0	1.0	0.1
DC 1	-0.1	2.2	2.1	2.7	2.6	2.2	2.6	3.7	3.5	3.2
DC 2										
DC 3										
DC 4 <i>am</i>	1.0	3	3	2	3	3	2	2	3	3
DC 5 #		1	2	3	4	5	6	7	8	9
DC 6 <i>n</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	98.1	120.	21.8	64.2	21.2	6.73	146.	22.5	12.7	4.61
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.	3.0	-13.7		+11.7			+6.0			
AC NOISE	0.3									
POT RES.		2.5K		3K			4K			



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 8W HALF S SP. 1 DATE 10-7-70

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SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6s	—————	—————	—————	—————	6-10s	—————	—————	—————	—————
RANGE	10	1.0	1.0	1.0	0.1	1.0	1.0	1.0	1.0	0.1
DC 1	1.8	4.1	4.2	3.7	3.6	3.1	3.5	2.7	2.1	1.7
DC 2										
DC 3										
DC 4 <i>Cur</i>	2	2	2	3	3	2	2	2	3	3
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 <i>n</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	297.	44.0	17.4	13.0	5.50	30.7	32.2	22.0	19.0	9.10
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.	-5.6					+29.8				
AC NOISE										
POT RES.	4K					1.5K				



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 8W HALF N SP. 1 DATE 10-7-70

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SEND	S.P.	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	10-14N	14-18N	→	18-22N	→	→	22-26N	→	→	→
RANGE		1.0	1.0	1.0	1.0	0.1	1.0	1.0	0.1	0.1
DC 1		2.2	2.7	0.5	2.1	2.1	0.8	1.2	2.5	2.9
DC 2										
DC 3										
DC 4 <i>cur</i>		2	2	3	2	2	3	3	2	2
DC 5 #		24	25	26	27	28	29	30	31	32
DC 6 <i>H</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1		88.2	14.7	108.	15.3	4.56	108.	28.0	6.37	2.18
AC 2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+32.6	+2.2		+14.5			-14.1			
AC NOISE										
POT RES.	2K	1K		1K			2K			



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE BW HALF N SP. 1 DATE 10-7-70

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SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	26-30 _m	—————→				30-34	—————→			
RANGE	1.0	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1
DC 1	1.4	1.6	1.6	2.9	3.5	1.5	1.9	1.7	2.9	2.9
DC 2										
DC 3										
DC 4 <i>Cur</i>	3	3	3	3	3	3	3	3	3	3
DC 5 #	33	34	35	36	37	38	39	40	41	42
DC 6 <i>n</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	90.5	28.1	12.4	5.39	2.11	27.9	16.2	9.21	4.66	2.06
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.	+31.9					+16.9				
AC NOISE										
POT RES.	1.5K					1.5K				



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE BW HALF N SP. 1 DATE 10-7-70

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SEND	5-6	4-5	3-4	2-3	5-6	4-5	3-4			
RECEIVE	34-38	—————→			38-42	—————→				
RANGE	1.0	1.0	0.1	0.1	0.1	0.1	0.1			
DC 1	1.9	1.9	1.9	3.5	1.9	2.3	2.1			
DC 2										
DC 3										
DC 4 <i>Ans</i>	3	3	3	3	3	3	3			
DC 5 #	43	44	45	46	47	48	49			
DC 6 #	3	4	5	6	4	5	6			
DC 7										
DC 8										
DC AVG.										
AC 1	15.8	11.1	7.14	3.85	8.45	6.67	4.64			
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
AC AVG.										
S.P.	+6.7				-7.4					
AC NOISE										
POT RES.	1K				1.5K					



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE
LINE 8w HALF S SP. 1 DATE 10-7-70

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SEND	3-4	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	CAL	10-6w	→	6-2w	→	→	2w-2s	→	→	→
RANGE	10X100	10X300	10X300	10X200	10X300	10X300	10X200	10X200	10X300	10X300
VOLTAGE	160	390	420	340	390	430	420	340	390	430
CURRENT	1.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	3.0	3.0
SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6s	→	→	→	→	6-10s	→	→	→	→
RANGE	10X200	10X200	10X200	10X300	10X300	10X200	10X200	10X200	10X300	10X300
VOLTAGE	476	420	340	390	430	470	420	340	390	420
CURRENT	2.0	2.0	2.0	3.0	3.0	2.0	2.0	2.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 6644 S

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 8w HALF 5 SP. 1 DATE 10-7-70

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SEND	1-2	2-3	3-4	4-5						
RECEIVE	10-145	—————→								
RANGE	10X200	10X200	10X200	10X300						
VOLTAGE	470	420	340	390						
CURRENT	2.0	2.0	2.0	3.0						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE
LINE 8W HALF N SP. 1 DATE 10-7-70

SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6
RECEIVE	14-16 _N	→	18-22 _N	→	→	22-26 _N	→	→	→	26-30 _N
RANGE	10X200	10X200	10X300	10X200	10X200	10X300	10X300	10X200	10X200	10X300
VOLTAGE	420	460	490	420	460	380	490	410	460	410
CURRENT	2.0	2.0	3.0	2.0	2.0	3.0	3.0	2.0	2.0	3.0
SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6
RECEIVE	→	→	→	→	30-34	→	→	→	→	34-38
RANGE	10X300	10X300	10X300	10X300	10X300	10X300	10X300	10X300	10X300	10X300
VOLTAGE	380	500	640	700	410	380	500	640	700	410
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

#572
PROJECT MINERAL BUTTE
LINE 8w HALF N SP. 1 DATE 10-7-20

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SEND	4-5	3-4	2-3	5-6	4-5	3-4				
RECEIVE	34-38	→		38-42	→					
RANGE	10x300	10x300	10x300	10x300	10x300	10x300				
VOLTAGE	380	500	640	400	380	500				
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0				
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3
SENDER NO. 66445
OPERATOR PAT McMANUS
RECEIVER NO. 2693R
OPERATOR BILL FREEMAN

COMMENTS :

COMPUTED DATA								FIELD DATA						
CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL							
1.000	-.10	98.100	0.00	3.00	.30	-.1000	1.0194							
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	50.06	2.30	45.9	2.30	45.9	0.00	**	2.20	3.00	1	1	120.000	0.00
2	2	36.34	2.20	60.5	2.11	58.2	.09	**	2.10	3.00	2	2	21.800	0.00
3	1	40.37	2.80	69.4	2.80	69.4	0.00	**	2.70	2.00	3	1	64.200	0.00
4	2	35.51	2.70	76.0	2.61	73.5	.09	**	2.60	3.00	4	2	21.200	0.00
5	3	28.07	2.30	81.9	2.01	71.5	.29	**	2.20	3.00	5	3	6.730	0.00
6	1	91.71	2.70	29.4	2.70	29.4	0.00	**	2.60	2.00	6	1	146.000	0.00
7	2	57.14	3.80	66.5	3.80	66.5	0.00	**	3.70	2.00	7	2	22.500	0.00
8	3	53.65	3.60	67.1	3.48	64.9	.12	**	3.50	3.00	8	3	12.700	0.00
9	4	38.83	3.30	85.0	2.95	75.9	.35	**	3.20	3.00	9	4	4.610	0.00
10	1	185.10	1.90	10.3	1.90	10.3	0.00	**	1.80	2.00	10	1	297.000	0.00
11	2	112.17	4.20	37.4	4.20	37.4	0.00	**	4.10	2.00	11	2	44.000	0.00
12	3	111.00	4.30	38.7	4.30	38.7	0.00	**	4.20	2.00	12	3	17.400	0.00
13	4	110.04	3.80	34.5	3.72	33.8	.08	**	3.70	3.00	13	4	13.000	0.00
14	5	81.40	3.70	45.5	3.49	42.8	.21	**	3.60	3.00	14	5	5.500	0.00
15	2	77.51	3.20	41.3	3.20	41.3	0.00	**	3.10	2.00	15	2	30.700	0.00
16	3	204.03	3.60	17.6	3.60	17.6	0.00	**	3.50	2.00	16	3	32.200	0.00
17	4	276.65	2.80	10.1	2.80	10.1	0.00	**	2.70	2.00	17	4	22.000	0.00
18	5	277.12	2.20	7.9	2.20	7.9	0.00	**	2.10	3.00	18	5	19.000	0.00
19	6	211.53	1.80	8.5	1.71	8.1	.09	**	1.70	3.00	19	6	9.100	0.00
20	3	36.35	3.00	82.5	2.80	76.9	.20	**	2.90	2.00	20	3	5.770	0.00
21	4	88.87	3.20	36.0	3.09	34.8	.11	**	3.10	2.00	21	4	7.040	0.00
22	5	119.66	2.00	16.7	1.88	15.7	.12	**	1.90	2.00	22	5	5.480	0.00
23	6	120.86	1.40	11.6	1.21	10.0	.19	**	1.30	3.00	23	6	5.220	0.00
24	1	55.19	2.30	41.7	2.30	41.7	0.00	**	2.20	2.00	24	1	88.200	0.00
25	2	36.97	2.80	75.7	2.72	73.5	.08	**	2.70	2.00	25	2	14.700	0.00
26	1	44.30	.60	13.5	.60	13.5	0.00	**	.50	3.00	26	1	108.000	0.00
27	2	38.25	2.20	57.5	2.12	55.4	.08	**	2.10	2.00	27	2	15.300	0.00
28	3	28.50	2.20	77.2	1.91	67.1	.29	**	2.10	2.00	28	3	4.560	0.00
29	1	44.43	.90	20.3	.90	20.3	0.00	**	.80	3.00	29	1	108.000	0.00
30	2	46.26	1.30	28.1	1.30	28.1	0.00	**	1.20	3.00	30	2	28.000	0.00
31	3	39.97	2.60	65.0	2.42	60.6	.18	**	2.50	2.00	31	3	6.370	0.00
32	4	27.47	3.00	109.2	2.43	88.5	.57	**	2.90	2.00	32	4	2.180	0.00

33	1	37.45	1.50	40.0	1.50	40.0	0.00	**	1.40	3.00	33	1	90.500	0.00
34	2	46.61	1.70	36.5	1.70	36.5	0.00	**	1.60	3.00	34	2	28.100	0.00
35	3	51.42	1.70	33.1	1.57	30.6	.13	**	1.60	3.00	35	3	12.400	0.00
36	4	45.27	3.00	66.3	2.71	59.9	.29	**	2.90	3.00	36	4	5.390	0.00
37	5	31.20	3.60	115.4	2.81	90.0	.79	**	3.50	3.00	37	5	2.110	0.00
38	2	46.23	1.60	34.6	1.60	34.6	0.00	**	1.50	3.00	38	2	27.900	0.00
39	3	67.38	2.00	29.7	1.91	28.4	.09	**	1.90	3.00	39	3	16.200	0.00
40	4	76.46	1.80	23.5	1.66	21.7	.14	**	1.70	3.00	40	4	9.210	0.00
41	5	68.50	3.00	43.8	2.73	39.8	.27	**	2.90	3.00	41	5	4.660	0.00
42	6	48.45	3.00	61.9	2.33	48.1	.67	**	2.90	3.00	42	6	2.060	0.00
43	3	65.71	2.00	30.4	1.91	29.1	.09	**	1.90	3.00	43	3	15.800	0.00
44	4	92.33	2.00	21.7	1.89	20.5	.11	**	1.90	3.00	44	4	11.100	0.00
45	5	103.93	2.00	19.2	1.85	17.8	.15	**	1.90	3.00	45	5	7.140	0.00
46	6	91.08	3.60	39.5	3.32	36.4	.28	**	3.50	3.00	46	6	3.850	0.00
47	4	70.29	2.00	28.5	1.84	26.2	.16	**	1.90	3.00	47	4	8.450	0.00
48	5	97.47	2.40	24.6	2.23	22.9	.17	**	2.30	3.00	48	5	6.670	0.00
49	6	108.28	2.20	20.3	1.98	18.3	.22	**	2.10	3.00	49	6	4.640	0.00

Job 572, Line 4W, Sp 1, S & N $\frac{1}{2}$, 10/6/70

400.

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HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 4W HALF 5 SP. 1 DATE 10-6-70

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SEND	CA40	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	3-4	6-10N	→	2-6N	→	→	2S-2N	→	→	→
RANGE	1.0	1.0	1.0	1.0	0.1	0.1	10	1.0	0.1	0.1
DC 1	0.0	2.0	1.6	3.0	2.5	2.5	3.1	4.5	3.6	3.6
DC 2										
DC 3										
DC 4 <i>cur</i>	100	1	2	3	1	2	3	3	1	2
DC 5 <i>#</i>		1	2	3	4	5	6	7	8	9
DC 6 <i>n</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	98.1	45.0	14.7	94.4	8.50	4.92	125.	29.9	4.99	3.48
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	+8.4		+15.8			+10.1			
AC NOISE	0.3									
POT RES.		2K		2.5K			3K			



HEINRICH'S GEOPHYSICAL EXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 4W HALF 5 SP. 1 DATE 10-6-70

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SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6	
RECEIVE	2-6s	→				6-10s	→				
RANGE	1.0	1.0	1.0	0.1	0.1	1.0	1.0	1.0	0.1	0.1	
DC 1	3.5	4.1	3.9	2.6	2.2	4.5	4.1	3.5	2.3	1.6	
DC 2											
DC 3											
DC 4 <i>Am</i>	1	3	3	1	2	1	3	3	1	2	
DC 5 <i>H</i>	10	11	12	13	14	15	16	17	18	19	
DC 6 <i>n</i>	1	2	3	4	5	2	3	4	5	6	
DC 7											
DC 8											
DC AVG.											
AC 1	47.9	52.0	26.3	5.46	4.34	14.4	28.8	18.0	4.34	3.71	
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.	+27.4					+12.2					
AC NOISE											
POT RES.	3K					2K					



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 4W HALF N SP. 1 DATE 10-6-70

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SEND	S.P	S.P	S.P	4-5	3-4	2-3	1-2	5-6	4-5	3-4
RECEIVE	10-14N	14-18N	18-22N	22-26W	—	—	→	26-30N	—	→
RANGE				1.0	1.0	1.0	0.1	1.0	0.1	1.0
DC 1				0.4	0.8	1.8	3.1	0.6	0.7	1.8
DC 2										
DC 3										
DC 4 <i>Exp</i>				1	3	3	1	2	1	3
DC 5 <i>#</i>				24	25	26	27	28	29	30
DC 6 <i>n</i>				1	2	3	4	1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1				49.0	30.8	12.4	1.56	55.5	9.41	11.1
AC 2				0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+19.2	+22.5	+18.7	-7.5				+28.6		
AC NOISE										
POT RES.	1K	2K	3K	1K				2K		



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

STA. 30 beside dirt road

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PAGE
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PROJECT MINERAL BUTTE

LINE 4W HALF N SP. _____ DATE 10-6-70

SEND	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4
RECEIVE	26-30	→	30-34	→			→	34-38	→	
RANGE	0.1	0.01	1.0	0.1	0.1	0.1	0.01	0.1	0.1	0.1
DC 1	2.5	4.3	1.4	1.5	2.2	3.1	4.9	1.8	1.6	2.7
DC 2										
DC 3										
DC 4 <i>Cur</i>	3	1	2	1	3	3	1	2	1	3
DC 5 #	31	32	33	34	35	36	37	38	39	40
DC 6 <i>n</i>	4	5	2	3	4	5	6	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	5.77	0.857	17.8	6.03	9.14	5.63	0.894	9.62	3.91	6.61
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.			+11.2					+5.4		
AC NOISE										
POT RES.			3k					3k		



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

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PAGE

1

PROJECT MINERAL BUTTE
LINE 4w HALF 5 SP. 1 DATE 10-6-20

SEND	3-4	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6
RECEIVE	CAL	6-10 _N	→	2-6 _N	→	→	2 _N -2 _S	→	→	→
RANGE	10X100	10X100	10X200	10X300	10X100	10X200	10X300	10X300	10X100	10X200
VOLTAGE	140	280	460	440	280	450	340	440	280	440
CURRENT	1.0	1.0	2.0	3.0	1.0	2.0	3.0	3.0	1.0	2.0
SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	2-6 _S	→	→	→	→	6-10 _S	→	→	→	→
RANGE	10X100	10X300	10X300	10X100	10X200	10X100	10X300	10X300	10X100	10X200
VOLTAGE	270	340	440	270	440	270	340	440	280	440
CURRENT	1.0	3.0	3.0	1.0	2.0	1.0	3.0	3.0	1.0	2.0

FREQUENCIES 3 03SENDER NO. 66445OPERATOR PAT McMANUSRECEIVER NO. 20693ROPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE

LINE 4w HALF 5 SP. 1 DATE 10-6-70

SEND	1-2	2-3	3-4	4-5						
RECEIVE	10-14	←—————→								
RANGE	10x100	10x300	10x300	10x100						
VOLTAGE	270	340	440	270						
CURRENT	1.0	3.0	3.0	1.0						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693P

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

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PAGE 3
PROJECT MINERAL BUTTE
LINE 4w HALF N SP. 1 DATE 10-6-73

SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6
RECEIVE	22-26	—	—	→	26-30	—	—	—	→	30-34
RANGE	10X100	10X300	10X300	10X100	10X200	10X100	10X300	10X300	10X100	10X200
VOLTAGE	260	440	340	270	440	260	440	340	270	440
CURRENT	1.0	3.0	3.0	1.0	2.0	1.0	3.0	3.0	1.0	2.0
SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	5-6	4-5
RECEIVE	30-34	—	—	→	34-38	—	—	→	38-42	→
RANGE	10X100	10X300	10X300	10X100	10X200	10X100	10X300	10X300	10X200	10X100
VOLTAGE	260	440	340	270	440	260	440	340	440	260
CURRENT	1.0	3.0	3.0	1.0	2.0	1.0	3.0	3.0	2.0	1.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

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PROJECT MINERAL BUTTE
LINE 4W HALF N SP. 1 DATE 10-6-70

SEND	5-4										
RECEIVE	38-2										
RANGE	10x300										
VOLTAGE	440										
CURRENT	3.0										
SEND											
RECEIVE											
RANGE											
VOLTAGE											
CURRENT											

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McManus

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :

~~Job~~ 572, Line 0, Sp 2, N and $5\frac{1}{2}$, 9/28/70

400.

DP 28



HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 0

HALF N SP. 2 DATE 9-28-70

PAGE

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SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	34-38	46-50	—————→			50-54	—————→			
RANGE	10	10	1.0	1.0	1.0	10	10	1.0	1.0	1.0
DC 1	1.0	1.1	1.1	1.6	2.1	1.1	1.1	1.3	1.7	9.9
DC 2										
DC 3										
DC 4 <i>Can</i>	3	3	3	3	3	3	3	3	3	3
DC 5 <i>#</i>	10	11	12	13	14	15	16	17	18	19
DC 6 <i>n</i>	1	1	2	3	4	1	2	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	237.	279.	78.0	32.4	15.3	433.	109.	47.7	24.3	12.8
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				← -4.0				
AC NOISE										
POT RES.		9K				← 7K				



HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT

MNERAC Butte

LINE 0

HALF N

SP. 2

DATE 9-28-70

PAGE

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SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	
RECEIVE	54-58	→				58-62	→			
RANGE	1.0	1.0	1.0	1.0	0.1	1.0	1.0	0.1	0.1	
DC 1	0.8	1.0	1.3	1.5	2.0	1.1	1.2	1.0	1.5	
DC 2										
DC 3										
DC 4 <i>Cur</i>	3	3	3	3	3	3	3	3	3	
DC 5 #	20	21	22	23	24	25	26	27	28	
DC 6 #	2	3	4	5	6	3	4	5	6	
DC 7										
DC 8										
DC AVG.										
AC 1	80.3	34.0	19.0	11.0	6.11	25.8	13.7	8.49	5.22	
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AC AVG.										
S.P.	+13.5					+15.8				
AC NOISE										
POT RES.	6K					4K				



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 0 HALF N SP. 2 DATE 9-28-70

PAGE
1

SEND	4-5	2-3	3-4	4-5	5-6	3-4	4-5	5-6	4-5	5-6
RECEIVE	CAL	2226	—————	—————	—————	26-30	—————	—————	30-34	—————
RANGE	10X100	10X300								
VOLTAGE	180	620	480	450	800	480	550	800	550	800
CURRENT	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	34-38	46-50	—————	—————	—————	50-54	—————	—————	—————	—————
RANGE	10X300									
VOLTAGE	800	450	480	620	740	800	540	480	620	740
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMINNUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BOTLE
LINE 0 HALF 10 SP. 2 DATE 9-28-70

SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	5-6	
RECEIVE	54-58	—————→				58-62	—————→				62-66
RANGE	10X300										
VOLTAGE	790	550	480	610	740	790	540	470	610		
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
SEND	4-5	3-4									
RECEIVE	—————→										
RANGE											
VOLTAGE											
CURRENT											

FREQUENCIES 3 0.3

SENDER NO. 66-45

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :

CAL CUR 1.000 PFE -.10 AC1 97.500 AC2 0.00 AC FREQ 3.00 DC FREQ .30 PFE CAL -.1000 RHO CAL 1.0256

COMPUTED DATA

FIELD DATA

POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	64.35	1.20	18.6	1.20	18.6	0.00	**	1.10	3.00	1	1	155.000	0.00
2	2	78.48	2.40	30.6	2.40	30.6	0.00	**	2.30	3.00	2	2	46.700	0.00
3	3	80.32	2.50	31.1	2.50	31.1	0.00	**	2.40	3.00	3	3	19.100	0.00
4	4	75.79	2.40	31.7	2.26	29.8	.14	**	2.30	3.00	4	4	9.020	0.00
5	1	97.34	1.40	14.4	1.40	14.4	0.00	**	1.30	3.00	5	1	234.000	0.00
6	2	104.95	2.00	19.1	2.00	19.1	0.00	**	1.90	3.00	6	2	62.700	0.00
7	3	101.15	2.30	22.7	2.30	22.7	0.00	**	2.20	3.00	7	3	24.100	0.00
8	1	95.81	1.10	11.5	1.10	11.5	0.00	**	1.00	3.00	8	1	231.000	0.00
9	2	102.37	1.60	15.6	1.60	15.6	0.00	**	1.50	3.00	9	2	61.400	0.00
10	1	98.30	1.10	11.2	1.10	11.2	0.00	**	1.00	3.00	10	1	237.000	0.00
11	1	115.84	1.20	10.4	1.20	10.4	0.00	**	1.10	3.00	11	1	279.000	0.00
12	2	129.54	1.20	9.3	1.20	9.3	0.00	**	1.10	3.00	12	2	78.000	0.00
13	3	135.18	1.70	12.6	1.70	12.6	0.00	**	1.60	3.00	13	3	32.400	0.00
14	4	128.30	2.20	17.1	2.20	17.1	0.00	**	2.10	3.00	14	4	15.300	0.00
15	1	179.77	1.20	6.7	1.20	6.7	0.00	**	1.10	3.00	15	1	433.000	0.00
16	2	181.02	1.20	6.6	1.20	6.6	0.00	**	1.10	3.00	16	2	109.000	0.00
17	3	198.43	1.40	7.1	1.40	7.1	0.00	**	1.30	3.00	17	3	47.700	0.00
18	4	202.97	1.80	8.9	1.80	8.9	0.00	**	1.70	3.00	18	4	24.300	0.00
19	5	202.17	10.00	49.5	10.00	49.5	0.00	**	9.90	3.00	19	5	12.800	0.00
20	2	132.96	.90	6.8	.90	6.8	0.00	**	.80	3.00	20	2	80.300	0.00
21	3	141.02	1.10	7.8	1.10	7.8	0.00	**	1.00	3.00	21	3	34.000	0.00
22	4	158.08	1.40	8.9	1.40	8.9	0.00	**	1.30	3.00	22	4	19.000	0.00
23	5	160.48	1.60	10.0	1.52	9.5	.08	**	1.50	3.00	23	5	11.000	0.00
24	6	143.32	2.10	14.7	1.95	13.6	.15	**	2.00	3.00	24	6	6.110	0.00
25	3	107.12	1.20	11.2	1.20	11.2	0.00	**	1.10	3.00	25	3	25.800	0.00
26	4	113.87	1.30	11.4	1.22	10.7	.08	**	1.20	3.00	26	4	13.700	0.00
27	5	123.25	1.10	8.9	.98	8.0	.12	**	1.00	3.00	27	5	8.490	0.00
28	6	121.84	1.60	13.1	1.41	11.6	.19	**	1.50	3.00	28	6	5.220	0.00

Job 572, Line 0, Sp 1, N and S $\frac{1}{2}$, 9/25/70

400.

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HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE 572
LINE 0 HALF N SP. 1 DATE 9-25-70

PAGE

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SEND	3-4	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	CALD	14-18N	→	18-22N	→	→	22-26N	→	→	→
RANGE	1.0	16	1.0	1.0	1.0	0.1	1.0	1.0	1.0	0.1
DC 1	-0.1	1.3	3.8	0.6	1.6	3.6	0.3	1.0	2.1	4.0
DC 2										
DC 3			1.8 @ 1Hz							
DC 4 <i>cm</i>	1.0	3	6.0 @ 0.1 Hz	3	3	3	2	3	3	3
DC 5 #		1	2	3	4	5	6	7	8	9
DC 6 <i>n</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	97.6	137.	20.5	91.5	29.7	7.76	90.2	24.2	12.3	4.08
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	+4.7		+30.9			-10.8			
AC NOISE	0.3									
POT RES.		3K		8K			4K			



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 0 HALF N SP. 1 DATE 9-25-76

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SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	26-30N	→	→	→	→	30-34N	→	→	→	→
RANGE	1.0	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1
DC 1	0.8	1.1	1.9	2.8	4.8	1.7	1.7	2.3	3.2	5.1
DC 2										
DC 3										
DC 4 <i>km</i>	2	2	3	3	3	2	2	3	3	3
DC 5 <i>#</i>	10	11	12	13	14	15	16	17	18	19
DC 6 <i>n</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	72.2	20.4	11.9	7.86	3.14	21.7	11.7	8.20	6.02	2.59
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.	+45.0					+3.2				
AC NOISE										
POT RES.	5K					4K				

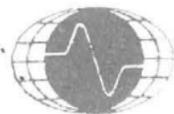


HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

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PROJECT MINERAL BUTTE
LINE 0 HALF N SP. 1 DATE 9-25-70

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SEND	5-6	4-5	3-4	2-3	5-6	4-5	3-4	5-6	4-5	
RECEIVE	34-38	→	→	→	38-42	→	→	42-46	→	
RANGE	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
DC 1	2.1	2.1	2.8	3.7	2.2	2.1	2.8	2.2	2.3	
DC 2										
DC 3										
DC 4 <i>cm</i>	2	2	3	3	2	2	3	2	2	
DC 5 #	20	21	22	23	24	25	26	27	28	
DC 6 n	3	4	5	6	4	5	6	5	6	
DC 7										
DC 8										
DC AVG.										
AC 1	11.9	7.64	5.85	4.60	5.72	4.08	3.39	3.07	2.46	
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
AC AVG.										
S.P.	+18.0				-8.0			+15.5		
AC NOISE										
POT RES.	4K				2K			6K		



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 0 HALF S SP. 1 DATE 9-25-76

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SEND	S.P.	S.P.		3-4	4-5	5-6		2-3	3-4	4-5
RECEIVE	10-14N	6-10N	2 ₀ 6N	—	—	→	2-2 ₅	—	—	→
RANGE				1.0	1.0	0.1		10	1.0	1.0
DC 1				3.2	3.6	3.6		2.9	4.1	3.4
DC 2										
DC 3										
DC 4 <i>Ch</i>				3	2	2		3	3	2
DC 5 #				29	30	31		32	33	34
DC 6 #				1	2	3		1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1				80.0	14.0	5.47		193.	31.9	11.1
AC 2				0.0	0.0	0.0		0.0	0.0	0.0
AC AVG.										
S.P.	+10.0	+10.0	+9.5					+8.4		
AC NOISE										
POT RES.	3K	4.5K	4K					6K		



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 0 HALF 5 SP. 1 DATE 9-25-70

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SEND	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	
RECEIVE	2-2 ⁿ	2-6 ^s	—————				6-10	—————			
RANGE	0.1	10	1.0	1.0	0.1	0.1	1.0	1.0	1.0	0.1	
DC 1	3.2	4.8	4.3	3.8	2.7	2.4	5.2	4.1	3.3	2.2	
DC 2											
DC 3											
DC 4 <i>cm</i>	2	3	3	3	2	2	3	3	3	2	
DC 5 <i>#</i>	35	36	37	38	39	40	41	42	43	44	
DC 6 <i>ft</i>	4	1	2	3	4	5	2	3	4	5	
DC 7											
DC 8											
DC AVG.											
AC 1	4.99	130	54.3	21.6	9.91	4.95	34.0	21.6	10.8	5.37	
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.		+19.2					-0.0				
AC NOISE											
POT RES.		3.5K					3K				



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

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PAGE 1
PROJECT MINERAC BUTTE
LINE 0 HALF N SP. 1 DATE 9-28-52

SEND	3-4	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	CAL	14-18	→	18-22N	→	→	22-26N	→	→	→
RANGE	10X100	10X300	10X300	10X300	10X300	10X300	10X200	10X300	10X300	10X300
VOLTAGE	180	460	640	560	460	640	900	560	470	630
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	5-6	4-5	3-4	2-3	1-2
RECEIVE	26-30N	→	→	→	→	30-34N	→	→	→	→
RANGE	10X200	10X200	10X300	10X300	10X300	10X300	10X200	10X300	10X300	10X300
VOLTAGE	810	900	560	760	640	810	890	560	470	630
CURRENT	2.0	2.0	3.0	3.0	3.0	2.0	2.0	3.0	3.0	3.0

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE
LINE 0 HALF N SP. 1 DATE 9-2-50

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PAGE
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SEND	5-6	4-5	3-4	2-3	5-6	4-5	3-4	5-6	4-5	
RECEIVE	34-38	→	→	→	38-42	→	→	42-46	→	
RANGE	10X200	10X200	10X300	10X300	10X200	10X200	10X300	10X200	10X200	
VOLTAGE	800	880	560	460	800	890	560	800	870	
CURRENT	2.0	2.0	3.0	3.0	2.0	2.0	3.0	2.0	2.0	
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

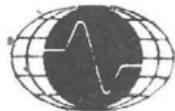
572

PROJECT MINERAL BOTTE
LINE 0 HALF 5 SP. 1 DATE 9-25

SEND	3-4	4-5	5-6	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	2-20	→	→	2-6s	→	→	→	6-10s	→	→
RANGE	10X300	10X200	10X200	10X300	10X300	10X200	10X200	10X300	10X300	10X300
VOLTAGE	550	860	780	460	550	850	750	630	460	550
CURRENT	3.0	2.0	2.0	3.0	3.0	2.0	2.0	3.0	3.0	3.0
SEND	4-5	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	→	→	10-14s	→	→	→	→	14-18s	→	→
RANGE	10X200	10X200	10X300	10X300	10X300	10X200	10X200	10X300	10X300	10X300
VOLTAGE	840	760	620	460	540	830	760	630	560	540
CURRENT	2.0	2.0	3.0	3.0	3.0	2.0	2.0	3.0	3.0	3.0

FREQUENCIES 3 0.3
 SENDER NO. 66445
 OPERATOR Pat McNamee
 RECEIVER NO. 20623R
 OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PAGE 4
PROJECT MINERAL BUTTE
LINE 0 HALF 5 SP. 1 DATE 9-25-70

SEND	<u>4-5</u>								
RECEIVE	<u>14-18</u>								
RANGE	<u>10x200</u>								
VOLTAGE	<u>820</u>								
CURRENT	<u>2.0</u>								
SEND									
RECEIVE									
RANGE									
VOLTAGE									
CURRENT									

FREQUENCIES 3 0.3

SENDER NO. 66445

OPERATOR PAT McMANUS

RECEIVER NO. 20609R

OPERATOR BILL FREEMAN

COMMENTS :

JOB 572 LINE 0 SP1 N+S 1/2 9/25/70
 CAL GROUP NO. 1

400 FEET=DIPOLE LENGTH

CAL CUR 1.000 PFE -.10 AC1 97.600 AC2 0.00 AC FREQ 3.00 DC FREQ .30 PFE CAL -.1000 RHO CAL 1.0246

COMPUTED DATA

FIELD DATA

POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	56.93	1.40	24.6	1.40	24.6	0.00	**	1.30	3.00	1	1	137.000	0.00
2	2	34.92	3.90	111.7	3.81	109.1	.09	**	3.80	3.00	2	2	20.500	0.00
3	1	37.76	.70	18.5	.70	18.5	0.00	**	.60	3.00	3	1	91.500	0.00
4	2	49.52	1.70	34.3	1.70	34.3	0.00	**	1.60	3.00	4	2	29.700	0.00
5	3	32.98	3.70	112.2	3.47	105.1	.23	**	3.60	3.00	5	3	7.760	0.00
6	1	55.67	.40	7.2	.40	7.2	0.00	**	.30	2.00	6	1	90.200	0.00
7	2	40.11	1.10	27.4	1.02	25.6	.08	**	1.00	3.00	7	2	24.200	0.00
8	3	51.52	2.20	42.7	2.07	40.3	.13	**	2.10	3.00	8	3	12.300	0.00
9	4	34.81	4.10	117.8	3.69	105.9	.41	**	4.00	3.00	9	4	4.080	0.00
10	1	44.78	.90	20.1	.90	20.1	0.00	**	.80	2.00	10	1	72.200	0.00
11	2	50.77	1.20	23.6	1.20	23.6	0.00	**	1.10	2.00	11	2	20.400	0.00
12	3	49.75	2.00	40.2	1.87	37.6	.13	**	1.90	3.00	12	3	11.900	0.00
13	4	66.29	2.90	43.7	2.73	41.2	.17	**	2.80	3.00	13	4	7.860	0.00
14	5	47.25	4.90	103.7	4.45	94.1	.45	**	4.80	3.00	14	5	3.140	0.00
15	2	54.32	1.80	33.1	1.80	33.1	0.00	**	1.70	2.00	15	2	21.700	0.00
16	3	73.22	1.80	24.6	1.72	23.5	.08	**	1.70	2.00	16	3	11.700	0.00
17	4	68.83	2.40	34.9	2.24	32.5	.16	**	2.30	3.00	17	4	8.200	0.00
18	5	89.20	3.30	37.0	3.11	34.9	.19	**	3.20	3.00	18	5	6.020	0.00
19	6	62.53	5.20	83.2	4.73	75.6	.47	**	5.10	3.00	19	6	2.590	0.00
20	3	74.77	2.20	29.4	2.20	29.4	0.00	**	2.10	2.00	20	3	11.900	0.00
21	4	96.00	2.20	22.9	2.10	21.9	.10	**	2.10	2.00	21	4	7.640	0.00
22	5	86.35	2.90	33.6	2.70	31.3	.20	**	2.80	3.00	22	5	5.850	0.00
23	6	109.59	3.80	34.7	3.58	32.7	.22	**	3.70	3.00	23	6	4.600	0.00
24	4	71.95	2.30	32.0	2.15	29.9	.15	**	2.20	2.00	24	4	5.720	0.00
25	5	89.72	2.20	24.5	2.01	22.4	.19	**	2.10	2.00	25	5	4.080	0.00
26	6	80.06	2.90	36.2	2.56	32.0	.34	**	2.80	3.00	26	6	3.390	0.00
27	5	67.58	2.20	32.6	1.92	28.5	.28	**	2.20	2.00	27	5	3.070	.20
28	6	86.72	2.40	27.7	2.10	24.2	.30	**	2.30	2.00	28	6	2.460	0.00
29	1	33.87	3.30	97.4	3.30	97.4	0.00	**	3.20	3.00	29	1	80.000	0.00
30	2	35.70	3.70	103.6	3.61	101.2	.09	**	3.60	2.00	30	2	14.000	0.00
31	3	34.87	3.70	106.1	3.48	99.9	.22	**	3.60	2.00	31	3	5.470	0.00

BUSINESS FORMS PRINTING COMPANY - BLUE SPACE BAR - ENGINEERED FOR HIGH SPEED PRINTERS

32	1	81.47	3.00	36.8	3.00	36.8	0.00	**	2.90	3.00	32	1	193.000	0.00
33	2	54.49	4.20	77.1	4.20	77.1	0.00	**	4.10	3.00	33	2	31.900	0.00
34	3	70.63	3.50	49.6	3.42	48.4	.08	**	3.40	2.00	34	3	11.100	0.00
35	4	63.38	3.30	52.1	3.12	49.2	.18	**	3.20	2.00	35	4	4.990	0.00
36	1	55.89	4.90	87.7	4.90	87.7	0.00	**	4.80	3.00	36	1	130.000	0.00
37	2	92.93	4.40	47.3	4.40	47.3	0.00	**	4.30	3.00	37	2	54.300	0.00
38	3	91.98	3.90	42.4	3.90	42.4	0.00	**	3.80	3.00	38	3	21.600	0.00
39	4	125.26	2.80	22.4	2.80	22.4	0.00	**	2.70	2.00	39	4	9.910	0.00
40	5	109.17	2.50	22.9	2.36	21.6	.14	**	2.40	2.00	40	5	4.950	0.00
41	2	58.69	5.30	90.3	5.30	90.3	0.00	**	5.20	3.00	41	2	34.000	0.00
42	3	92.24	4.20	45.5	4.20	45.5	0.00	**	4.10	3.00	42	3	21.600	0.00
43	4	91.53	3.40	37.1	3.29	36.0	.11	**	3.30	3.00	43	4	10.800	0.00
44	5	118.20	2.30	19.5	2.17	18.4	.13	**	2.20	2.00	44	5	5.370	0.00
45	6	100.08	2.00	20.0	1.75	17.5	.25	**	1.90	2.00	45	6	2.850	0.00
46	3	51.98	5.70	109.6	5.58	107.3	.12	**	5.60	3.00	46	3	12.000	0.00
47	4	79.60	4.20	52.8	4.07	51.1	.13	**	4.10	3.00	47	4	9.320	0.00
48	5	74.60	3.60	48.3	3.36	45.0	.24	**	3.50	3.00	48	5	5.020	0.00
49	6	100.27	2.20	21.9	1.95	19.5	.25	**	2.10	2.00	49	6	2.850	0.00

BUSINESS FORMS PRINTING COMPANY BLUE SPACE BAR ENGINEERED FOR HIGH SPEED PRINTERS

Job 572, LINE 4E, Sp 1, N $\frac{1}{2}$, 9/17/70

400.



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 4E HALF N SP. 1 DATE 9-17-70

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SEND	3-4	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	CAL ^①	14-18W	→	18-22W	→	→	22-26W	→	→	→
RANGE	1.0	10	1.0	10	1.0	1.0	10	1.0	1.0	0.1
DC 1	-0.1	2.0	4.0	0.9	2.4	3.9	0.7	1.3	2.5	3.9
DC 2										
DC 3										
DC 4 <i>Gen</i>	1.0	3	3	3	3	3	3	3	3	3
DC 5 #	→	→ 1	2	3	4	5	6	7	8	9
DC 6 <i>W</i>		1	2	1	2	3	1	2	3	4
DC 7										
DC 8										
DC AVG.										
AC 1	97.5	113.	39.7	107.	39.4	17.2	159.	20.5	11.8	6.51
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	-0.0		+22.6			-28.0			
AC NOISE	0.3									
POT RES.		2.5K		3.5K			3.5K			



HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

STA 26N Reside
USGS SUPP. STAKE on ROAD 572

PAGE
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PROJECT MINERAL BUTTE
LINE 4E HALF N SP. 1 DATE 9-17-70

SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	26-30W	→				30-34W	→			
RANGE	10	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1
DC 1	0.5	1.5	1.8	2.9	4.2	2.1	2.0	2.2	3.4	4.8
DC 2										
DC 3										
DC 4 <i>Cur</i>	3	3	3	3	3	3	3	3	3	3
DC 5 #	10	11	12	13	14	15	16	17	18	19
DC 6 <i>n</i>	1	2	3	4	5	2	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	217.	36.4	11.5	8.62	5.37	41.0	15.3	6.25	5.23	3.48
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
I.P.	+26.3					+36.6				
AC NOISE										
POT RES.	2.5K					1.5K				



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 4E HALF N SP. 1 DATE 9-17-70

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SEND	5-6	4-5	3-4	2-3	5-6	4-5	3-4			
RECEIVE	34-38N				38-42N					
RANGE	1.0	0.1	0.1	0.1	0.1	0.1	0.1			
DC 1	2.6	2.3	2.5	3.9	2.7	2.4	2.7			
DC 2										
DC 3										
DC 4 <i>len</i>	3	3	3	3	3	3	3			
DC 5 #	20	21	22	23	24	25	26			
DC 6 #	3	4	5	6	4	5	6			
DC 7										
DC 8										
DC AVG.										
AC 1	19.4	8.62	3.86	3.40	9.81	4.82	2.32			
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
AC AVG.										
S.P.	-10.3				+4.6					
AC NOISE										
POT RES.	1.5K				1.5K					



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT MINERAL BUTTE

LINE 1E HALF N SP. 1 DATE 9-17-70

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SEND	3-4	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	CAL	14-18N	→	18-22N	→	→	22-26N	→	→	→
RANGE	10X100	30X100								
VOLTAGE	100	320	440	280	320	440	360	280	320	440
CURRENT	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	26-30N	→	→	→	→	30-34N	→	→	→	→
RANGE	30X100									
VOLTAGE	310	350	270	320	440	310	350	270	320	440
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

FREQUENCIES 3 0.3

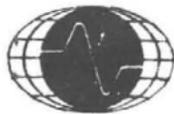
SENDER NO. 66445

OPERATOR PAT M. MANUS

RECEIVER NO. 20693R

OPERATOR BILL FREEMAN

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

572
PROJECT MINERAL BUTTE
LINE 4E HALF N SP. 1 DATE 9/7/70

PAGE
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SEND	5-6	4-5	3-4	2-3	5-6	4-5	3-4			
RECEIVE	34-38				38-42					
RANGE	30X100									
VOLTAGE	310	350	270	320	310	340	270			
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES J 0.3
SENDER NO. 66445
OPERATOR PAT McMANUS
RECEIVER NO. 20693 R
OPERATOR BILL FREEMAN

COMMENTS :

Job 572, LINEAE, Sp1, 5½, 9/17/70

400.



HEINRICH'S GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT MINERAL BUTTE
LINE 4E HALF S SP. 1 DATE 9-17-76

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SEND	4-5	5-6	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5
RECEIVE	CAL(2)	10-14N	6-10N	→	2-6N	→	→	2S-2N	→	→
RANGE	1.0	S.P.	10	1.0	1.0	1.0	1.0	10	1.0	1.0
DC 1	-0.1	ONLY	2.2	2.4	3.6	3.9	3.8	3.0	3.7	3.6
DC 2			2.0							
DC 3										
DC 4 <i>Pen</i>	1.0		3	3	3	3	3	3	3	3
DC 5 <i>#</i>			1	2	3	4	5	6	7	8
DC 6 <i>n</i>			1	2	1	2	3	1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	97.8		132.	39.5	94.8	39.2	16.8	234.	36.5	22.0
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	-2.2	+15.5		+8.6			+5.7		
AC NOISE	0.3									
POT RES.		3.5K	1.5K		2.5K			2K		

