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October 9, 1962

Mr. E. F. Reed, Chief Geologist
Inspiration Consolidated Copper Co.
Inspiration, Arizona

Re: West Sierrita Area
Pima County, Arizona

Dear Bert:

This is supplemental to our report on the area submitted 28 August and to the more recent drilling results on anomaly "A".

At least to its depth, the drill hole confirms the geophysical data obtained immediatly over Anomaly "A". The interpretation predicted, nicely fits a resistivity high for the relatively tight, dense, siliceous porphyritic-dioritic material encountered from about 50' sub alluvial depth to the bottom of the hole. The considerable magnetite content seems to definitely account for the mag high and the weak alteration-oxidation and sulfide explains the S.P. low and the weak I. P. effects noted.

For future correlation purposes, it is very useful to record the estimated magnetite content, total sulfide, and resistivity. Our very rough visual estimates for these are respectively 10 - 15%, less than 1% and 20 to 50 meg ohms across several dry core samples. The latter is not a true resistivity, but does often give an order of magnitude idea. Since we did not actually log the core, results of any similar but more accurate analysis made by you would be most appreciated.

Other than the above, new interpretation based on the drill hole information suggests that the material resistivity (density and silica content?) could increase immediately east of the drill hole before radically decreasing in the adjoining low about ¼ mile east. Whether this reflects a change in the diorite and/or its contact with other material to the east is

uncertain, but in any event, a definite contact with schist and/or possibly rhyolite and possibly even garnet or limestone, is indicated about 700' to 800' east of the drill hole. On a relative I. P. indication basis, this contact and/or more probably the material immediately east of it, will contain considerably more total sulfide than that seen in the present drill hole dioritic material.

Most optomistically, the above zone might be closer to the mineralizing intrusive (diorite?) and with substantially different host rock characteristics than either the Philamena or Copper Grantz could be and apparently may be more strongly mineralized. Otherwise however, as discussed with you in our office last Saturday, the apparent Cu - Fe ratio and total sulfide content of the area still appears marginal, and/or in relatively small sized concentrations.

If further work should be considered in the future, the following suggestions are submitted for the record:

1. Drill an angle hole east from a drill site about 500' east of the first hole to explore the indicated contact and material immediately east of it.

2. Test drill the area northeast of the Copper Grantz Mine where a larger self potential low was found.

3. Do some electrical prospecting over some of the other magnetic anomalies.

Respectfully submitted,

HEINRICHS GEOEXPLORATION CO.

Walter E. Heinrichs, Jr.
President & General Manager

WEH:jh
Encl: 2 extra copies

28 August 1962

Inspiration Consolidated Copper Company
Inspiration, Arizona

Attn: Mr. E. F. Reed or
Mr. Hugh Olmstead

Re: West Sierrita Project
Pima County, Arizona

Gentlemen:

Enclosed are three copies and attachments regarding the latest work at West Sierrita. A similar up to date statement on the Mary area will be forthcoming shortly. We did not bind these data in a new folder - thinking it preferable that it be combined on top of the data previously submitted for the purpose of appropriate continuity.

Also enclosed, are a map and picture for Hugh.

Trust you will find this satisfactory, and in any event, will look foreward to your comment.

Sincerely,

HEINRICHS GEOEXPLORATION COMPANY

by: ----------
Walter E. Heinrichs, Jr.
President & General Manager

Encl: 5
WEH/w

COPY

AUG 28 1962

REVISED STATUS AND CURRENT APPRAISAL

WEST SIERRITA PROJECT

Pima County, Arizona

This letter report refers mainly to our last report of June 1962, which covered induced polarization (I.P.) results in the area of magnetic anomaly "A".

Although other magnetic anomalism was obtained in reconnaissance of the district, the area around anomaly "A" was considered to be of most immediate importance and potential economic significance, especially if any sulfide relationship could be established. These considerations were based on factors such as:

1. Many ore bodies have important magnetite associations.
2. Most ore bodies have important sulfide associations.
3. Many magnetic features are not ore-related.
4. Geological and property aspects.

On this basis, and for further justification and guide to drilling, a relatively detailed survey for mapping sulfides in the area was made.

The results, as presented in our June report with only rather vague and minor exceptions, were essentially favorable and encouraging, indicating a fairly strong sulfide zone along the magnetic anomaly footwall. Unfortunately, this conclusion is now contradicted by repeat and additional I.P. work done

(at our own expense) since the June report.

Obviously, the reason for doing such work was to be sure and eliminate any reasonable doubt. Such situations are not uncommon in geophysics, but are often more commonly ignored. This is especially true of the relatively newer, more complex and exotic methods such as I.P. However, even these are substantially improving with time and eventually the problem will be essentially eliminated. Meanwhile, the method is still generally the most eminent sulfide exploration tool available, and should continue to be used as such.

As long as this difficulty arises we entirely agree with Mr. Olmstead that it is very important to recognize "problem conditions" and resultant invalid data right away. Regarding this, we believe we learned and progressed immeasurably in this recent experience (for example in another project, Mary Area line 6, our report of June-July 1962, also since repeated.)

Attached are copies of the new and repeat data itemized as follows:

1. Up to date composite plan including geology by Mr. Olmstead and location of geophysical traverses, etc.

2. I.P. Sectional Data Sheets and composite profiles of spreads1 of Lines 2 & 4 repeated and the new Line 6.

3. New detail mag. and S.P. profiles near the NE end of Line 2.

COPY

Except for the resistivity results which are still basically all right, previous I.P. sectional data sheets and composite profile I.P. data on spreads 1 of Lines 2 & 4, and the MCF and PFE, 3rd separation I.P. contour plots should be essentially ignored.

All together, the evidence is now as follows:

1. Anomaly "A"

(a) Magnetics indicate a single feature or combination of features which integrate into the resultant effect of a west-dipping dike or sill-like mass. Average depth may be over 200', should be less than 800' and may be less than 400'; dip probably between 45° and 70°; width may be as great as 500' and as little as 50' and length 2,000' to 4,000'. As a guess, total magnetite content will generally exceed formational background by 5% to 10% or more and reach order of magnitude concentrations of 10% to 40%, as an average for the whole anomaly. This is assuming little or no magnetic polarization.

(b) Resistivity indicates a similar but not identical width and length zone of high resistivity along the mag zone high or in its immediate footwall, suggesting relatively tight dense or dry limestone or siliceous material. Centered roughly parallel and immediately east about 1,000' but somewhat wider and much longer, is a resistivity low indicating relatively wet, porous, soft or more altered limestone, or material like schist, etc.

COPY

(c) Self potential lows persist and repeat with adequate magnitude to be possibly caused by weak oxidizing sulfides.

(d) I.P. similar to above. No major concentration of strong disseminated sulfides were detected, unless very narrow and vein like, at least down to a depth of about 1,000'.

2. Anomalism, NE end of Line 2. Was previously considered too small and insignificant to warrant written discussion. However, repetition of the fairly strong S.P. low dictated desirability for further quick S.P. and mag. detail as located on plan map and shown on two attached profile sheets together with new lines 7 & 8. To a certain extent the mag. highs coincide with the S.P. lows. The S.P. low may be partly caused by topography, but is still believed to be a fairly good indication of probable oxidizing sulfides along schist-bands or fault contact shear zones. This additional detail, done at our own expense, was in part to determine repeatibility of this magnitude S.P. in the area for our own benefit, but also to better determine whether the area might warrant further attention on your part.

Previous I.P. detail at 250' spacing on Line 2 spread 3 crossed this same zone indicating high resistivity, faulting and some sulfide concentration. The suggestion is also of a zone or series of siliceous dikes, fissures or schist banding or a single similar feature, along a fault or contact.

COPY

Although this is perhaps the strongest positive indication of sulfide concentration so far obtained in the West Sierrita work, there is still considerable doubt as to its potential economic significance. On the other hand, even though the effects may be from one narrow or several narrow--separate features, they do spread out over several hundred feet along Line 2 from about Sta. 2.1E to 2.8E and centering at approximately 2.7E and 0.1N. Depth appears less than 250' and may be as little as 50'. Dip appears steep. Several close spaced shallow vertical holes, or possibly an angle hole would be required to properly test the effects.

RECOMMENDATIONS

1. Regardless of weak or negative sulfide indications, consider desirability of drilling vertical hole at Line 1, Sta. 0.15E (Line 6, Sta. 1.75W) to test mag high, west side of resistivity high and weak S.P. low, for purpose of appraising these geophysical results, gaining geological-depth information and any related economic factors.

2. Consider desirability of further geophysics and/or drilling in area near NE end of Line 2.

3. Consider any other work indicated pending decision and/or results of two items above, such as magnetic anomalies I and J, extending Anomaly "A" Line 5 to better cross and detail

the apparent trend extension of anomalies E, F, & G, etc.

Respectfully submitted,

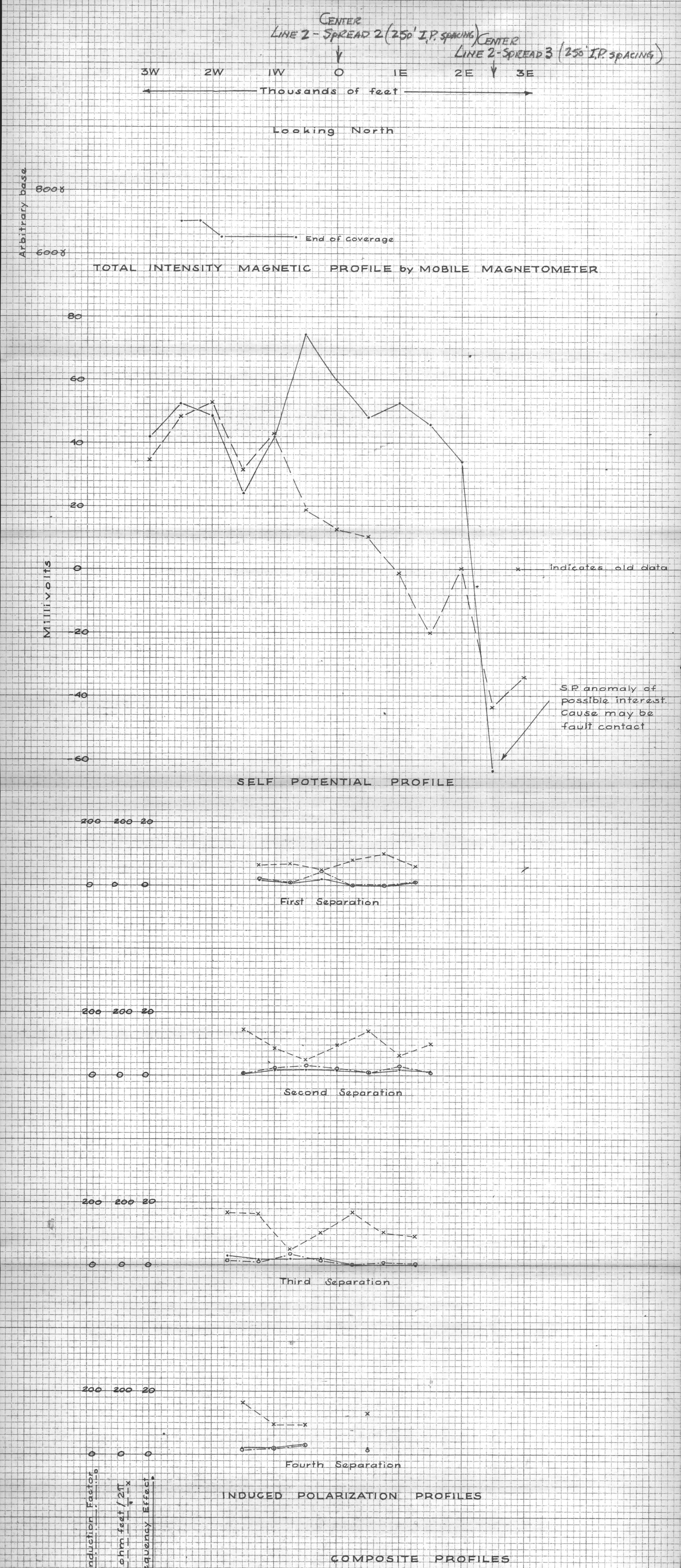
HEINRICHS GEOEXPLORATION COMPANY

Walter E. Heinrichs, Jr.
President & General Manager

WEH:jh

August 27, 1962
Tucson, Arizona

COPY



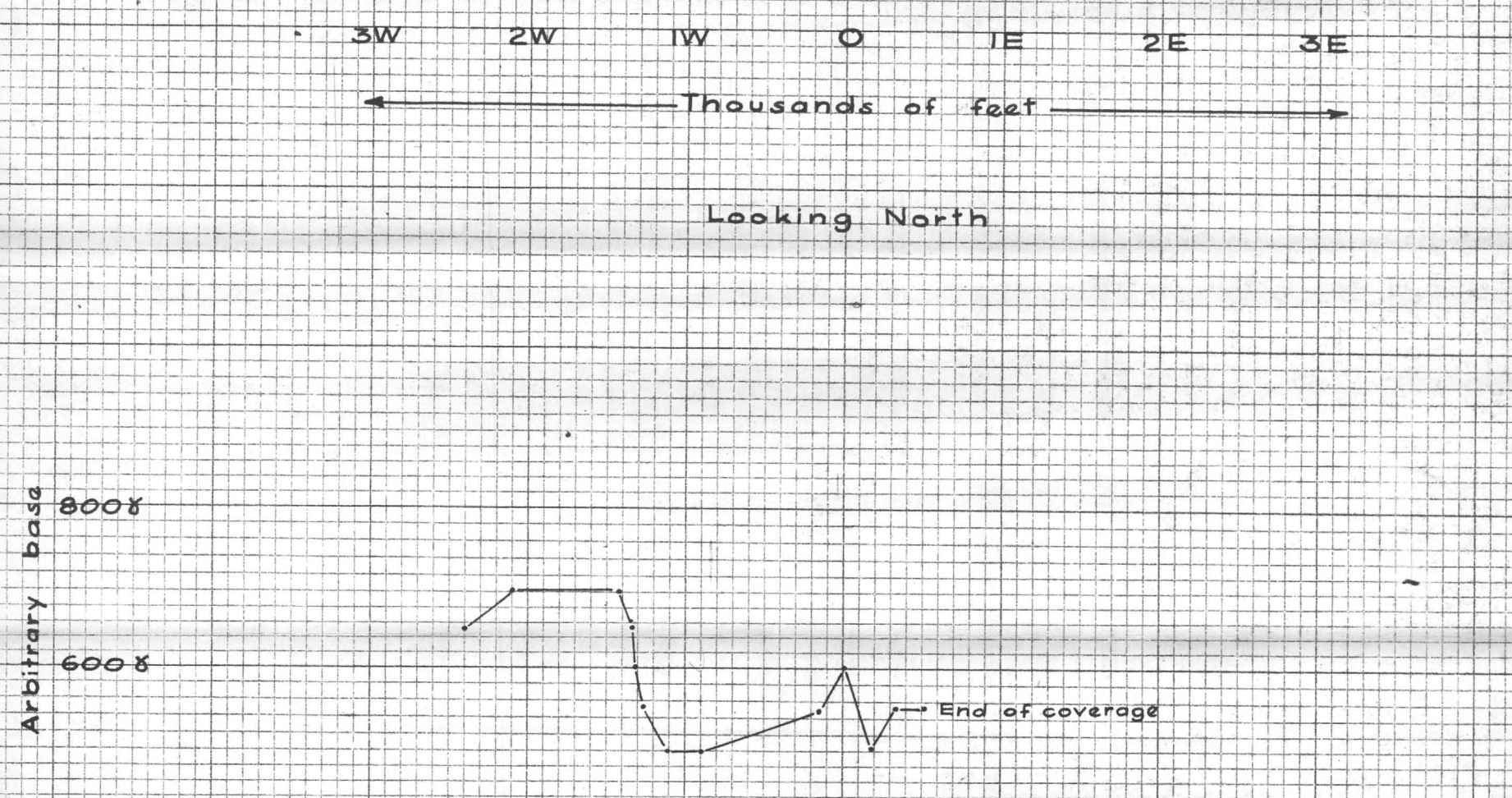
COMPOSITE PROFILES
LINE 2 - Spr. 1 REPEAT
West Sierrita Mountain Project
Sec. 22, T17S-R10E
Pima County, Arizona

for

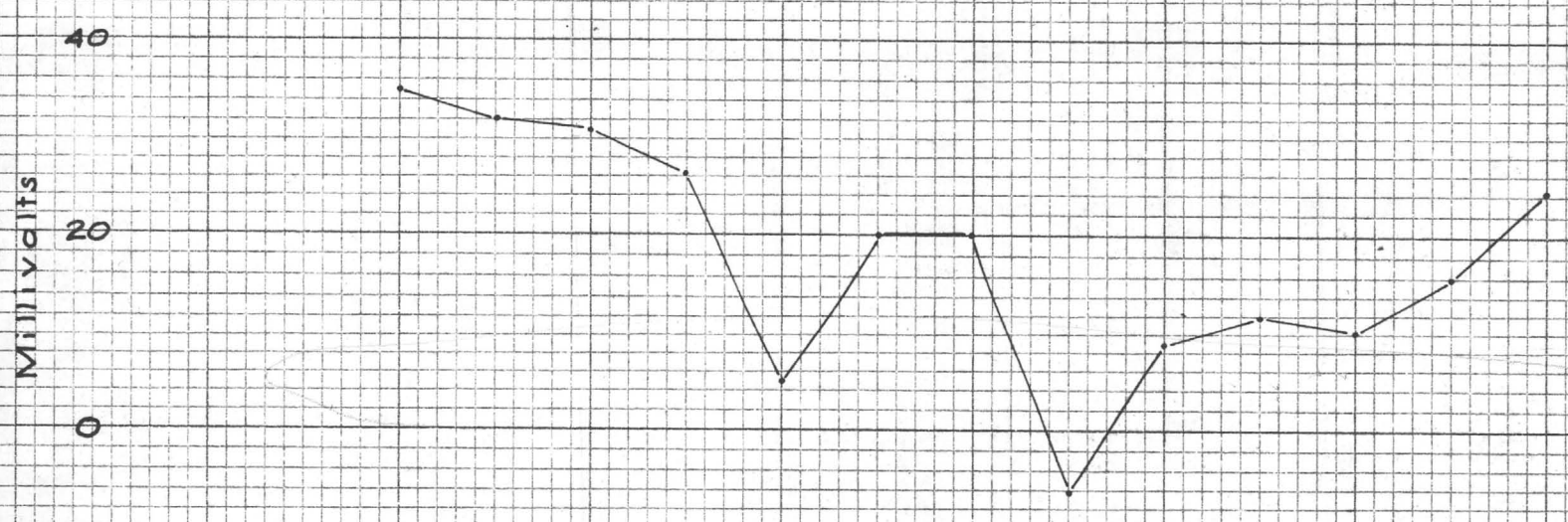
INSPIRATION CONSOLIDATED COPPER CO.

by

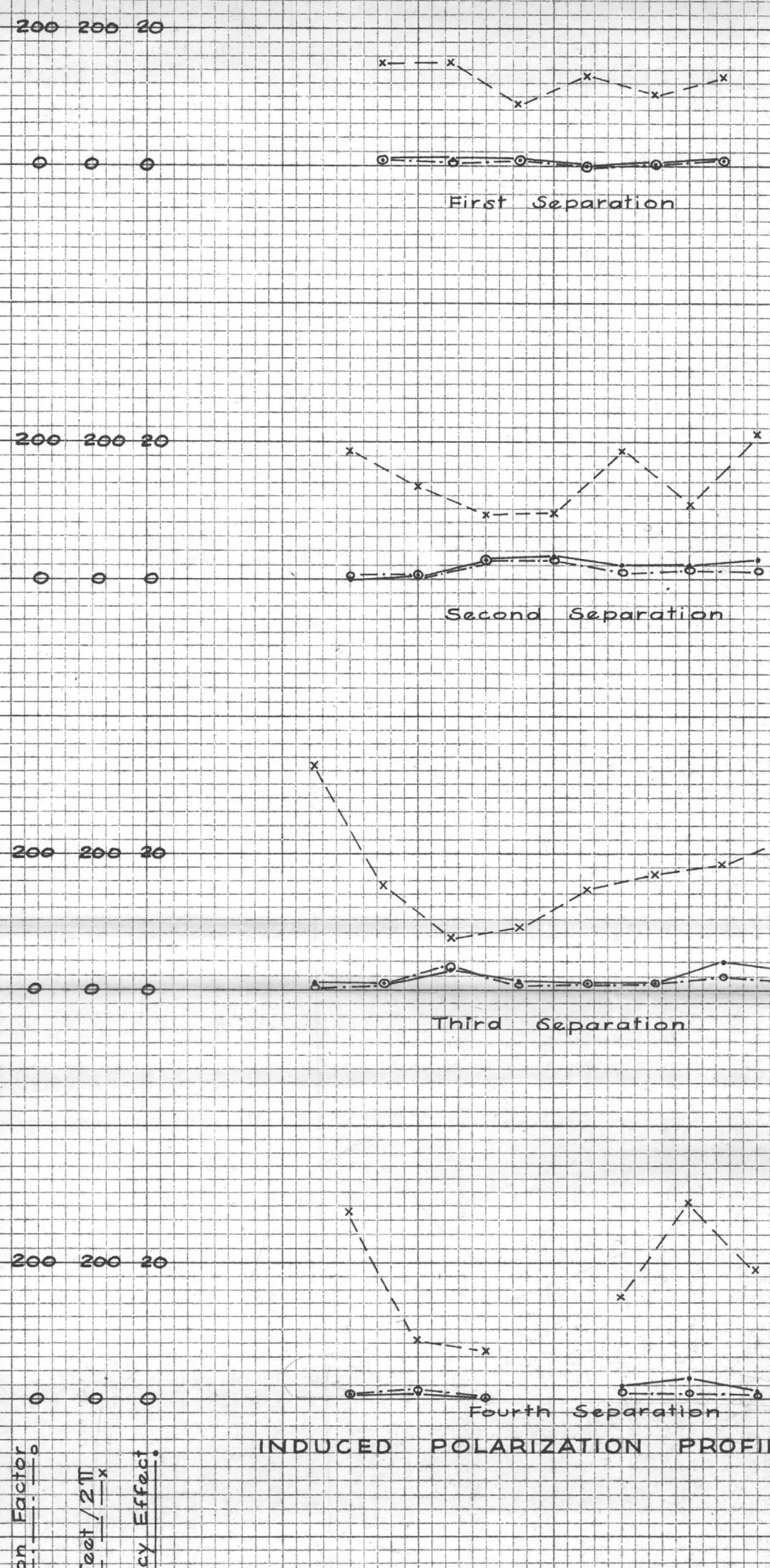
Heinrichs Geoexploration Co.
August 1962 Scale: 1"=1000'



TOTAL INTENSITY MAGNETIC PROFILE by MOBILE MAGNETOMETER



SELF POTENTIAL PROFILE

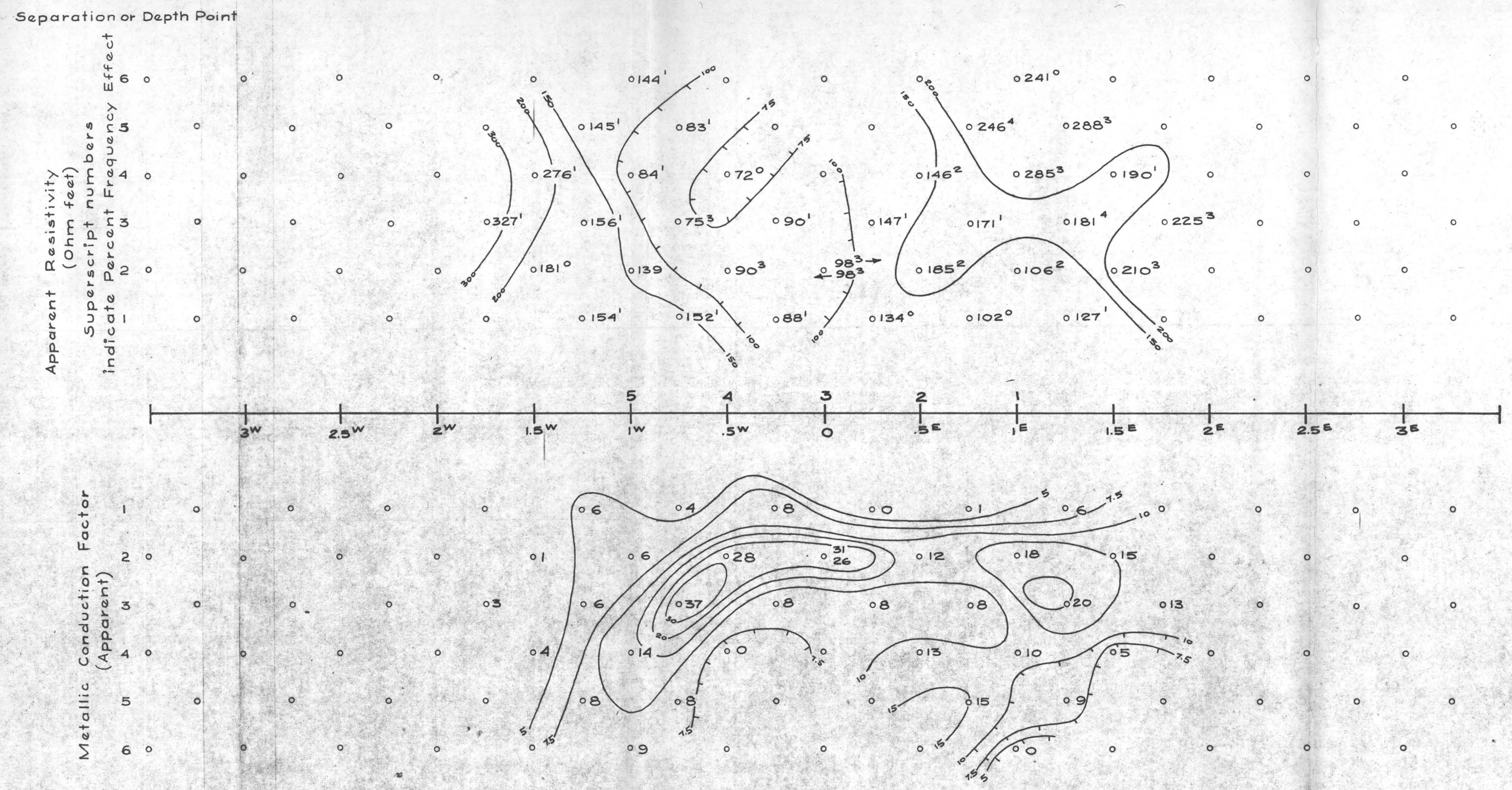


INDUCED POLARIZATION PROFILES

COMPOSITE PROFILES
LINE 4 - Spr. 1, REPEAT

West Sierrita Mountain Project
Sec. 27, T17S-R10E
Pima County, Arizona

for
INSPIRATION CONSOLIDATED COPPER CO.
by
Heinrichs Geoexploration Co.
August 1962 Scale: 1"=1000'



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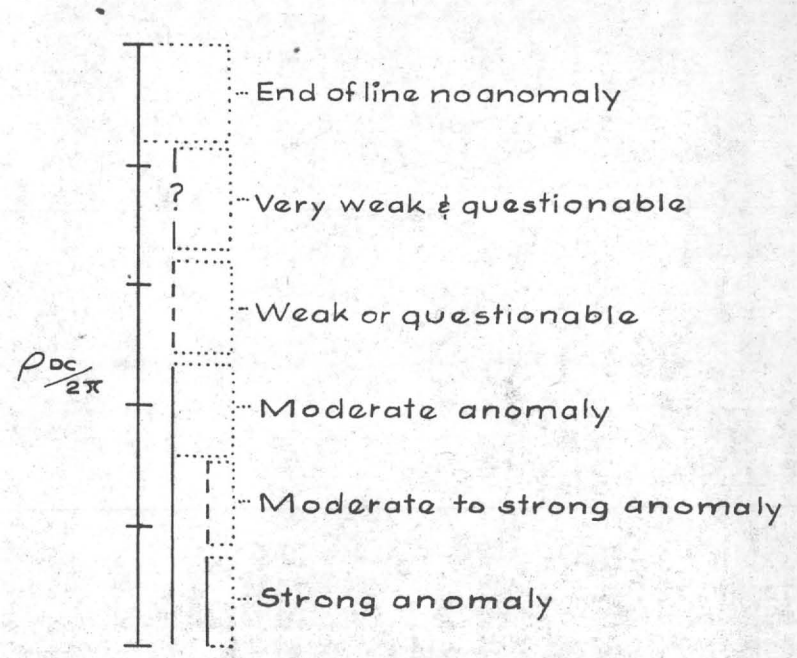


C.I. = Logarithmic

(( )) indicates questionable data

M.C.F.

West Sierrita Mt. Project

SECTIONAL DATA SHEET

for

INSPIRATION CON. COPPER CO.

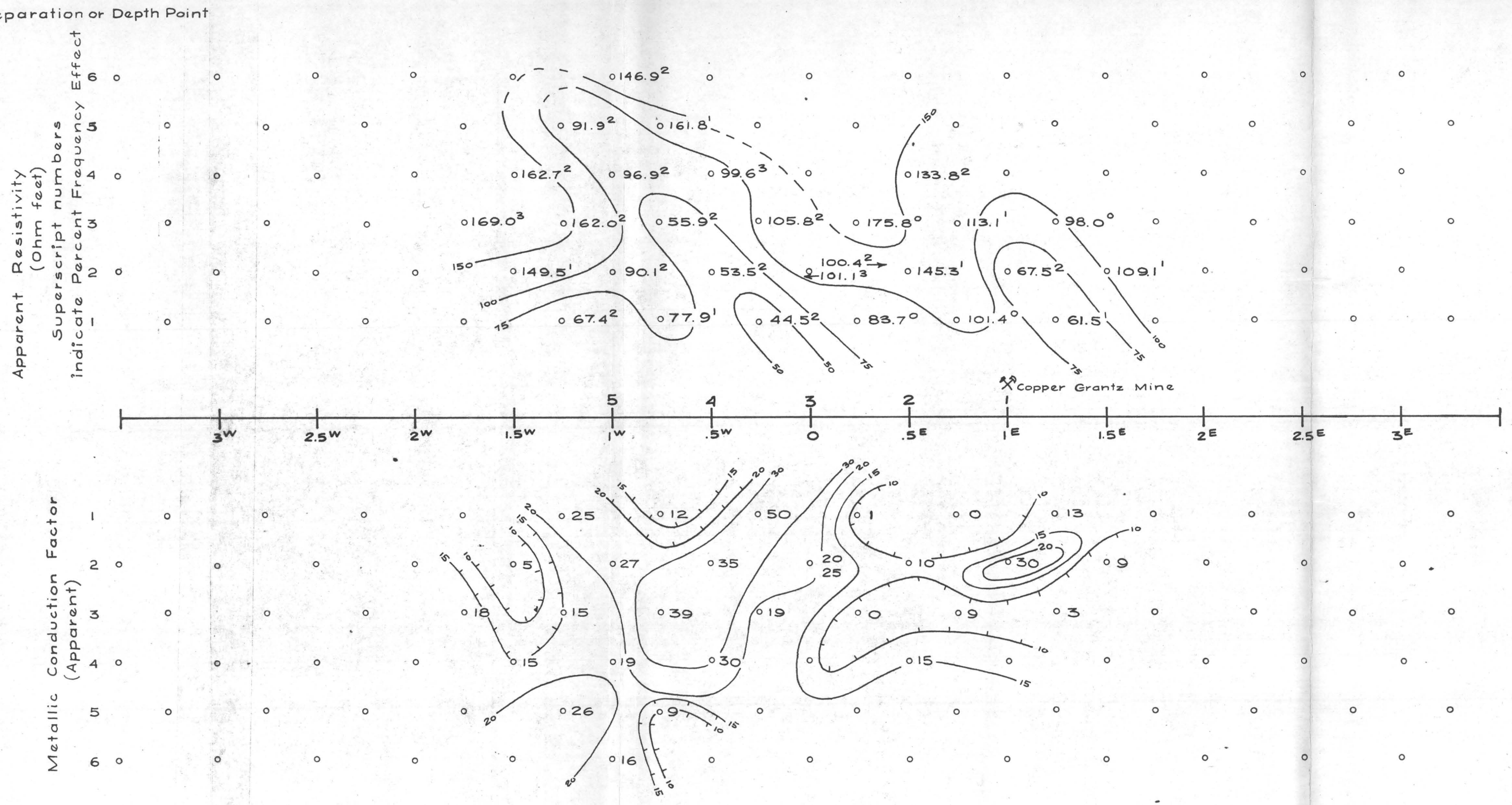
LINE No. 4 Repeat

INDUCED POLARIZATION SURVEY

HEINRICHS GEOEXPLORATION CO.

Scale: 1" = 500'

Date: Aug. 1962



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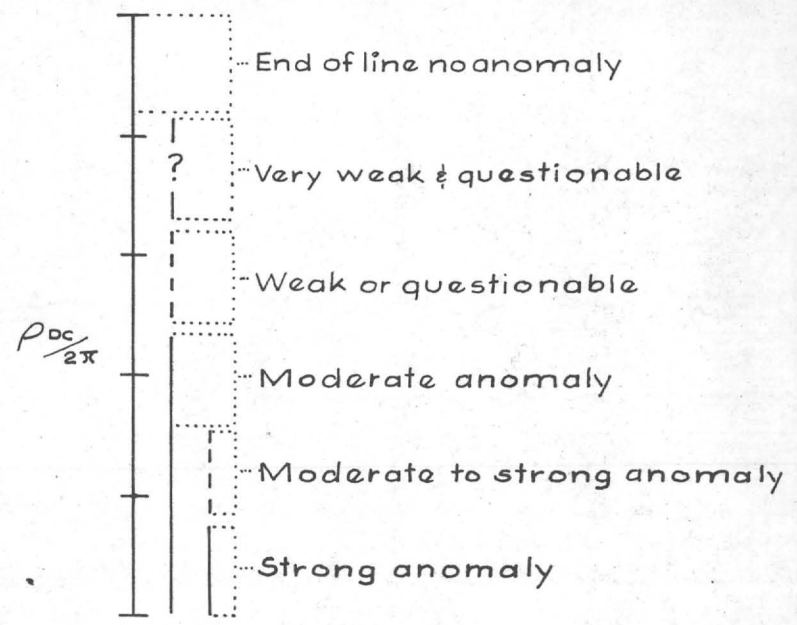

C.I. = Logarithmic

(( )) indicates questionable data

M.C.F.

West Sierrita Mt. Project

SECTIONAL DATA SHEET

for

INSPIRATION CON. COPPER CO.

LINE No. 2 Repeat

INDUCED POLARIZATION SURVEY

HEINRICHS GEOEXPLORATION CO.

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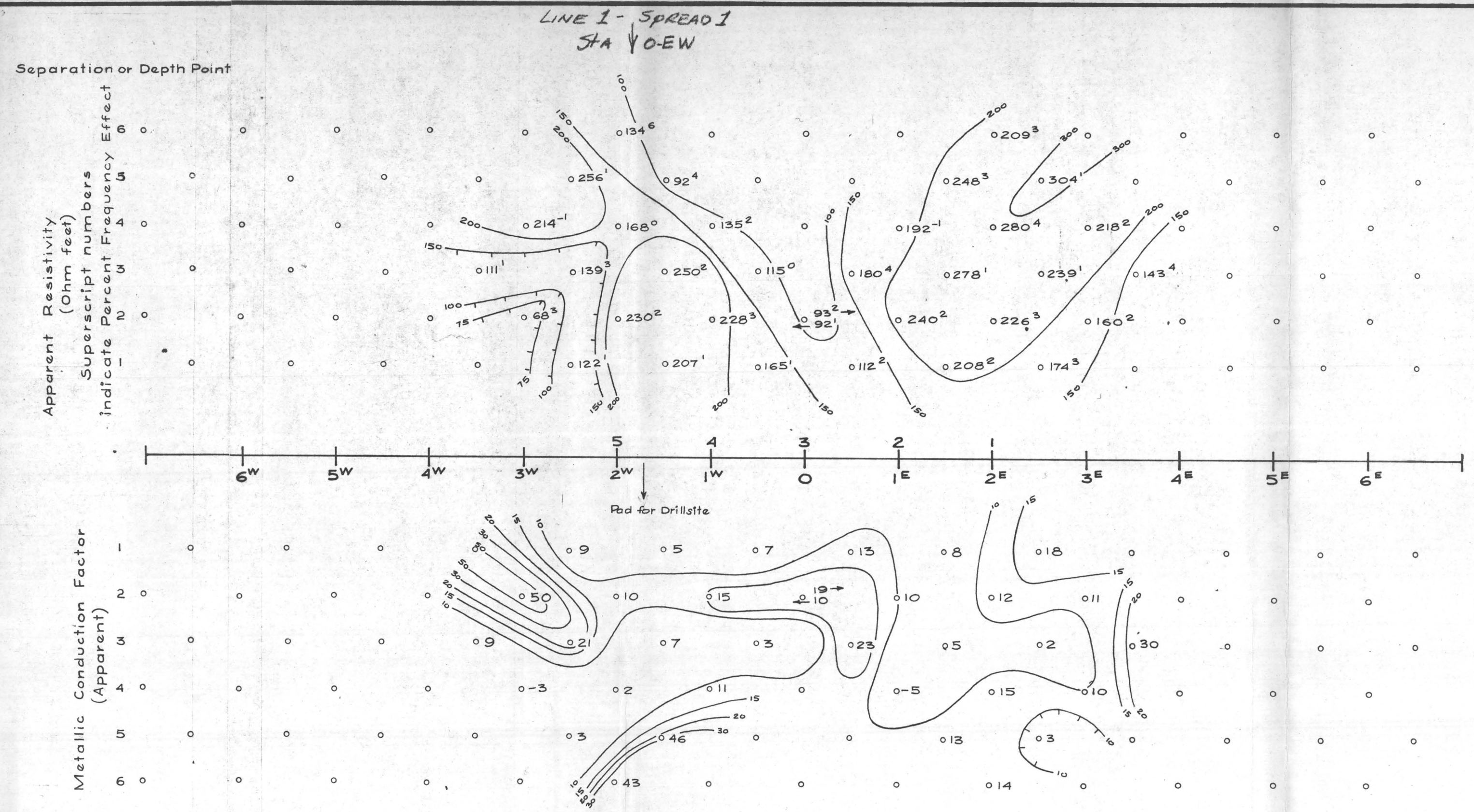
Date: Aug. 1962

Data by H.P. Instrument



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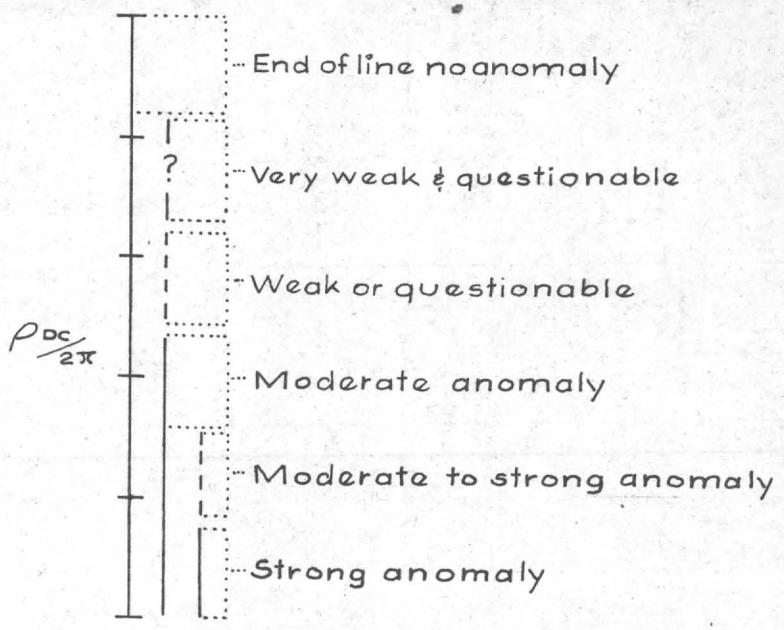

C.I. = Logarithmic

(( )) indicates questionable data

M.C.F.

West Sierrita Mt. Project

SECTIONAL DATA SHEET

for

INSPIRATION CON. COPPER CO.

LINE No. 6

INDUCED POLARIZATION SURVEY

HEINRICHS GEOEXPLORATION CO.

Scale 1" = 1000'

Date Aug. 1962

INDUCED POLARIZATION SURVEY

West Sierrita Mountains Prospect
Pima County, Arizona

for
INSPIRATION CONSOLIDATED COPPER COMPANY
Inspiration, Arizona

June 1962

by
HEINRICHS GEOEXPLORATION COMPANY
P. O. Box 5671 Tucson, Arizona

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Line No. 5

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Contour Plan Map Third Separation
Showing: M.C.F. values
P.F.E. values
Resistivity: Ohm Feet

In Map Pocket:

Composite Profiles
Line No. 1

Line No. 2, Spreads 1, 2 & 3

Line No. 3

Line No. 4

Line No. 5

Plan Map Scale: 1" = 1,000'

INTRODUCTION

This work is the initial geophysical follow up to previous results obtained by mobile magnetometer reconnaissance of the area wherein several anomalous zones were found. The latter work was covered in reports submitted in March and April 1962.

Our objective was to generally further appraise any potential economic significance in the vicinity of the magnetic anomaly "A", which was considered the better of the several anomalous areas found, and in particular, to determine the possibility or degree and location of any associated concentration of sulfides.

Field work started on 28 May 1962 and continued intermittently through 26 June 1962, covering eight spreads on five lines. All spreads were single 500' dipole spaced setups, except spreads 2 and 3 on Line 2 which were spaced 250'. Line 1 comprised two end on 500' dipole setups. Results are presented on five sectional data sheets for each line plotted at a horizontal scale of 1" = 500' for the 500' dipole spacing setups and 1" = 250' horizontal for the 250' setups. All other data is presented at a horizontal scale of 1" = 1,000' including six composite profiles, one for each of the five lines on 500' dipole setups and one for the 250' setups. Spreads 2 & 3 on Line 2; four contour plans at 3rd separation of resistivity Rho DC/2pi, P.F.E., and M.C.F., and self potential (using an

assumption that the zero level on each line was at the same level or also zero); and an index location-plan map showing I. P. lines and spreads, magnetic contours, claims, roads sections, etc.

CONCLUSIONS AND RECOMMENDATIONS

Potential significance of the results are most easily noted by overlaying and comparing all of the plan data which shows a fairly symetrical concentration of anomalism with good continuity centering between Station 0.75W and 1.0W on Line 4, just off the NE flank in the footwall of the magnetic high at Station 0.25E on Line 1.

While we might have hoped and preferred closer coincidence of magnetic and electrical results, the apparent relative position, persistence and degree of maximum electrical effects, are still quite encouraging. Generally speaking, the degree of all electrical anomalism is about, or almost twice apparent background. Experience indicates 50% over background may be important. Regardless of the recognized occasional relative vagaries of I. P. and S. P. data being positively-exclusively due to sulfides, in more absolute terms, we are at least quite certain of two coinciding parallel zones of high and low magnetics and resistivity, wherein each case the lows certainly could represent mineralization or at least a fault or major

formation change of some sort. Since there is little doubt that both of the latter data can be repeated, about the only remaining geophysical check we can think of is to see if we can repeat the S. P. and P.F.E. data on Line 4, and/or run a north-south cross spread to see if we can tie the E-W data from Line 4 to Lines 1 & 2. Otherwise for the present, except for more detailed correlation with Mr. Hugh Olmstead's geology completely plotted at 1" = 1,000', further answers must seemingly await drilling.

Regarding drilling, pending results as obtained, we recommend tentatively planning three vertical holes about 500' deep, the first between Station 0.75W and 1.0W on Line 4. If this is entirely negative, a second hole at Station 0.25E on Line 1 and a third hole for purposes contingent on the results of the first two. All results point to depth of cause somewhat less than 500' with 1,000' very unlikely, and considerably less than 500' possible.

The magnetic feature is definitely dipping westerly with plunge uncertain. Electrical features' dip are also uncertain maybe slightly favoring east, but with some contradictory evidence also west.

Meanwhile, if possible before making any permanent major decisions, after Mr. Olmstead's geology plotted at 1" = 1,000' is available, we recommend further joint discussion of all the

results and invite and endorse the idea of your independent relative comparison of these results with those previously obtained on the Fox and Mary groups and those planned in the near future from Christmas.

On a pure absolute geophysical basis, without regard to any other factors, the effects here are much stronger and less speculative than those at the Mary claim group area. However, they also appear to be considerably shallower which could largely account for much of this difference--all other things being equal.

INDUCED POLARIZATION SURVEY

West Sierrita Mountains Prospect
Pima County, Arizona

for
INSPIRATION CONSOLIDATED COPPER COMPANY
Inspiration, Arizona

COPY

June 1962

by
HEINRICHS GEOEXPLORATION COMPANY
P. O. Box 5671 Tucson, Arizona

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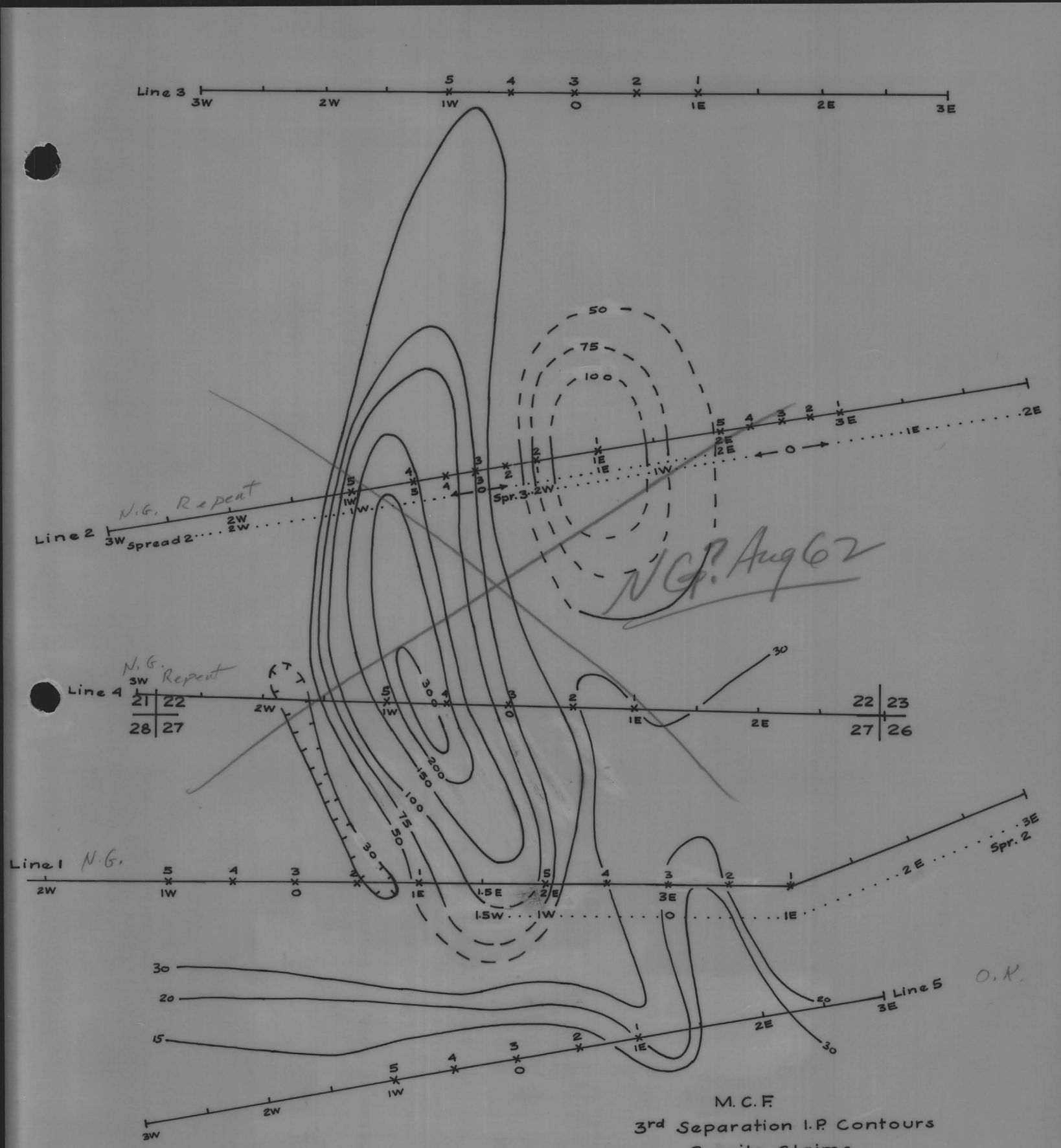
COPY

Respectfully submitted,

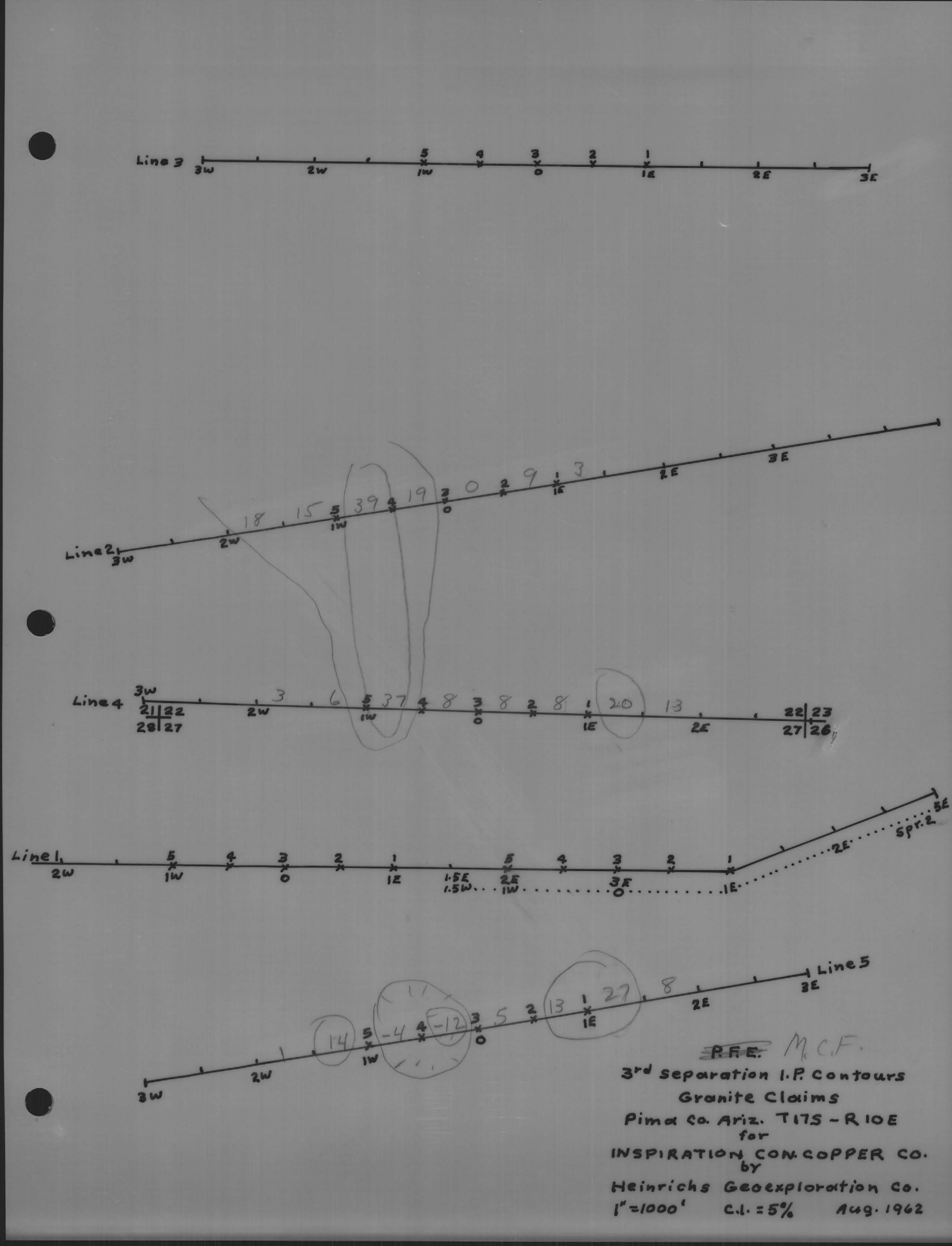
HEINRICHS GEOEXPLORATION COMPANY

Walter E. Heinrichs, Jr.
President & General Manager

July 3, 1962
P. O. Box 5671
Tucson, Arizona



M.C.F.
3rd Separation I.P. Contours
Granite Claims
Pima Co. Ariz. T17S - R10E
for
INSPIRATION CON. COPPER CO.
by
Heinrichs Geoexploration Co.
1" = 1000' C.I. = Logarithmic
June 1962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~~P.F.E.~~ M.C.F.
3rd separation I.P. Contours
Granite Claims
Pima Co. Ariz. T17S - R10E
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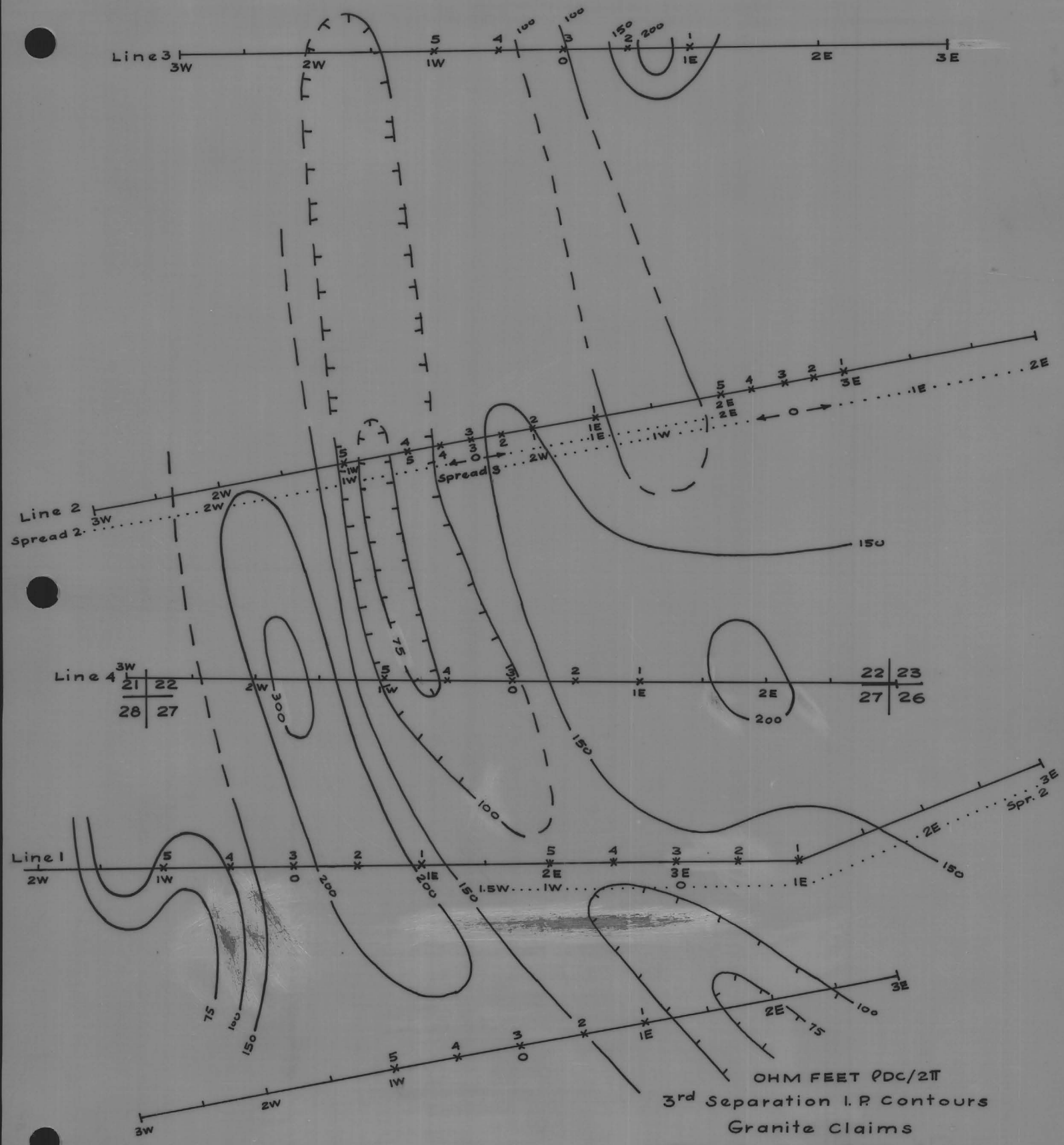
INSPIRATION CON. COPPER CO.
by
Heinrichs Geoexploration Co.
1" = 1000' C.I. = 5% Aug. 1962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Spread 2
Spread 3
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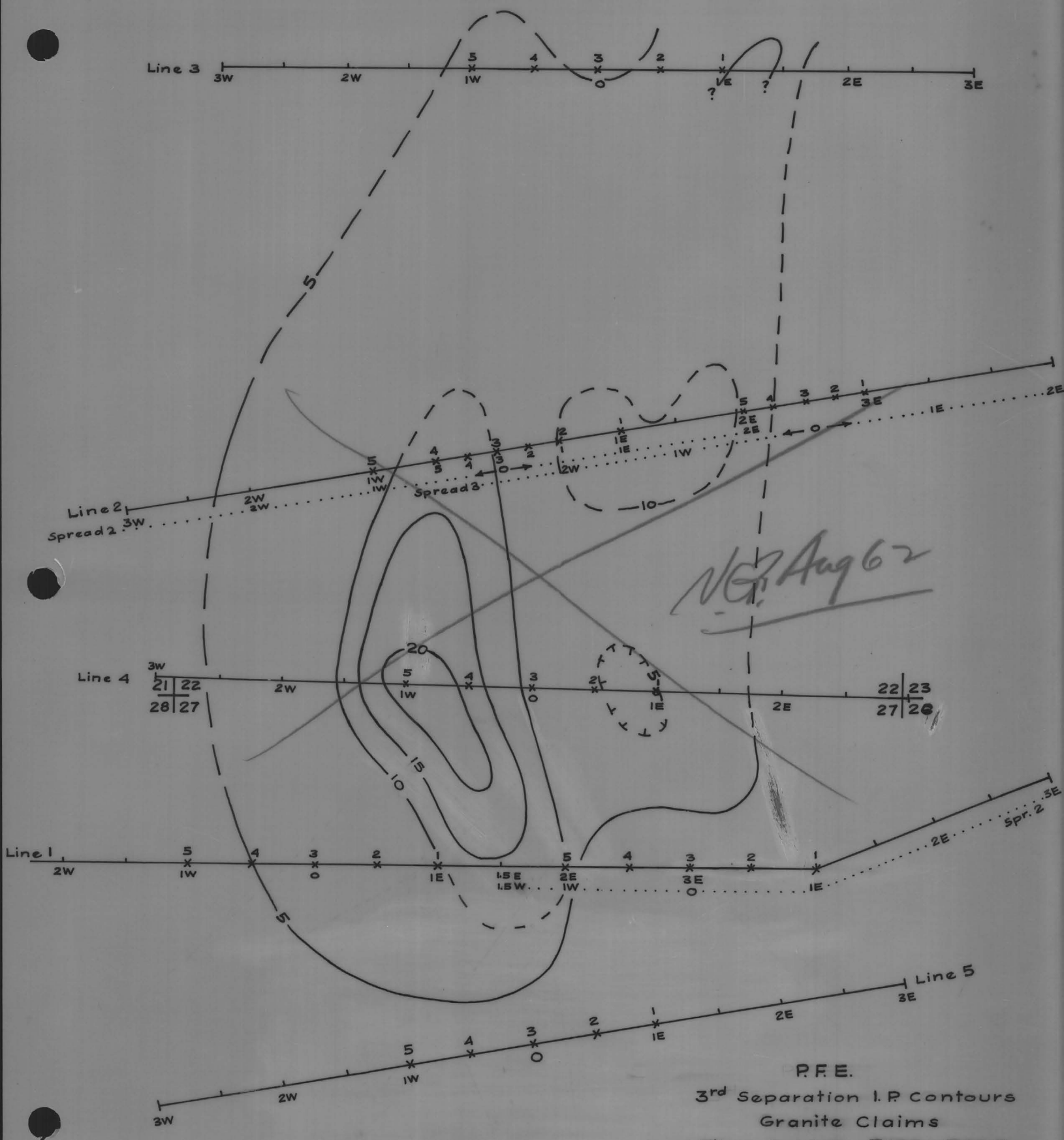
OHM FEET ρDC/2π
3rd Separation I. P. Contours
Granite Claims
Pima Co. Ariz. T17S - R10E
for
INSPIRATION CON. COPPER CO.
by
Heinrichs Geoexploration Co.
1" = 1000'
C.I. = Logarithmic
June 1962



P.F.E.

3rd Separation I.P. Contours

Granite Claims

Pima Co. Ariz. T17S - R10E

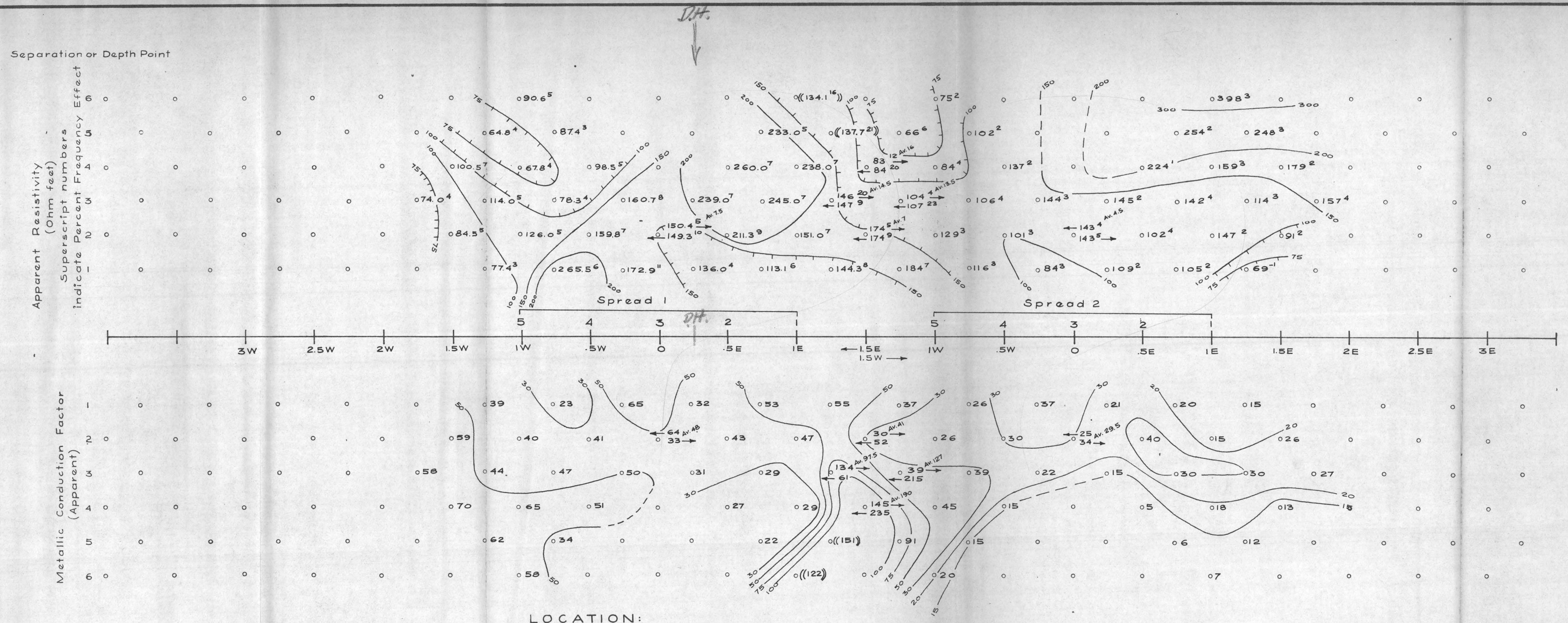
for

INSPIRATION CON. COPPER CO.

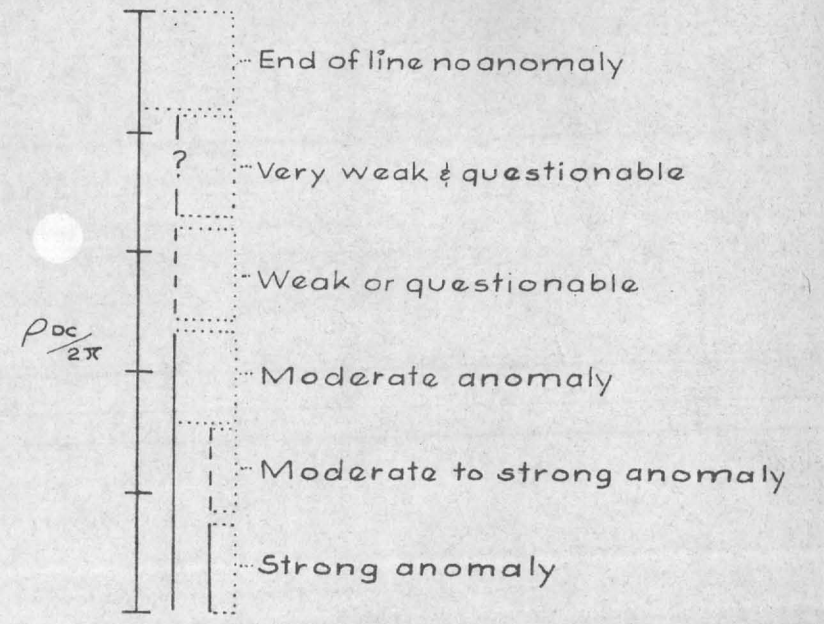
by

Heinrichs Geoexploration Co.

1" = 1000' C.I. = 5% June 1962



INTERPRETATION LEGEND



C.I. = Logarithmic

(( )) indicates questionable data

M.C.F.

LOCATION:

Station 0 Spread 1 1320' S. of N. Line of Sec. 27
1175' E. of W. Line of Sec. 27

Line bearing approx. East - West

Looking North

WEST SIERRITA MT. PROJECT

SECTIONAL DATA SHEET

for

INSPIRATION CON. COPPER CO.

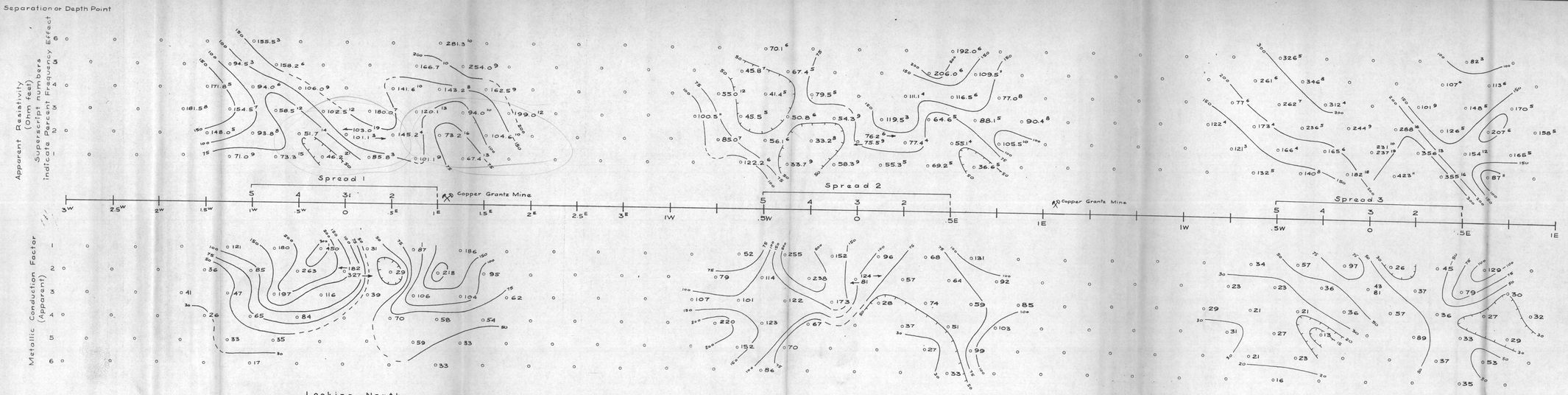
LINE No. 1 Spr 1 & 2

INDUCED POLARIZATION SURVEY

HEINRICHS GEOEXPLORATION CO.

Scale 1" = 500'

Date June 1962



LOCATION:
Station 0 Spread 1 & 2 2500' E. of W. line of Sec. 22
1950' N. of S. line of Sec. 22
Line bearing N. 80° E.

INTERPRETATION LEGEND

- End of line no anomaly
- ? Very weak & questionable
- Weak or questionable
- Moderate anomaly
- Moderate to strong anomaly
- Strong anomaly

ρ_{oc}/ρ_{∞}

C.I. = Logarithmic

(( )) indicates questionable data

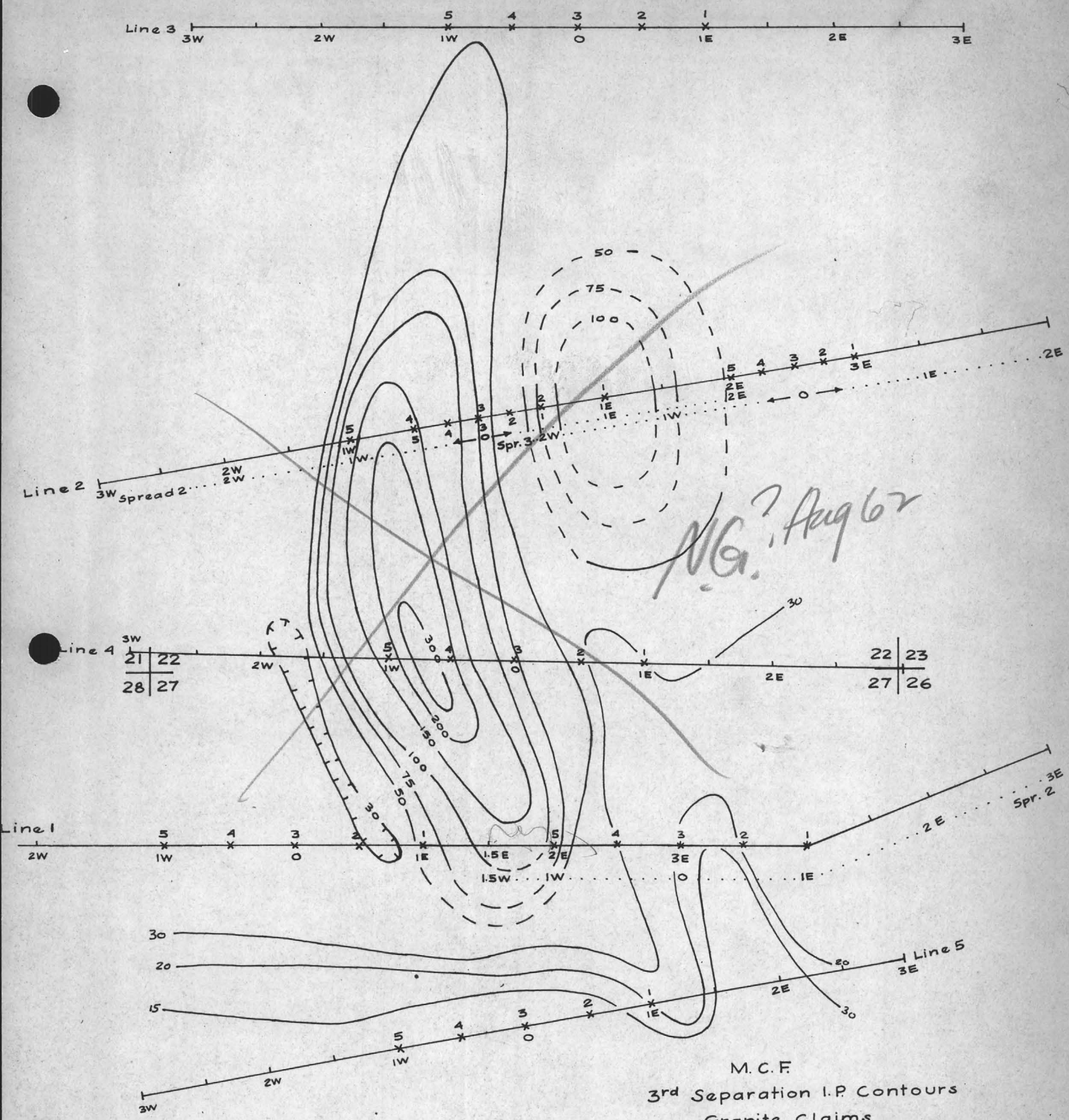
M.C.F.

WEST SIERRITA MT. PROJECT
SECTIONAL DATA SHEET
for
INSPIRATION CON. COPPER CO.

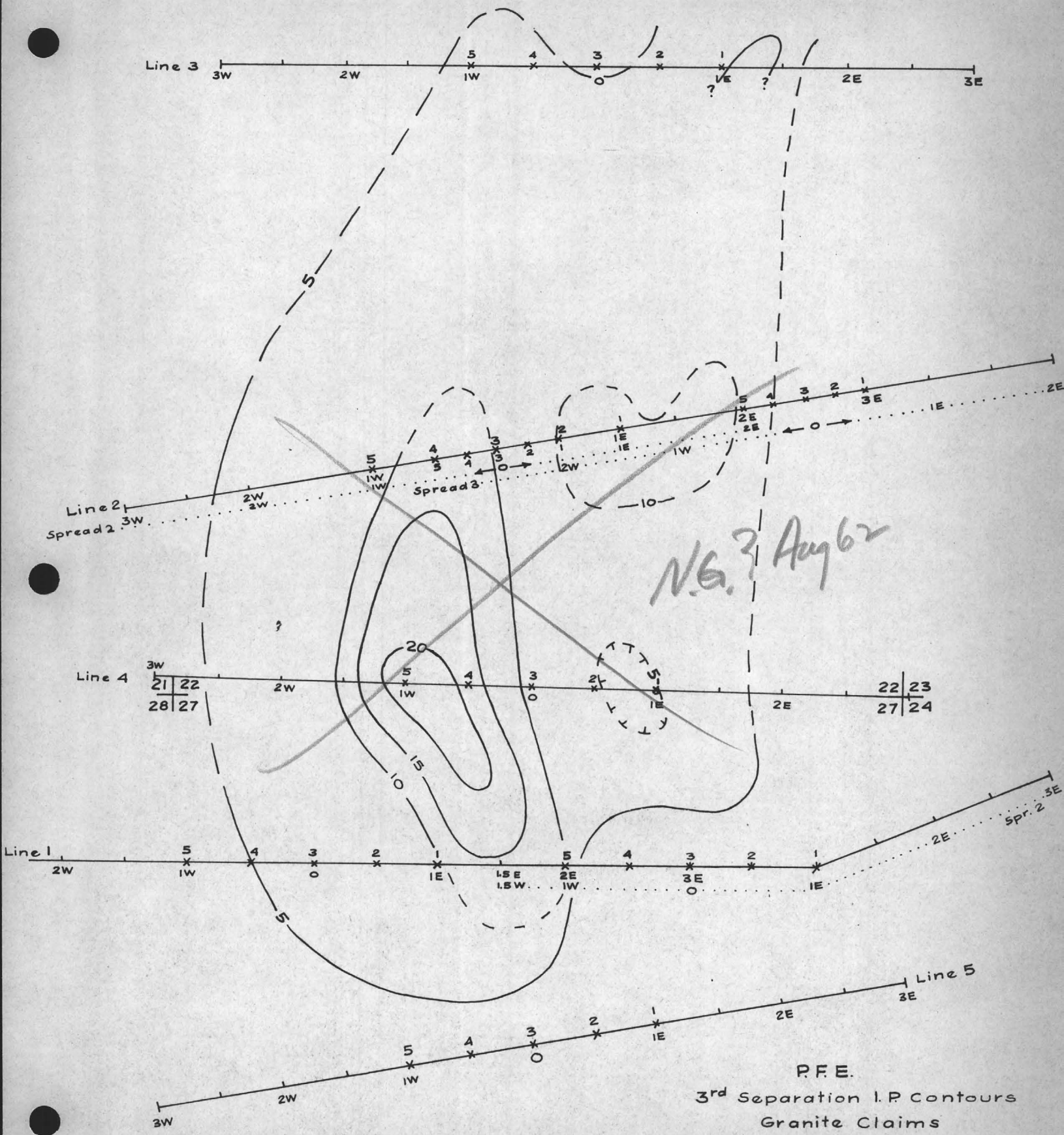
LINE No. 2 Spr 1-2-3

INDUCED POLARIZATION SURVEY
HEINRICHS GEOEXPLORATION CO.

Scale 1" = 500' & 1" = 250'
Date June 1962



M.C.F.
3rd Separation I.P. Contours
Granite Claims
Pima Co. Ariz. T17S - R10E
for
INSPIRATION CON. COPPER CO.
by
Heinrichs Geoexploration Co.
1" = 1000' C.I. = Logarithmic
June 1962



P.F.E.

3rd Separation I.P. Contours

Granite Claims

Pima Co. Ariz. T17S - R10E

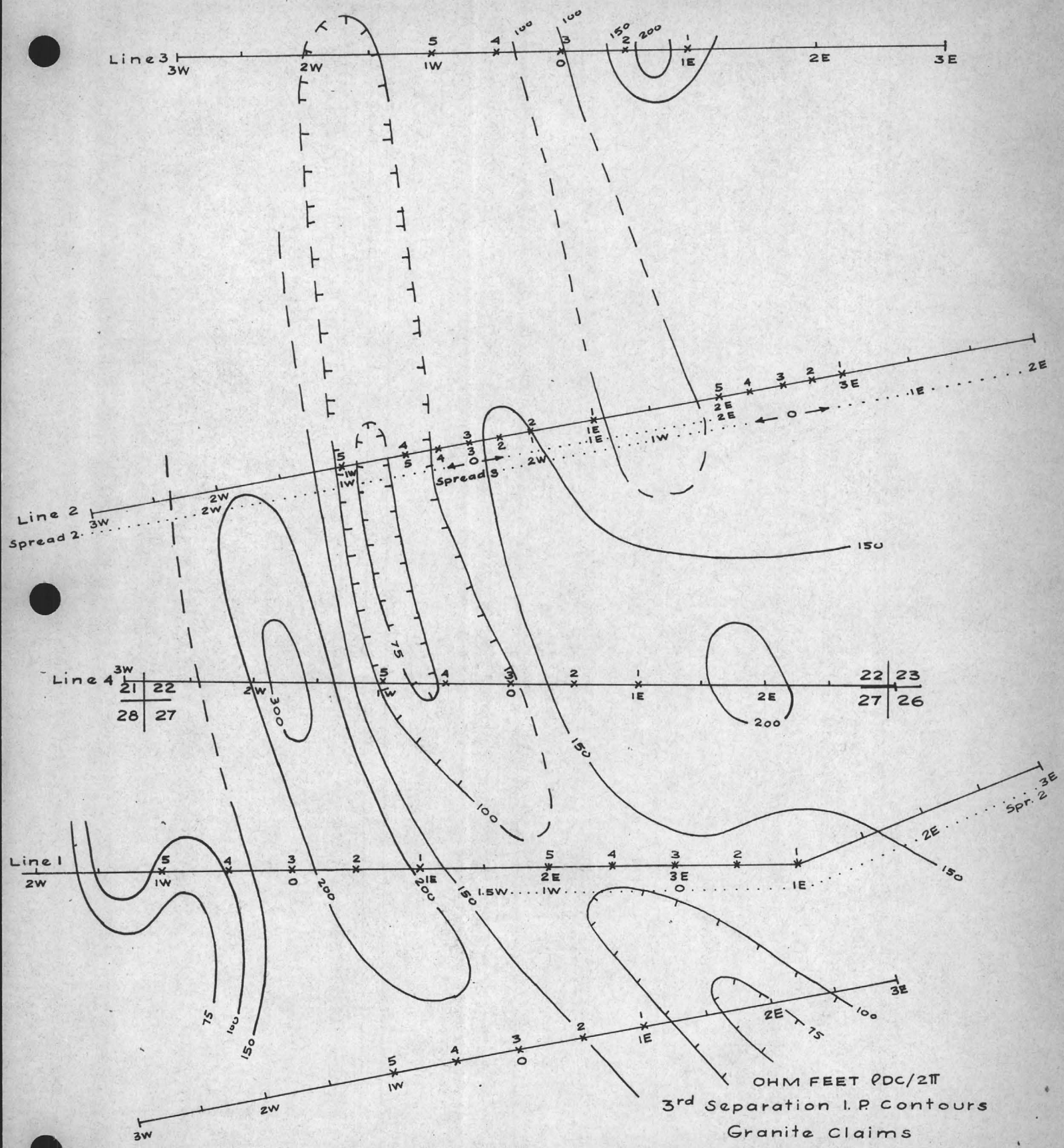
for

INSPIRATION CON. COPPER CO.

by

Heinrichs Geoexploration Co.

1" = 1000' C.I. = 5% June 1962



3rd Separation I. P. Contours

Granite Claims

Pima Co. Ariz. T17S - R10E

for

INSPIRATION CON. COPPER CO.

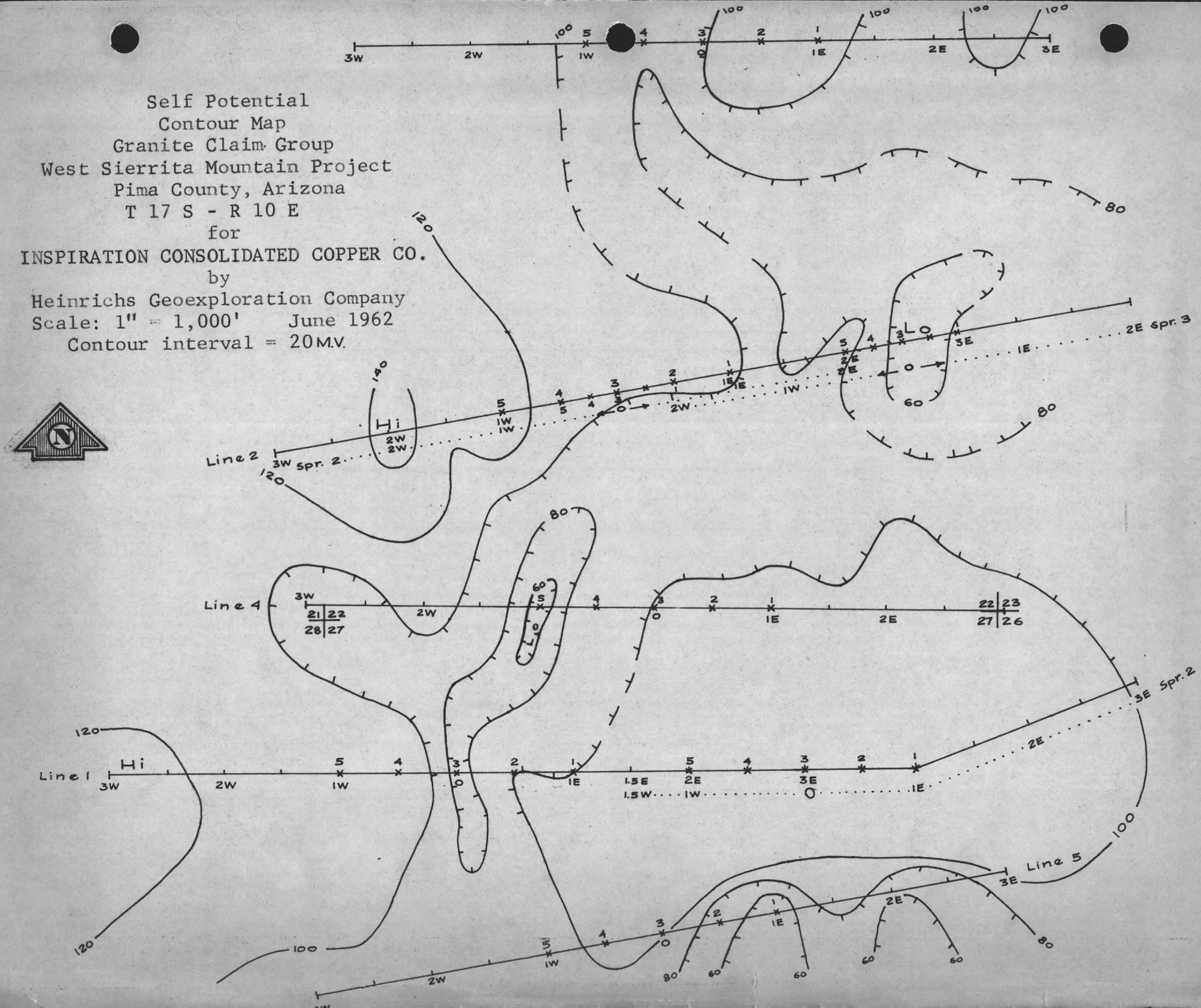
by

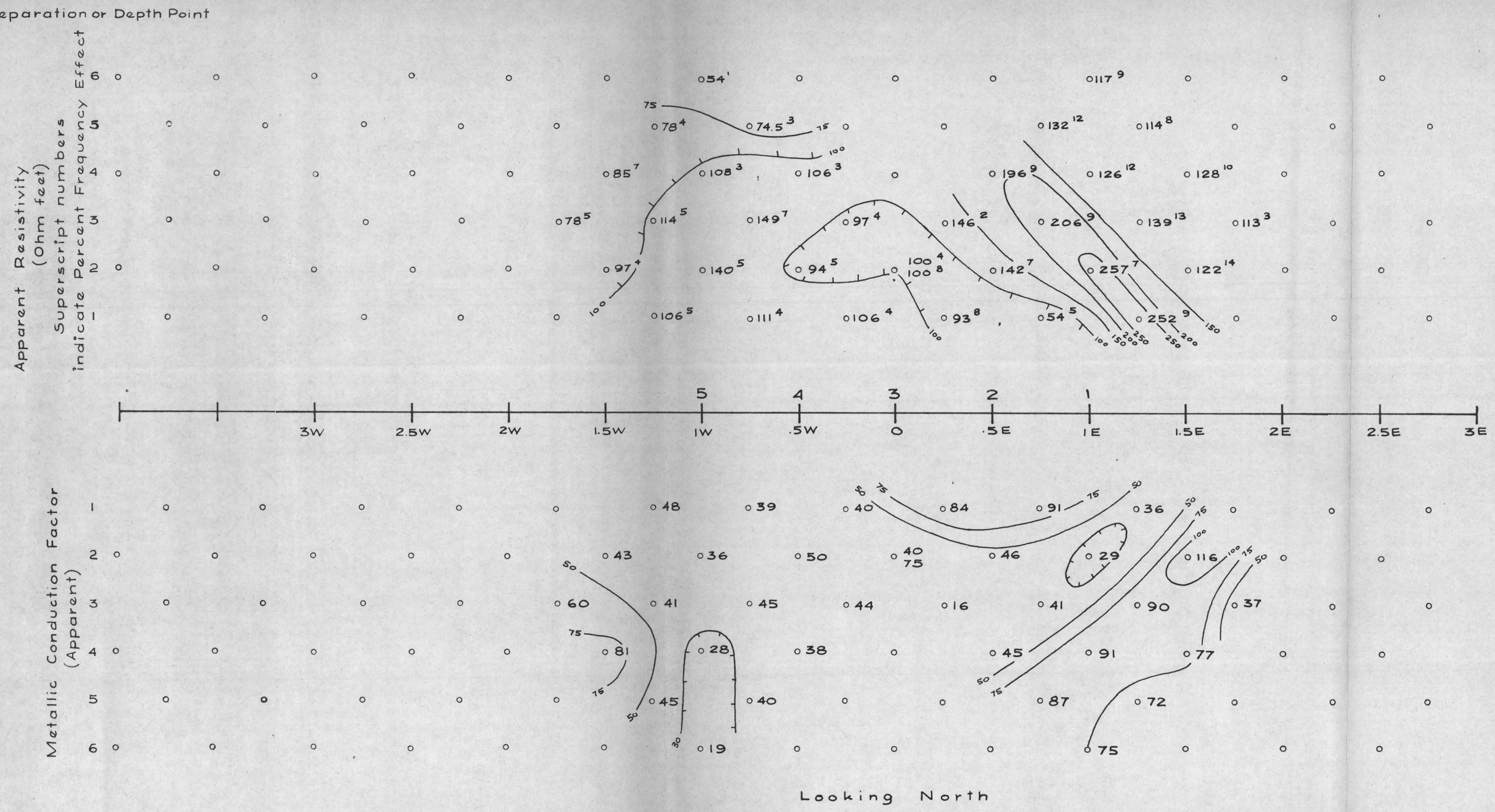
Heinrichs Geoexploration Co.

1" = 1000' C.I. = Logarithmic

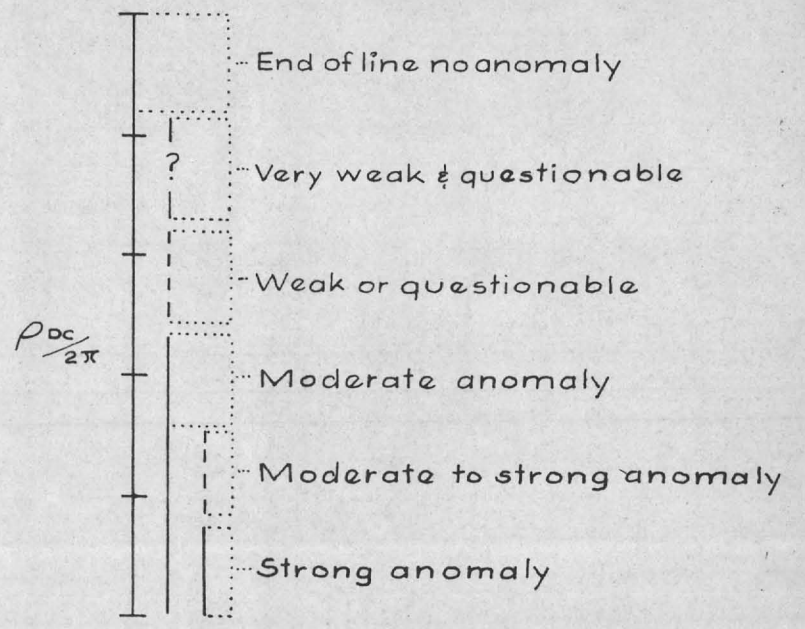
June 1962

Self Potential
Contour Map
Granite Claim Group
West Sierrita Mountain Project
Pima County, Arizona
T 17 S - R 10 E
for
INSPIRATION CONSOLIDATED COPPER CO.
by
Heinrichs Geoexploration Company
Scale: 1" = 1,000' June 1962
Contour interval = 20 M.V.





INTERPRETATION LEGEND



C.I. = Logarithmic

(( )) indicates questionable data

M.C.F.

WEST SIERRITA MT. PROJECT

SECTIONAL DATA SHEET

for

INSPIRATION CON. COPPER CO.

LINE No. 3

INDUCED POLARIZATION SURVEY

HEINRICHS GEOEXPLORATION CO.

Scale 1" = 500'

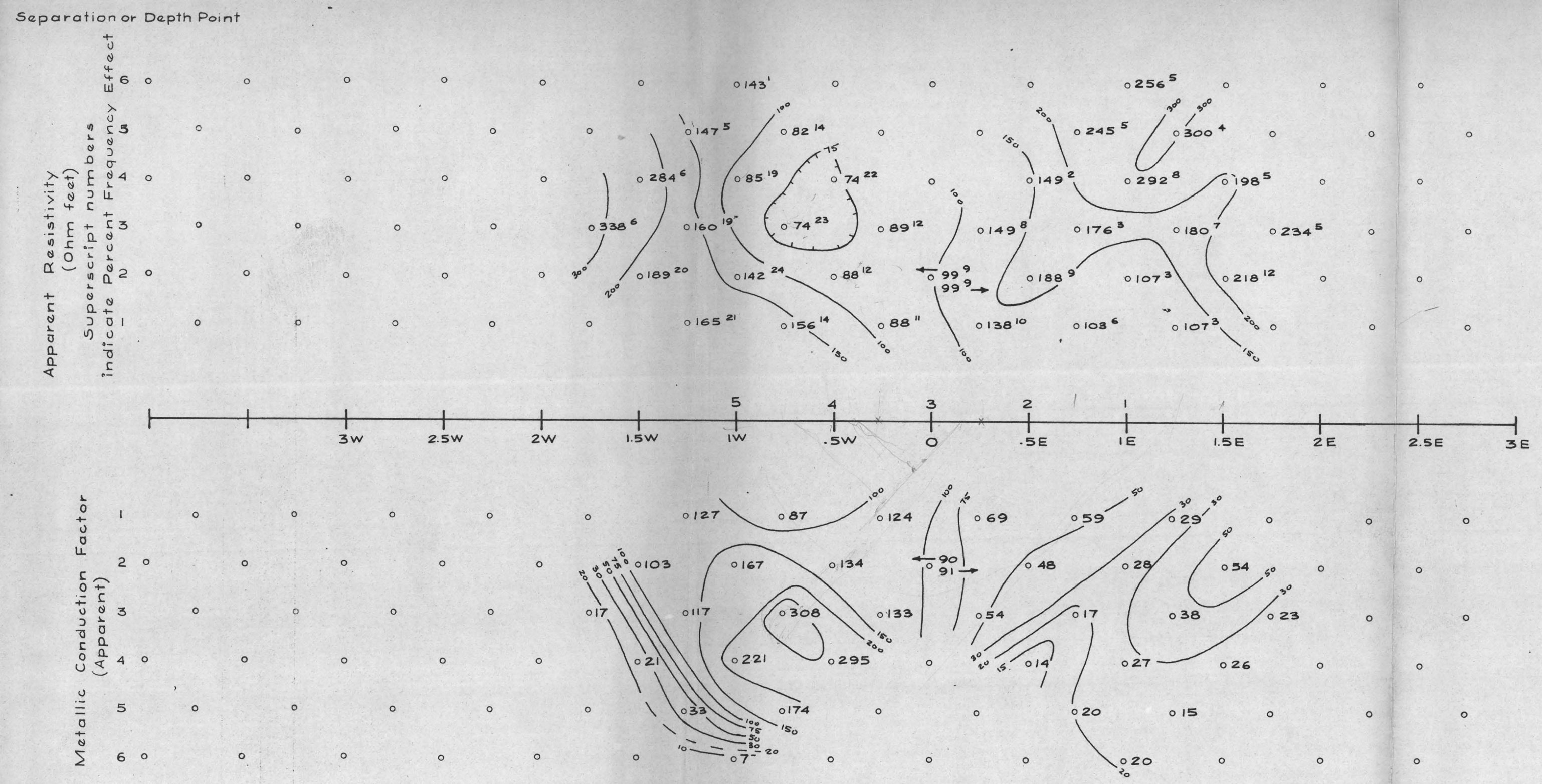
Date June 1962

LOCATION:

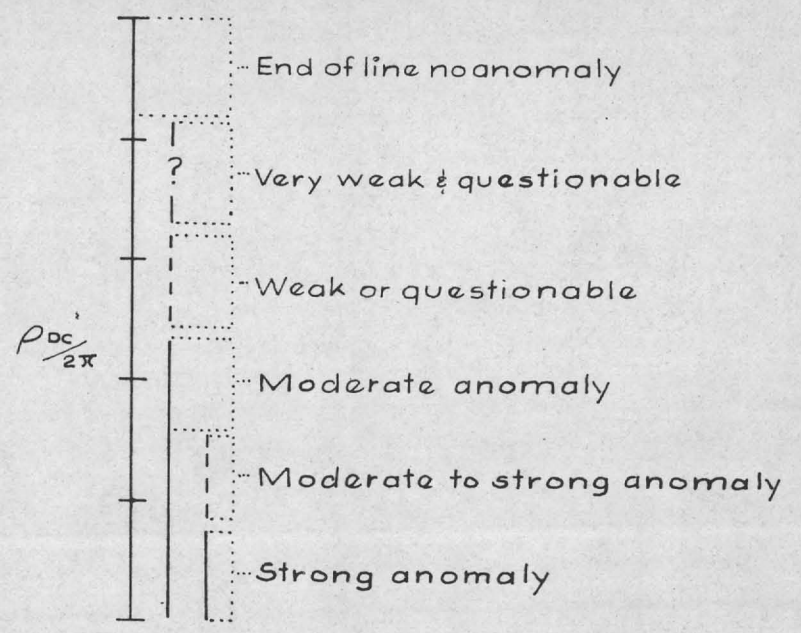
Station 0 Spread 1 300' S. of N. Line of Sec. 22

2450' W. of E. Line of Sec. 22

Line bearing approx. East - West



INTERPRETATION LEGEND



C.I. = Logarithmic

(( )) indicates questionable data

M.C.F.

LOCATION:

Station 0 Spread 1 3350' E. of W. line of Sec. 22
750' N. of S. line of Sec. 22

Line bearing approx. East - West

Looking North

WEST SIERRITA MT. PROJECT

SECTIONAL DATA SHEET

for

INSPIRATION CON. COPPER CO.

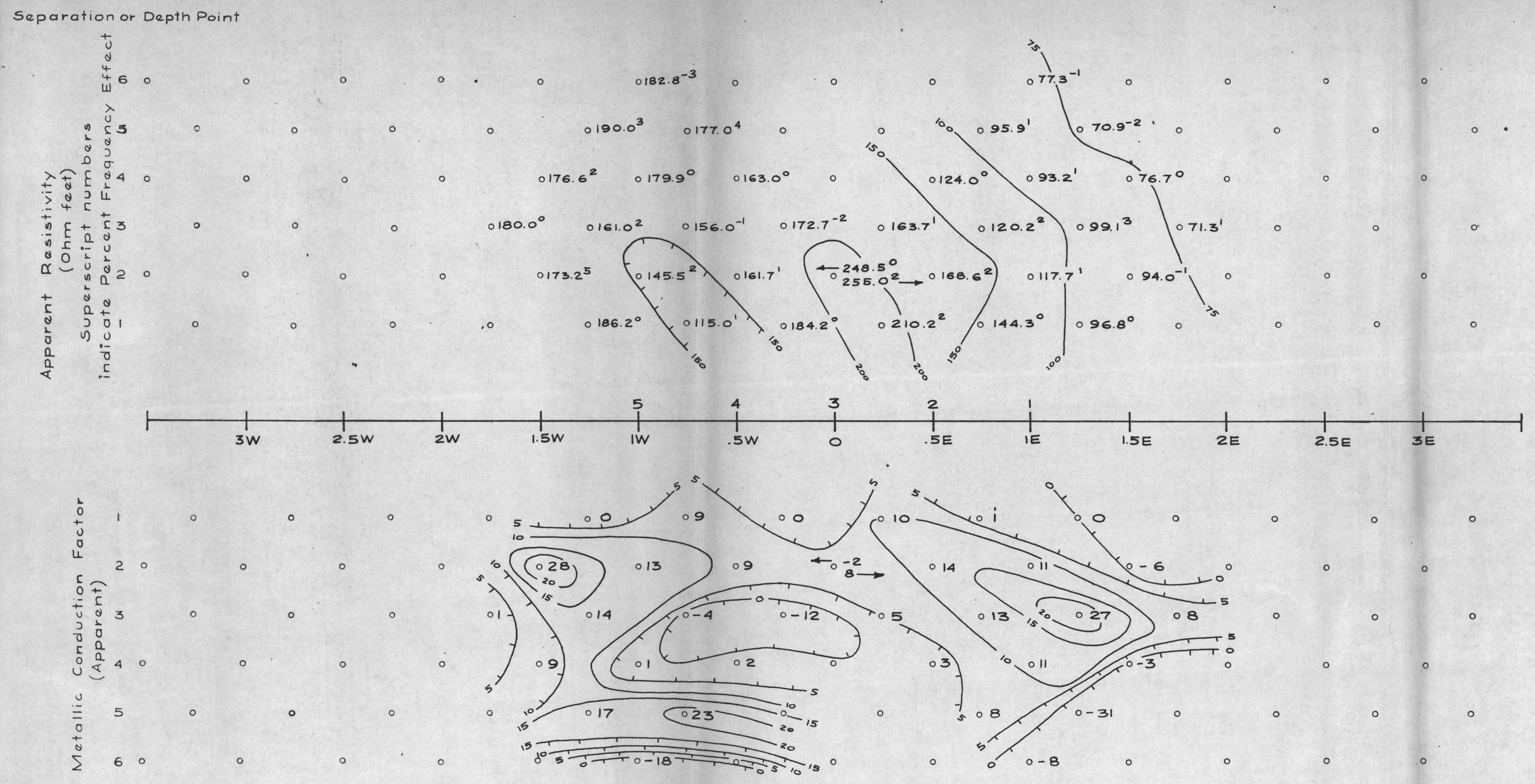
LINE No. 4

INDUCED POLARIZATION SURVEY

HEINRICHS GEOEXPLORATION CO.

Scale 1" = 500'

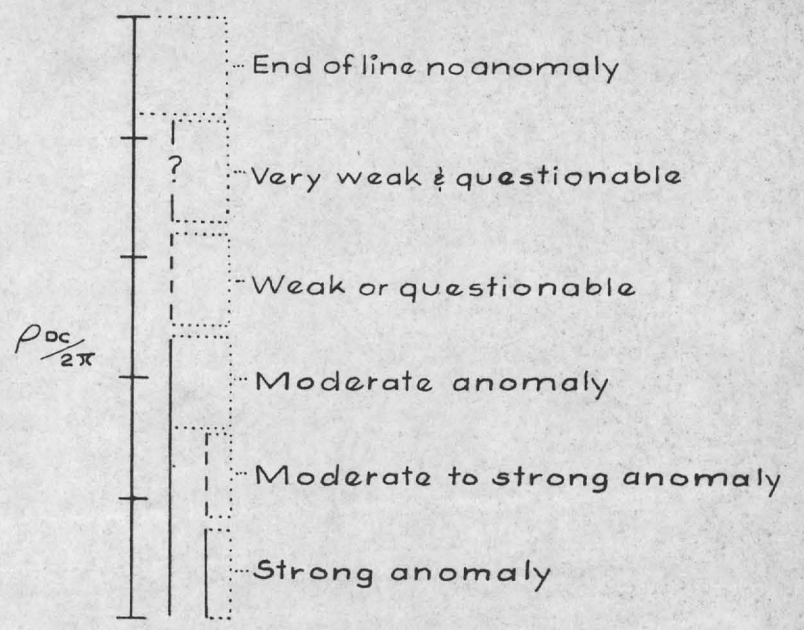
Date June 1962



LOCATION:
Station 0 Spread 1 2950' E. of W. line of Sec. 27
2650' N. of S. line of Sec. 27
Line bearing N. 80° E.

Looking North

INTERPRETATION LEGEND



C.I. = Logarithmic

((.)) indicates questionable data

M.C.F.

WEST SIERRITA MT. PROJECT

SECTIONAL DATA SHEET

for

INSPIRATION CON. COPPER CO.

LINE No. 5

INDUCED POLARIZATION SURVEY

HEINRICHS GEOEXPLORATION CO.

Scale 1" = 500'

Date June 1962

INDUCED POLARIZATION - RECEIVER NOTES PAGE 1

Project: N. Sierrita Line: 2 - Spr1 - repeat W½ Int.Cal 6.00 5.96 5.96 Date: 8/13/62

	H.P	Bal	H.P	Bal	H.P	Bal	H.P	Bal	H.P	Bal	H.P	Bal
Send	2-3	→	1-2	→	3-4	→	2-3	→	1-2	→	4-5	→
Rec.	0.5-1w.	→		→	1-1.5w	→		→		→	1.5-2w	→
Time		1158		1202		1216	1220	→		1226		1238
DC-1	25.9 25.9	25.7	14.6	13.6	46.5	44.8	8.0	7.65	6.32	5.96	38.8	38.0
DC-2	26.0 26.0	25.4	14.9	14.0	44.3	43.1	7.6	7.48	6.02	5.98	39.8	38.7
Σ	51.9 51.9	51.1	29.5	27.6	90.8	87.9	15.6	15.13	12.34	11.94	78.6	76.7
DC-3		25.7	14.6	13.6	46.3	45.0	8.0	7.70	6.40	6.00	38.7	38.8
Dc-4		25.4	14.9	14.0	44.5	43.0	7.6	7.42	5.92	5.92	39.8	38.0
Σ		51.1	29.5	27.6	90.8	88.0	15.6	15.12	12.32	11.92	78.5	76.8
DC-AV	51.9	51.1	29.5	27.6	90.8	87.95	15.6	15.13	12.33	11.93	78.55	76.75
AC-1	24.1	24.6	13.4	13.2	42.0	42.0	7.0	7.19	5.60	5.65	36.4	37.1
AC-2	23.9	24.9	13.4	13.8	42.0	42.0	7.0	7.19	5.59	5.63	36.1	36.2
Σ	48.0	49.5	26.8	26.5	84.0	84.0	14.0	14.38	11.19	11.28	72.5	73.3
S. P.	-31.6	→		-31.0	-20.0	→		→		-14.3	+27.3	→
AC-N	←			.06				0	0.07	0		
	100	100	30	100	100 100Ω	100	10	10	10	10	100 100Ω	

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: W. Sierrita Line: 2 - Spur 1 - repeat W½ Int.Cal Date: 8/13/62

	H.P	BAL	H.P	BAL	H.P	BAL	H.P	BAL	H.P	BAL	H.P	BAL
Send	3-4	→	2-3	→	1-2	→	4-5	→	3-4	→	2-3	→
Rec.	1.5-2 W						2-2.5 W					
Time												
DC-1	13.3	11.6	3.30	3.19	2.98	2.83	22.1	21.0	9.4	9.39	2.88	2.69
DC-2	13.0	12.8	3.21	3.18	2.84	2.88	21.5	20.7	9.5	9.39	2.76	2.74
Σ	26.3	24.4	6.51	6.37	5.82	5.71	43.6	41.7	18.9	18.78	5.64	5.43
DC-3	13.3	11.6	3.35	3.13	2.98 3.01	2.80 2.78	22.1	21.0	9.3	9.39	2.93	2.70
Dc-4	13.0	12.8	3.18	3.21	2.82	2.88	21.5	20.7	9.6	9.39	2.72	2.73
Σ	26.3	24.4	6.53	6.34	5.80	5.68	43.6	41.7	18.9	18.78	5.65	5.43
DC-AV	26.3	24.4	6.52	6.36	5.81	5.70	43.6	41.7	18.9	18.78	5.65	5.43
AC-1	12.0	12.0	3.0	3.0	2.68	2.69	19.8	20.3	8.7	8.82	2.51	2.61
AC-2	12.0	11.9	3.0	3.02	2.66	2.69	19.9	20.0	8.7	8.82	2.51	2.57
Σ	24.0	23.9	6.0	6.02	5.34	5.38	39.7	40.3	17.4	17.64	5.02	5.18
S. P.						+24.2	+4.5					
AC-N						.06						
	30	100	10	10	10		30 2.2000		30.	10	3	

INDUCED POLARIZATION - RECEIVER NOTES

PAGE 3

Project: W Sierrita Line: #2 Sprd #1 Rep Int.Cal Date: 8/13/67

	H.P	BAL	H.P	BAL	H.P	BAL	H.P	BAL	H.P	BAL		
Send	1-2	→	4-5	→	3-4	→	2-3	→	1-2	→		
Rec.	2-2.5W	→	2.5-3W									
Time		1325										
DC-1	2.59	2.59	9.89	9.62	4.80	4.61	1.50	1.40	1.47	1.38		
DC-2	2.80	2.53	9.80	9.60	4.70	4.51	1.56	1.50	1.59	1.50		
Σ	5.39	5.12	19.69	19.22	9.50	9.12	3.06	2.90	3.06	2.88		
DC-3	2.60	2.62	9.86	9.62	4.75	4.66 4.63	1.50	1.45	1.46	1.40		
Dc-4	2.78	2.53	9.84	9.60	4.73	4.50	1.56	1.45	1.60	1.46		
Σ	5.38	5.15	19.70	19.22	9.48	9.16	3.06	2.90	3.06	2.86		
DC-AV	5.39	5.14	19.70	19.22	9.49	9.14	3.06	2.90	3.06	2.87		
AC-1	2.40	2.49	8.62	9.05	4.32	4.32	1.39	1.40	1.39	1.38		
AC-2	2.41	2.50	8.62	9.05	4.32	4.35	1.39	1.40	1.39	1.39		
Σ	4.81	4.99	17.24	18.10	8.64	8.67	2.78	2.80	2.78	2.77		
S. P.		+3.4	-10.8							-9.7		
AC-N	←	0.07								0.07		
	3		2 10kΩ		10		3	3	3			

INDUCED POLARIZATION - RECEIVER NOTES PAGE 4

Project: Line: Int.Cal Date: 8/13/62

	H.P	H.P. BAL		H.P	H.P	Bal	HP	HP	Bal			
Send	4-5											
Rec.	Cal											
Time												
DC-1	15.7	15.2	15.3	51	52.5	51.5	83.6	82	82.2			
DC-2	15.8	15.1	15.1	51	52.7	51.8	83.2	82	82.0			
Σ	31.5			102	105.2	103.3	166.8	164	164.2			
DC-3	15.7	15.2	15.3	51	52.5	51.5	83.6	82	82.2			
Dc-4	15.8	15.1	15.1	51	52.7	51.8	83.2	82	82.0			
Σ	31.5			102	105.2	103.3	166.8	164	164.2			
DC-AV	31.5	30.3	30.4	102	105.2	103.3	166.8	164	164.2			
AC-1	14.6	14.3	14.8	49	48.9	48.8	75.8	78.0	78.1			
AC-2	14.6	14.2	14.8	48.5	48.8	48.9	75.9	77.0	78.2			
Σ	29.2	28.5	29.6	97.5	97.7	97.7	151.7	155.0	156.3			
S. P.												
AC-N												
	30	100	100	300	100	100	100	300				

INDUCED POLARIZATION - RECEIVER NOTES

PAGE 1

Project: W-Sierrita Line: 2-Spr. 1 Repeat Int.Cal ____ Date: 8/13/62

	H.P.	BAL	H.P.	BAL	H.P.	BAL	H.P.	BAL	H.P.	BAL	H.P.	BAL
Send	3-4		4-5		2-3		3-4		4-5		1-2	
Rec.	0.5-1.0	E →		→	1.0-1.5	E →		→		→	1.5-2.0	E →
Time												
DC-1	48.2 48.2	47.5 47.9	14.7	13.6 13.9	59.0 59.0	58.2 58.2	21.3 21.2	20.5 20.2	10.3 10.3	10.2 10.2	36.0 36.0	35.1 35.1
DC-2	47.8 49.3	48.2 48.1	14.6	13.6 13.6	59.2 59.1	58.2 58.2	21.1 21.2	21.0 20.5	10.2 10.2	10.3 10.3	35.8 35.8	35.0 35.0
Σ	96.0 97.5	95.7 96.0	29.3	27.2 27.5	118.2 118.1	116.4 116.4	42.4 42.4	41.5 40.7	20.5 20.5	20.5 20.5	71.8 71.8	70.1 70.1
DC-3	48.2	47.6 47.9	14.7	13.8 13.8				19.9 20.2				
Dc-4	49.3	48.5 48.1	14.6	13.7 13.8				20.5 20.5				
Σ	97.5	96.1 96.0	29.3	27.5 27.6				40.4 40.7				
DC-AV	97.7	96.0	29.3	27.5	118.2	116.4	42.4	40.8	20.5	20.5	71.8	70.1
AC-1	45.5	45.9	13.4	13.6	54.7	56.0	19.1	19.9	9.7	9.8	33.5	33.8
AC-2	45.5	46.1	13.4	13.8	54.5	56.0	19.2	19.9	9.6	9.8	33.5	34.0
Σ	91.0	92.0	26.8	27.4	109.2	112.0	38.3	39.8	19.3	19.6	67.0	67.8
S. P.	+4.2			+5.1	-9.3					-7.2	-10.7	
AC-N				0.10								
Range	100 1800Ω		30		100 1800Ω		30		30		100 1400Ω	

DEFEALT

INDUCED POLARIZATION - RECEIVER NOTES

PAGE 2

Project: L. Sierrita Line: 2 - E½ - Repeat Int.Cal 50.8 Date: 8/15/68

	H.P.	BAL	H.P.	BAL	H.P.	BAL	H.P.	BAL	H.P.	BAL	H.P.	BAL
Send	2-3		3-4		4-5		1-2		2-3		3-4	
Rec.						→	2.0-2.5 E					
Time												
DC-1	9.9 10.0	9.89 9.78	6.62 6.62	6.50 6.45	3.90 3.88	3.92 4.00	15.9 15.8	15.2 15.1	5.60 5.60	5.95 5.92		
DC-2	9.8 9.8	9.60 9.59	6.58 6.58	6.40 6.40	3.92 3.92	3.60 3.58	15.9 16.0	15.4 15.5	5.82 5.82	5.70 5.72		
Σ	19.7 19.8	19.40 19.37	13.20 13.20	12.90 12.85	7.81 7.78	7.52 7.58	31.8 31.9	30.6 30.6	11.42 11.42	11.15 11.14		
DC-3	9.9	9.82 9.82	6.60	6.45 6.45	3.85	4.00 4.07				5.92		
Dc-4	9.8	9.45 9.50	6.60	6.35 6.45	3.98	3.55 3.50				5.75		
Σ	19.7	19.32 19.32	13.20	12.80 12.90	7.83	7.55 7.57				11.67		
DC-AV	19.7	19.34	13.20	12.86	7.81	7.55	31.85	30.6	11.42	11.15		
AC-1	9.1	9.2	6.02	6.15	3.60?	3.70?	14.7?	15.0?	5.30?	5.40?		
AC-2	9.1	9.2	6.00	6.15	3.58	3.60?	14.6	15.4	5.25	5.40		
Σ	18.2	18.40	12.02	12.30	7.18	7.30	29.3	30.4	10.55	10.80		
S. P.						-13.7	-95.9			-99.4		
AC-N	storm	noise	high	basic	?AC data .25-3.0							
	30		10		10		30 4500?		10			

INDUCED POLARIZATION - RECEIVER NOTES PAGE 3

Project: W.S. Porta Line: 2 Sec I - E½ Int.Cal 51.0 Date:

	H.P.	H.P.	BAL	H.P.	H.P. Repeat	BAL	H.P.	H.P.	BAL			
Send	1-2											
Rec.	CAL											
Time			16:37									
DC-1	15.9	~~14.5~~ 15.0	15.0	52.0	50.5	51.2 51.2	82.0	81.0	82.0 82.0			
DC-2	15.7	~~14.8~~ 15.0	15.0	52.0	50.5	51.0 51.0	82.8	81.0	82.0 82.0			
Σ	31.4	30.0	30.0	104.0	101	102.2 102.2	165.8	162.0	164.0 164.0			
DC-3	15.7	15.0	15.0	52.0	50.5	51.0 51.0	83.0	81.0				
Dc-4	15.7	15.0	15.0	52.0	50.5	51.2 50.5	82.8	81.0				
Σ	31.4	30.0	30.0	104.0	101	102.2 101.5	165.8	162.0				
DC-AV	31.4	30.0	30.0	104.0	101.0	102.0	165.8	162.0	164.0			
AC-1	14.7	14.2	15.0	48.2	48	48.9	75.3	77.0	78.7			
AC-2	14.7	14.3	14.8	48.6	49	49.9	75.3	77.0	79.0			
Σ	29.4	28.5	29.8	96.8	97	98.8	150.6	154.0	157.3			
S. P.												
AC-N												
	30	100		100	300		100	100				

INDUCED POLARIZATION SENDER NOTES

Project: W. SIERRITAS Line: 2 E. REPEAT Date: 13 AUG 62

Send	1-2	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Receive	CAL.	.5—1.0 E.		1.0-1.5 E.			1.5-2.0 E.				2.0-2.5 E.	
Time												
Range X_2		850										
Current		1700										
Send	3-4	4-5	1-2	2-3	3-4	4-5	1-2					
Receive			2.5-3.0 E				CAL					
Time												
Range X_2							150	500	800			
Current							300	1000	1600			

INDUCED POLARIZATION SENDER NOTES

project: W. SIERRITAS Line: 2 W REPEAT Date: 13 AUG 62

Send	4-5	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Receive	CAL	.5-1.0 W. →		1.0-1.5 W. →			1.5-2.0 W. →				2.0-2.5 W.	
Time		1158	1201	1216	1220	1226	1238	43	47	57	1309	
Range X2		850										
Current		1700										
Send	2-3	1-2	4-5	3-4	2-3	1-2	4-5					
Receive	→		2.5-3.0 W. →				CAL					
Time												
Range X2	→						150	500	800			
Current	→						300	1000	1600			

Line 2 - Spr. 1 - W½ repeat
H. P.

HEINRICHS GEOEXPLORATION COMPANY

W½ repeat INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W. Sierrita Line 2 - Spr. 1 Field date 8/13/62 Data page_____ Comp. date 8/14/62 Comp by C.S.L.

	% S.D. 24	45	42	70	56	36	40	30	27	67	29	84
(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	.5-1.0W	→	1.0-1.5W	→	→	1.5-2.0W	→	→	→	2.0-2.5W	→	→
(C) n separation	1	2	1	2	3	1	2	3	4	2	3	4
(D) I	1700											
(E) Vdc (avg)	51.9	29.5	90.8	15.6	12.33	78.6	26.3	6.52	5.81	43.6	18.9	5.65
(F) DCcal USED	.971											
(G) Kn x 10^{-3}	1.5	6	1.5	6	15	1.5	6	15	30	6	15	30
(H) ρdc=ExFxGx10^3/D	44.5	101.1	77.9	53.5	105.8	67.4	90.1	55.9	99.6	149.5	162.0	96.9
(I) Vac Σ	48.0	26.8	84.0	14.0	11.19	72.5	24.0	6.00	5.34	39.7	17.4	5.02
(J) AC noise x 2 (O.K.)												
(K) ~~Vac(corr) = $\sqrt{I^2 - J^2}$~~												
(L) AC-DC cal. corr	.947	.932	.934	.914	.924	.938	.935	.942	.945	.916	.943	.904
(M) ρdc/ρac=ExL/K	1.022	1.025	1.009	1.019	1.020	1.017	1.024	1.022	1.030	1.007	1.024	1.018
(N) PFE=(M-1)(10^2)	2	3	1	2	2	2	2	2	3	1	2	2
(O) MCF=(M-1)(10^5)/H	50	25	12	35	19	25	27	39	30	5	15	19

Project_____ % S.D. Line 80 86 Field date 43 46 46 Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	4-5	3-4	2-3	1-2		CAL	separate	sheets	for	% S.D.	
(B) Receive	→	2.5-3.0W	→	→	→							
(C) n separation	5	3	4	5	6							
(D) I	→	→	→	→	→							
(E) Vdc (avg)	5.39	19.70	9.42	3.06	3.06							
(F) DCcal	→	→	→	→	→							
(G) Kn x 10^{-3}	52.5	15	30	52.5	84							
(H) ρdc=ExFxGx10^3/D	161.8	169.0	162.7	91.9	146.9							
(I) Vac Σ	4.81	17.24	8.64	2.78	2.78							
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. corr	.906	.902	.933	.931	.931							
(M) ρdc/ρac =ExL/K	1.014	1.030	1.024	1.024	1.024							
(N) PFE=(M-1)(10^2)	1	3	2	2	2							
(O) MCF=(M-1)(10^5)/H	9	18	15	26	16							

Line 2 Repeat Spr. 1 E½ H. P.

HEINRICHS GEOEXPLORATION COMPANY

Repeat INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W. Sierrita Line 2-Spr. 1 E½ Field date 8/13/62 Data page_____ Comp. date 8/14/62 Comp by C.S.L.

	46	45	55	64	32	34	30	60	36	49	53	
(A) Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	
(B) Receive	.5-1.0E	→	1.0-1.5E	→	→	1.5-2.0E	→	→	→	2.0-2.5E	→	
(C) n separation	1	2	1	2	3	1	2	3	4	2	3	
(D) I	1700										>	
(E) Vdc (avg)	97.7	29.3	118.2	42.4	20.5	71.8	19.7	13.20	7.81	31.85	11.42	
(F) DCcal USED	.971										>	
(G) Kn x 10^{-3}	1.5	6	1.5	6	15	1.5	6	15	30	6	15	
(H) ρ dc=ExFxGx10^3/D	83.7	100.4	101.4	145.3	175.8	61.5	67.5	113.1	133.8	109.1	98.0	
(I) Vac Σ	91.0	26.8	109.2	38.3	19.3	67.0	18.3	12.02	7.18	29.3	10.55	
(J) AC noise x 2	very	high	storm noise - non-correctible									
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. corr	.931	.932	.924	.918	.941	.940	.942	.921	.935	.929	.926	
(M) ρ dc/ρac=ExL/K	1.001	1.020	1.000	1.014	1.000	1.008	1.020	1.010	1.020	1.010	1.003	
(N) PFE=(M-1)(10^2)	0	2	0	1	0	1	2	1	2	1	0	
(O) MCF=(M-1)(10^5)/H	1	20	0	10	0	13	30	9	15	9	3	

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send												
(B) Receive												
(C) n separation												
(D) I												
(E) Vdc (avg)												
(F) DCcal												
(G) Kn x 10^{-3}												
(H) ρ dc=ExFxGx10^3/D												
(I) Vac Σ												
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.												
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)												
(O) MCF=(M-1)(10^5)/H												

Calibration H.P.

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W. Sierrita Line 2 - Spr. 1 Field date_____ Data page_____ Comp. date_____. Comp by_____

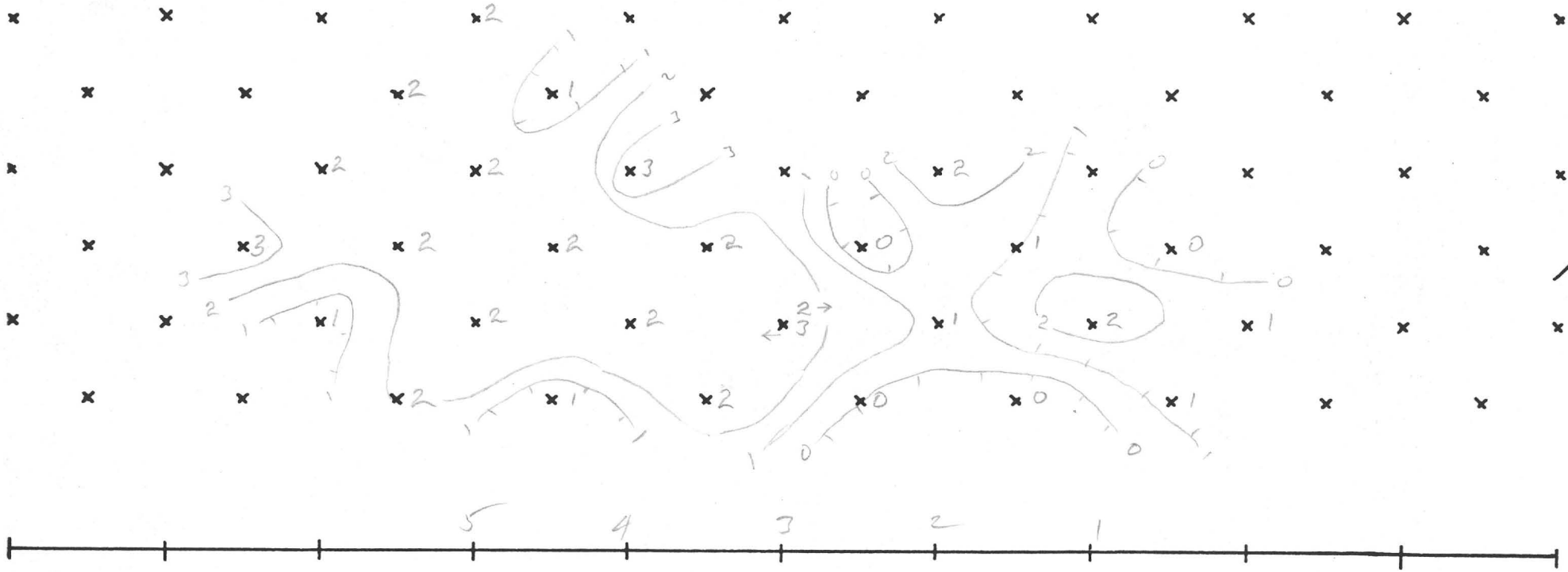
(A) ~~Send~~ % S.D.	49	14	16	49	76	26	49	14	48	16	75	26
(B) Receive												
(C) n separation												
(D) I	300	300	1000	1000	1600	1600	300	300	1000	1000	1600	1600
(E) Vdc (avg)	31.5	30.3	102	105.2	166.8	164	31.4	30.0	104.0	101.0	165.8	164
(F) DCcal	.953	.990	.980	.950	.961	.975	.955	1.000	.961	.990	.966	.975
(G) Kn x 10^{-3}												
(H) ρ dc=ExFxGx10^3/D					~	.971						
(I) Vac Σ	29.2	28.5	97.5	97.7	151.7	155.0	29.4	28.5	96.8	97.0	150.6	154.0
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.927	.941	.955	.929	.910	.945	.936	.950	.931	.960	.909	.940
(M) ρ dc/ρac=ExL/K												
(N) PFE=(M-1)(10^2)												
(O) MCF=(M-1)(10^5)/H												

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send												
(B) Receive												
(C) n separation												
(D) I												
(E) Vdc (avg)												
(F) DCcal												
(G) Kn x 10^{-3}												
(H) ρ dc=ExFxGx10^3/D												
(I) Vac Σ												
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.												
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)												
(O) MCF=(M-1)(10^5)/H												

P.F.E. Line 2 H.P.

INDUCED POLARIZATION WORK SHEET



PFE

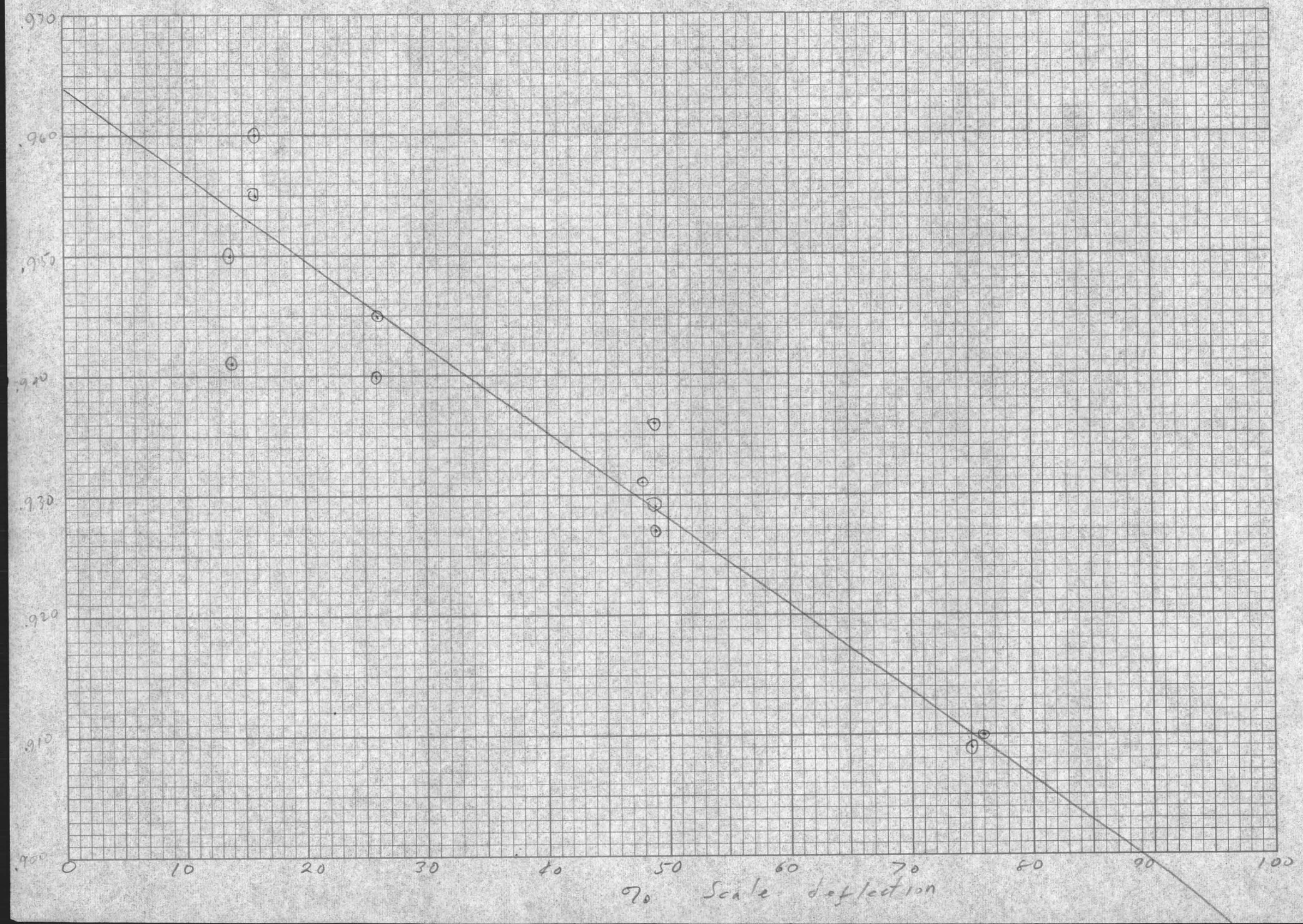
$\rho_{DC}/\rho_{2\pi}$

MCF

Area _____ Scale _____ Date _____

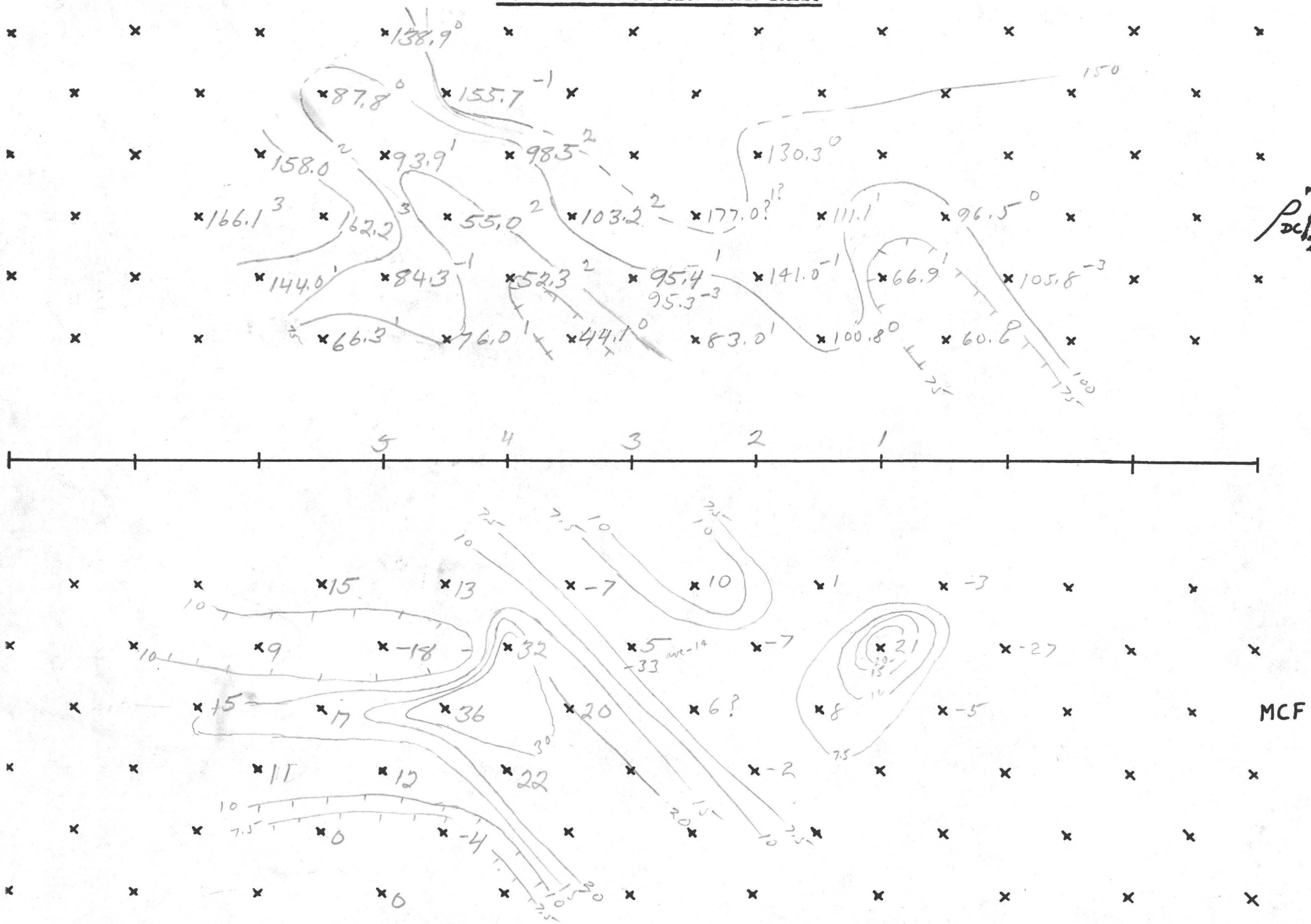
NO. 340/ -10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.



Repeat Line 2 - Ballantine

INDUCED POLARIZATION WORK SHEET



Area W. Sierrita - Line 2, Sec. 1 - E ½ W ½ Scale 1" = 500' Date 8/14/62

Repeat - Balantine

Line 2 - Repeat - Ballantine
W ½

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W-Sierrita Line 2-Spr.1 W½ Field date 8/13/62 Data page_____ Comp. date 8/14/62. Comp by C.S.L.

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	.5-1.0W	→	1.0-1.5W	→	→	1.5-2.0W	→	→	→	2.0-2.5W	→	→
(C) n separation	1	2	1	2	3	1	2	3	4	2	3	4
(D) I	1700											
(E) Vdc (avg)	51.1	27.6	88.0	15.13	11.93	76.25	24.4	6.36	5.70	41.7	18.78	5.43
(F) DCcal USED	0.980											
(G) Kn x 10^{-3}	1.5	6	1.5	6	15	1.5	6	15	30	6	15	30
(H) ρdc=ExFxGx10^3/D	44.1	95.4	76.0	52.3	103.2	66.3	84.3	55.0	98.5	144.0	162.2	93.9
(I) Vac Σ	49.5	26.5	84.0	14.38	11.28	73.3	23.9	6.02	5.38	40.3	17.64	5.18
(J) AC noise x 2	O.K.											
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. USED	0.965											
(M) ρdc/ρac=ExL/K	.997	1.005	1.010	1.017	1.021	1.010	.985	1.020	1.022	1.013	1.028	1.011
(N) PFE=(M-1)(10^2)	0	1	1	2	2	1	-1	2	2	1	3	1
(O) MCF=(M-1)(10^5)/H	-7	5	13	32	20	15	-18	36	22	9	17	12

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	4-5	3-4	2-3	1-2		CAL	→	→	CAL	→	→
(B) Receive	→	2.5-3.0W	→	→	→		4-5	→	→	1-2	→	→
(C) n separation	5	3	4	5	6		300	1000	1600	300	1000	1600
(D) I					→		30.4	103.3	164.2	300	102.0	164.0
(E) Vdc (avg)	5.14	19.22	9.14	2.90	2.87							
(F) DCcal					→		.987	.968	.974	1.000	.980	.975
(G) Kn x 10^{-3}	52.5	15	30	52.5	84				~0.980			
(H) ρdc=ExFxGx10^3/D	155.7	166.1	158.0	87.8	138.9							
(I) Vac Σ	4.99	18.10	8.67	2.80	2.77		29.6	97.7	156.3	29.8	98.8	157.3
(J) AC noise x 2					→							
(K) Vac (corr) = $\sqrt{I^2 - J^2}$					→							
(L) AC-DC cal.					→		.974	.946	.951	.984	.969	.960
(M) ρdc/ρac =ExL/K	.993	1.025	1.017	1.000	1.000				~0.965			
(N) PFE=(M-1)(10^2)	-1	3	2	0	0							
(O) MCF=(M-1)(10^5)/H	-4	15	11	0	0							

Line 2 - Repeat - Ballantine
E 1/2

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W. Sierrita Line 2 - Spr. 1 - E½ Field date 8/13/62 Data page_____ Comp. date 8/14/62. Comp by C.S.L.

(A) Send	3 - 4	4 - 5	2 - 3	3 - 4	4 - 5	1 - 2	2 - 3	3 - 4	4 - 5	1 - 2	2 - 3	3 - 4
(B) Receive	.5 - 1.0E	→	1.0 - 1.5E	→	→	1.5 - 2.0E	→	→	→	2.0 - 2.5E	→	→
(C) n separation	1	2	1	2	3	1	2	3	4	2	3	4
(D) I	1700											
(E) Vdc (avg)	96.0	27.5	116.4	40.8	20.5 ??	70.1	19.34	12.86	7.55	30.6	11.15	
(F) DCcal USED	0.980											
(G) Kn x 10^{-3}	1.5	6	1.5	6	15	1.5	6	15	30	6	15	30
(H) ρ dc=ExFxGx10^3/D	83.0	95.3	100.8	141.0	177.0 ?	60.6	66.9	111.1	130.3	105.8	96.5	
(I) Vac Σ	92.0	27.4	112.0	39.8	19.6 ?	67.8	18.40	12.30	7.30	30.4	10.80	
(J) AC noise x 2	High	due	to	thunder	storm	activity	-	non	- corrected	ible		
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. USED	0.965											
(M) ρ dc/ρac=ExL/K	1.008	0.969	1.001	0.990	1.010 ?	.998	1.014	1.009	.998	.972	.995	
(N) PFE=(M-1)(10^2)	1	-3	0	-1	1 ?	0	1	1	0	-3	0	
(O) MCF=(M-1)(10^5)/H	10	-33	1	-7	6 ?	-3	21	8	-2	-27	-5	

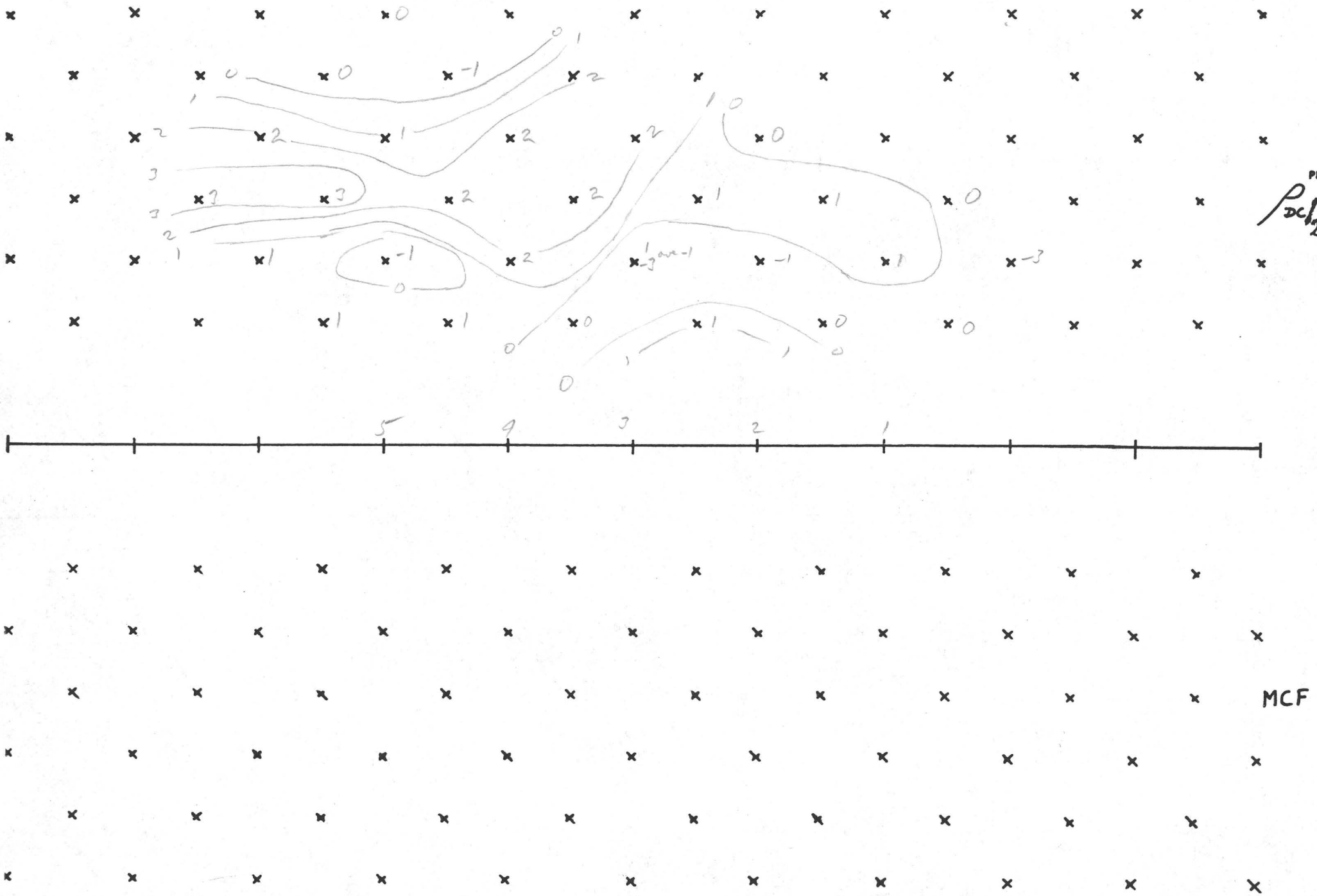
? - storm noise effects

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send												
(B) Receive												
(C) n separation												
(D) I												
(E) Vdc (avg)												
(F) DCcal												
(G) Kn x 10^{-3}												
(H) ρ dc=ExFxGx10^3/D												
(I) Vac Σ												
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.												
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)												
(O) MCF=(M-1)(10^5)/H												

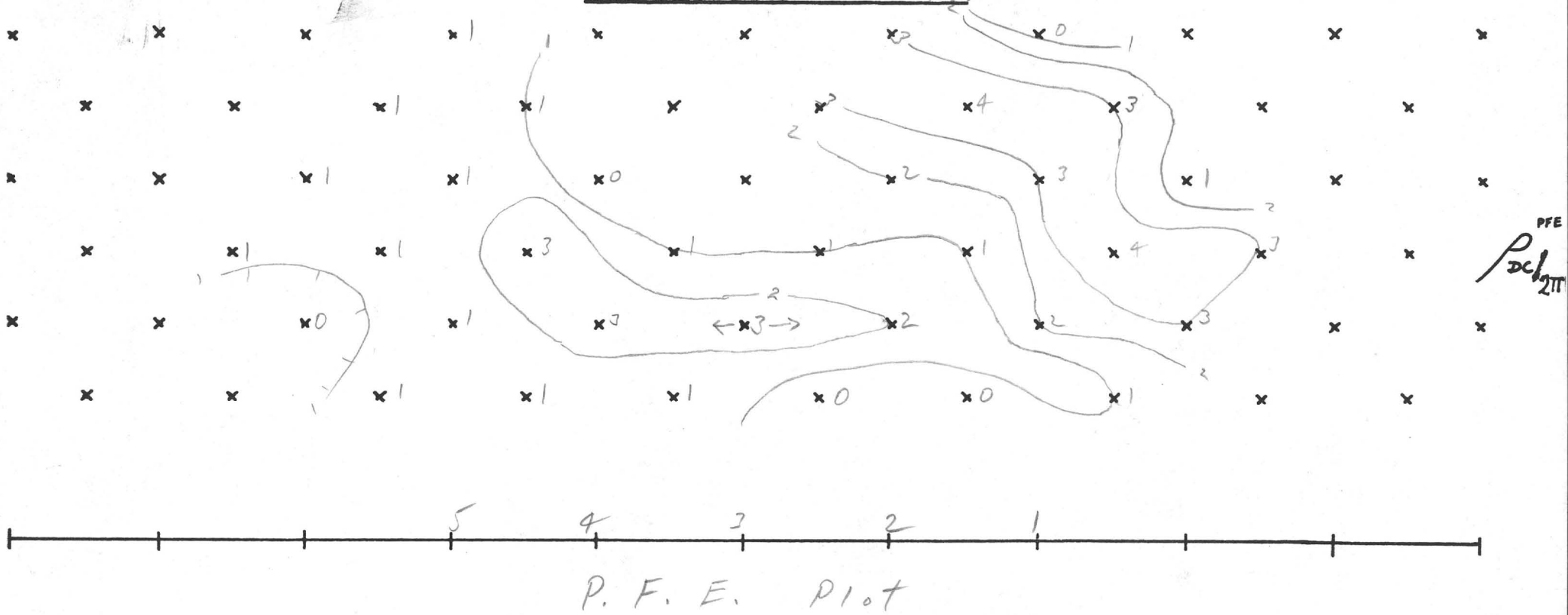
PFE Line 2 Ballantine

INDUCED POLARIZATION WORK SHEET



Area _____ Scale _____ Date _____

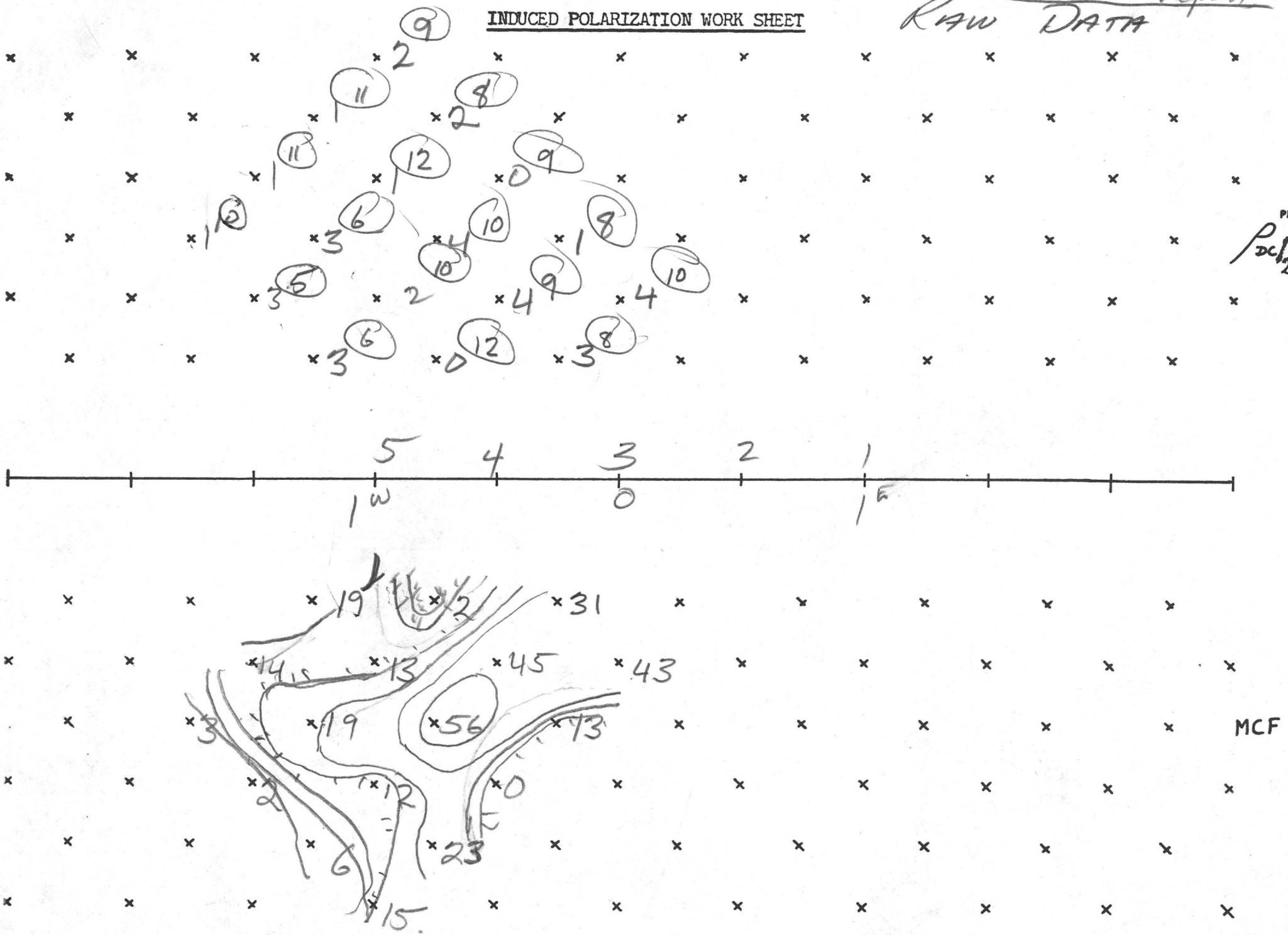
INDUCED POLARIZATION WORK SHEET



Area W-Sierrita - Line 4 - Spr. 1 - E&W Repeat Scale 1" = 500' Date 8/5/62

LINE 4-Repeat
RAW DATA

INDUCED POLARIZATION WORK SHEET



Area _____ Scale _____ Date _____

E ½ corrected from graph

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W-Sierrit. Line Repeat 4-Spr. E ½ Field date 8/3/62 Data page_____ Comp. date 8/4/62. Comp by C.S.L.

	9.5D. 73	44	56	81	78	61	48	32	40	25	33	26
(A) Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
(B) Receive	0.5-1.0E	→	1.0-1.5E	→	→	1.5-2.0E	→	→	→	2.0-2.5E	→	→
(C) n separation	1	2	1	2	3	1	2	3	4	2	3	4
(D) I	1700	1700	1700	1700	1700	1500	1700	1700	1700	1500	1700	1700
(E) Vdc (avg)	160.0	29.3	121.1	55.1	17.52	137.5	21.7	20.4	8.74	55.3	21.6	17.0
(F) DCcal USED	0.950											
(G) Kn x 10^{-3}	1.5	6	1.5	6	15	1.5	6	15	30	6	15	30
(H) ρ dc=ExFxGx10^3/D	134.0	98.3	101.7	184.7	147.0	126.9	106.2	171.0	146.4	210.0	181.0	285.0
(I) Vac Σ	145.1	26.7	111.8	48.6	15.67	122.0	29.0	19.0	8.04	50.9	19.7	15.7
(J) AC noise x 2 a.k. Rx/Tx	1.100	1.098	1.085	1.134	1.120	1.094	1.093	1.073	1.088	1.087	1.098	1.082
(K) Vac(corr) $=\sqrt{I^2 - J^2}$	10	10	9	13	13	9	9	7	9	9	10	8
(L) AC-DC cal.	.909	.935	.924	.902	.905	.920	.931	.945	.938	.951	.944	.951
(M) ρ dc/ρac=ExL/K corr	1.000	1.027	1.001	1.022	1.012	1.008	1.019	1.014	1.019	1.032	1.036	1.029
(N) PFE=(M-1)(10^2) corr	0	3	0	2	1	1	2	1	2	3	4	3
(O) MCF=(M-1)(10^5)/H corr	0	26	1	12	8	6	18	8	13	15	20	10

Project_____	Line 38	36	Field date 52	45	78	Data page_____	Comp. date_____				Comp by_____		
(A) Send	4-5	1-2	2-3	3-4	4-5	CAL	→	→	→	→	→	→	→
(B) Receive	→	2.5-3.0E	→	→	→	1-2	→	→	→	→	→	→	→
(C) n separation	5	3	4	5	6	26 9	35	12	6.8	23	50	17	83
(D) I	1700	1500	1700	1700	1700	500	700	700	1400	1400	1000	1000	500
(E) Vdc (avg)	8.36	23.7	16.2	9.82	5.14	54.0	74.0	73.0	149.0	147.0	105.8	104	55.8
(F) DCcal						.927	.945	.959	.940	.953	.946	.962	.896
(G) Kn x 10^{-3}	52.5	15	30	52.5	84			~941					
(H) ρ dc=ExFxGx10^3/D	245.5	225.0	190.0	288.0	241.0								
(I) Vac Σ	7.59	21.7	10.40	8.94	4.66	52.0	69.6	70.0	136.6	139.0	99.6	99.2	50.3
(J) AC noise x 2 a.k. Rx/Tx	1.101	1.091	1.090	1.100	1.103								
(K) Vac (corr) $=\sqrt{I^2 - J^2}$	10	9	9	10	10								
(L) AC-DC cal.	.940	.942	.927	.934	.905	.963	.941	.959	.917	.946	.941	.955	.902
(M) ρdc/ρac =ExL/K corr	1.037	1.029	1.010	1.027	1.000								
(N) PFE=(M-1)(10^2) corr	4	3	1	3	0								
(O) MCF=(M-1)(10^5)/H corr	15	13	5	9	0								

W½ corrected from graph

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W-Sierrita Line 4 - Spa. W½ Repeat Field date 8/3/62 Data page_____ Comp. date 8/5/62 . Comp by C. S. L.

(A) Send												
(B) Receive												
(C) n separation												
(D) I												
(E) Vdc (avg)												
(F) DCcal												
(G) Kn x 10^{-3}												
(H) ρ dc=ExFxGx10^3/D												
(I) Vac Σ												
(J) AC noise x 2	1.084	1.102	1.116	1.093	1.063	1.063	1.099	1.097	1.090	1.054	1.064	1.117
(K) Vac(corr) = $\sqrt{I^2 - J^2}$	8	10	12	9	8	6	10	10	9	5	6	12
(L) AC-DC cal.	.928	.935	.902	.937	.929	.948	.918	.937	.915	.950	.948	.907
(M) ρ dc/ρac=ExL/K	1.007	1.031	1.006	1.025	1.007	1.009	1.009	1.028	1.000	1.001	1.009	1.012
(N) PFE=(M-1)(10^2)	1	3	1	3	1	1	1	3	0	0	1	1
(O) MCF=(M-1)(10^5)/H	8	31	4	28	8	6	6	37	0	1	6	14

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send												
(B) Receive												
(C) n separation												
(D) I												
(E) Vdc (avg)												
(F) DCcal												
(G) Kn x 10^{-3}												
(H) ρ dc=ExFxGx10^3/D												
(I) Vac Σ												
(J) AC noise x 2	1.077	1.096	1.111	1.114	1.089							
(K) Vac (corr) = $\sqrt{I^2 - J^2}$	8	10	11	11	9							
(L) AC-DC cal.	.935	.921	.908	.908	.922							
(M) ρdc/ρac =ExL/K	1.007	1.010	1.010	1.012	1.013							
(N) PFE=(M-1)(10^2)	1	1	1	1	1							
(O) MCF=(M-1)(10^5)/H	8	3	4	8	9							

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W-Sierrita Line 4-W½ (Repeat) Field date 8/3/62 Data page_____ Comp. date 8/4/62. Comp by C.S.L.

	% S.D.	51	44	81	41	50	29	63	41	66	26	29	75
(A) Send		2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive		.5-1.0W	→	1.0-1.5W	→	→	1.5-2.0W	→	→	→	2.0-2.5W	→	→
(C) n separation		1	2	1	2	3	1	2	3	4	2	3	4
(D) I		1800	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
(E) Vdc (avg)		110.7	29.3	181.4	26.8	10.73	184.0	41.5	8.90	4.32	54.0	18.62	5.02
(F) DCcal	USED	0.950											
(G) Kn x 10^{-3}		1.5	6	1.5	6	15	1.5	6	15	30	6	15	30
(H) ρ dc=ExFxGx10^3/D		87.6	98.3	152.4	90.0	90.0	154.3	139.0	74.6	72.4	181.0	156.0	84.1
(I) Vac Σ		102.0	26.6	162.7	24.5	9.91	173.0	37.8	8.11	3.97	51.2	17.5	4.50
(J) AC noise x 2	Pay cal	.20	.20	.22	.22	.22	.18	.18	.18	.18	.16	.16	.16
(K) Vac(corr) = $\sqrt{I^2 - J^2}$		1.084	1.102	1.116	1.093	1.083	1.063	1.099	1.097	1.090	1.054	1.064	1.117
(L) AC-DC cal.		.935	.944	.900	.952	.935	.968	.925	.952	.911	.973	.968	.905
(M) ρ dc/ρac=ExL/K		1.027	1.042	1.003	1.040	1.012	1.029	1.018	1.042	1.000	1.026	1.030	1.010
(N) PFE=(M-1)(10^2)		3	4	0	4	1	3	2	4	0	3	3	1
(O) MCF=(M-1)(10^5)/H		31	43	2	45	13	19	13	56	0	14	19	12

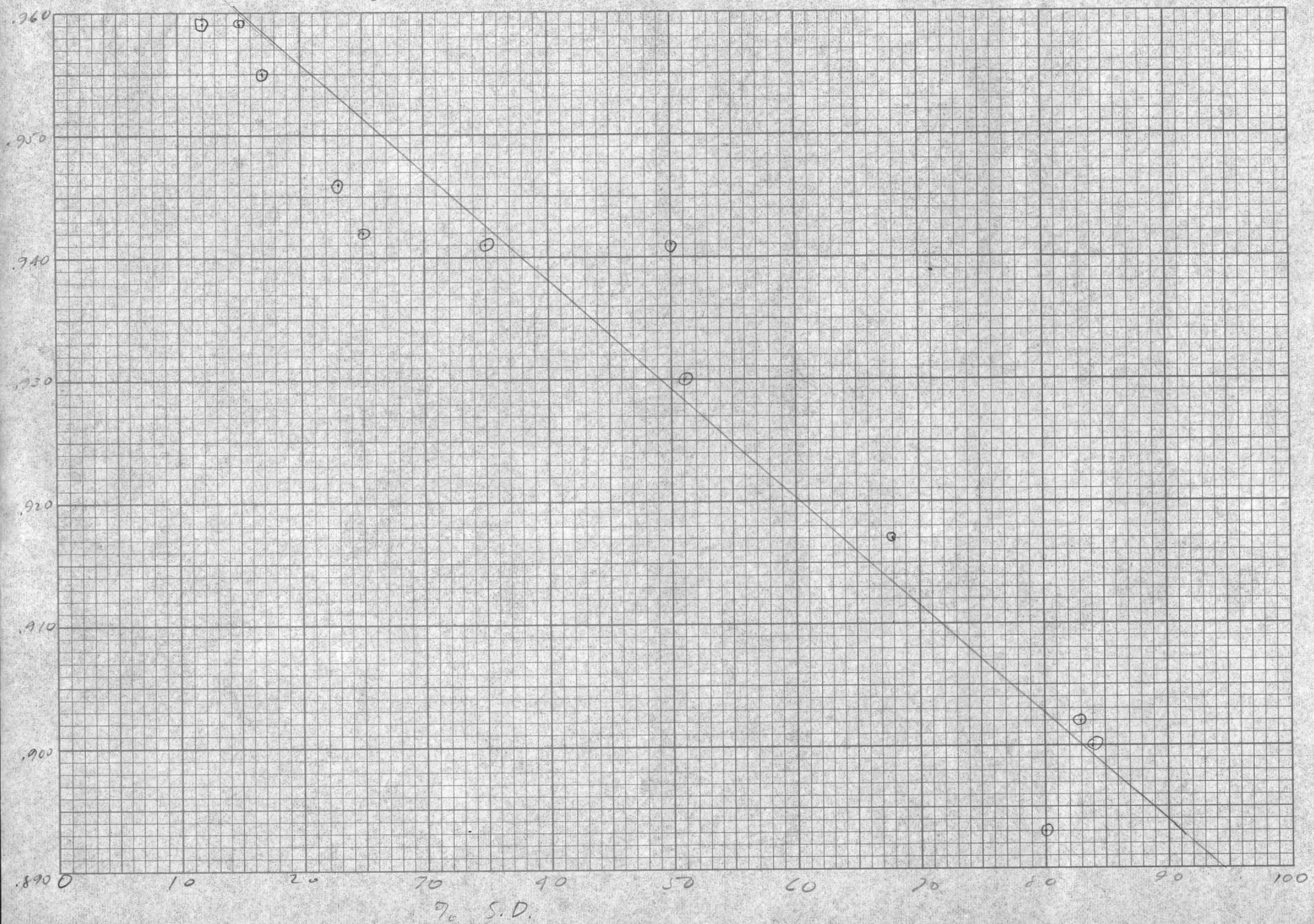
Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

		43	59	74	74	47							
(A) Send		1-2	4-5	3-4	2-3	1-2		CAL	→				
(B) Receive		→	2.5-3.0W	→	→	→		4-5	→				
(C) n separation	% S.D.	5	3	4	5	6		51	15	80	25	84	26
(D) I		1700	1700	1700	1700	1700		300	300	500	500	1800	1800
(E) Vdc (avg)		2.83	39.0	16.45	4.94	3.07		32.8	31.9	53.8	52.4	167.0	164.0
(F) DCcal								.915	.941	.930	.955	.963	.978
(G) Kn x 10^{-3}		52.5	15	30	52.5	84				~.947			
(H) ρ dc=ExFxGx10^3/D		83.0	327.2	276.0	145.0	144.1							
(I) Vac Σ		2.63	35.6	14.80	4.43	2.82		30.5	30.6	48.0	49.3	168.2	177.0
(J) AC noise x 2		.16	.20	.20	.20	.20							
(K) Vac (corr) = $\sqrt{I^2 - J^2}$		1.077	1.096	1.111	1.114	1.089							
(L) AC-DC cal.		.946	.922	.905	.905	.940		.930	.959	.893	.942	.900	.962
(M) ρdc/ρac =ExL/K		1.019	1.010	1.006	1.009	1.022							
(N) PFE=(M-1)(10^2)		2	1	1	1	2							
(O) MCF=(M-1)(10^5)/H		23	3	2	6	15							

NO. 340/ -10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.

8



INDUCED POLARIZATION SENDER NOTES

project: W. SIERRITAS Line: 4 REPEAT E Date: 13 JUL 62

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	.5-1.0	E. →	1.0-1.5	E →		1.5-2.0	E →			2.0-2.5	E. →	
Time	1352	55	1409	12	15	30	33	35	37	45	47	50
Range X_2	850	→	→	→	→	750	→	→	→	750	→	
Current	1700	→	→	→	→	1500	→	→	→	1500	→	
Send	4-5	1-2	2-3	3-4	4-5	—	1-2	→	→	→	→	→
Receive	→	2.5-3.0	E. →	→	→	—	CAL.	→	→	→	→	→
Time	52	1503	05	07	10	—	22	25	31	35		
Range X_2	→	750	→	→	→	→	250	350	700	500		
Current	→	1500	→	→	→	→	500	700	1400	1000		

? UNSTABLE

INDUCED POLARIZATION - RECEIVER NOTES PAGE 3

Project: W Sierra Line: 45 Spr E ½ Repeat Int.Cal 51.5 Date: 8-3-62

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	0.5-1.0E	→	1.0-1.5E	→	→	1.5-2.0E	→		→	2.0-2.5E	→	
Time	13:52	13:55	14:09	14:12	14:18	14:30	14:33	14:35	14:37	14:45	14:47	14:50
DC-1	80.0 80.0	14.8 14.5	60.8 60.3	27.3 27.8	8.80 8.72	66.0 67.5	15.7 15.9	10.2 10.2	4.40 4.30	27.9 27.5	10.7 10.9	8.7 8.3
DC-2	80.0 80.0	14.5 14.8	60.8 60.3	27.8 27.3	8.72 8.80	67.5 66.0	15.9 15.7	10.2 10.2	4.30 4.28	27.8 27.3	10.9 10.7	8.3 8.7
Σ	160.0 160.0	29.3 29.3	121.1 121.1	55.1 55.1	17.52 17.52	133.5 133.5	31.6 31.6	20.4 20.4	8.70 8.78	55.4 55.1	21.6 21.6	17.0 17.0
DC-3	80.0 80.0	14.7 14.6	60.3 60.8	27.3 27.8	8.80 8.72	65.8 67.7	15.9 15.8	10.2 10.2	4.45 4.28	27.9 27.4	10.7 10.9	8.7 8.3
Dc-4	80.0 80.0	14.6 14.7	60.8 60.3	27.8 27.3	8.72 8.80	66.1 66.8	15.8 15.9	10.2 10.2	4.46 4.28	27.5 27.5	10.9 10.7	8.3 8.7
Σ	160.0	29.3 29.3	121.1 121.1	55.1 55.1	17.52 17.52	133.5 133.5	31.7 31.7	20.4 20.4	8.78 8.74	55.3 55.8	21.6 21.6	17.1 17.0
DC-AV	160.0	29.3	121.1	55.1	17.52	133.5	31.7	20.4	8.74	55.3	21.6	17.0
AC-1	72.8	13.8	55.9	24.3	7.85	61.0	14.5	9.5	4.02	25.7	9.9	7.8
AC-2	72.3	13.3	55.9	24.3	7.82	61.0	14.5	9.5	4.02	25.2	9.8	7.9
Σ	145.1	26.7	111.8	48.6	15.67	122.0	29.0	19.0	8.04	50.9	19.7	15.7
S. P.	+15.4 →		+3.2	→	→	-2.0	→	→	→	+5.7	→	→
AC-N	0.10 →		0.11	→	→	0.11	→	→	→	0.11	→	→
SCALE	100	30	100	30	10	100	30	30	10	100	30	30

INDUCED POLARIZATION - RECEIVER NOTES

PAGE 4

Project: W-Siemta Line: 4-Spr. 1-Repeat Int.Cal 51.5 Date: 8/3/10

Send	4-5	1-2	2-3	3-4	4-5	CAL							
Rec.	→	2.5-3.0 E			→	1-2							
Time	14.52	15.03	15:05	15:07	15:10	1523		1525			15:35		
DC-1	4.18 4.18	11.7 12.0	5.70 5.65	4.95 4.89	2.55 2.60	27.9	27.0	37.0	37.0	74.5	73.5	529	52.
DC-2	4.18 4.18	12.1 11.6	5.65 5.69	4.89 4.95	2.61 2.52	27.9	27.0	37.0	36.0	74.5	73.5	529	52.
Σ	8.36 8.36	23.7 23.7	11.35 11.34	9.84 9.84	5.15 5.13	55.8	54.0	74.0	73.0	149.0	147.0	1058	104.
DC-3	4.20 4.16	11.6 12.1	5.69 5.61	4.96 4.84	2.52 2.63	27.9	27.0	37.0	37.0	74.5	73.5	529	52.
Dc-4	4.16 4.20	12.1 11.6	5.61 5.70	4.84 4.96	2.63 2.50	27.9	27.0	37.0	36.0	74.5	73.5	529	52.
Σ	8.36 8.36	23.7 23.7	11.30 11.31	9.80 9.80	5.15 5.13	55.8	54.0	74.0	73.0	149.0	147.0	1058	104.
DC-AV	8.36	23.7	113.2	9.82	5.14	55.8	54.0	74.0	73.0	149.0	147.0	1058	104.
AC-1	3.80	10.9	5.20	4.50	2.33	25.2	26.0	35.0	35.0	68.1	69.5	49.9	49.5
AC-2	3.79	10.9	5.20	4.49	2.33	25.1	26.0	34.6	35.0	68.5	69.5	49.8	49.4
Σ	7.59	21.7	10.40	8.99	4.66	50.3	52.0	69.6	70.0	136.6	139.0	99.6	99.2
S. P.	→	+8.9	→										
AC-N	→	0.09	→										
	10	30	10	10	3	30	100	100	300	100	300	100	300

INDUCED POLARIZATION SENDER NOTES

Project: W. Sierrita Line: 4 - Sp. 1 - repeat - W½ Date: 8/3/82

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Receive	.5-1.0 W.	→	1.0-1.5 W.	→		1.5-2.0 W.	→		→	2.0-2.5 W	→	
Time	1115	1120	1144	1146	1148	1200	03	05	08	15	17	20
Range X½	900	850	→									
Current	1800	1700	→									
Send	1-2	4-5	3-4	2-3	1-2	CAL						
Receive	→	2.5-3.0 W.	→			4-5						
Time	23	30	34	36	38	1054	1103	1105				
Range X½						150	250	900				
Current						300	500	1800				

INDUCED POLARIZATION - RECEIVER NOTES PAGE 11

Project: W-Sierrita Line: 4-Sec.1-repeat W2 Int.Cal 51.5 Date: 8/3/62

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	.5-1.0W	→	1.0-1.5W	→	→	1.5-2.0W	→	→	→	2.0-2.5W	→	
Time	11:15	11:20	11:44	11:46	11:48		12:03	12:05	12:09	12:15	12:17	12:20
DC-1	55.5 55.2	15.0 14.3	90.6 91.2	13.7 13.1	5.35 5.39	92.0 92.0	20.9 20.6	4.49 4.42	2.21 2.12	27.0 27.0	9.4 9.4	2.50 2.52
DC-2	55.5 55.1	14.9 14.2	90.7 91.0	13.7 13.1	5.39 5.33	92.0 92.0	20.6 20.9	4.49 4.40	2.13 2.16	27.0 27.0	9.2 9.2	2.53 2.50
Σ	110.7 110.6	29.3 29.1	181.8 181.7	26.8 26.8	10.74 10.72	184.0 184.0	41.5 41.5	8.91 8.89	4.33 4.28	54.0 54.0	18.8 18.9	5.02 5.03
DC-3	55.7 55.0	15.6 14.2	90.5 90.8	13.1 13.7	5.33 5.40	92.0 92.0	20.9 20.6	4.51 4.39	2.15 2.19	27.0 27.0	9.4 9.6	2.50 2.51
Dc-4	55.7 55.1	14.9 14.0	90.3 90.7	13.7 13.1	5.40 5.33	92.0 92.0	20.6 20.9	4.51 4.39	2.19 2.12	27.0 27.0	9.1 9.2	2.51 2.50
Σ	110.7 110.8	29.3 28.9	181.3 181.0	26.8 26.9	10.73 10.73	184.0 184.0	41.5 41.5	8.90 8.78	4.34 4.31	54.0 54.0	18.0 18.3	5.01 5.01
DC-AV	110.7	29.3	181.4	26.8	10.73	184.0	41.5	8.90	4.32	54.0	18.6R	5.02
AC-1	51.0	13.3	81.5	12.3	4.95	87.0	18.9	4.06	1.98	25.6	8.8	2.25
AC-2	51.0	13.3	81.2	12.2	4.96	86.0	18.9	4.05	1.99	25.6	8.7	2.25
Σ	102.0	26.6	162.7	24.5	9.91	173.0	37.8	8.11	3.97	51.2	17.5	4.50
S. P.	-15.3 →		+21.8 →	→	→	+5.1	→	→	→	+0.6	→	→
AC-N	0.1 →		0.11	→	→	0.09	→	→	→	0.08	→	→
SCALE	100	30	100	30	10	300	30	10	3	100	30	3

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: W-Sierrita Line: 4 Spl. W Repeat Int.Cal 5/16 Date: 8/3/62

Send	1-2	4-5	0-4	2-3	1-2	CAL						
Rec.	→	2.5-2.0 W			→	4-5						
Time	12:23	12:30	12:33	12:36	12:38		11:00		11:03		11:07	
DC-1	1.50 1.33	19.0 19.9	8.25 8.20	2.51 2.43	1.55 1.53	16.3	16.0	26.9	26.2	93.5	92.	
DC-2	1.34 1.50	20.6 19.0	8.20 8.25	2.43 2.51	1.58 1.53	16.5	15.9	26.9	26.2	93.5	92.	
Σ	2.83 2.84	38.9 39.0	16.45 16.44	4.94 4.94	3.08 3.06	32.8	31.9	53.8	52.4	187.0	184	
DC-3	1.50 1.31	19.0 19.0	8.25 8.20	2.51 2.43	1.55 1.52	16.3	16.0	26.9	26.2	93.5	92.	
Dc-4	1.49 1.37	20.0 20.0	8.20 8.25	2.42 2.52	1.51 1.55	16.5	15.9	26.9	26.2	93.5	92.	
Σ	2.81 2.86	38.0 40.0	16.45 16.49	4.94 4.94	3.07 3.06	32.8	31.9	53.8	52.4	187.0	184	
DC-AV	2.83	39.0	16.45	4.94	3.07	32.8	31.9	53.8	52.4	187.0	184	
AC-1	1.32	17.8	7.40	2.21	1.41	15.3	15.3	24.0	24.6	84.0	88.0	
AC-2	1.31	17.8	7.40	2.22	1.41	15.2	15.3	24.0	24.7	84.2	89.0	
Σ	2.63	35.6	14.80	4.43	2.82	30.5	30.6	48.0	49.3	168.2	177.0	
S. P.	→	42.0			→							
AC-N	→	0.10			→							
SCALE	3	30	10	3	3	30	100	30	100	100	300	

INDUCED POLARIZATION - RECEIVER NOTES PAGE 1

Project: W. Sprint Line: 6-Sp.1 W2 Int.Cal 49.8 Date: 8/16/62

	48	44	40	40	71	64	36	54				
Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2W	→	2-3W	—	→	3-4W	—	—	→	5W	—	—
Time												
DC-1	44.3 44.5	4.81 4.81	43.6 43.7	13.6 13.6	2.46 2.39	21.9 21.8	11.9 11.8	6.0 6.00	1.48 1.33 1.55 1.20	3.0 3.10 3.05 3.14	3.00 2.98 2.90 2.95	2.08 2.10
DC-2	45.9 46.0	4.79 4.78	43.1 43.0	13.9 13.9	2.33 2.39	21.1 21.2	12.3 12.3	6.05 6.02	1.22 1.31 1.43 1.50	2.95 2.96 2.95 2.97	2.85 2.85 2.85 2.82	1.98 2.00
Σ	90.2 90.5	9.60 9.59	86.7 86.7	27.5 27.5	4.79 4.78	43.0 43.0	24.2 24.1	12.05 12.05	2.99 2.84 2.98 2.78	5.95 6.05 6.00 6.11	5.85 5.83 5.75 5.77	4.06 4.10
DC-3	44.1 44.2	4.81 4.85	43.8	13.6 13.6	2.51 2.40	21.8 21.8	11.7 11.7	6.01 6.00	1.22 1.28 1.59 1.30	2.95 3.15	3.05 3.0 2.92	2.04 2.05
Dc-4	46.0 45.9	4.78 4.79	43.0	13.9 13.9	2.30 2.43	21.2 21.2	12.2 12.0	6.04 6.05	1.52 1.42 1.30 1.43	3.00 2.90	2.90 2.85 2.82	2.00 2.00
Σ	90.1 90.0	9.59 9.64	86.8 86.8	27.5	4.81 4.83	43.0 43.0	23.9 23.7	12.05 12.05	2.74 2.84 2.87 2.73	5.95 6.05	5.95 5.85 5.74	4.04 4.05
DC-AV	90.2	9.60	86.75	27.5	4.80	43.0	24.0	12.05	2.83	6.04	5.82	4.06
AC-1	41.3	4.38	39.8	12.3	2.14	19.1	10.9	5.40	1.29	2.72	2.65	1.83
AC-2	41.2	4.40	39.7	12.3	2.14	19.2	10.9	5.40	1.28	2.75	2.66	1.83
Σ	82.5	8.78	79.5	24.6	4.28	38.3	21.8	10.80	2.57	5.47	5.31	3.66
S. P.	+9.6	+5.1	-13.2	→	→	+25.5			+25.0	+7.0		
AC-N	100R	Meter Pegs			0.10				0.11			
	900Ω	10	1800 2800Ω	30	3	2000Ω 30	30	10	3	1900Ω 10	10	3

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: W. Sierrita Line: 6 - Spool Int.Cal Date: 8/16/82

Send	1-2	4-5	3-4	2-3	1-2	CAL	→	→	→	→	→	→
Rec.	→	5-6W	→	→	→	4-5	→	→	→	→	→	→
Time												
DC-1	.57 .54	1.99 1.96	2.03 2.15	1.78 1.82	.49 .51	24.8	24.0	34.2	33.0	44.2	43.0	
DC-2	.57 .51	1.96 1.98	2.43 2.29	1.77 1.73	.51 .49	24.9	24.0	34.2	32.0	44.5	43.0	
Σ	1.14 1.05	3.95 3.94	4.46 4.44	3.53 3.55	1.00 1.00	49.7	48.0	68.4	65.0	88.7	86.0	
DC-3	.61 .49	1.97 1.99	2.14 2.10	1.78 1.72	.54 .47	24.8	24.0	34.2	33.0	44.2	43.0	
Dc-4	.49 .60	1.94 1.93	2.33 2.44	1.72 1.78	.44 .53	24.9	24.0	34.2	32.0	44.5	43.0	
Σ	1.10 1.09	3.91 3.92	4.47 4.54	3.50 3.50	.98 1.00	49.7	48.0	68.4	65.0	88.7	86.0	
DC-AV	1.10	3.93	4.48	3.53	1.00	49.7	48.0	68.4	65.0	88.7	86.0	
AC-1	0.50	1.77	2.03	1.60	0.45	22.2	22.6	31.9	31.0	41.2	40.0	
AC-2	0.50	1.76	2.03	1.60	0.45	22.1	22.6	32.1	31.0	41.5	40.0	
Σ	1.00	3.53	4.06	3.20	0.90	44.3	45.2	64.0	62.0	82.7	80.0	
S. P.	[illegible]	+6.4				894	943	936	954	934	930	
AC-N	0.10				.13 Peaks	78%	23	32	197	42	13	
Range	3	3	3	3	3	30	100	100	300	100	300	

INDUCED POLARIZATION - RECEIVER NOTES PAGE 1

Project: N. Sierrita Line: 6 - Spr. 1 - E½ Int.Cal 49.8 Date: 8/17/62

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	1-2E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
Time												
DC-1	23.1 23.2	4.00 4.22 3.90 4.35	50.1 50.0	12.3 12.2	3.00 3.25 3.05 3.40	35.7 35.7	13.4 13.5	5.75 5.83 5.75 6.17	1.88 1.90 1.25 1.90	8.20 8.25 8.20 8.35	5.05 4.95 5.15 4.80	2.80 2.85 3.05 2.90
DC-2	23.1 23.1	4.12 3.91 4.25 3.80	48.7 49.0	12.4 12.5	3.23 3.50 3.17 2.90	36.0 36.0	13.5 13.5	5.60 5.59 5.60 5.28	1.51 1.45 2.10 1.45	8.35 8.20 8.35 8.20	4.75 4.85 4.75 5.05	3.02 2.90 2.75 2.85
Σ	46.2 46.3	8.13 8.13 8.15 8.15	98.8 99.0	24.7 24.7	6.33 6.35 6.22 6.30	71.7 71.7	26.9 27.0	11.35 11.45 11.35 11.45	3.39 3.35 3.38 3.35	16.55 16.45 16.55 16.55	9.80 9.80 9.90 9.85	5.82 5.75 5.87 5.75
DC-3	23.0 23.1	4.10 4.05 3.85 3.80	50.2 50.6	12.3 12.7	2.90 2.85 3.12 2.85	35.9 35.9	13.1 14.0	5.68 6.19 5.25 6.07	2.23 1.63 1.83 1.66	8.28 8.00 8.45 8.25	4.88 5.00 4.78 4.85	2.80 2.90 3.25 3.40
Dc-4	23.2 23.1	4.10 3.70 4.30 4.00	48.5 48.2	12.4 12.2	3.36 3.50 3.18 3.40	35.7 36.0	13.7 12.9	5.70 5.22 6.17 5.45	1.11 1.73 1.54 1.69	8.35 8.20 8.10 8.35	4.80 4.80 5.05 5.00	3.05 3.80 2.95 2.4
Σ	46.2 46.2	8.10 8.15 8.15 8.20	98.7 98.8	24.7 24.7	6.26 6.35 6.30 6.20	71.6 71.9	26.8 26.9	11.38 11.41 11.45 11.55	3.34 3.40 3.37 3.35	16.60 16.60 16.55 16.60	9.78 9.88 9.85 9.85	5.85 5.75 5.73 5.80
DC-AV	46.2	8.14	98.8	24.7	6.28	71.7	26.9	11.42	3.35	16.57	9.84	5.78
AC-1	20.7	3.76	45.2	11.3	2.85	32.7	12.3	5.23	1.57	7.39	4.58	2.64
AC-2	20.8	3.76	45.5	11.4	2.87	32.9	12.3	5.22	1.57	7.38	4.55	2.64
Σ	41.5	7.52	90.7	22.7	5.72	65.6	24.6	10.45	3.14	14.77	9.13	5.28
S. P.	+3.9	+3.2	-25.2		-19.5	+17.2			+17.2	-10.3		
AC-N	←	0.03	←	→	0.05				0.10			
Ω scale	1500 Ω 30	10	1500 Ω 100	30	10	1600 Ω 100	30	10	3	2100 Ω 10	10	10

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: W. Sierrita Line: 6 - Sec 1-5 Int.Cal 49.2 Date: 8/1/82

Send	0-5	1-2	2-3	3-4	0-5	C42	→	→	→	→	→
Rec.	→	5-6	→	→	→	1-2	→	→	→	→	→
Time											
DC-1	1.18 1.23 1.22 1.13	2.8 3.15	2.3 2.0 2.2 2.19	1.75 1.80 1.81 1.82	.69 .70	24.3	23.8	33.8	31.0	54.0	51.5
DC-2	1.30 1.26 1.20 1.25	3.1 2.75	2.2 2.13 2.25 2.25	1.81 1.77 1.79 1.75	.61 .60	24.3	23.8	33.9	31.0	54.2	51.5
Σ	2.48 2.49 2.42 2.49	5.90 5.90	4.50 4.53 4.45 4.44	3.56 3.57 3.60 3.57	1.30 1.30	48.6	47.6	67.7	62.0	108.2	103.0
DC-3	1.29 1.16 1.18 1.03	2.65 2.20	2.4 2.22 2.35 2.19	1.78 1.73 1.78 1.75	.61 .60	24.3	23.8	33.8	31.0	54.0	51.5
Dc-4	1.19 1.28 1.30 1.00	3.25 2.70	2.15 2.31 2.15 2.20	1.80 1.84 1.83 1.78	.69 .50	24.3	23.8	33.9	31.0	54.2	51.5
Σ	2.48 2.42 2.48 2.49	5.90 5.90	4.55 4.53 4.53 4.49	3.58 3.57 3.61 3.63	1.30 1.30	48.6	47.6	67.7	62.0	108.2	103.0
DC-AV	2.47	5.90	4.50	3.58	1.30	48.6	47.6	67.7	62.0	108.2	103.0
AC-1	1.12	2.70	2.01	1.64	0.60	22.1	22.3	32.0	30.0	50.6	49.5
AC-2	1.13	2.65	2.01	1.64	0.61	22.1	22.4	31.9	29.5	50.6	49.5
Σ	2.25	5.38	4.02	3.28	1.21	44.2	44.7	63.9	59.5	101.2	99.0
S. P.	-5.9	+14.4			+16.5						
AC-N	0.10				0.09						
Scale	3	140 OR 10	3	3	3	30	100	100	300	100	300

INDUCED POLARIZATION - RECEIVER NOTES PAGE 8

Project: W. Sierrita Line: 6 - Spr. 1 - E½ Int.Cal 49.5 Date: 8/17/62

Send												
Rec.												
Time												
DC-1	24.8	24.0	34.1	31.0	54.6	51.0						
DC-2	24.7	24.0	34.2	31.0	54.3	52.0						
Σ	49.5	48.0	68.3	62.0	108.9	103.0						
DC-3	24.8	24.0	34.1	31.0	54.6	51.0						
Dc-4	24.7	24.0	34.2	31.0	54.3	52.0						
Σ	49.5	48.0	68.3	62.0	108.9	103.0						
DC-AV	49.5	48.0	68.3	62.0	108.9	103.0						
AC-1	22.3	22.8	32.2	30.0	51.0	49.5						
AC-2	22.3	22.7	32.2	30.0	51.2	49.5						
Σ	44.6	45.5	64.4	60.0	102.2	99.0						
S. P.												
AC-N												
scale	30	100	100	300	100	300						

INDUCED POLARIZATION SENDER NOTES

Project: W. Sierritas Line: 6-Spur 1-W½ Date: 8/16/62

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Receive	1-2W	→	2-3W	→	→	3-4W	→	→	→	4-5W	→	→
Time												
Range X_2	850	650	650	750	650	550	650	750	650	550	650	750
Current	1700	1300	1300	1500	1300	1100	1300	1500	1300	1100	1300	1500
Send	1-2	4-5	3-4	2-3	1-2	CA2	→	→	→	→	→	→
Receive	→	5-6W	→	→	→	4-5	→	→	→	→	→	→
Time												
Range X_1	650	550	650	750	650	250	350	450				
Current	1300	1100	1300	1500	1300	500	700	900				

INDUCED POLARIZATION SENDER NOTES

project: W. SIERRITAS Line: 6 E Date: 17 AUG 62

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	1-2 E.	→	2-3 E.	→	→	3-4 E.	→	→	→	4-5 E.	→	→
Time										DC .150		
Range X_2	650	550	750	650	550	650	750	650	550	650	650	650
Current	1300	1100	1500	1300	1100	1300	1500	1300	1100	1300	1300	1300
Send	4-5	1-2	2-3	3-4	4-5	1-2	→	→	→	→	→	→
Receive	→	5-6 E.	→	→	→	CAL.	→	→	→	→	→	→
Time												
Range X_2	550	650	650	650	550	250	350	550				
Current	1100	1300	1300	1300	1100	500	700	1100				

I ← DEVIATIONS FROM CYCLICAL CURRENTS

Line 6

HEINRICHS GEOEXPLORATION COMPANY

W½ INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W. Sierrita Line 6 - Spiral Field date 8/16/62 Data page_____ Comp. date 8/16/62 Comp by C.S.L.

	% S.D.	41	44	40	41	71	64	36	54	43	27	27	61
(A) Send		2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive		1-2 W	→	2-3 W	→	→	3-4 W	→	→	→	4-5 W	→	→
(C) n separation		1	2	1	2	3	1	2	3	4	2	3	4
(D) I		1700	1300	1300	1500	1300	1100	1300	1500	1300	1100	1300	1500
(E) Vdc (avg)		90.2	9.60	86.75	27.5	4.80	43.0	24.0	12.05	2.83	6.04	5.82	4.06
(F) DCcal	WSEO	1.035											
(G) Kn x 10^{-3}		3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D		164.8	91.9	207.0	227.8	114.8	121.6	229.5	249.7	135.1	68.1	139.0	168.1
(I) Vac Σ		82.5	8.28	79.5	24.6	4.28	38.3	21.8	10.80	2.57	5.47	5.31	3.66
(J) AC noise x 2													
(K) Vac(corr) = $\sqrt{I^2 - J^2}$		82.5	8.28	79.5	24.6	4.28	38.3	21.8	10.80	2.57	5.47	5.31	3.66
(L) AC-DC cal.		.925	.922	.926	.925	.895	.902	.930	.912	.923	.939	.939	.905
(M) ρ dc/ρac=ExL/K		1.011	1.009	1.010	1.034	1.003	1.011	1.023	1.018	1.015	1.034	1.029	1.003
(N) PFE=(M-1)(10^2)		1	1	1	3	0	1	2	2	2	3	3	0
(O) MCF=(M-1)(10^5)/H		7	10	5	15	3	9	10	7	11	50	21	2

	% S.D.	17	59	68	53	15		74	23	32	10	41	13
Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____													
(A) Send		1-2	4-5	3-4	2-3	1-2		C42	→	→	→	→	→
(B) Receive		→	5-6 W	→	→	→		4-5	→	→	→	→	→
(C) n separation		5	3	4	5	6							
(D) I		1300	1100	1300	1500	1300		500	500	700	700	900	900
(E) Vdc (avg)		1.10	3.93	4.48	3.53	1.00		49.7	48.0	68.4	65.0	88.7	86.0
(F) DCcal						→		1.007	1.041	1.024	1.078	1.014	1.046
(G) Kn x 10^{-3}		105	30	60	105	168				~1.035			
(H) ρ dc=ExFxGx10^3/D		92.0	111.1	214.0	256.0	133.8							
(I) Vac Σ		1.00	3.53	4.06	3.20	0.90		44.3	45.2	64.0	62.0	82.7	80.0
(J) AC noise x 2													
(K) Vac (corr) = $\sqrt{I^2 - J^2}$			3.53	4.06	3.20	0.90							
(L) AC-DC cal.		.949	.907	.899	.913	.951		.892	.942	.936	.954	.933	.930
(M) ρdc/ρac =ExL/K		1.042	1.010	.994	1.006	1.058							
(N) PFE=(M-1)(10^2)		4	1	-1	1	6							
(O) MCF=(M-1)(10^5)/H		46	9	-3	3	43							

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W. Sierrita Line 6-Sp. 2-E½ Field date 8/17/62 Data page_____ Comp. date 8/18/62 . Comp by C.S.L.

	9.5.0. 69	38	45	38	29	33	41	52	52	74	46	26
(A) Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
(B) Receive	1-2 E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
(C) n separation	1	2	1	2	3	1	2	3	4	2	3	4
(D) I	1300	1100	1500	1300	1100	1300	1500	1300	1100	1300	1300	1300
(E) Vdc (avg)	46.2	8.14	98.8	24.7	6.28	71.7	26.9	11.42	3.35	16.57	9.84	5.78
(F) DCcal USED	1.050											
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	112.0	93.3	207.5	239.8	179.9	173.8	226.0	277.8	192.0	160.3	238.5	280.0
(I) Vac Σ	41.5	7.52	90.7	22.7	5.72	65.6	24.6	10.45	3.14	14.77	9.13	5.28
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. →	.912	.941	.934	.941	.949	.945	.938	.927	.927	.907	.933	.952
(M) ρ dc/ρac=ExL/K	1.015	1.018	1.017	1.024	1.041	1.032	1.027	1.014	.990	1.018	1.005	1.041
(N) PFE=(M-1)(10^2)	2	2	2	2	4	3	3	1	-1	2	1	4
(O) MCF=(M-1)(10^5)/H	13	19	8	10	23	18	12	5	-5	11	2	15

Project_____ Line 9.5.0. 37 27 Field date 67 55 20 Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5	1-2	2-3	3-4	4-5							
(B) Receive	→	5-6E	→	→	→							
(C) n separation	5	3	4	5	6							
(D) I	1100	1300	1300	1300	1100							
(E) Vdc (avg)	2.47	5.90	4.50	3.58	1.30							
(F) DCcal					→							
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρ dc=ExFxGx10^3/D	247.9	143.1	218.0	304.0	208.5							
(I) Vac Σ	2.25	5.38	4.02	3.28	1.21							
(J) AC noise x 2					→							
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. →	.941	.951	.914	.925	.957							
(M) ρdc/ρac =ExL/K	1.033	1.043	1.022	1.010	1.029							
(N) PFE=(M-1)(10^2)	3	4	2	1	3							
(O) MCF=(M-1)(10^5)/H	13	30	10	3	14							

C AL 5

E.½

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W. Sierrita Line G-Spool Field date 8/17/62 Data page_____ Comp. date 8/18/62 Comp by C. S. L.

(A) Send q. s. o.	74	22	32	10	51	17	74	23	32	10	51	17
(B) Receive												
(C) n separation												
(D) I	500	500	700	700	1100	1100	500	500	700	700	1100	1100
(E) Vdc (avg)	48.6	47.6	67.7	62.0	108.2	103.0	49.5	48.0	68.3	62.0	108.9	103.0
(F) DCcal	1.028	1.049	1.034	1.130	1.016	1.068	1.010	1.041	1.025	1.130	1.011	1.068
(G) Kn x 10^{-3}					~	1.050						
(H) ρ dc=ExFxGx10^3/D												
(I) Vac Σ	44.2	44.7	63.9	59.5	101.2	99.0	44.6	45.5	64.4	60.0	102.2	99.0
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.909	.940	.944	.960	.935	.960	.902	.947	.943	.968	.940	.961
(M) ρ dc/ρac=ExL/K												
(N) PFE=(M-1)(10^2)												
(O) MCF=(M-1)(10^5)/H												

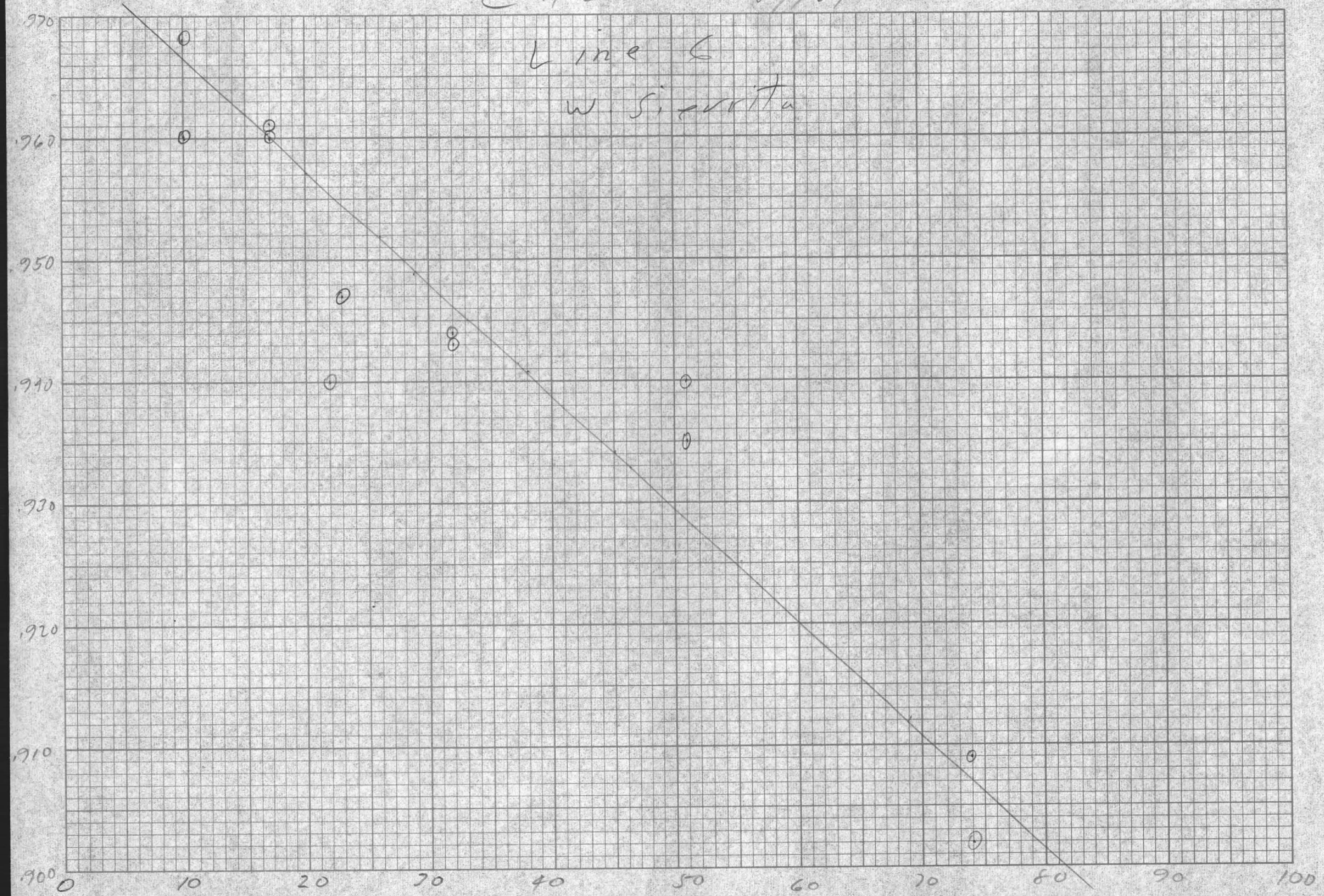
Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send												
(B) Receive												
(C) n separation												
(D) I												
(E) Vdc (avg)												
(F) DCcal												
(G) Kn x 10^{-3}												
(H) ρ dc=ExFxGx10^3/D												
(I) Vac Σ												
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.												
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)												
(O) MCF=(M-1)(10^5)/H												

NO. 3401 -10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.

C 425 - 8/18/62



INDUCED POLARIZATION - RECEIVER NOTES

Project: Sierra Line: #1 - E Int.Cal 520

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	.5E-1E	→	1-1.5E	→	→	1.5-2E	→	→	→	2-2.5E	→	→
Time	0954	0957	1014	1019	1021	1030	1033	1045	1050	1103	1107	1113
DC-1	66.2 66.0	18.6 18.5	56.0 56.0	25.9 25.8	11.9 11.9	72.5 N 72.0 N	18.6 18.5	12.1 12.4	6.50 6.70	22.0 21.9	6.90 6.65	6.05 5.50
DC-2	67.5 67.5	18.9 19.0	56.0 56.0	25.9 25.9	11.8 11.8	72.5 N 72.5	18.5 18.5	11.8 11.3	6.20 6.00	21.5 21.5	7.35 7.55	5.60 5.95
Σ	133.7 133.5	37.5 37.5	112.0 112.0	51.8 51.7	23.7 23.7	145.0 144.5	37.1 37.0	23.9 23.7	12.70 12.7	43.5 43.4	14.25 14.20	11.65 11.45
DC-3	66.0 65.8	18.4 18.3	56.0 56.0	25.8 25.7	11.9 11.9	72.5 N 72.5 N	18.5 18.5	12.0 12.1	6.40 6.20	21.8 21.7	7.10 6.80	6.15 6.35
Dc-4	67.5 67.8	19.0 18.9	56.0 56.0	25.8 25.8	11.8 11.8	71.5 71.5 N	18.7 18.6	11.9 11.8	6.30 6.50	21.6 21.7	6.95 7.35	5.10 4.90
Σ	133.5 133.6	37.4 37.2	112.0 112.0	51.6 51.5	23.7 23.7	144.0 144.0	37.2 37.1	23.9 23.9	12.7 12.7	43.4 43.4	14.05 14.15	11.25 11.25
DC-AV	133.6	37.4	112.0	51.6	23.7	144.3	37.1	23.9	12.7	43.4	14.19	11.32
AC-1	64.0	17.9	52.5 N	23.7	11.1	67.0 N	17.3	11.2	5.95	19.9	6.50	5.30
AC-2	64.0	17.8	53.0 N	23.7	11.0	67.0 N	17.3	11.1	5.95	19.9	6.50	5.30
Σ	128.0	35.7	105.5	47.4	22.1	134.0	34.6	22.3	11.9	39.8	13.0	10.60
S. P.	+3.5	+0.8	+6.9		+6.5	+4.8	+5.5	-1.5	-1.1	+10.1 +8.4	+6.1 +7.7	+9.9 +6.2
AC-N		.10 .10 E			.10 .10 EDC				.10 EDC .10			.12
Used	0.0 M.V. S.P.		used	+6.7 M.V. S.P.		used	+2.0 M.V. S.P.			used	8.0 M.V. S.P.	

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Sierra Rita Line: F1-E Int.Cal Date: 29/May

Send	4-5	1-2	2-3	3-4	4-5		2-3					
Rec.	2-2.5E	2.5-3E					CAL.					
Time		216		1231	1237		0941	944	946	1308	1310	1312
DC-1	3.42 3.00	5.10 5.40	2.20 2.46	2.05 2.06	1.12 1.25		75.0	35.0	15.0	72.0	34.0	14.8
DC-2	2.50 3.75	4.75 4.50	1.60 1.40	1.43 1.50	1.12 1.05		75.5	35.0	15.0	72.0	34.0	14.7
Σ	6.02 6.75	9.85 9.90	3.80 3.86	3.50 3.56			150.5	70.0	30.0	144.0	68.0	29.5
DC-3	3.70 2.50	5.60 5.80	2.62 2.71	2.15 2.18	1.31 1.35		75.0	35.0	15.0	72.0	34.0	14.7
Dc-4	2.60 4.20	4.30 4.10	1.22 1.12	1.45 1.32	0.90 0.80		75.5	35.0	15.0	72.0	34.0	14.7
Σ	6.30 6.70	9.90 9.90	3.84 3.83	3.60 3.50			150.5	70.0	30.0	144.0	68.0	29.4
DC-AV	6.44						150.5	70.0	30.0	144.0	68.0	29.45
AC-1	3.07	3.02	1.25	1.18	0.80		74.0	35.0	15.0	71.0	34.5	14.8
AC-2	3.05	3.05	1.27	1.20	0.79		73.5	34.5	14.9	71.0	34.5	14.6
Σ	6.12	6.07	2.52	2.38			147.5	69.5	29.9	142.0	69.0	29.4
S. P.		-17.1 16.9 -21.6 21.2	-16.0 -24.0	+	16.0 24.0 25.8 16.7							
AC-N					6.12							

used -10 mv. S.P. — See repeat (-7.3 mv.)

INDUCED POLARIZATION SENDER NOTES

Project: Sierra Rita Line: 1 E ½ Date: 5-29

Send	1-2	2-3	3-4	4-5			Cal	2-3				
~~Receive~~ Time	18:04	18:08	18:14				18:40	18:42	18:43			
Time Ad-1	719.3	697.9	693.3	700			705.3	322.3	140.6			
Range	180	180	200	180			1.5 230	.75 110	.30 70			
Current DC AC-2	715.5 714.0	697.9 696.3	691.0 691.0	698.0 698.0			701.8 700.3	319.4 318.8	138.4 138.3			
Send												
Receive												
Time												
Range												
Current	3-4	change	to .15	for	DC	freq						

Frank AS
& Jim Reiva

0.75 coupling capacitor.

INDUCED POLARIZATION SENDER NOTES

Project: Sierra Rita Line: #1 - E½ Dill & Walt. Date: 29 May 82.

			250	250		290						
Send	0.5E 3-4	1.0E 4-5	1.0E 2-3	1.5E 3-4	→ 4-5	1.5E 1-2	2.0E 2-3	3-4	→ 4-5	2.0E 1-2	2.5E 2-3	→ 3-4
TIME Receive	9:54 X2	9:57 X2	10:14 →	10:17 →	10.21 →	10:30 →	10.53 →	10:45 →	10.50 →	11.03 →	11:07 →	11:13 →
1st AC Time / last AC	701.0	708.2	709.6 706.1	795.1 793.4	707.7	718.5	702.4	691.3	698.0	713.7	690.9	680.7
Range	1.50 200	→	→	→ 67-10	→	190	200	210	190	190	190	200
DC Current / AC	703.2 697.3	708.2 704.0	705.7 702.2	797.5 794.1	706.0 704.6	713.0 710.2	701.4 696.9	691.0 686.5	694.8 692.8	703.9 703.9	687.9 686.6	677.8 675.6
Send	→ 4-5	2.5E-3.0E 1-2	→ 2-3	→ 3-4	→ 4-5		CAL 2-3	CAL 2-3	CAL 2-3	→	→	→
TIME X2 Receive	11:22	12:03 12:16	12:25	12:31	12:37		9:40 X2	9:44 X2	9:46 X2	13:08 X2	13:10	13:12
1st AC Time	700	696.9 687.5	680.0	670.5	677.9		721.0	336.8	144.2	680	319.3	130.1
Range	1.5 190	210 170	190	200	180		1.5 200	0.75 170	0.30 80	1.5 230	.75 140	.30 80
DC Current / AC	685.4 683.4	693-682.5 693-681.5	673.4 675.4	668.0-671.6 668.8	675.0 675.8 674.2		721.0 712.7	334.5 333.0	142.2 142.1	680 677.5	317.5 316.3	129.4 128.6

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Sierrita Line: #1 east end Int.Cal Date: 28/May

Tests

Send	2-3	2-3	2-3	2-3	3-4	4-5	2-3		S.P.			
Rec.	100	30	100	100	.5E-1E →		CAL		0-.5E			
Time	—	CAL	—	—								
DC-1	68.0	14.8	33.8	68.2	63.0 63.0	18.2 18.3	74.2					
DC-2	68.0	14.9	33.8	68.5	66.0 65.5	18.0 17.9	74.2					
Σ						36.2 36.2						
DC-3	68.0	14.8	33.8	68.2	63.0 63.0	18.4 17.8	74.2					
Dc-4	68.0	14.9	33.8	68.5	66.0 66.0	17.8 18.6	74.2					
Σ						36.2 36.4	148.4					
DC-AV						36.2						
AC-1	68.0	14.7	33.8	68.0	61.0	17.0	73.5					
AC-2	68.0	14.7	33.8	68.0	60.5	17.1	73.5					
Σ						34.3	147.0					
S. P.					-19.8				+20.9			
AC-N					Used:	← my	pot base pot					
					0.0 M.V.S.P.	.991						

Using my pot as S.P. pot

INDUCED POLARIZATION - RECEIVER NOTES PAGE 5

Project: Sierrita Line: 1 E 1/2 Int.Cal Date: 29 May

			0.15 DC →								
Send	1-2	2-3	3-4	4-5	Repeat.						
Rec.	2.5E-	3.0E	→								
Time	18:04	18:08	18:14	1:30 1:31 (18:17)							
DC-1	4.90 4.95	2.15 2.02	1.81 1.83	1.00 1.16							
DC-2	5.55 5.50	1.85 1.90	1.86 1.85	1.38 1.23							
Σ	4.60	2.23	3.67 3.69	1.00 1.22							
DC-3	4.67 4.70	2.26 2.15	1.85 1.82	1.13 0.89							
Dc-4	5.65 5.65	1.76 1.80	1.85 1.87	1.14 1.42							
Σ	5.70	1.70	3.70 3.69	1.04 1.00							
DC-AV	10.35	3.97	3.69	2.27							
AC-1	4.25	1.65	1.53	0.97							
AC-2	4.20	1.66	1.53	0.98							
Σ	8.45	3.31	3.06	1.95							
S. P.	-7.3	÷ used	-10.0	M.V.							
AC-N											

Repeat 2.5 3.0

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Inspiration W. Sierrita Line 1 - E ½ Field date 5/29/62 Data page_____ Comp. date 5/31/62. Comp by C.S.L.

(A) Send	2-3	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
(B) Receive	CAL	1.5-1.0E	→	1.0-2.5E		→	1.5-2.0E			→	2.0-2.5E	
(C) n separation		1	2	1	2	3	1	2	3	4	2	3
(D) I		700.5	706.8	705.9	696.7	706.1	713.9	701.2	689.6	695.2	707.2	688.5
(E) Vdc (avg)		133.6	37.4	112.0	51.6	23.7	144.3	37.1	23.9	12.7	43.4	14.19
(F) DCcal USED	.950÷2	=47.5										
(G) Kn x 10^{-3}		1.5	6.0	1.5	6	15	1.5	6	15	30	6	15
(H) ρ dc=ExFxGx10^3/D		136.0	150.4	113.1	211.3	239.0	144.3	151.0	245.0	260.0	174.6	147.0
(I) Vac Σ		128.0	35.7	105.5	47.4	22.1	134.0	34.6	22.3	11.9	39.8	13.0
(J) AC noise x 2		.20										
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. USED	1.000											
(M) ρ dc/ρac=ExL/K		1.043	1.049	1.060	1.090	1.073	1.079	1.071	1.071	1.069	1.090	1.090
(N) PFE=(M-1)(10^2)		4	5	6	9	7	8	7	7	7	9	9
(O) MCF=(M-1)(10^5)/H		32	33	53	43	31	55	47	29	27	52	61

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	3-4	4-5	1-2	2-3	3-4	4-5	CAL	→	→	→	→	→
(B) Receive	→	→	2.5-3.0E			→	2-3	→	→	→	→	→
(C) n separation	4	5	3	4	5	6						
(D) I	678.0	688.7	688.4	676.3	669.8	675.7	718.2	334.8	142.8	679.0	317.7	~~129.4~~
(E) Vdc (avg)	11.32	6.44	10.35	3.97	3.69	2.27	150.5	70.0	70.0	144.0	68.0	~~29.45~~
(F) DCcal							.954	.957	.954	.943	.935	
(G) Kn x 10^{-3}	30	52.5	15	30	52.5	84		~.950				
(H) ρ dc=ExFxGx10^3/D	238.0	233.0	107.1	83.9	137.7	134.1						
(I) Vac Σ	10.60	6.12	8.45	3.31	3.06	1.95	147.5	69.5	29.9	142.0	69.0	29.4
(J) AC noise x 2						→						
(K) Vac (corr) = $\sqrt{I^2 - J^2}$						→						
(L) AC-DC cal.						→	.980	.994	.998	.986	1.015	.998
(M) ρdc/ρac =ExL/K	1.070	1.051	1.226	1.200	1.208	1.164						
(N) PFE=(M-1)(10^2)	7	5	23	20	21	16			~1.000			
(O) MCF=(M-1)(10^5)/H	29	22	215	238	151	122						

INDUCED POLARIZATION - RECEIVER NOTES

PAGE 37

Project: Sierrita Line: #1-W1/2 Int.Cal 52.0 Date: 29/May

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	.5W-1W →		1.0W-1.5W →			1.5W-2W →			→	2.0-W	2.5W →	
Time	1448	1454	15:45	15:48	15:50	16:15	16:18	16:20	16:24	1645	1650	16:53
DC-1	84.0 84.2	18.1 18.0	128.0 128.0	19.6 19.6	7.90 7.85	37.2 37.5	15.5 15.3	3.82 3.75	2.45 2.41	10.3 10.3	5.50 5.50	1.61 1.60
DC-2	85.5 85.0	18.7 18.8	128.0 128.0	19.2 19.2	7.90 7.95	37.8 37.8	14.6 14.8	3.67 3.75	2.33 2.40	10.3 10.3	5.45 5.45	1.67 1.68
Σ	169.5 169.8	36.8	256.0 256.0	38.8 38.8	15.80 15.80	75.0 75.3	30.1 30.1	7.49 7.50	4.78 4.81	20.6 20.6	10.95 10.95	3.28 3.28
DC-3	84.5 84.5	17.9 17.8	127.0 127.0	19.6 19.6	7.90 7.90	37.2 37.2	15.5 15.6	3.90 3.85	2.50 2.51	10.3 10.2	5.50 5.50	1.60 1.59
Dc-4	85.0 84.8	18.9 18.9	127.0 127.0	19.2 19.2	7.85 7.85	38.0 37.9	14.7 14.6	3.62 3.65	2.32 2.31	10.3 10.35	5.45 5.45	1.70 1.66
Σ	169.5 169.3	36.8 36.7	254.0 254.0	38.8 38.8	15.75 15.75	75.2 75.1	30.2 30.2	7.52 7.50	4.82 4.82	20.6 20.55	10.95 10.95	3.30 3.25
DC-AV	169.4	36.8	255.0	38.8	15.77	75.1	30.15	7.50	4.81	20.6	10.95	3.28
AC-1	76.7	16.8	120.0	18.2	7.3	36.5	14.4	3.60	2.29	9.8	5.20	1.57
AC-2	76.2	16.8	120.0	18.2	7.3+	36.5	14.3	3.63	2.29	9.8	5.22	1.57
Σ	152.9	33.6	240.0	36.4	14.6	73.0	28.7	7.23	4.58	19.6	10.42	3.14
S. P.	+6.0		-1.6			+1.5				+4.8	+2.3	
AC-N		.05			0.05	0.05			0.05	USA!	+3.0M	V.SP.
DC-N		"			"	"			"			

INDUCED POLARIZATION - RECEIVER NOTES PAGE 4

Project: Silverita Line: 1 W 1/2 Int.Cal [illegible] Date: 29 May

							4%	33%	50%	74%	33%	50%
Send	1-2	4-5	3-4	2-3	1-2		3-4			2-3		
Rec.	2.0W-2.5W	2.5W-3.0W	→									
Time	15:56	17:08	17:11	17:14	17:18		1435		1440		1842	1843
DC-1	1.21 1.22	3.61 3.60	2.33 2.35	0.88 0.90	0.77 0.79		71.5	32.5	14.6	73.5	32.9	14.6
DC-2	1.24 1.23	3.60 3.62	2.53 2.49	0.89 0.87	0.82 0.79		71.2	32.5	14.5	73.0	32.9	14.6
Σ	2.45 2.45	7.21 7.22	4.86 4.84	1.77 1.77	1.59 1.58		142.7	65.0	29.1	146.5	65.8	29.2
DC-3	1.23 1.23	3.70 3.65	2.25 2.30	0.79 0.83	0.70 0.71		71.5	32.5	14.6	73.5	32.9	14.5
Dc-4	1.22 1.22	3.50 3.55	2.60 2.57	0.96 0.95	0.89 0.85		71.2	32.5	14.5	73.0	32.9	14.5
Σ	2.45 2.45	7.20 7.20	4.85 4.87	1.75 1.78	1.59 1.56		142.7	65.0	29.1	146.5	65.8	29.0
DC-AV	2.45	7.20	4.855	1.77	1.58		142.7	65.0	29.1	146.5	65.8	29.1
AC-1	1.19	3.45	2.27	0.85	0.75		70.0	33.2	14.6	73.5	33.5	14.8
AC-2	1.19	3.45	2.275	0.85	0.75		70.0	32.7	14.5	73.0	33.1	14.6
Σ	2.38	6.90	4.545	1.70	1.50		140.0	65.9	29.1	146.5	66.6	29.4
S. P.		(used	± 0.0	M.V.	S.P.)							
AC-N	0.05											

INDUCED POLARIZATION SENDER NOTES

Project: Sierra R. 12 Line: 1 - W½ Date: 5-29-62

Send	2-3	1:2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
~~Receive~~ Time	14:48	14:54	15:45	15:48	15:50	16:15	16:18	16:20	16:24	16:45	16:50	16:53
~~Time~~ AC-1	712.8	713.0	696.1	700	707.4	701.5	688.8	689.9	704.0	706.3	693.3	698.4
Range 65	x2 200	180	200	200	180	180	200	180	170	180	200	190
Current AC-2	704.6 701.0	708.3 708.5	692.8 689.8	700 698.5	705.8 705.8	699.0 697.1	688.2 688.2	689.9 689.9	704.0 704.0	701.8 701.8	691.4 690.6	697.6 697.6
Send	1-2	4-5	3-4	2-3	1-2		Cal	3-4				
Receive	16:56	17:08	17:11	17:14	17:18		14:35	14:38	14:40			
Time	706.8	706.0	699.0	690.8	703.3		681.6	319.5	140.3			
Range	180	180	200	180	180		1.5 240	.75	.30			
Current	706.8 706.0	699.0 699.0	699.9 688.0	688.7 688.7	703.3 701.6		683.3 678.8	318.4 318.4	138.3 138.3			

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Inspiration W. Sierrita Line 1-W½ Field date 5/29/62 Data page_____ Comp. date 5/31/62 Comp by C. S. C.

(A) Send	3-4	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
(B) Receive	CAL	.5-1.0W	→	1.0-1.5W	→	→	1.5-2.0W	→	→	→	2.0-2.5W	→
(C) n separation		1	2	1	2	3	1	2	3	4	2	3
(D) I	X 2	706.1	709.9	692.9	700	706.3	699.2	688.4	689.9	704.0	703.3	692.1
(E) Vdc (avg)		169.4	36.8	255.0	38.8	15.77	75.1	30.15	7.50	4.81	20.6	10.85
(F) DCcal USED	.960	.480										
(G) Kn x 10^{-3} a = 500'		1.5	6.0	1.5	6.0	15	1.5	6.0	15	30	6.0	15
(H) ρdc=ExFxGx10^3/D		172.9	149.3	265.5	159.8	160.7	77.4	126.0	78.3	98.5	84.5	114.0
(I) Vac Σ		152.9	33.6	240.0	36.4	14.6	73.0	28.7	7.23	4.58	19.6	10.42
(J) AC noise x 2		.10										
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. USED	1.000											
(M) ρdc/ρac=ExL/K		1.110	1.096	1.062	1.066	1.080	1.030	1.050	1.037	1.050	1.050	1.050
(N) PFE=(M-1)(10^2)		11	10	6	7	8	3	5	4	5	5	5
(O) MCF=(M-1)(10^5)/H		65	64	23	41	50	39	40	47	51	59	44

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	2-3	1-2	4-5	3-4	2-3	1-2	CAL					
(B) Receive	→	→	2.5-3.0W	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I	697.9	706.5	701.3	695.6	689.4	702.7	681.2	318.8	139.0	702.5	320.2	139.2
(E) Vdc (avg)	3.28	2.45	7.20	4.855	1.77	1.58	142.7	65.0	29.1	146.5	65.8	29.1
(F) DCcal							.956	.981	.955	.959	.972	.956
(G) Kn x 10^{-3}	30	52.5	15	30	52.5	84						
(H) ρdc=ExFxGx10^3/D	67.8	87.4	74.0	100.5	64.8	90.6			~.960			
(I) Vac Σ	3.14	2.38	6.90	4.545	1.70	1.50	140.0	65.9	29.1	146.5	66.6	29.4
(J) AC noise x 2						→						
(K) Vac (corr) = $\sqrt{I^2 - J^2}$						→						
(L) AC-DC cal.						→	.982	1.013	1.000	1.000	1.011	1.010
(M) ρdc/ρac =ExL/K	1.044	1.030	1.043	1.070	1.040	1.053			~	1.006		
(N) PFE=(M-1)(10^2)	4	3	4	7	4	5						
(O) MCF=(M-1)(10^5)/H	65	34	58	70	62	58						
							72	33	50	74	33	59

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: SIERRITA Line: 15 pro 2 W 1/2 Int.Cal 500 Date: 16 JUNE

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	5-1W	→	1-1.5		→	1.5-2			→	2-2.5		
Time			10:14	10:16	10:18	10:30	10:30	10:35	10:37	10:46	10:48	10:50
DC-1	40.0 40.0	17.3 17.3	54.3 54.3	12.0 12.0	7.0 6.9	88.0 88.0	14.9 14.9	4.98 4.98	3.30 3.20	20.5 20.4	4.78 4.82	1.90 1.98
DC-2	40.0 40.0	17.5 17.5	54.3 54.3	12.0 12.0	7.0 7.0	87.0 87.0	14.7 14.6	4.98 5.00	3.28 3.30	20.3 20.4	4.70 4.68	1.98 1.98
Σ	80.0 80.0	34.8 34.8	108.6 108.6	24.0 24.0	14.0 13.9	175.0 175.0	29.6 29.5	9.96 9.98	6.58 6.50	40.8 40.8	9.48 9.50	3.88 3.96
DC-3	40.0 40.0	17.3 17.3	54.3 54.3	12.1 12.0	6.9 6.9	88.0 88.0	15.0 14.9	4.90 4.96	3.20 3.20	20.3 20.4	4.82 4.82	1.95 1.95
Dc-4	40.0 40.0	17.5 17.5	54.3 54.3	12.1 12.0	7.0 7.0	87.0 87.0	14.6 14.6	4.98 5.00	3.25 3.30	20.5 20.3	4.70 4.70	1.93 1.95
Σ	80.0 80.0	34.8 34.8	108.6 108.6	24.2 24.0	13.9 13.9	175.0 175.0	29.6 29.5	9.88 9.96	6.45 6.50	40.8 40.7	9.52 9.52	3.88 3.90
DC-AV	80.0	34.8	108.6	24.0	13.92	175.0	29.55	9.95	6.51	40.8	9.50	3.90
AC-1	40.0	17.1	54.3	12.0	7.0	84.0	14.7	4.92	3.28	20.0	4.68	1.92
AC-2	39.8	17.1	54.2	12.0	6.9	84.5	14.7	4.92	3.28	19.9	4.70	1.95
Σ	79.8	34.2	108.5	24.0	13.9	168.5	29.4	9.84	6.56	39.9	9.38	3.87
S. P.	—	-8.6	-3.7	→	-1.8	-2.8	→		-7.1	+9.3		
AC-N		.05			.05				.07			

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: SIERRITA Line: #1 spread #2 W 1/2 Int.Cal _____ Date: 16 JUNE

Pot R = 26600 Ω

Send	1-2	4-5	3-4	2-3	1-2	5.0	4-5					
Rec.	→	2.5-3 W			→	0-5 W	CAL					
Time	10:55	11:05	11:09	11:10	11:12		0936	0937				
DC-1	1.39 1.38	6.60 6.80	1.94 1.83	.85 .86	.64 .62	BASE	14.5	34.0	72.5			
DC-2	1.37 1.38	6.82 6.82	1.90 1.85	.89 .90	.63 .65	AT	14.7	33.8	73.2			
Σ	2.76 2.76	13.62 13.62	3.84 3.68	1.79 1.76	1.27 1.27	0	29.2	67.8	145.7			
DC-3	1.42 1.38	6.80 6.80	1.95 2.04	.80 .75	.60 .58		14.5	34.0	72.5			
Dc-4	1.35 1.36	6.82 6.82	1.75 1.60	.93 1.02	.69 .70		14.7	33.8	73.2			
Σ	2.77 2.79	13.62 13.62	3.70 3.69	1.73 1.77	1.29 1.28	Pot Lamp go	29.2	67.8	145.7			
DC-AV	2.76	13.62	3.72	1.75	1.28		29.2	67.8	145.7			
AC-1	1.40	5.85	1.67	.85	.65		15.1	35.5	73.5			
AC-2	1.40	5.90	1.75	.85	.65		14.9	35.0	73.5			
Σ	2.80	11.75	3.42	1.70	1.30		30.0	70.5	147.0			
S. P.		+23.6				+18.3						
AC-N	.04				.02							

INDUCED POLARIZATION SENDER NOTES

Project: Sierrita Line: #1 Spread 2 W. ½ Date: 6-16-62

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Receive	W .6-1.0	→	W 1.0-1.5	→	→	W 1.5-2.0	→	→	→	W 2.0-2.5	→	→
Time	10:03	10:04	10:14	10:16	10:18	10:30	10:33	10:35	10:37	10:46	10:48	10:50
Range	1425 1425 1425	1460 1460 1460	1400 1400 1400	1425 1425 1425	1450 1450 1450	1425 1425 1425	1375 1375 1375	1410 1410 1410	1425 1425 1425	1410 1410 1410	1375 1375 1375	1400 1400 1400
Current	1425	1460	1400	1425	1450	1425	1375	1410	1425	1410	1375	1400
Send	1-2	4-5	3-4	2-3	1-2		Cal	4-5				
Receive	W 2.0-2.5	W 2.5-3.0	→	→	→							
Time	10:55	11:05	11:09	11:10	11:12		9:36	9:37	9:40			
Range	1425 1425 1425	1400 1400 1400	1350 1350 1350	1390 1400 1390	1425 1425 1425		.30	.75	1.50			
Current	1425	1400	1350	1393	1425		300 300 300	690 690 690	1450 1450 1450			

RANGE 1.50 300 690 1450

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W. Sierrita Line #1 Spd 2 w/2 Field date 6/16/62 Data page_____ Comp. date 6/18/62. Comp by_____

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	1.5-1w	→	1.0-1.5w	→	→	1.5-2w	→	→	→	2.0-2.5w	→	→
(C) n separation	1	2	1	2	3	1	2	3	4	2	3	4
(D) I	1425	1460	1400	1425	1450	1425	1375	1410	1425	1410	1375	1400
(E) Vdc (avg)	80.0	24.8	108.6	24.0	13.92	175.0	29.55	9.95	6.51	40.8	9.50	3.90
(F) DCcal	1.000	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	1.5	6	1.5	6	15	1.5	6	15	30	6	15	30
(H) ρdc=ExFxGx10^3/D	84	143	116	101	144	184	129	106	137	174	104	84
(I) Vac Σ												
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$	79.8	34.2	108.5	24.0	13.9	168.5	29.4	9.84	6.56	39.9	9.38	3.87
(L) AC-DC cal.	1.03	→	→	→	→	→	→	→	→	→	→	→
(M) ρdc/ρac=ExL/K	1.031	1.049	1.030	1.030	1.031	1.069	1.034	1.041	1.070	1.053	1.041	1.038
(N) PFE=(M-1)(10^2)	3	5	3	3	3	7	3	4	2	5	4	4
(O) MCF=(M-1)(10^5)/H	37	34	26	30	22	37	26	39	15	30.	39	45

Project_____ Line 2 Field date_____ Data page 59 Comp. date 35% 74% Comp by_____

(A) Send	1-2	4-5	3-4	2-3	1-2		4-5	→	→			
(B) Receive	2.0-2.5w	2.5-3.0w	→	→	→		CAL	→	→			
(C) n separation	5	3	4	5	6							
(D) I	1425	1400	1350	1393	1425		300	690	1450			
(E) Vdc (avg)	2.76	13.67	3.72	1.75	1.28		29.2	67.8	145.7			
(F) DCcal	1.000	→	→	→	→		1.028	1.017	.996	Avg(5 of 1st page) = 1.0198		
(G) Kn x 10^{-3}	52.5	15	30	525	84				used 1.000.			
(H) ρdc=ExFxGx10^3/D	102	146	83	66	75							
(I) Vac Σ												
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$	2.80	11.75	3.42	1.70	1.30		30.0	70.5	147.0			
(L) AC-DC cal.	1.03	→	→	→	→		1.028	1.040	1.009			
(M) ρdc/ρac =ExL/K	1.015	1.195	1.120	1.060	1.015		AC Avg (with 6/2) = 1.0293					
(N) PFE=(M-1)(10^2)	2	20	12	6	2			used 1.03				
(O) MCF=(M-1)(10^5)/H	15	134	145	91	20							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Sierrita Line: #1 Sprd #2 E1/2 Int.Cal 19.5 Date: 16/June

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	.5-1.0E	→	10-1.5E	→	→	1.5-20E	→	→	→	2.0-2.5E	→	→
Time			12:31	12:33	12:35	12:48	12:50	12:52	12:54	13:03	13:05	13:06
DC-1	50.0 50.0	17.0 17.0	49.5 48.5	11.1 11.1	6.9 6.9	33.0 33.0	17.0 17.1	6.50 6.50	5.25 5.25	11.1 11.2	5.30 5.30	3.60 3.60
DC-2	50.0 50.0	16.9 16.9	48.5 48.5	11.9 11.9	6.9 6.9	33.0 32.8	17.3 17.4	6.68 6.70	5.30 5.30	10.7 10.7	5.41 5.40	3.55 3.55
Σ	100.0 100.0	33.9 33.9	98.0 97.0	23.0 23.0	13.8 13.8	66.0 65.8	34.3 34.5	13.18 13.20	10.55 10.55	21.8 21.9	10.71 10.70	7.15 7.15
DC-3	50.0 50.0	17.0 17.0	49.5 49.2	11.1 11.1	6.9 6.9	32.8 32.5	17.1 17.1	6.50 6.50	5.25 5.25	11.2 11.2	5.30 5.30	3.58 3.59
Dc-4	50.0 50.0	16.9 16.9	49.0 48.7	11.9 11.0	6.9 6.9	32.8 32.8	17.3 17.4	6.70 6.66	5.30 5.30	10.7 10.7	5.40 5.40	3.57 3.50
Σ	100.0 100.0	33.9 33.9	98.5 97.9	23.0 23.1	13.8 13.8	65.6 65.3	34.4 34.5	13.20 13.18	10.55 10.55	21.9 21.9	10.71 10.71	7.15 7.15
DC-AV	100.0	33.9	97.8	23.0	13.8	65.7	34.4	13.19	10.55	21.9	10.70	7.16
AC-1	50.0	16.8	49.0	11.6	7.0	34.5	17.3	6.5	5.35	11.0	5.30	3.60
AC-2	50.5	16.9	49.5	11.7	6.9	34.0	17.3	6.5	5.37	11.0	5.35	3.58
Σ	100.5	33.7	98.5	23.3	13.9	68.5	34.6	13.00	10.72	22.0	10.65	7.18
S. P.	-17.7	-7	+16.8			-15.4			.	+6.0		
AC-N		.06			.05				.04			

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Sierrita Line: #1 Sp/6 #2E 1/2 Int.Cal Date: 16 June

Send	4-5	1-2	2-3	3-4	4-5	SP	1-2					
Rec.	2-2.5E	2.5-3E			→	0-5E	CAL					
Time	13:08	13:20	13:22	13:25	13:26					13:43	13:45	13:46
DC-1	3.45 3.45	7.50 7.50	4.20 4.22	3.20 3.20	3.30 3.30		14.3	33.0	71.5	14.3	33.2	71.5
DC-2	3.30 3.30	7.40 7.40	4.10 4.08	3.20 3.22	3.30 3.30		14.5	33.2	71.0	14.2	33.1	71.8
Σ	6.75 6.75	14.90 14.90	8.30 8.30	6.40 6.42	6.60 6.60		28.8	66.2	142.5	28.5	66.3	143.3
DC-3	3.47 3.50	7.55 7.58	4.25 4.25	3.18 3.18	3.25 3.25		14.3	33.0	71.5	14.2	33.1	71.2
Dc-4	3.28 3.27	7.35 7.30	4.05 4.05	3.22 3.25	3.32 3.32	BAS UP	14.5	33.2	71.0	14.2	33.0	71.8
Σ	6.75 6.77	14.98 14.88	8.30	6.40 6.43	6.57 6.57	0	28.8	66.2	142.5	28.4	66.1	143.0
DC-AV	6.75	14.90	8.30	6.41	6.59		28.8	66.2	142.5	28.45	66.2	147.15
AC-1	3.45	7.35	4.17	3.20	3.30		15.3	35.8	74.0	15.0	35.5	73.5
AC-2	3.40	7.35	4.18	3.20	3.30		15.0	35.5	73.5	14.9	33.5	73.5
Σ	6.85	14.70	8.35	6.40	6.60		30.3	71.3	147.5	29.9	69.0	147.0
S. P.		-6.0				+17.5						
AC-N	.03				.02							
										.30	.75	1.50

INDUCED POLARIZATION SENDER NOTES

Project: Sierrita Line: #1 Spread 2 E. ½ Date: 6-26-62

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	.5-1.0 E	→	1.0-1.5 E	→	→	1.5-2.0 E	→	→	→	2.0-2.5 E	→	→
Time			12:31	12:33	12:35	12:48	12:50	12:52	12:54	13:03	13:05	13:06
Range	1375 1385 1385	1425 1425 1425	1400 1400 1400	1350 1360 1350	1425 1425 1425	1425 1425 1425	1400 1410 1400	1390 1400 1390	1410 1410 1410	1450 1440 1440	1400 1410 1400	1350 1360 1350
Current	1382	1425	1400	1353	1425	1425	1403	1393	1410	1443	1403	1353

Send	4-5	1-2	2-3	3-4	4-5		Cal.	1-2				
Receive	2.0-2.5 E	2.5-3.0 E	→	→	→							
Time	13:08	13:20	13:22	13:25	13:26					13:43	13:45	13:46
Range	1400 1400 1400	1425 1425 1425	1390 1400 1390	1350 1360 1350	1390 1390 1390		.30	.75	1.50	.30	.75	1.50
Current	1400	1425	1393	1353	1390		300 300 300	690 690 690	1425 1425 1425	300 300 300	675 675 675	1410 1410 1410

RANGE 1.50 300 690 1425 300 675 1410

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project W. Sierrita Line 1. Spr 2-E½ Field date 6/16/62 Data page_____ Comp. date 6/18/62 Comp by C.S.L.

(A) Send	CAL	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
(B) Receive	1-2	.5-1.0E	→	1.0-1.5E	→	→	1.5-2.0E	→	→	→	2.0-2.5E	→
(C) n separation		1	2	1	2	3	1	2	3	4	2	3
(D) I		1382	1425	1400	1353	1425	1425	1403	1393	1410	1443	1403
(E) Vdc (avg)		100.0	33.9	97.8	23.0	13.8	65.7	34.4	13.19	10.55	21.9	10.70
(F) DCcal		1.000	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}		1.5	6	1.5	6	15	1.5	6	15	30	6	15
(H) ρ dc=ExFxGx10^3/D		109	143	105	102	145	69	147	142	224	91	114
(I) Vac Σ		100.5	33.7	98.5	23.3	13.9	68.5	34.6	13.00	10.72	22.0	10.65
(J) AC noise x 2		.12	.12	.10	.10	.10	.08	.08	.08	.08	.06	.06
(K) Vac(corr) = $\sqrt{I^2 - J^2}$		↓	→	→	→	→	→	→	→	→	→	→
(L) AC-DC cal.		1.03	→	→	→	→	→	→	→	→	→	→
(M) ρ dc/ρac=ExL/K		1.023	1.036	1.021	1.041	1.022	.990	1.022	1.043	1.012	1.024	1.034
(N) PFE=(M-1)(10^2)		2	4	2	4	2	-1	2	4	1	2	3
(O) MCF=(M-1)(10^5)/H		21	25	20	40	15	15	15	30	5	26	30

Project_____ Line_____ Field date_____ Data page 50% 30% Comp. date 75% 50% Comp by 35% 74%

(A) Send	3-4	4-5	1-2	2-3	3-4	4-5	1-2	→	→	→	→	→
(B) Receive	→	→	2.5-3.0E	→	→	→	CAL	→	→	→	→	→
(C) n separation	4	5	3	4	5	6						
(D) I	1353	1400	1425	1393	1353	1390	300	690	1425	300	675	1410
(E) Vdc (avg)	7.16	6.75	14.90	8.30	6.41	6.59	28.8	66.2	142.5	28.45	66.2	143.15
(F) DCcal	1.000	→	→	→	→	→	1.040	1.041	1.000	1.053	1.019	.985
(G) Kn x 10^{-3}	30	52.5	15	30	52.5	84		DCAv.	←	1.0198	used	1.000
(H) ρ dc=ExFxGx10^3/D	159	254	157	179	248	398						
(I) Vac Σ	7.18	6.85	14.70	8.35	6.40	6.60	30.3	71.3	147.5	29.9	69.0	147.0
(J) AC noise x 2	.06	.06	.04	.04	.04	.04	1.010	1.077	1.035	.997	1.041	1.027
(K) Vac (corr) = $\sqrt{I^2 - J^2}$	↓	→	→	→	→	↓		Avg (with w/½) =			1.0293	
(L) AC-DC cal.	1.030	→	→	→	→	→		used 1.03				
(M) ρdc/ρac =ExL/K	1.028	1.015	1.042	1.023	1.031	1.029						
(N) PFE=(M-1)(10^2)	3	2	4	2	3	3						
(O) MCF=(M-1)(10^5)/H	18	6	27	13	12	7						