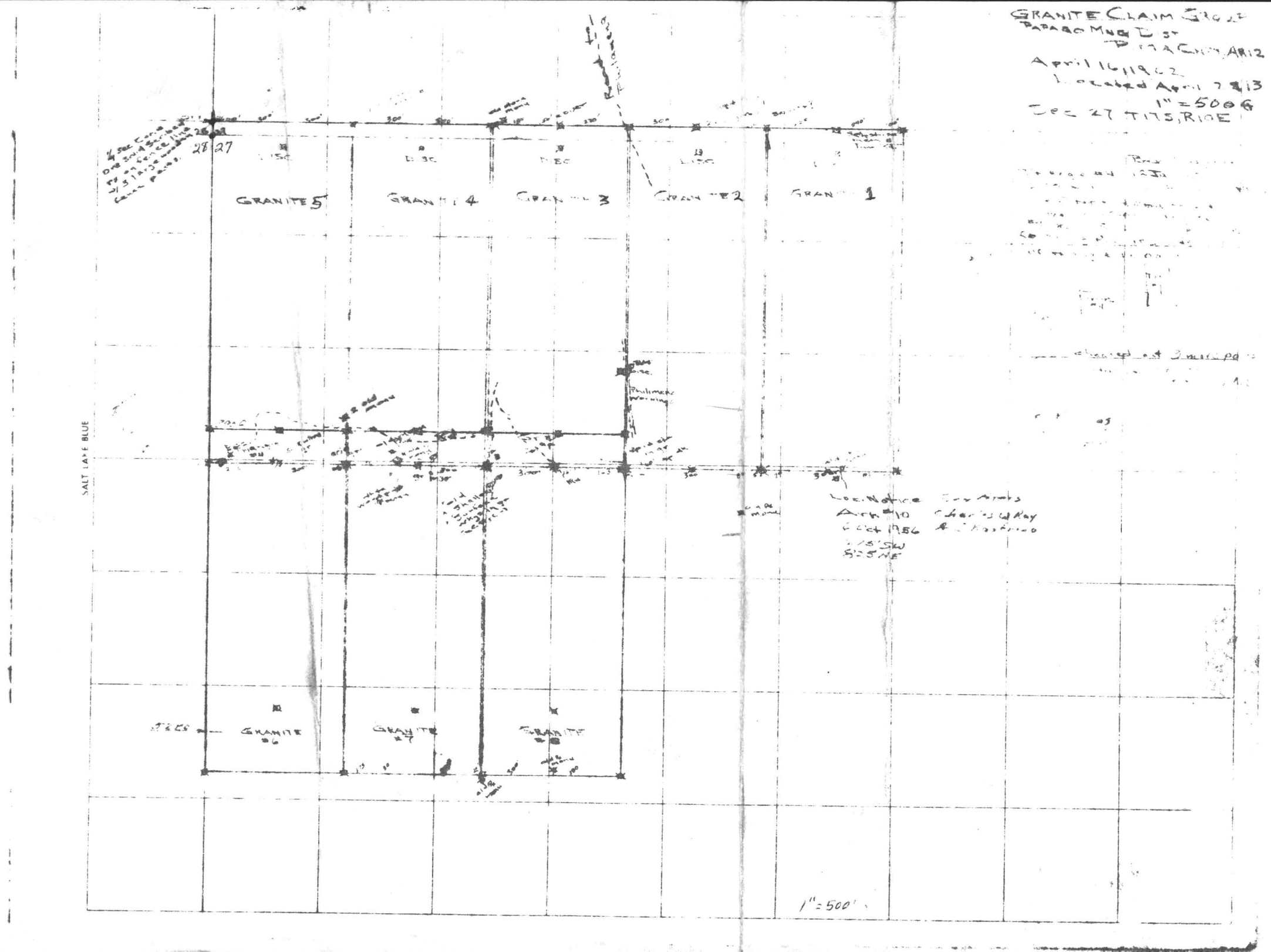
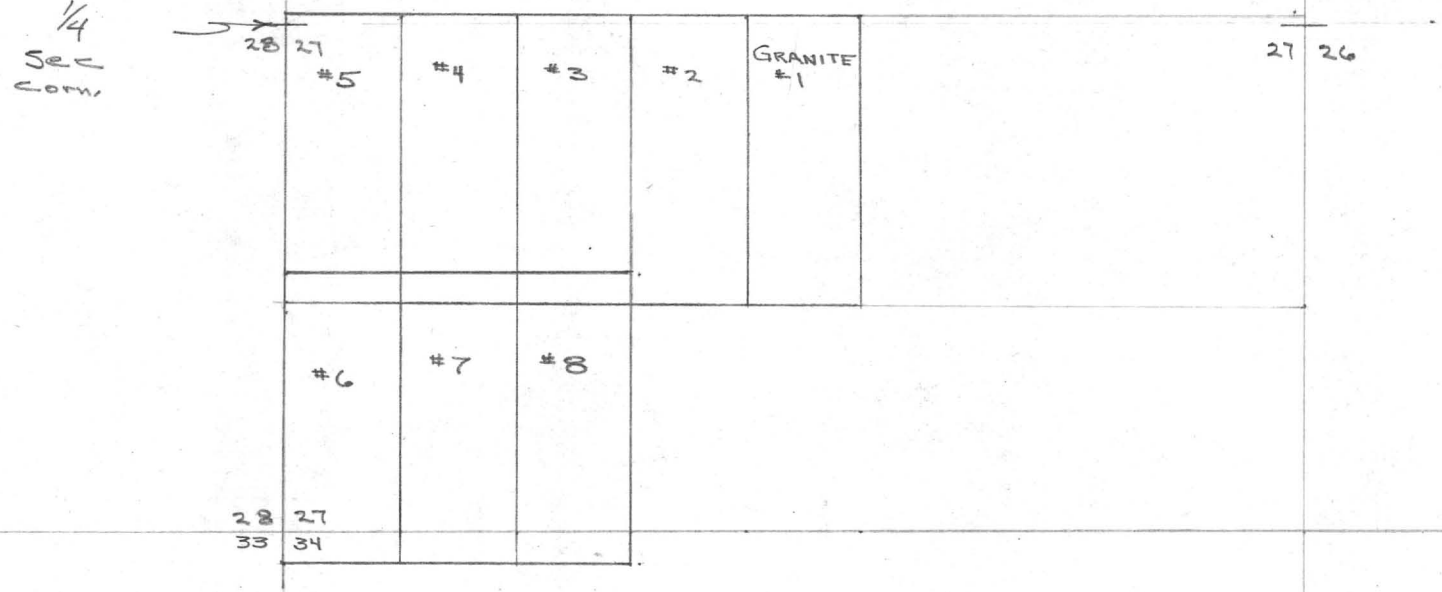
1	4	1	
5	20	5	PFE
50	300	50	MCF
1	6	1	
150	75	150	Cdc.
2	1	2	

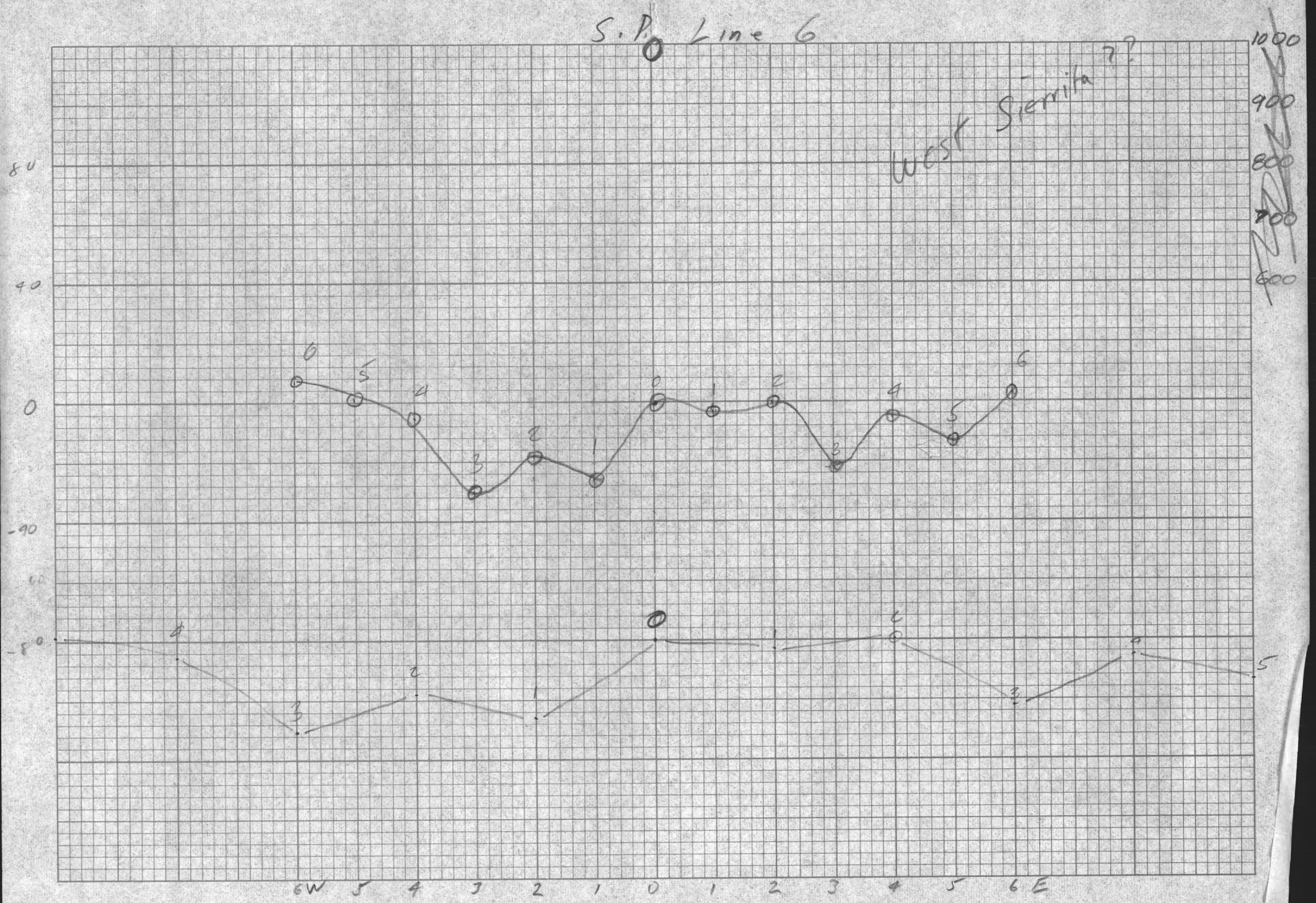
1	2	1	PFE correction for Level Cdc.


GRANITE CLAIM GROUP
PAPAGO MNG DIST
PIMA CNTY, ARIZ
April 16, 1962
Located April 7 & 13
1" = 500 G
Sec 27 T17S, R10E
28 27
GRANITE 5
GRANITE 4
GRANITE 3
GRANITE 2
GRANITE 1
Philimena Workings
Loc. Notice
Arch #10
Oct 1956
SALT LAKE BLUE
GRANITE #6
GRANITE #7
GRANITE #8
1" = 500'


1/4
Sec
Corn.
28
27
#5
#4
#3
#2
GRANITE
#1
27
26
#6
#7
#8
28
27
33
34

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

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



Line 6

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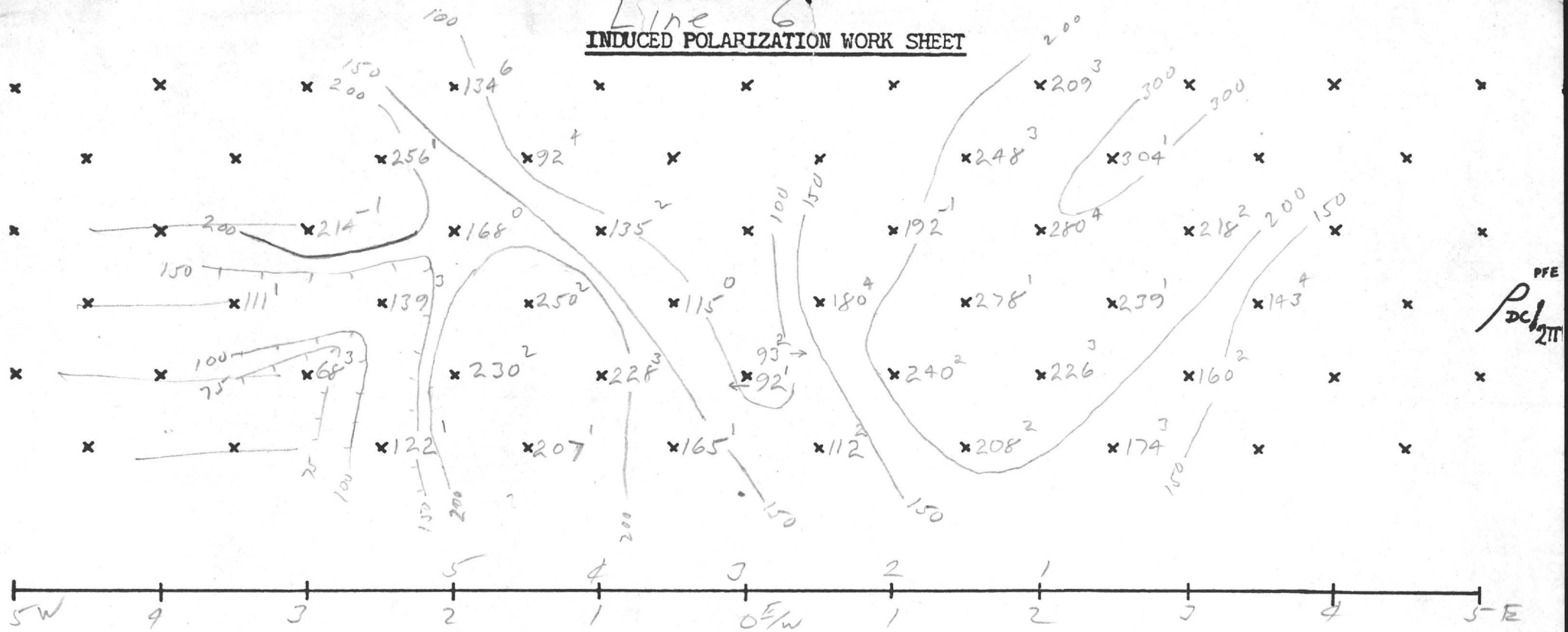
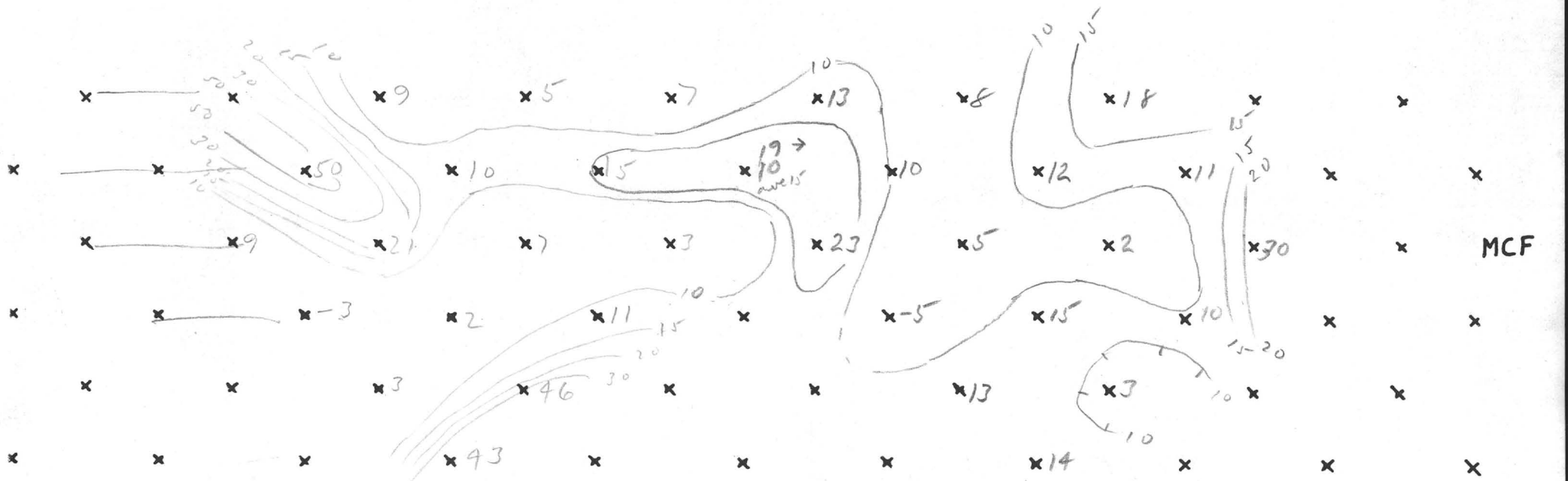
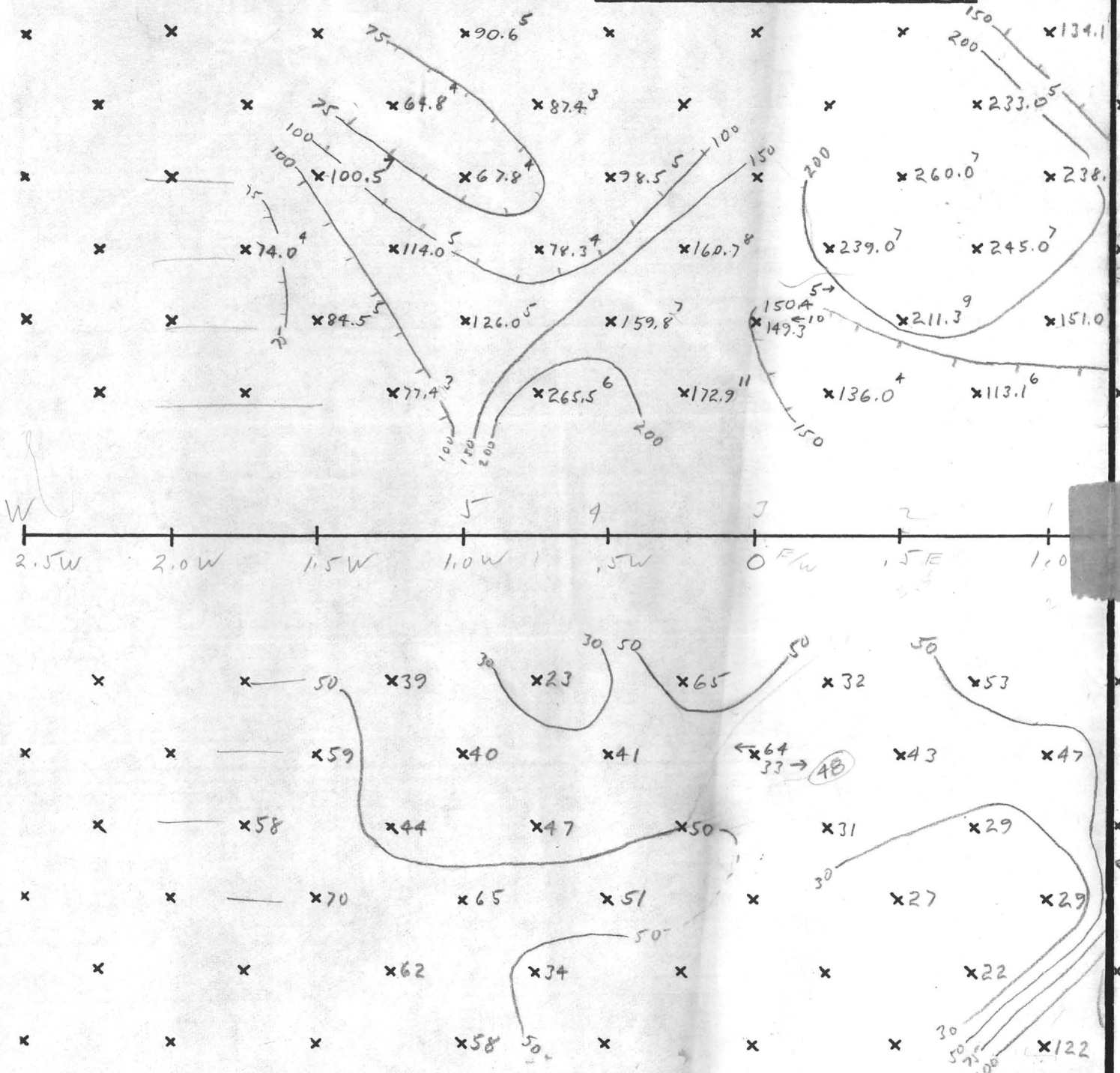




Area W. Sierrita Line 6 W½ Scale 1" = 1000' Date 8/16/62

LINE I Spr.

INDUCED POLARIZATION WORK SHEET



Line I Spr. 2

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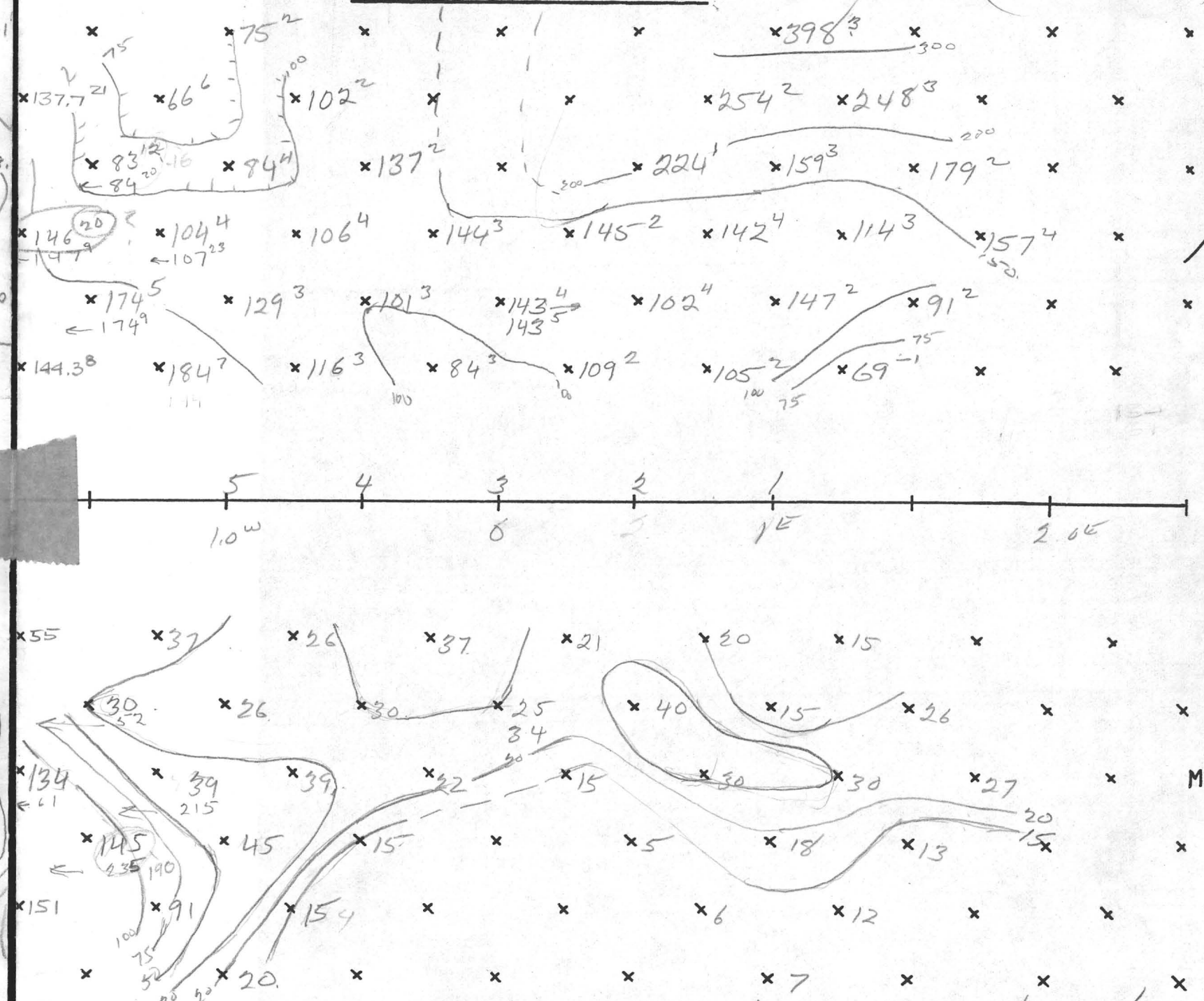
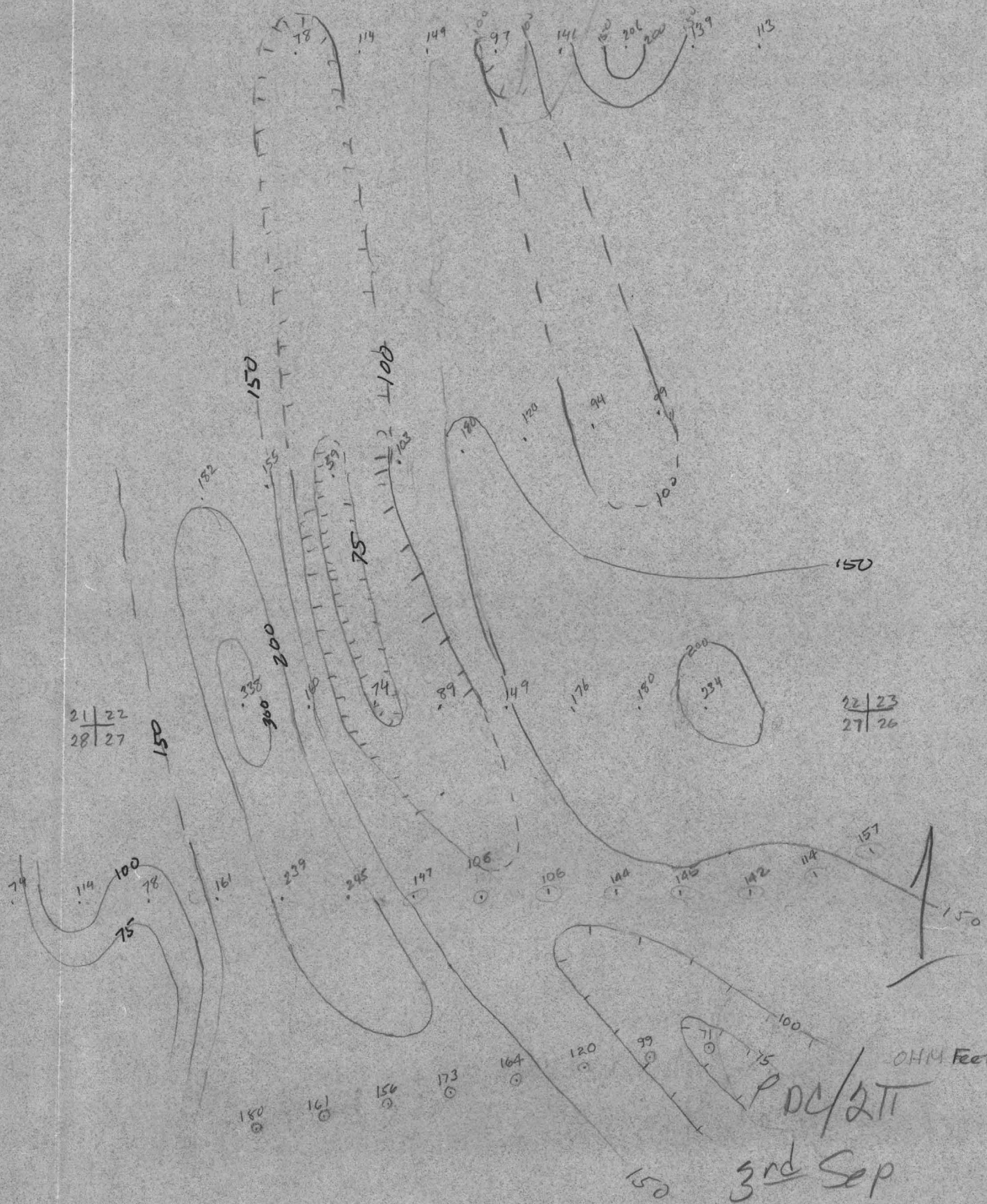
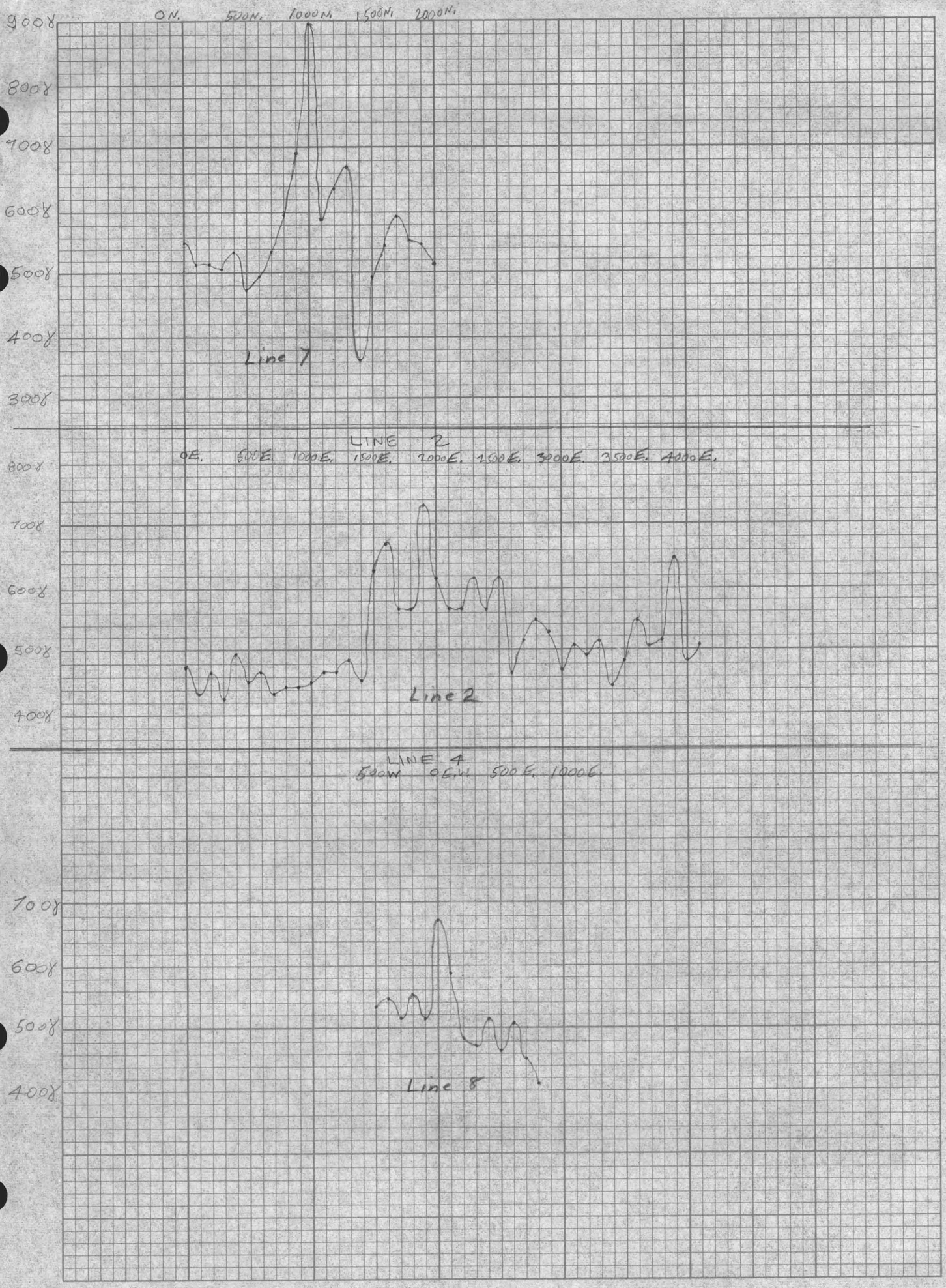


Area Inspiration - W-Sierrita - Line I Spr I E & W ½ Scale 1" = 500'

#1 Spr #2 Scale 1" = 500' Date 18/June/62


OHM Feet ρDC/2π
ρDC/2π
3rd Sep
CI = Log

W. SIERRITAS JALANDER LINE 3 22 AUG 62



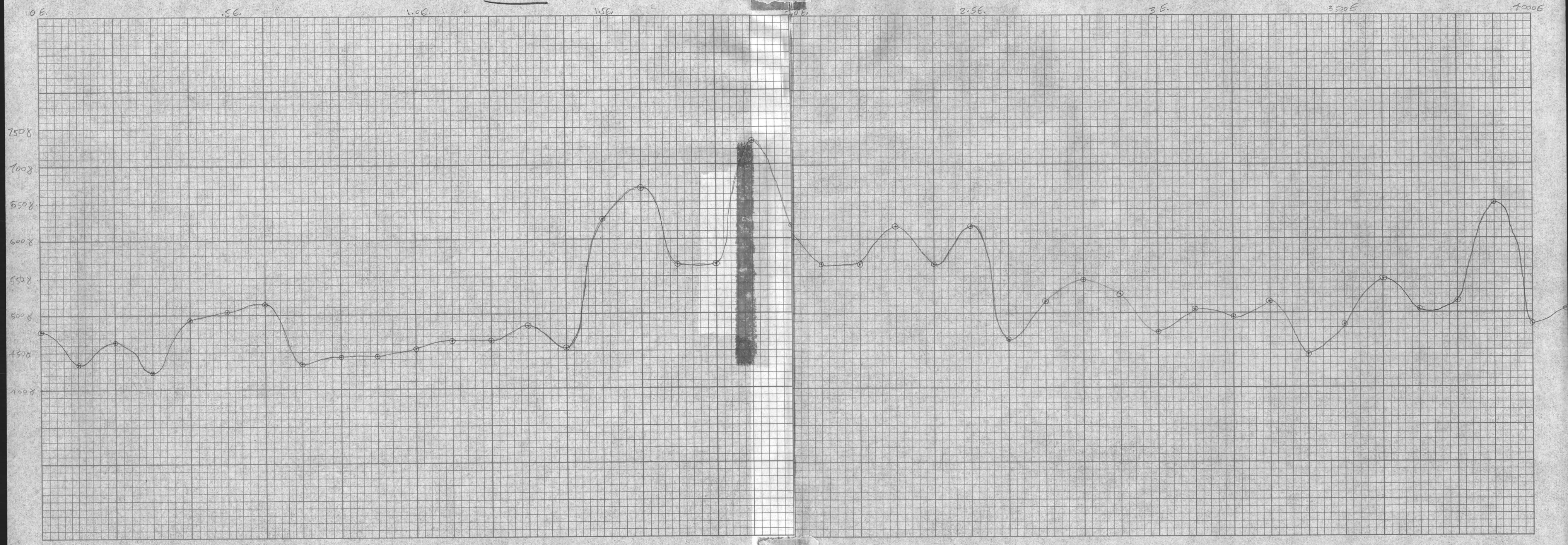
EUGENE DIETZGEN CO.
MADE IN U.S.A.
NO. 340 -10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

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

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

J ALONDER LINE 2
W SIERRITAS

22 AUG 62



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

EUGENE DIETZGEN CO.
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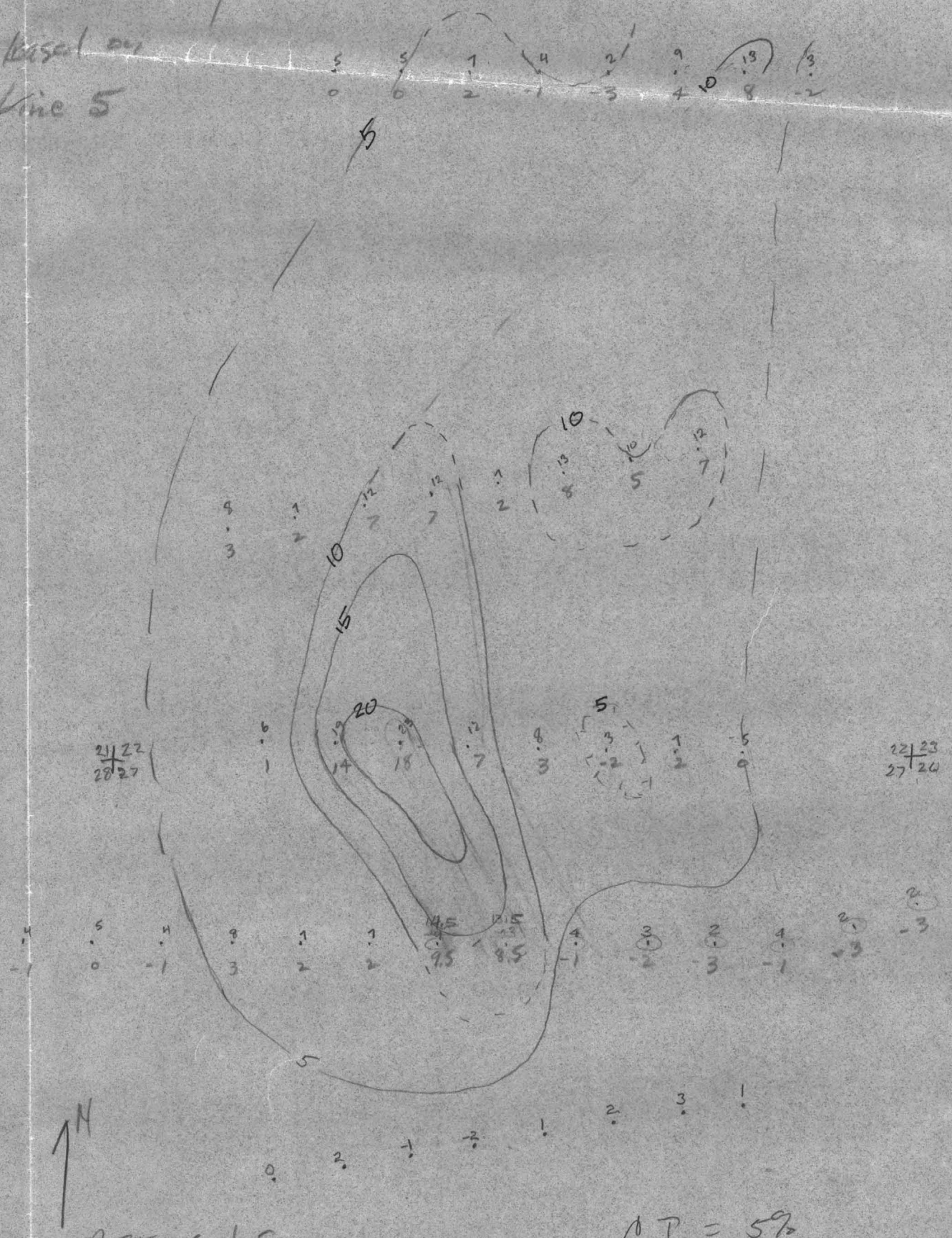
NO. 340/ .10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH
EUGENE DIETZGEN CO.
MADE IN U. S. A.

Arbitrary -5 PFE Correction for Background.

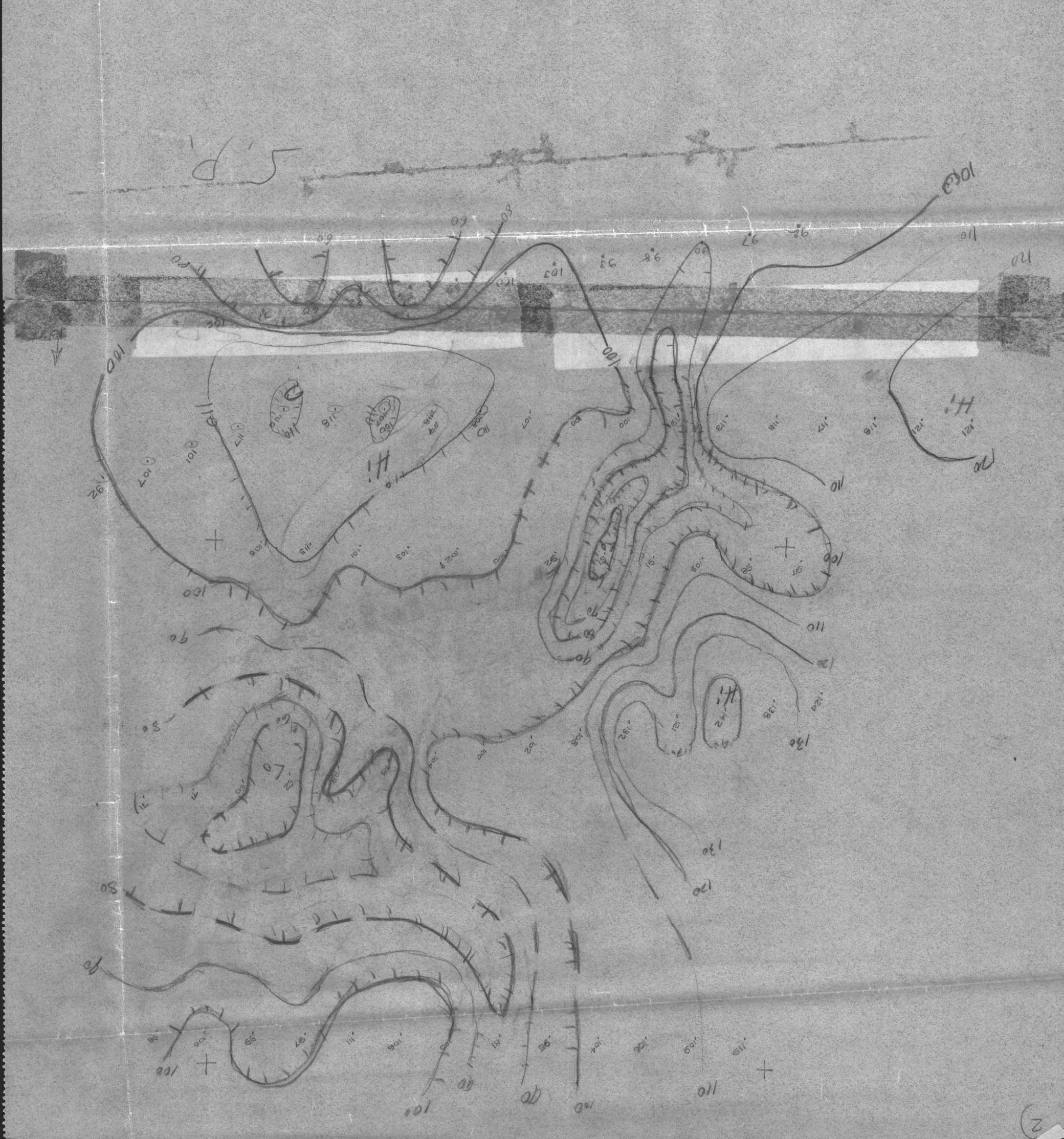
based on line 5



PFE 3rd Sep.

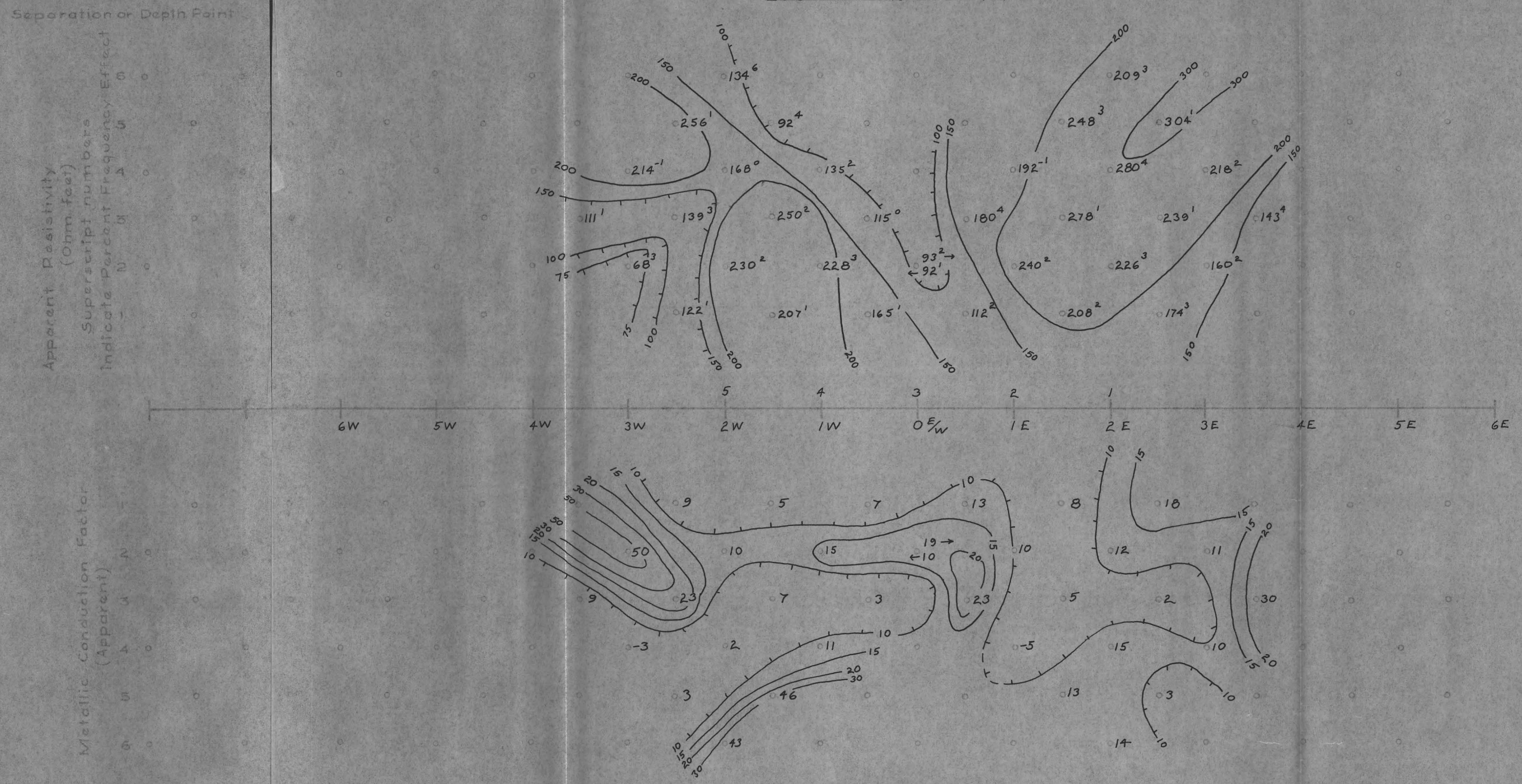
CI = 5%

4



2

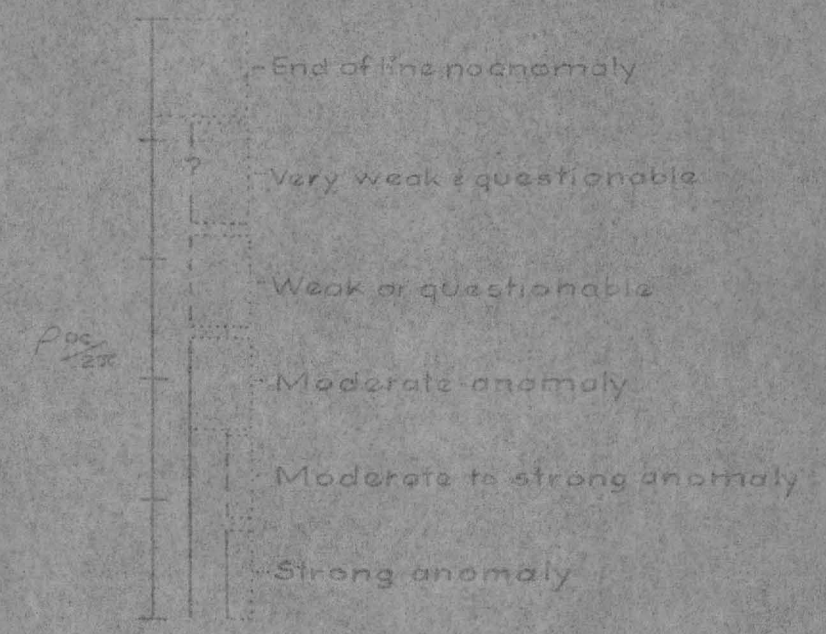
LOOKING NORTHERLY



LOCATION

STATION 0 E/W IS 900' S & 2900' E OF SEC. COR. 21/22 / 26/27, T17S, R10E, PIMA COUNTY, ARIZONA
LINE RUNS N75°E - S75°W FROM 0 E/W.

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. 6 Spr. 1

INDUCED POLARIZATION SURVEY
HEINRICHS GEOEXPLORATION CO.

Scale: 1" = 1000'
Date: August 1962

SUPPLEMENTAL MAGNETIC COVERAGE

West Sierrita Mountains
Pima County, Arizona

for

INSPIRATION CONSOLIDATED COPPER COMPANY
Inspiration, Arizona

April 1962

by

HEINRICHS GEOEXPLORATION COMPANY
P. O. BOX 5671 TUCSON, ARIZONA

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In Pocket

Contour - Anomaly "A"

Overlay, showing coverage

INTRODUCTION

Subsequent to our report submitted March 20, 1962 on the magnetic reconnaissance of the west side of the Sierrita Mts., Pima County, Arizona some additional coverage was obtained in specific areas. The MoMag was used on March 27 to obtain four more profiles at anomaly "A" to cut it off to the south and additional traverses were run in Sections 26, 35 and 36, T 17 S, R 10 E and Sections 2 and 12, T 18 S, R 10 E. On March 29, 1962 a Jalander hand magnetometer was used to take readings along five profiles in Sections 1 and 12, T 18 S, R 10 E and Section 7, T 18 S, R 11 E.

RESULTS

Records No. 30, 31, 32 and 33 were parallel and 660 ft apart over the southern part of the area containing anomaly "A". The contour map of this anomaly has been revised and is included with this supplement. Effects from the cause of "A" cover a surface area of roughly 2,200 ft. by 1,200 ft. Magnetically it is elongate NW-SE, dips southwest and has a pronounced contact with a large low lying to the east. The cause is a magnetite rich zone lying along a contact, probably fault, of granite to the west or southwest and sediments and/or metamorphics to the east-northeast. Because of its geographic position and magnetic characteristics viewed in the light of known geology and mineral-

ization of the area this anomaly should be given strong attention. If the usual route of acquiring a large amount of land, plus geology, geophysics and drilling cannot be taken at this time, then a block of at least four claims should be located with the center on the high and extending 1,500 feet north, 1,500 ft. south, 600 ft. east and 600 ft. west of the magnetic high. Annual work then can be kept up and the claims held until such time in the future as it may become possible to thoroughly investigate it.

Record No. 34 was an attempt to find an extension on the north side of the hill of anomaly "G". An abrupt rise in level of 200 gammas was found a little east of where expected. As there are steep cliff-forming slopes here we could not drive far but were satisfied that we had crossed a formational contact with enough variance in magnetite or skarn minerals to sharply define the contact. Magnetics would be the best method for mapping this contact if anyone ever presents a geologic reason for its importance.

Record No. 35 was run in the southern part of Section 35 and like Record No. 34 was to look for an extension of the trend of anomalies "E", "F" and "G". An anomaly was found, close to the west face of the hill. Character of the record indicates it is from a near surface cause, probably exposed, and nearly vertical. We are now satisfied that there is a mineralized

HEINRICHS GEOEXPLORATION COMPANY

contact zone N-S in Sections 26, 35 and 2 along the west face of sedimentary hills. This must be terminated by faulting near the Banner Mine as it was not picked up on Record No. 4 across this section.

Record No. 36 showed anomalism only over the granite and nothing that is considered significant at this time was crossed.

Record No. 37 has a minor high that probably is not too important but might have some minor mineral association.

Jalander Profiles #1 and #2 were run east of the Sunshine Mine to check on a prospect on Iron Mountain. No. 1 shows a small anomaly from two station readings at or near the dump of a small prospect. This could possibly correlate with the minor anomaly on MoMag Record No. 37 at about the same position on the south side of the hill. If so, it means the mineralization here can be traced magnetically, and this is reportedly one of the better mineral showings in the district. The only thing of particular note on profile No. 2 is an anomalous low in the central part of Section 7, apparently associated with a flow and/or fault but with no observed mineralization. Profiles 3, 4 and 5 were in Section 1. Aside from some local anomalism, two features are worthy of mention. On No. 3 is a small contact zone with a narrow sharp anomaly that would appear to be a magnetite body similar to anomaly "D". And at the north end of No. 4--east end of No. 5 is a high zone, not cut off but apparently due to diabase.

An overlay has been prepared showing the positions of the new coverage. This overlay is for the map furnished with the original report of March 20, 1962. We suggest the two be combined by tracing the data from the overlay onto the original maps.

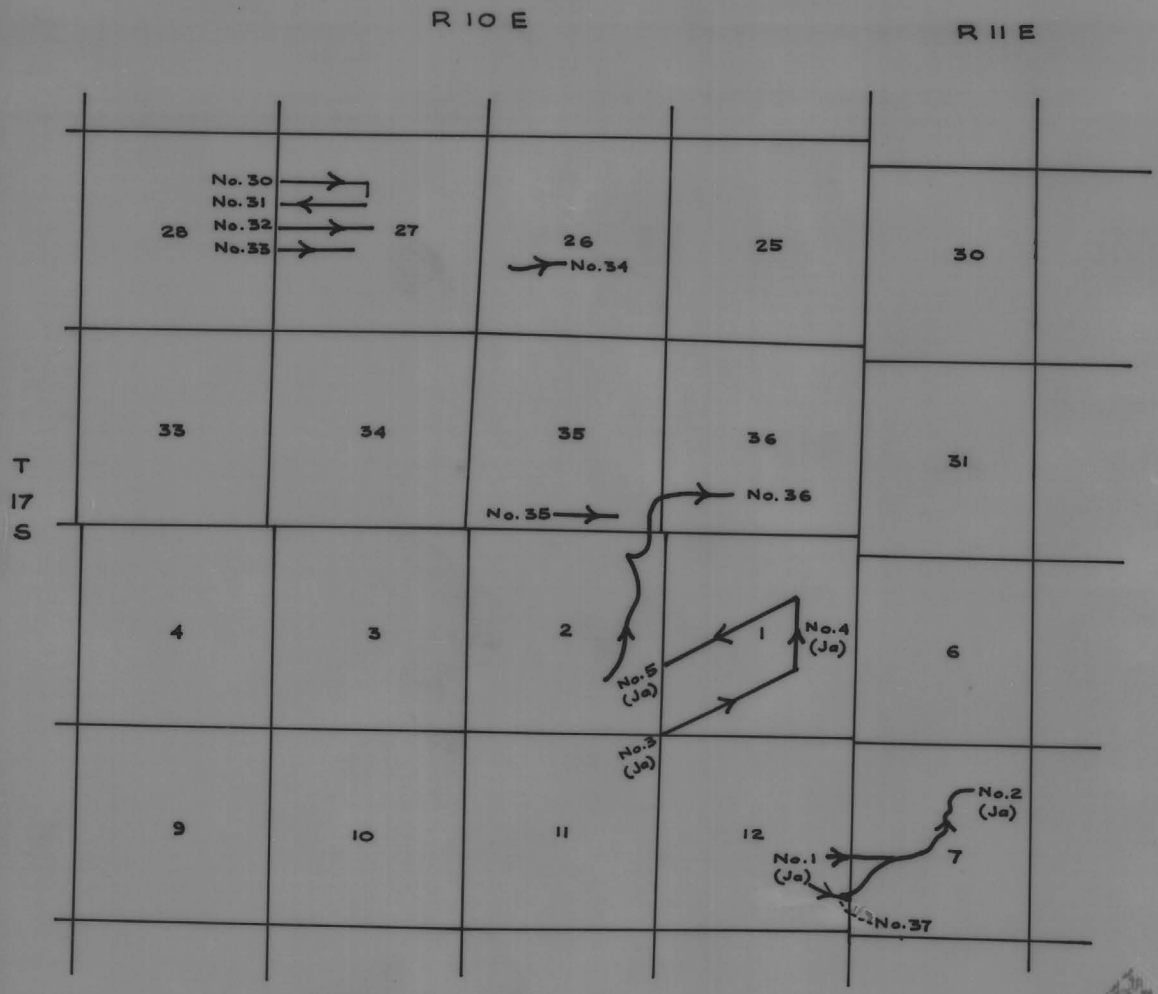
Respectfully submitted,

HEINRICHS GEOEXPLORATION CO.

John W. Marlatt

J. W. Marlatt
Geologist

April 10, 1962
P. O. Box 5671
Tucson, Arizona



OVERLAY MAP

showing additional magnetic coverage

WEST SIERRITA MTN. PROJECT

Pima County, Arizona

for

Inspiration Con. Copper Co.

by

Heinrichs Geoexploration Co.

April 1962

Overlay on map of report for 3-20-62

GEOEX

PRELIMINARY MAGNETIC RECONNAISSANCE

West Side of Sierrita Mountains
Pima County, Arizona

for

INSPIRATION CONSOLIDATED COPPER COMPANY
Inspiration, Arizona

March 1962

by

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

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MAPS

Location and coverage map----------In Pocket

Contour Map--Anomaly "A"----------In Pocket

INTRODUCTION

Heinrichs Geoexploration Company used its mobile magnetometer to obtain magnetic profiles on some of the roads and trails on the west side of the Sierrita Mountains, Pima County, Arizona for Inspiration Consolidated Copper Co. This mineralized area is known as the Papago or Sierrita Mining District. The reconnaissance magnetic coverage obtained was essentially in Townships 16, 17 & 18 South, Ranges 9 & 10 East.

The work was authorized in a telephone call from Mr. Hugh Olmstead on March 10, 1962 and the field data was obtained on March 12, 13 and 15, 1962.

Purpose and Scope

Just over the mountains to the east the Pima and Twin Buttes Mining Districts are known to have, in places, magnetite associated with ore. It was thought worthy of determining if the mineralized ground on the west side of the mountains likewise had magnetic associations. Consequently the MoMag was used to search for magnetic clues to possible structural and/or lithologic variations, as well as isolated anomalies, while Mr. Olmstead examined the surface geology in areas both of known mineralization and where anomalous magnetic features were disclosed.

CONCLUSIONS AND RECOMMENDATIONS

Several zones of anomalism with sufficient extent, character and variation of magnetic susceptibility to be of potential interest were crossed. These can be separated into categories of varying importance according to surface indications, known mineralization, favorable or unfavorable land status picture, etc.

Each of the anomalous zones shown on our coverage map should be examined carefully on the ground. This has been done, or is being done, to some extent by Mr. Olmstead. Besides the usual geologic features looked for and noted, observation should be made for:

1. Magnetite, or mafic mineral content of rocks that could possibly give rise to a magnetic anomaly.
2. All clues to any type mineralization.
3. Samples of mineral bearing and country rock for susceptibility testing.

Complete land status studies should be initiated so that if and when it is decided to move into the district it can be done rapidly if necessary.

In making the final decisions, weighing the following factors as a unit is suggested:

(a) Magnetics by Geoex.

(b) Geology by Inspiration.

(c) Geology from John Cooper's field trip to the area on March 25, 1962 by the Arizona Geologic Society.

(d) Land availability.

(e) All the above for this area versus all the above for another area (or areas).

If, it is then deemed advisable to undertake an exploratory program in this district, the selected anomaly (or anomalies) should be magnetically detailed by closer spaced lines to close off the anomalism in all directions and to exactly locate highs and lows. This should be followed by some induced polarization lines to determine if there are sulfides present, unless there has been proven an association of magnetite with ore type minerals in the immediate area where the anomaly is located. The latter is usually the only valid example of when it might be recommended to drill a magnetic anomaly without confirmatory anomalism in the same area using a different method.

INTERPRETATION

As always, the magnetic results may be separated into relative scales of interest along such lines as:

(a) Alluvial covered areas where bedrock is very deep and magnetic changes are broad and smooth because of great depth.

(b) Anomalistic character--rapid, short amplitude variations on the record, indicative of erratic concentrations of

magnetic or mafic minerals either in natural magmatic segregations or due to later chemical or mechanical weathering concentration processes.

(c) Alluvial covered areas where bedrock is shallow, or exposed occasionally, and no known economic-type mineralization has been found within the immediate or nearby vicinity. This causes even otherwise likely appearing anomalies to be much less interesting.

(d) Individual anomalies, either highs, lows, flats, constant slopes, or slope-intercepts that stand out as being significant, for any of several reasons.

Proper evaluation of the data calls for temporarily ignoring at least the first two above. If exploration intensity increases, then attention should be re-directed to the profiles and all possible information wrung out of them by studying them in detail.

For the present, ten anomalous areas, identified as "A" through "J" have been selected as representing the most obvious features for first consideration and evaluation. They are lettered in possibly decreasing importance.

"A", in Sec. 27, T 17 S, R 10 E is found on Records #6, #22, #23, #24 and #25. A special map of the area with somewhat interpretive contouring is included in the map pocket. From present coverage, the maximum deviation appears to be on the order of 700 gammas and closure is possibly about 400-500 gammas. Prelim-

inary estimates to depth of cause show an order of magnitude of 500 feet. There is a dip component--it appears to be southwest and moderately steep. This anomaly has been selected as the most promising of any found on this reconnaissance because of its inherent magnetic characteristics as well as its proximity to the better shows of mineral in the district--Copper Grantz Mine to the north, Yellow Bird Mine to the southeast, Philimena Mine to the south.

"B", in Sec. 3, T 18 S, R 10 E, is a general area of anomalies, apparently related but which have not been sufficiently detailed to be able to say much about them. Records #4, #19 and #20 are the profiles crossing this zone. #19 has an obvious major fault, and all show a pattern of a rock type and environment that apparently was not crossed elsewhere in the district. However, no mineralization was noted on the surface here.

"C" was found on Record #28 and is in Sec. 17, T 18 S, R 11 E, in a valley. The anomaly has a deviation of 700 gammas, and a southerly dip and marked similarity to "A". It is interpreted to be a dipping contact with high magnetite content, buried a few hundred feet. Considerably more work is needed to further evaluate this, but first either interesting mineral or geology must be found on the surface or reasonable inference for proper subsurface conditions must be deduced.

"D" in Sec. 12, T 18 S, R 10 E was crossed by only Record #4. This is in the vicinity of the Gold Hill Mine and appears

to be a contact metamorphic zone. The effects are seen on the record for a distance of over 2,000 ft. Assuming the probability that the road was not entirely normal to the strike of the cause and not running along it either, the zone must be at least 1,000 ft. wide. Two veins or beds of magnetite outcrop here and other little beds or lens are also reflected magnetically. Careful surface checking should be done here because of widespread mineral shows and prospect pits in this vicinity. Chances are good here for finding magnetite-mineralization association which would warrant detailed coverage of the area.

"E", "F" and "G" line up along the local strike and are assumed to be separate crossings at three points along a bed or fault. The magnetite rich fault zone interpretation is preferred, and it is steep to nearly vertical. The profiles crossing these zones are Record #17 & #18 and the locations are in Sections 26 and 35, T 17 S, R 10 E. This is somewhat the heart of the known mineralization and a relative importance is attached to this magnetic zone. However, any potential ore here is likely to be the vein-fault type, high grade, underground situation.

"H" is located in Sec. 24, T 17 S, R 10 E and was crossed by Record #16. It is a contact zone, somewhat similar to "D" but considerably less intense. Some siderite and magnetite was noted in crossing here. In itself this anomaly is given little importance, but, it may be possible to trace the zone southerly

to and beyond "D". If this could be done then a tremendously large and important contact zone will have been delineated on or along which there somewhere might be major economic mineralization.

"I" and "J" are considerably south of the district, in Sec. 34 & 35, T 18 S, R 10 E and are on Record #29. The Black Hills, north of this profile are the cause of a broad magnetic high on the record for nearly two miles but there are two anomalies imposed on this. They could represent faults, or flows, or merely extensions of the hills southerly at these points. Their over all character looks somewhat promising, but due to their ground location and probable geologic environment they should be given less consideration than any of the zones previously discussed.

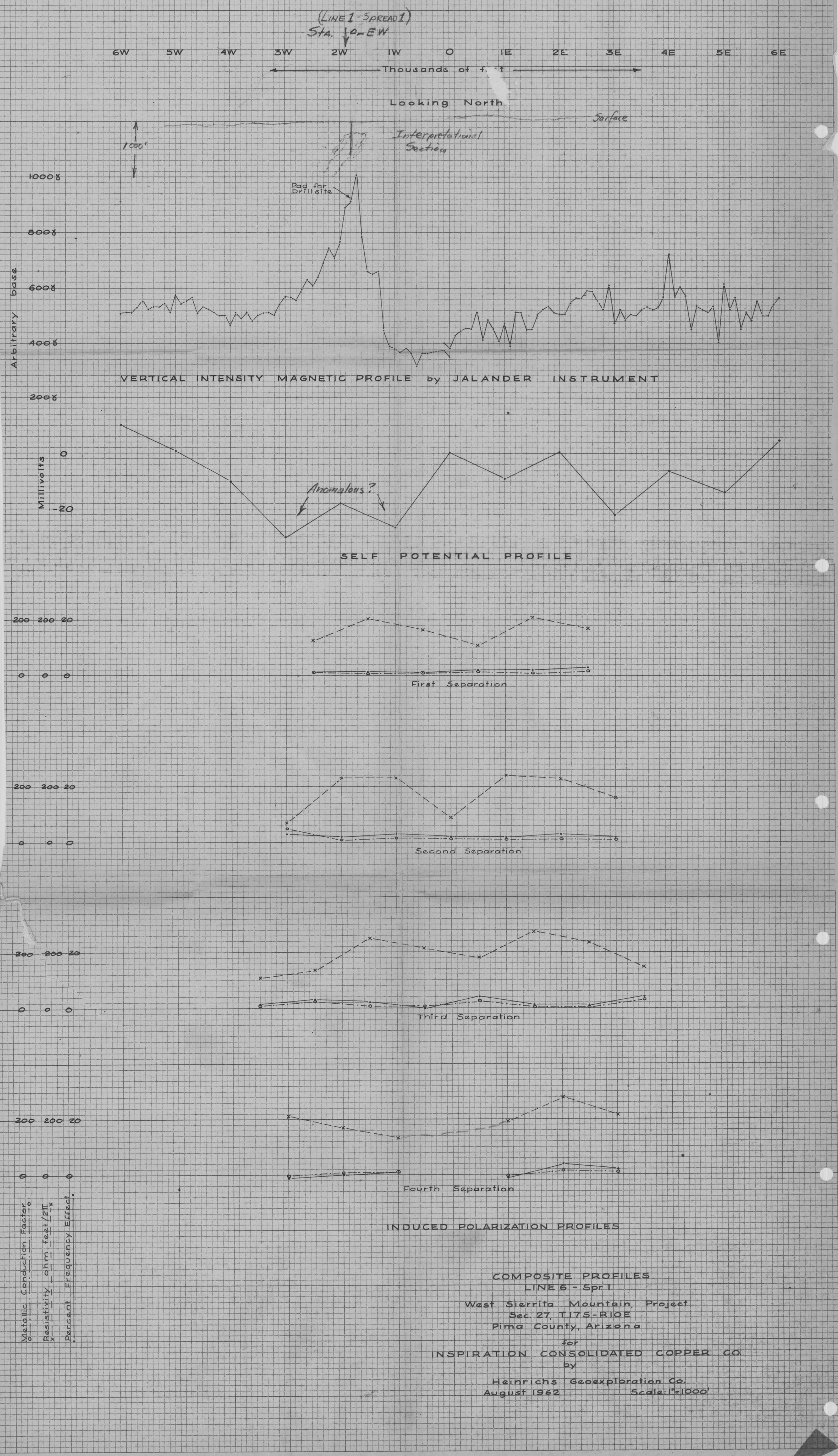
Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

John W. Marlatt

J. W. Marlatt
Geologist

March 20, 1962
P. O. Box 5671
Tucson, Arizona



COMPOSITE PROFILES
LINE 6 - Spr. 1

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'

K&E STANDARD ®
10 X 10 TO THE INCH

LEGEND

Roads

Wash

1 2 3 4 5 Electrode No.
4 3 2 1W 0 1E 2 3 4 Station No. I.P. Lines

Scribed rock on Sec. corner

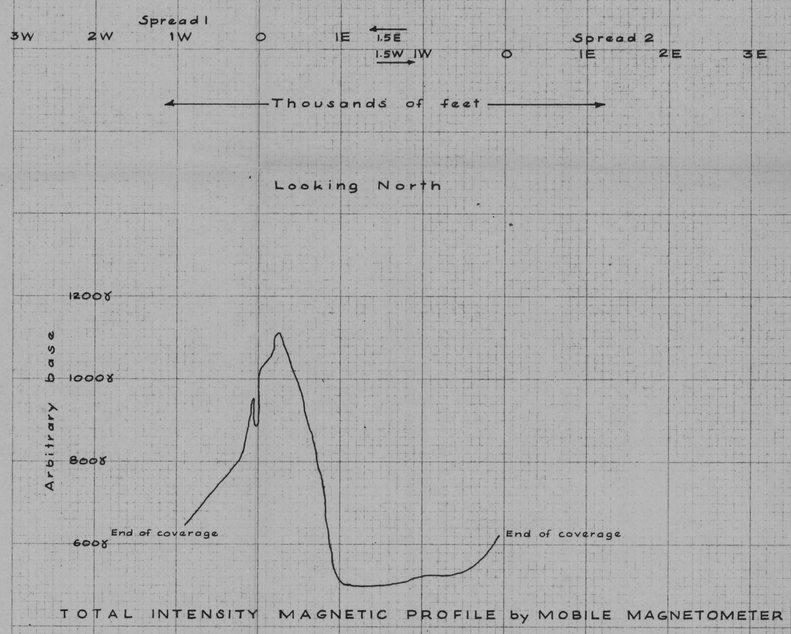
Fence

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

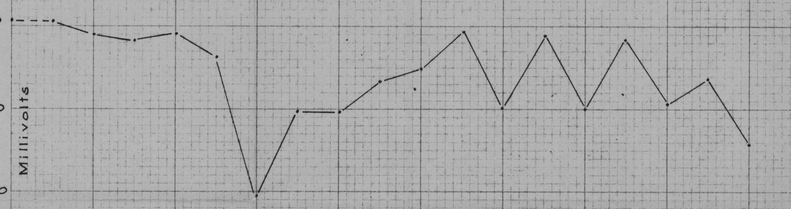
MAGNETIC CONTOURS—
INDUCED POLARIZATION INDEX
and GRANITE CLAIM GROUP
FOR
INSPIRATION CON. COPPER CO.

West Sierrita Mountain Project
Pima County, Arizona

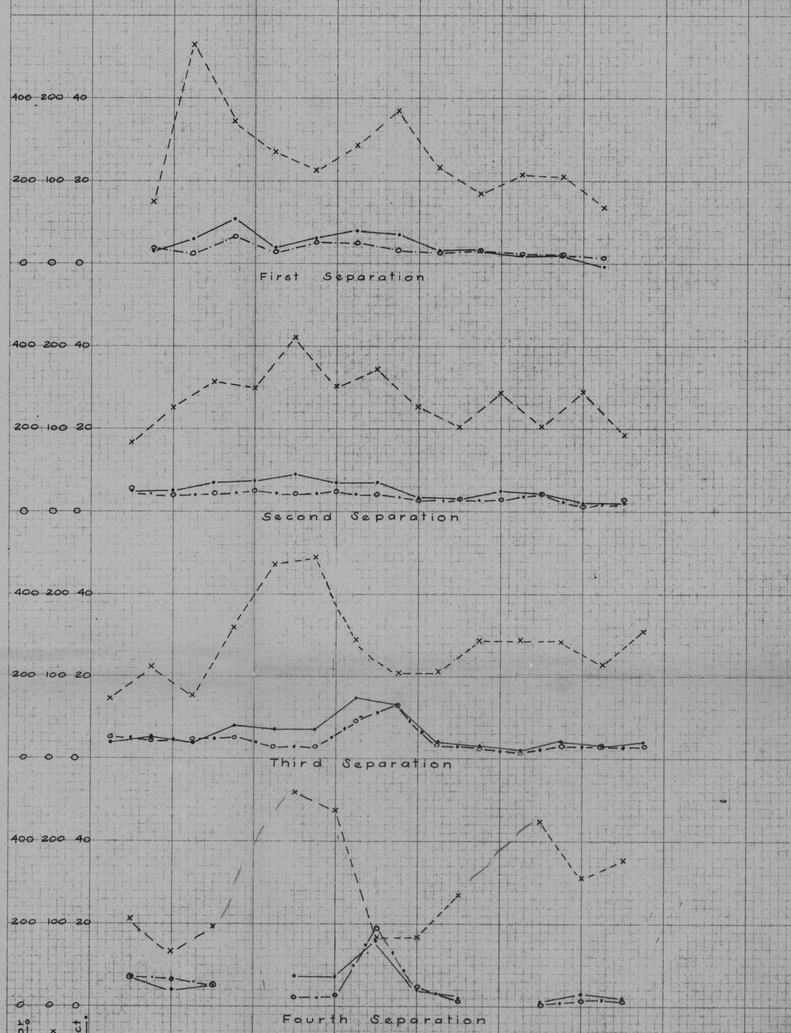
SCALE: 1" = 1000'	CONTOUR INTERVAL: 50 γ	REVISIONS
	DATA BY: W. E. H. & F. A. S. jr.	
DATE: JUNE 1962	SHEET OF	
DRAWN BY: I. B.	DRAWING NO.:	FILE:



TOTAL INTENSITY MAGNETIC PROFILE by MOBILE MAGNETOMETER



SELF POTENTIAL PROFILE



INDUCED POLARIZATION PROFILES

COMPOSITE PROFILES
LINE 1 - Spr. 1 & 2

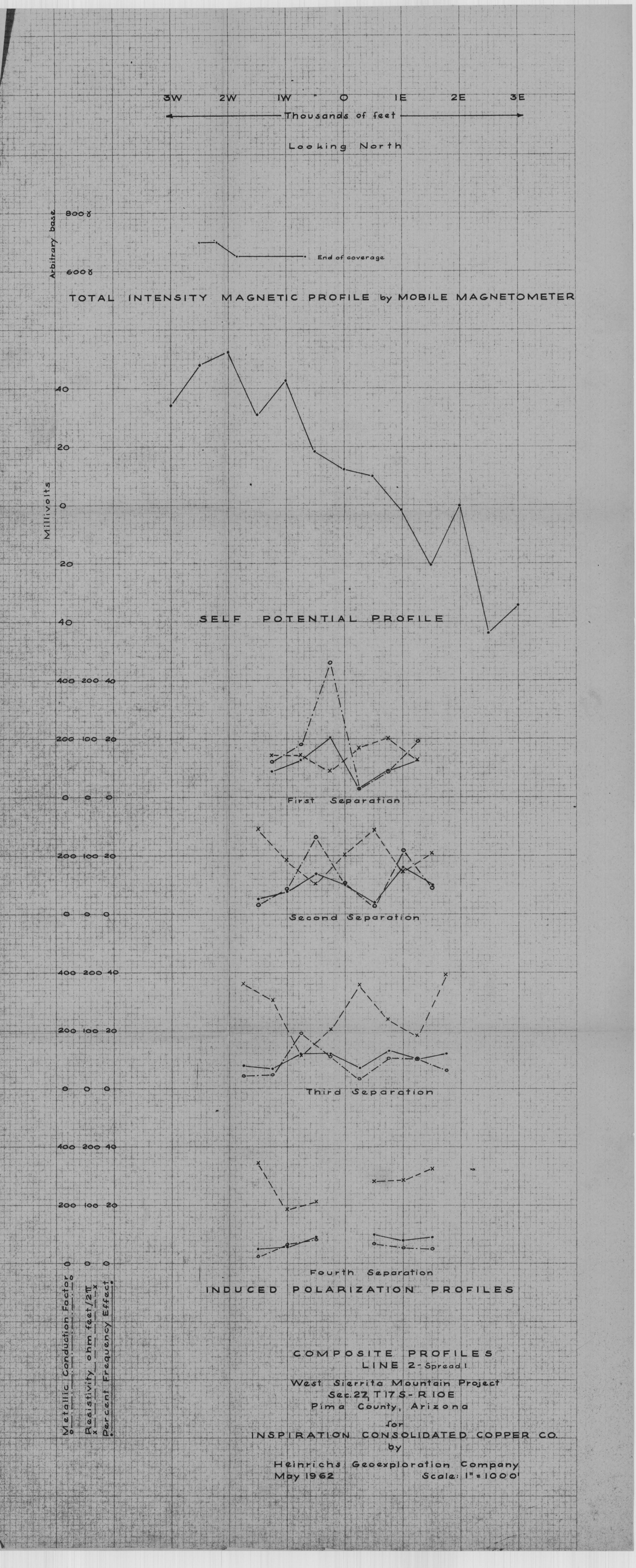
West Sierrita Mountain Project
Sec. 27, T 17 S - R 10 E
Pima County, Arizona

for

INSPIRATION CONSOLIDATED COPPER CO.

by

Heinrichs Geoexploration Company
June 1962 Scale: 1" = 1000'

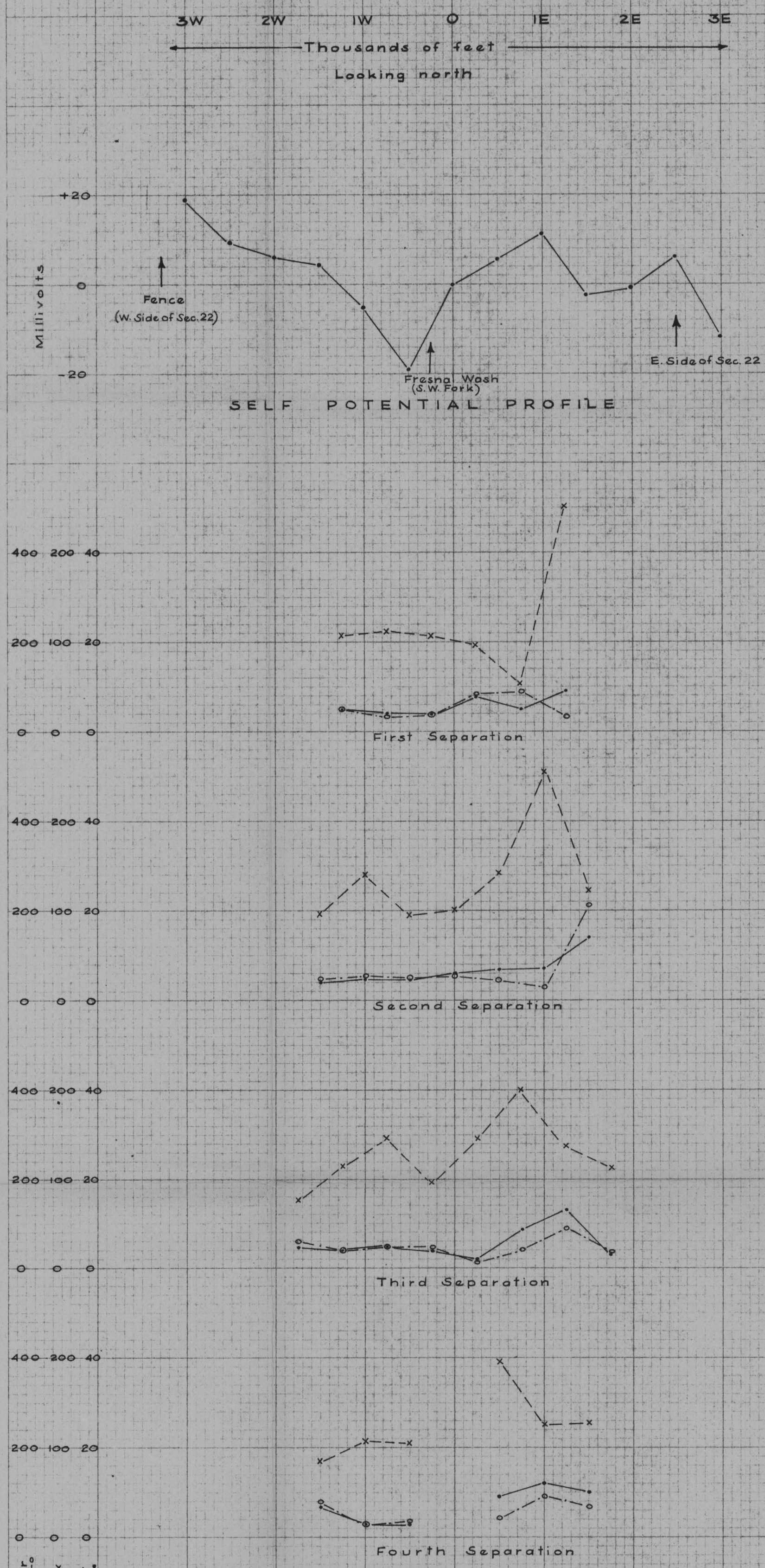


COMPOSITE PROFILES
LINE 2 - Spread 1

West Sierrita Mountain Project
Sec. 22, T 17 S - R 10 E
Pima County, Arizona

for
INSPIRATION CONSOLIDATED COPPER CO.
by

Heinrichs Geoexploration Company
May 1962 Scale: 1" = 1000'



COMPOSITE PROFILES
LINE 3

West Sierrita Mountain Project
Sec. 22, T 17 S - R 10 E
Pima County, Arizona

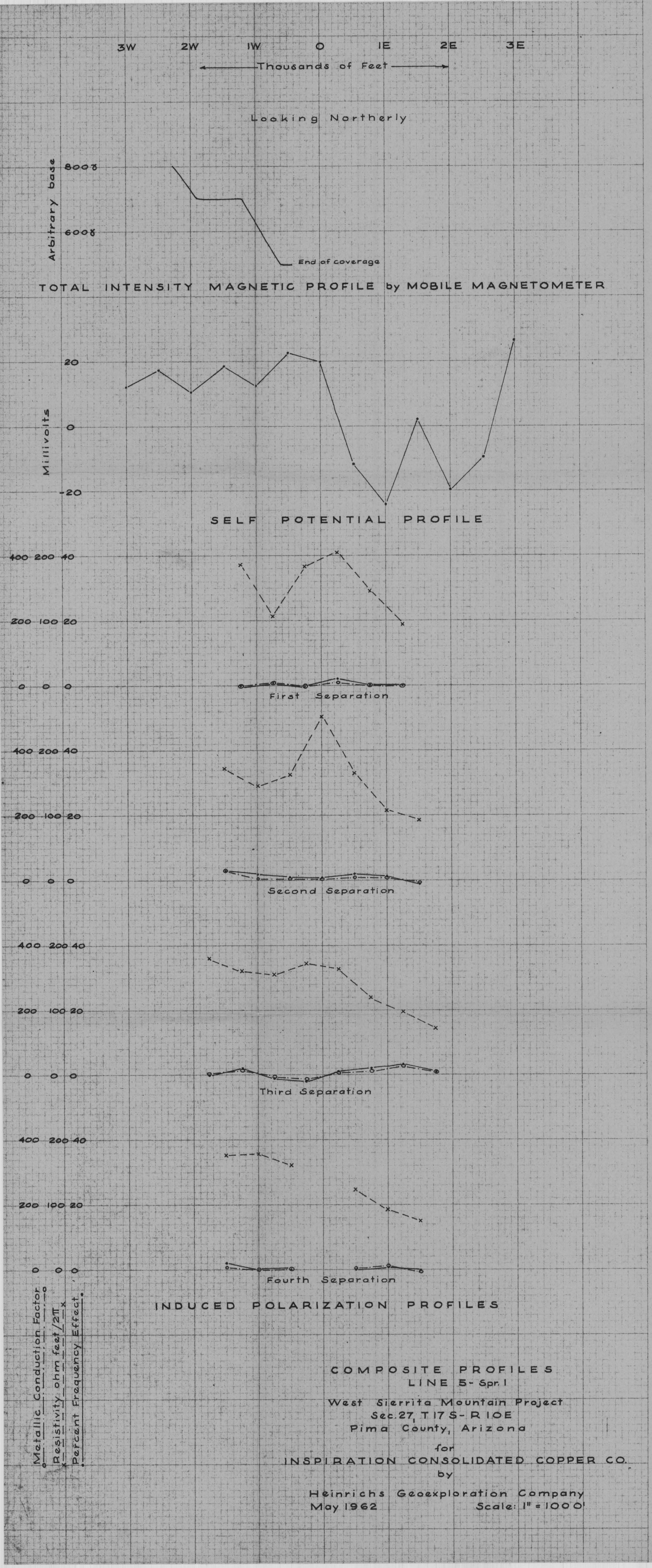
for

INSPIRATION CONSOLIDATED COPPER CO.

by

Heinrichs Geoexploration Company
May 1962 Scale: 1" = 1000'

K+E STANDARD ⊗ CROSS SECTION 10 X 10 TO THE INCH
KEUFFEL & ESSER CO. MADE IN U.S.A.
K+E STANDARD ⊗ CROSS SECTION 10 X 10 TO THE INCH

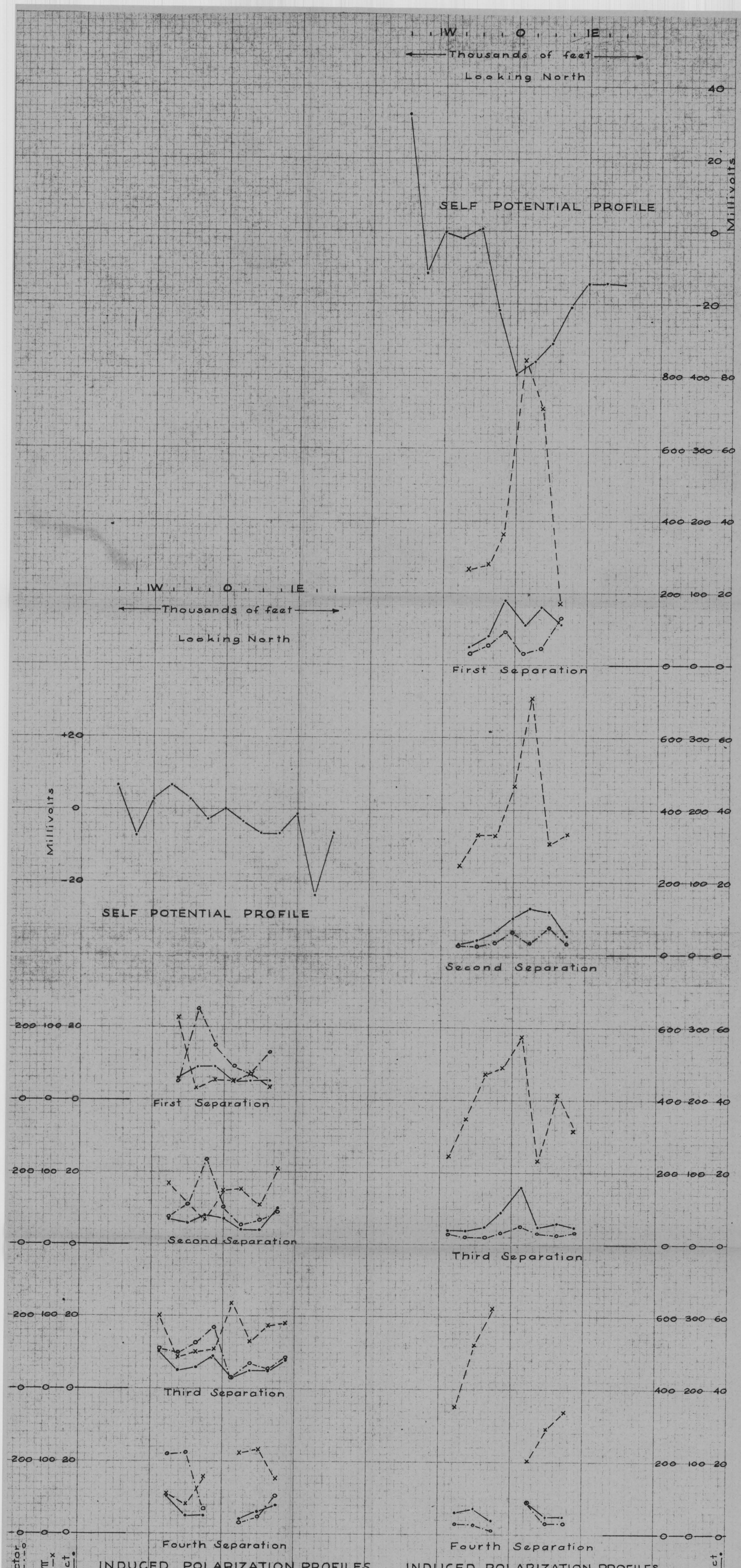


COMPOSITE PROFILES
LINE 5- Spr. 1

West Sierrita Mountain Project
Sec. 27, T 17 S- R 10E
Pima County, Arizona

for
INSPIRATION CONSOLIDATED COPPER CO.
by

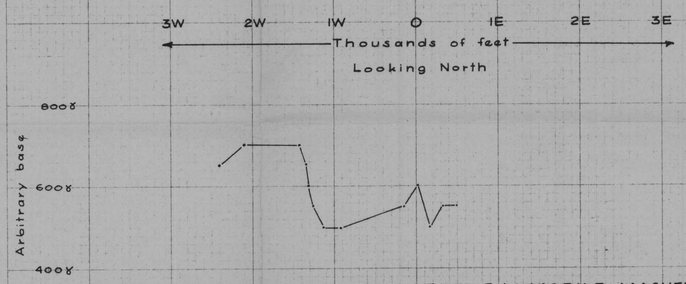
Heinrichs Geoexploration Company
May 1962 Scale: 1" = 1000'



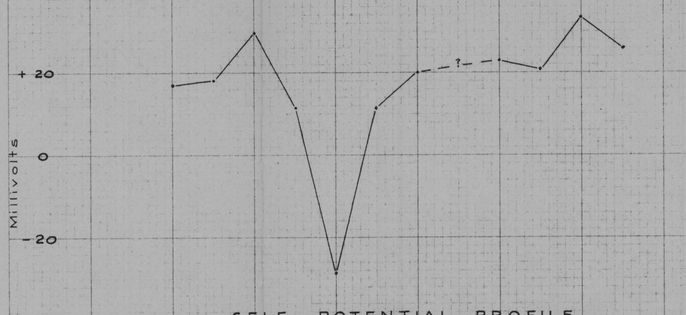
COMPOSITE PROFILES
LINE 2 - Spreads 2 & 3

West Sierrita Mountain Project
Sec. 22, T 17 S - R 10 E
Pima County, Arizona

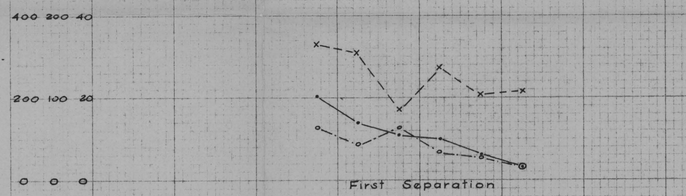
for
INSPIRATION CONSOLIDATED COPPER CO.
by
Heinrichs Geoexploration Company
June 1962 Scale: 1" = 1000'



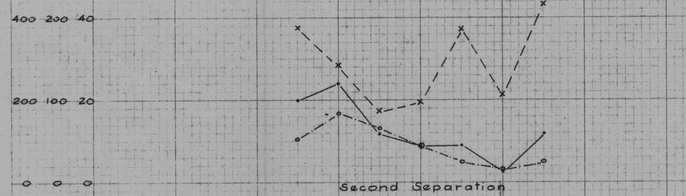
TOTAL INTENSITY MAGNETIC PROFILE by MOBILE MAGNETOMETER



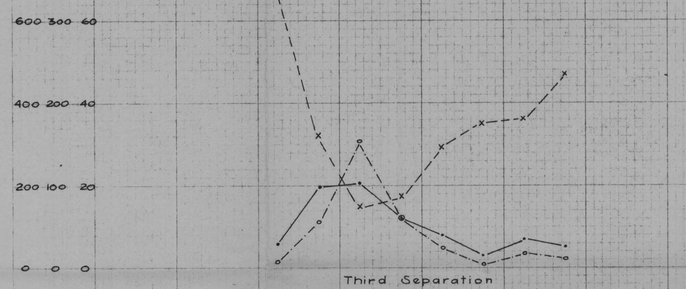
SELF POTENTIAL PROFILE



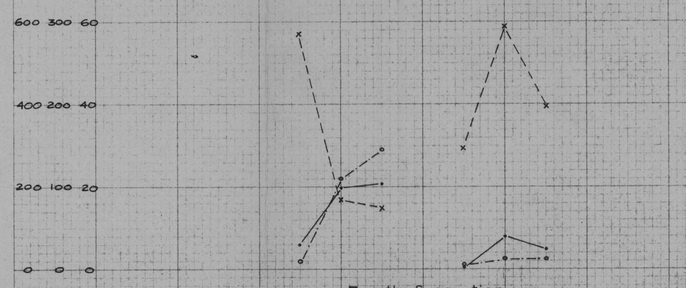
First Separation



Second Separation



Third Separation



Fourth Separation

INDUCED POLARIZATION PROFILES

Metallic Conduction Factor
Resistivity ohm/feet /2π
Percent Frequency Effect

COMPOSITE PROFILES
LINE 4

West Sierrita Mountain Project
Sec. 27, T 17 S - R 10 E
Pima County, Arizona

for

INSPIRATION CONSOLIDATED COPPER CO.

by

Heinrichs Geoexploration Company
May 1962 Scale: 1" = 1000'

R 10 E
T 17 S
COPPER GRANTZ MINE
Momag Rec. 5
Rec. No. 8
Rec. No. 9
Rec. No. 24
Rec. No. 25
Rec. No. 30
Rec. No. 31
Rec. No. 32
Rec. No. 33
Sec. cor. marker is a scribed rock
ANOMALY "A"
Wash
LEGEND
Fence
Momag Traverses
Roads
HEINRICHS GEOEXPLORATION COMPANY
P.O. Box 5671 Tucson, Arizona
MAGNETIC CONTOUR MAP
ANOMALY "A" AREA
FOR
INSPIRATION CON. COPPER CO.
West Sierrita Mountain Project
Pima County, Arizona
SCALE: 1" = 200'
CONTOUR INTERVAL: 50 γ
REVISIONS
DATA BY: J. W. M.
4/1962
DATE: March 1962
SHEET OF
DRAWN BY: I. B.
DRAWING NO.:
FILE:

R 10 E
T 17 S
COPPER GRANTZ MINE
ANOMALY "A"
Line 3 30.0' south of N. Sec. Line 22
Line 4
Line 2 Spread 2
Line 2 Spread 1
Line 2 Spr. 3
Line #5 laid over Line # 2 "a" = 250' Center at 2.5E Line #2 Surface Coverage from 1E to 4.0E (Line #2)
Line #6
Center Line #5
Sec. cor. marker is a scribed rock
Momag Rec. 5
Rec. No. 24
Rec. No. 21
Rec. No. 25
Rec. No. 30
Rec. No. 31
Rec. No. 32
Rec. No. 33
Rec. No. 22
LEGEND
Fence
Momag Traverses
Roads
HEINRICHS GEOEXPLORATION COMPANY
P.O. Box 5671 Tucson, Arizona
MAGNETIC CONTOUR MAP
ANOMALY "A" AREA
FOR
INSPIRATION CON. COPPER CO.
West Sierrita Mountain Project
Pima County, Arizona
SCALE: 1" = 200'
CONTOUR INTERVAL: 50 γ
DATA BY: J. W. M.
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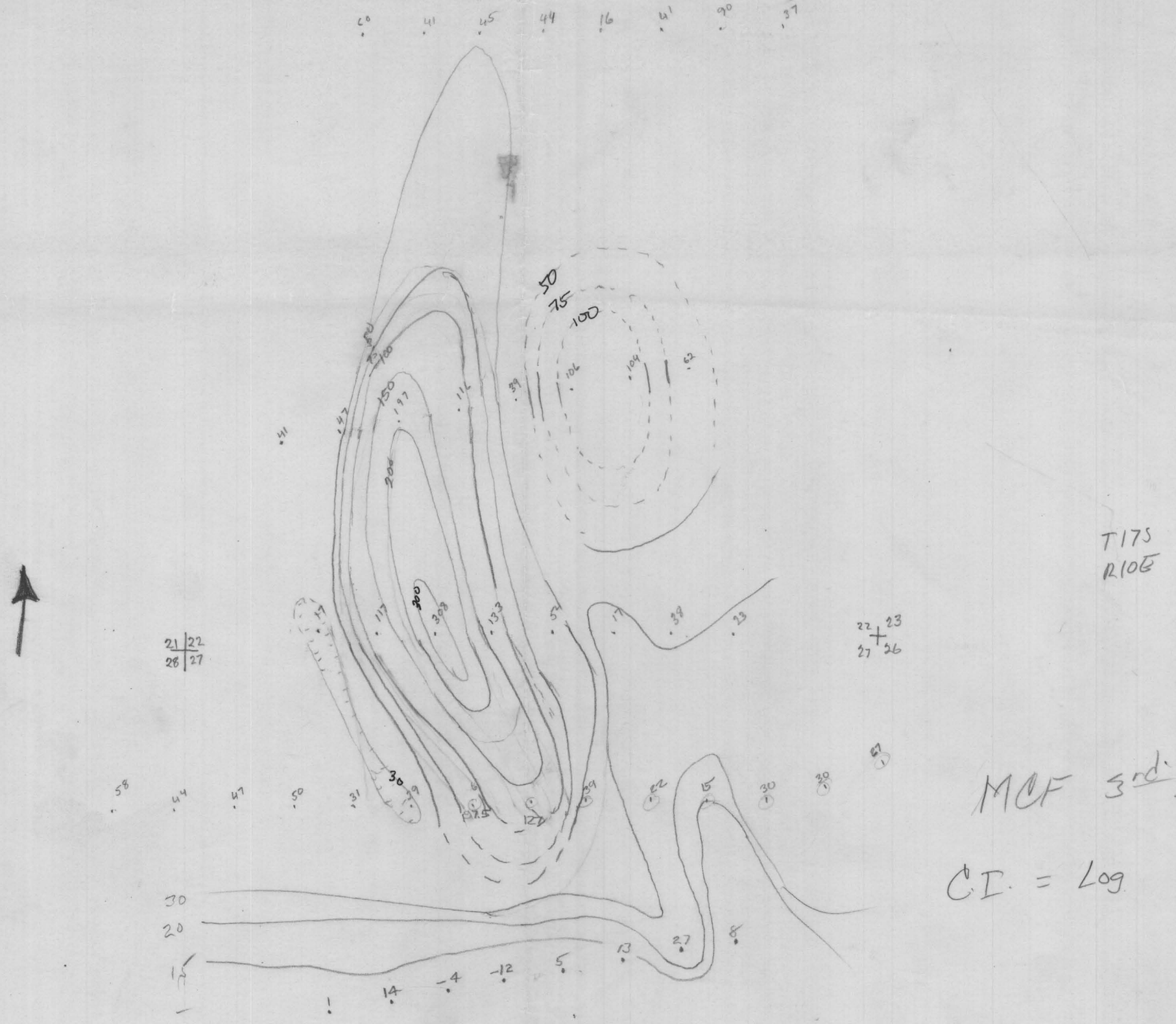
SHEET OF
DRAWN BY: I. B.
DRAWING NO.:
REVISIONS
4/1962
FILE:



M.C.F. 3rd Separation Overlay for Mag. Contours – I.P. Index & Granite Claim Group Map

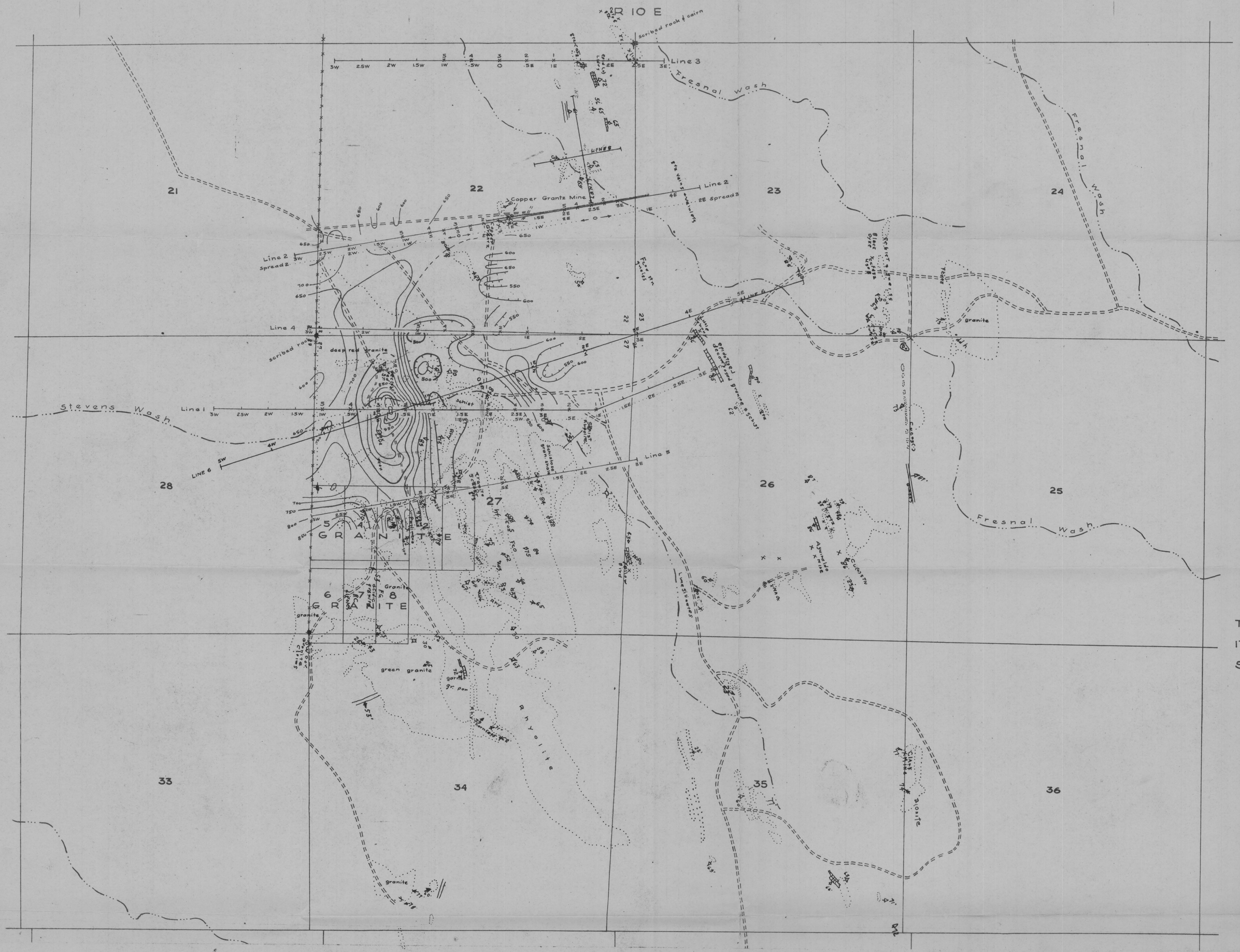
West Sierrita Mt. Project
Pima County Ariz.
T 17S – R 10E
for
Inspiration Con. Copper Co.
by
Heinrichs Geoex
Scale 1" = 1000' June 1962
Contour interval = Logarithmic

OHM Feet PDC/2π

SURFACE GEOLOGY

SEC. 22 & 27 & AREA EAST

T17S, R10E G&SRM
PAPAGO MINING DISTRICT
PIMA COUNTY, ARIZONA
1" = approx. 1000'   JULY 2, 1962



LEGEND

- Roads
- Wash
- 1 2 3 4 5 Electrode No. / 4 3 2 1W 0 1E 2 3 4 Station No. — I.P. Lines
- Scribed rock on Sec. corner
- Fence
- Geologic contacts
- 700 — Magnetic contours
- Self potential lines
- Hand mag

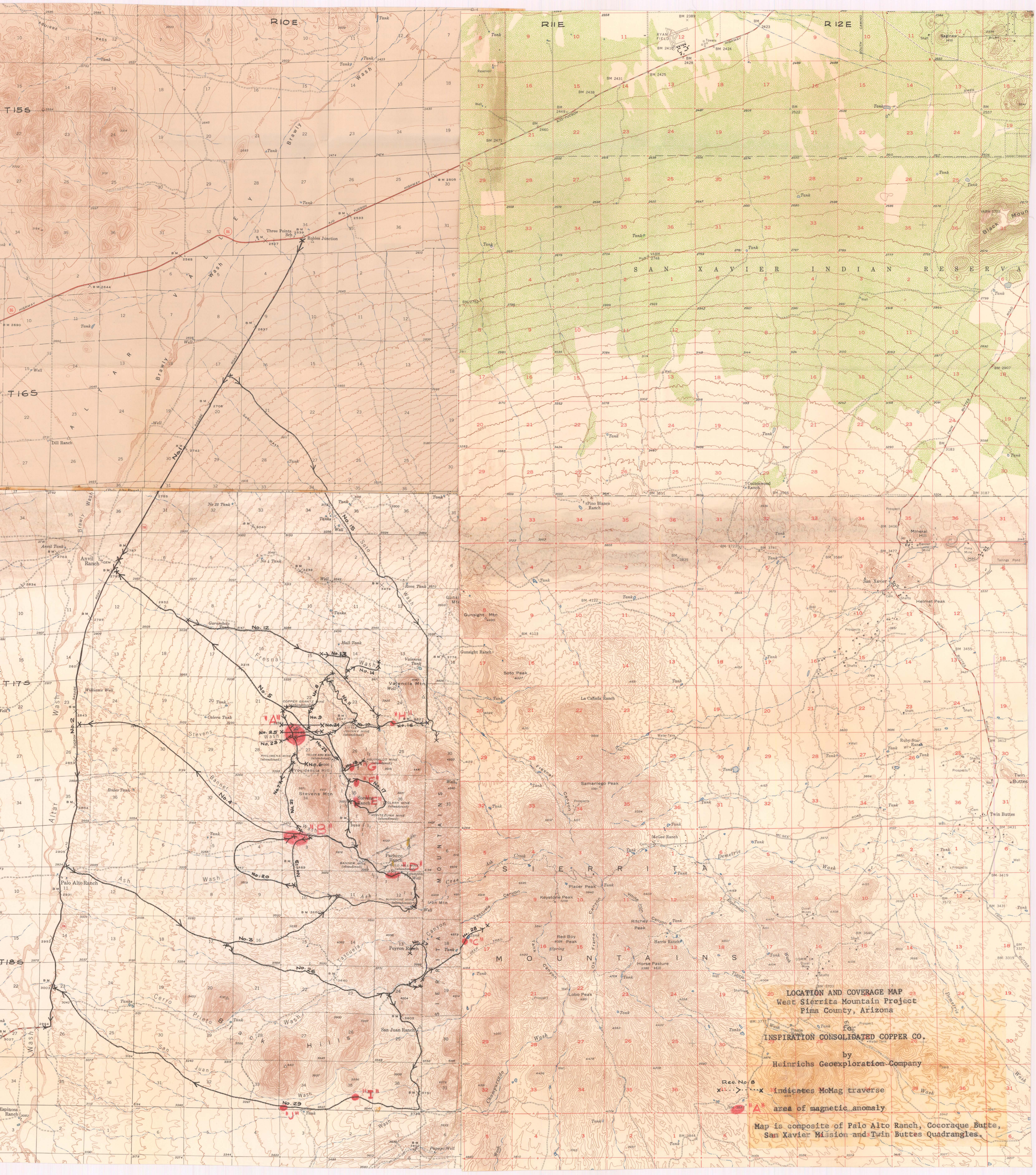
HEINRICHS GEOEXPLORATION COMPANY
P.O. Box 5671 Tucson, Arizona

COMPOSITE MAP OF GEOLOGY - GEOPHYSICS
INCLUDING GRANITE CLAIM GROUP
FOR
INSPIRATION CONSOLIDATED COPPER COMPANY

West Sierrita Mountain Project
Pima County, Arizona

SCALE: 1" = 1,000'	**CONTOUR INTERVAL:** 50 γ	**REVISIONS**
Geology: R.W.Olmstead	**DATA BY:** GEOEX & I.C.C.Co Aug. '62	
DATE: June 1962	**SHEET** **OF**	
DRAWN BY: I.B.	**DRAWING NO.:**	**FILE:**

R 10 E
Line 3
Fresnal Wash
Line 2
2E Spread 3
Copper Grantz Mine
Line 2
Spread 2
Line 4
Scribed rock
Line 1
Stevens Wash
Line 5
Fresnal Wash
Fresnal Wash
21
22
23
24
25
26
27
28
33
34
35
36
T
17
S
5 4 3 2 1
GRANITE
6 7 8
GRANITE
LEGEND
Roads
Wash
1 2 3 4 5 Electrode No.
4 3 2 1W 0 1E 2 3 4 Station No.
I.P. Lines
N
HEINRICHS GEOEXPLORATION COMPANY
P.O. Box 5671
Tucson, Arizona
MAGNETIC CONTOURS—
INDUCED POLARIZATION INDEX

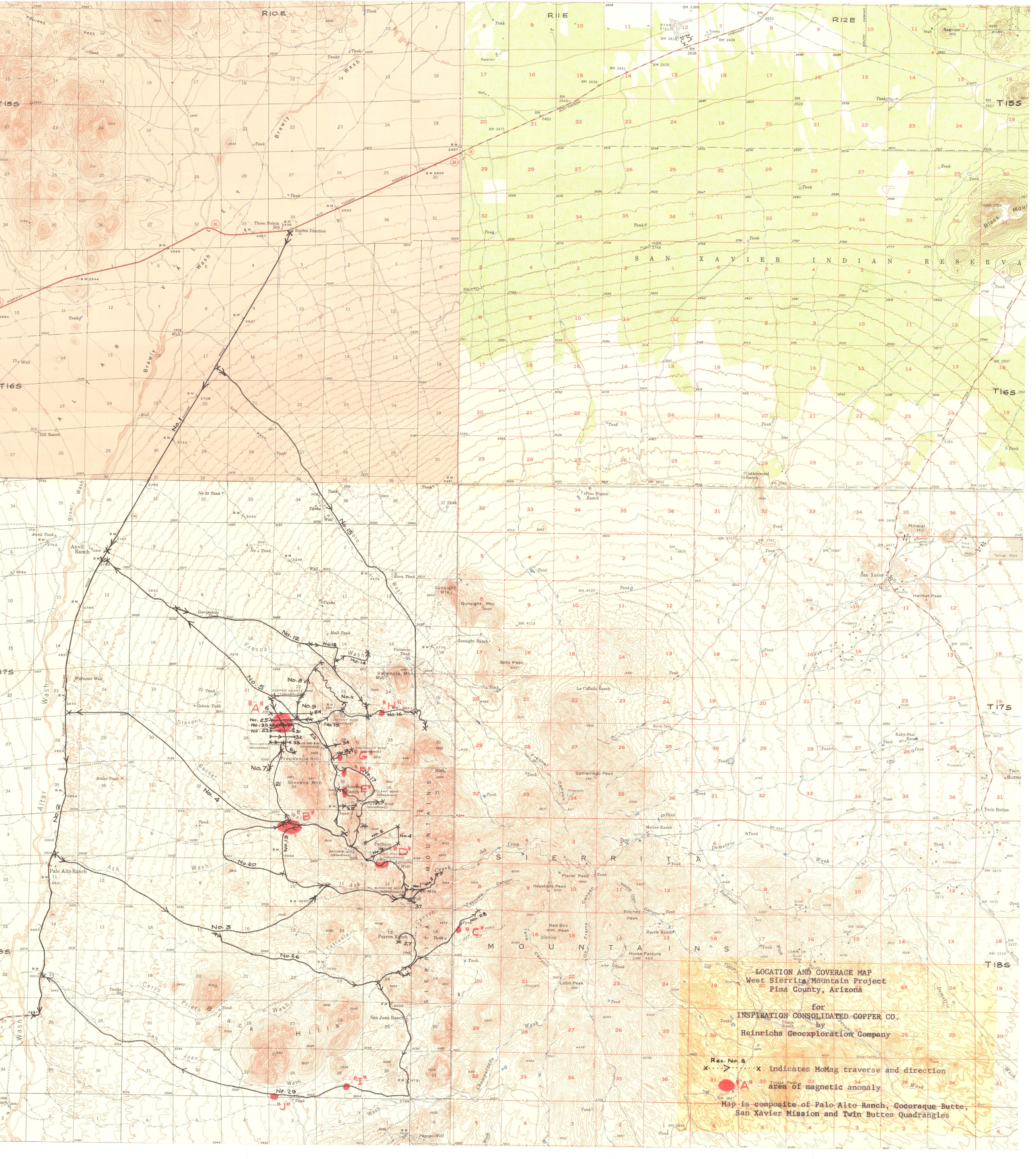


LOCATION AND COVERAGE MAP
West Sierrita Mountain Project
Pima County, Arizona

for
INSPIRATION CONSOLIDATED COPPER CO.

by
Heinrichs Geoexploration Company

Map is composite of Palo Alto Ranch, Cocoraque Butte, San Xavier Mission and Twin Buttes Quadrangles.

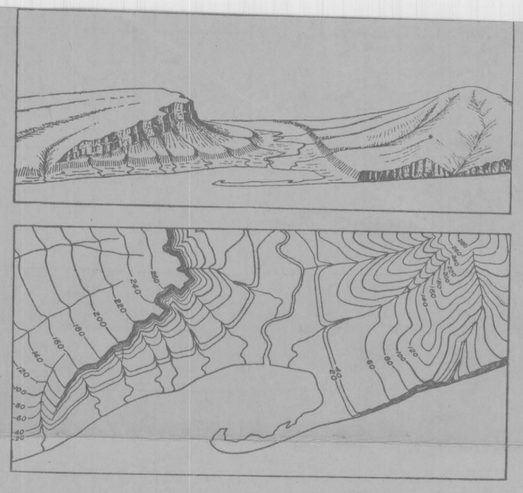

LOCATION AND COVERAGE MAP
West Sierrita Mountain Project
Pima County, Arizona
for
INSPIRATION CONSOLIDATED COPPER CO.
by
Heinrichs Geoexploration Company
Rec. No. 8
indicates MoMag traverse and direction
"A"
area of magnetic anomaly
Map is composite of Palo Alto Ranch, Cocoraque Butte, San Xavier Mission and Twin Buttes Quadrangles
R10E
R11E
R12E
T15S
T16S
T17S
T18S
SAN XAVIER INDIAN RESERVA
SIERRITA MOUNTAINS
Three Points Sch
Robles Junction
Dill Ranch
Anvil Ranch
Palo Alto Ranch
Pino Blanco Ranch
Cottonwood Ranch
Mineral Hill
San Xavier
Helmet Peak
Gunsight Mtn
Gunsight Ranch
Soto Peak
La Cañada Ranch
Samaniego Peak
Placer Peak
Keystone Peak
Ritchey Peak
Red Boy Peak
Lobo Peak
Horse Pasture Hill
Harris Ranch
McGee Ranch
Twin Buttes
Ruby-Star Ranch
San Juan Ranch
Peyron Ranch
Pacheco Ranch
Stevens Ranch
Stevens Mtn
Providencia Hill
Valencia Mtn
Black Hills
Saginaw Hill
Ryan Field
No. 1
No. 2
No. 3
No. 4
No. 5
No. 7
No. 8
No. 9
No. 10
No. 11
No. 12
No. 13
No. 14
No. 15
No. 16
No. 17
No. 18
No. 20
No. 23
No. 25
No. 26
No. 28
No. 29
"B"
"C"
"D"
"E"
"F"
"G"
"H"
"I"
"J"

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250,000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

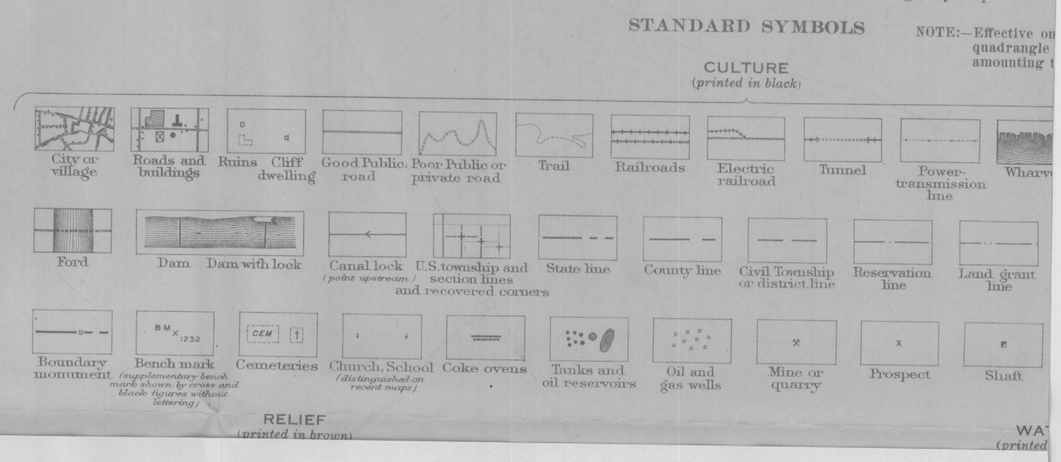
The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

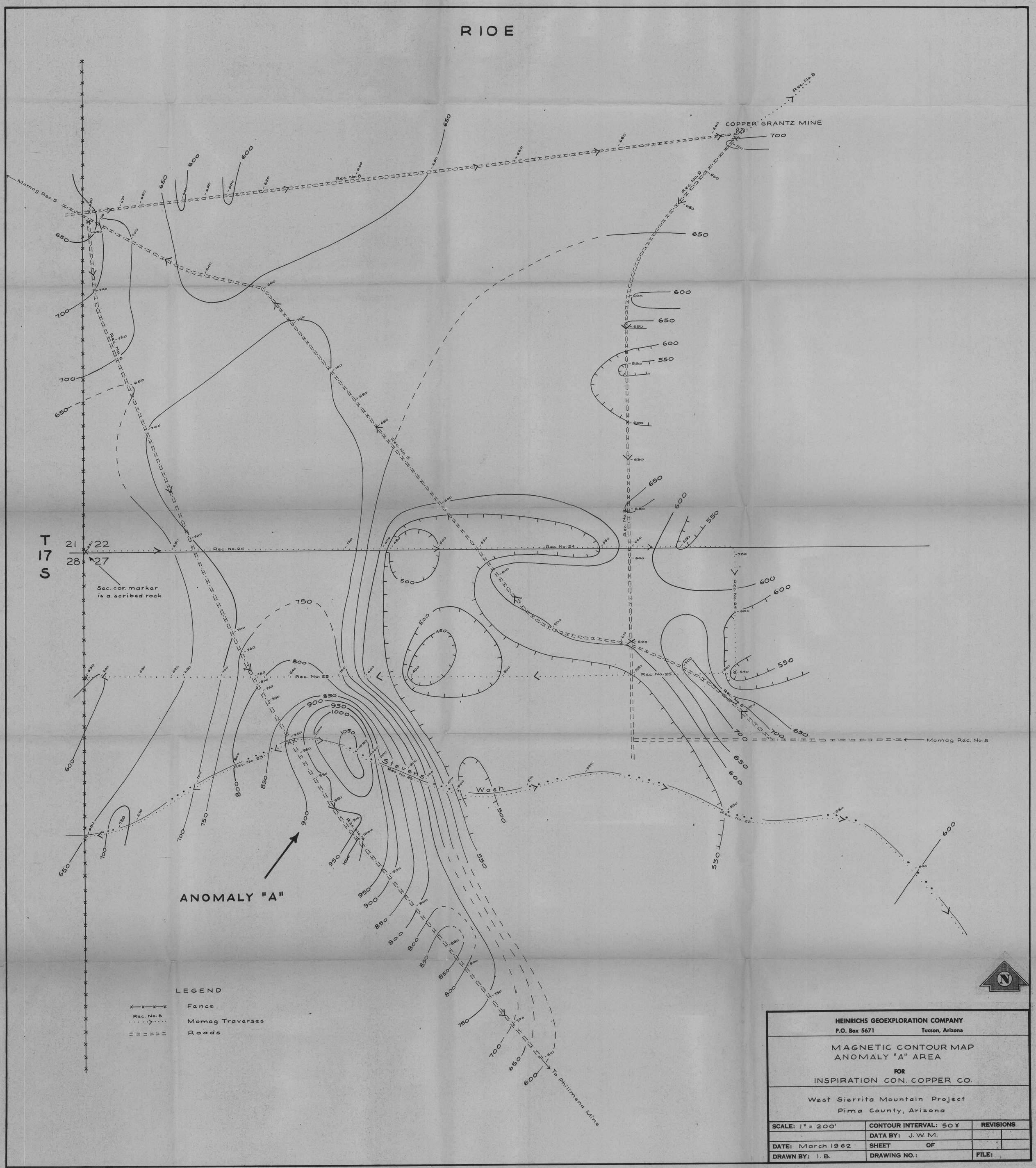
A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{500,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently slop-




R 10 E
T 17 S
21 22
28 27
Sec. cor. marker is a scribed rock
COPPER GRANTZ MINE
Momag Rec. 5
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