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

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PICACHO RESERVOIR SE QUADRANGLE
ARIZONA – PINAL CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1962. Field checked 1966

Polyconic projection. 1927 North American datum
10,000-foot grid based on Arizona coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1966 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

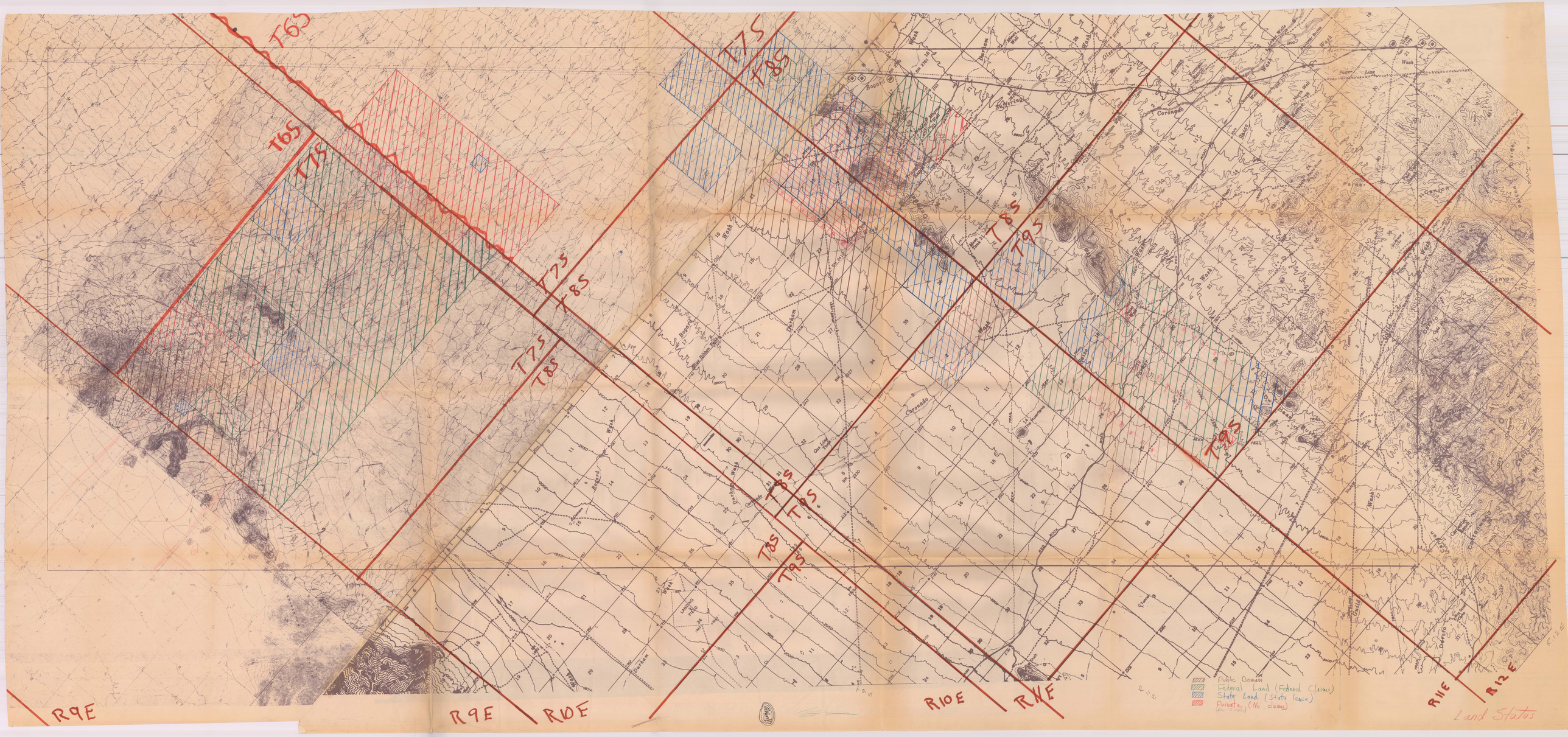
CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D. C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

ROAD CLASSIFICATION
Heavy-duty — Light-duty
Unimproved dirt
U. S. Route

PICACHO RESERVOIR SE, ARIZ.
N3245—W11115/7.5
1966
AMS 3749 IV SE—SERIES V898


T6S
T7S
T8S
T9S
R9E
R10E
R11E
R12E
Public Domain
Federal Land (Federal Claims)
State Land (State lease)
Private (No claims)
Land Status

P.P. No. _____

INSTRUCTIONS

1. This application must be accompanied by $15.00 filing fee.
2. Application must not cover more than one section.
3. All questions must be answered.
4. Attach scale drawing or plat to show detail for questions 4, 5, 7, 8 and 9.

STATE LAND DEPARTMENT
400 Arizona State Office Building
Phoenix 7, Arizona

APPLICATION FOR MINERAL PROSPECTING PERMIT

The State Land Commissioner:

I/We Heinrichs Geoexploration Company
(Name)

of 808 West Grant Road, P.O. Box 5964, Tucson, Arizona 85703
(Address)

do hereby make application for a mineral exploration or prospecting permit on the State lands hereinafter described, in accordance with the provisions of Title 27, Chapter 2, Article 4, Arizona Revised Statutes, such rules and regulations as the Commissioner may prescribe and the terms of the permit.

Subdivision	Section	Township	Range	Acres	County	Grant
	30	T7S	R10E	about 559	Pinal	SX 2
	"	"	"	26.30	"	SX 3

1. State whether individual, partnership or corporation Corporation
2. If an individual, are you a citizen of the United States? N/A
3. Age N/A Married N/A Single N/A
4. Are there valid mineral locations, claims or leases on this section? No

(describe and locate on attached plat)

5. Are there any abandoned workings on this section? No

(describe and locate on attached plat)

6. Will it be necessary to cross other state lands to reach the land under application? Yes ✓ No ____
7. Are there improvements or crops on the land described in No. 6 above? No

(describe and locate on attached plat)

8. Are there improvements or crops on the land under application Yes ____ No ✓

30 contd.

9. Describe proposed routes of ingress and egress to land under application.

An unimproved dirt road runs along the ~~sa~~ west side line of this section originating from U.S. Highway 80, 89.

CERTIFICATION:

I/WE hereby certify under penalty of perjury that the information contained and statements herein made are to the best of (my or our) knowledge and belief true, correct and complete.

Dated this _____ day of _____, A.D. 19____.

_____
(Applicant)

By_____

Address_____

_____

THE FOLLOWING IS NOT TO BE FILLED IN BY APPLICANT

Fee Received _____ Amount _____ Receipt No. _____

Approved for the period of _____ Beginning _____ Expiring _____

Recorded by _____ Approved or Denied by _____ Date _____

If Denied, Cause: _____

Special provisions to be added to permit _____

_____

_____

5-12-61
2-16

P. P. No. _____

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APPLICATION FOR MINERAL PROSPECTING PERMIT

The State Land Commissioner:

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(Name)

of _____
(Address)

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Subdivision	Section	Township	Range	Acres	County	Grant
	31	T7S	R10E	about 586	Pinal	SS 1

1. State whether individual, partnership or corporation _____
2. If an individual, are you a citizen of the United States? _____
3. Age _____ Married _____ Single _____
4. Are there valid mineral locations, claims or leases on this section? No
   (describe and locate on attached plat)
5. Are there any abandoned workings on this section? No
   (describe and locate on attached plat)
6. Will it be necessary to cross other state lands to reach the land under application? Yes ✓ No ____
7. Are there improvements or crops on the land described in No. 6 above? No
   (describe and locate on attached plat)
8. Are there improvements or crops on the land under application Yes ____ No ✓

1, An unimproved dirt road come to within 400 feet of the NW corner of this section originating from U.S. Highway 80, 89.

P. P. No. _____

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Phoenix 7, Arizona

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Subdivision	Section	Township	Range	Acres	County	Grant
	32	T7S	R10E	640	Pinal	SG 1/13/1912

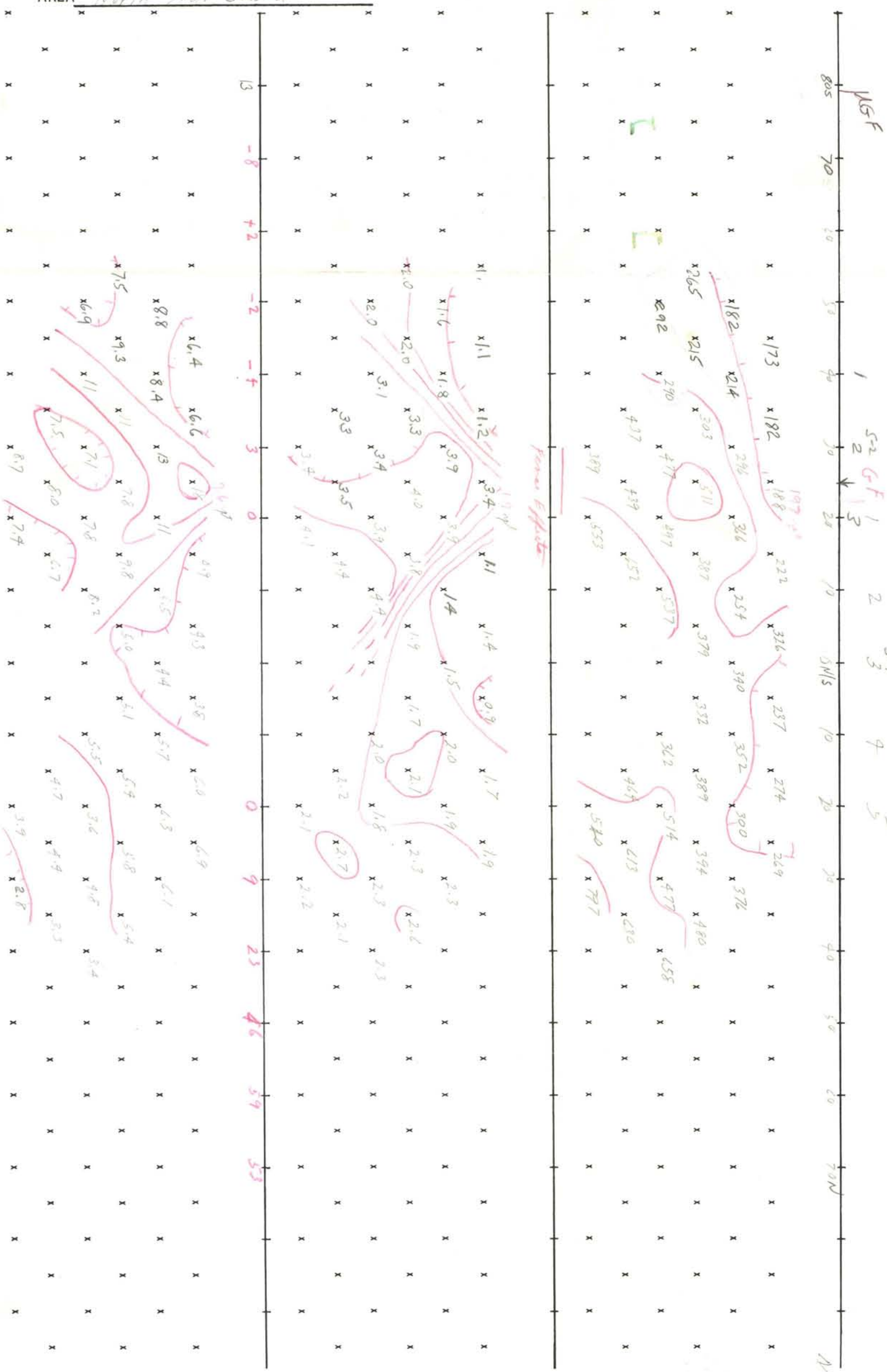
1. State whether individual, partnership or corporation _____
2. If an individual, are you a citizen of the United States? _____
3. Age _____ Married _____ Single _____
4. Are there valid mineral locations, claims or leases on this section? No
   (describe and locate on attached plat)
5. Are there any abandoned workings on this section? No
   (describe and locate on attached plat)
6. Will it be necessary to cross other state lands to reach the land under application? Yes ✓ No ____
7. Are there improvements or crops on the land described in No. 6 above? No
   (describe and locate on attached plat)
8. Are there improvements or crops on the land under application Yes ____ No ✓

9. An unimproved dirt road comes to within 600 feet of the SE corner originating from U.S. Highway 80, 89.

JOB# 590 LINE# 1 SP 1&2 a = 1000' LOOKING West

CLIENT R Barrett Inc. DATE 9/11/71 FREQUENCIES 30 & 0.3 Hz

AREA North Star South



P. P. No. _____

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400 Arizona State Office Building
Phoenix 7, Arizona

APPLICATION FOR MINERAL PROSPECTING PERMIT

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(Name)

of _____
(Address)

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Subdivision	Section	Township	Range	Acres	County	Grant
E½	24	T7S	R9E	320	Pinal	SS 1B

1. State whether individual, partnership or corporation _____

2. If an individual, are you a citizen of the United States? _____

3. Age _____ Married _____ Single _____

4. Are there valid mineral locations, claims or leases on this section? No
(describe and locate on attached plat)

5. Are there any abandoned workings on this section? No
(describe and locate on attached plat)

6. Will it be necessary to cross other state lands to reach the land under application?
cation? Yes ✓ No _____

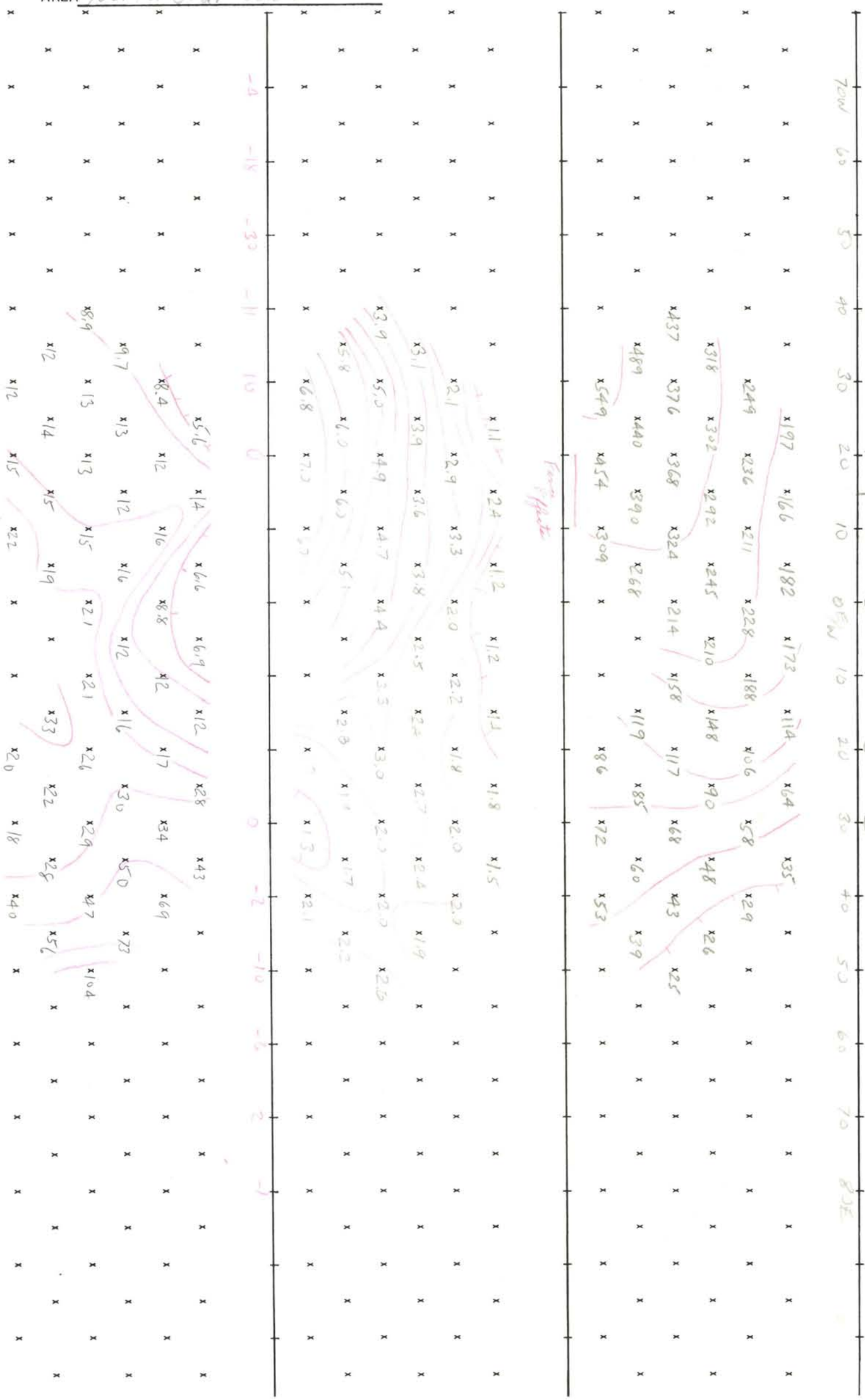
7. Are there improvements or crops on the land described in No. 6 above? No
(describe and locate on attached plat)

8. Are there improvements or crops on the land under application Yes ___ No ✓

JOB# 590 LINE# 2 SP 1 a = 1000' LOOKING N12°W

CLIENT RBJ DATE 9/3/71 FREQUENCIES 0.3 & 3.0 Hz

AREA North Star South

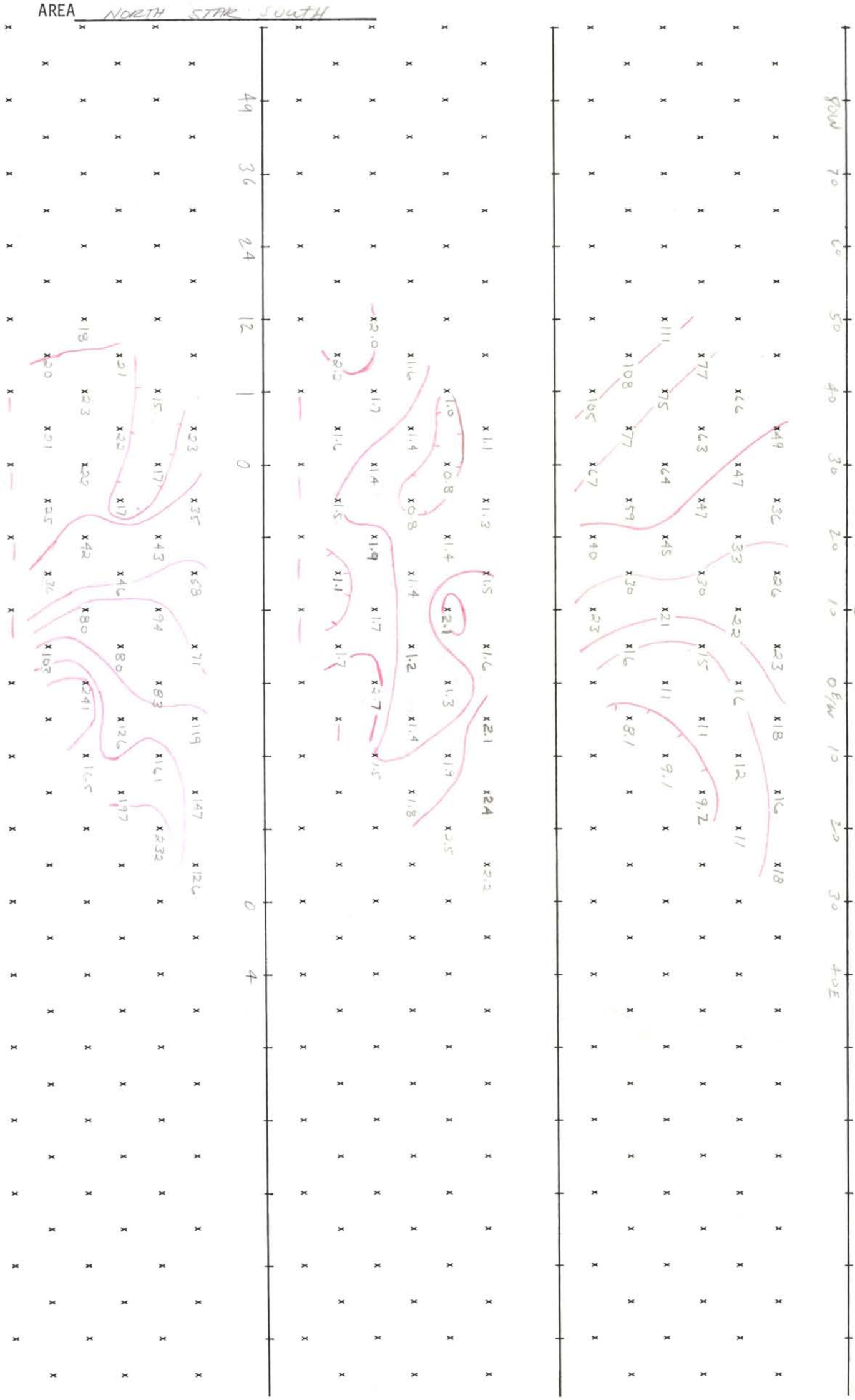


9. An unimproved dirt road runs through the north end and SE corner of this section and originates off U.S. Highway 80, 89.

JOB# 590 LINE# 3 SP 1 a = 1000' LOOKING North

CLIENT RBJ DATE 9-8-71 FREQUENCIES 1.0 & 0.1 Hz

AREA NORTH STAR SOUTH



P. P. No. _____

INSTRUCTIONS

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3. All questions must be answered.
4. Attach scale drawing or plat to show detail for questions 4, 5, 7, 8 and 9.

STATE LAND DEPARTMENT
400 Arizona State Office Building
Phoenix 7, Arizona

APPLICATION FOR MINERAL PROSPECTING PERMIT

The State Land Commissioner:

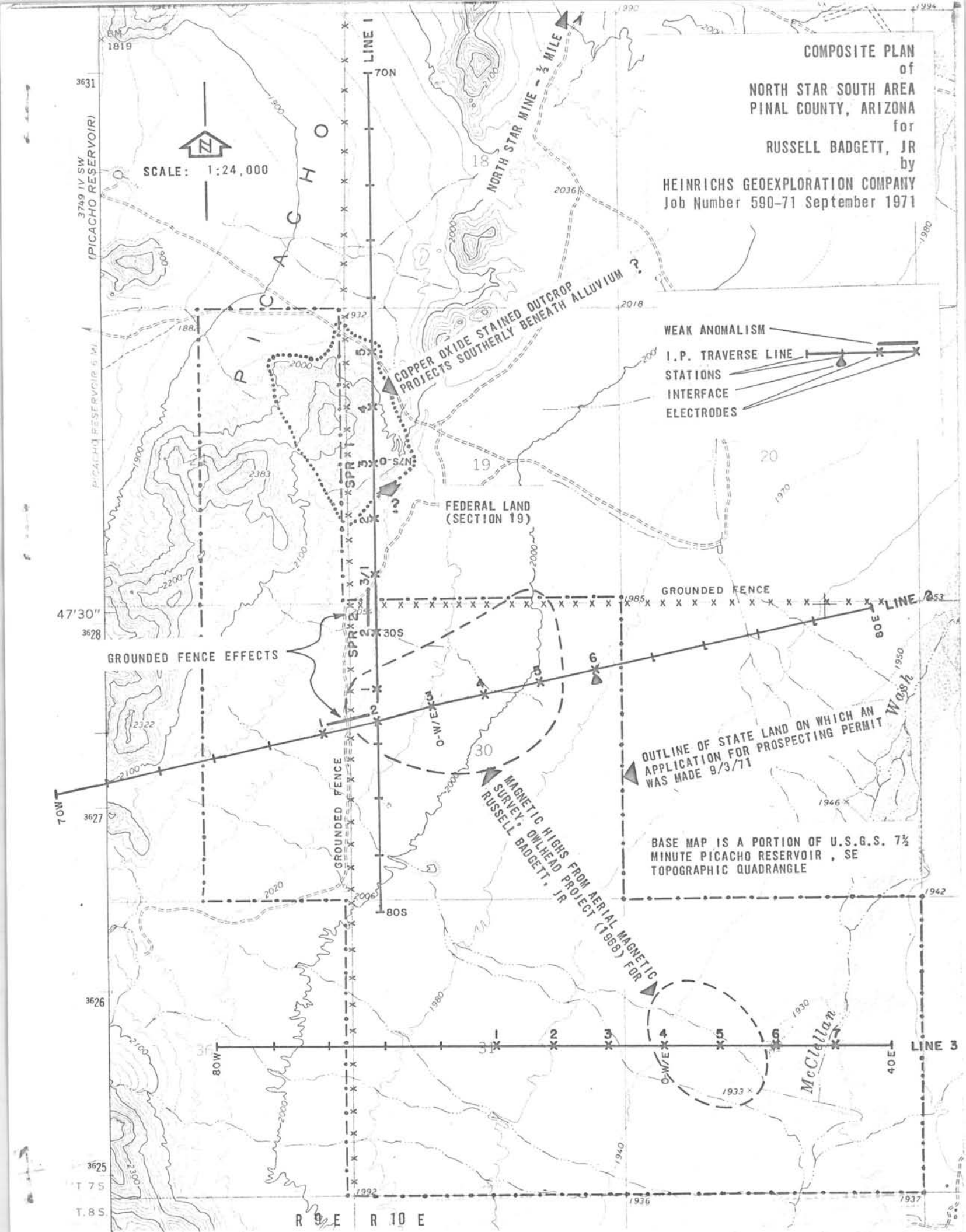
I/We _____
(Name)

of _____
(Address)

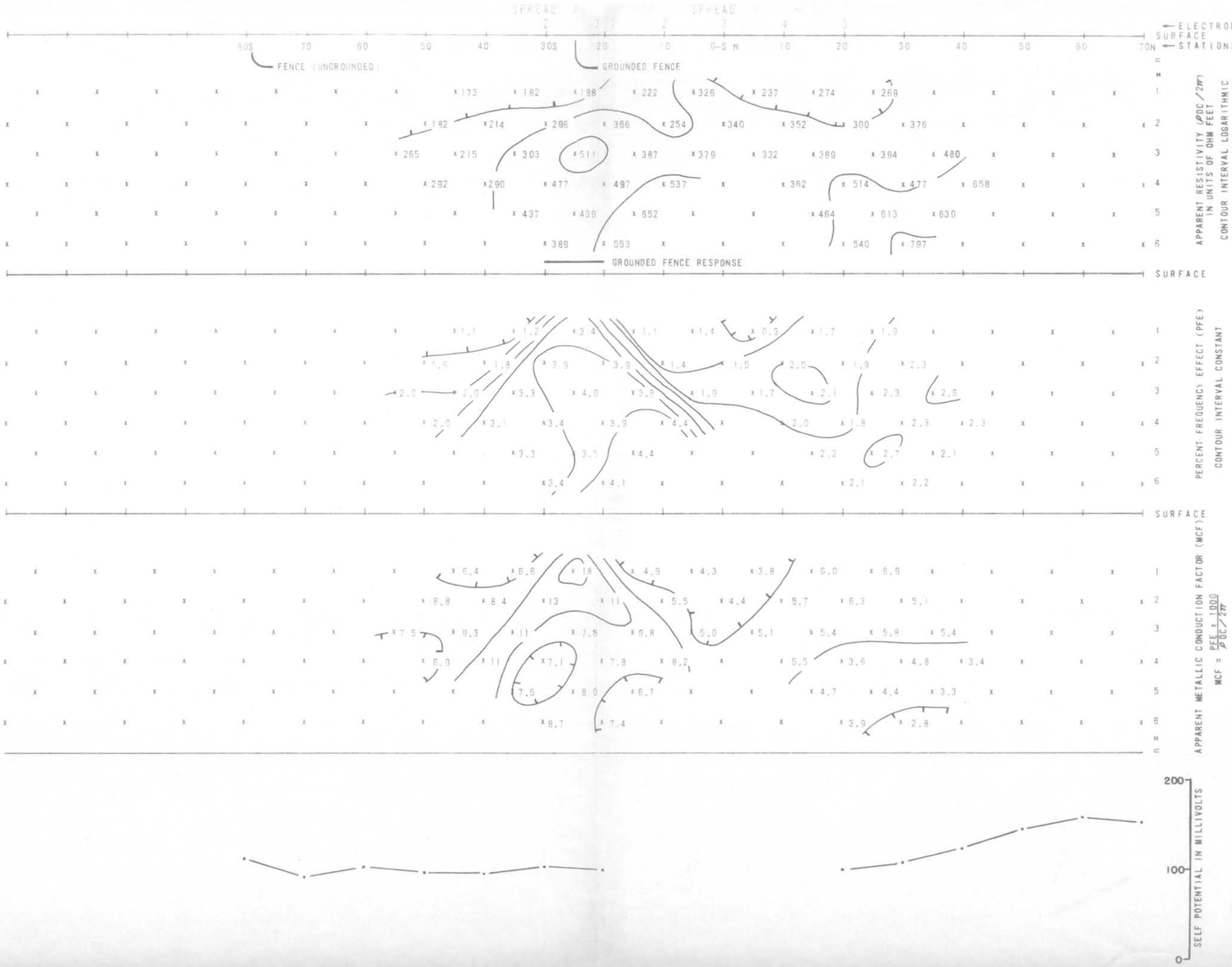
do hereby make application for a mineral exploration or prospecting permit on the State lands hereinafter described, in accordance with the provisions of Title 27, Chapter 2, Article 4, Arizona Revised Statutes, such rules and regulations as the Commissioner may prescribe and the terms of the permit.

Subdivision	Section	Township	Range	Acres	County	Grant
E½	25	T7S	R9E	320	Pinal	SS 18

1. State whether individual, partnership or corporation _____
2. If an individual, are you a citizen of the United States? _____
3. Age _____ Married _____ Single _____
4. Are there valid mineral locations, claims or leases on this section? No
   _____
   (describe and locate on attached plat)
5. Are there any abandoned workings on this section? No
   _____
   (describe and locate on attached plat)
6. Will it be necessary to cross other state lands to reach the land under application?
   cation? Yes ✓ No _____
7. Are there improvements or crops on the land described in No. 6 above? No
   _____
   (describe and locate on attached plat)
8. Are there improvements or crops on the land under application Yes ___ No ✓


COMPOSITE PLAN
of
NORTH STAR SOUTH AREA
PINAL COUNTY, ARIZONA
for
RUSSELL BADGETT, JR
by
HEINRICHS GEOEXPLORATION COMPANY
Job Number 590-71 September 1971
SCALE: 1:24,000
N
LINE 1
70N
NORTH STAR MINE - ½ MILE
COPPER OXIDE STAINED OUTCROP PROJECTS SOUTHERLY BENEATH ALLUVIUM ?
WEAK ANOMALISM
I.P. TRAVERSE LINE
STATIONS
INTERFACE
ELECTRODES
FEDERAL LAND (SECTION 19)
GROUNDED FENCE
LINE 2
GROUNDED FENCE EFFECTS
30S
80E
70W
OUTLINE OF STATE LAND ON WHICH AN APPLICATION FOR PROSPECTING PERMIT WAS MADE 9/3/71
MAGNETIC HIGHS FROM AERIAL MAGNETIC SURVEY, OWLHEAD PROJECT (1968) FOR RUSSELL BADGETT, JR
BASE MAP IS A PORTION OF U.S.G.S. 7½ MINUTE PICACHO RESERVOIR, SE TOPOGRAPHIC QUADRANGLE
80S
80W
LINE 3
40E
McClellan Wash
PICACHO
PICACHO RESERVOIR
47'30"
T 7 S
T. 8 S
R 9 E
R 10 E

9. An ~~unimp~~ unimproved dirt road run along the east~~ern~~ side line of this section and origionates off U.S. Highway 80, 89.



LINE NO. 1

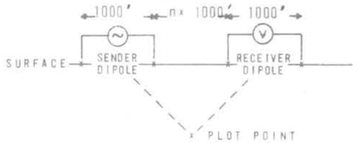
SPREAD(S) 1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

RUSSELL BADGETT, JR.

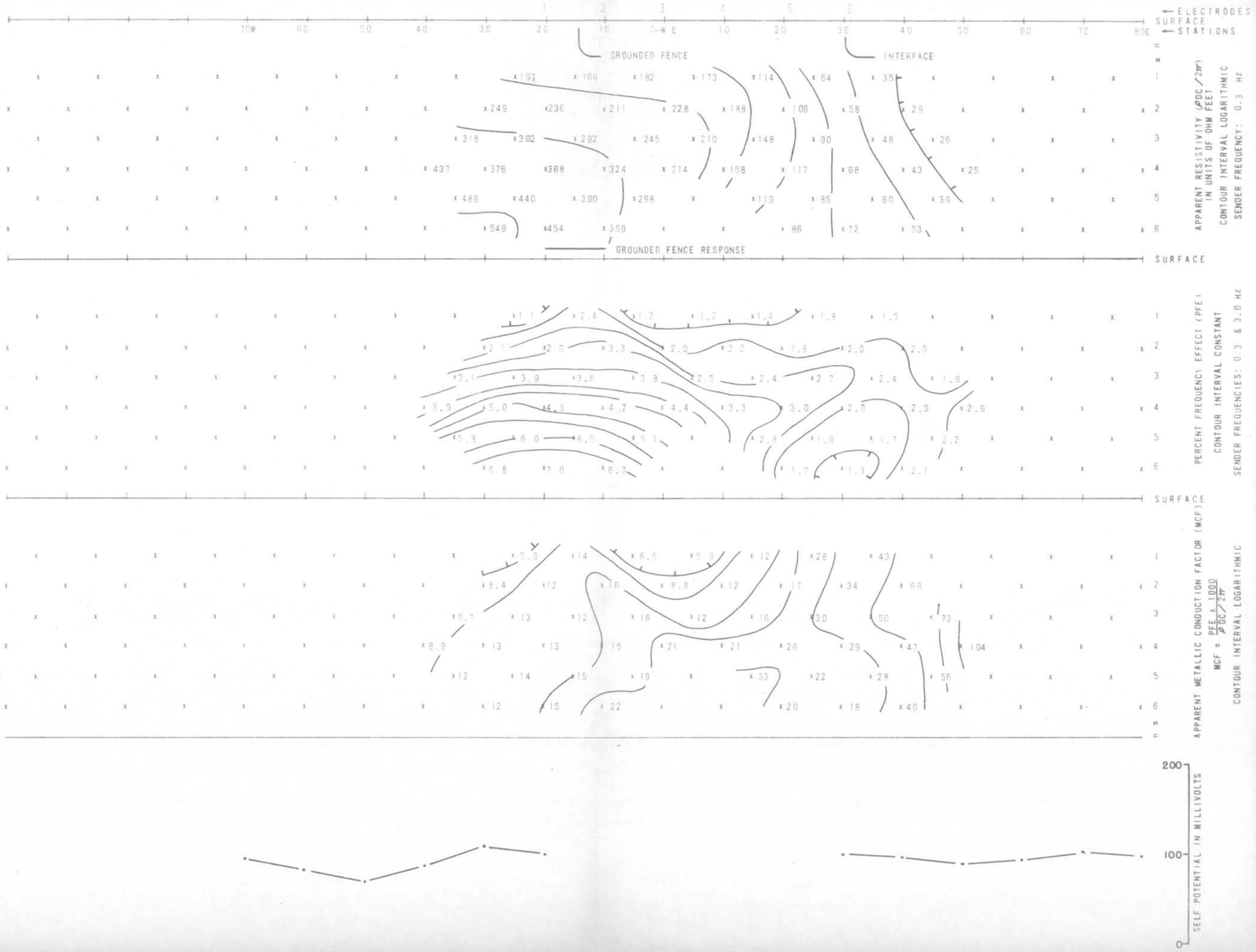
RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
NORTH STAR SOUTH
LOOKING
WEST
DATE
SEP 1971

HEINRICHS
GEOEXPLORATION COMPANY
GEOPHYSICAL ENGINEERS
AUSTRALIA
(SYDNEY)
39 Hume Street
Crows Nest, NSW
Phone: 439-1793
U.S.A.
Post Office Box 5964
Tucson, Arizona 85703
Phone: (602) 623-0578
Cable: GEOEX, Tucson



LINE NO.
2
SPREAD(S)
1

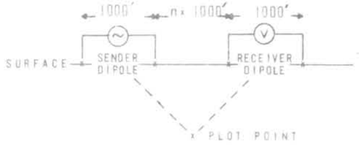
INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

RUSSELL BADGETT, JR

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
NORTH STAR SOUTH
LOOKING
N 12° W
DATE
SEP 1971

HEINRICHS
GEOEXPLORATION COMPANY
GEOPHYSICAL ENGINEERS
AUSTRALIA (SYDNEY) 39 Hume Street Crows Nest, NSW Phone: 439-1793
U.S.A. Post Office Box 5964 Tucson, Arizona 85703 Phone: (602) 623-0578 Cable: GEOEX, Tucson

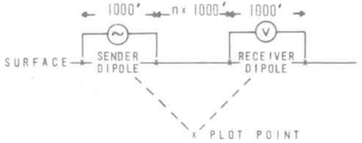
LINE NO.
3
SPREAD(S)
1

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

RUSSELL BADGETT, JR.

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
NORTH STAR SOUTH
LOOKING
NORTH
DATE
SEP 1971

HEINRICHS
GEOEXPLORATION COMPANY
GEOPHYSICAL ENGINEERS
AUSTRALIA
(SYDNEY)
39 Hume Street
Crows Nest, NSW
Phone: 439-1793
U.S.A.
Post Office Box 5964
Tucson, Arizona 85703
Phone: (602) 623-0578
Cable: GEOEX, Tucson

Job 626
Job 590

August 19, 1971

Mr. Russell Badgett, Jr.
1822 N. Main Street
Madisonville, Ky. 42431

Dear Mr. Badgett:

Attached is a copy of the abstracted geologic-assay log of DH-1L at Bagdad. We have sent samples to the assayer from four different zones of the hole for a 47 element semi-quantitative spectrographic analysis as insurance against missing some constituent not visually obvious.

Mr. Roy Muncey of Longyear has been notified by telephone of the indefinite postponement of your drilling contract and no problems in this regard are apparent.

Mr. Ewart informed us from Bagdad yesterday that they were drilling again and all is well. They will probably start coring tomorrow.

On Tuesday this week I inspected an area comprising 104 claims near Mineral Mt., about 14 miles northeast of Florence. The area has some merit as a copper prospect but we want to check out several other area possibilities before we decide. The owners may let us run several I. P. lines on the claim group if we give them a copy of the data. Without some geophysical encouragement, we don't recommend getting involved in a deal with the owners at this time. We will keep you posted on these developments.

If you want some character core samples from the Bagdad drill holes, let us know and we will send some.

Sincerely,
Heinrichs GEOEXploration Company

Chris S. Ludwig

Chris S. Ludwig
Senior Geophysicist

CSL:jh
Enclosure: Drill log.

COPY

Job. 590 , Lynal 11½ 9/11/74 1000.

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: _____ Line: _____ Int.Cal _____ Date: _____

Send												
Rec.												
Time												
DC-1												
DC-2												
Σ												
DC-3												
Dc-4												
Σ												
DC-AV												
AC-1												
AC-2												
Σ												
S. P.												
AC-N												
Pot. Res												

3 $0.3 19692-

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT North Star South 590

LINE 1 HALF N SP. 1 DATE 9/1/71

PAGE 1

SEND	4-5	3-4	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	2-3	1-2	→	20-30N	→	→	30-40N	→	→	→
RANGE	10	10	1	10	10	1	10	1	1	1
DC 1	1.0	0.5	1.1	1.3	1.6	1.3	1.5	1.5	1.7	1.5
DC 2										
DC 3 Con	4.	—	—	—	—	5.	4.	—	5.	6.
DC 4 #	1	2	3	4	5	6	7	8	9	10
DC 5 n	1	1	2	1	2	3	1	2	3	4
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	406.	297.	105.8	340.	109.	51.6	333.	93.0	60.1	33.65
AC 2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	-0.2
AC AVG.										
S.P.										
AC NOISE				+8.8			+13.5			
POT RES.	?			2K			1.3K			

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT North Star South
LINE 1 HALF N SP. 1 DATE 9/1/71

PAGE 2

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	CAL
RECEIVE	40-50N	→		→	50-60N	→		→	60-70N	2-3
RANGE	10	1	1	1	1	1	1	1	1	10
DC 1	1.9	1.9	1.4 N	1.7 N	2.2	2.0	2.4	1.6	1.9	-0.4
DC 2										
DC 3 Cur	4	4	5	6	4	4	5	6	4	2
DC 4 #	11	12	13	14	15	16	17	18	19	1
DC 5 #	2	3	4	5	3	4	5	6	4	
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	116.	48.7	39.9	24.6	59.05	29.45	26.9	17.9	40.6	189.5
AC 2	0.0	0.0	-0.1	-0.2	0.0	+0.2	+0.2	-0.2	0.1	0.0
AC AVG.										
S.P.	+22.8				+12.5				-6.4	3.0
AC NOISE										0.3
POT RES.	1K				5K				9K	

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT North Star South

LINE 1 HALF N SP. 1 DATE 9/11/71

PAGE 3

SEND	3-4	2-3								
RECEIVE	→									
RANGE	1	1								
DC 1	1.6	1.7								
DC 2										
DC 3										
DC 4 Cur	4	5								
DC 5 #	20	21								
DC 6 ⊼	5	6								
DC 7										
DC 8										
DC AVG.										
AC 1	22.3	22.0								
AC 2	-0.2	-0.2								
AC AVG.										
S.P.										
AC NOISE										
POT RES.										

Sob. 590 , Line 1 Sq 1 S 1/2 9/2/71 1000.

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: _____ Line: _____ Int.Cal _____ Date: _____

Send												
Rec.												
Time												
DC-1												
DC-2												
Σ												
DC-3												
Dc-4												
Σ												
DC-AV												
AC-1												
AC-2												
Σ												
S. P.												
AC-N												
Pot. Res												

I.P. RECEIVER NOTES

PAGE 5

HEINRICHS GEOEXPLORATION CO. PROJECT North STAR

LINE 1 BEARING N-S HALF S SP. 1 DATE 9-2

SEND	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	CAL
RECEIVE	20-30	5 →	→	30-40	→	→	→	40-50	—	2-3
MULT.	10,	10,	1.0	10,	10,	1.0	1.0	10,	1.0	10,
PFE										
	0.9	1.2	1.7	3.2	3.7	3.6	4.2	3.7	3.8	-0.2
CUR	6	6	5	6	6	5	5	6	6	2.
#	22	23	24	25	26	27	28	29	30	2
n	1	2	3	1	2	3	4	2	3	
PFE Avg.										
AC	420,	120,	59.2	348,	168,	59.4	40.9	136,	93.8	191.
DRIFT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	+0.0
S.P.	+2.6			-6.6				+2.1		
AC NOISE	3K			2K				1K		3.0
POT RES.	G.F	25'								0.3

I.P. RECEIVER NOTES

PAGE 6

HEINRICHS GEOEXPLORATION CO. PROJECT North STAR

LINE 1 BEARING N-S HALF S SP. 1 DATE 9-2

SEND	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4	
RECEIVE	40-50	→	50-60	→	→	→	60-70	→	→	
MULT.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
PFE						+0.2(0.0)				
	3.7	4.2	3.1	3.2	3.3	3.9	2.9	3.1	3.2	
						6.0(0.1)				
CUR	5	5	6	6	5	5	6	6	5	
#	31	32	33	34	35	36	37	38	39	
9	4	5	3	4	5	6	4	5	6	
PFE Avg.										
AC	38.1	28.4	56.0	44.1	19.3	15.1	26.9	23.1	10.7	
DRIFT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
S.P.			+4.4				-10.1			
AC NOISE			<1K				<1.K			
POT RES.										

CAL
2.0
2-3
200 v

INDUCED POLARIZATION SENDER NOTES

Project: North Star South Line: 1, N½, Sp 1 Date: 9/1/71

Send	4-5	3-4	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Receive	2-3	1-2	→	20-30N	→	→	30-40N	→	→	→	40-50N	→
Time	Hi	Hi	Hi	Hi	Hi	Hi	Hi	Hi	Hi	Hi	Hi	Hi
Range	450	440	450	420	400	340	450	440	490	420	440	440
Current	4.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	5.0	6.0	4.0	4.0
Send	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3			
Receive	40-50N	→	50-60	→	→	→	60-70	→				
Time	Hi	Hi	Hi	Hi	Hi	Hi	Hi	Hi	Hi			
Range	490	420	440	440	490	410	450	440	490			
Current	5.0	6.0	4.0	4.0	5.0	6.0	4.0	4.0	5.0			

3.9 . . 6.0

INDUCED POLARIZATION SENDER NOTES

Project: North Star South Line: 1 5½ Date: Sept 2, 1971

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5		
Receive	0-10 s	10-20 s	—	20-30	—	—	30-40	—	—	—		
Time	—	—	—									
Range	—	—	—	450	500	440	340	450	420	430		
Current	—	—	—	6.0	6.0	5.0	6.0	6.0	5.0	5.0		
Send	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4	cal 2-3
Receive	40-50				50-60				60-70			
Time												
Range	340	450	420	440	346	450	420	440	340	450	420	150
Current	6.0	6.0	5.6	5.0	6.0	6.0	5.0	5.0	6.0	6.0	5.0	2.0

(3010.3.1)

Job 590

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT North Star South
LINE 2 HALF E SP. 1 DATE 9/3/71

PAGE 1

SEND	3-4	4-5	5-6	4-5	5-6	5-6	4-5	3-4	2-3	1-2
RECEIVE	1-2	→	→	2-3	→	3-4	30-40E	→	→	→
RANGE	10	10	1	10	10	10	10	1	1	1
DC 1	1.4	2.2	2.7	1.4	2.4	1.6	2.0	2.0	2.6	3.5
DC 2						1.7				
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.						290				
AC 1	465.5	144.	52.8	441.	119.	289.5	162.	67.3	37.4	19.7
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.							-1.9			
AC NOISE										
POT RES.							0.8K			
	3	12	30	3	12	3	3	12	30	60

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

0.0
1.3 1.8
3.0
4.9

PROJECT North Star South
LINE 2 HALF E SP. 1 DATE 9/3/72

SEND	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE	40-50E	→				50-60E	→			
RANGE	1	1	1	1	0.1	1	1	0.1	0.1	0.1
DC 1.3	1.7	2.2	2.9	3.3 3.1	2.9 3.1	2.2	2.6	2.2	2.1	1.9
DC 2 1				1.8 1.3 2.0	1.8 1.3 6					
DC 3 .1				4.9	4.9					
DC 4 .1										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	89.6	36.8	22.55	14.7	8.55	18.15	12.05	8.66	6.12	3.90
AC 2	0.0	0.0	0.0	0.0	0.0 -0.1	0.1	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	-8.0					+3.5				
AC NOISE										
POT RES.	2K					1K				
	3	12	30	60	105	12	30	60	105	168

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT North Star South
LINE 2 HALF E SP. 1 DATE 9/3/71

SEND	5-6	4-5	3-4	2-3	5-6	4-5	3-4		CAL	
RECEIVE	60-70E	→	→	→	70-80E	→	→		2-3	
RANGE	0.1	0.1	0.1	0.1	0.1	0.1	0.1		10	
DC 1	2.1	2.2	1.9	1.4	2.8	2.4	2.3		0.2	
DC 2										
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	6.70	5.40	4.34	3.29	3.15	2.79	2.40		194.	
AC 2	0.0	0.0	0.0	-0.2	0.0	0.0	0.0		0.2	
AC AVG.										
S.P.	+8.2				-2.9					
AC NOISE										
POT RES.	0.5K				0.5K					
	30	60	105	168	60	105	168			

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT North Star South
LINE 2 HALF W SP. 1 DATE 9/3/7

PAGE 4

SEND	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6	CAL
RECEIVE	20-30W	→		→	30-40W	→			→	1-2
RANGE	10	10	1	1	10	10	1	1	1	10
DC 1	2.4	3.3	3.8	4.4	1.1	2.9	3.6	4.7	5.1	-0.1
DC 2										0.0
DC 3										0.0
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	419.	132.	61.0	26.4	502.	148.	72.7	39.9	18.8	193.5
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
AC AVG.										
S.P.	+10.1				-21.0					
AC NOISE										
POT RES.	1K				1K					
	3	12	30	60	3	12	30	60	105	

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT North Star South
LINE 2 HALF W SP. 1 DATE 9/3/7

PAGE 5

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2
RECEIVE	40-50W	→	→	→	→	50-60W	→	→	→	60-70W
RANGE	10	1	1	1	1	1	1	1	1	1
DC 1 .3	2.1	3.9	5.0	6.0	6.7	3.1	5.0	6.0	7.0	3.9
DC 2 1									4.2	
DC 3 .1									8.8	
DC .4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	157.	75.1	45.25	27.1	13.35	79.6	46.2	30.6	19.55	54.3
AC 2	0.1	0.0	+0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	-19.0						+12.0			+14.0
AC NOISE										
POT RES.	1K					1.5K				1K
	12	30	60	105	168	30	60	105	168	60

Well Grounded Fence at 15W

HEINRICHS GEOEXPLORATION CO. PROJECT North Star South

I.P. RECEIVER NOTES LINE 2 HALF W SP. 1 DATE 9/3/7

PAGE 6

SEND	2-3	3-4								
RECEIVE	→	→								
RANGE	1	1								
DC 1 .3	5.8	6.8								
DC 2 1		4.2								
DC 3 0.1		8.4								
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	34.1	23.7								
AC 2	0.0	0.0								
AC AVG.										
S.P.										
AC NOISE										
POT RES.										

105 168

(1)

Found No. 5 & 6 X

INDUCED POLARIZATION SENDER NOTES

project: 590-71 North STAR Line: 2 Date: 9-3-71

Send	3-4	4-5	5-6	4-5	5-6	5-6	CAL	4-5	3-4	2-3	1-2	
Receive	1-2	→	→	2-3	→	3-4	2-3	30-40	→	→	→	
Time	Hi						Hi	Hi	→	→	→	
Range	320	370	400	370	400	400	100	330	320	400	430	
Current	8.0	8.0	8.0	8.0	8.0	8.0	2.0	8.0	8.0	8.0	8.0	
Send	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2		
Receive	40-50 E	→	→	→	→	50-60 E	→	→	→	→		
Time	Hi	→	→	→	→	Hi	→	→	→	→		
Range	400	330	320	400	430	400	330	320	400	430		
Current	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		

INDUCED POLARIZATION SENDER NOTES

Project: SPU North STAR Line: 2 E-W Date: 9-3-71

Send	5-6	4-5	3-4	2-3	5-6	4-5	3-4					
Receive	60-70	→	→	→	70-80	→	→					
Time	Hi	→	→	→	Hi	→	→					
Range	400	330	320	400	400	330	320					
Current	8.0	8.0	8.0	8.0	8.0	8.0	8.0					
Send												
Receive												
Time												
Range												
Current												

INDUCED POLARIZATION SENDER NOTES

project: 590-11 North Star Line: 2 - E-W Date: 9-3-71

Send	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4
Receive	20-30	W →			30-40	→				40-50	→	
Time	Hi	Hi →			Hi	→				Hi	→	
Range	400	320	330	400	420	400	320	330	400	420	400	320
Current	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Send	4-5	5-6	1-2	2-3	3-4	4-5	1-2	2-3	3-4			
Receive	40-50 →		50-60	→			60-70	→				
Time	Hi →		Hi	→			Hi	→				
Range	330	400	420	400	320	330	420	400	320			
Current	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0			

3 & 0.3 23703-R UGK 793

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT North Star South
LINE 1 HALF S SP. 2 DATE 9/16/71

PAGE 1

SEND	CAL	2-3	1-2	2-3	1-2	2-3	1-2	2-3		
RECEIVE	1-2	40-50S	50-60S	→	60-70S	→	70-80S	→		
RANGE	1	10	10	1	1	1	1	1	1	10
DC 1 .3	+0.3	1.3 1.5	1.4	2.0	1.9	2.3	2.6	2.3		
DC 2 .1	0.0	1.2	1.1	1.8	1.6	2.0	2.0 1.1	2.0	1	
DC 3 .1	-0.3						2.3 2.6+		.3	+4.4
DC 4	Rev -.2						2.7	3.5+ 1.8-	.1	-4.9
DC 5										
DC 6									-.4 -.1	
DC 7 I		6	5	→				→	-1.1	
DC 8										
DC AVG.		3.4								
AC 1	101.5	365.	289.	89.0	75.8	35.6	44.0	24.2	102.7	10.3 A
AC 2	0.0	-0.3 -.1	-0.1	-0.2	0.0	0.0	0.0 0.0	0.0		
AC AVG.										
S.P.		+5.6	+18.8		-2.2		+21.0			
AC NOISE										
POT RES.		1.5K	3K		5K		2.5K			
		3	3	12	12	30	30	60		

1-2
205-105

23.03R 20693-R CM2
2-3

10 10
2.3 2.9 1.0

4 amps

263. 264. 103.2
0.0 0.0 0.0

-32.5

2K

JOB 590 LINE 1 N1/2 9/11/71 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 1

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	-.40	189.500	0.00	3.00	.30	-.4000	1.0554

COMPUTED DATA									FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	325.87	1.40	4.3	1.40	4.3	0.00	**	1.00	4.00	1	1	406.000	0.00
2	1	237.21	.90	3.8	.90	3.8	0.00	**	.50	4.00	2	1	297.000	0.00
3	2	340.01	1.50	4.4	1.50	4.4	0.00	**	1.10	4.00	3	2	105.800	0.00
4	1	273.71	1.65	6.0	1.65	6.0	0.00	**	1.30	4.00	4	1	340.000	.10
5	2	352.02	2.00	5.7	2.00	5.7	0.00	**	1.60	4.00	5	2	109.000	0.00
6	3	332.31	1.70	5.1	1.58	4.8	.12	**	1.30	5.00	6	3	51.600	0.00
7	1	268.60	1.85	6.9	1.85	6.9	0.00	**	1.50	4.00	7	1	333.000	.10
8	2	300.05	1.90	6.3	1.90	6.3	0.00	**	1.50	4.00	8	2	93.000	0.00
9	3	388.57	2.10	5.4	2.00	5.2	.10	**	1.70	5.00	9	3	60.100	0.00
10	4	361.89	2.00	5.5	1.80	5.0	.20	**	1.50	6.00	10	4	33.650	-.20
11	2	375.73	2.30	6.1	2.30	6.1	0.00	**	1.90	4.00	11	2	116.000	0.00
12	3	394.35	2.30	5.8	2.21	5.6	.09	**	1.90	4.00	12	3	48.700	0.00
13	4	514.42	1.85	3.6	1.73	3.4	.12	**	1.40	5.00	13	4	39.900	-.10
14	5	463.88	2.20	4.7	1.96	4.2	.24	**	1.70	6.00	14	5	24.600	-.20
15	3	479.57	2.60	5.4	2.60	5.4	0.00	**	2.20	4.00	15	3	59.050	0.00
16	4	477.43	2.30	4.8	2.16	4.5	.14	**	2.00	4.00	16	4	29.450	.20
17	5	612.91	2.70	4.4	2.54	4.1	.16	**	2.40	5.00	17	5	26.900	.20
18	6	539.54	2.10	3.9	1.80	3.3	.30	**	1.60	6.00	18	6	17.900	-.20
19	4	657.53	2.25	3.4	2.16	3.3	.09	**	1.90	4.00	19	4	40.600	.10
20	5	630.15	2.10	3.3	1.94	3.1	.16	**	1.60	4.00	20	5	22.300	-.20
21	6	796.52	2.20	2.8	2.02	2.5	.18	**	1.70	5.00	21	6	22.000	-.20

JOB590 LINE 1 SP 1 S1/2 9/2/71 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 2

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	-.20	191.000	0.00	3.00	.30	-.2000	1.0471

COMPUTED DATA									FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
22	1	222.31	1.10	4.9	1.10	4.9	0.00	**	.90	6.00	22	1	420.000	0.00
23	2	254.83	1.40	5.5	1.33	5.2	.07	**	1.20	6.00	23	2	120.000	0.00
24	3	379.00	1.90	5.0	1.80	4.8	.10	**	1.70	5.00	24	3	59.200	0.00
25	1	188.39	3.40	18.0	3.40	18.0	0.00	**	3.20	6.00	25	1	348.000	0.00
26	2	365.55	3.90	10.7	3.90	10.7	0.00	**	3.70	6.00	26	2	168.000	0.00
27	3	387.38	3.80	9.8	3.70	9.6	.10	**	3.60	5.00	27	3	59.400	0.00
28	4	536.54	4.40	8.2	4.28	8.0	.12	**	4.20	5.00	28	4	40.900	0.00
29	2	295.92	3.90	13.2	3.90	13.2	0.00	**	3.70	6.00	29	2	136.000	0.00
30	3	510.74	4.00	7.8	4.00	7.8	0.00	**	3.80	6.00	30	3	93.800	0.00
31	4	497.41	3.90	7.8	3.77	7.6	.13	**	3.70	5.00	31	4	38.100	0.00
32	5	651.98	4.40	6.7	4.25	6.5	.15	**	4.20	5.00	32	5	28.400	0.00
33	3	302.87	3.30	10.9	3.16	10.4	.14	**	3.10	6.00	33	3	56.000	0.00
34	4	477.48	3.40	7.1	3.26	6.8	.14	**	3.20	6.00	34	4	44.100	0.00
35	5	439.25	3.50	8.0	3.24	7.4	.26	**	3.30	5.00	35	5	19.300	0.00
36	6	553.05	4.10	7.4	3.81	6.9	.29	**	3.90	5.00	36	6	15.100	0.00
37	4	290.41	3.10	10.7	2.82	9.7	.28	**	2.90	6.00	37	4	26.900	0.00
38	5	437.27	3.30	7.5	3.04	6.9	.26	**	3.10	6.00	38	5	23.100	0.00
39	6	389.26	3.40	8.7	2.92	7.5	.48	**	3.20	5.00	39	6	10.700	0.00

Job 590, LINE 3, spread 1, E ½, 9/8/71 1000.

1801 Hz E-W a = 1000' 590

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT North Star South
LINE 3 HALF E SP. 1 DATE 9/8/71

PAGE 1

SEND	3-4	4-5	5-6	6-7	4-5	5-6	6-7	5-6	6-7	6-7
RECEIVE	1-2	→	→	→	2-3	→	→	3-4	→	4-5
RANGE	1	1	0.1	0.1	1	0.1	0.1	1	0.1	1
DC 1	1.7	2.3	1.3	29	1.8	1.5	1.6	2.3	2.1	2.6
DC 2										
DC 3										
DC 4	8	6	8	→	→	→	→	→	→	→
DC 5	1	2	3	4	5	6	7	8	9	10
DC 6	1	2	3	4	1	2	3	1	2	1
DC 7										
DC 8										
DC AVG.										
AC 1	65.3	10.6	3.80	1.405	57.4	9.98	2.83	44.6	7.47	41.1
AC 2	0.0	0.0	-0.2	?0.0	0.0	0.0	N0.0	0.0	0.0	0.0
AC AVG.										
S.P.										
AC NOISE										
POT RES.										

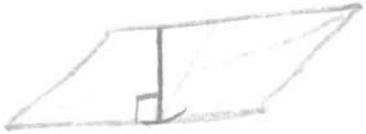
590

PAGE 2

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT North Star South
LINE 3 HALF E SP. 1 DATE 9/8/71

SEND	CAL	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4
RECEIVE	3-4	30-40E	→	→	→	→	40-50E	→	→	→
RANGE	10	1	0.1	0.1	0.1	.01				
DC 1	+0.2	2.4	2.7	2.1	1.2	0.0				
DC 2										
DC 3										
DC 4 in	2	8	→	→	→	→				
DC 5 #	1	11	12	13	14	15				
DC 6 n		1	2	3	4	5				
DC 7										
DC 8										
DC AVG.										
AC 1	193.	44.1	6.76	2.31	1.16	0.60				
AC 2	0.0	0.0	0.0	0.2	-1.0	0.0				
AC AVG.	1.0									
S.P.	0.1	+4.3								
AC NOISE										
POT RES.		0.5K								



$$\left| \vec{A} \cdot \vec{B} \times \vec{C} \right|$$

590 wk 4

INDUCED POLARIZATION SENDER NOTES

project: North Star South Line: 3-Spread 1, E½ Date: 9/8/71

Send	3-4	4-5	5-6	6-7	4-5	5-6	6-7	5-6	6-7	6-7	CA2	5-6
Receive	1-2	→	→	→	2-3	→	→	3-4	→	4-5	3-4	30-40E
Time	#1 2.66x3	2.66x 3	2.66x 3.	2.66 3.	2.66x 3.	→	→	→	→	→		2.66 x3
Range	340	280	270	280	280	270	280	270	280	280	90	270
Current	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	2.0	8.0
Send	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2	6-7	5-6
Receive	→	→	→	→	40-50E	→	→	→	→	→	50-60E	→
Time	2.66 x3	—	~~450~~									
Range	280	340	450									
Current	8.0	8.0	8.0									

Job 590, LINE 3, Spread 1, W½, 9/13/71 1000.

0.1 & 1.0

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT North Star South

LINE 3 HALF W SP. 1 DATE 9/13/71

SEND	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6
RECEIVE	30-40W	→	→	→	→	40-50W	→	→	→	→
RANGE	1	1	0.1	0.1	0.1	1	1	0.1	0.1	0.1
DC 1	1.5	1.6	1.6 ~	1.9	1.9 ≈	1.3	1.0	1.0	2.1	1.3 ±
DC 2										
DC 3										
DC 4 Ten	6	8	8	8	8	4	4	6	6	6
DC 5 #	1	2	3	4	5	6	7	8	9	10
DC 6 n	1	2	3	4	5	1	2	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	72.6	22.2	8.26	2.87	1.27	66.0	15.85	9.705	4.54	1.775
AC 2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+0.7					+11.2				
AC NOISE										
POT RES.	2K					1K				

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT North Star South
LINE 3 HALF W SP. 1 DATE 9/13/7

SEND	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5
RECEIVE	→	50-60W	→	→	→	→	60-70W	→	→	→
RANGE	0.01	1	0.1	0.1	0.1	0.1	1	0.1	0.1	0.1
DC 1	0.0	1.2	1.5	1.7	1.6	0.0	1.8	1.7	1.8	0.0
DC 2										
DC 3										
DC 4 Tm	4	4	4	6	6	6	4	4	6	6
DC 5 #	11	12	13	14	15	16	17	18	19	20
DC 6 n	6	2	3	4	5	6	3	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	.568	22.4	8.585	6.54	3.44	1.48	10.4	5.085	4.44	2.48
AC 2	0.0	0.0	-0.2	0.2	-0.2	0.0	0.0	-0.4	0.0	0.0
AC AVG.										
S.P.	+12.4	+12.4					+12.0			
AC NOISE			6.4v @	55.1W						
POT RES.		1K					2K			

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

1 & 0.1 Hz

PROJECT North Star South
LINE 3 HALF W SP. 1 DATE 9/13/77

PAGE 7

SEND	1-2	2-3	3-4		CAL					
RECEIVE	70-50W	→	→		3-4					
RANGE	0.1	0.1	0.1		1.0					
DC 1	2.0	2.2 N	×0.0		+0.2					
DC 2										
DC 3										
DC 4 Gen	4	4	6		2					
DC 5 #	21	22	23		2					
DC 6 n	4	5	6							
DC 7										
DC 8										
DC AVG.										
AC 1	7.52	4.15	3.86		206.					
AC 2	-0.4	0.0 N	—0.0		0.0					
AC AVG.					1.0					
S.P.	+12.8				0.1					
AC NOISE										
POT RES.	1K									

INDUCED POLARIZATION SENDER NOTES

Different Sender 22205

project: 590- Line: 3- EW Date: 9-13-71

Send	CWL	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7
Receive	3-4	30-40 cw			20X300		40-50 cw					
Time	10X200	20X300	20X400		250V	3X400	20X200	20X200	20X300	20X300	20X 300	20X 200
Range	250	460	480	390	~~360~~	350	280	280	390	250 320V	200 250	310
Current	2.0	6.0	8.0	8.0	~~8.0~~ 6.0	8.0	4.0	4.0	6.0	6.0	6.0	4.0
Send	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	50-60					60-70 cw				70-80 cw		
Time	20X 200	20X 200	20X 300	20X 300	20X 300	20X 200	20X 200	20X 300	20X 300	20X 200	20X 200	20X 300
Range	280	280	390	270	250	280	280	390	300	280	280	380
Current	4.0	4.0	6.0	6.0	6.0	4.0	4.0	6.0	6.0	4.0	4.0	6.0

JOB 590 LINE 3 SPREAD 1 EAST 1/2 9/8/71 1000 FEET=DIPOLE LENGTH

CAL GROUP NO. 1

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	.20	193.000	0.00	1.00	.10	.2000	1.0363

COMPUTED DATA									FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	25.76	1.50	58.2	1.39	54.1	.11	**	1.70	8.00	1	1	65.300	0.00
2	2	22.43	2.10	93.6	1.63	72.6	.47	**	2.30	6.00	2	2	10.600	0.00
3	3	14.93	1.20	80.4	-.63	-42.0	1.83	**	1.30	8.00	3	3	3.800	-.20
4	4	11.21	2.70	240.8	-2.02	-180.0	4.72	**	2.90	8.00	4	4	1.405	0.00
5	1	22.66	1.60	70.6	1.47	64.9	.13	**	1.80	8.00	5	1	57.400	0.00
6	2	15.71	1.30	82.7	.54	34.3	.76	**	1.50	8.00	6	2	9.980	0.00
7	3	11.15	1.40	125.5	-1.26	-112.6	2.66	**	1.60	8.00	7	3	2.830	0.00
8	1	17.70	2.10	118.7	1.92	108.4	.18	**	2.30	8.00	8	1	44.600	0.00
9	2	11.83	1.90	160.6	.79	66.7	1.11	**	2.10	8.00	9	2	7.470	0.00
10	1	16.35	2.40	146.7	2.20	134.4	.20	**	2.60	8.00	10	1	41.100	0.00
11	1	17.51	2.20	125.6	2.02	115.1	.18	**	2.40	8.00	11	1	44.100	0.00
12	2	10.77	2.50	232.1	1.24	115.5	1.26	**	2.70	8.00	12	2	6.760	0.00
13	3	9.15	1.80	196.8	-1.61	-176.1	3.41	**	2.10	8.00	13	3	2.310	.20
14	4	9.11	1.50	164.7	-4.60	-505.1	6.10	**	1.20	8.00	14	4	1.160	-1.00
15	5	8.14	-.20	-24.6	-11.18	-1372.4	10.98	**	0.00	8.00	15	5	.600	0.00

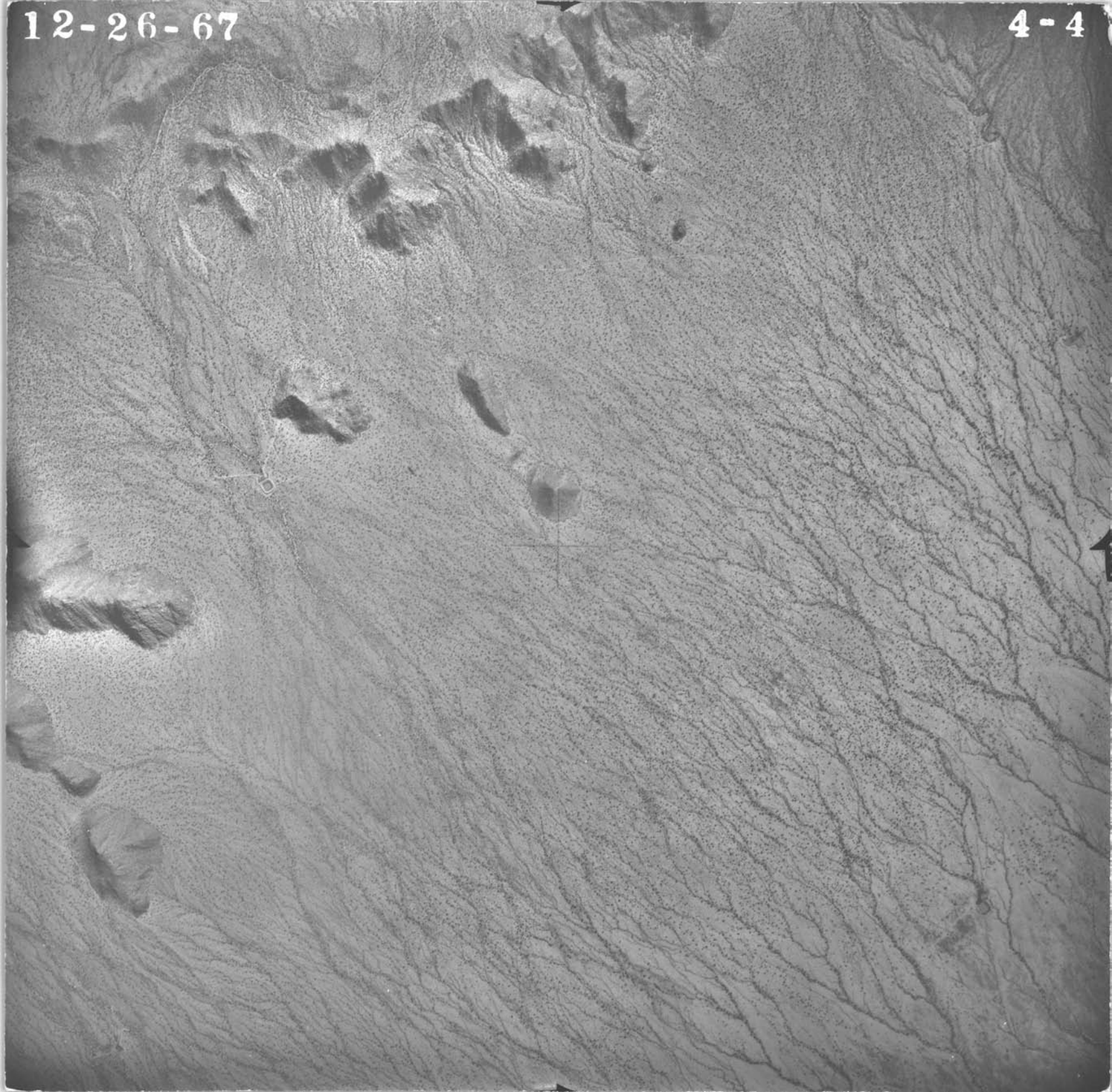
JOB 590 LINE 3 SPREAD 1 WEST 1/2 9/13/71 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 2

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	.20	206.000	0.00	1.00	.10	.2000	.9709

COMPUTED DATA									FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	35.70	1.25	35.0	1.18	33.1	.07	**	1.50	6.00	1	1	72.600	.10
2	2	32.78	1.40	42.7	1.12	34.2	.28	**	1.60	8.00	2	2	22.200	0.00
3	3	30.49	1.40	45.9	.69	22.6	.71	**	1.60	8.00	3	3	8.260	0.00
4	4	21.25	1.70	80.0	-.41	-19.1	2.11	**	1.90	8.00	4	4	2.870	0.00
5	5	16.46	1.70	103.3	-2.96	-180.1	4.66	**	1.90	8.00	5	5	1.270	0.00
6	1	48.59	1.10	22.6	1.10	22.6	0.00	**	1.30	4.00	6	1	66.000	0.00
7	2	46.53	.80	17.2	.63	13.5	.17	**	1.00	4.00	7	2	15.850	0.00
8	3	47.49	.80	16.8	.41	8.6	.39	**	1.00	6.00	8	3	9.705	0.00
9	4	44.92	1.90	42.3	1.11	24.8	.79	**	2.10	6.00	9	4	4.540	0.00
10	5	30.49	1.10	36.1	-1.04	-34.1	2.14	**	1.30	6.00	10	5	1.775	0.00
11	6	23.11	-.20	-8.7	-4.72	-204.1	4.52	**	0.00	4.00	11	6	.568	0.00
12	2	65.90	1.00	15.2	.89	13.6	.11	**	1.20	4.00	12	2	22.400	0.00
13	3	63.32	1.40	22.1	1.14	18.0	.26	**	1.50	4.00	13	3	8.585	-.20
14	4	64.45	1.40	21.7	.92	14.2	.48	**	1.70	6.00	14	4	6.540	.20
15	5	59.26	1.50	25.3	.60	10.2	.90	**	1.60	6.00	15	5	3.440	-.20
16	6	40.15	-.20	-5.0	-2.45	-61.0	2.25	**	0.00	6.00	16	6	1.480	0.00
17	3	76.94	1.60	20.8	1.40	18.2	.20	**	1.80	4.00	17	3	10.400	0.00
18	4	75.16	1.70	22.6	1.31	17.4	.39	**	1.70	4.00	18	4	5.085	-.40
19	5	76.64	1.60	20.9	.97	12.6	.63	**	1.80	6.00	19	5	4.440	0.00
20	6	67.28	-.20	-3.0	-1.35	-20.0	1.15	**	0.00	6.00	20	6	2.480	0.00
21	4	111.48	2.00	17.9	1.77	15.9	.23	**	2.00	4.00	21	4	7.520	-.40
22	5	108.09	2.20	20.4	1.80	16.7	.40	**	2.40	4.00	22	5	4.150	0.00
23	6	104.72	-.20	-1.9	-.84	-8.0	.64	**	0.00	6.00	23	6	3.860	0.00

12-26-67

4-4



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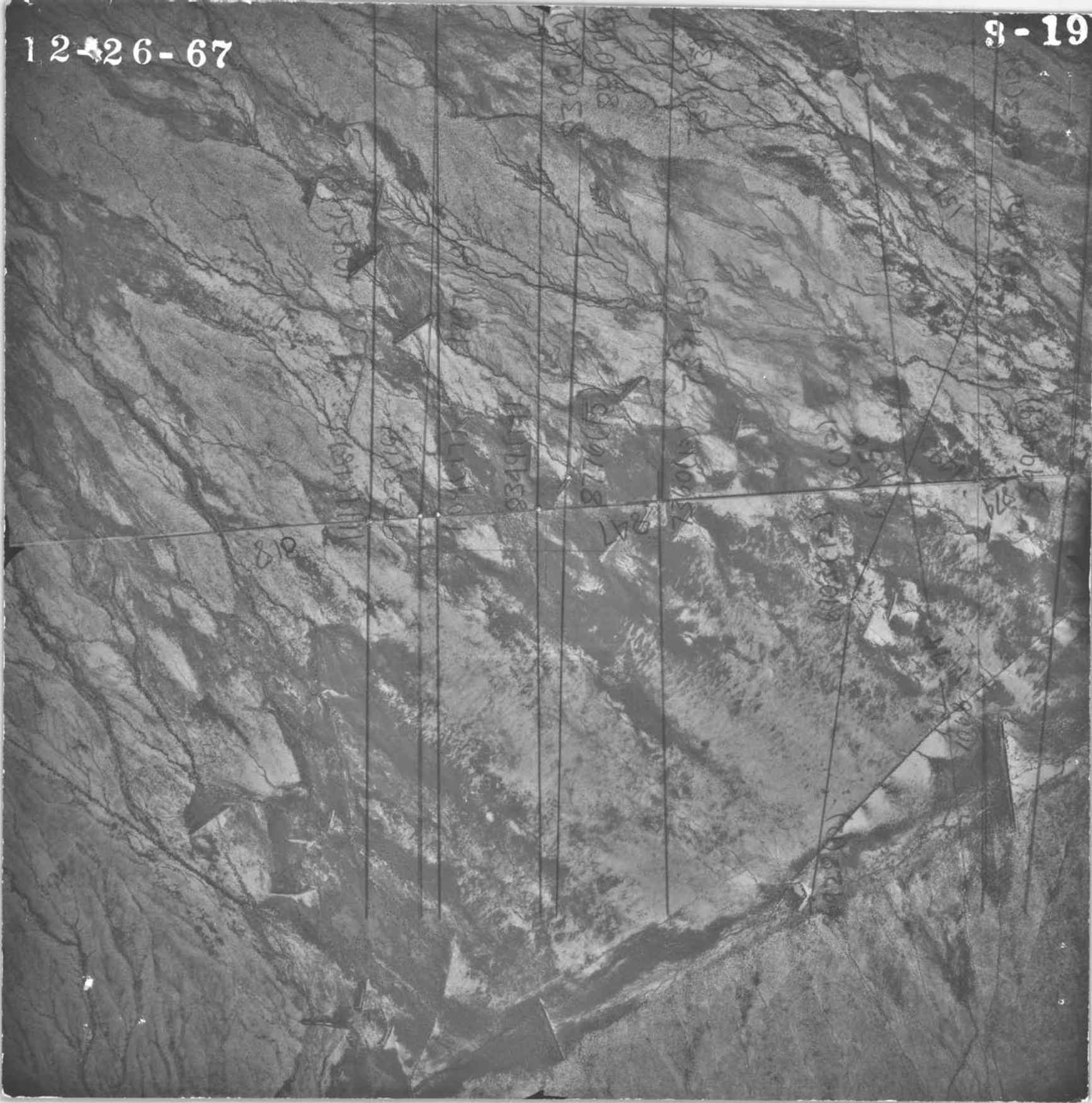

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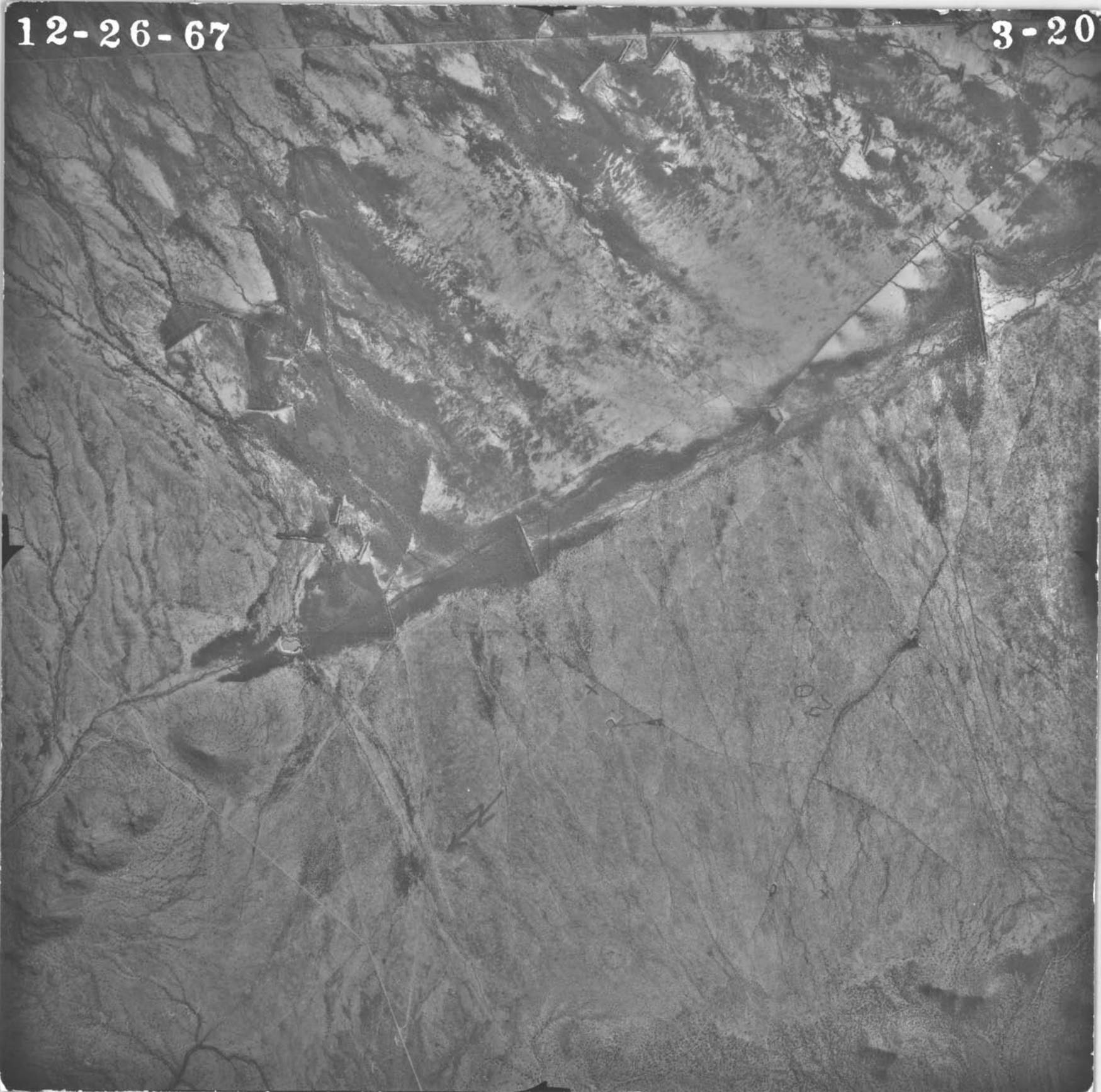

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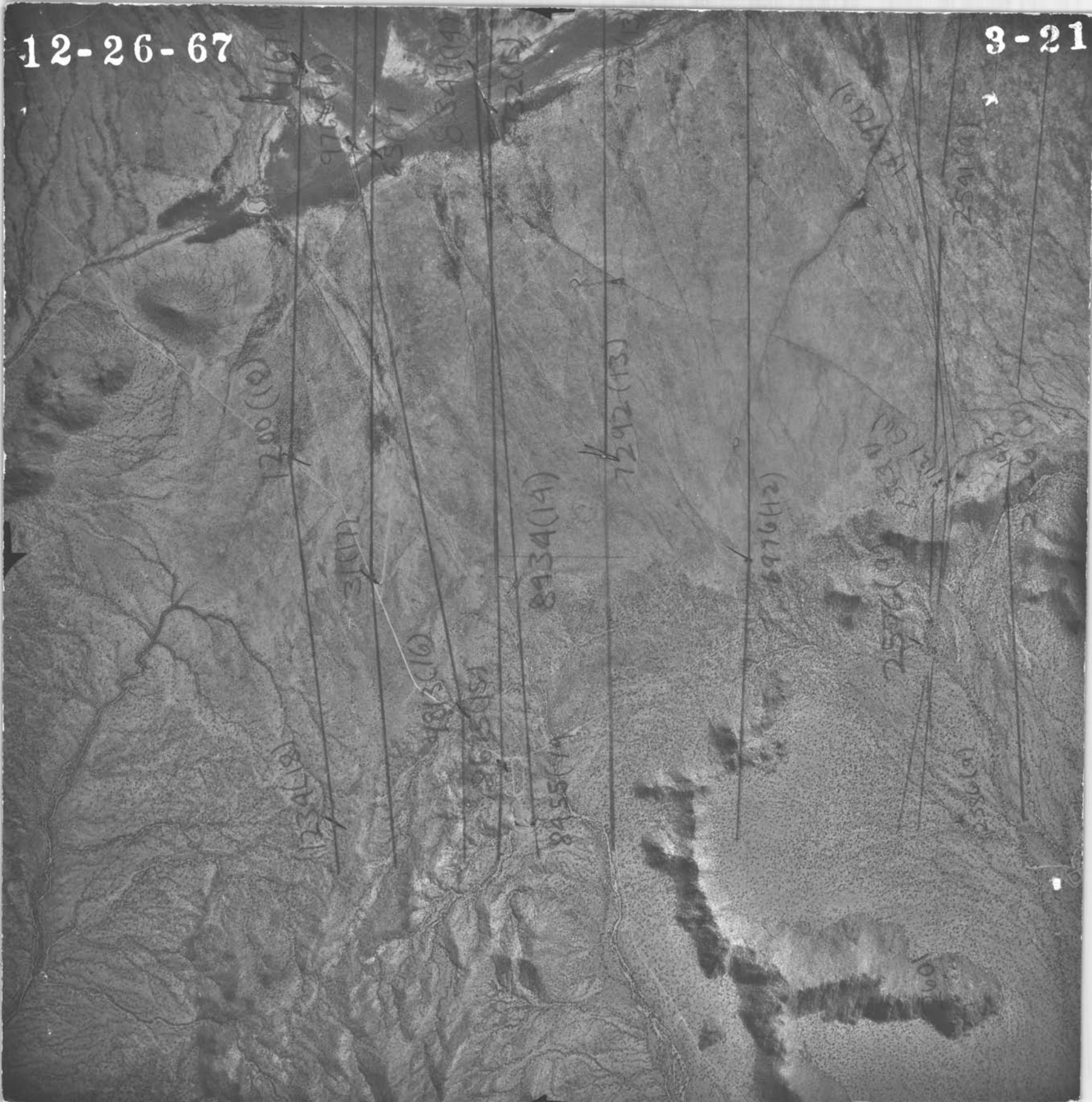
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310(11)
1845(16)
1625(15)
8434(14)
9455(14)
7542(13)
9476(12)
Pasadena
Altadena
Sierra Madre
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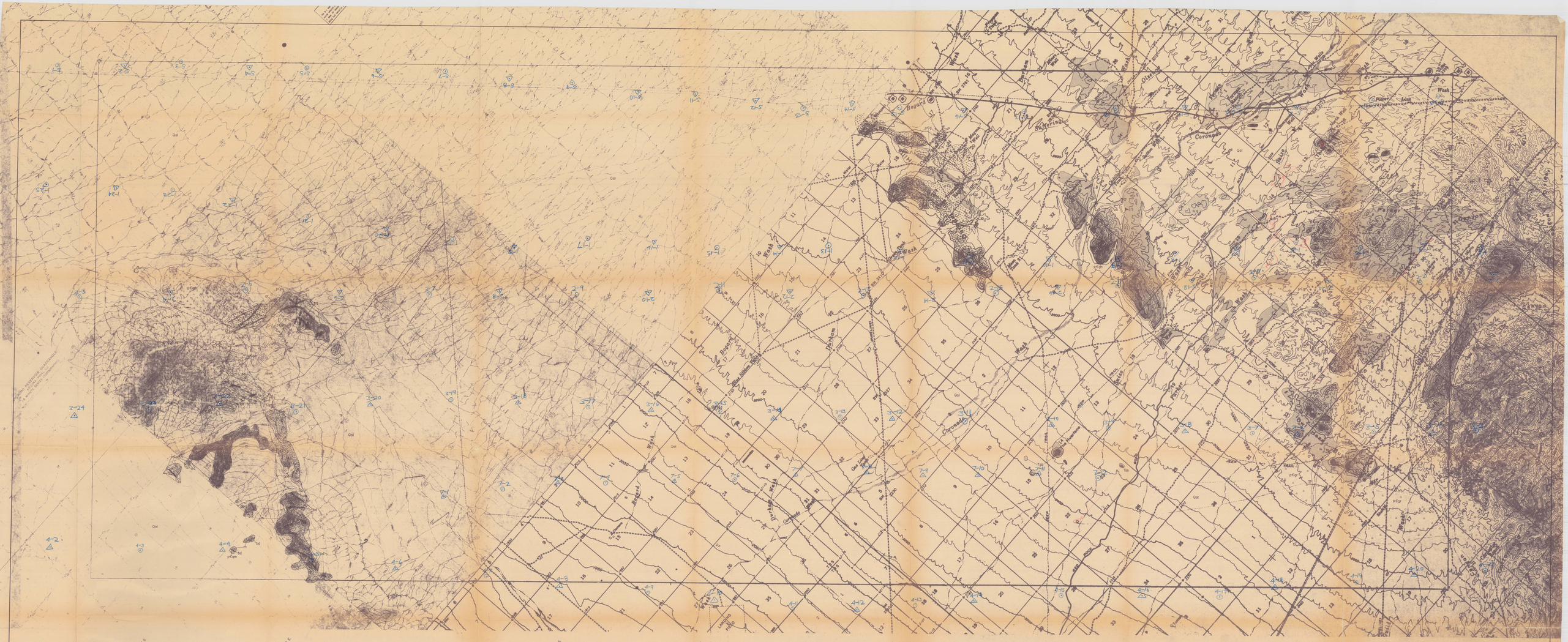


Photo Centers

MN
TRUE NORTH
APPROXIMATE MEAN DECLINATION

PROJECT LOCATION

INDEX TO PROJECT AREA

PROJECT AREA
GEOLOGIC SOURCE INDEX

A—GEDEX FILES
B—THESIS BY C F BARTER, 1962
C—PINAL CO., ARIZ GEOLOGIC MAP
BASE MAP FROM U.S.G.S. QUADRANGLES

EXPLANATION

SEDIMENTARY

- Qal — ALLUVIUM
- Tp — PANTANO FORMATION

METAMORPHIC

- pCgs — PINAL SCHIST
- pCgn — GNEISS

- CONTACT
- FAULT
- X PROSPECT

IGNEOUS

- BASIC DIKE
- cd — ACIDIC DIKE
- cpd — ACIDIC DIKE (GRANITE PORPHYRY)
- pCgm — QUARTZ MONZONITE
- pCgm — MONZONITE
- pCgc — DURHAM GRANITE
- pCgc — GRANITE
- Tab — ANDESITE & BASALT FLOWS
- pCgp — GRANITE (OWL HEAD INTRUSIVES)

4-5 Photo Centers of photos used for flight path reconstruct.

4-26 Photo centers of photos added to provide stereoscopic coverage.

GEOLOGIC MAP
OWL HEAD PROJECT
PINAL COUNTY, ARIZONA
FOR
RUSSELL BADGETT JR.
BY
HEINRICHS GEOEXPLORATION CO.

SCALE 1:24,000
10 0 10 20
MINUTES MILES

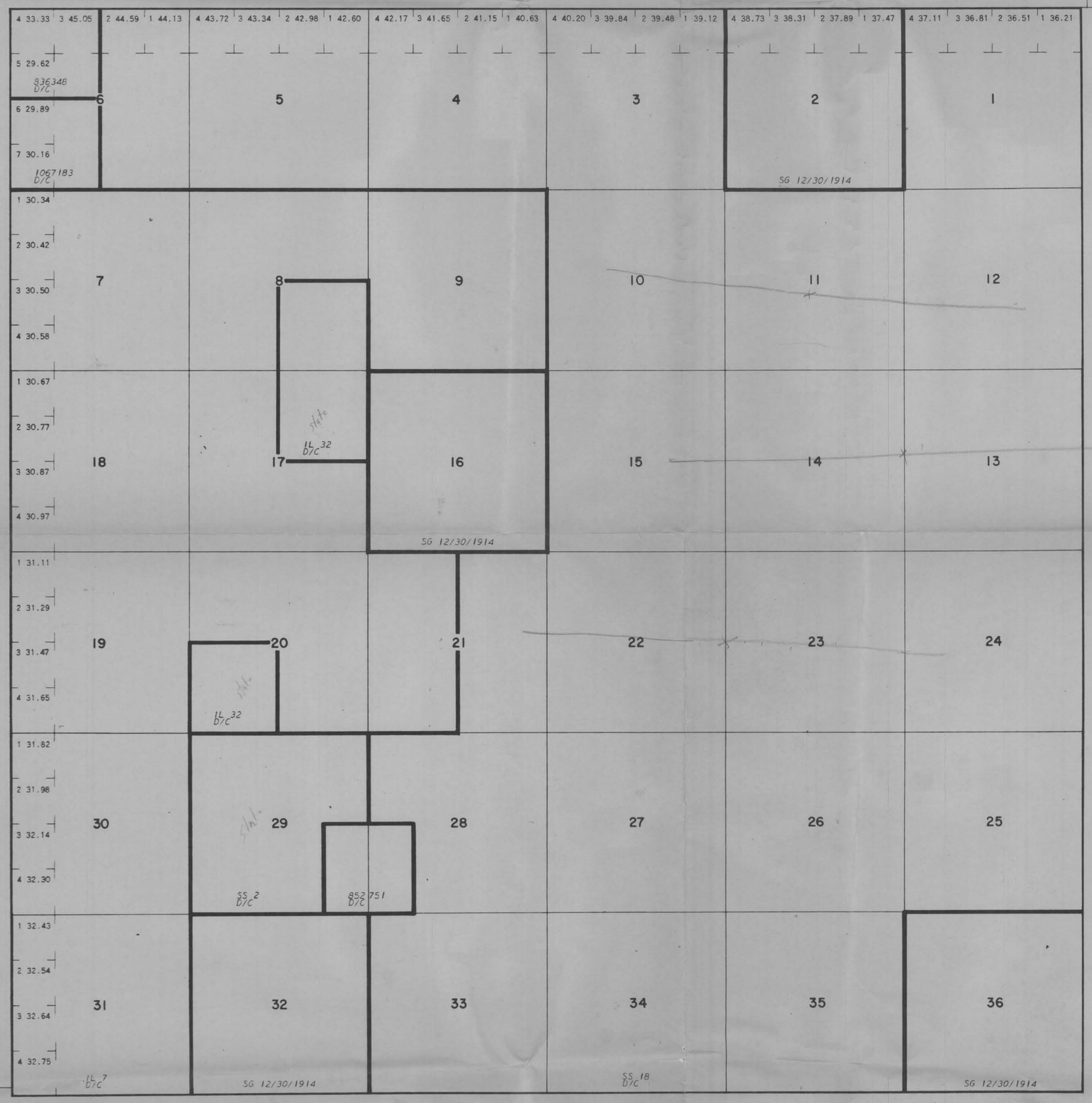
COMPILED—JANUARY, 1968

HEINRICHS
GEOEXPLORATION COMPANY
P.O. BOX 50125 AND 8811 SOUTH ALVERNON WAY
TUCSON, ARIZONA 85710
Phone: 602/889-8876
Cable: GEDEX, Tucson

TOWNSHIP 7 SOUTH RANGE 9 EAST OF THE GILA AND SALT RIVER MERIDIAN, ARIZONA

PINAL COUNTY

STATUS OF PUBLIC DOMAIN
LAND AND MINERAL TITLES



Lat. 32°46'04" N
Long. 111°21'30" W

SCALE
10 5 0 10 20 30 60
30 chains to the inch

INDEX TO SEGREGATED TRACTS				
RESURVEY	ORIGINAL SURVEY			
TRACT NO	T	R	SEC	SUBDIVISION

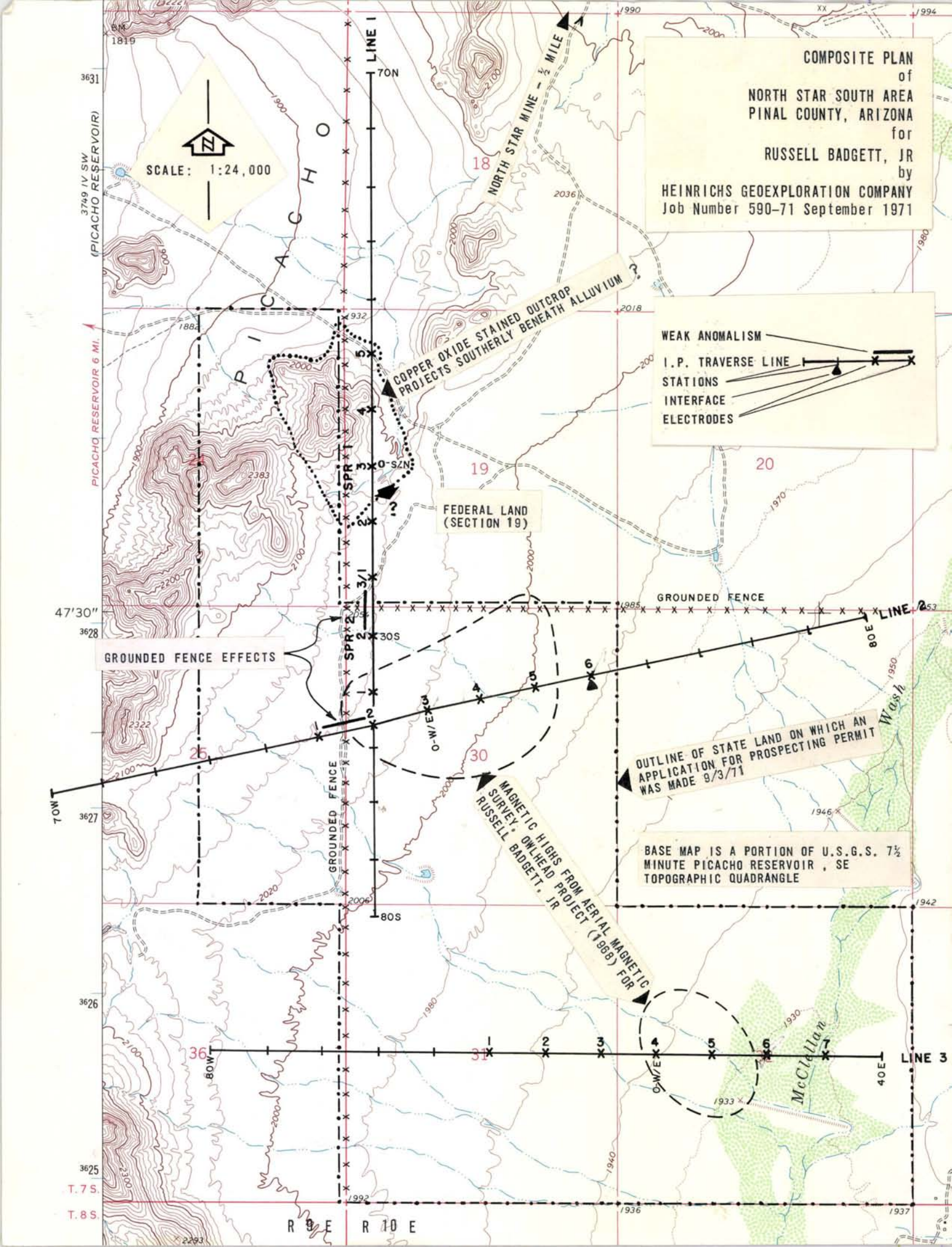
FOR ORDERS EFFECTING DISPOSAL OR USE OF UNIDENTIFIED LANDS WITHDRAWN FOR CLASSIFICATION, MINERALS, WATER AND/OR OTHER PUBLIC PURPOSES, REFER TO INDEX OF MISCELLANEOUS DOCUMENTS.

CURRENT TO	BY
	1968 FEB 14 PM 1 51

BUREAU OF LAND MANAGEMENT
PHOENIX, ARIZONA
COPY MADE BY

T. 7S
R. 9E

SS = state selection
SG = state Grant


COMPOSITE PLAN
of
NORTH STAR SOUTH AREA
PINAL COUNTY, ARIZONA
for
RUSSELL BADGETT, JR
by
HEINRICHS GEOEXPLORATION COMPANY
Job Number 590-71 September 1971
SCALE: 1:24,000
N
LINE 1
70N
80S
NORTH STAR MINE - ½ MILE
COPPER OXIDE STAINED OUTCROP PROJECTS SOUTHERLY BENEATH ALLUVIUM ?
WEAK ANOMALISM
I.P. TRAVERSE LINE
STATIONS
INTERFACE
ELECTRODES
FEDERAL LAND (SECTION 19)
GROUNDED FENCE
GROUNDED FENCE EFFECTS
LINE 2
80E
70W
30S
OUTLINE OF STATE LAND ON WHICH AN APPLICATION FOR PROSPECTING PERMIT WAS MADE 9/3/71
MAGNETIC HIGHS FROM AERIAL MAGNETIC SURVEY: OWLHEAD PROJECT (1968) FOR RUSSELL BADGETT, JR
BASE MAP IS A PORTION OF U.S.G.S. 7½ MINUTE PICACHO RESERVOIR, SE TOPOGRAPHIC QUADRANGLE
LINE 3
80W
40E
PICACHO
PICACHO RESERVOIR 6 MI.
3749 IV SW (PICACHO RESERVOIR)
47'30"
T. 7 S.
T. 8 S.
R 9 E
R 10 E
McClellan Wash