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

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R 22 E R 23 E

GEOEX Job # 476 Extended May 1970

GEOEX Job # 444 Aug 1969

GEOEX Job # 478 Nov. 1969

GEOEX Job # 923-74 Apr. 1974 Extended

Cambrian & Younger

Pre Cambrian

Tertiary (?)

LINE 1

LINE 2

LINE 3

80 N

80 NE

80 SW

N 55 E

SPREAD 1 2 3 4

(Silicated Carbanifeous) HIGH ZONE

Low Pot. Extension (Moore Vicinity)

Surface Sulphides?

Deep Sulphides?

Deep Aluminum?

APPROX. LOCATION OF BURIED CABLE

PDH 1 PDH 2 PDH 3 PDH 4 PDH 5 PDH 6

A B C

I-10

T 15 S
T 16 S

SELF POTENTIAL LOW

APPROXIMATE OUTLINE OF ANOMALOUS AREA

POSSIBLE FAULT

ZONE OF HIGH APPARENT RESISTIVITY

RELATIVE ANOMALY STRENGTH

VERY WEAK | WEAK | MODERATE | STRONG

I.P. LINE NO. → ②

STATIONS

INTERFACE

ELECTRODES

PROPOSED DRILL HOLE

UPDATED: May 1974 (JOB NUMBER 923-74)

HEINRICHS GEOEXPLORATION COMPANY
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
Phone: 602/623-0578 Cable: GEOEX, Tucson
geophysical engineers — vancouver sydney
478-70 EXT.

INDUCED POLARIZATION LOCATION AND INTERPRETATION PLAN
JOHNSON CAMP
COCHISE COUNTY, ARIZONA
REVISED FROM PLAN OF NOVEMBER 1969

FOR

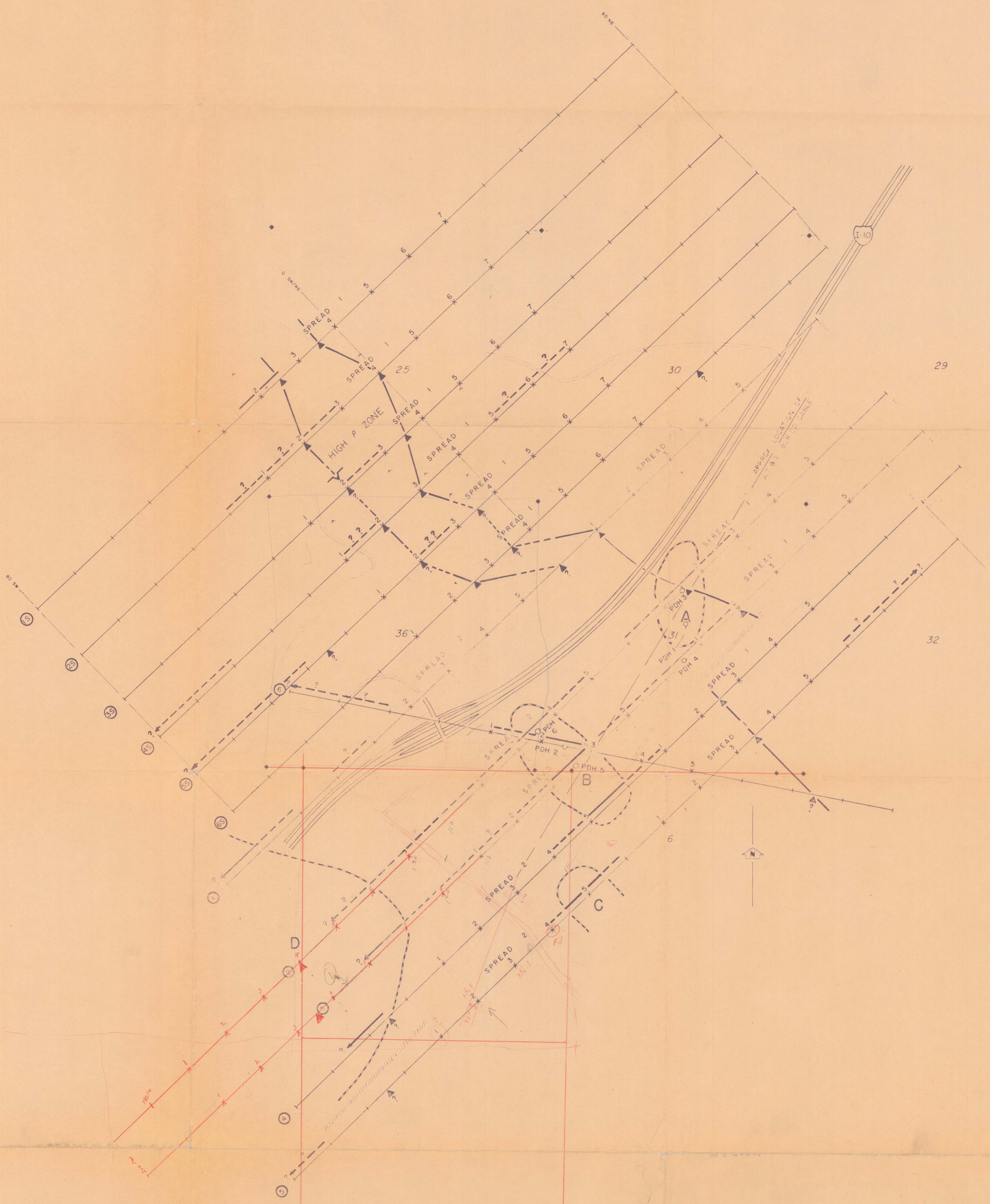
CYPRUS MINES CORP.

SCALE: 1" = 1000' | DRAWN BY: JAY DOWNS | DATE: JUNE 1970

1
292

R 22 E | R 23 E

T 15 S
T 16 S



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AGOON QUADRANGLE, COCHISE COUNTY, ARIZONA

978 EXT

COVERAGE OF MAP Nº JX-2003

COVERAGE OF MAP Nº JX-2002

COVERAGE OF MAP Nº JX-2001B (BURRO PIT AREA

PERIODY MINE

JOHNSON MINE

PERLITE MINE

O.K. MINE

KEYSTONE MINE

LN #1 - CENTER 602' N-45E OF RD.

LEGEND

BOUNDARY — CYPRUS MINES CORP.

" — STRONG & HARRIS

" — KEYSTONE COPPER MINING CO.

STOPED AREAS (MIDDLE ABRIGO FORMATION)

DRILL HOLE INTO MIDDLE ABRIGO & HIGHER FORMATIONS

DRILL HOLE INTO BOLSA FORMATION

N

W — E

THIS MAP
TO ACCOMPANY A. BAKER III'S REPORT OF MAR. 15 / 67

CYPRUS MINES CORP.
LOS ANGELES, CALIF.

JOHNSON CAMP, STRONG & HARRIS LEASE and SURROUNDING PROPERTY WITH DIAMOND DRILL HOLES

DATE: 9-7-65
SCALE: 1" = 1000'
DRAWN: T. LIPPER
BY: R. L. CLAYTON
APPROVED: (MGMNT.)
FILED:
DRAWING NO. JX-2000

PERIODY MINE

JOHNSON MINE

MOORE MINE

KEYSTONE MINE

O.K. MINE

COVERAGE OF MAP Nº JX-2003

COVERAGE OF MAP Nº JX-2002

COVERAGE OF MAP Nº JX-2001 B (BURRO PIT AREA

7/22/68
Cyprus Mines Corp.
Box 4368
Tucson, Arizona
85717
Attn: Mr. Bob Clayton

LEGEND

BOUNDARY — CYPRUS MINES CORP.
" — STRONG & HARRIS
" — KEYSTONE COPPER MINING CO.

STOPED AREAS (MIDDLE ABRIGO FORMATION)
DRILL HOLE INTO MIDDLE ABRIGO & HIGHER FORMATIONS
DRILL HOLE INTO BOLSA FORMATION

N
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DATE: 9-7-65
SCALE: 1" = 1000'
DRAWN: T. LIPPER
BY: R. L. CLAYTON
APPROVED: (MGMNT.)
FILED:
DRAWING NO. JX-2000

HEINRICHS GEOEXPLORATION
GEOTECHNICAL ENGINEERS
TUCSON, ARIZONA

RECD OCT 17 1969

BOX 5671 TUCSON, ARIZONA 85703
Phone: (AREA 602) 623-0578

HEINRICHS GEOEXPLORATION COMPANY

806 WEST GRANT ROAD, TUCSON, ARIZONA, 85703. P.O. BOX 5671. PHONE: (AREA CODE 602) 623-0578

14 October 1969

Cyprus Mines Corporation
1103 E. Broadway
Tucson, Arizona

Re: I. P. Survey - Johnson Camp,
Cochise County, Arizona
GEOEX Job #478-69

Gentlemen:

This letter sets forth our understanding of the terms and conditions under which HEINRICHS GEOEXPLORATION COMPANY (hereinafter called "Contractor") agrees to perform an induced polarization survey for CYPRUS MINES CORPORATION (hereinafter called "Company") in the vicinity of Johnson Camp, Cochise County,Arizona commencing on or about the week of 20 October 1969.

1. Contractor agrees to furnish induced polarization equipment and a three-man field crew, consisting of Mr. Tony Ivan Smith and two technicians, to operate said equipment, using conventional field procedures, over terrain to be specifically designated by officials of Company. Services of other personnel of Contractor's technical staff will be made available as mutually agreed upon by the parties should the need for such services arise. Company will not be required to furnish any field assistants.

2. Company agrees to pay Contractor for the services of the three-man field crew and for the use of the equipment furnished by Contractor, at the rate of #350.00 per ten-hour day. Overtime will be charged at the rate of $42.50 per hour for field services rendered in excess of ten hours each day only when requested in writing by Company to an authorized agent of Contractor. Said charges shall include the cost of the final report to be submitted by Contractor. Charges for the services of personnel in addition to the three man field crew and for equipment beyond that specified in paragraph 1. above shall be at such rates as the parties may agree upon when the necessity for such additional personnel or

equipment arises. No mobilization charge shall be made. Company further agrees to pay standby charges at the rate of $125.00 per day for delays caused by inclement weather and for delays requested by Company. In the event that Contractor's equipment should be mechanically inoperable for a period exceeding one hour on any given day, Contractor may at his option either make up the time that is thereby lost or forfeit payment for the time that is thereby lost.

3. In addition to the services and charges described above, Contractor agrees to provide electronic data reduction, with electromagnetic coupling corrections, and Company agrees to pay for said services at the rate of $10.00 per spread using five (5) sending electrodes or four (4) sending dipoles each spread.

4. Billings by Contractor may be submitted periodically and a final statement shall be submitted upon completion of final report. Payments shall be due upon receipt of all billings.

5. Contractor represents that through the use of conventional field procedures production will be at the approximate rate of one to two line miles per day, assuming 1000' dipole spreads.

6. Any costs incurred by Contractor relating to property permits, brushing or liability for trespass shall be reimbursed by Company.

7. Contractor shall maintain strict security over all knowledge and information acquired or developed by it during the performance of this agreement. Contractor shall not divulge any such knowledge and information directly or indirectly to any person without prior written consent of Company.

8. Contractor shall at all times be acting as an independent contractor and shall in no way be considered an employee or agent of Company.

9. Company shall have the right to terminate this Agreement by giving ten (10) days written notice of such termination to the Tucson office of the Contractor and Contractor's field crew and the Contractor shall immediately cause all work to stop and shall remove all equipment and personnel from the project as soon as possible.

10. All certificates, notices, affidavits or other documents prepared by Contractor in connection with the services performed pursuant to this Agreement shall be approved by Company prior to the delivery of such documents to any governmental agency or other third party.

11. Any notices permitted or required to be given hereunder shall be deemed to have been received if mailed by registered

mail, postage prepaid and addressed as follows:

If to Company: Cyprus Mines Corporation
523 West Sixth Street
Los Angeles, California 85703

If to Contractor: Heinrichs Geoexploration Company
P. O. Box 5671
Tucson, Arizona 85703

12. Contractor shall be compensated for services rendered and reimbursed for expenses incurred in accordance with the rates set forth in this Agreement. No costs or expenses in excess of or in addition to those set forth in this Agreement shall be incurred by Contractor without the prior written consent of Company.

13. Contractor shall perform the services set forth in this Agreement pursuant to the direction and control of Company.

14. Contractor agrees to indemnify and save harmless Company against any and all loss and expense, including attorney's fees and other legal expenses, by reason of liability imposed or claimed to be imposed by law upon Company for damage because of bodily injury, including death at any time resulting therefore, or on account of damage to property sustained by any person or persons arising out ofoor in consequence of the performance of the work, whether or not such bodily injuries or damage to property are due to or claimed to be due to any negligence or acts, including violation of any duty imposed by a statute, ordinance or regulation, of Contractor, the subcontractors, the employees or agents of any of them.

15. Contractor will obtain and continue in force, during the term of this Agreement, at its own expense, all insurance specified below. Contractor will not commence work nor allow any subcontractor to commence work until all insurance has been approved and accepted by Company.

The insurance to be obtained and continued in force by Contractor is the following:

a) Workmen's Compensation and Occupational Disease disability insurance as required by the laws of the state wherein the work is to be performed.

b) Employer's liability insurance, unless the laws of the state in which the work is to be performed preclude an an independent right of action by an employee against an employer under common law.

c) Comprehensive Automobile Liability insurance with Bodily Injury limits of no less than $50,000 each person and $100,000 each accident and Property Damage with a limit of no less than $25,000 each accident.

d) Comprehensive General Liability and Property Damage insurance including Operation, Protective and Contractual Liability coverages with Bodily Injury limits of no less than $50,000 each person and $100,000 each occurrence; and Property Damage limits of no less than $25,000 each occurrence, and $100,000 aggregate contractual.

Contractor shall furnish Company with certificates of insurance which shall include the following statements:

aa) At least ten (10) days prior to effective date of any material change or cancellation, written notice thereof will be sent by registered mail to Cyprus Mines Corporation, 523 West Sixth Street, Los Angeles, Calif. 90014.

bb) Contractual Liability insurance covers the liability of the insured assumed under the indemnity and insurance provisions of the Agreement entered into with Cyprus Mines Corporation under date of 14 October 1969.

If this letter correctly sets forth the terms and conditions of our Agreement, please indicate your acceptance by signing and returning this copy of the letter to us.

Very truly yours,

HEINRICHS GEOEXPLORATION COMPANY

Paul A. Head

Paul A. Head, Geophysicist

APPROVED:

Walter E. Heinrichs, Jr., President

ACCEPTED BY:
CYPRUS MINES CORPORATION

BY Henry T. Eyrich

TITLE: Regional Manager, Exploration

DATED: October 16, 1969

PAH/plp
Enclosure

CYPRUS MINES

OLD DICK PROJECT - 1962

PAT HILLS - 1962

S & H PROJECT - 1965

PATAGONIA - 1966 A57-66

SEE TRANS FILE

Job 478 EXT, Line 6S, NE½ 5 1 1, 6/3/70

1000

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 6 South HALF NE SP. 1 DATE 6/3

SEND	CAL 2			4-5	3-4	2-3	1-2	5-6	4-5	3-4
RECEIVE	3-4	0-10	10-20	20-30	←	←	→	30-40	→	
RANGE	10			10	10	10	0.1	10	10	10
DC 1	-0.2			0.3	0.2	0.7	0.5	0.6	0.8	0.9
DC 2										
DC 3	2.			4.	5.	3.	3.	2.5	4.	5.
DC 4				1	2	3	4	5	6	7
DC 5				1	2	3	4	1	2	3
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	196.			135.	54.3	20.1	9.50	94.3	39.3	24.9
AC 2	0.0			0.0	-0.3	0.0	0.0	0.0	+0.1	+0.3
AC AVG.										
S.P.	1.0	+0.9	+1.4	+12.9				+5.4		
AC NOISE	0.1									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 6 South HALF NE SP. 1 DATE 6/3

SEND	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2	6-7	5-6
RECEIVE	—	→	40-50	—	—	—	—	→	50-60	—
RANGE	1.0	0.1	1.0	1.0	1.0	1.0	0.1	0.1	1.0	0.1
DC 1	1.1	0.7	0.3	0.9	0.9	0.3	1.0	0.8	1.0	0.7
DC 2										
DC 3	3.	3.	2.	2.5	4.	5.	3.	3.	2.	2.5
DC 4	8	9	10	11	12	13	14	15	16	17
DC 5	4	5	1	2	3	4	5	6	2	3
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	10.1	5.04	63.8	17.2	14.8	11.4	4.84	2.52	11.1	6.57
AC 2	+0.1	-0.2	-0.1	+0.1	0.0	-0.4	-0.1	-0.1	+0.3	-0.1
AC AVG.										
S.P.			+4.1						+21.1	
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 6 South HALF NE SP. 1 DATE 6/3

SEND	4-5	3-4	2-3	6-7	5-6	4-5	3-4	6-7	5-6	4-5
RECEIVE			→	60-70			→	70-80		→
RANGE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DC 1	1.0	1.2	1.3	0.4	0.8	0.9	0.7	0.2	0.5	0.5
DC 2										
DC 3								Powerline		
DC 4	4.	5.	3.	2.	2.5	4.	5.	7500' 2.	2.5	4.
DC 5	18	19	20	21	22	23	24	25	26	27
DC 6	4	5	6	3	4	5	6	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	7.65	6.56	2.98	3.78	3.26	4.38	4.01	1.59	1.68	2.57
AC 2	0.0	+0.1	+0.2	0.0	+0.1	+0.2	-0.4	+0.2	+0.3	-0.4
AC AVG.										
S.P.				+0.5				+19.7		
AC NOISE										
POT RES.										

Job. 478 Ext, Line 65, SW/2 SP1, [redacted] 6/4/70

1000.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 6 South HALF SW SP. 1 DATE 6/4

SEND	CAL 1	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7
RECEIVE	4-5	0-10	→	10-20	→	→	20-30	→	→	→
RANGE	10	10	1.0	10	1.0	1.0	10	1.0	1.0	0.1
DC 1	-0.1	0.5	0.9	0.9	0.7	0.8	0.4	0.8	1.0	0.6
DC 2										
DC 3				Fence						
DC 4				700'						
DC 5	2.	2.5	2.	4.	2.5	2.	4.	4.	2.5	2.
DC 6		1.	2	3	4	5	6	7	8	9
DC 7		1.	2	1	2	3	1	2	3	4
DC 8										
DC AVG.										
AC 1	197.	102.	22.8	244.	43.9	13.1	278.	81.4	19.2	6.29
AC 2	0.0	0.0	0.0	0.0	+0.1	+0.2	+0.1	+0.1	0.0	0.0
AC AVG.										
S.P.		+10.2		+18.5			+11.4			
AC NOISE	1.0									
POT RES.	0.1									

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 6 South HALF SW SP. 1 DATE 6/4

SEND	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6
RECEIVE	30-40	→	→	→	→	40-50	→	→	→	→
RANGE	10	1.0	1.0	0.1	0.1	10	1.0	1.0	1.0	0.1
DC 1	0.7	0.9	1.0	0.9	1.6	0.6	0.7	1.1	1.3	1.2
DC 2										
DC 3										
DC 4	3.	5.	4.	2.5	2.	3.	3.	5.	4.	2.5
DC 5	10	11	12	13	14	15	16	17	18	19
DC 6	1	2	3	4	5	1	2	3	4	5
DC 7										
DC 8										
DC AVG.										
AC 1	140.	82.9	29.7	8.64	3.16	100.	38.4	34.3	15.7	5.03
AC 2	+0.2	-0.2	0.0	0.0	+0.2	+0.1	0.0	-0.3	0.0	+0.1
AC AVG.										
S.P.	+6.3					+1.3				
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 6 South HALF SW SP. 1 DATE 6/4

SEND	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5
RECEIVE	→	50-60				→	60-70			→
RANGE	0.1	1.0	1.0	1.0	0.1	0.1	0.1	0.1	0.1	0.1
DC 1	0.7	1.2	1.2	0.8	1.1	1.4	1.1	0.6	0.9	
DC 2		Telephone line 6100'								
DC 3										
DC 4										
DC 5	2.	3.	3.	5.	4.	2.5	3.	3.	5.	4.
DC 6	20.	21	22	23	24	25	26	27	28	29
DC 7	6.	2	3	4	5	6	3	4	5	6
DC 8										
DC AVG.										
AC 1	1.99	21.1	11.6	12.2	6.27	2.16	8.38	5.90	2.05	3.94
AC 2	0.0	+0.3	+0.1	-0.2	0.0	+0.1	+0.6	+0.2	+0.2	? 0.0
AC AVG.										
S.P.		+22.0					+5.4			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 650mN HALF SW SP. 1 DATE 6/4

SEND	1-2	2-3	3-4							
RECEIVE	70-80	→	→							
RANGE	0.1	0.1	0.1							
DC 1	0.6	0.3	0.9							
DC 2										
DC 3										
DC 4	3.	3.	5.							
DC 5	30	31	32							
DC 6	4	5	6							
DC 7										
DC 8										
DC AVG.										
AC 1	3.69	2.97	3.75							
AC 2	+0.4	+0.1	+0.4							
AC AVG.										
S.P.	+12.9									
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 6 HALF NE SP. 1 DATE 6/3

SEND	6-7	5-6	4 5	3-4	6-7	5-6	4 5			
RECEIVE	60-70	→	→	→	70-80	→	→			
RANGE										
VOLTAGE	900	940	600	500	900	940	600			
CURRENT	2.0	2.5	4.0	5.0	2.0	2.5	4.0			
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 1.1 1.0

SENDER NO. 66445

OPERATOR 46

RECEIVER NO. 18671

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 6 HALF SW SP. 1 DATE 6/4

SEND	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7	7-8
RECEIVE	0-10	→	10-20	→	→	20-30	→	→	→	30-40
RANGE										
VOLTAGE	960	900	620	940	880	400	600	940	880	600
CURRENT	2.5	2.0	4.0	2.5	2.0	4.0	4.0	2.5	2.0	3.0
SEND	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7
RECEIVE	→	→	→	→	40-50	→	→	→	→	→
RANGE										
VOLTAGE	500	600	940	900	580	600	500	600	940	900
CURRENT	5.0	4.0	2.5	2.0	3.0	3.0	5.0	4.0	2.5	2.0

FREQUENCIES .1 1.0

SENDER NO. 6644 S

OPERATOR 46

RECEIVER NO. 18671

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 6 HALF SW SP. 1 DATE 6/4

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2
RECEIVE	50-60	→	→	→	→	60-70	→	→	→	70-80
RANGE										
VOLTAGE	580	600	500	600	940	580	600	500	600	580
CURRENT	3.0	3.0	5.0	4.0	2.5	3.0	3.0	5.0	4.0	3.0
SEND	2-3	3 4								
RECEIVE	→	→								
RANGE										
VOLTAGE	600	500								
CURRENT	3.0	5.0								

FREQUENCIES 1 10

SENDER NO. 6644S

OPERATOR 46

RECEIVER NO. 1661

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT JOHNSON CAMP

LINE 6 HALF NE SP. 1 DATE 6/3

SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	6-7
RECEIVE	20-30	→	→		30-40	→	→	→	→	40-50
RANGE										
VOLTAGE	620	520	640	600	980	620	500	620	600	
CURRENT	4.0	5.0	3.0	3.0	2.5	4.0	5.0	3.0	3.0	2.0
SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	→	→	→	→	→	50-60	→	→	→	→
RANGE										
VOLTAGE	960	600	500	620	600	900	940	600	500	600
CURRENT	2.5	4.0	5.0	3.0	3.0	2.0	2.5	4.0	5.0	3.0

FREQUENCIES 1/ 1.0

SENDER NO. 66445

OPERATOR 46

RECEIVER NO. 18671

OPERATOR 58

COMMENTS:

OB 478 EXT LINE 6S NE 1/2 SP1 6/2/70 — 1000 FEET=DIPOLE LENGTH

CAL GROUP NO. 2

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	-.20	196.000	0.00	1.00	.10	-.2000	1.0204

		COMPUTED DATA							FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	103.83	.50	4.8	.50	4.8	0.00	**	.30	4.00	1	1	135.000	0.00
2	2	133.51	.55	4.1	.55	4.1	0.00	**	.20	5.00	2	2	54.300	-.30
3	3	206.95	.90	4.3	.90	4.3	0.00	**	.70	3.00	3	3	20.100	0.00
4	4	195.23	.70	3.6	.60	3.1	.10	**	.50	3.00	4	4	9.500	0.00
5	1	116.39	.80	6.9	.80	6.9	0.00	**	.60	2.50	5	1	94.300	0.00
6	2	121.51	.95	7.8	.95	7.8	0.00	**	.80	4.00	6	2	39.300	.10
7	3	154.13	.95	6.2	.95	6.2	0.00	**	.90	5.00	7	3	24.900	.30
8	4	208.80	1.25	6.0	1.16	5.5	.09	**	1.10	3.00	8	4	10.100	.10
9	5	181.62	1.00	5.5	.81	4.4	.19	**	.70	3.00	9	5	5.040	-.20
10	1	98.14	.55	5.6	.55	5.6	0.00	**	.30	2.00	10	1	63.800	-.10
11	2	85.17	1.05	12.3	.98	11.5	.07	**	.90	2.50	11	2	17.200	.10
12	3	114.51	1.10	9.6	.99	8.6	.11	**	.90	4.00	12	3	14.800	0.00
13	4	140.29	.70	5.0	.54	3.8	.16	**	.30	5.00	13	4	11.400	-.40
14	5	174.93	1.25	7.1	1.05	6.0	.20	**	1.00	3.00	14	5	4.840	-.10
15	6	145.44	1.05	7.2	.64	4.4	.41	**	.80	3.00	15	6	2.520	-.10
16	2	68.78	1.05	15.3	.95	13.8	.10	**	1.00	2.00	16	2	11.100	.30
17	3	81.17	.95	11.7	.76	9.4	.19	**	.70	2.50	17	3	6.570	-.10
18	4	118.50	1.20	10.1	.99	8.4	.21	**	1.00	4.00	18	4	7.650	0.00
19	5	142.54	1.35	9.5	1.08	7.6	.27	**	1.20	5.00	19	5	6.560	.10
20	6	172.84	1.40	8.1	1.08	6.2	.32	**	1.30	3.00	20	6	2.980	.20
21	3	58.20	.60	10.3	.31	5.2	.29	**	.40	2.00	21	3	3.780	0.00
22	4	80.64	.95	11.8	.59	7.4	.36	**	.80	2.50	22	4	3.260	.10
23	5	118.61	1.00	8.4	.65	5.5	.35	**	.90	4.00	23	5	4.380	.20
24	6	138.72	1.10	7.9	.67	4.8	.43	**	.70	5.00	24	6	4.010	-.40
25	4	48.87	.30	6.1	-.40	-8.3	.70	**	.20	2.00	25	4	1.590	.20
26	5	72.50	.55	7.6	-.13	-1.8	.68	**	.50	2.50	26	5	1.680	.30
27	6	110.91	.90	8.1	.31	2.8	.59	**	.50	4.00	27	6	2.570	-.40

5/8 - 27, 2020

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

JOB 478 EXT LINE 6S SW 1/2 SP1 6/4/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 1

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	-.10	197.000	0.00	1.00	.10	-.1000	1.0152

COMPUTED DATA								FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE	PFE	CUR	PT.	N	AC1	AC2
1	1	125.01	.60	4.8	.60	4.8	0.00 **	.50	2.50	1	1	102.000	0.00
2	2	139.58	.50	3.6	.50	3.6	0.00 **	.40	2.00	2	2	22.800	0.00
3	1	187.64	1.00	5.3	1.00	5.3	0.00 **	.90	4.00	3	1	244.000	0.00
4	2	215.64	.75	3.5	.75	3.5	0.00 **	.70	2.50	4	2	43.900	.10
5	3	201.29	.80	4.0	.80	4.0	0.00 **	.80	2.00	5	3	13.100	.20
6	1	212.73	.45	2.1	.45	2.1	0.00 **	.40	4.00	6	1	278.000	.10
7	2	250.15	.85	3.4	.85	3.4	0.00 **	.80	4.00	7	2	81.400	.10
8	3	236.48	1.10	4.7	1.10	4.7	0.00 **	1.00	2.50	8	3	19.200	0.00
9	4	192.91	.70	3.6	.59	3.1	.11 **	.60	2.00	9	4	6.290	0.00
10	1	143.27	.70	4.9	.70	4.9	0.00 **	.70	3.00	10	1	140.000	.20
11	2	204.01	1.10	5.4	1.10	5.4	0.00 **	.90	5.00	11	2	82.900	-.20
12	3	228.63	1.10	4.8	1.10	4.8	0.00 **	1.00	4.00	12	3	29.700	0.00
13	4	212.62	1.00	4.7	.91	4.3	.09 **	.90	2.50	13	4	8.640	0.00
14	5	171.29	1.60	9.3	1.39	8.1	.21 **	1.60	2.00	14	5	3.160	.20
15	1	102.23	.65	6.4	.65	6.4	0.00 **	.60	3.00	15	1	100.000	.10
16	2	157.19	.80	5.1	.80	5.1	0.00 **	.70	3.00	16	2	38.400	0.00
17	3	211.44	1.35	6.4	1.35	6.4	0.00 **	1.10	5.00	17	3	34.300	-.30
18	4	242.43	1.40	5.8	1.40	5.8	0.00 **	1.30	4.00	18	4	15.700	0.00
19	5	217.27	1.25	5.8	1.10	5.1	.15 **	1.20	2.50	19	5	5.030	.10
20	6	169.34	.80	4.7	.47	2.8	.33 **	.70	2.00	20	6	1.970	0.00
21	2	86.80	1.15	13.2	1.15	13.2	0.00 **	1.20	3.00	21	2	21.100	.30
22	3	119.30	1.25	10.5	1.14	9.6	.11 **	1.20	3.00	22	3	11.600	.10
23	4	149.97	1.00	6.7	.85	5.7	.15 **	.80	5.00	23	4	12.200	-.20
24	5	169.10	1.20	7.1	.99	5.8	.21 **	1.10	4.00	24	5	6.270	0.00
25	6	149.57	1.45	9.7	1.06	7.1	.39 **	1.40	2.50	25	6	2.160	.10
26	3	86.10	.90	10.5	.73	8.5	.17 **	1.10	3.00	26	3	8.380	.60
27	4	120.64	.60	5.0	.40	3.3	.20 **	.60	3.00	27	4	5.900	.20
28	5	151.81	.90	5.9	.65	4.3	.25 **	.90	5.00	28	5	7.050	.20
29	6	168.17	.10	.6	-.23	-1.4	.33 **	0.00	4.00	29	6	3.940	0.00
30	4	75.45	.50	6.6	.11	1.5	.39 **	.60	3.00	30	4	3.690	.40
31	5	105.96	.35	3.3	-.06	-.6	.41 **	.30	3.00	31	5	2.970	.10
32	6	129.20	.80	6.2	.32	2.5	.48 **	.90	5.00	32	6	3.750	.40

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

Job 478 EXT, Line 55, SW½ SP1, 5/27/70

1000.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 5 South HALF SW SP. 1 DATE 5/22

SEND	CAL (1)	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7
RECEIVE	4-5	0-10	→	10-20	→	→	20-30	→	→	→
RANGE	10	10	10	10	10	10	10	10	10	10
DC 1	-0.1	0.8	0.6	0.7	0.7	0.6	0.4	0.7	0.9	0.5
DC 2										
DC 3	2.	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
DC 4		1	2	3	4	5	6	7	8	9
DC 5		1	2	1	2	3	1	2	3	4
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	198	372	69.4	592	152	37.8	525	137	44.2	13.0
AC 2	0.0	-0.1	0.0	+0.1	0.0	0.0	+0.1	0.0	+0.1	0.0
AC AVG.										
S.P.	1.0	+2.3		+24.7			+3.1			
AC NOISE	0.1									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 5 South HALF SW SP. 1 DATE 5/07

SEND	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6
RECEIVE	30-40	→	→	→	→	40-50	→	→	→	→
RANGE	10	1.0	1.0	1.0	0.1	10	10	1.0	1.0	0.1
DC 1	0.4	0.5	0.8	1.1	0.7	0.8	0.8	0.9	1.5	1.6
DC 2										
DC 3	5.	3.5	→	→	→	5.0	5.0	3.5	→	→
DC 4	10	11	12	13	14	15	16	17	18	19
DC 5	1	2	3	4	5	1	2	3	4	5
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	425.3	98.1	37.2	15.6	5.69	305	128	40.0	19.6	9.73
AC 2	0.0	0.0	0.0	-0.1	-0.2	+0.1	0.0	0.0	0.0	+0.1
AC AVG.										
S.P.	-4.1					+21.1				
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 5 5th HALF W SP. 1 DATE 5/27

SEND	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5
RECEIVE	→	50-60	—	—	—	→	60-70	—	—	→
RANGE	0.1	1.0	1.0	0.1	0.1	0.1	1.0	1.0	0.1	0.1
DC 1	1.3	0.9	1.1	0.7	1.1	1.5	1.2	1.0	1.3	0.8
DC 2										
DC 3	3.5	5.0	5.0	—	—	→	5.0	5.0	3.5	3.5
DC 4	20	21	22	23	24	25	26	27	28	29
DC 5	6	7	3	4	5	6	3	4	5	6
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	4.10	36.8	23.8	8.74	5.19	2.96	12.3	10.1	4.57	3.07
AC 2	-0.5	10.0	+0.1	-0.2	-0.1	+0.1	+0.1	0.0	+0.2	-0.5
AC AVG.										
S.P.		+3.7								
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 5 South HALF W SP. 1 DATE 5/27

SEND	1-2	2-3	3-4							
RECEIVE	70-80	→	→							
RANGE	0.1	0.1	0.1							
DC 1	1.5	1.5	2.3	0						
DC 2										
DC 3										
DC 4	5.	5.	3.5	0						
DC 5	30	31	32	150						
DC 6	4	5	6	0						
DC 7										
DC 8										
DC AVG.										
AC 1	5.90	5.57	2.75	0						
AC 2	±0.2	±0.2	0.3	0						
AC AVG.										
S.P.										
AC NOISE										
POT RES.										

Job 478 EXT, Line 5S, NE½ SP1, 5/28/70

1000'

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 5 South HALF NE SP. 1 DATE 5/28

PAGE 1

SEND	CAH 2			4-5	3-4	2-3	1-2	5-6	4-5	3-4
RECEIVE	3-4	0-10	10-20	20-30				30-40		
RANGE	10			10	1.0	1.0	1.0	10	1.0	1.0
DC 1 →	0.0			0.9	0.8	0.8	0.9	0.6	0.9	1.0
DC 2										
DC 3		Fence 600ft								
DC 4	2.0			3.5	3.5	5.0	5.0	3.5	3.5	3.5
DC 5				1	2	3	4	5	6	7
DC 6				1	2	3	4	1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	198			180	69.7	53.5	18.6	161	48.4	24.1
AC 2	0.0			+0.2	0.0	0.0	-0.1	+0.1	0.0	0.0
AC AVG.										
S.P.	1.0	+9.6	+38.3	-18.9				+2.1		
AC NOISE	0.1									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 5 South HALF NE SP. 1 DATE 5/28

SEND	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2	6-7	5-6
RECEIVE		→	40-50					→	50-60	
RANGE	1.0	0.1	10	1.0	1.0	1.0	1.0	0.1	1.0	1.0
DC 1	0.8	0.9	0.9	1.1	1.1	1.1	1.0	1.2	0.5	1.0
DC 2										
DC 3										
DC 4	5.0	5.0	3.0	3.5	3.5	5.0	5.0	5.0	3.0	3.5
DC 5	8	9	10	11	12	13	14	15	16	17
DC 6	4	5	1	2	3	4	5	6	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	21.0	7.79	165	40.6	19.5	11.3	11.2	4.60	23.0	13.5
AC 2	0.0	0.0	+0.1	+0.1	-0.1	0.0	0.0	+0.3	0.0	0.0
AC AVG.										
S.P.			+16.4						+2.4	
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 5 South HALF NE SP. 1 DATE 5/28

PAGE 3

SEND	4-5	3-4	2-3	6-7	5-6	4-5	3-4	6-7	5-6	4-5	
RECEIVE				60-70				70-80			
RANGE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
DC 1	1.1	1.1	1.4	0.8	0.5	0.9	1.1	0.4	0.9	1.5	0
DC 2											
DC 3								Powerline 7350'			
DC 4	3.5	3.5	3.0	3.0	3.5	3.5	3.5	3.0	3.5	3.5	0
DC 5	18	19	20	21	22	23	24	25	26	27	150
DC 6	4	5	6	3	4	5	6	4	5	6	0
DC 7											
DC 8											
DC AVG.											
AC 1	8.68	5.67	6.10	7.98	6.74	4.94	3.54	3.52	3.44	2.73	0
AC 2	0.0	-0.1	+0.2	+0.2	-0.1	0.0	+0.2	-0.1	-0.1	+0.2	0
AC AVG.											
S.P.				+2.4				+14.5			
AC NOISE											
POT RES.											

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 5 HALF SW SP. 1 DATE 5/22

SEND	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7	2-3
RECEIVE	0-10	→	10-20	→	→	20-30	→	→	→	30-40
RANGE										
VOLTAGE	740	840	700	740	840	700	700	740	840	400
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	5.0
SEND	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7
RECEIVE	→	→	→	→	40-50	→	→	→	→	→
RANGE										
VOLTAGE	700	700	740	820	440	400	700	680	740	820
CURRENT	3.5	3.5	3.5	3.5	5.0	5.0	3.5	3.5	3.5	3.5

FREQUENCIES .1 1.0

SENDER NO. 6644 S

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 5 HALF SW SP. 1 DATE 5/27

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2
RECEIVE	50-60	←	←	←	→	60-70	←	←	→	70-80
RANGE										
VOLTAGE	440	400	700	680	740	400	400	680	660	440
CURRENT	5.0	5.0	3.5	3.5	3.5	5.0	5.0	3.5	3.5	5.0
SEND	2-3	3-4								
RECEIVE	←	→								
RANGE										
VOLTAGE	400	680								
CURRENT	5.0	3.5								

FREQUENCIES 1.0 .1

SENDER NO. 66445

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 5 HALF NE SP. 1 DATE 5/28

SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1 2	6-7
RECEIVE	20-30	→	→	→	30-40	→	→	→	→	40-50
RANGE										
VOLTAGE	700	700	400	440	780	700	700	400	440	740
CURRENT	3.5	3.5	5.0	5.0	3.5	3.5	3.5	5.0	5.0	3.0
SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	→	→	→	→	→	50-60	→	→	→	→
RANGE			V							
VOLTAGE	780	700	700	400	440	740	780	680	700	400
CURRENT	3.5	3.5	3.5	5.0	5.0	3.0	3.5	3.5	3.5	5.0

FREQUENCIES .1 1.0

SENDER NO. 66445

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS: CURRENT Change 40-50- 6-7

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 5 HALF NE SP. 1 DATE 5/28

SEND	6-7	5-6	4-5	3-4	6-7	5-6	4-5			Cal
RECEIVE	60-70	→	→	→	70-80	→	→			
RANGE										7
VOLTAGE	740	780	680	700	740	780	680			↓
CURRENT	3.6	3.5	3.5	3.5	3.0	3.5	3.5			2.0
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 1 1.0

SENDER NO. 66445

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS:

JOB 478 EXT LINE 5S SW 1/2 SP1 5/27/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 1

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	-.10	198.000	0.00	1.00	.10	-.1000	1.0101

		COMPUTED DATA							FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	324.98	.95	2.9	.95	2.9	0.00	**	.80	3.50	1	1	372.000	-.10
2	2	242.03	.70	2.9	.70	2.9	0.00	**	.60	3.50	2	2	69.400	0.00
3	1	516.66	.75	1.5	.75	1.5	0.00	**	.70	3.50	3	1	592.000	.10
4	2	530.62	.80	1.5	.80	1.5	0.00	**	.70	3.50	4	2	152.000	0.00
5	3	329.56	.70	2.1	.70	2.1	0.00	**	.60	3.50	5	3	37.800	0.00
6	1	456.82	.45	1.0	.45	1.0	0.00	**	.40	3.50	6	1	525.000	.10
7	2	478.25	.80	1.7	.80	1.7	0.00	**	.70	3.50	7	2	137.000	0.00
8	3	386.51	.95	2.5	.95	2.5	0.00	**	.90	3.50	8	3	44.200	.10
9	4	226.46	.60	2.6	.52	2.3	.08	**	.50	3.50	9	4	13.000	0.00
10	1	258.86	.50	1.9	.50	1.9	0.00	**	.40	5.00	10	1	425.000	0.00
11	2	341.78	.60	1.8	.60	1.8	0.00	**	.50	3.50	11	2	98.100	0.00
12	3	324.98	.90	2.8	.90	2.8	0.00	**	.80	3.50	12	3	37.200	0.00
13	4	273.37	1.25	4.6	1.25	4.6	0.00	**	1.10	3.50	13	4	15.600	-.10
14	5	173.80	.90	5.2	.69	4.0	.21	**	.70	3.50	14	5	5.690	-.20
15	1	186.51	.85	4.6	.85	4.6	0.00	**	.80	5.00	15	1	305.000	.10
16	2	313.10	.90	2.9	.90	2.9	0.00	**	.80	5.00	16	2	128.000	0.00
17	3	349.78	1.00	2.9	1.00	2.9	0.00	**	.90	3.50	17	3	40.000	0.00
18	4	344.82	1.60	4.6	1.60	4.6	0.00	**	1.50	3.50	18	4	19.600	0.00
19	5	299.86	1.65	5.5	1.55	5.2	.10	**	1.60	3.50	19	5	9.730	.10
20	6	201.56	1.65	8.2	1.39	6.9	.26	**	1.30	3.50	20	6	4.100	-.50
21	2	90.10	1.00	11.1	1.00	11.1	0.00	**	.90	5.00	21	2	36.800	0.00
22	3	145.97	1.15	7.9	1.07	7.3	.08	**	1.10	5.00	22	3	23.800	.10
23	4	106.79	.90	8.4	.66	6.2	.24	**	.70	5.00	23	4	8.740	-.20
24	5	111.41	1.25	11.2	.87	7.8	.38	**	1.10	5.00	24	5	5.190	-.10
25	6	102.07	1.55	15.2	.89	8.7	.66	**	1.50	5.00	25	6	2.960	.10
26	3	75.52	1.25	16.6	1.04	13.8	.21	**	1.20	5.00	26	3	12.300	.10
27	4	123.77	1.10	8.9	.90	7.3	.20	**	1.00	5.00	27	4	10.100	0.00
28	5	140.43	1.30	9.3	1.02	7.3	.28	**	1.30	3.50	28	5	4.570	.20
29	6	150.18	1.15	7.7	.76	5.1	.39	**	.80	3.50	29	6	3.070	-.50
30	4	72.66	1.50	20.6	1.09	15.0	.41	**	1.50	5.00	30	4	5.900	.20
31	5	120.04	1.50	12.5	1.16	9.6	.34	**	1.50	5.00	31	5	5.570	.20
32	6	136.53	2.40	17.6	1.96	14.3	.44	**	2.30	3.50	32	6	2.750	0.00

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

JOB 478 EXT LINE 5S NE 1/2 SP1 5/28/70
CAL GROUP NO. 2

1000 FEET=DIPOLE LENGTH

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	0.00	198.000	0.00	1.00	.10	0.0000	1.0101

		COMPUTED DATA							FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	~~151.23~~ 157	~~-19.20~~ 0.8	~~-127.0~~ 5.1	~~-19.20~~	~~-127.~~0	0.00	**	.90	3.50	1	1	180.000	~~0.20~~ 0.2
2	2	243.32	.80	3.3	.80	3.3	0.00	**	.80	3.50	2	2	69.700	0.00
3	3	326.84	.80	2.4	.80	2.4	0.00	**	.80	5.00	3	3	53.500	0.00
4	4	227.48	.95	4.2	.87	3.8	.08	**	.90	5.00	4	4	18.600	-.10
5	1	140.23	.55	3.9	.55	3.9	0.00	**	.60	3.50	5	1	161.000	.10
6	2	169.13	.90	5.3	.90	5.3	0.00	**	.90	3.50	6	2	48.400	0.00
7	3	210.74	1.00	4.7	1.00	4.7	0.00	**	1.00	3.50	7	3	24.100	0.00
8	4	256.58	.80	3.1	.80	3.1	0.00	**	.80	5.00	8	4	21.000	0.00
9	5	166.73	.90	5.4	.68	4.1	.22	**	.90	5.00	9	5	7.790	0.00
10	1	168.17	.85	5.1	.85	5.1	0.00	**	.90	3.00	10	1	165.000	.10
11	2	142.15	1.05	7.4	1.05	7.4	0.00	**	1.10	3.50	11	2	40.600	.10
12	3	170.69	1.15	6.7	1.15	6.7	0.00	**	1.10	3.50	12	3	19.500	-.10
13	4	~~138.48~~ 197	1.10	~~7.9~~ 5.6	.93	6.7	.17	**	1.10	~~5.00~~ 3.5	13	4	11.300	0.00
14	5	239.95	1.00	4.2	.87	3.6	.13	**	1.00	5.00	14	5	11.200	0.00
15	6	158.00	1.05	6.6	.69	4.3	.36	**	1.20	5.00	15	6	4.600	.30
16	2	93.39	.50	5.4	.50	5.4	0.00	**	.50	3.00	16	2	23.000	0.00
17	3	118.05	1.00	8.5	.89	7.5	.11	**	1.00	3.50	17	3	13.500	0.00
18	4	151.96	1.10	7.2	.95	6.3	.15	**	1.10	3.50	18	4	8.680	0.00
19	5	173.71	1.15	6.6	.94	5.4	.21	**	1.10	3.50	19	5	5.670	-.10
20	6	209.93	1.30	6.2	1.05	5.0	.25	**	1.40	5.00	20	6	6.100	.20
21	3	81.25	.70	8.6	.51	6.3	.19	**	.80	3.00	21	3	7.980	.20
22	4	117.29	.55	4.7	.34	2.9	.21	**	.50	3.50	22	4	6.740	-.10
23	5	151.04	.90	6.0	.65	4.3	.25	**	.90	3.50	23	5	4.940	0.00
24	6	173.53	1.00	5.8	.68	3.9	.32	**	1.10	3.50	24	6	3.540	.20
25	4	71.40	.45	6.3	.03	.4	.42	**	.40	3.00	25	4	3.520	-.10
26	5	105.18	.95	9.0	.54	5.1	.41	**	.90	3.50	26	5	3.440	-.10
27	6	134.35	1.50	11.2	1.05	7.8	.45	**	1.50	3.50	27	6	2.730	0.00

BUSINESS FORMS PRINTING COMPANY ENGINEERED FOR HIGH SPEED PRINTERS

Job #78EXT, Line 45, SW½ Sec 1, 6/2/20

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 4 South HALF SW SP. 1 DATE 6/2

SEND	CAL 1	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7
RECEIVE	4-5	0-10	→	10-20	→	→	20-30	→	→	→
RANGE	10	10	10	100	10	10	10	10	10	10
DC 1	-0.1	1.0	1.2	0.5	0.9	1.2	0.8	0.6	0.8	1.0
DC 2										
DC 3										
DC 4										
DC 5	2.	4.	3.5	3.	4.	3.5	1.5	3.	4.	3.5
DC 6		1	2	3	4	5	6	7	8	9
DC 7		1	2	1	2	3	1	2	3	4
DC 8										
DC AVG.										
AC 1	199.	502.	111.	1200.	266.	84.6	219.	76.6	25.8	10.6
AC 2	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	+0.1	-0.2
AC AVG.										
S.P.	~~1.0~~	+31.0		-20.6			-27.2			
AC NOISE	0.1									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 4 South HALF SW SP. 1 DATE 6/2

SEND	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6
RECEIVE	30-40	→	→	→	→	40-50	→	→	→	→
RANGE	1.0	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1
DC 1	1.0	0.9	1.1	1.2	1.7	0.7	0.8	1.3	1.3	1.5
DC 2										
DC 3										
DC 4										
DC 5	.5	1.5	3.	4.	3.5	1.0	.5	1.5	3.	4.
DC 6	10	11	12	13	14	15	16	17	18	19
DC 7	1	2	3	4	5	1	2	3	4	5
DC 8										
DC AVG.										
AC 1	121.	16.2	15.1	8.19	4.13	16.2	15.7	6.80	8.09	5.18
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	+0.2	+0.3
AC AVG.										
S.P.	+51.8					+23.4				
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 4 South HALF SW SP. 1 DATE 6/2

SEND	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5
RECEIVE	←	50-60	←	←	←	→	60-70	→	→	→
RANGE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DC 1	1.8	0.8	0.1	1.3	1.1	1.6	1.9	1.8	1.6	0.6
DC 2										
DC 3							telephone line 6000'			
DC 4										
DC 5	3.5	.3	.4	1.5	3.	4.	.3	.4	1.5	3.
DC 6	20	21	22	23	24	25	26	27	28	29
DC 7	6	2	3	4	5	6	3	4	5	6
DC 8										
DC AVG.										
AC 1	2.76	4.03	4.32	3.55	4.37	3.03	1.13	1.67	1.53	2.14
AC 2	0.0	0.0	-0.2	+0.1	-0.1	-0.1	+0.2	+0.2	+0.1	-0.5
AC AVG.										
S.P.		-32.1					+32.5			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 4 South HALF SW SP. 1 DATE 6/2

SEND	1-2	2-3	3-4							
RECEIVE	70-80	→	→							
RANGE	.01	.01	.01							
DC 1	←	0.6	1.6							
DC 2	70									
DC 3	Fence									
DC 4	6100'									
DC 5	.3	.5	1.5							
DC 6	70	71	32							
DC 7	4	5	6							
DC 8										
DC AVG.										
AC 1	0.317	.800	.574							
AC 2	0.09	+0.6	+0.9							
AC AVG.										
S.P.	+25.2									
AC NOISE										
POT RES.										

JIB 478 EXT, Line 45, NE½ Sec 1, 6/2/70

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 4 South HALF NE SP. 1 DATE 6/2

SEND	CH 2			4-5	3-4	2-3	1-2	5-6	4-5	3-4
RECEIVE	4-5	0-10	10-20	20-30			→	30-40		
RANGE	10			10	1.0	0.1	.01	10	1.0	1.0
DC 1	+0.1			1.7	0.9	1.0	0.0	0.9	1.0	1.9
DC 2			Fence 1600'							
DC 3										
DC 4										
DC 5	2.			3.	1.5	.4	.3	4.	3.	1.5
DC 6				1	2	3	4	5	6	7
DC 7				1	2	3	4	1	2	3
DC 8										
DC AVG.										
AC 1	195.			264.	49.2	9.59	.874	239.	57.2	14.6
AC 2	0.0			+0.1	+0.1	0.0	-0.2	0.0	0.0	0.0
AC AVG.										
S.P.	1.0	+21.3	+38.1	-25.0				+15.3		
AC NOISE	.1									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 4South HALF N E SP. 1 DATE 6/2

SEND	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2	6-7	5-6
RECEIVE	→	→	40-50	→	→	→	→	→	50-60	→
RANGE	0.1	.01	10	1.0	1.0	0.1	0.1	.01	1.0	1.0
DC 1	1.1	〃	0.6	0.4	0.9	0.9	0.8	〃	0.6	0.5
DC 2		〃						〃		
DC 3		〃						〃		
DC 4	.4	.3	3.5	4.	3.	1.5	.4	.3	3.5	4.
DC 5	8	9	10	11	12	13	14	15	16	17
DC 6	4	5	1	2	3	4	5	6	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	3.60	.916	140.	43.3	18.2	5.47	1.51	.214	28.8	17.5
AC 2	+0.1	〃	+0.1	-0.1	0.0	+0.1	0.0	0	+0.1	0.0
AC AVG.		〃								
S.P.		〃	+8.9						+7.1	
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 4 South HALF N SP. L DATE 6/2

SEND	4-5	3-4	2-3	6-7	5-6	4-5	3-4	6-7	5-6	4-5
RECEIVE	←	←	→	60-70	←	←	→	70-80	→	→
RANGE	0.1	0.1	.01	1.0	0.1	0.1	0.1	0.1	0.1	0.1
DC 1	0.7	0.6	1.7	0.4	0.3	0.7	0.7	1.1	0.7	1.2
DC 2										
DC 3								Powerline 7000'		
DC 4	3.	1.5	.4	3.5	4.	3.	1.5	3.5	4.	3.
DC 5	18	19	20	21	22	23	24	25	26	27
DC 6	4	5	6	3	4	5	6	4	5	6
DC 7										
DC 8										
DC AVG.										
AC 1	9.00	3.06	.892	10.2	7.63	4.42	1.63	4.97	4.18	2.60
AC 2	-0.1	+0.1	+0.9	0.0	+0.2	-0.1	-0.2	+0.1	0.0	+0.2
AC AVG.										
S.P.				+20.6				+8.0		
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT JOHNSON CAMP

LINE 4 HALF NE SP. 1 DATE 6/2

SEND	6-7	5-6	4-5	3-4	6-7	5-6	4-5			
RECEIVE	60-70	→	→	→	70-80	→	→			
RANGE										
VOLTAGE	700	600	900	940	700	600	900			
CURRENT	3.5	4.0	3.0	1.5	3.5	4.0	3.0			
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 1 1.0

SENDER NO. 66445

OPERATOR 46

RECEIVER NO.

OPERATOR 54

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 4 HALF SW SP. 1 DATE 6/2

SEND	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7	2-3
RECEIVE	0-10	→	10-20	→	→	20-30	→	→	→	30-40
RANGE										
VOLTAGE	640	640	940	640	740	980	940	640	740	720
CURRENT	4.0	3.5	3.0	4.0	3.5	1.5	3.0	4.0	3.5	0.5
SEND	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7
RECEIVE	→	→	→	→	40-50	→	→	→	→	
RANGE										
VOLTAGE	780	940	640	740	0.3	720	980	920	640	740
CURRENT	1.5	3.0	4.0	3.5	1000	0.5	1.5	3.0	4.0	3.5

FREQUENCIES 1 1.0

SENDER NO. 66445

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 4 HALF SW SP. 1 DATE 6/2

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2
RECEIVE	50-60	→	→	→	→	60-70	→	→	→	70-80
RANGE										
VOLTAGE	1000	580	980	920	640	1000	560	960	920	940
CURRENT	0.3	0.4	1.5	3.0	4.0	0.3	0.4	1.5	3.0	0.3
SEND	2-3	3-4								
RECEIVE	→	→								
RANGE										
VOLTAGE	700	940								
CURRENT	0.5	1.5								

FREQUENCIES 1 1.0

SENDER NO. 6644 5

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 4 HALF NE SP. 1 DATE 6/2

SEND	4-5	3-4	2-3	1-2	5-6	~~4~~-5	3-4	2-3	1-2	6-7
RECEIVE	20-30	→	→	→	30-40	→	→	→	→	40-50
RANGE										
VOLTAGE	900	940	540	940	600	900	940	580	1000	700
CURRENT	3.0	1.5	0.4	0.3	4.0	3.0	1.5	0.4	0.3	3.5
SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	→	→	→	→	→	50-60	→	→	→	→
RANGE										
VOLTAGE	600	900	940	560	1000	700	600	900	940	580
CURRENT	4.0	3.0	1.5	0.4	0.3	3.5	4.0	3.0	1.5	0.4

FREQUENCIES 1 2.0

SENDER NO. 66445

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS:

JOB 478 EXT LINE 4S NE 1/2 SP1 6/2/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 2

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	.10	195.000	0.00	1.00	.10	.1000	1.0256

		COMPUTED DATA							FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	275.10	1.55	5.6	1.55	5.6	0.00	**	1.70	3.00	1	1	264.000	.10
2	2	406.92	.75	1.8	.75	1.8	0.00	**	.90	1.50	2	2	49.200	.10
3	3	744.33	.90	1.2	.90	1.2	0.00	**	1.00	.40	3	3	9.590	0.00
4	4	179.10	0.00	0.0	-.12	-.7	.12	**	0.00	.30	4	4	.874	-.20
5	1	185.32	.80	4.3	.80	4.3	0.00	**	.90	4.00	5	1	239.000	0.00
6	2	236.78	.90	3.8	.90	3.8	0.00	**	1.00	3.00	6	2	57.200	0.00
7	3	303.38	1.30	4.3	1.30	4.3	0.00	**	1.40	1.50	7	3	14.600	0.00
8	4	559.39	.95	1.7	.95	1.7	0.00	**	1.10	.40	8	4	3.600	.10
9	5	149.18	-.10	-.7	-.35	-2.4	.25	**	0.00	.30	9	5	.416	0.00
10	1	123.69	.45	3.6	.45	3.6	0.00	**	.60	3.50	10	1	140.000	.10
11	2	133.63	.35	2.6	.35	2.6	0.00	**	.40	4.00	11	2	43.300	-.10
12	3	188.16	.80	4.3	.80	4.3	0.00	**	.90	3.00	12	3	18.200	0.00
13	4	226.21	.75	3.3	.67	2.9	.08	**	.90	1.50	13	4	5.470	.10
14	5	409.38	.70	1.7	.70	1.7	0.00	**	.80	.40	14	5	1.510	0.00
15	6	122.79	-.10	-.8	-.61	-5.0	.51	**	0.00	.30	15	6	.214	0.00
16	2	101.78	.45	4.4	.45	4.4	0.00	**	.60	3.50	16	2	28.800	.10
17	3	135.15	.40	3.0	.31	2.3	.09	**	.50	4.00	17	3	17.500	0.00
18	4	185.72	.65	3.5	.54	2.9	.11	**	.70	3.00	18	4	9.000	-.10
19	5	220.79	.45	2.0	.30	1.4	.15	**	.60	1.50	19	5	3.060	.10
20	6	390.41	1.15	2.9	1.05	2.7	.10	**	1.70	.40	20	6	.892	.90
21	3	89.94	.30	3.3	.14	1.5	.16	**	.40	3.50	21	3	10.200	0.00
22	4	117.62	.10	.9	-.11	-.9	.21	**	.30	4.00	22	4	7.630	.20
23	5	159.62	.65	4.1	.42	2.6	.23	**	.70	3.00	23	5	4.420	-.10
24	6	188.36	.70	3.7	.42	2.2	.28	**	.70	1.50	24	6	1.630	-.20
25	4	88.26	.95	10.8	.64	7.2	.31	**	1.10	3.50	25	4	4.970	.10
26	5	113.21	.60	5.3	.23	2.0	.37	**	.70	4.00	26	5	4.180	0.00
27	6	150.98	1.00	6.6	.61	4.1	.39	**	1.20	3.00	27	6	2.600	.20

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

JOB 478 EXT LINE 4S SW 1/2 SP1 6/2/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 1

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	-.10	199.000	0.00	1.00	.10	-.1000	1.0050

	COMPUTED DATA							FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE	PFE	CUR	PT.	N	AC1	AC2
1	1	382.55	1.10	2.9	1.10	2.9	0.00 **	1.00	4.00	1	1	502.000	0.00
2	2	387.46	1.30	3.4	1.30	3.4	0.00 **	1.20	3.50	2	2	111.000	0.00
3	1	1213.27	.60	.5	.60	.5	0.00 **	.50	3.00	3	1	1200.000	0.00
4	2	810.03	1.05	1.3	1.05	1.3	0.00 **	.90	4.00	4	2	266.000	-.10
5	3	738.26	1.30	1.8	1.30	1.8	0.00 **	1.20	3.50	5	3	84.600	0.00
6	1	444.16	.90	2.0	.90	2.0	0.00 **	.80	1.50	6	1	219.000	0.00
7	2	310.10	.70	2.3	.70	2.3	0.00 **	.60	3.00	7	2	76.600	0.00
8	3	196.22	.85	4.3	.85	4.3	0.00 **	.80	4.00	8	3	25.800	.10
9	4	184.63	1.20	6.5	1.09	5.9	.11 **	1.00	3.50	9	4	10.600	-.20
10	1	755.96	1.10	1.5	1.10	1.5	0.00 **	1.00	.50	10	1	124.000	0.00
11	2	131.55	1.00	7.6	1.00	7.6	0.00 **	.90	1.50	11	2	16.200	0.00
12	3	153.58	1.20	7.8	1.12	7.3	.08 **	1.10	3.00	12	3	15.100	0.00
13	4	125.07	1.30	10.4	1.11	8.8	.19 **	1.20	4.00	13	4	8.190	0.00
14	5	126.76	1.80	14.2	1.48	11.7	.32 **	1.70	3.50	14	5	4.130	0.00
15	1	149.23 ?	.80	16.2	.80	16.2	0.00 **	.70	~~1.00~~ 0.3	15	1	16.200	0.00
16	2	382.10	.95	2.5	.95	2.5	0.00 **	.80	.50	16	2	15.700	-.10
17	3	138.60	1.40	10.1	1.31	9.5	.09 **	1.30	1.50	17	3	6.800	0.00
18	4	164.89	1.30	7.9	1.17	7.1	.13 **	1.30	3.00	18	4	8.090	.20
19	5	138.85	1.45	10.4	1.17	8.4	.28 **	1.50	4.00	19	5	5.180	.30
20	6	135.68	1.90	14.0	1.45	10.7	.45 **	1.80	3.50	20	6	2.760	0.00
21	2	163.47	.90	5.5	.90	5.5	0.00 **	.80	.30	21	2	4.030	0.00
22	3	326.28	.30	.9	.30	.9	0.00 **	.10	.40	22	3	4.320	-.20
23	4	144.71	1.35	9.3	1.19	8.2	.16 **	1.30	1.50	23	4	3.550	.10
24	5	155.56	1.25	8.0	1.01	6.5	.24 **	1.10	3.00	24	5	4.370	-.10
25	6	130.07	1.75	13.5	1.28	9.8	.47 **	1.60	4.00	25	6	3.030	-.10
26	3	115.84	1.90	16.4	1.79	15.4	.11 **	1.90	.30	26	3	1.130	.20
27	4	256.55	1.80	7.0	1.80	7.0	0.00 **	1.80	.40	27	4	1.670	.20
28	5	109.47	1.65	15.1	1.26	11.5	.39 **	1.60	1.50	28	5	1.530	.10
29	6	121.29	.45	3.7	-.07	-.6	.52 **	.60	3.00	29	6	2.140	.50
30	4	63.78	.10	1.6	-.39	-6.1	.49 **	0.00	.30	30	4	.317	0.00
31	5	170.03	.40	2.4	.19	1.1	.21 **	.60	.50	31	5	.800	.60
32	6	65.71	1.25	19.0	.07	1.0	1.18 **	1.60	1.50	32	6	.574	.90

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

Job 978 EXT, Line 15, NE½ Sec 1, 5/19/70 1000.

a = 1000'

PAGE 1

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE ~~1 South~~ HALF NE SP. 1 DATE 5/19

SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAL 1
RECEIVE	0-10	→	10-20	→	→	20-30	→	→	→	3-4
RANGE	100	1.0	10	10	1.0	10	10	10	1.0	+0
DC 1 *	0.6	2.0	1.5	1.0	2.5	1.2	1.7	1.3	3.0	-0.1
DC 2	4.	5.	3.	4.	5.	3.	3.	4.	5.	2.
DC 3	1.	2	3	4	5	6	7	8	9	
DC 4	1	2	1	2	3	1	2	3	4	
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	1190	88.2	362	299	28.6	218	120	121	13.5	197
AC 2	0.0	0.0	+0.1	0.0	0.0	+0.1	0.0	0.0	+0.1	0.0
AC AVG.										
S.P.	-1.0		+32.1			+19.0				1.0
AC NOISE										.1
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 1 South HALF NE SP. 1 DATE 5/19

SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	30-40				→	40-50				
RANGE	10	1.0	1.0	1.0	0.1	10	1.0	1.0	1.0	1.0
DC 1	0.6	1.0	1.8	1.4	2.7	1.0	0.6	1.1	1.9	1.5
DC 2	2.5	2.5	3.0	3.5	5.0	2.5	2.5	2.5	3.0	3.5
DC 3	10	11	12	13	14	15	16	17	18	19
DC 4	1	2	3	4	5	1	2	3	4	5
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	132	43.0	44.7	41.8	5.76	138	35.9	18.5	27.3	25.7
AC 2	0.0	0.0	0.0	0.0	0.0	+0.4	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	-13.3					+18.0				
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 1 South HALF NE SP. 1 DATE 5/19

SEND	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4
RECEIVE	→	50-60	←	←	←	←	60-70	→	→	→
RANGE	0.1	1.0	1.0	1.0	1.0	1.0	1.0	0.1	0.1	0.1
DC 1	2.5	0.3	0.3	1.0	1.9	1.4	0.0	-0.3	0.4	1.4
DC 2	5.0	2.5	2.5	3.0	3.0	3.5	2.5	2.5	3.0	3.0
DC 3	20	21	22	23	24	25	26	27	28	29
DC 4	6	Fence 5700' 2	3	4	5	6	3	4	5	6
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	3.73	29.5	14.0	10.5	14.2	13.6	13.7	8.42	6.80	9.74
AC 2	-0.1	0.0	0.0	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0
AC AVG.										
S.P.		+26.3					+8.8			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 1 South HALF N.E. SP. 1 DATE 5/19

SEND	6-7	5-6	4-5							
RECEIVE	70-80	→	→							
RANGE	0.1	0.1	0.1							
DC 1	0.1	0.3	1.0							
DC 2	2.5	2.5	3.0							
DC 3	30	31	32							
DC 4	4	5	6							
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	7.19	4.94	4.28							
AC 2	+0.1	0.0	-0.2							
AC AVG.										
S.P.	+13.3									
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Johnson Camp

LINE 1500TH HALF SW SP. 1 DATE 5/19

PAGE 1

SEND	CAL 2			3-4	4-5	5-6	6-7	2-3	3-4	4-5
RECEIVE	4-5	0-10	10-20	20-30	→	→	→	30-40	→	→
RANGE	10			10	1.0	1.0	0.1	10	10	1.0
DC 1	-0.2			2.3	1.9	2.3	2.4	4.3	2.7	1.6
DC 2			Fence	3.	3.	2.5	2.5	3.5	3.0	3.0
DC 3			900'	1	2	3	4	5	6	7
DC 4				1	2	3	4	1	2	3
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	196			304	54.8	14.7	6.77	195	112	34.5
AC 2	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.		+19.5	-2.7	+53.4				+14.5		
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE L South HALF SW SP. 1 DATE 5/19

PAGE 2

SEND	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7	1-2	2-3
RECEIVE		→	<10-50					7	50-60	
RANGE	1.0	0.1	1.0	1.0	1.0	0.1	0.1	0.1	1.0	1.0
DC 1	1.9	1.8	2.1	2.7	2.4	1.8	2.1	1.6	1.9	2.5
DC 2	2.5	2.5	5.0	3.5	3.0	3.0	2.5	2.5	5.0	3.5
DC 3	8	9	10	11	12	13	14	15	16	17
DC 4	4	5	1	2	3	4	5	6	2	3
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	13.6	7.99	100	39.7	27.7	9.47	4.06	2.54	31.7	19.1
AC 2	0.0	-0.2	+0.1	0.0	0.0	0.0	-0.2	-0.3	+0.1	-0.1
AC AVG.										
S.P.			+30.0							
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 1 South HALF SW SP. 1 DATE 5/19

SEND	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2	2-3	3-4
RECEIVE	→	→	→	60-70	→	→	→	70-80	→	→
RANGE	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DC 1	2.3	1.5	2.7	1.7	2.0	2.3	1.0	1.5	2.4	2.5
DC 2	3.0	3.0	2.5	5.	3.5	3.0	3.	5.	3.5	3.0
DC 3	18	19	20	21	22	23	24	25	26	27
DC 4	4	5	6	3	4	5	6	4	5	6
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	14.1	5.07	2.25	9.60	6.73	5.10	1.91	5.69	4.72	3.69
AC 2	-0.1	0.0	+0.1	+0.1	-0.2	0.0	+0.4	-0.2	-0.2	-0.2
AC AVG.										
S.P.				+4.2				+17.4		
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 1 HALF NW SP. 1 DATE 4/19

SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6
RECEIVE	10-10	→	10-20	→	→	20-30	→	→	~~30-40~~	30-40
RANGE										
VOLTAGE	720	420	900	720	420	1000	900	720	420	1000
CURRENT	4.0	5.0	3.0	4.0	5.0	3.0	3.0	4.0	5.0	2.5
SEND	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2
RECEIVE	→	→	→	→	40-50	→	→	→	→	→
RANGE										
VOLTAGE	840	900	640	440	1000	1000	840	900	640	440
CURRENT	2.5	3.0	3.5	5.0	2.5	2.5	2.5	3.0	3.5	5.0

FREQUENCIES 1 1.0

SENDER NO. 66445

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS: Change in current on 4-5 - 3.0 to 2.5 on 2-3 4.0 to 3.5 also on 30-40 Dipole

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 1 HALF NW SP. 1 DATE 4/19

SEND	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3 4	6-7
RECEIVE	50-60	→	→	→	→	60-70	→	→	→	70-80
RANGE										
VOLTAGE	1000	980	1000	900	640	1000	980	1000	880	1000
CURRENT	2.5	2.5	3.0	3.0	3.5	2.5	2.5	3.0	3.0	2.5
SEND	5-6	4-5								
RECEIVE	→	→								
RANGE										
VOLTAGE	980	1000								
CURRENT	2.5	3.0								

FREQUENCIES .1 1.0

SENDER NO. 6644 5

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 1 HALF SW SP. 1 DATE 4/19

PAGE 1

SEND	3-4	4-5	5-6	6-7	2-3	3-4	4-5	5-6	6-7	1-2
RECEIVE	20-30	→	→	→	30-40	→	→	→	→	40-50
RANGE										
VOLTAGE	860	960	940	1000	600	860	960	940	1000	400
CURRENT	3.0	3.0	2.5	2.5	3.5	3.0	3.0	2.5	2.5	5.0
SEND	2-3	3-4	4-5	5-6	6-7	1-2	2 3	3 4	4 5	5-6
RECEIVE	→	→	→	→	→	50-60	→	→	→	→
RANGE										
VOLTAGE	600	840	960	940	1000	400	620	860	960	940
CURRENT	3.5	3.0	3.0	2.5	2.5	5.0	3.5	3.0	3.0	2.5

FREQUENCIES 1 1.0

SENDER NO. 66445

OPERATOR 46

RECEIVER NO.

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp
LINE 1 HALF SW SP. 1 DATE 4/19

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3 4			
RECEIVE	60-70	→	→	→	70-80	→	→			
RANGE										
VOLTAGE	400	600	860	960	400	600	860			
CURRENT	5.0	3.5	3.0	3.0	5.0	3.5	3.0			
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 1 1.0
SENDER NO. 6644 5
OPERATOR 46
RECEIVER NO.
OPERATOR 58

COMMENTS:

JOB 478 EXT LINE 1S NE 1/2 SP1 5/19/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 1

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	-.10	197.000	0.00	1.00	.10	-.1000	1.0152

		COMPUTED DATA							FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	912.43	.70	.8	.70	.8	0.00	**	.60	4.00	1	1	1190.000	0.00
2	2	219.42	2.10	9.6	2.10	9.6	0.00	**	2.00	5.00	2	2	88.200	0.00
3	1	373.40	1.55	4.2	1.55	4.2	0.00	**	1.50	3.00	3	1	362.000	.10
4	2	920.68	1.10	1.2	1.10	1.2	0.00	**	1.00	4.00	4	2	299.000	0.00
5	3	178.74	2.60	14.5	2.60	14.5	0.00	**	2.50	5.00	5	3	28.600	0.00
6	1	224.20	1.25	5.6	1.25	5.6	0.00	**	1.20	3.00	6	1	218.000	.10
7	2	496.08	1.80	3.6	1.80	3.6	0.00	**	1.70	3.00	7	2	120.000	0.00
8	3	934.22	1.40	1.5	1.40	1.5	0.00	**	1.30	4.00	8	3	121.000	0.00
9	4	169.57	3.05	18.0	2.92	17.2	.13	**	3.00	5.00	9	4	13.500	.10
10	1	161.94	.70	4.3	.70	4.3	0.00	**	.60	2.50	10	1	132.000	0.00
11	2	211.85	1.10	5.2	1.10	5.2	0.00	**	1.00	2.50	11	2	43.000	0.00
12	3	462.43	1.90	4.1	1.90	4.1	0.00	**	1.80	3.00	12	3	44.700	0.00
13	4	738.40	1.50	2.0	1.50	2.0	0.00	**	1.40	3.50	13	4	41.800	0.00
14	5	126.24	2.80	22.2	2.48	19.6	.32	**	2.70	5.00	14	5	5.760	0.00
15	1	169.97	.90	5.3	.90	5.3	0.00	**	1.00	2.50	15	1	138.000	.40
16	2	176.17	.70	4.0	.70	4.0	0.00	**	.60	2.50	16	2	35.900	0.00
17	3	228.09	1.20	5.3	1.20	5.3	0.00	**	1.10	2.50	17	3	18.500	0.00
18	4	565.40	2.00	3.5	2.00	3.5	0.00	**	1.90	3.00	18	4	27.300	0.00
19	5	795.26	1.60	2.0	1.60	2.0	0.00	**	1.50	3.50	19	5	25.700	0.00
20	6	130.54	2.65	20.3	2.18	16.7	.47	**	2.50	5.00	20	6	3.730	-.10
21	2	144.33	.40	2.8	.40	2.8	0.00	**	.30	2.50	21	2	29.500	0.00
22	3	171.24	.40	2.3	.40	2.3	0.00	**	.30	2.50	22	3	14.000	0.00
23	4	215.54	1.15	5.3	1.06	4.9	.09	**	1.00	3.00	23	4	10.500	-.10
24	5	507.41	2.00	3.9	2.00	3.9	0.00	**	1.90	3.00	24	5	14.000	0.00
25	6	672.68	1.55	2.3	1.55	2.3	0.00	**	1.40	3.50	25	6	13.600	-.10
26	3	167.07	.15	.9	.15	.9	0.00	**	0.00	2.50	26	3	13.700	-.10
27	4	204.75	-.20	-1.0	-.30	-1.4	.10	**	-.30	2.50	27	4	8.420	0.00
28	5	242.83	.50	2.1	.37	1.5	.13	**	.40	3.00	28	5	6.800	0.00
29	6	562.05	1.50	2.7	1.50	2.7	0.00	**	1.40	3.00	29	6	9.740	0.00
30	4	175.54	.15	.9	.03	.2	.12	**	.10	2.50	30	4	7.190	.10
31	5	211.48	.40	1.9	.24	1.2	.16	**	.30	2.50	31	5	4.940	0.00
32	6	246.00	1.20	4.9	1.00	4.1	.20	**	1.00	3.00	32	6	4.280	-.20

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

JOB 478 EXT LINE 1S SW 1/2 SP1 5/19/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 2

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	-.20	196.000	0.00	1.00	.10	-.2000	1.0204

		COMPUTED DATA							FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	317.96	2.50	7.9	2.50	7.9	0.00	**	2.30	3.00	1	1	304.000	0.00
2	2	228.37	2.10	9.2	2.10	9.2	0.00	**	1.90	3.00	2	2	54.800	0.00
3	3	184.50	2.50	13.6	2.50	13.6	0.00	**	2.30	2.50	3	3	14.700	0.00
4	4	170.11	2.60	15.3	2.47	14.5	.13	**	2.40	2.50	4	4	6.770	0.00
5	1	178.23	4.50	25.2	4.50	25.2	0.00	**	4.30	3.50	5	1	195.000	0.00
6	2	470.40	2.90	6.2	2.90	6.2	0.00	**	2.70	3.00	6	2	112.000	0.00
7	3	358.38	1.80	5.0	1.80	5.0	0.00	**	1.60	3.00	7	3	34.500	0.00
8	4	340.06	2.10	6.2	2.10	6.2	0.00	**	1.90	2.50	8	4	13.600	0.00
9	5	349.27	2.10	6.0	2.10	6.0	0.00	**	1.80	2.50	9	5	7.990	-.20
10	1	62.63	2.25	35.9	2.25	35.9	0.00	**	2.10	5.00	10	1	100.000	.10
11	2	142.92	2.90	20.3	2.90	20.3	0.00	**	2.70	3.50	11	2	39.700	0.00
12	3	290.00	2.60	9.0	2.60	9.0	0.00	**	2.40	3.00	12	3	27.700	0.00
13	4	197.13	2.00	10.1	1.90	9.6	.10	**	1.80	3.00	13	4	9.470	0.00
14	5	178.00	2.40	13.5	2.20	12.4	.20	**	2.10	2.50	14	5	4.060	-.20
15	6	177.30	1.95	11.0	1.64	9.3	.31	**	1.60	2.50	15	6	2.540	-.30
16	2	79.26	2.05	25.9	1.97	24.8	.08	**	1.90	5.00	16	2	31.700	.10
17	3	171.56	2.75	16.0	2.75	16.0	0.00	**	2.50	3.50	17	3	19.100	-.10
18	4	294.95	2.55	8.6	2.55	8.6	0.00	**	2.30	3.00	18	4	14.100	-.10
19	5	184.15	1.70	9.2	1.51	8.2	.19	**	1.50	3.00	19	5	5.070	0.00
20	6	158.76	2.85	18.0	2.49	15.7	.36	**	2.70	2.50	20	6	2.250	.10
21	3	59.89	1.85	30.9	1.57	26.2	.28	**	1.70	5.00	21	3	9.600	.10
22	4	120.31	2.30	19.1	2.10	17.4	.20	**	2.00	3.50	22	4	6.730	-.20
23	5	186.70	2.50	13.4	2.31	12.4	.19	**	2.30	3.00	23	5	5.100	0.00
24	6	110.45	1.00	9.1	.41	3.7	.59	**	1.00	3.00	24	6	1.910	.40
25	4	70.86	1.80	25.4	1.37	19.4	.43	**	1.50	5.00	25	4	5.690	-.20
26	5	148.24	2.70	18.2	2.44	16.5	.26	**	2.40	3.50	26	5	4.720	-.20
27	6	216.54	2.80	12.9	2.57	11.8	.23	**	2.50	3.00	27	6	3.690	-.20

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

Job 478EXT, Line 25, SW½ SP 1, 5/21/70 1000.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 2 South HALF SW SP. 1 DATE 5/21

SEND	CAL 1	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7
RECEIVE	4-5	0-10	→	10-20	→	→	20-30	→	→	→
RANGE	10	10	10	10	10	1.0	10	1.0	1.0	1.0
DC 1	0.0	1.3	1.5	0.8	1.8	1.7	0.9	1.0	2.1	2.2
DC 2	2.	2.5	3.	3.	2.5	3.	3.	3.	2.5	3.
DC 3		1	2	3	4	5	6	7	8	9
DC 4		1	2	1	2	3	1	2	3	4
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	198	489	166	617	194	93.5	643	66.0	27.6	15.2
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.1	0.0
AC AVG.	1.									
S.P.	.1	-7.9		-6.3			+12.7			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 2 south HALF SW SP. 1 DATE 5/21

SEND	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6
RECEIVE	30-40	→	→	→	→	40-50	→	→	→	→
RANGE	1.0	1.0	1.0	1.0	0.1	1.0	1.0	1.0	0.1	0.1
DC 1	2.0	1.5	1.8	1.6	1.3	2.3	2.3	1.6	1.1	1.7
DC 2	2.	3.	3.	2.5	3.	2.5	2	3.	3.	2.5
DC 3	Fence 2,500' 10	11	12	13	14	15	16	17	18	19
DC 4	1	2	3	4	5	1	2	3	4	5
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	130	79.5	20.4	11.5	7.96	79.4	33.1	25.7	7.44	4.61
AC 2	0.0	+0.1	+0.1	-0.2	-0.2	+0.2	+0.1	0.0	0.0	-0.3
AC AVG.										
S.P.	-0.9					+8.8				
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 25N HALF SW SP. 1 DATE 5/21

SEND	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5
RECEIVE	→	50-60	—	—	—	/	60-70	—	—	→
RANGE	0.1	1.0	1.0	0.1	0.1	0.1	1.0	0.1	0.1	0.1
DC 1	0.4	2.2	1.9	0.9	1.3	2.0	1.5	1.4	1.0	0.4
DC 2	3.	2.5	2.	3.	3.	2.5	2.5	2.	3.	3.
DC 3	20	21	22	23	24	25	26	27	28	29
DC 4	6	2	3	4	5	6	3	4	5	6
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	3.32	16.0	10.1	8.81	2.96	1.79	10.6	8.41	7.55	2.57
AC 2	-0.1	+0.1	+0.2	-0.1	+0.3	+0.1	-0.2	-0.2	0.0	0.0
AC AVG.										
S.P.		+21.8					-4.7			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 2 South HALF SW SP. 1 DATE 5/21

PAGE 4

SEND	1-2	2-3	3-4							
RECEIVE	70-80	→	→							
RANGE	0.1	0.1	0.1							
DC 1	1.6	1.5	1.1							
DC 2	2.5	2.	3.							
DC 3	30	31	32							
DC 4	4	5	6							
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	4.49	4.23	3.98							
AC 2	+0.1	-0.2	-0.2							
AC AVG.										
S.P.	+16.4									
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp #478
LINE 2 South HALF NE SP. 1 DATE 5/21

SEND	CAL 2			4-5	3-4	2-3	1-2	5-6	4-5	3-4
RECEIVE	~~3-4~~	0-10	10-20	20-30	—		— 7	30-40	—	
RANGE	~~10~~			10	10	1.0	1.0	10	1.0	1.0
DC 1	-0.3			0.8	1.4	1.6	2.0	0.8	0.8	1.2
DC 2	2.			3.	2.3	2.	2.5	2.5	3.	3.
DC 3				1	2	3	4	5	6	7
DC 4				1	2	3	4	1	2	3
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	197			254	171	62.8	12.7	163	56.7	55.0
AC 2	0.0			+0.2	0.0	0.0	0.0	+0.1	0.0	0.0
AC AVG.										
S.P.	1.	-25.4	+39.3	-23.0				+24.6		
AC NOISE	.1									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 2 South HALF NE SP. 1 DATE 5/21

PAGE 2

SEND	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2	6-7	5-6
RECEIVE	→	→	40-50	→	→	→	→	→	50-60	→
RANGE	1.0	0.1	10	1.0	1.0	1.0	1.0	0.1	1.0	1.0
DC 1	0.0	1.9	0.6	0.6	0.5	0.9	1.5	1.6	0.5	0.6
DC 2	2.	2.5	3.	2.5	3.	3.	2.	2.5	3.	2.5
DC 3	8	9	Fence 4300' 10	11	12	13	14	15	16	17
DC 4	4	5	1	2	3	4	5	6	2	3
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	23.6	5.14	137	38.4	17.3	22.1	10.3	2.36	34.1	14.0
AC 2	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.2	0.0	0.0
AC AVG.										
S.P.			+19.6						+18.0	
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 2 south HALF NE SP. 1 DATE 5/21

SEND	4-5	3-4	2-3	6-7	5-6	4-5	3-4	6-7	5-6	4-5
RECEIVE	←	←	←	60-70	←	←	→	70-80	→	→
RANGE	0.1	1.0	0.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1
DC 1	0.5	1.4	1.4	0.6	0.3	0.6	2.1	0.6	0.9	1.2
DC 2	3.	3.	2.	3.	2.5	3.	3.	3.	2.5	3.
DC 3	18	19	20	21	22	23	24	25	26	27
DC 4	4	5	6	3	4	5	6	4	5	6
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	7.13	10.5	5.24	15.6	7.49	4.36	6.63	8.10	4.19	2.68
AC 2	0.0	+0.1	0.0	0.0	-0.3	+0.2	0.0	+0.1	0.0	+0.1
AC AVG.										
S.P.										
AC NOISE										
POT RES.										

PAGE 1

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 25 HALF 5W SP. 1 DATE 5-21

SEND	C1/4-5	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7
RECEIVE	—	0-10W	→	10W-20W	→	→	20W-30W	→	→	→
RANGE	10X200	10X250	10X300	10X300	10X250	10X300	10X300	10X300	10X250	10X300
VOLTAGE	520	920	870	760	920	870	720	780	920	870
CURRENT	1.0A (2)	2.5A	3.0	3.0	2.5	3.0	3.0	3.0	2.5	3.0

SEND	2-3	3-4	4-5	5-6	6-7					
RECEIVE	30W-40W	→	→	→	→					
RANGE	10X200	10X300	10X300	10X250	10X300					
VOLTAGE	920	720	780	920	870					
CURRENT	2.0	3.0	3.0	2.5	3.0					

FREQUENCIES 1.0 0.1

SENDER NO. ~~17691-S~~ 6644S

OPERATOR 23 Coons

RECEIVER NO. 8691-R

OPERATOR 58 Terrell

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 2S HALF SW SP. 1 DATE 5-21

SEND	1-2	2-3	3-4	4-5	5-6	6-7				
RECEIVE	40W-50W	→	→	→	→	→				
RANGE	10X250	10X200	10X300	10X300	10X250	10X300				
VOLTAGE	920	920	720	780	920	810				
CURRENT	2.5	2.0	3.0	3.0	2.5	3.0				
SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	
RECEIVE	50W-60W	→	→	→	→	60W-70W	→	→	→	
RANGE	10X250	10X200	10X300	10X300	10X250	10X250	10X200	10X300	10X300	
VOLTAGE	920	920	720	780	920	920	920	720	780	
CURRENT	2.5	2.0	3.0	3.0	2.5	2.5	2.0	3.0	3.0	

FREQUENCIES 1.0 0.1

SENDER NO. 6644-S

OPERATOR 23

RECEIVER NO. 1869IR

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 2S HALF SW SP. 1 DATE 5-21

SEND	1-2	2-3	3-4							
RECEIVE	70W	80W	→							
RANGE	10X250	10X200	10X300							
VOLTAGE	900	920	720							
CURRENT	2.5	2.0	3.0							
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 1.0 0.1

SENDER NO. 6644-S

OPERATOR 23

RECEIVER NO. 1869-R

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 250 HALF NE SP. 1 DATE 5-21

SEND	Ca/3-4	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	10X200	10X300	10X300	10X200	10X250	10X250	10X300	10X300	10X200	10X250
VOLTAGE	460	770	700	900	890	880	760	700	900	890
CURRENT	2.0	3.0	2.3	2.0	2.5	2.5	3.0	3.0	2.0	2.5

SEND	6-7	5-6	4-5	3-4	2-3	1-2				
RECEIVE										
RANGE	10X300	10X250	10X300	10X300	10X200	10X250				
VOLTAGE	840	880	760	700	900	890				
CURRENT	3.0	2.5	3.0	3.0	2.0	2.5				

FREQUENCIES 1.0 0.1

SENDER NO. 6645

OPERATOR 23 Coons

RECEIVER NO. 1869 I-R

OPERATOR Terrell #58

COMMENTS:

3.0 ?

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 2S HALF NE SP. 1 DATE 5-21

SEND	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4	
RECEIVE	50-60E	←	←	←	←	60-70E	←	←	←	
RANGE	10X300	10X250	10X300	10X300	10X200	10X300	10X250	10X300	10X300	
VOLTAGE	840	880	760	700	900	820	880	750	700	
CURRENT	3.0	2.5	3.0	3.0	2.0	3.0	2.5	3.0	3.0	
SEND	6-7	5-6	4-5							
RECEIVE	70-80E	←	←							
RANGE	10X300	10X250	10X300							
VOLTAGE	820	880	750							
CURRENT	3.0	2.5	3.3							

FREQUENCIES 1.0 0.1

SENDER NO. 66445

OPERATOR Coons #23

RECEIVER NO. 1869-1-R

OPERATOR Terrell #58

COMMENTS:

JOB 478 EXT LINE 2S SW 1/2 SP1 5/21/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 1

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	0.00	198.000	0.00	1.00	.10	0.0000	1.0101

		COMPUTED DATA							FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	611.48	1.30	2.1	1.30	2.1	0.00	**	1.30	2.50	1	1	498.000	0.00
2	2	680.77	1.50	2.2	1.50	2.2	0.00	**	1.50	3.00	2	2	166.000	0.00
3	1	628.22	.80	1.3	.80	1.3	0.00	**	.80	3.00	3	1	617.000	0.00
4	2	957.54	1.80	1.9	1.80	1.9	0.00	**	1.80	2.50	4	2	194.000	0.00
5	3	960.50	1.70	1.8	1.70	1.8	0.00	**	1.70	3.00	5	3	93.500	0.00
6	1	655.34	.90	1.4	.90	1.4	0.00	**	.90	3.00	6	1	643.000	0.00
7	2	269.33	1.00	3.7	1.00	3.7	0.00	**	1.00	3.00	7	2	66.000	0.00
8	3	341.57	2.05	6.0	2.05	6.0	0.00	**	2.10	2.50	8	3	27.600	.10
9	4	313.83	2.20	7.0	2.20	7.0	0.00	**	2.20	3.00	9	4	15.200	0.00
10	1	200.91	2.00	10.0	2.00	10.0	0.00	**	2.00	2.00	10	1	130.000	0.00
11	2	326.03	1.45	4.4	1.45	4.4	0.00	**	1.50	3.00	11	2	79.500	.10
12	3	205.66	1.75	8.5	1.75	8.5	0.00	**	1.80	3.00	12	3	20.000	.10
13	4	283.24	1.70	6.0	1.70	6.0	0.00	**	1.60	2.50	13	4	11.500	-.20
14	5	285.07	1.40	4.9	1.30	4.6	.10	**	1.30	3.00	14	5	7.960	-.20
15	1	98.46	2.20	22.3	2.20	22.3	0.00	**	2.30	2.50	15	1	79.400	.20
16	2	205.22	2.25	11.0	2.25	11.0	0.00	**	2.30	2.00	16	2	33.100	.10
17	3	263.75	1.60	6.1	1.60	6.1	0.00	**	1.60	3.00	17	3	25.700	0.00
18	4	151.96	1.10	7.2	.95	6.3	.15	**	1.10	3.00	18	4	7.440	0.00
19	5	198.90	1.85	9.3	1.68	8.4	.17	**	1.70	2.50	19	5	4.610	-.30
20	6	188.55	.45	2.4	.17	.9	.28	**	.40	3.00	20	6	3.320	-.10
21	2	79.28	2.15	27.1	2.07	26.1	.08	**	2.20	2.50	21	2	16.000	.10
22	3	155.94	1.80	11.5	1.80	11.5	0.00	**	1.90	2.00	22	3	10.100	.20
23	4	179.58	.95	5.3	.83	4.6	.12	**	.90	3.00	23	4	8.810	-.10
24	5	106.01	1.15	10.8	.74	7.0	.41	**	1.30	3.00	24	5	2.960	.30
25	6	123.93	1.95	15.7	1.44	11.7	.51	**	2.00	2.50	25	6	1.790	.10
26	3	130.41	1.60	12.3	1.50	11.5	.10	**	1.50	2.50	26	3	10.600	-.20
27	4	258.41	1.50	5.8	1.50	5.8	0.00	**	1.40	2.00	27	4	8.410	-.20
28	5	269.59	1.00	3.7	.89	3.3	.11	**	1.00	3.00	28	5	7.550	0.00
29	6	145.96	.40	2.7	-.00	-.0	.40	**	.40	3.00	29	6	2.570	0.00
30	4	110.59	1.55	14.0	1.32	11.9	.23	**	1.60	2.50	30	4	4.490	.10
31	5	227.68	1.60	7.0	1.46	6.4	.14	**	1.50	2.00	31	5	4.230	-.20
32	6	227.61	1.20	5.3	.98	4.3	.22	**	1.10	3.00	32	6	3.980	-.20

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

JOB 478 EXT LINE 2S NE 1/2 SP 1 5/21/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 2

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	-.30	197.000	0.00	1.00	.10	-.3000	1.0152

COMPUTED DATA									FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR PT.	N		AC1	AC2
1	1	260.71	1.00	3.8	1.00	3.8	0.00	**	.80	3.00	1	1	254.000	.20
2	2	~~921.15~~ 707	1.70	2.5 ~~1.8~~	~~1.70~~	1.8	0.00	**	1.40	~~2.30~~	2	2	171.000	0.00
3	3	974.52	1.90	1.9	1.90	1.9	0.00	**	1.60	2.00	3	3	62.800	0.00
4	4	316.56	2.30	7.3	2.30	7.3	0.00	**	2.00	2.50	4	4	12.700	0.00
5	1	200.76	1.05	5.2	1.05	5.2	0.00	**	.80	2.50	5	1	163.000	.10
6	2	232.79	1.10	4.7	1.10	4.7	0.00	**	.80	3.00	6	2	56.700	0.00
7	3	566.75	1.50	2.6	1.50	2.6	0.00	**	1.20	3.00	7	3	55.000	0.00
8	4	720.94	.30	.4	.30	.4	0.00	**	0.00	2.00	8	4	23.600	0.00
9	5	223.99	2.25	10.0	2.11	9.4	.14	**	1.90	2.50	9	5	5.140	-.10
10	1	140.34	.90	6.4	.90	6.4	0.00	**	.60	3.00	10	1	137.000	0.00
11	2	188.81	.90	4.8	.90	4.8	0.00	**	.60	2.50	11	2	38.400	0.00
12	3	177.04	.85	4.8	.85	4.8	0.00	**	.50	3.00	12	3	17.300	-.10
13	4	454.11	1.25	2.8	1.25	2.8	0.00	**	.90	3.00	13	4	22.100	-.10
14	5	558.86	1.85	3.3	1.85	3.3	0.00	**	1.50	2.00	14	5	10.300	-.10
15	6	164.06	2.00	12.2	1.66	10.1	.34	**	1.60	2.50	15	6	2.360	-.20
16	2	139.58	.80	5.7	.80	5.7	0.00	**	.50	3.00	16	2	34.100	0.00
17	3	172.09	.90	5.2	.90	5.2	0.00	**	.60	2.50	17	3	14.000	0.00
18	4	145.93	.80	5.5	.64	4.4	.16	**	.50	3.00	18	4	7.130	0.00
19	5	379.44	1.65	4.3	1.65	4.3	0.00	**	1.40	3.00	19	5	10.500	.10
20	6	454.46	1.70	3.7	1.62	3.6	.08	**	1.40	2.00	20	6	5.240	0.00
21	3	159.80	.90	5.6	.90	5.6	0.00	**	.60	3.00	21	3	15.600	0.00
22	4	199.55	.75	3.8	.65	3.3	.10	**	.30	2.30	22	4	7.490	-.30
23	5	156.32	.80	5.1	.56	3.6	.24	**	.60	3.00	23	5	4.360	.20
24	6	385.98	2.40	6.2	2.30	5.9	.10	**	2.10	3.00	24	6	6.630	0.00
25	4	165.95	.85	5.1	.72	4.3	.13	**	.60	3.00	25	4	8.100	.10
26	5	180.80	1.20	6.6	1.00	5.6	.20	**	.90	2.50	26	5	4.190	0.00
27	6	154.65	1.45	9.4	1.08	7.0	.37	**	1.20	3.00	27	6	2.680	.10

BUSINESS FORMS PRINTING COMPANY ENGINEERED FOR HIGH SPEED PRINTERS

Job 478 EXT, Line 35, SW½ SP 1

5/25/70

1000 feet

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 3 south HALF S.W. SP. 1 DATE 5/25

SEND	CAL 2			3-4	4-5	5-6	6-7	2-3	3-4	4-5
RECEIVE	4-5	0-10	10-20	20-30				30-40		
RANGE	10			10	10	10	10	10	10	10
DC 1	0.0			0.1	0.1	0.9	1.1	2.5	1.3	1.2
DC 2				2.	2.	2.5	2.5	1.5	2.0	2.0
DC 3	2.							Mill, pipes, metal		
DC 4								at 3000'		
DC 5				1	2	3	4	5	6	7
DC 6				1	2	3	4	1	2	3
DC 7										
DC 8										
DC AVG.										
AC 1	198			830	223	56.4	23.3	289	28.9	15.3
AC 2	0.0			0.0	0.0	+0.1	-0.1	+0.1	-0.1	-0.1
AC AVG.										
S.P.	-1.0	+16.0	-208	+222.7				+17.0		
AC NOISE	.01									
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 3 SW HALF SW SP. 1 DATE 5/25

SEND	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7	1-2	2-3
RECEIVE	←	→	40-50					→	50-60	
RANGE	0.1	0.1	1.0	1.0	1.0	0.1	0.1	0.1	1.0	0.1
DC 1	2.2	1.8	0.9	2.1	1.5	1.5	1.6	1.4	1.0	2.4
DC 2	2.5	2.5	1.	1.5	2.	2.	2.5	2.5	1	1.5
DC 3	8	9	10	11	12	13	14	15	16	17
DC 4	4	5	1	2	3	4	5	6	2	3
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	6.34	3.54	70.3	34.4	13.2	9.24	4.83	2.94	13.8	9.83
AC 2	-0.2	+0.1	0.0	-0.1	0.0	+0.3	0.0	-0.3	-0.2	+0.1
AC AVG.										
S.P.			-2.9						+19.0	
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE ____ HALF SW SP. ____ DATE ____

SEND	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2	2-3	3-4	
RECEIVE	→	→	→	60-70	→	→	→	70-80	→	→	
RANGE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	.01	0
DC 1	1.9	2.0	2.3	1.1	2.2	1.9	2.0	0.5	2.3	0.0?	
DC 2											
DC 3	2.0	2.	2.5	1.	1.5	2.	2.	1.	1.5	2.	0
DC 4	18	19	20	21	22	23	24	25	26	27	100
DC 5	4	5	6	3	4	5	6	4	5	6	0
DC 6										7	
DC 7											
DC 8										6	
DC AVG.											
AC 1	4.70	3.60	2.10	5.22	4.53	2.68	2.06	1.54	1.56	.879	0
AC 2	+0.3	0.0	-0.4	+0.2	+0.1	0.0	+0.2	-0.1	+0.1	0.0	
AC AVG.											
S.P.				+26.2				-20.6			
AC NOISE											
POT RES.											

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp.
LINE 3S HALF NE SP. 1 DATE 5-25

SEND	Cal. 3A	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE		0-10E		10E-20E			20E-30E			
RANGE	10X200	10X150	10X100	10X200	10X150	10X100	10X200	10X200	10X150	10X100
VOLTAGE	1000	1000	790	1000	1000	790	780	1000	1000	790
CURRENT	2.0	1.5	1.0	2.0	1.5	1.0	2.0	2.0	1.5	1.0

SEND	5-6	4-5	3-4	2-3	1-2					
RECEIVE	30E-40E									
RANGE	10X300	10X200	10X200	10X150	10X100					
VOLTAGE	900	780	1000	1000	790					
CURRENT	3.0	2.0	2.0	1.5	1.0					

FREQUENCIES 1.0 0.1
SENDER NO. 6644-S
OPERATOR 23 Coons
RECEIVER NO. 1869 #R
OPERATOR 58 Terrell

COMMENTS:

PAGE 2

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Comp.

LINE 3.5 HALF NE SP. 1 DATE 5-23

SEND	6-7	5-6	4-5	3-4	2-3	1-2				
RECEIVE	40E-50E									
RANGE	10X250	10X250	10X200	10X200	10X150	10X100				
VOLTAGE	710	740	780	1000	1000	790				
CURRENT	2.5	2.5	2.0	2.0	1.5	1.0				
SEND	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4	
RECEIVE	50E-60E					60E-70E				
RANGE	10X250	10X250	10X200	10X200	10X150	10X250	10X250	10X200	10X200	
VOLTAGE	710	740	780	1000	1000	710	740	780	1000	
CURRENT	2.5	2.5	2.0	2.0	1.5	2.5	2.5	2.0	2.0	

FREQUENCIES 1.0 0.1

SENDER NO. 6644-5

OPERATOR 23

RECEIVER NO. 1869 1-R

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp.
LINE 3S HALF N-E SP. / DATE 5-25

SEND	6-7	5-6	4-5	~~3-4~~						
RECEIVE	70-80E									
RANGE	10X250	10X250	10X200							
VOLTAGE	710	740	780							
CURRENT	2.5	2.5	2.0							
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 1.0 0.1
SENDER NO. 6644-S
OPERATOR 23
RECEIVER NO. 18694R
OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp

LINE 75 HALF SW SP. 1 DATE 5-25

SEND	G/45	3-4	4-5	5-6	6-7	2-3	3-4	4-5	5-6	6-7
RECEIVE		20W-30W				30W-40W				
RANGE	10X200	10X200	10X200	10X250	10X250	10X150	10X200	10X200	10X250	10X250
VOLTAGE	760	1000	760	720	700	980	1000	760	720	700
CURRENT	2.0	2.0	2.0	2.5	2.5	1.5	2.0	2.0	2.5	2.5

SEND	1-2	2-3	3-4	4-5	5-6	6-7				
RECEIVE	40W-50W				~~10X250~~	~~10X250~~				
RANGE	10X100	10X150	10X200	10X200	10X250	10X250				
VOLTAGE	760	980	1000	760	720	700				
CURRENT	1.0	1.5	2.0	2.0	2.5	2.5				

FREQUENCIES 1.0 0.1

SENDER NO. 6694-5

OPERATOR 23

RECEIVER NO. 18691-R

OPERATOR 58

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Johnson Camp.
LINE 3-S HALF S W SP. 1 DATE 5-23

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	
RECEIVE	50-60W					60W-70W				
RANGE	10X100	10X150	10X200	10X200	10X250	10X100	10X150	10X200	10X200	
VOLTAGE	760	980	1000	760	720	760	980	1000	760	
CURRENT	1.0	1.5	2.0	2.0	2.5	1.0	1.5	2.0	2.0	
SEND	1-2	2-3	3-4							
RECEIVE	70W -	80W								
RANGE	10X100	10X150	10X200							
VOLTAGE	760	980	1000							
CURRENT	1.0	1.5	2.0							

FREQUENCIES 1.0 0.1
SENDER NO. 6644-S
OPERATOR 23
RECEIVER NO. 18691-R
OPERATOR 58

COMMENTS:

Job. 478 EXT, Line 3S, NE½ Sec 1

5/25/70

1000 feet

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 3 STA HALF NE SP. 1 DATE 5/25

SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAL 1.
RECEIVE	0-10	→	10-20	—	→	20-30	—	—	→	3-4
RANGE	10	10	10	10	1.0	10	1.0	1.0	0.1	10
DC 1	0.9	0.0	1.3	1.7	0.8	1.3	1.3	1.8	0.6	0.0
DC 2	1.5	1.	2.	1.5	1.	2.	2.	1.5	1.	2.
DC 3	1	2	3	4	5	6	7	8	9	
DC 4	1	2	1	2	3	1	2	3	4	
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	800	112	240	125	23.0	219	69.4	45.1	9.27	198
AC 2	+0.1	0.0	+0.2	0.0	+0.1	+0.2	0.0	0.0	-0.1	0.0
AC AVG.										
S.P.	+27.9		+17.7			+13.8				1.0
AC NOISE										.1
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 3 South HALF NE SP. 1 DATE 5/25

SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	30-40	→	→	→	→	40-50	→	→	→	→
RANGE	10	1.0	1.0	1.0	0.1	10	1.0	1.0	0.1	0.1
DC 1	1.0	1.2	1.2	1.9	0.7	0.7	0.7	1.0	0.9	1.4
DC 2										
DC 3	3.	2.	2.	1.5	1.0	2.5	2.5	2.0	2.0	1.5
DC 4	Fence									
DC 5	2000'									
DC 6	10	11	12	13	14	15	16	17	18	19
DC 7	1	2	3	4	5	1	2	3	4	5
DC 8	~~04~~	~~1~~	~~2~~	~~115~~	~~1~~	~~2~~	~~2~~	~~2~~	~~2~~	~~1~~
DC AVG.										
AC 1	263	48.0	21.7	15.8	3.58	11.0	39.5	13.9	7.43	5.84
AC 2	0.0	0.0	0.0	+0.1	+0.1	0.0	+0.1	0.0	+0.1	0.0
AC AVG.										
S.P.	-33.7					+26.8				
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Johnson Camp
LINE 3 Sth HALF NE SP. 1 DATE 5/25

SEND	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4
RECEIVE	→	50-60				→	60-70	→		
RANGE	0.1	1.0	1.0	0.1	0.1	0.1	1.0	0.1	0.1	0.1
DC 1	1.0	0.7	0.5	0.7	0.6	1.4	0.5	0.3	0.6	0.8
DC 2										
DC 3	1.	2.5	2.5	2.	2.	1.5	2.5	2.5	2.	2.0
DC 4	20	21	22	23	24	25	26	27	28	29
DC 5	6	2	3	4	5	6	3	4	5	6
DC 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DC 7										
DC 8										
DC AVG.										
AC 1	1.47	26.0	13.6	6.09	3.77	3.13	10.6	6.75	3.49	2.37
AC 2	0.0	+0.2	0.0	+0.1	-0.3	0.0	+0.3	+0.1	0.0	-0.1
AC AVG.										
S.P.		-9.82					+73.6			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PAGE 4

PROJECT Johnson Camp

LINE 3 STA HALF NE SP. 1 DATE 5/25

SEND	6-7	5-6	4-5							
RECEIVE	70-80	→	→							
RANGE	0.1	0.1	0.1							
DC 1	0.6	0.7	1.3	0						
DC 2										
DC 3	Powerline 7200'									
DC 4	2.5	2.5	2.0	0						
DC 5	30	31	32	150						
DC 6	4	5	6	0						
DC 7	[illegible]	[illegible]	[illegible]							
DC 8										
DC AVG.										
AC 1	5.24	3.67	2.09	0						
AC 2	+0.1	0.0	0.2	0						
AC AVG.										
S.P.	+16.4									
AC NOISE										
POT RES.										

JOB 478 EXT LINE 3S NE 1/2 SP1 5/25/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 1

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	0.00	198.000	0.00	1.00	.10	0.0000	1.0101

		COMPUTED DATA							FIELD DATA					
POINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR	PT.	N	AC1	AC2
1	1	1630.71	.85	.5	.85	.5	0.00	**	.90	1.50	1	1	800.000	.10
2	2	1357.58	0.00	0.0	0.00	0.0	0.00	**	0.00	1.00	2	2	112.000	0.00
3	1	368.37	1.20	3.3	1.20	3.3	0.00	**	1.30	2.00	3	1	240.000	.20
4	2	1027.27	1.70	1.7	1.70	1.7	0.00	**	1.70	1.50	4	2	125.000	0.00
5	3	702.55	.75	1.1	.75	1.1	0.00	**	.80	1.00	5	3	23.000	.10
6	1	336.14	1.20	3.6	1.20	3.6	0.00	**	1.30	2.00	6	1	219.000	.20
7	2	426.07	1.30	3.1	1.30	3.1	0.00	**	1.30	2.00	7	2	69.400	0.00
8	3	927.51	1.80	1.9	1.80	1.9	0.00	**	1.80	1.50	8	3	45.100	0.00
9	4	565.19	.65	1.2	.65	1.2	0.00	**	.60	1.00	9	4	9.270	-.10
10	1	268.31	1.00	3.7	1.00	3.7	0.00	**	1.00	3.00	10	1	263.000	0.00
11	2	294.40	1.20	4.1	1.20	4.1	0.00	**	1.20	2.00	11	2	48.000	0.00
12	3	332.73	1.20	3.6	1.20	3.6	0.00	**	1.20	2.00	12	3	21.700	0.00
13	4	650.52	1.85	2.8	1.85	2.8	0.00	**	1.90	1.50	13	4	15.800	.10
14	5	382.36	.65	1.7	.65	1.7	0.00	**	.70	1.00	14	5	3.580	.10
15	1	14x28	.70	49x0	.46	31.9	.24	**	.70	2.50	15	1	11x700	0.00
16	2	192.86	.65	3.4	.65	3.4	0.00	**	.70	2.50	16	2	39.500	.10
17	3	212.71	1.00	4.7	1.00	4.7	0.00	**	1.00	2.00	17	3	13.900	0.00
18	4	227.18	.85	3.7	.77	3.4	.08	**	.90	2.00	18	4	7.430	.10
19	5	418.71	1.40	3.3	1.40	3.3	0.00	**	1.40	1.50	19	5	5.840	0.00
20	6	251.95	1.00	4.0	.81	3.2	.19	**	1.00	1.00	20	6	1.470	0.00
21	2	126.94	.60	4.7	.60	4.7	0.00	**	.70	2.50	21	2	26.000	.20
22	3	165.67	.50	3.0	.50	3.0	0.00	**	.50	2.50	22	3	13.600	0.00
23	4	185.84	.65	3.5	.54	2.9	.11	**	.70	2.00	23	4	6.090	.10
24	5	201.12	.75	3.7	.58	2.9	.17	**	.60	2.00	24	5	3.770	-.30
25	6	359.06	1.40	3.9	1.28	3.6	.12	**	1.40	1.50	25	6	3.130	0.00
26	3	129.13	.35	2.7	.25	2.0	.10	**	.50	2.50	26	3	10.600	.30
27	4	164.13	.25	1.5	.12	.7	.13	**	.30	2.50	27	4	6.750	.10
28	5	186.19	.60	3.2	.41	2.2	.19	**	.60	2.00	28	5	3.490	0.00
29	6	202.70	.85	4.2	.59	2.9	.26	**	.80	2.00	29	6	2.370	-.10
30	4	127.79	.55	4.3	.36	2.8	.19	**	.60	2.50	30	4	5.240	.10
31	5	156.79	.70	4.5	.46	2.9	.24	**	.70	2.50	31	5	3.670	0.00
32	6	179.64	1.20	6.7	.90	5.0	.30	**	1.30	2.00	32	6	2.090	.20

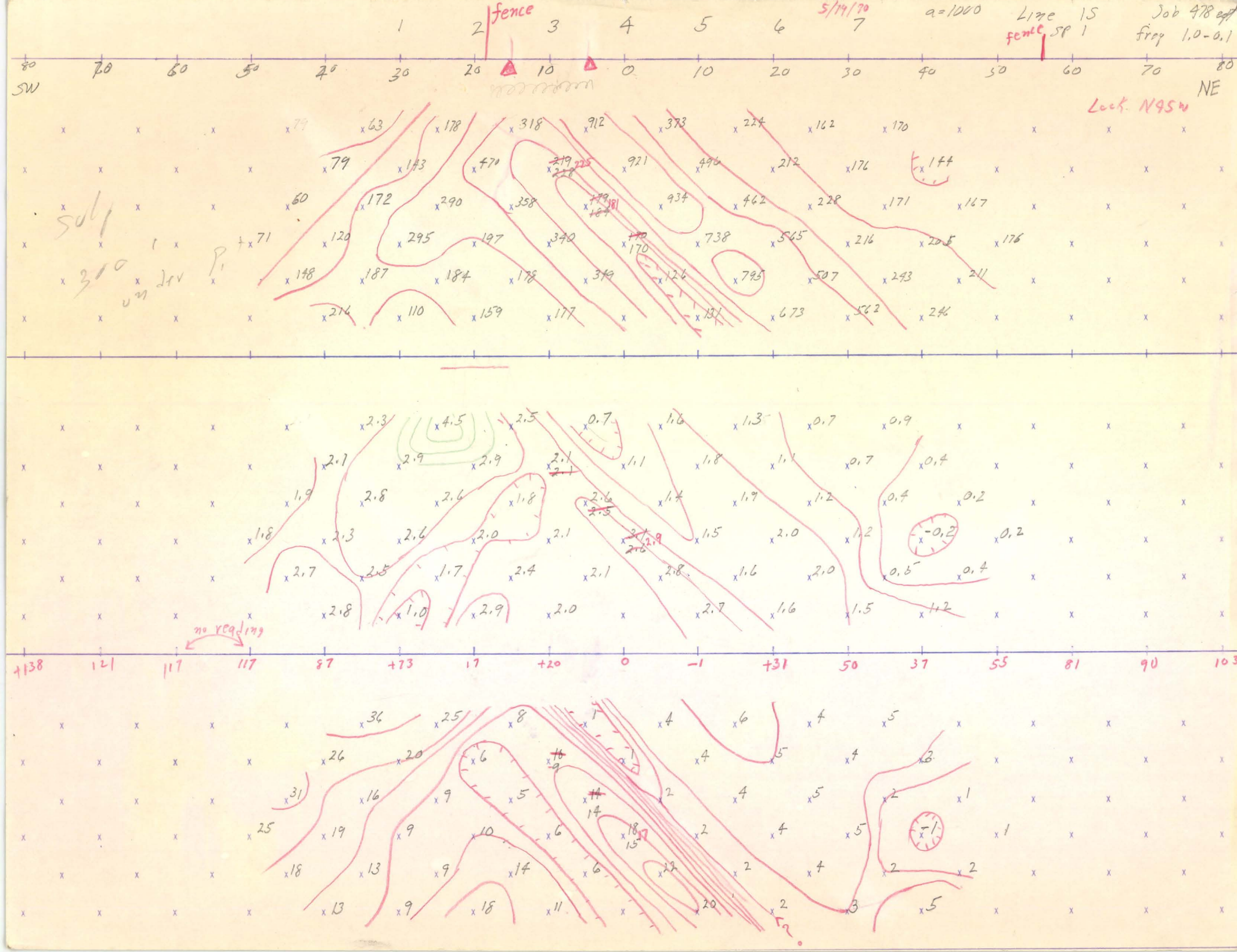
BUSINESS FORMS PRINTING COMPANY ENGINEERED FOR HIGH SPEED PRINTERS

JOB 478 EXT LINE 3S SW 1/2 SP1 5/25/70 1000 FEET=DIPOLE LENGTH
CAL GROUP NO. 2

CAL CUR	PFE	AC1	AC2	AC FREQ	DC FREQ	PFE CAL	RHO CAL
2.000	0.00	198.000	0.00	1.00	.10	0.0000	1.0101

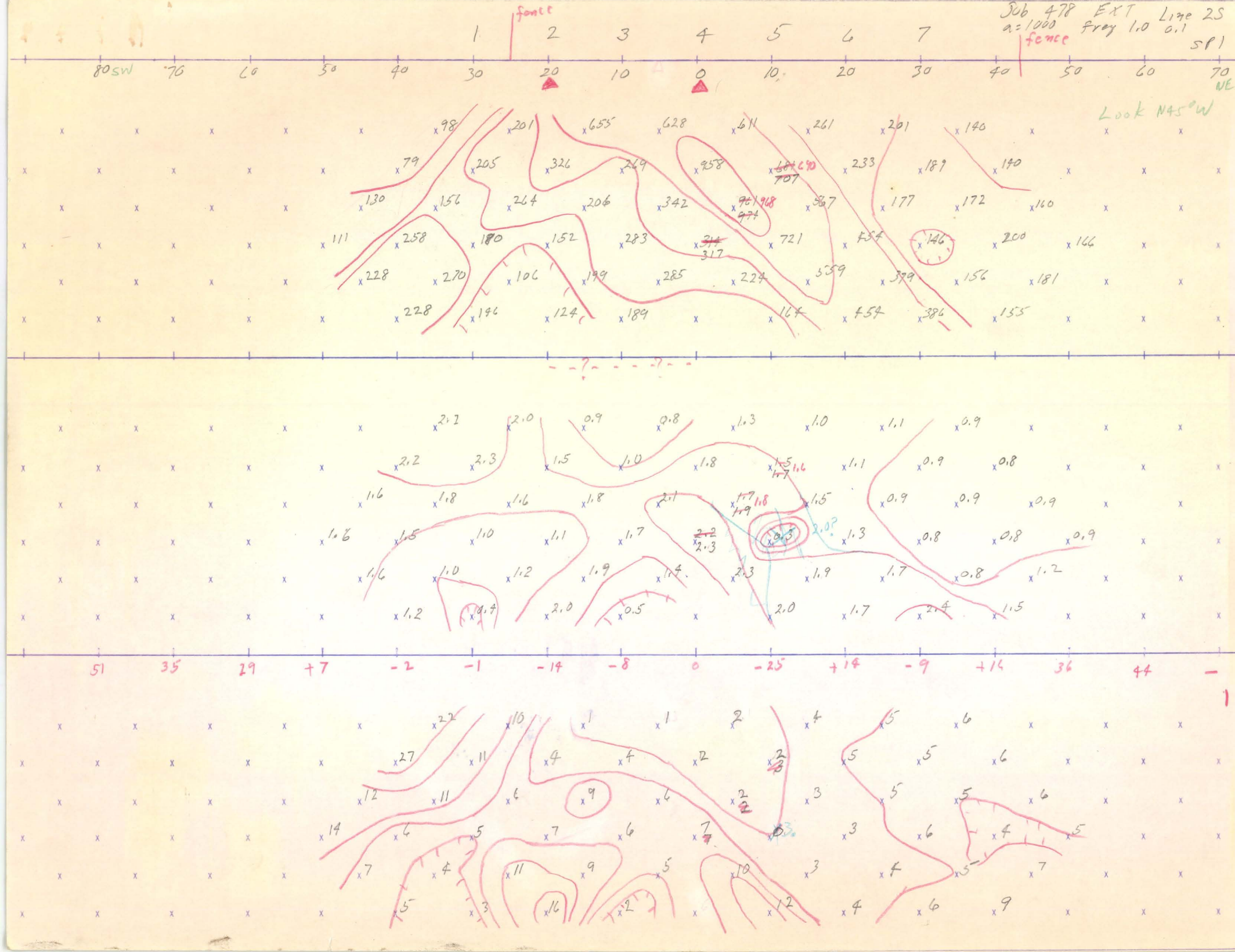
		COMPUTED DATA							FIELD DATA					
PCINT NO.	N	RHO	PFE	MCF	CCPFE	CCMCF	CPFE		PFE	CUR PT.	N		AC1	AC2
1	1	1258.83	.10	.1	.10	.1	0.00	**	.10	2.00	1	1	830.000	0.00
2	2	1352.87	.10	.1	.10	.1	0.00	**	.10	2.00	2	2	223.000	0.00
3	3	689.79	.85	1.2	.85	1.2	0.00	**	.90	2.50	3	3	56.400	.10
4	4	571.06	1.15	2.0	1.15	2.0	0.00	**	1.10	2.50	4	4	23.300	-.10
5	1	598.44	2.45	4.1	2.45	4.1	0.00	**	2.50	1.50	5	1	289.000	.10
6	2	177.43	1.35	7.6	1.35	7.6	0.00	**	1.30	2.00	6	2	28.900	-.10
7	3	234.60	1.25	5.3	1.25	5.3	0.00	**	1.20	2.00	7	3	15.300	-.10
8	4	157.07	2.30	14.6	2.16	13.7	.14	**	2.20	2.50	8	4	6.340	-.20
9	5	152.89	1.75	11.4	1.50	9.8	.25	**	1.80	2.50	9	5	3.540	.10
10	1	214.95	.90	4.2	.90	4.2	0.00	**	.90	1.00	10	1	70.300	0.00
11	2	283.81	2.15	7.6	2.15	7.6	0.00	**	2.10	1.50	11	2	34.400	-.10
12	3	203.00	1.50	7.4	1.50	7.4	0.00	**	1.50	2.00	12	3	13.200	0.00
13	4	284.21	1.35	4.8	1.35	4.8	0.00	**	1.50	2.00	13	4	9.240	.30
14	5	208.19	1.60	7.7	1.44	6.9	.16	**	1.60	2.50	14	5	4.830	0.00
15	6	202.35	1.55	7.7	1.29	6.4	.26	**	1.40	2.50	15	6	2.940	-.30
16	2	168.94	1.10	6.5	1.10	6.5	0.00	**	1.00	1.00	16	2	13.800	-.20
17	3	203.35	2.35	11.6	2.35	11.6	0.00	**	2.40	1.50	17	3	9.830	.10
18	4	145.13	1.75	12.1	1.59	11.0	.16	**	1.90	2.00	18	4	4.700	.30
19	5	194.73	2.00	10.3	1.82	9.4	.18	**	2.00	2.00	19	5	3.600	0.00
20	6	145.82	2.50	17.1	2.09	14.4	.41	**	2.30	2.50	20	6	2.100	-.40
21	3	159.92	1.00	6.3	1.00	6.3	0.00	**	1.10	1.00	21	3	5.220	.20
22	4	187.06	2.15	11.5	2.04	10.9	.11	**	2.20	1.50	22	4	4.530	.10
23	5	144.82	1.90	13.1	1.63	11.3	.27	**	1.90	2.00	23	5	2.680	0.00
24	6	178.29	1.90	10.7	1.59	8.9	.31	**	2.00	2.00	24	6	2.060	.20
25	4	93.80	.55	5.9	.26	2.8	.29	**	.50	1.00	25	4	1.540	-.10
26	5	112.84	2.25	19.9	1.88	16.6	.37	**	2.30	1.50	26	5	1.560	.10
27	6	74.58	0.00	0.0	-1.00	-13.4	1.00	**	0.00	2.00	27	6	.879	0.00

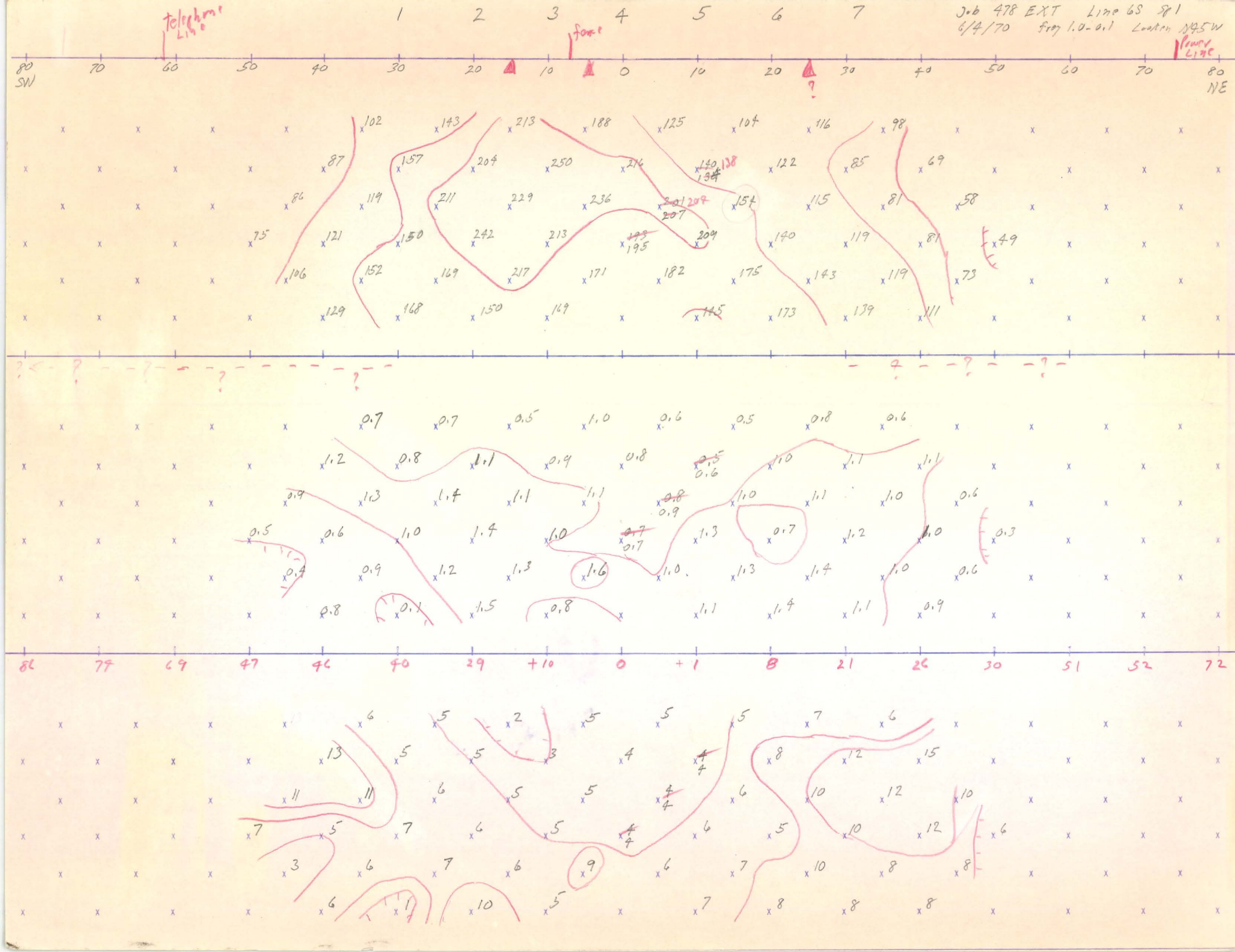
ENGINEERED FOR HIGH SPEED PRINTERS
BUSINESS FORMS PRINTING COMPANY

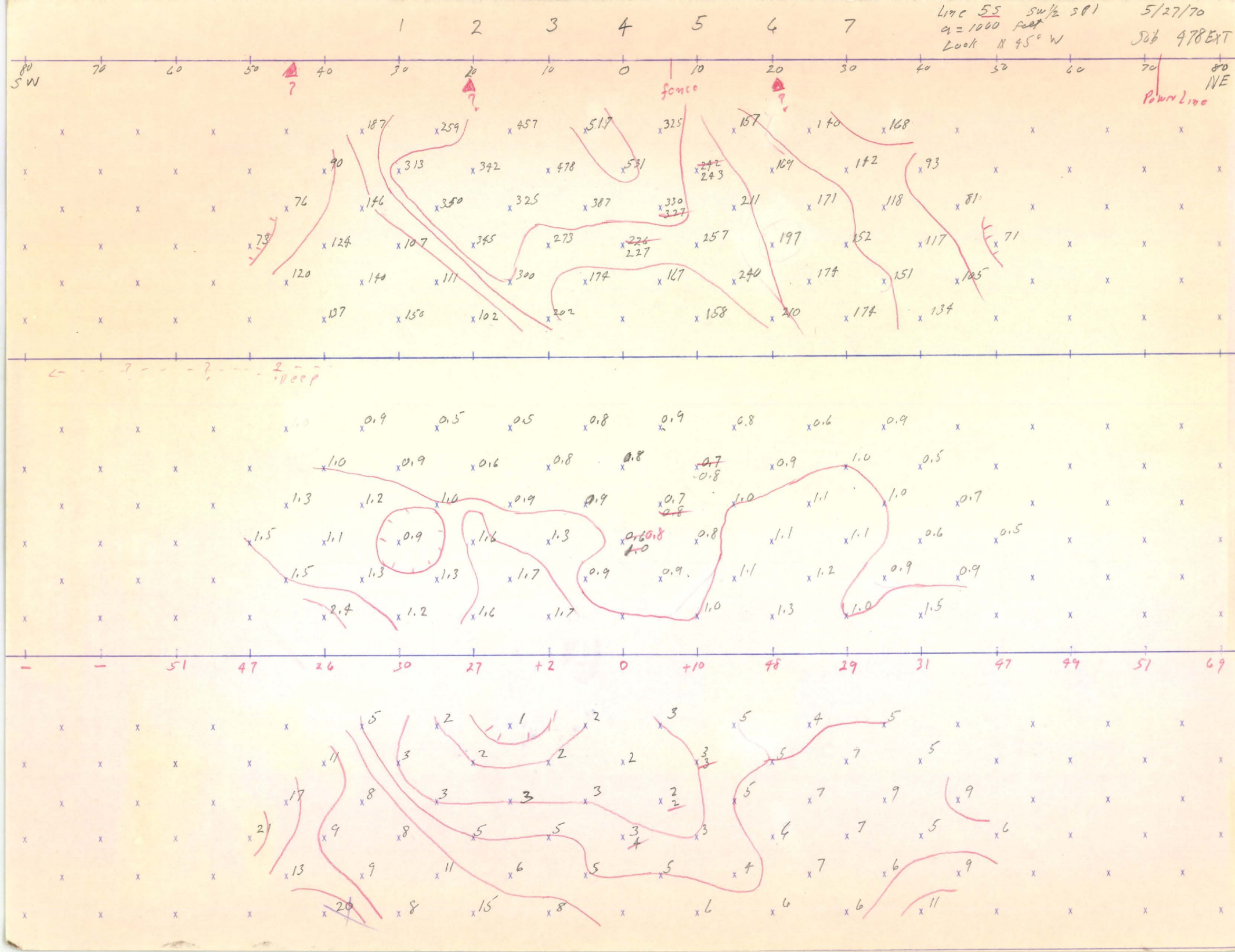

fence
5/14/70
a=1000
Line 15
Job 478
fence
SW
NE
Look: N45W
no reading

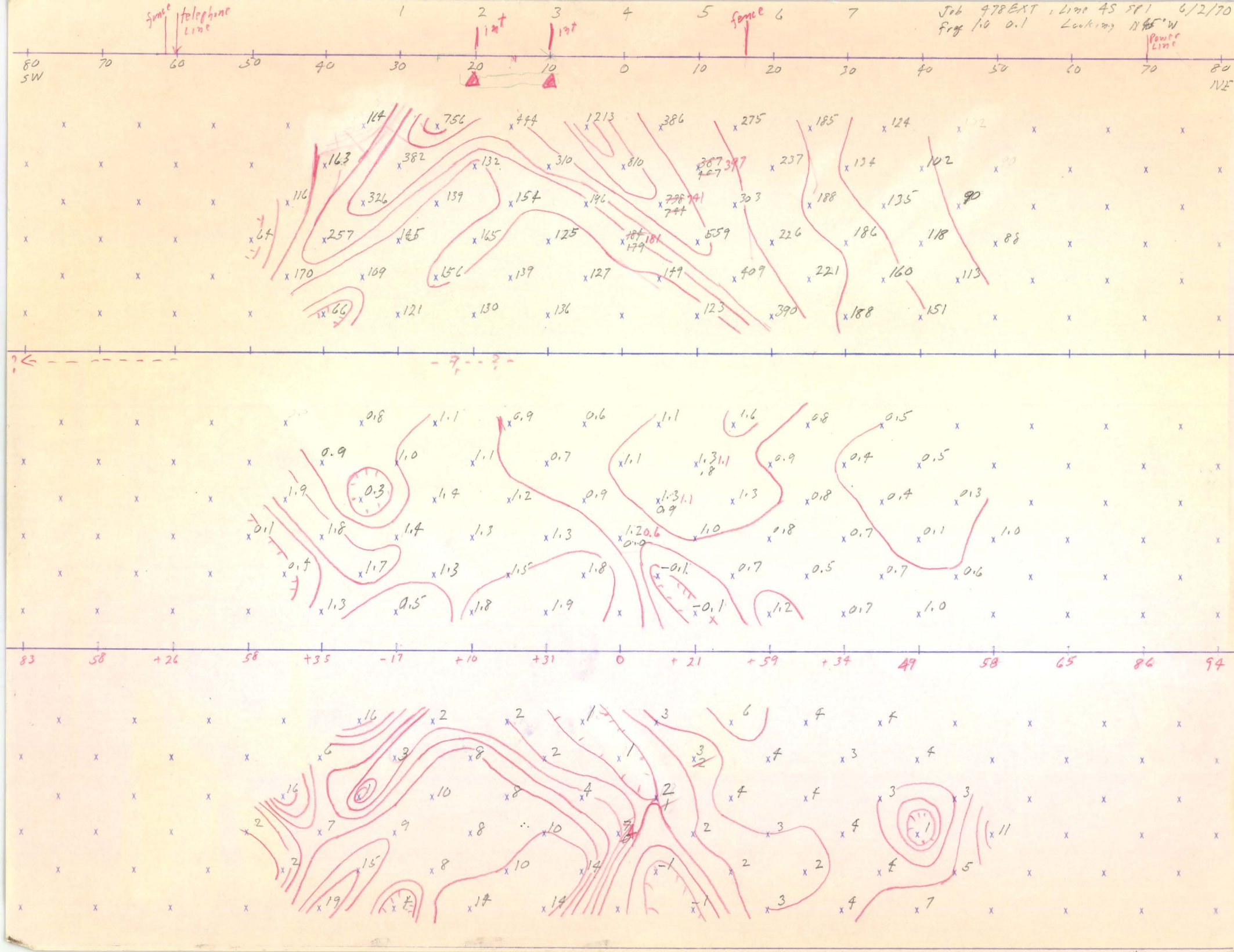
Cyprus Mines Corp

Johnson Camp, Arizona


Sub 478 EXT Line 2S
a=1000 freq 1.0 0.1
fence
fence
1 2 3 4 5 6 7
80 SW 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 NE
Look N45°W
51 35 29 +7 -2 -1 -14 -8 0 -25 +14 -9 +14 36 44 —

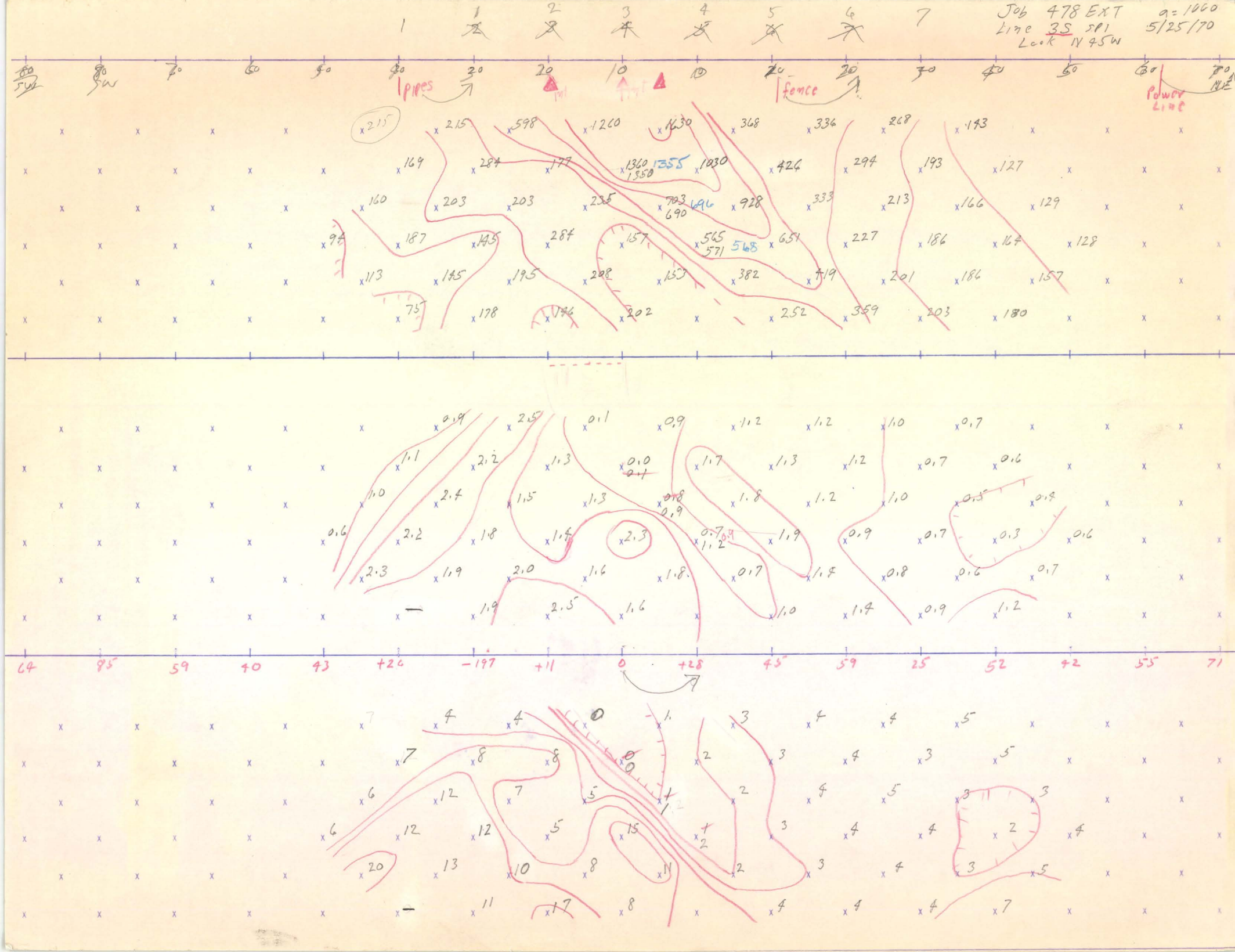

Job 478 EXT Line 6S Sp 1
6/4/70 Freq 1.0-0.1 Looker N45W
telephone Line
fence
Power Line
1 2 3 4 5 6 7
80 SW 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 NE
86 74 69 47 46 40 29 +10 0 +1 8 21 26 30 51 52 72


1 2 3 4 5 6 7
Line 55 SW½ SW1
q = 1000 feet
Look N 45° W
5/27/70
506 478EXT
SW
NE
fence
Power Line
deep

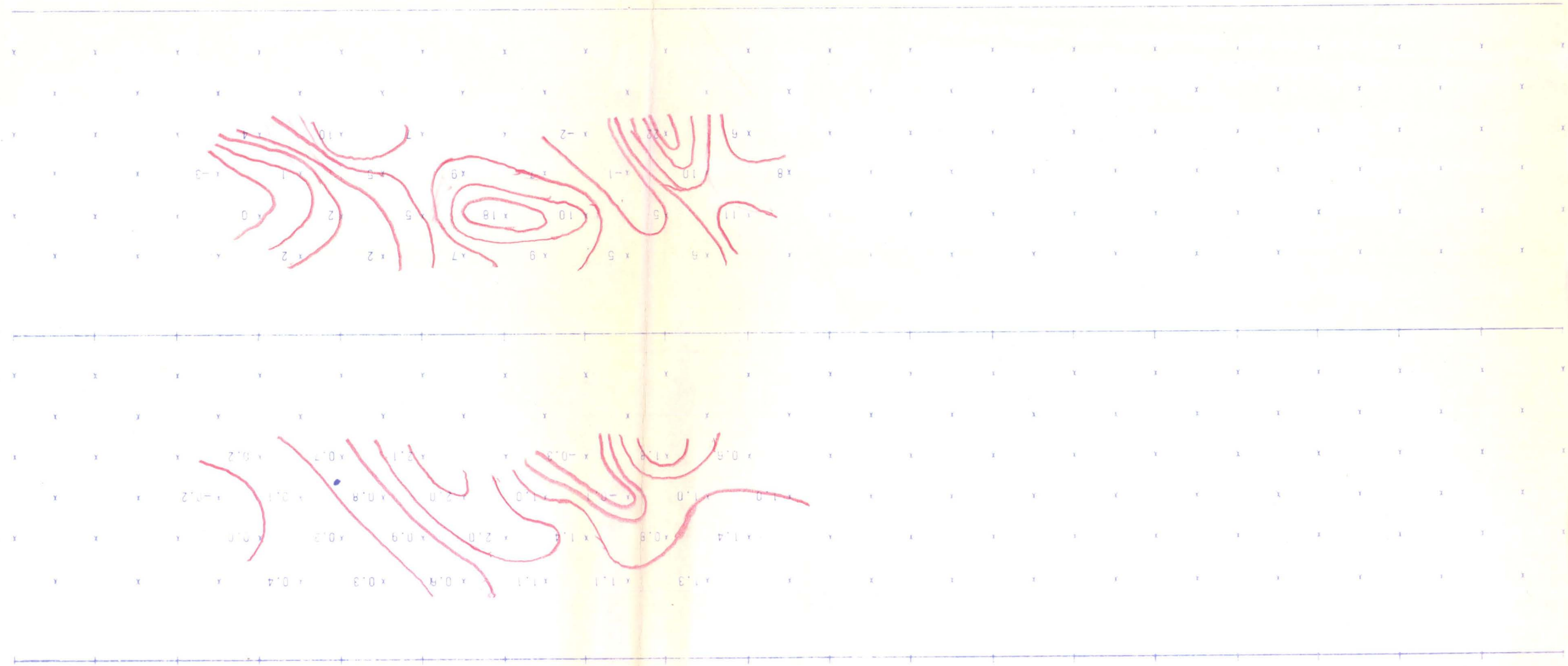

Job 478EXT, Line 4S SP1 6/2/70
Freq 1.0 0.1 Looking N45°W
fence
telephone line
1 2 3 4 5 6 7
1st
1st
fence
Power Line
80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80
SW
NE
83 58 +26 58 +35 -17 +10 +31 0 +21 +59 +34 49 58 65 86 94

9) 6 60 (7

6.30
3


Job 478 EXT
Line 3S SP1
Look N 45W
a = 1060
5/25/70
pipes
fence
Power Line
64
85
59
40
43
+26
-197
+11
0
+28
45
59
25
52
42
55
71

SELF POTENTIAL IN MILLIVOLTS



APPARENT METALLIC CONDUCTION FACTOR (MCF)

$$MCF = \frac{PFE \times 1000}{\rho DC / 2\pi}$$

CONTOUR INTERVAL LOGARITHMIC

PERCENT FREQUENCY EFFECT (PFE)

CONTOUR INTERVAL CONSTANT

SENDER FREQUENCIES: 0.05 & 3.0 Hz

APPARENT RESISTIVITY ($\rho DC/2\pi$) IN UNITS OF OHM FEET

CONTOUR INTERVAL LOGARITHMIC

SENDER FREQUENCY: 0.05 Hz

SURFACE

ELECTRODES →

SURFACE

STATIONS →

120W 110 100 90 80 70 60W 50 40 30 20 10 0

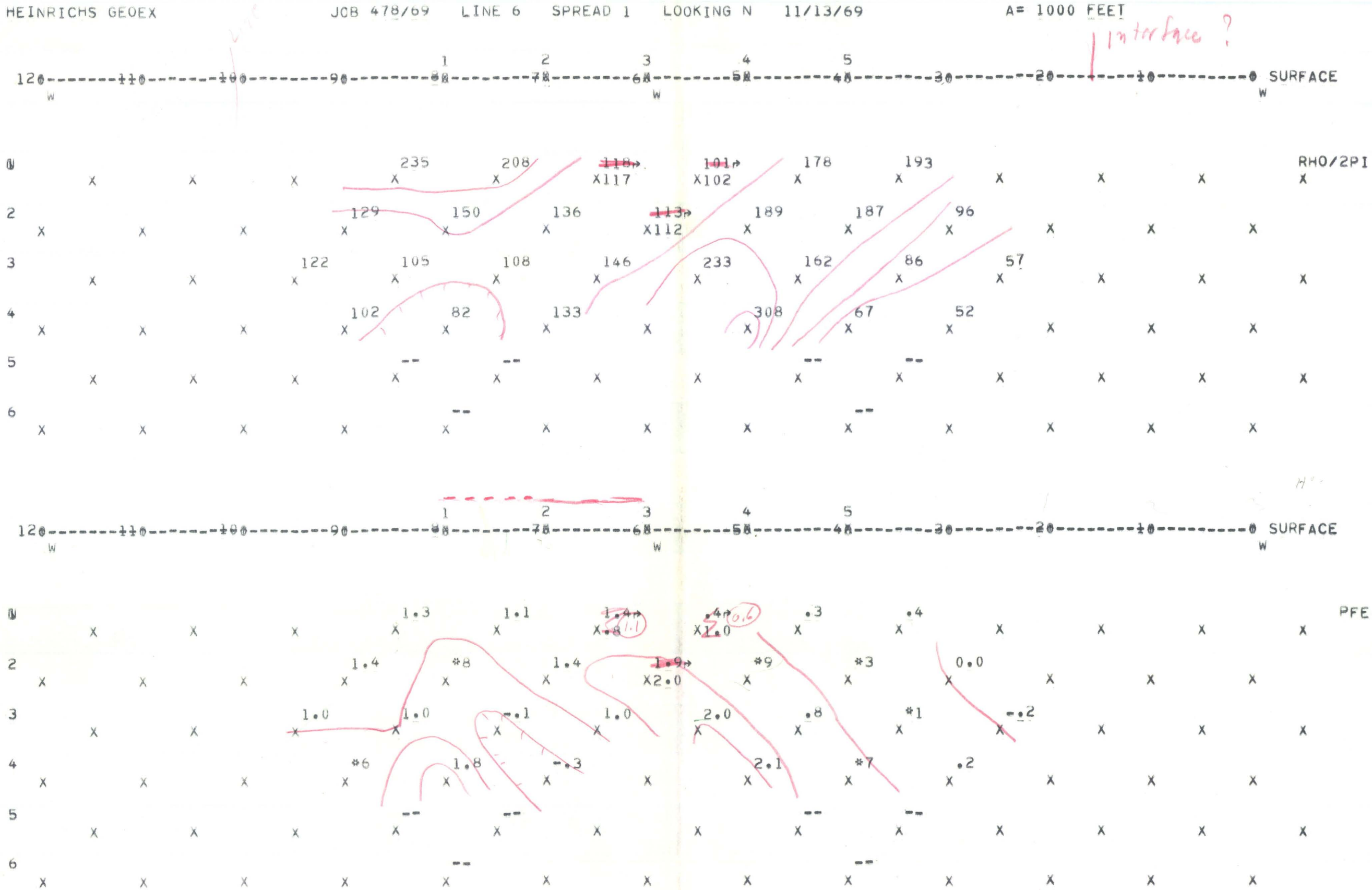
1 2 3 4 5

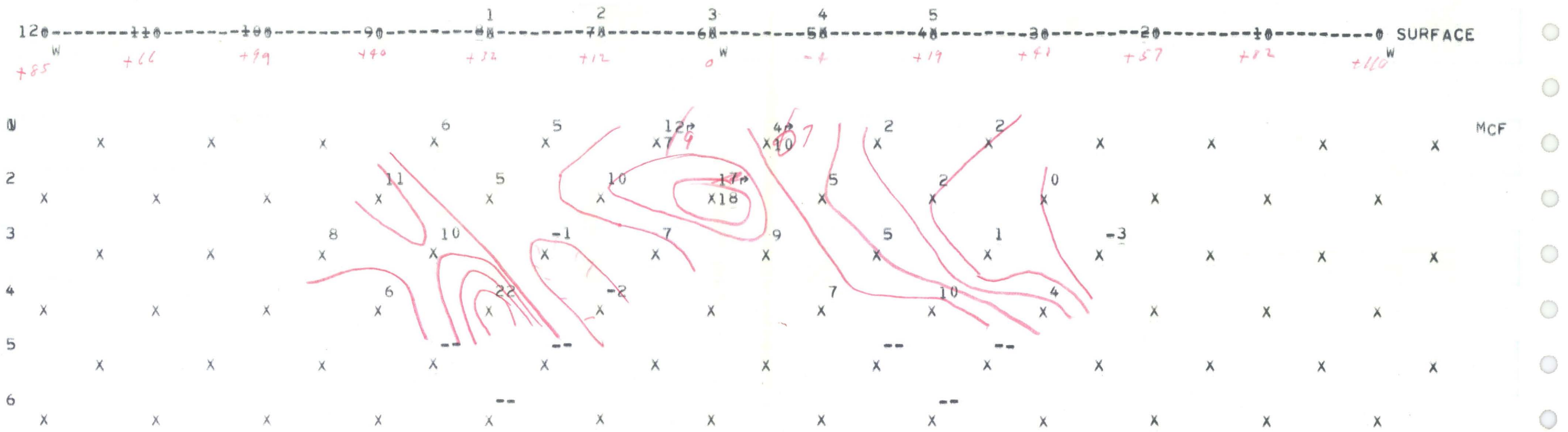
SPREAD 1

INTERFACE 2

478-69

HEINRICHS GEOEX JOB 478/69 LINE 6 SPREAD 1 LOOKING N 11/13/69 A= 1000 FEET






```
AC READING MISSING CARD   1
AC READING MISSING CARD   9
AC READING MISSING CARD  13
AC READING MISSING CARD  17
AC READING MISSING CARD  17
AC READING MISSING CARD  17
AC READING MISSING CARD  17
AC READING MISSING CARD  17
AC READING MISSING CARD  17
AC READING MISSING CARD  18
AC READING MISSING CARD  18
AC READING MISSING CARD  18
AC READING MISSING CARD  18
AC READING MISSING CARD  18
AC READING MISSING CARD  18
AC READING MISSING CARD  18
AC READING MISSING CARD  18
AC READING MISSING CARD  19
AC READING MISSING CARD  19
```

SELF POTENTIAL IN MILLIVOLTS

APPARENT METALLIC CONDUCTION FACTOR M =

$$MCF = \frac{\rho_{EE} \times 1000}{\rho_{DC}/2\pi}$$

CONTOUR INTERVAL LOGARITHMIC

APPARENT FREQUENCY EFFECT (PFE)

CONTOUR INTERVAL CONSTANT

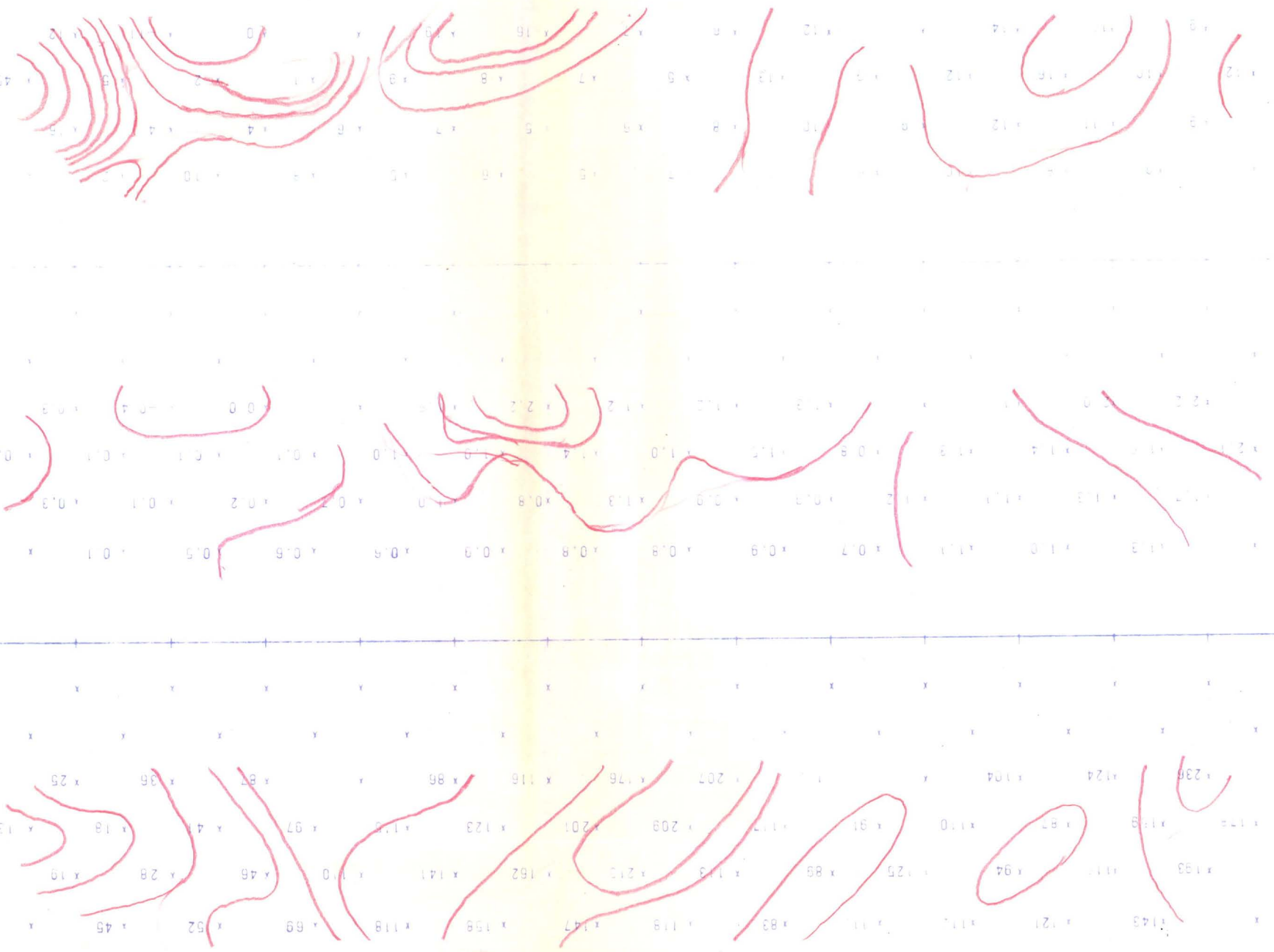
SENDER FREQUENCIES: 0.05 & 0.5 HZ

APPARENT RESISTIVITY ($\rho_{DC}/2\pi$)

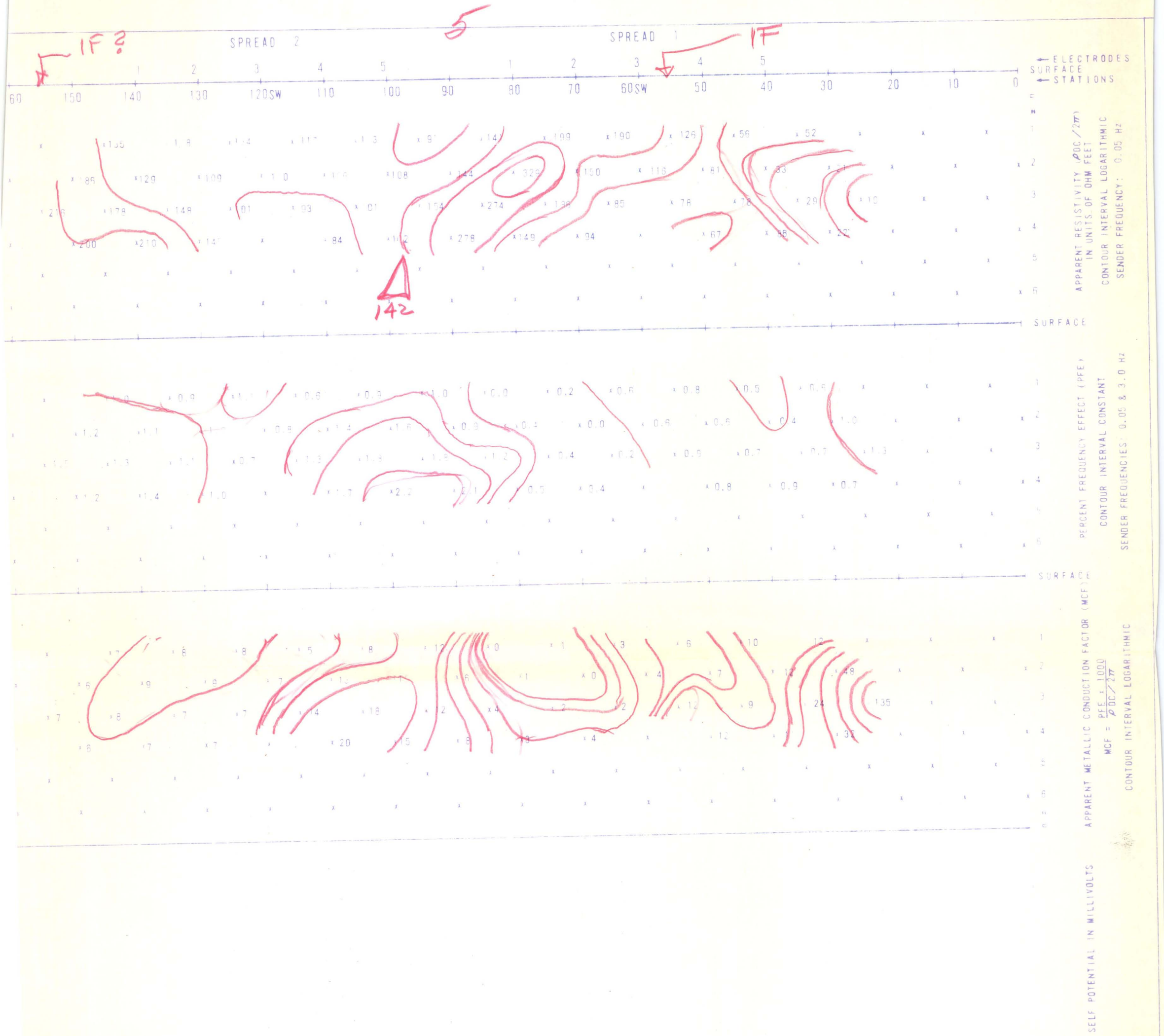
IN UNITS OF OHM FEET

CONTOUR INTERVAL LOGARITHMIC

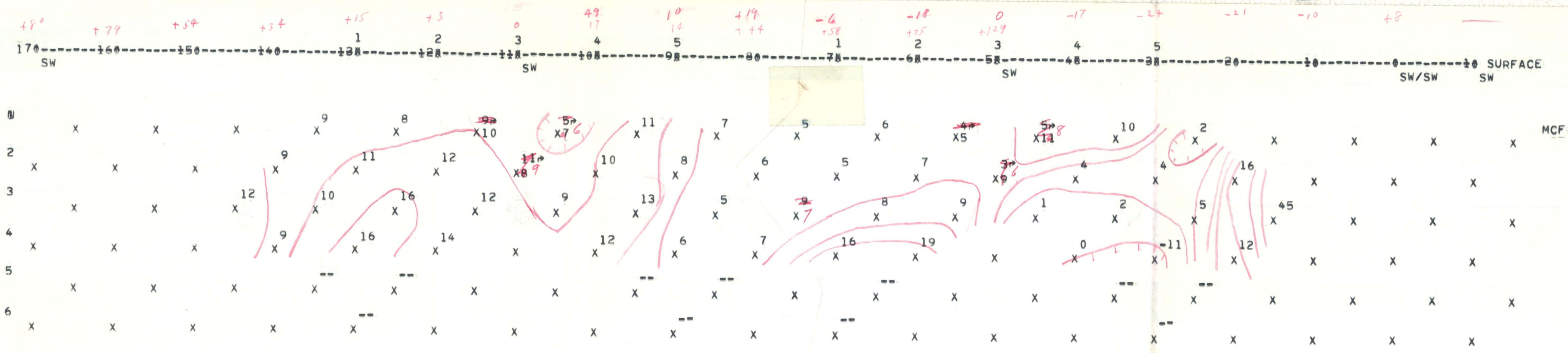
SENDER FREQUENCY: 0.05 HZ



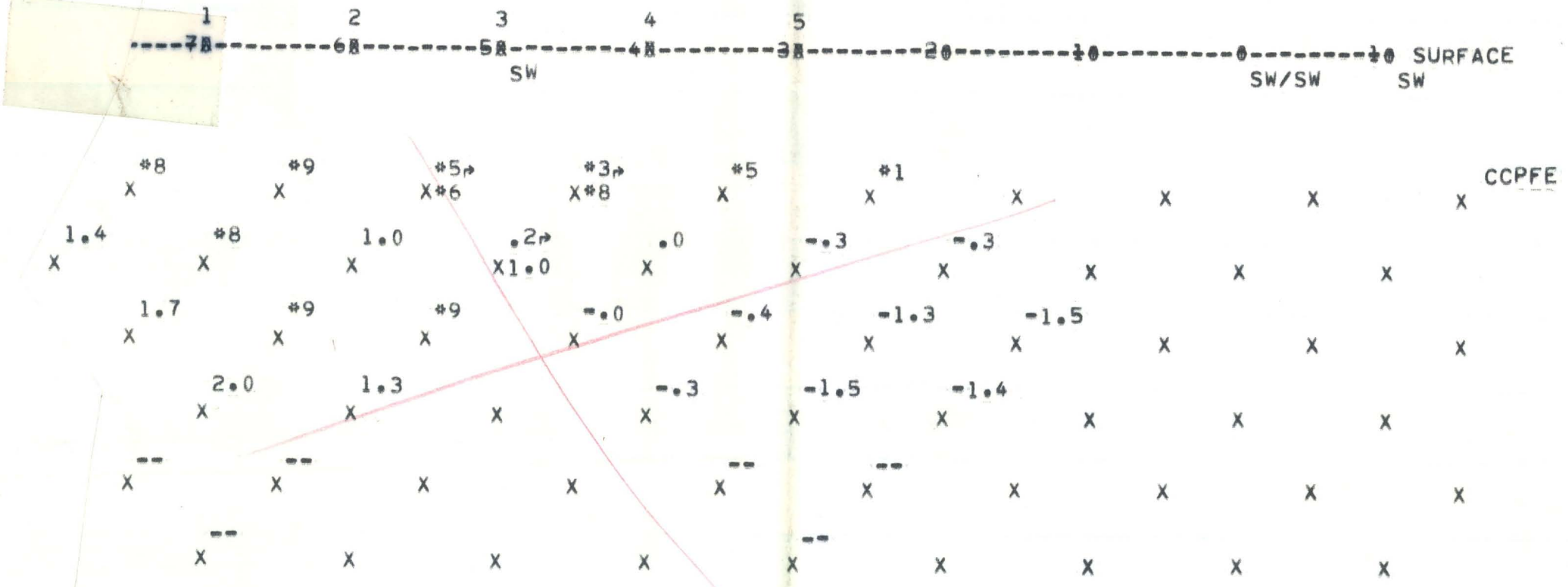
478-59



SPREAD 2
SPREAD 1
1F ?
5
1F
142
ELECTRODES
SURFACE
STATIONS
APPARENT RESISTIVITY (ρDC/2π) IN UNITS OF OHM FEET
CONTOUR INTERVAL LOGARITHMIC
SENDER FREQUENCY: 0.05 Hz
PERCENT FREQUENCY EFFECT (PFE)
CONTOUR INTERVAL CONSTANT
SENDER FREQUENCIES: 0.05 & 3.0 Hz
APPARENT METALLIC CONDUCTION FACTOR (MCF)
MCF = PFE x 1000 / ρDC/2π
CONTOUR INTERVAL LOGARITHMIC
SELF POTENTIAL IN MILLIVOLTS

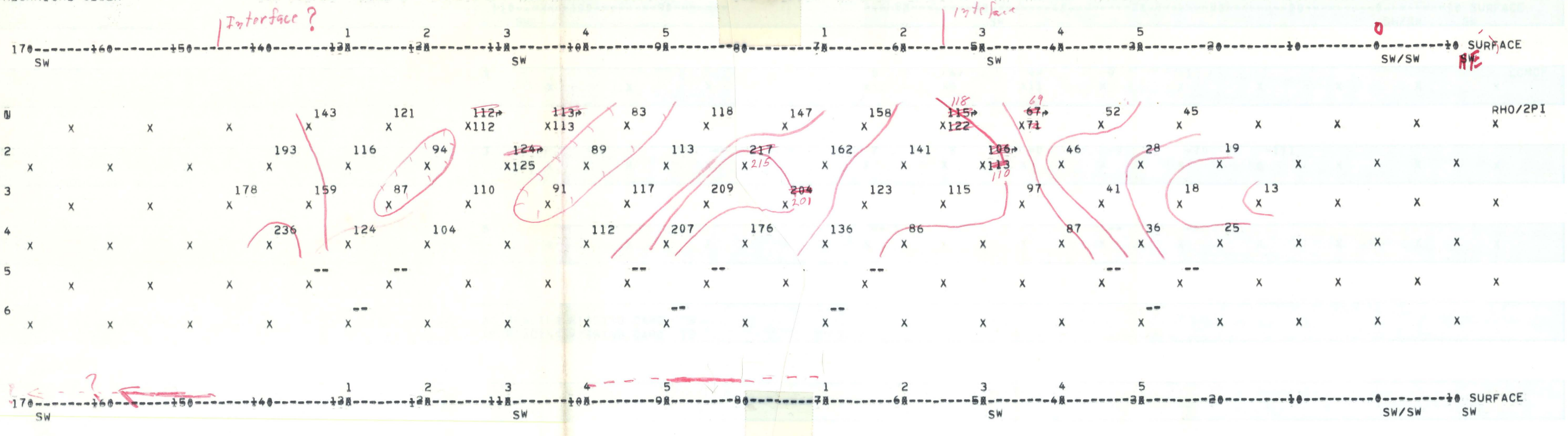


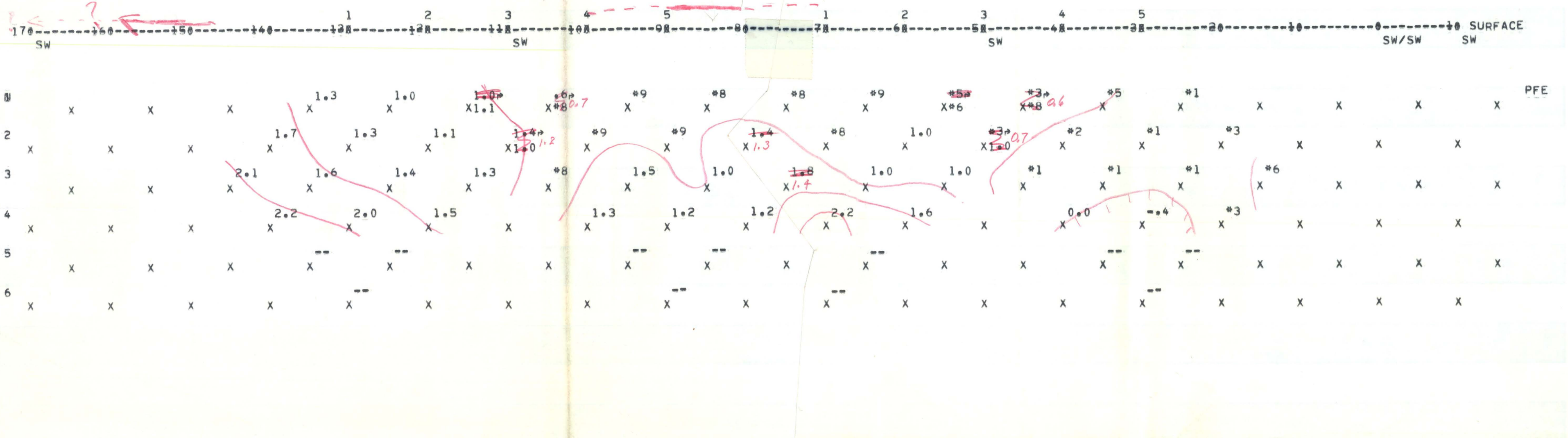
AC READING MISSING CARD 12



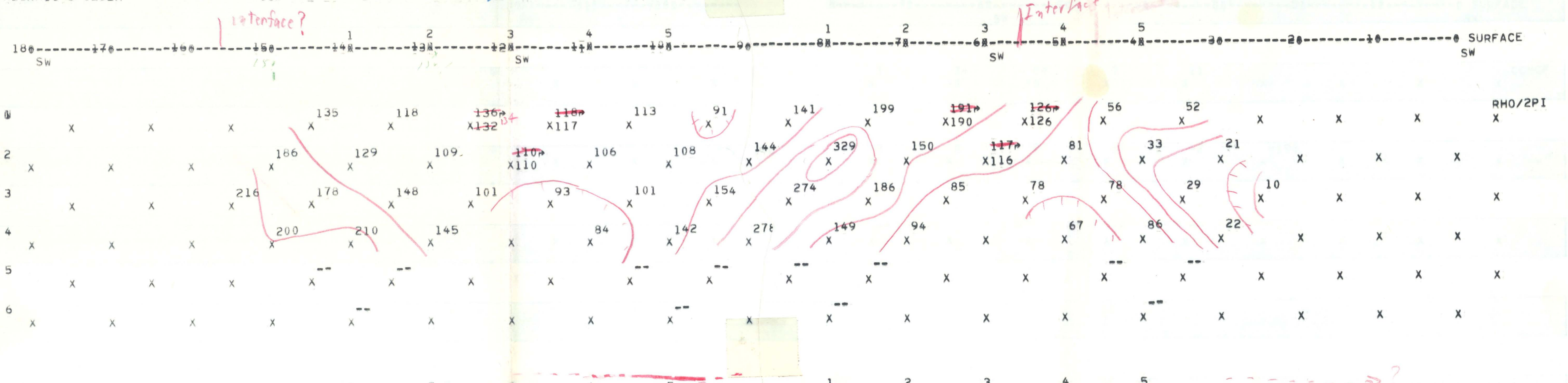
Cyprus Mines Corporation

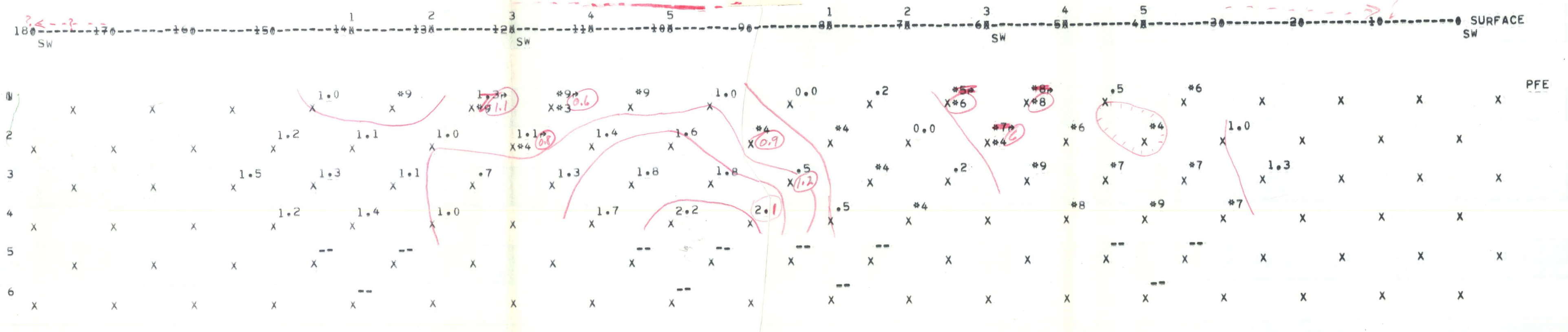
HEINRICHS GEOEX JOB 478/69 LINE 4 SPREAD 2 LOOKING NW 11/7/69 JOB 478/69 LINE 4 SPREAD 1 LOOKING NW 11/6/69 A= 1000 FEET





HEINRICHS GEOEX JOB 478/69 LINE 5 SPREAD 2 LOOKING NW 11/12/69 JOB 478/69 LINE 5 SPREAD 1 LOOKING NW 11/11/69 A= 1000 FEET





BUSINESS FORMS PRINTING COMPANY BLUE RIBBON ENGINEERED FOR HIGH SPEED PRINTERS

AC READING MISSING CARD 5
AC READING MISSING CARD 14

JOB 478 LINE 6 SPREAD 1

LOOKING N DATE Nov 13 A= 1000

CENTER -60.0 LABEL w/w FREQ. 1.0 - 0.1

COUPLING yes

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PAGE

PROJECT Cyrus Mines 478-69
LINE 6 HALF W SP. 1 DATE 11/13

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	60-70	70 →	80	80	→	90	90	→		100
RANGE	10	10	1.0	10	1.0	1.0	10.0	1.0	1.0	0.1
DC 1 .3	.8	.7	1.1	.8	1.0	.9	.9	.6	.3	.5
DC 2 .1	1.7	1.6	2.7	1.8	2.1	1.7	2.0	1.5	.6	.5
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1 1.0	132.	152.	36.2	270.	44.1	19.0	305.	48.7	14.2	8.73
AC 2 1.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
AC AVG.										
S.P.	+11.6	+9.7		+7.7			+8.6			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cyprus Mines 428-69
LINE 6 HALF W SP. 1 DATE 11/13.

PAGE

SEND	1-2	2-3	3-4	1-	1-2	2-3	3-4			CAL
RECEIVE	100 →		110		110 →		120			3-4
RANGE	1.0	1.0	0.1		1.0	0.1				
DC 1 .3	.9	.7	1.3		.7	.7				.1
DC 2 .1	2.1	1.7	2.5		1.8	1.4				.7
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1 1.0	11.9	13.6	5.27		15.9	6.64				19?.
AC 2 1.0	0.0	0.0	0.0		0.2	0.2				0.0
AC AVG.										
S.P.	+17.3				+19.1					
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION · CO.

I. P. SENDER NOTES

PROJECT Cyprus 478-69

LINE 6 HALF West SP. 1 DATE 11-69

PAGE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	60-70	70 →	→80	80 →		→90	90 →			→100
RANGE	Hi	Hi	Hi	Lo	Hi	Hi	Lo	Lo	Hi	Hi
VOLTAGE	800	775	800	320	775	800	340	320	770	790
CURRENT	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A
SEND	1-2	2-3	3-4		1-2	2-3			CAL	3-4
RECEIVE	100 →		→110		110 →	→120				
RANGE	Hi	Hi	Lo		Lo	Lo			Low	
VOLTAGE	340	320	560		340	320			280	
CURRENT	4.0 A	4.0 A	4.0 A	↓	4.0 A	4.0 A	↓	↓	2 A	

FREQUENCIES .1 .3 1.0

SENDER NO. MK4 46 44 -5

OPERATOR DJJ

RECEIVER NO. 4C

OPERATOR J. B.

COMMENTS:

VOLTAGE NOTED FOR LAST 2 (3-4) IS FOR SURE - POSSIBLE ERROR IN 1ST 3 - (3-4) VOLTAGES

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cyprus Mines 478-67
LINE 6 HALF E SP. 1 DATE 11/14

PAGE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	60-50	50 →	40	40	→	30	30	→		20
RANGE	10.0	10.0	1.0	10.0	1.0	1.0	10.0	1.0	1.0	1.0
DC 1 .3	1.2	.7	1.2	.4	.8	1.3	.6	.5	1.0	1.4
DC 2 .1	2.7	1.7	3.1	1.5	2.1	3.2	1.7	1.6	2.1	3.3
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1 1.0	154.	132.	36.5	234.	61.9	30.2	254.	61.5	21.2	19.9
AC 2 1.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0
AC AVG.										
S.P.	-3.7	+23.0		+22.0			+15.9			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cyprus Mines 78-69
LINE 6 HALF E SP. 1 DATE 11/14

PAGE

SEND	4-5	3-4	2-3		4-5	3-4			CAL	
RECEIVE	20 →		10		10 →	00			2-3	
RANGE	1.0	1.0	0.1		0.1	0.1				
DC 1.3	.4	.5	1.0		.4	.6			0.2	
DC 2 .1	1.2	1.3	1.7		1.0	1.4			1.2	
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1 1.0	31.7	11.3	4.37		7.57	3.40			198.	
AC 2 1.0	0.0	0.1	0.1		0.0	0.0			0.0	
AC AVG.										
S.P.	+25.1				+27.6					
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Cyprus 478-69

LINE 6 HALF East SP. 1 DATE 11-69

PAGE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	50-60	40 →	50	30 →		40	20 →			30
RANGE	Hi	Hi	Hi	Lo	Hi	Hi	Lo	Lo	Hi	Hi
VOLTAGE	340	320	340	590	320	340	810V	590	320	340
CURRENT	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A
SEND	4-5	3-4	2-3		4-5	3-4			Cal	2-3
RECEIVE	10 →		20		10 →	00				
RANGE	Lo	Lo	Hi		Lo	Lo				
VOLTAGE	810	590	320		810	590			160	
CURRENT	4.0 A	4.0 A	4.0 A		4.0 A	4.0 A			2.0 A	160

FREQUENCIES .1 .3 1.0

SENDER NO. MK 4 6644-S

OPERATOR DJ

RECEIVER NO. 4C

OPERATOR M. P.

COMMENTS:

HEINRICHS GEOEX JOB 478/69 LINE 6 SPREAD 1 LOOKING N 11/13/69 A= 1000 FEET

4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000		I	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	2.000	
17	16	27	18	21	17	20	15	6	5	DC		21	17	25		18	14			7	LEFT
17	16	27	18	21	17	20	15	6	5			21	17	25		18	14			7	SIDE
1	1	2	1	2	3	1	2	3	4	N		2	3	4	5	3	4	5	6		
1.7	1.6	2.7	1.8	2.1	1.7	2.0	1.5	.6	.5	PFEA		2.1	1.7	2.5	0.0	1.8	1.4	0.0	0.0	.7	
132.0	152.0	36.20	270.0	44.10	19.00	305.0	48.70	14.20	8.730	AC1		41.90	13.60	5.270	0.000	15.90	6.640	0.000	0.000	197.0	
0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	AC2		0.0	0.0	0.0	0.0	.2	.2	0.0	0.0	0.0	
132.0	152.1	36.20	270.0	44.10	19.00	305.0	48.70	14.20	8.739	ACA		41.90	13.60	5.270	0.000	15.92	6.647	0.000	0.000	197.0	
101.5	116.8	112.5	207.8	136.2	146.1	235.3	149.5	108.0	132.7	RHO		129.4	104.6	81.70	*000.0	122.4	101.8	*000.0	*000.0	1.015	DC CAL
1.0	.8	2.0	1.1	1.4	1.0	1.3	.8	-.1	-.3	PFE		1.4	1.0	1.8	*000.0	1.0	.6	*000.0	*000.0	-.700	AC CAL
10	7	18	5	10	7	6	5	-1	-2	MCF		11	10	22*0000.		8	6*0000.		*0000.		

4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000		I	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	2.000	
27	17	31	15	21	32	17	16	21	33	DC		12	13	19		10	14			12	RIGHT
27	17	31	15	21	32	17	16	21	33			12	13	19		10	14			12	SIDE
1	1	2	1	2	3	1	2	3	4	N		2	3	4	5	3	4	5	6		
2.7	1.7	3.1	1.5	2.1	3.2	1.7	1.6	2.1	3.3	PFEA		1.2	1.3	1.9	0.0	1.0	1.4	0.0	0.0	1.2	
154.0	132.0	36.50	234.0	61.90	30.20	254.0	61.50	21.20	19.90	AC1		31.70	11.30	4.370	0.000	7.570	3.400	0.000	0.000	198.0	
.1	.1	0.0	0.0	0.0	0.0	.1	.2	.1	0.0	AC2		0.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	
154.1	132.1	36.50	234.0	61.90	30.20	254.1	61.56	21.21	19.90	ACA		31.70	11.31	4.372	0.000	7.570	3.400	0.000	0.000	198.0	
118.4	100.5	112.7	177.8	189.3	233.4	193.4	187.1	162.1	307.8	RHO		96.06	85.69	66.68	*000.0	57.23	51.62	*000.0	*000.0	1.010	DC CAL
1.4	.4	1.9	.3	.9	2.0	.4	.3	.8	2.1	PFE		0.0	.1	.7	*000.0	-.2	.2	*000.0	*000.0	-1.200	AC CAL
12	4	17	2	5	9	2	2	5	7	MCF		0	1	10*0000.		-3	4*0000.		*0000.		

JOB 478 LINE 5 SPREAD 2

LOOKING NW DATE Nov 12 A= 1000

CENTER -120.0 LABEL SW/SW FREQ. 1.0 - 0.1

COUPLING yes

11-14-69

mo.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT CYPRUS - B-478-69
LINE 5 HALF SW SP. 2 DATE 17 NOV

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	120-130	130 —	140	140 —		150	150 —			160
RANGE	10.0	10.0	1.0	10.	1.0	1.0	10	1.0	1.0	1.0
DC 1 .3	.3	.8	.5	.8	.7	.6	.7	.9	.9	.9
DC 2 .1	1.1	1.7	1.2	1.8	1.8	1.5	1.8	1.9	1.9	1.8
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	172.	193.	40.3	173.	39.9	14.8	132	47.1	21.7	10.6
AC 2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+48.8	+18.7		+22.0			+30.8			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT CYPRUS - B-478-69 19 NOV 1969
LINE 5 HALF SW SP. 2 DATE

SEND	1-2	2-3	3-4		1-2	2-3			CAL 1	
RECEIVE	160		170		170	180			3-4 9AM	
RANGE	1.0	1.0	1.0		1.0	1.0			10.0	
DC 1, 3	1.0	1.1	1.0		.8	.9			.2	
DC 2 - 1	2.1	2.2	2.2		2.3	2.0			.8	
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	52.7	26.0	15.3		24.5	14.6			197.	
AC 2	0.2	0.1	0.0		0.0	0.0			0.0	
AC AVG.										
S.P.	+14.8				+18.6					
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PAGE

PROJECT Cypress Mines 478-69

LINE 5 HALF 5W SP. 2 DATE 11/2

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	120-130	130 →	140	140	→	150	150	→	→	160
RANGE										
VOLTAGE	280	355	280	420	355	280	400	420	355	280
CURRENT	4.5A	4.5A	4.5A	4.5 A	4.5 A	4.5 A	3.0A	4.5A	4.5A	4.5A
SEND	1-2	2-3	3-4		1-2	2-3			CAL	3-4
RECEIVE	160	→	170		170	→ 180				
RANGE										
VOLTAGE	470	420	355		470	420			155	
CURRENT	3.5A	4.5A	4.5A		3.5A	4.5A			2.A	

FREQUENCIES .1-.3-1.0

SENDER NO. 666d-S

OPERATOR J. in b.

RECEIVER NO. 4C

OPERATOR

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cypress Mines 478-69
LINE 5 HALF N.E. SP. 2 DATE 11/12

PAGE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	120-110	110 →	100	100 →		90	00 →			80
RANGE	10	10	1.0	10	1.0	1.0	10	1.0	1.0	0.1
DC 1 .3	.6	.3	.4	.3	.6	.6	.4	.6	.8	.9
DC 2 .1	1.3	.9	1.1	.9	1.4	1.3	1.1	1.6	1.8	1.7
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1.0	154.	173.	31.3	165.	38.5	10.5	133.	39.2	14.6	4.77
AC 2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
AC AVG.										
S.P.	23.9	7.0		−5.1			+44.4			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cypress Mines 1978-79
LINE 5 HALF N.E. SP. 2 DATE 4/12

PAGE

SEND	4-5	3-4	2-3		4-5	3-4			end	
RECEIVE	80 →		70		70 →	60			2-3	
RANGE	1.0	1.0	1.0		1.0	1.0			10.0	
DC 1, 3	.6	.8	.9		.8	1.1			0.0	
DC 2, 1	1.4	1.8	2.2		1.9	2.4			-0.6	
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	53.1	22.4	10.3		40.2	20.1			197.	
AC 2	0.0	0.0	0.0		0.0	0.0			0.6	
AC AVG.										
S.P.	11.8				18.3					
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Cypres Mines 478-69

LINE 5 HALF NE SP. 2 DATE 11-12

PAGE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	120-110	110 →	100	100 →		90	90 →			80
RANGE										
VOLTAGE	460	410	460	345	410	460	280	345	410	460
CURRENT	3.5A	4.5A	3.5A	4.5A	4.5A	3.5A	4.5A	4.5A	4.5A	3.5A
SEND	4-5	3-4	2-3		4-5	3-4			Cal	2-3
RECEIVE	80 →		70		70 →	60				
RANGE										
VOLTAGE	280	345	400		280	340			410	
CURRENT	4.5A	4.5A	4.5A		4.5A	4.5A			2.0A	

FREQUENCIES .1 .3 1.0

SENDER NO. MK4 6644-5

OPERATOR

RECEIVER NO.

OPERATOR

COMMENTS:

JOB 478- LINE 5 SPREAD 1

LOOKING NW DATE Nov 11 A= 1000 feet

CENTER -60.0 LABEL SW/SW FREQ. 1.0 - 0.1

COUPLING Yes

11-13-69

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cypress Mines 478-69
LINE 5 HALF S.W SP. 1 DATE 10/11

PAGE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	60-70	70 → 80		80 →		90	90 →			100
RANGE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.1
DC (2) 1 .3	.8	.7	.6	.5	.4	.7	.4	.5	.5	.8
DC (3) 2 0.1	2.1	1.9	1.7	1.5	1.3	1.5	1.3	1.7	1.7	1.7
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1 (1.0)	184.	466.	42.8	489.	92.5	12.6	209.	202.	45.7	6.92
AC 2 (1.0)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+5.1	+32.0		+8.6			+28.3			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cypress Mines
LINE 5 HALF S.W. SP. 1 DATE 11/11

PAGE

SEND	1-2	2-3	3-4		1-2	2-3			CAL 1	
RECEIVE	100 →	110							3-4	
RANGE	1.0	1.0	1.0						10.0	
DC 1 .3	.7	.8	.6						.3	
DC 2 .1	1.7	1.8	1.8						1.3	
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 3 1.0	52.9	67.1	18.2						197.	
AC 4 2	0.0	0.0	0.0						0.0	
AC AVG.										
S.P.	26.1									
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Cyprus 478-69

LINE 5 HALF SW SP. 1 DATE 11/11

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	6.0-7.0	7.0-8.0 →		8.0-9.0	→		9.0-10.0	→		
RANGE	#									
VOLTAGE	440	420	440	460	420	440	410	470	420	460
CURRENT	4.5A	7.5A	4.5A	7.5A	7.5A	4.5A	4.5A	7.5A	7.5A	4.5A
SEND	1-2	2-3	3-4		1-2	2-3		Cal	Cal	
RECEIVE	10.0-11.0 →				11.0-12.0 →			3-4	3-4	
RANGE								#		
VOLTAGE	400	460	420					100	100	
CURRENT	4.5A	7.5A	7.5A					2.0 A.	2.0A	

FREQUENCIES 1.0 .8 .1 1.0

SENDER NO. 6644-5

OPERATOR Pancho Villa

RECEIVER NO.

OPERATOR

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cyprus
LINE 5 HALF NE SP. 1 DATE 11 NOV 1969

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	60-50	50 —	— 40	40 —	—	— 30	30 —	—	—	— 20
RANGE	10.	10.	1.0	10	1.0	1.0	1.0	1.0	1.0	.1
DC 1	.4	.5	.4	.4	.5	.4	.5	.4	.5	.8
DC 2	1.1	1.4	1.3	1.2	1.2	1.5	1.3	1.0	1.3	1.4
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	280.0	306.0	4220)	136.	49.5	11.4	75.5	20.2	19.0	4.90
AC 2	0.0	0.0	0.0	.1	0.0	0.0	.2	0.0	0.0	0.0
AC AVG.										
S.P.	+15.0	+8.0 —	—	+16.5 —	—	—	+29.1	—	—	—
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Cyprus

LINE 5 HALF ~~AE~~ SP. 1 DATE 11 NOV 1969

PAGE 4 OF 6

SEND	4-5	3-4	2-3		4-5	3-4			CAL1	
RECEIVE	10		20		00	10			2-3	
RANGE	.1	.1	1.		.1	.1			12 Noon 2 amps 10.0	
DC 1	.8	.6	.6		.8	.8			x 0.0	
DC 2	1.6	1.3	1.5		1.9	1.3			x .6	
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	7.65	7.07	10.4		1.40	2.65			x 196.	
AC 2	0.0	0.0	0.0		0.0	0.0			x 0.0	
AC AVG.										
S.P.	+23.0				+25.1					
AC NOISE										
PUT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Cyprus 428-69

LINE 5 HALF NE SP. 1 DATE 11/11/69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	6.0-5.0	5.0-4.0 →		4.0-3.0 →			3.0-2.0 →			
RANGE	150x30									
VOLTAGE	410	460	400	410	455	400	420	410	460	400
CURRENT	4.5A	7.5A	4.5A	7.5A	7.5A	4.5A	4.5A	7.5A	7.5A	4.5A
SEND	4-5	3-4	2-3		4-5	3-4			Cal	
RECEIVE	2.0-1.0 →				1.0-0.0 →				2-3	
RANGE										
VOLTAGE	420	410	450		420	410			130	
CURRENT	4.5A	7.5A	7.5A		4.5A	7.5A			2.0A	

FREQUENCIES 1.0, 0.1, 0.3

SENDER NO. 6644-5

OPERATOR Vasco de Gamma

RECEIVER NO.

OPERATOR

COMMENTS:

'HEINRICHS GEOEX JOB 478/69 LINE 5 SPREAD 2 LOOKING NW 11/12/69 A= 1000 FEET

4.500	4.500	4.500	4.500	4.500	4.500	3.000	4.500	4.500	4.500	I	3.500	4.500	4.500	4.500	3.500	4.500	4.500	4.500	2.000	
11	17	12	18	18	15	18	19	19	18	DC	21	22	22		23	20			8	LEFT
11	17	12	18	18	15	18	19	19	18		21	22	22		23	20			8	SIDE
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
1.1	1.7	1.2	1.8	1.8	1.5	1.8	1.9	1.9	1.8	PFEA	2.1	2.2	2.2	0.0	2.3	2.0	0.0	0.0	.8	
172.0	193.0	40.30	173.0	39.90	14.80	132.0	47.10	21.70	10.60	AC1	52.70	26.00	15.30	0.000	24.50	14.60	0.000	0.000	197.0	
0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	AC2	.2	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
172.0	193.0	40.30	173.2	39.90	14.80	132.0	47.10	21.70	10.60	ACA	52.75	26.01	15.30	0.000	24.50	14.60	0.000	0.000	197.0	
116.8	131.8	109.5	118.3	109.1	100.9	135.4	128.9	148.5	144.9	RHO	185.8	178.4	210.0*000.0		216.4	200.0*000.0*000.0			1.015	DC CAL
.3	.9	.4	.9	1.0	.7	1.0	1.1	1.1	1.0	PFE	1.2	1.3	1.4*000.0		1.5	1.2*000.0*000.0			-.800	AC CAL
3	7	4	8	9	7	7	9	7	7	MCF	6	8	7*0000.		7	6*0000.*0000.				

3.500	4.500	3.500	4.500	4.500	3.500	4.500	4.500	4.500	3.500	I	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500	2.000	
13	9	11	9	14	13	11	16	18	17	DC	14	18	22		19	21			0	RIGHT
13	9	11	9	14	13	11	16	18	17		14	18	22		19	21			0	SIDE
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
1.3	.9	1.1	.9	1.4	1.3	1.1	1.6	1.8	1.7	PFEA	1.4	1.8	2.2	0.0	1.9	2.1	0.0	0.0	0.0	
194.0	173.0	31.30	165.0	38.50	10.50	133.0	39.20	14.60	4.770	AC1	53.10	22.40	10.30	0.000	40.20	20.10	0.000	0.000	197.0	
0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	AC2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
194.0	173.0	31.30	165.0	38.50	10.50	133.1	39.20	14.60	4.770	ACA	53.10	22.40	10.30	0.000	40.20	20.10	0.000	0.000	197.0	
135.8	118.1	110.1	112.7	105.7	92.56	91.01	107.8	100.6	84.43	RHO	145.8	154.3	142.5*000.0		277.3	277.8*000.0*000.0			1.015	DC CAL
1.3	.9	1.1	.9	1.4	1.3	1.0	1.6	1.8	1.7	PFE	1.4	1.8	2.2*000.0		1.9	2.1*000.0*000.0			-0.000	AC CAL
10	8	10	8	13	14	12	15	18	20	MCF	10	12	15*0000.		7	8*0000.*0000.				

ENGINEERED FOR HIGH SPEED PRINTERS
BUSINESS FORMS PRINTING COMPANY

HEINRICHS GEOEX JOB 478/69 LINE 5 SPREAD 1 LOOKING NW 11/11/69 A= 1000 FEET

4.500	7.500	4.500	7.500	7.500	4.500	4.500	7.500	7.500	4.500		I	4.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500	2.000	
21	19	17	15	13	15	13	17	17	17		DC	17	18	18					13	LEFT	
21	19	17	15	13	15	13	17	17	17			17	18	18					13	SIDE	
1	1	2	1	2	3	1	2	3	4		N	2	3	4	5	3	4	5	6		
2.1	1.9	1.7	1.5	1.3	1.5	1.3	1.7	1.7	1.7		PFEA	1.7	1.8	1.8	0.0	0.0	0.0	0.0	0.0	1.3	
184.0	466.0	42.80	489.0	92.50	12.60	209.0	202.0	45.70	6.920		AC1	52.90	67.10	18.20	0.000	0.000	0.000	0.000	0.000	197.0	
0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		AC2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
184.0	466.2	42.80	489.0	92.50	12.60	209.0	202.0	45.70	6.920		ACA	52.90	67.10	18.20	0.000	0.000	0.000	0.000	0.000	197.0	
125.5	190.4	116.3	199.0	150.3	85.45	141.5	329.4	186.3	94.05		RHO	143.8	273.8	148.6*000.0*000.0*000.0*000.0*000.0						1.015	DC CAL
.8	.6	.4	.2	0.0	.2	0.0	.4	.4	.4		PFE	.4	.5	.5*000.0*000.0*000.0*000.0*000.0						-1.300	AC CAL
6	3	3	1	0	2	0	1	2	4		MCF	3	2	3*0000.*0000.*0000.*0000.*0000.							
0.0	0.0	.0	0.0	.0	.2	0.0	0.0	.1	.3		CPFE	.0	0.0	.2	0.0	0.0	0.0	0.0	0.0		
.8	.6	.4	.2	-.0	.0	0.0	.4	.3	.1		CCPFE	.4	.5	.3*000.0*000.0*000.0*000.0*000.0							
6	3	3	1	-0	0	0	1	2	1		CCMCF	3	2	2*0000.*0000.*0000.*0000.*0000.							

4.500	7.500	4.500	7.500	7.500	4.500	4.500	7.500	7.500	4.500		I	4.500	7.500	7.500	7.500	4.500	7.500	7.500	7.500	2.000	
11	14	13	12	12	15	13	10	13	14		DC	16	13	15		19	13		6	RIGHT	
11	14	13	12	12	15	13	10	13	14			16	13	15		19	13		6	SIDE	
1	1	2	1	2	3	1	2	3	4		N	2	3	4	5	3	4	5	6		
1.1	1.4	1.3	1.2	1.2	1.5	1.3	1.0	1.3	1.4		PFEA	1.6	1.3	1.5	0.0	1.9	1.3	0.0	0.0	.6	
280.0	306.0	42.70	136.0	49.50	11.40	75.50	20.20	19.00	4.900		AC1	7.650	7.070	10.40	0.000	1.400	2.650	0.000	0.000	196.0	
0.0	0.0	0.0	.1	0.0	0.0	.2	0.0	0.0	0.0		AC2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280.0	306.0	42.70	136.1	49.50	11.40	75.58	20.20	19.00	4.900		ACA	7.650	7.070	10.40	0.000	1.400	2.650	0.000	0.000	196.0	
191.4	125.9	117.0	55.84	81.30	78.25	51.72	33.11	78.09	67.20		RHO	21.02	29.06	85.66*000.0		9.65	21.78*000.0*000.0			1.020	DC CAL
.5	.8	.7	.5	.6	.9	.6	.4	.7	.8		PFE	1.0	.7	.9*000.0		1.3	.7*000.0*000.0			-.600	AC CAL
3	6	6	10	7	12	12	12	9	12		MCF	48	24	11*0000.		135	32*0000.*0000.				
0.0	0.0	.0	.0	.1	.2	.0	.3	.2	.5		CPFE	.5	.8	.3	0.0	3.2	2.0	0.0	0.0		
.5	.8	.7	.5	.5	.7	.6	.1	.5	.3		CCPFE	.5	-.1	.6*000.0		-1.9	-1.3*000.0*000.0				
3	6	6	9	6	9	11	4	6	5		CCMCF	23	-2	7*0000.		-196	-61*0000.*0000.				

JOB 478 LINE 4 SPREAD 1

LOOKING NW DATE Nov 6 A= 1000 feet

CENTER -50.0 LABEL SW/SW FREQ. 1.0 - 0.1

COUPLING YES

11-12-69

EDGE

PAGE

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cypress Mines
LINE 4 HALF SW SP. 1 DATE 11/6

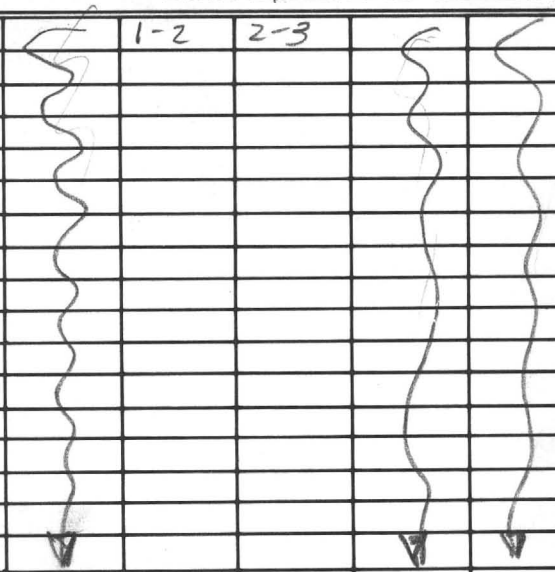
SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	50-60	60 → 70	70	→		→ 80	80	→	→ 90	
RANGE	1.0	10.0	1.0	10.0	1.0	1.0	10.0	1.0	1.0	0.1
DC 1 .3	0.6	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.7	0.9
DC 2 .1	1.0	0.6	1.0	0.9	1.0	1.0	0.8	0.8	1.1	1.6
DC 3										
DC 4										
DC 5										
DC 6		Fence U.G								
DC 7		63+00								
DC 8										
DC AVG.										
AC 1 E1.0	30.1	155.	35.5	200.	44.6	14.5	186.	51.2	15.5	5.39
AC 2 0.10	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
AC AVG.										
S.P.	-17.5	12.1		25.4			-9.4			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cyres Mines
LINE 4 HALF S.W SP. 1 DATE 11/6

PAGE

SEND	1-2	2-3	3-4		1-2	2-3			CAL 1	
RECEIVE	90	→	100							
RANGE	1.0	1.0	0.1							
DC 1.3	0.7	0.9	1.3						0.1	
DC 2.1	1.4	1.8	2.2						0.0	
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1 1.0	68.3	25.6	85.4						95.6	
AC 2 1.0	0.0	0.0	0.0						0.0	
AC AVG.										
S.P.	39.0									
AC NOISE										
POT RES.										



HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Cyprus – B-478-69

LINE 4 HALF SW SP. 2 DATE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	5—6000	6 —	—7000	7 —		—8	8 —			—9
RANGE	LO	LO								
VOLTAGE	480 V	305 V	"	460V	"	"	740 V	"	"	"
CURRENT	4A	4A	"	4A	"	"	4A	"	"	"
SEND	1-2	2-3	3-4		1-2	2-3				CAL
RECEIVE	9 —		—10,000		10 —	—11,000				3-4
RANGE	LO									1A
VOLTAGE	740	460	305							80V
CURRENT	4A	4A	4A							LO

FREQUENCIES _____ _____

SENDER NO. 6644S

OPERATOR DAVE T.

RECEIVER NO. MK-4C

OPERATOR JWB

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cyprus -B-478
LINE 4 HALF NE SP. 1 DATE 6 NOV

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	50-40	40 —	30	30 —		— 20	20 —			— 10
RANGE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.1	.1	.1
DC 1.3 (2)	.5	.4	.4	.5	.5	.5	.4	.6	.6	.5
DC 2.1 (3)	1.2	1.0	1.0	1.2	.9	.8	.8	.8	.8	.7
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1.0 (1)	152.	88.6	35.3	68.8	15.3	12.9	59.7	9.22	5.50	5.80
AC 2.0 (4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	-17.3	-7.3		+3.4			+11.2			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Cyprus -B-478-69 GNOW

LINE 4 HALF N.E SP. 1 DATE

SEND	4-5	3-4	2-3		45	3-4			CAL 1	
RECEIVE	10 ———	———	0		0 ———	—10			Time 10AM	
RANGE	0.1	.1	.1		.1	.1			10	
DC 1 .3	.3	.6	.2		.8	.5			+0.3+.07	
DC 2	1.0	.8	.3		1.3	1.0				
DC 3 .1									+0.7	
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1 1.0	6.17	2.46	2.46		1.78	1.63			100.7	
AC 2 1.0	0.0	0.0	0.0		0.0	0.0			+0.0	
AC AVG.									.7	
S.P.	+18.3									
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT 478 Cyprus Mines

LINE 4 HALF ~~LINE~~ SP. 1 DATE 11-6-69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	50-40	40-30	→	30-20	→	→	20-10	→	→	→
RANGE	400X10	400X10	400X10	400X10	400X10	400X10	400X10	400X10	400X10	400X10
VOLTAGE	780	460	770	320	460	770	500	320	460	770
CURRENT	4.0Amp	4.0Amp	4.0Amp	4.0Amp	4.0Amp	4.0Amp	4.0Amp	4.0Amp	4.0Amp	4.0Amp
SEND	4-5	3-4	2-3		4.5	2-3		Co/ 2-3	~~Co~~	
RECEIVE	10-0	→	→		0-10	→		60-50		
RANGE	400X10	400X10	400X10		400X10	400X10		100X10		
VOLTAGE	500	~~360~~ 320	460		480	320		120		
CURRENT	4.0Amp	4.0Amp	4.0Amp		4.0Amps	4.0Amp.		1.0Amp		

FREQUENCIES 1.0 .3 .1

SENDER NO. 6644-5

OPERATOR # CB Coons

RECEIVER NO.

OPERATOR J.B.B.

COMMENTS:

HEINRICHS GEOEX JOB 478/69 LINE 4 SPREAD 1 LOOKING NW 11/6/69 A= 1000 FEET

4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	I	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	1.000	
10	6	10	9	10	10	8	8	11	16	DC	14	18	22						0	LEFT
10	6	10	9	10	10	8	8	11	16		14	18	22						0	SIDE
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
1.0	.6	1.0	.9	1.0	1.0	.8	.8	1.1	1.6	PFEA	1.4	1.8	2.2	0.0	0.0	0.0	0.0	0.0	0.0	
90.10	155.0	35.50	200.0	44.60	14.50	186.0	51.20	15.50	5.390	AC1	68.30	25.60	8.510	0.000	0.000	0.000	0.000	0.000	95.60	
.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	AC2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
90.28	155.0	35.50	200.0	44.60	14.50	186.0	51.20	15.52	5.390	ACA	68.30	25.60	8.510	0.000	0.000	0.000	0.000	0.000	95.60	
71.39	122.3	112.5	158.3	141.4	114.9	147.1	162.0	122.9	85.92	RHO	217.3	204.5	136.5*000.0*000.0*000.0*000.0*000.0						1.046	DC CAL
.8	.6	1.0	.9	1.0	1.0	.8	.8	1.0	1.6	PFE	1.4	1.8	2.2*000.0*000.0*000.0*000.0*000.0						-0.000	AC CAL
11	5	9	6	7	9	5	5	8	19	MCF	6	9	16*0000.*0000.*0000.*0000.*0000.							
0.0	0.0	.0	0.0	.0	.1	0.0	0.0	.1	.3	CPFE	0.0	.1	.2	0.0	0.0	0.0	0.0	0.0		
.8	.6	1.0	.9	1.0	.9	.8	.8	.9	1.3	CCPFE	1.4	1.7	2.0*000.0*000.0*000.0*000.0*000.0							
11	5	8	6	7	8	5	5	7	15	CCMCF	6	9	15*0000.*0000.*0000.*0000.*0000.							

4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	I	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	1.000	
12	10	10	12	9	8	8	8	8	7	DC	10	8	3		13	10			7	RIGHT
12	10	10	12	9	8	8	8	8	7		10	8	3		13	10			7	SIDE
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
1.2	1.0	1.0	1.2	.9	.8	.8	.8	.8	.7	PFEA	1.0	.8	.3	0.0	1.3	1.0	0.0	0.0	.7	
152.0	88.60	35.30	68.80	15.30	12.90	59.70	9.220	5.500	5.800	AC1	6.170	2.460	2.400	0.000	1.780	1.630	0.000	0.000	100.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	AC2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
152.0	88.60	35.30	68.80	15.30	12.90	59.70	9.220	5.500	5.800	ACA	6.170	2.460	2.400	0.000	1.780	1.630	0.000	0.000	100.0	
114.6	66.65	106.2	51.86	45.99	96.85	44.82	27.69	41.29	87.00	RHO	18.57	18.47	35.86*000.0		13.43	24.52*000.0*000.0			1.000	DC CAL
.5	.3	.3	.5	.2	.1	.1	.1	.1	0.0	PFE	.3	.1	-.4*000.0		.6	.3*000.0*000.0			-.700	AC CAL
4	5	3	10	4	1	2	4	2	0	MCF	16	5	-11*0000.		45	12*0000.*0000.				
0.0	.0	.1	.0	.2	.1	.0	.4	.5	.3	CPFE	.6	1.4	1.1	0.0	2.1	1.7	0.0	0.0		
.5	.3	.2	.5	.0	-.0	.1	-.3	-.4	-.3	CCPFE	-.3	-1.3	-1.5*000.0		-1.5	-1.4*000.0*000.0				
4	4	2	9	1	-0	1	-9	-9	-4	CCMCF	-17	-70	-41*0000.		-111	-59*0000.*0000.				

HEINRICHS GEOEX JOB 478/69 LINE 4 SPREAD 2 LOOKING NW 11/7/69 A= 1000 FEET

3.750	3.750	3.750	2.750	3.750	3.750	2.750	2.750	3.750	3.750		I	2.750	2.750	3.750	3.750	2.750	2.750	2.750	2.750	1.000	
5	8	7	7	8	10	10	10	11	12		DC	14	13	17		18	19			-3	LEFT
5	8	7	7	8	10	10	10	11	12			14	13	17		18	19			-3	SIDE
1	1	2	1	2	3	1	2	3	4		N	2	3	4	5	3	4	5	6		
.5	.8	.7	.7	.8	1.0	1.0	1.0	1.1	1.2		PFEA	1.4	1.3	1.7	0.0	1.8	1.9	0.0	0.0	-.3	
133.0	132.0	37.00	105.0	27.80	12.90	123.0	25.10	10.20	6.110		AC1	41.50	13.70	7.220	0.000	15.20	10.10	0.000	0.000	95.30	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		AC2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
133.0	132.0	37.00	105.0	27.80	12.90	123.0	25.10	10.20	6.110		ACA	41.50	13.70	7.220	0.000	15.20	10.10	0.000	0.000	95.30	
112.5	112.0	125.5	121.4	94.37	109.7	142.6	116.4	86.82	104.1		RHO	193.3	159.3	123.6*000.0		177.6	236.3*000.0*000.0			1.049	DC CAL
.8	1.1	1.0	1.0	1.1	1.3	1.3	1.3	1.4	1.5		PFE	1.7	1.6	2.0*000.0		2.1	2.2*000.0*000.0			.300	AC CAL
7	10	8	8	12	12	9	11	16	14		MCF	9	10	16*0000.		12	9*0000.*0000.				

4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000		I	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	2.000	
22	18	26	21	21	20	20	21	27	25		DC	24	22	24		23	24			12	RIGHT
22	18	26	21	21	20	20	21	27	25			24	22	24		23	24			12	SIDE
1	1	2	1	2	3	1	2	3	4		N	2	3	4	5	3	4	5	6		
2.2	1.8	2.6	2.1	2.1	2.0	2.0	2.1	2.7	2.5		PFEA	2.4	2.2	2.4	0.0	2.3	2.4	0.0	0.0	1.2	
144.0	146.0	39.70	107.0	28.80	11.80	152.0	36.30	15.00	7.170		AC1	68.30	26.90	13.30	0.000	25.50	11.30	0.000	0.000	195.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		AC2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
144.0	146.0	39.70	107.0	28.80	11.80	152.0	36.30	15.00	7.170		ACA	68.30	26.90	13.30	0.000	25.50	11.30	0.000	0.000	195.0	
111.9	113.0	123.9	83.05	89.41	91.50	117.9	112.7	117.1	111.7		RHO	212.7	209.0	207.1*000.0		198.3	175.9*000.0*000.0			1.026	DC CAL
1.0	.6	1.4	.9	.9	.8	.8	.9	1.5	1.3		PFE	1.2	1.0	1.2*000.0		1.1	1.2*000.0*000.0			-1.200	AC CAL
9	5	11	11	10	9	7	8	13	12		MCF	6	5	6*0000.		6	7*0000.*0000.				

ENGINEERED FOR HIGH SPEED PRINTERS
BURROUGHS FORMS PRINTING COMPANY

JOB 478 LINE 4 SPREAD 2

LOOKING NW DATE Nov 7 A= 1000 feet

CENTER -110.0 LABEL SW/SW FREQ. 1.0 - 0.1

COUPLING Yes

11-13-69

MD

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Cyprus - 478-69

LINE 4 HALF SW SP. 2 DATE 7 Nov

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	~~110~~ 120	120	130	130		140	140			150
RANGE	10.	10	1.0	10.0	1.0	1.0	10.0	1.0	1.0	.1
DC 1	.3	.5	.4	.5	.4	.6	.6	.7	.5	.8
DC 2	.5	.8	.7	.7	.8	1.0	1.0	1.0	1.1	1.2
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1 1.0	133.	132.	37.0	10.5.	27.8	12.9	123.	25.1	10.2	6.11
AC 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC AVG.										
S.P.	+3.2	+12.3		+19.1			+20.1			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cyprus
LINE 4 HALF SW SP. 2 DATE 7 Nov.

SEND	1-2	2-3	3-4		1-2	2-3			CAL	
RECEIVE	15		16		16	17			3-4 1.0	
RANGE	1.0	1.0	.1		1.0	1.0			12:30	
DC 1	.7	.7	1.0		.9	1.1			0.0	
DC 2	1.4	1.3	1.7		1.8	1.9			-.3	
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	41.5	13.7	7.22		15.2	10.1			95.3	
AC 2	0.0	0.0	0.0		0.0	0.0			0.0	
AC AVG.										
S.P.	+25.4				+1.2					
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Cyprus Mines 78-69

LINE 4 HALF S.W. SP. 2 DATE 11/7

PAGE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	110-120	120→130		130→		140	140	→		150
RANGE	Low									
VOLTAGE	360	400	360	330	400	360	380	320	400	360
CURRENT	3.75	3.75	3.75	2.75	3.75	3.75	2.75	2.75	3.75	3.75
SEND	1-2	2-3	3-4	↓	1-2	2-3	↓	↓	CAL 1	
RECEIVE	150→		160		160→170				3-4	
RANGE	Low								Low	
VOLTAGE	370	320	380	↓	370	320	↓	↓	100	
CURRENT	2.75	2.75	3.75		2.75	2.75			10A	

FREQUENCIES .1-.3-1.0

SENDER NO. 66 44-5

OPERATOR Jim B. B.

RECEIVER NO. MK dc

OPERATOR

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Cyprus - B-478-69 PAGE 3 of 4

LINE 4 HALF E SP. 2 DATE 10 NOV 1969

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	110-100	100 —	-90	90 —	—	-80	80 —	—	—	-70
RANGE	10	10	1.0	10.0	1.0	1.0	10.0	1.0	1.0	0.1
DC 1	.8	.7	1.0	.7	.8	1.2	.8	.9	1.1	1.5
DC 2	2.2	1.8	2.6	2.1	2.1	2.0	2.0	2.1	2.7	2.5
DC 3										
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	144.	146.	39.7	107.	28.8	11.8	152.	36.3	15.0	7.17
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.	+17.1	-3.7		+30.3			+13.7			
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Cyprus - B-478-69
LINE 4 HALF NE SP. 2 DATE 10 NOV 1969

SEND	4-5	3-4	2-3		4-5	3-4			CAL-1	
RECEIVE	70		60		60	50			2-3	
RANGE	1.0	1.0	1.0		1.0	1.0				
DC 1	1.0	1.2	1.4		1.0	1.1			10	
DC 2	2.4	2.2	2.4		2.3	2.4			.3	
DC 3									1.2	
DC 4										
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.										
AC 1	68.3	26.9	13.3		25.5	11.3			195.	
AC 2	0.0	0.0	0.0		0.0	0.0			0.0	
AC AVG.										
S.P.	+17.0				+54.5					
AC NOISE										
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Cyprus Mines 78-69

LINE 4 HALF N.E. SP. 2 DATE 11/10

PAGE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	110-100	100 →	90	90 →		80	80 →			70
RANGE	High	"	"	"	"	"	"	"	"	"
VOLTAGE	480	400	480	360	400	480	340	360	400	480
CURRENT	4A	4A	4A	4A	4A	4A	4A	4A	4A	4A
SEND	4-5	3-4	2-3		4-5	3-4			GAL	
RECEIVE	70 →		60		60 →	50				
RANGE	high	"	"	↓	"	"	↓	↓	200	
VOLTAGE	340	360	400		340	360			2.A.	
CURRENT	4A.	4A	4A		4A	4A				

FREQUENCIES 1.0 - .3 - .1

SENDER NO. 6644-5

OPERATOR Jim B.

RECEIVER NO. 4C

OPERATOR

COMMENTS:

INDUCED POLARIZATION & RESISTIVITY SURVEY

JOHNSON CAMP PROJECT
COCHISE COUNTY, ARIZONA
for
CYPRUS MINES, INC.

11-69

478-69

INDUCED POLARIZATION AND RESISTIVITY SURVEY

JOHNSON CAMP PROJECT

COCHISE COUNTY, ARIZONA

FOR

CYPRUS MINES, INC.

NOVEMBER 1969

by

HEINRICHS GEOEXPLORATION COMPANY

GEOEX JOB 478-69

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Sectional Data Sheets For

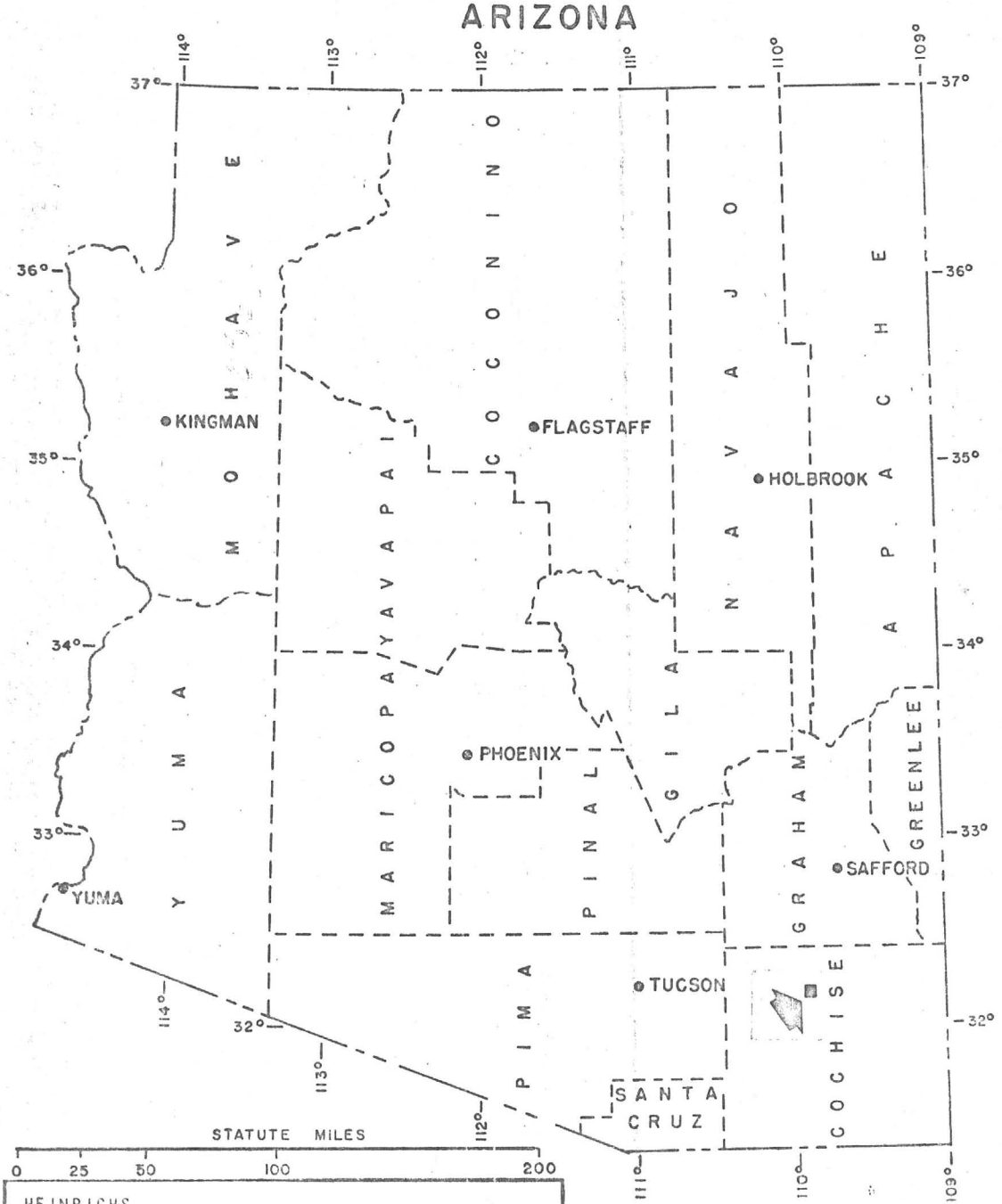
Lines 1, 2 and 3 - from Phase I

Lines 4, 5 and 6 - from Phase II

In Map Pocket

Induced Polarization Location and Interpretation Plan

GENERAL LOCATION OF JOHNSON CAMP AREA FOR CYPRUS MINES CORP.



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GEOPHYSICAL ENGINEERS SYDNEY VANCOUVER

INTRODUCTION

At the request of Mr. Robert Clayton on behalf of Cyprus Mines Corporation, Heinrichs GEOEXploration Company conducted an induced polarization survey near Johnson Camp, Cochise County, Arizona. This survey is a continuation of a previous survey completed during August 1969 and will be called Phase II in this report. The Phase II field work, consisting of coverage on Lines 4, 5 and 6, was accomplished during the interim from 6 November to 11 November 1969.

This report will cover the Phase II results, review the Phase I data and correlate both phases to the major geologic features shown on the U.S.G.S. "Geological Map of the Dragoon Quadrangle". The "Induced Polarization Location and Interpretation Plan" which was a part of the Phase I report has been expanded to accomodate the new data from Phase II, and includes some minor reinterpretation needed to mutually fit both new and old data. This report also includes revised sectional data sheets for Lines 1, 2 and 3 and these will superceed the Phase I sheets.

All Phase II data was obtained using the dual frequency induced polarization technique with the conventional collinear dipole-dipole electrode configuration. The general procedure applied, using five (5) "sending" or current electrodes, is discussed in the appended "Basis of the I.P. Method". A GEOEX Mark 4 Sender, Mark 4C Receiver and Mark 4 Power Unit were used on Phase II. The data obtained was processed by electronic computer, checked for electromagnetic coupling. No adverse coupling effects were indicated which affect our interpretation.

The data is presented in the same format as Phase I.

Phase I used frequencies of 3.0 and 0.1 Hz. Phase II data was obtained using frequencies of 1.0 and 0.1 Hz. The reduced upper or higher frequency, effectively eliminates, or at least reduces, possible electromagnetic coupling interference. This in turn permits comparatively better resolution of small frequency effect anomalies over non-anomalous background values.

Lines 4 and 5 are oriented N 45° E., parallel to the lines of Phase I. Line 6 is oriented N 80° W, and was placed to obtain data across the interstate highway and check the possibility of suspected parallel anomalies crossed at an unfavorable angle for optimum response by the other lines. These lines are plotted on the "Induced Polarization Location and Interpretation Plan" in relation to the Phase I work.

GEOEX personnel who did the field work are: Mr. James Bauersachs, Crew Chief; Mr. David Townsend, Sender Operator and Mr. Douglas Gray, Field Technician. Mr. Mike Peckenpaugh, Crew Chief Trainee also assisted. Mr. Paul Head, Geophysicist is responsible for this report and the overall supervision of the project, assisted by others of the Tucson Staff of Geoex.

Cooperation and assistance of Cyprus personnel is gratefully acknowledged.

CONCLUSIONS

The Phase I and II surveys revealed significant frequency effect anomalies and also tends to indicate that no very long or "formational" type of anomalies exist in the area covered. Resistivity data contributes the most striking change of the subsurface picture in this area. This, together with the generalized geologic and magnetic information given to us verbally by Mr. Clayton, permits a choice of drill targets.

Anomaly "A" is limited on all sides, having a north-south length of no more than 4000 feet and probably less than 1000 feet wide. The north limit was never well defined because #10 Interstate Highway, prevents necessary access on Line 1. However, a rough limit is delineated by the fact no anomalism was detected. The south limit probably occurs between Lines 2 and 3, as the response noted on Line 3 may be coming from 1000 feet deep rather than being a nearer surface lateral effect. I.P. anomaly "A" from Phase I is reported to be coincident with a magnetic low. Mr. Clayton has indicated that magnetic lows may correlate to mineralization in the Johnson Camp area somewhat more often than the magnetic highs. We have, therefore, indicated anomaly "A" as the most interesting and to be drilled first.

Anomaly "B" is closely associated with a near surface and relatively thin layer of material having moderately high resistivity. The cause of the frequency effects is very likely less than 500 feet deep under and/or slightly to the NE of the adjacent or overlying higher resistive material. It certainly suggests material of considerably different electrical character and probably also physical character to that represented by anomaly "A". Anomaly "B" ends between Line 1 and 2 to the northwest, more probably near Line 2.

Anomaly "C" is limited to the northwest, but is open to the southeast. As explained below, this could very well represent a faulted offset of Anomaly "B".

Reinterpretation of the resistivity data of Phase I indicates that the interface plotted on Line 1 at 50.0 SW and its location on Line 2 is located as precisely as possible. The interface on Line 3 is not nearly so well defined and could easily be moved to 50.0 SW. The refined trace of the interface is slightly sinuous, bearing about N 60° W as shown on the "I.P. Location and Interpretation Plan". The new resistivity data from Lines 4, 5 and 6 are easily interpretated and also show the same interface bearing approximately N 45° W, but offset 1000 to 1500 feet southwest from its position shown on Line 3. This offset is thought to be caused by a fault lying closer to Line 3

than to Line 4 since the clean interface patterns noted on Lines 2 and 4 are disrupted on Line 3. Additional evidence for this hypothesised fault is discussed below. The geologic significance of this interface is thought to be sudden deepening of the aluvial cover over the ancient errosional surface or possibly a graben structure lying to the southwest of the Gunnison Hills.

The reported NW-SE strike and northeasterly dip of precambrian rocks in this area are such that a fault striking about N 45° E will produce an apparent lateral displacement to the southwest such as observed in the resistivity data if the southeast block is downthrown. The I.P. anomalies "A", "B" and "C" are also easily placed in this hypothesised picture. The northwest fault block would be highest and contain "A" and "B". The downthrown equivilent of "A" either does not exist or is too deep to detect with 1000 foot dipoles. Zone "B" does have a downthrown equivilent, offset to the SW the predicted amount and is designated "C".

Also of note is the general northeasterly trending bands of alteration in the Texas Canyon Monzonite strongly suggest possible NE trending structural features in the precambrian rocks. There is some evidence that the fault previously discussed continues into the monzonite and offsets polarization effects noted on the southwest end of all lines. Mr. Clayton reports that many quartz veins with abundant pyrite exist in the monzonite which may account for the I.P. anomaly "D".

RECOMMENDATIONS

Based on the results of Phase I and Phase II a minimum of one to three drillholes each, in anomalies "A" and "B" are recommended. Proposed drill hole #1 (PDH #1) is located midway between Lines 2 and 3 at 50.0SW. This hole should be vertical and programmed for at least 500 feet and preferably 1000 feet deep. PDH #2, located at 65.0 W on Line 6 should also be drilled vertically at least 500 feet deep and preferably 1000 feet deep. Should no polarizable material be encountered in these drill holes that satisfactorily explain the observed induced polarization anomalism, additional drill holes #3, #4, #5 and #6 should be placed as indicated, unless formational data indicates that the target is more likely to be found to the northeast or southwest of the first hole.

No drilling is recommended in anomalies "D" or "C" without additional regional exploration using the methods applied in Phase II. This work should consist of I.P. lines using an "a" spacing of 1000 feet and parallel to Line 5 spaced 1500 feet apart to cover the valley southeast and northwest until all anomalies are closed off. In any case, positive identification of anomaly "D" will eventually be needed as will the cause of the very weak frequency effects on the northeast end of Line 5.

More detailed magnetic coverage over the area would also be useful if either the magnetic high or low areas are shown to be significant by PDH #1 and PDH #2.

INTERPRETATION

The overall quality of the resistivity and induced polarization data is very good and is considered to be somewhat better than obtained on Phase I. The PFE and MCF values recorded on Phase II are approximately a factor of two (2) lower than on Phase I because of the different frequencies used. The apparent resistivity values will, of course be compatible.

LINE 4, Spreads 1 and 2, a= 1000 Feet

The well formed apparent resistivity pattern centered at 55.0 SW is interpreted as a resistivity interface between rocks of about 20 to 50 ohm feet/2 pi on the northeast and rocks of about 100 to 150 ohm feet/2 pi on the southwest. This feature seems to be within 300 feet of surface. A rather subtle resistive feature is located at about 80.0 SW, probably at least 500 feet deep. A partially defined interface is noted at the extreme SW end of Line 4.

The weak PFE anomaly ("B") centered between 80.0 and 90.0 SW is probably caused by polarizing material on the order of 1000 feet to either side of, or under Line 4. The weak PFE anomaly ("D") beginning at 145.0 SW and continuing SW off the survey is likely associated with somewhat higher resistivity material and probably somewhat lower degree of mineralization.

No particular significance is ascribed to the observed self potential data.

LINE 5, Spreads 1 and 2, a= 1000 Feet

The apparent resistivity pattern of this line is nearly a duplicate of Line 4 except that both the resistivity and PFE anomalism are displaced about 1000 feet to the SW. The PFE values are slightly stronger at 105.0 SW on anomaly "C" than was observed on anomaly "B" and this is definitely confirmed by an MCF anomaly. A possible very weak anomaly is noted at the extreme SW end of Line 5. In addition to the anomalies at the SW end of the line and in the center, there may be a new anomaly suggested at the NE end of the line.

No significant S.P. effects are noted on Line 5.

LINE 6, Spread 1, a= 1000 Feet

This line was recommended after a preliminary interpretation of lines 4 and 5 and is intended to check the possibility of multiple

parallel I.P. anomalies and their continuity. The line was oriented at N. 80° W and passes across the Highway #10 Dragoon-Johnson Interchange, at the tourist trap establishment called "The Thing".

The only surprising resistivity feature noted is a relatively thin high resistivity layer at 80.0 W. This material lies near surface and must be quite distinct from the material near 60 W. A probable interface at 15.0 W is indicated by a partial apparent resistivity pattern very like those seen in full on Lines 4 and 5.

The poorly defined PFE anomaly ("B") supported by a weak MCF anomaly is best centered at station 65.0 w with some lesser likelihood of a center at 70.0 W. No other frequency effects are noted in support of parallel anomalies from Lines 3, 4 and 5.

No significant self potential effects are noted on Line 6.

Respectfully submitted,

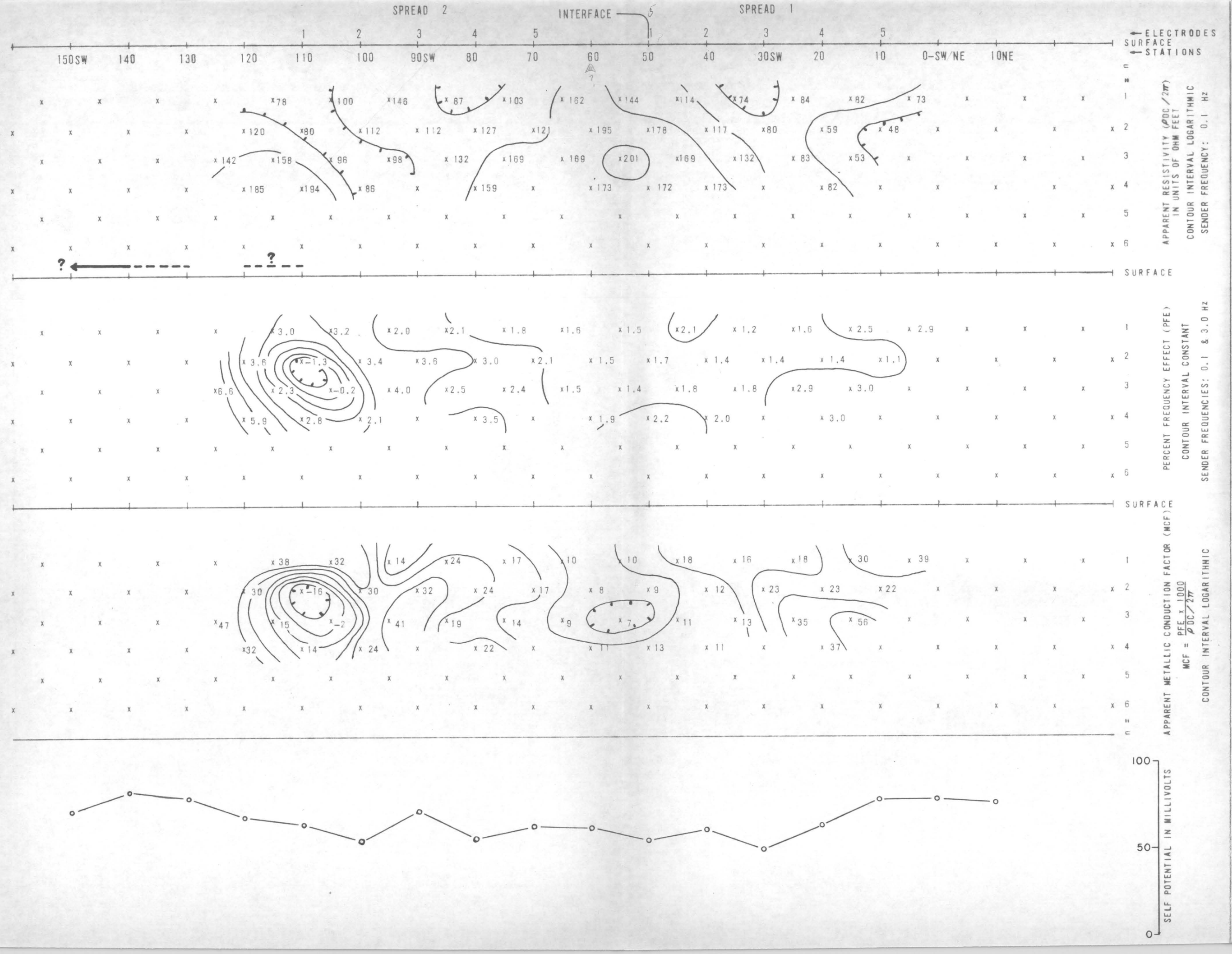
HEINRICHS GEOEXPLORATION COMPANY

Paul A. Head
Geophysicist

Approved:

HEINRICHS GEOEXPLORATION COMPANY

Walter E. Heinrichs, Jr.
President and General Manager

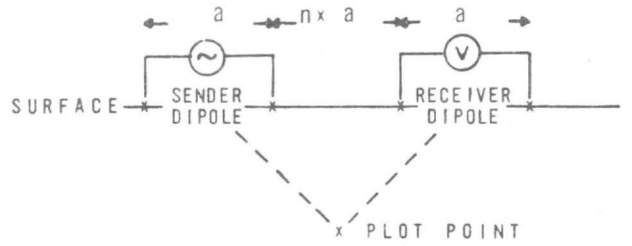


LINE NO.
I
SPREAD(S)
1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA

JOHNSON CAMP

LOOKING

NORTHWEST

DATE

AUGUST 1969

SCALE

a = 1000'

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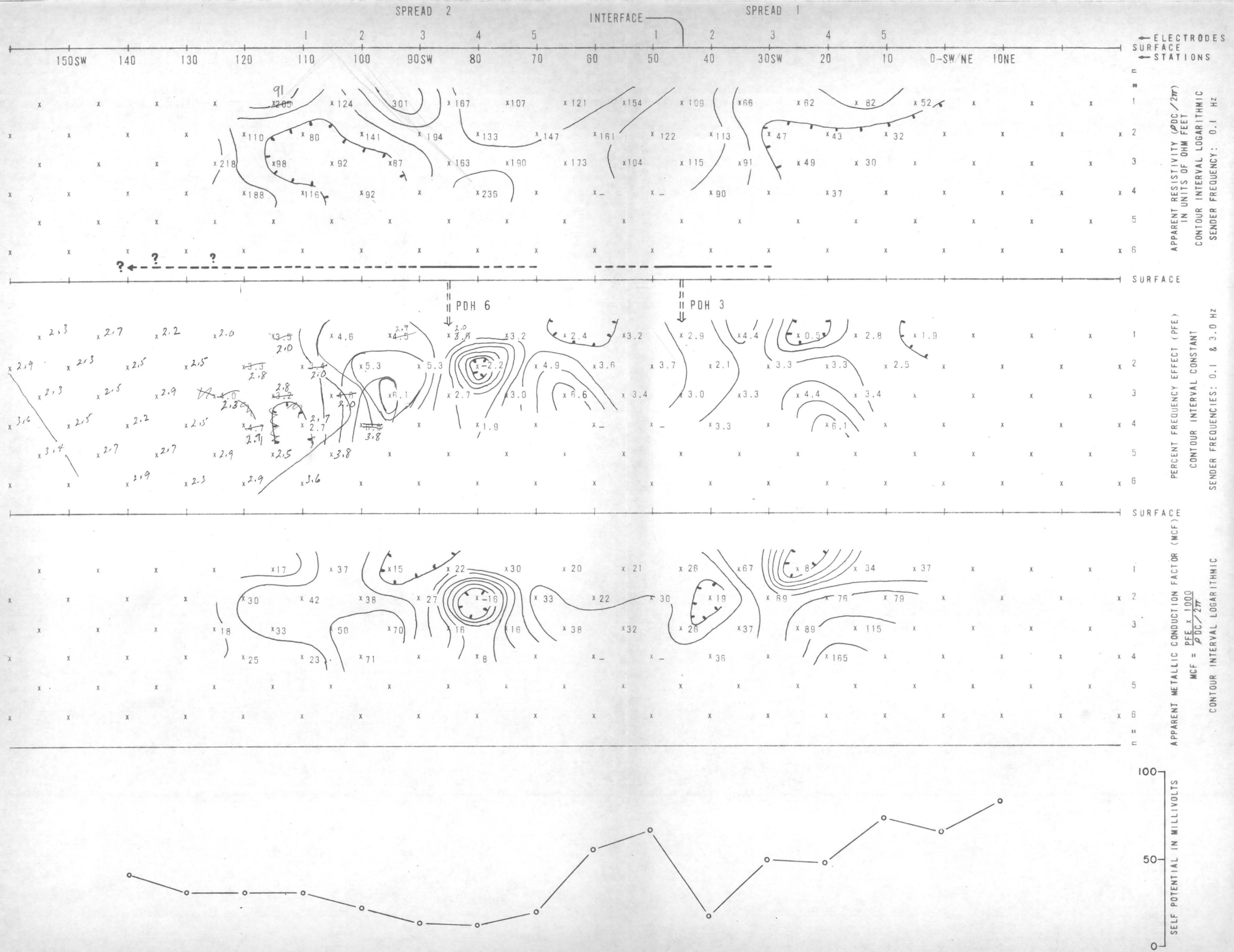


444-69

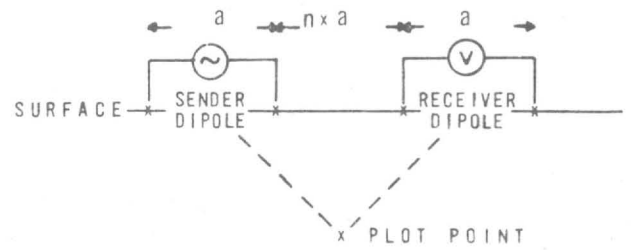
LINE NO. 2
SPREAD(S) 1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA

JOHNSON CAMP

LOOKING

NORTHWEST

DATE

AUGUST 1969

SCALE

a = 1000'

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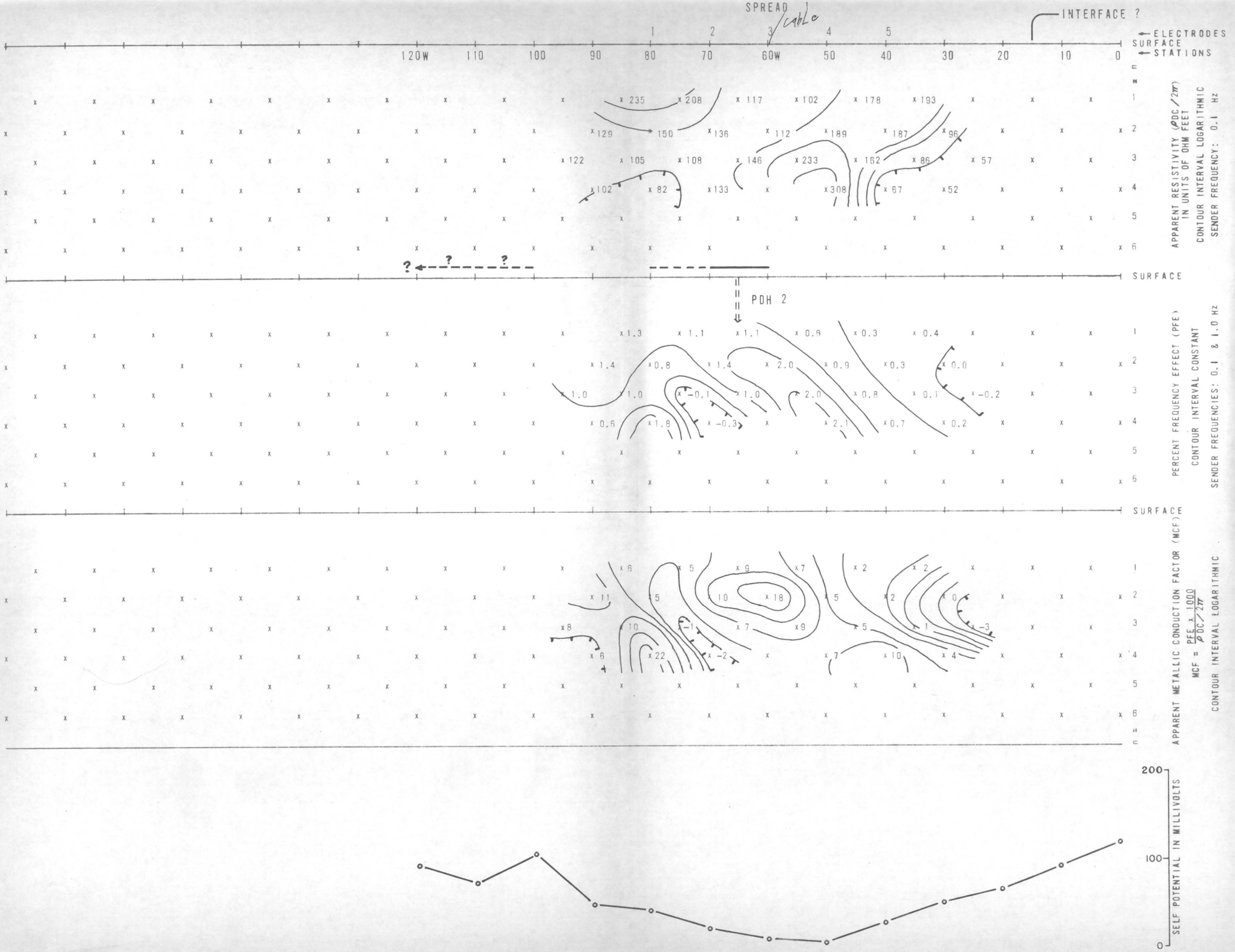


478-69

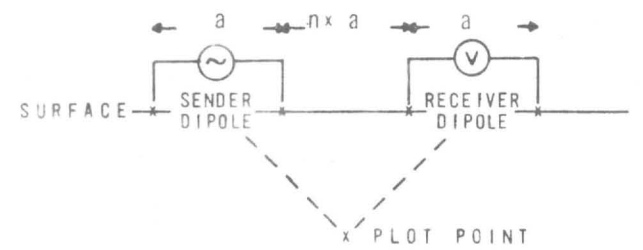
LINE NO. 6
SPREAD(S) 1

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



AREA

JOHNSON CAMP

LOOKING

N 10° E

DATE

NOV 1969

SCALE

a = 1000'

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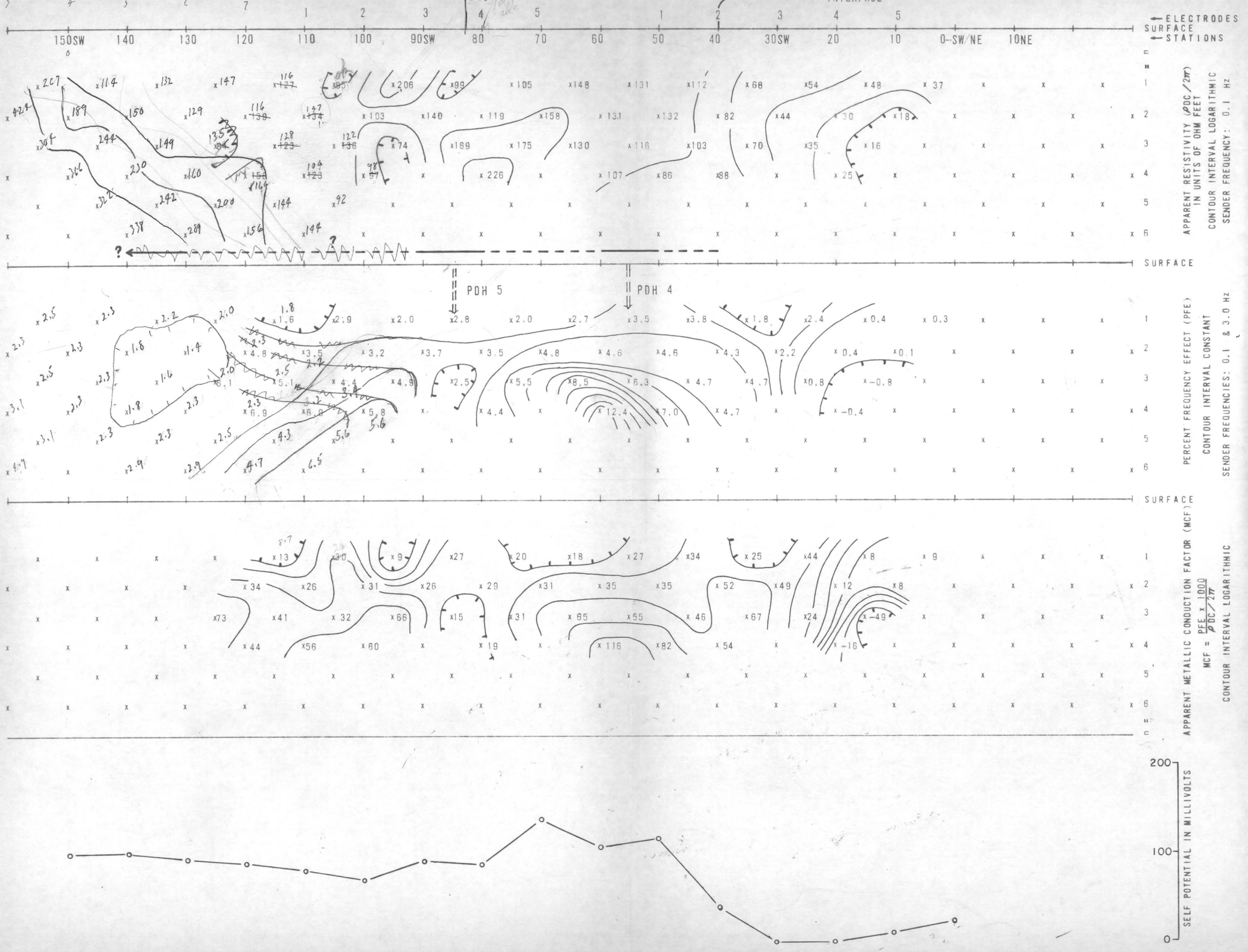


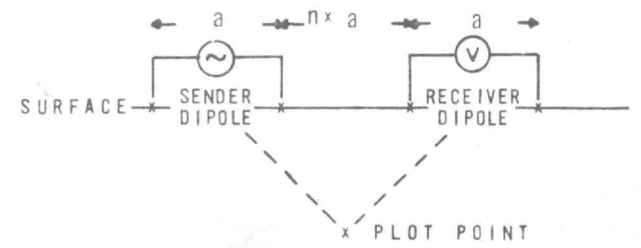
444-69

LINE NO.
3
SPREAD(S)
1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET
for
CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
JOHNSON CAMP
LOOKING
NORTHWEST

DATE
AUGUST 1969

SCALE
a = 1000'

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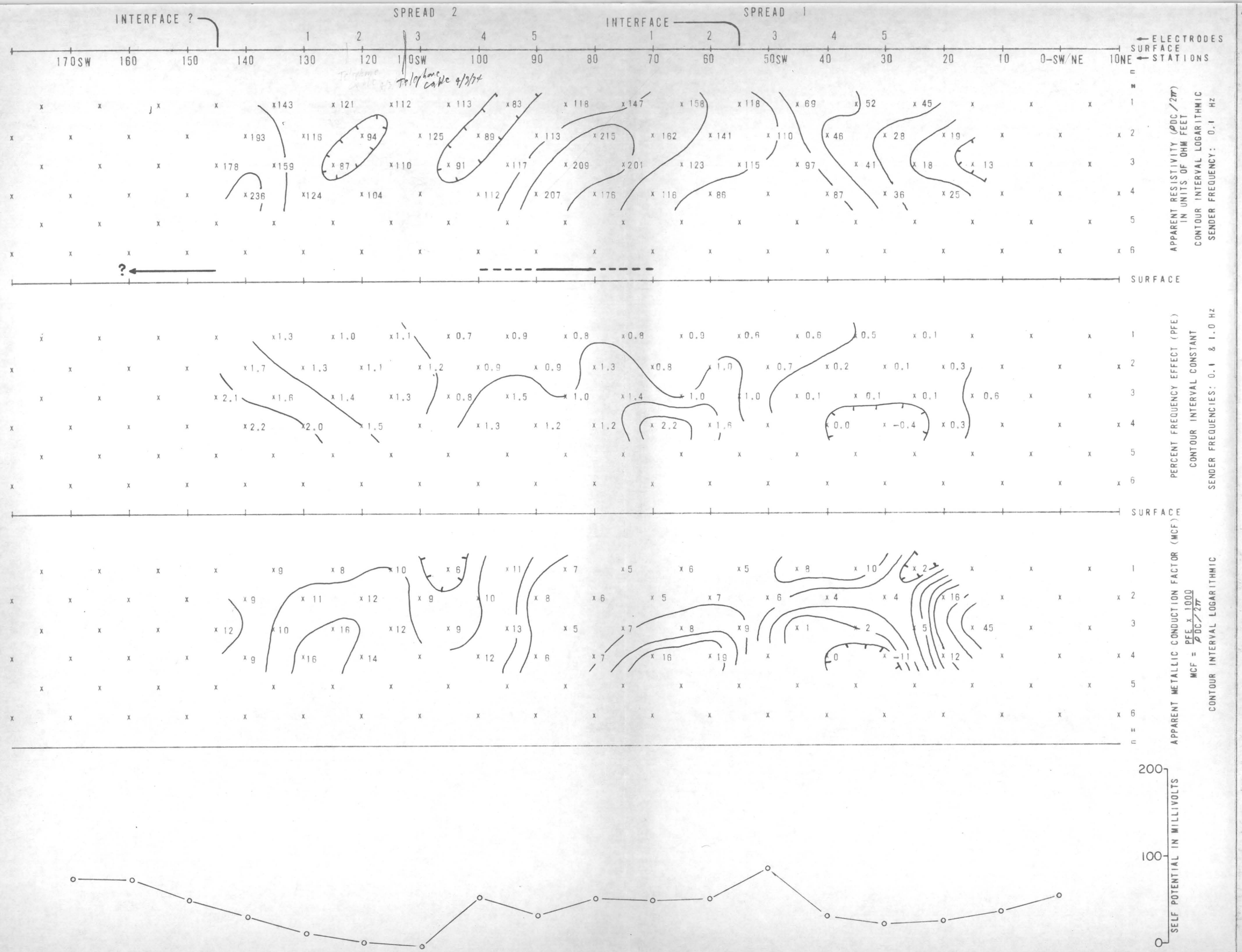


478-89

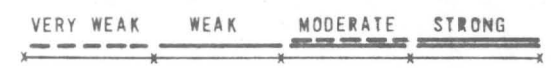
LINE NO.
4
SPREAD(S)
1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET

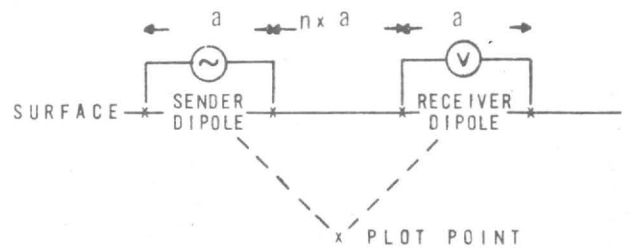
for

CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH



DIPOLE DIPOLE ELECTRODE ARRAY



AREA
JOHNSON CAMP
LOOKING
NORTHWEST
DATE
NOV 1969
SCALE

a = 1000'

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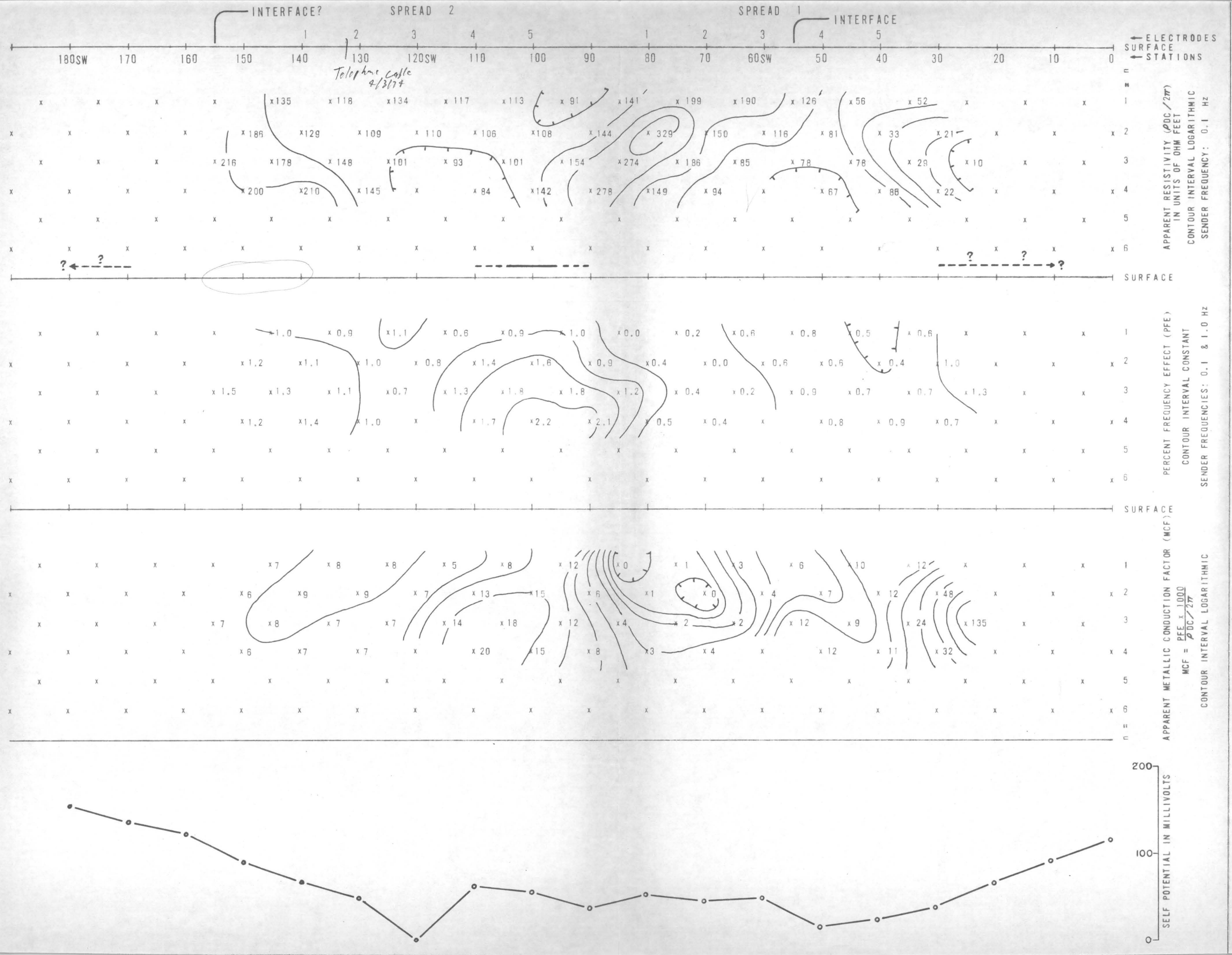


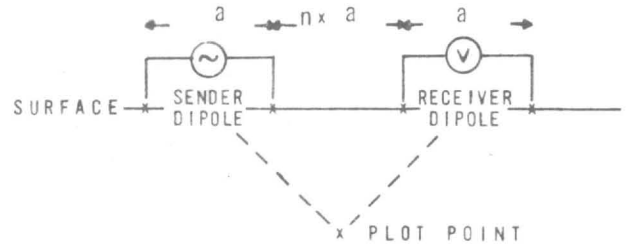
478-69

LINE NO.
5
SPREAD(S)
1 & 2

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET
for
CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



AREA
JOHNSON CAMP
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DATE
NOV 1969
SCALE
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R 22 E — R 23 E

T 15 S — T 16 S

I-10

IONE

APPROX. LOCATION OF A.T.&T. BURIED CABLE

O-SW/NE BASE LINE

25 30 29 36 31 32 6

SPREAD 1 30SW

SPREAD 2 90SW

SPREAD 3 90SW

SPREAD 1 90SW

SPREAD 2 150SW

SPREAD 3 150SW

SPREAD 1

SPREAD 2

SPREAD 3

PDH 1

PDH 2

PDH 3

PDH 4

PDH 5

PDH 6

A

B

C

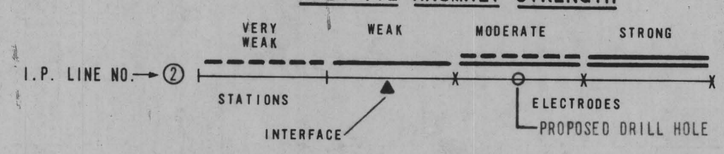
D

APPROXIMATE OUTLINE OF ANOMALOUS AREA

POSSIBLE FAULT

ZONE OF HIGH APPARENT RESISTIVITY

RELATIVE ANOMALY STRENGTH



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geophysical engineers vancouver sydney
478-69
444-69

INDUCED POLARIZATION LOCATION AND INTERPRETATION PLAN PHASE II JOHNSON CAMP AREA COCHISE CO ARIZONA

FOR

CYPRUS MINES CORP.

SCALE: 1" = 1000' | DRAWN BY: JAY DOWNS | DATE: SEPT. 1969

REVISED: DEC. 1969

EXTENSION OF AN INDUCED POLARIZATION AND RESISTIVITY SURVEY

JOHNSON CAMP PROJECT
COCHISE COUNTY, ARIZONA

CYPRUS MINES, INC.

GEOEX Job 478-Ext.

EXTENSION OF AN INDUCED POLARIZATION AND RESISTIVITY SURVEY

JOHNSON CAMP PROJECT

COCHISE COUNTY, ARIZONA

For

CYPRUS MINES, INC.

TUCSON, ARIZONA

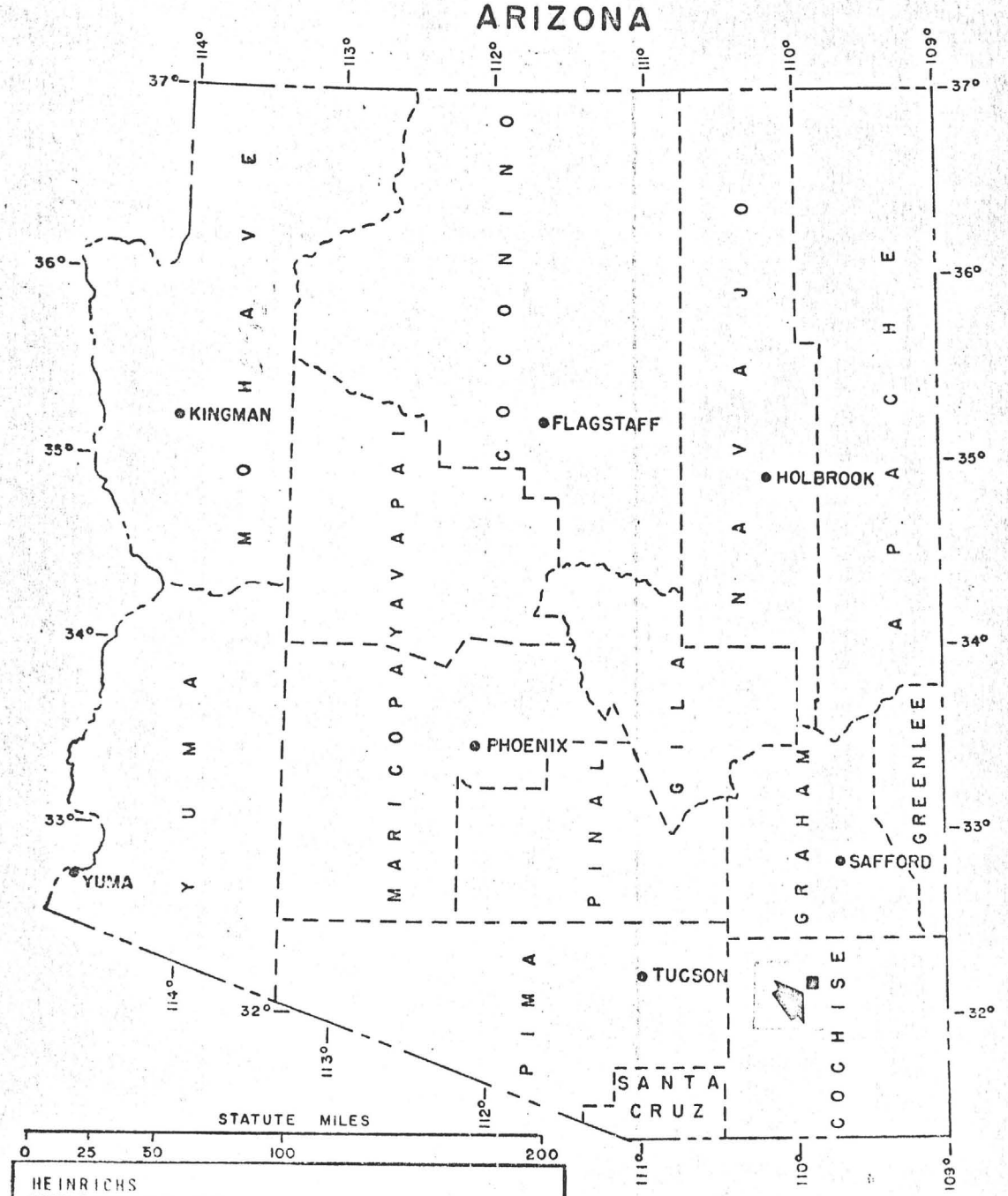
JUNE 1970

by

Heinrichs Geoexploration Company
P. O. Box 5964
Tucson, Arizona
85703
Telephone: 1-602-623-0578

GEOEX Job 478-Ext.

GENERAL LOCATION OF JOHNSON CAMP AREA FOR CYPRUS MINES CORP.



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GEOPHYSICAL ENGINEERS SYDNEY VANCOUVER

HEINRICHS GEOEXPLORATION COMPANY

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Fold out Sectional Data Sheets for

Lines 1 S., 2 S., 3 S., 4 S., 5 S. and 6 S.

In Map Pocket

Induced Polarization Location and Interpretation Plan

INTRODUCTION

Mr. Robert Clayton requested that Heinrichs GEOEXploration Company complete six additional induced polarization traverses northwest of the coverage discussed in our report of November 1969, near Johnson Camp, Cochise County, Arizona. These six lines were located on the ground by Cyprus Mines personnel, oriented N. 45° E., parallel to the lines of the previous work. This field work was completed in the interim from May 18 to June 4, 1970.

The dual frequency (I.P.) technique, using frequencies of 1.0 Hz and 0.1 Hz and 1000 foot spacing dipole-dipole electrode arrays was used to obtain all data on this project. The GEOEX Mark 4 sender, 4 C receiver and 6 KVA generator were used. The resulting data has been presented in standard sectional form as in our previous report. In addition, the field results have been processed by electronic computer and checked for adverse electromagnetic coupling effects.

The field work was done by the following GEOEX personnel: Mr. Bryan Terrell, Crew Chief, Mr. Bill Pawelczyk, Sender Operator and Mr. Walter Wright, Field Technician. Mr. Paul Head, Geophysicist, is responsible for this report and overall supervision of the project assisted by others of the Tucson Staff.

CONCLUSIONS

Linking the results from the older 1969 survey to the new results obtained, between new Line 1 S. and previous Line 1, presents no problem in the resistivity data although this new work seems to be displaced 1500 feet southwest. This is not too surprising in view of the displacements inferred in our previous report. No strong I.P. anomalies exist on either Line 1 S. or Line 1, although we might have predicted weak anomalism on the southwest end of Line 1 S. due to the Texas Canyon Monzonite in that vicinity.

Lines done on this extension project show evidence that 1000 foot dipoles are not resolving mineralized zones well enough to properly relate them to known geology. In the case of Line 1 S., frequency effects are noted down dip from the open pit, about as might be expected. However, it was probably chance that placed electrodes in a favorable relation to the geology.

Line 3 S., undoubtedly is seeing the same mineralized formation but the electrodes are not so fortunately placed. The strong S.P. low on 3 S. certainly indicates near surface oxidizing sulphides. Apparently the amount of drilling and other available data in the vicinity of the anomalies on Lines 1 S. and 3 S. reduce the chance that significant parallel and unknown ore bodies are causing the anomalous frequency effects.

No significant deep seated anomalism has been observed northwest of Interstate 10, indicating quite different geologic environment than that observed to the southeast, perhaps because of down faulting or other types of structural displacement.

RECOMMENDATIONS

No new drill targets can be recommended from these data.

Line 3 S. should be rerun using 250 foot dipoles from 80.0 S.W. to 40.0 N.E. to properly identify and correlate the various rock units with geophysical results. The purpose of this would be to help reinterpret past and future work.

Line 1 S. or Line 3 S. should be extended northeast using 1000 foot dipoles to the crest of the Gunnison Hills as part of the general area reconnaissance program to determine if there are any repetitions of the ore producting formations northeast of Johnson Camp.

In a submittal separate to this report we propose to suggest to you a comprehensive exploration program of the area northeast of and surrounding the Little Dragoon Mountains. This will be based on open file data available to us and on the I.P. program completed thus far. It is our opinion that this general area merits considerably more concentrated efforts than have been possible in the past and that the present land position enjoyed by Cyprus makes Cyprus the logical one to pursue such efforts.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

Paul A Head

Paul A. Head
Geophysicist

APPROVED:

Walter E. Heinrichs, Jr.
President & General Manager

Registered Professional Engineer (Mining) CERTIFICATE EXPIRES WALTER E. HEINRICHS JR. DEC. 31, 19[illegible] ARIZONA, U.S.A.

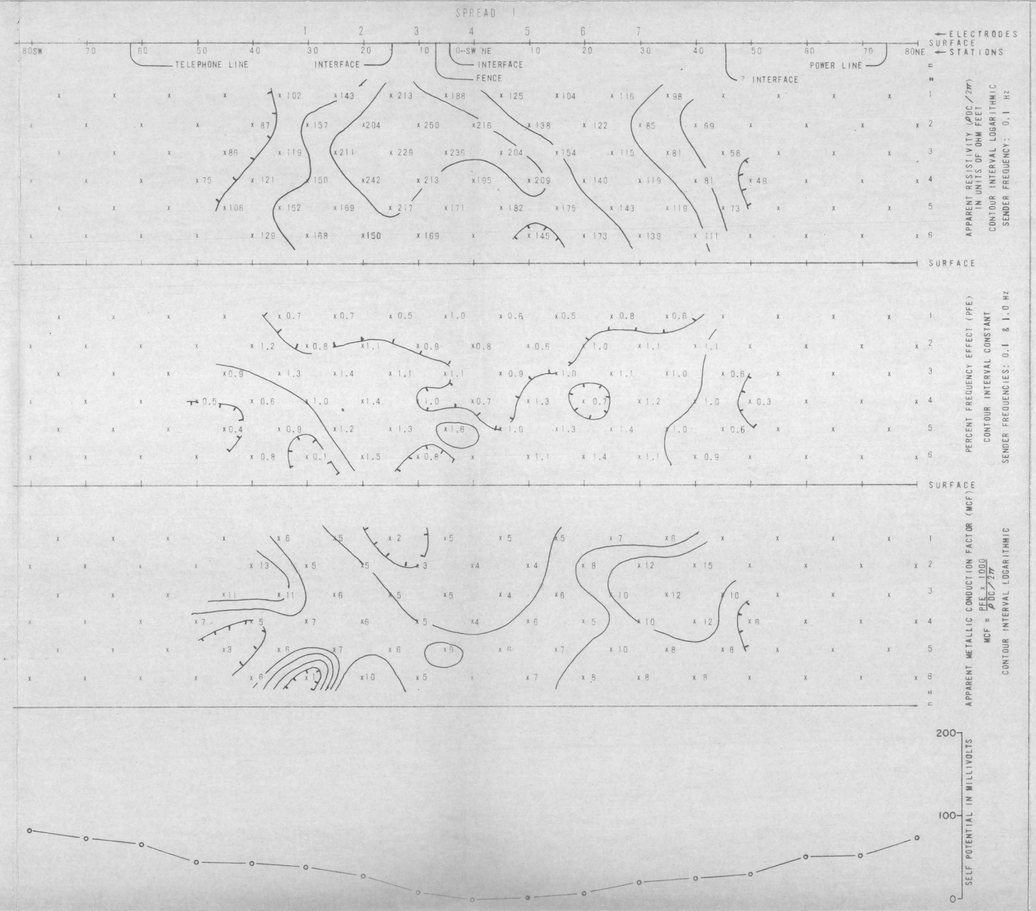
PAH/md

Line 6S

The apparent resistivity plot of Line 6S very closely resembles Line 1 of our previous report, but displaced about 1500 feet southwest. The high resistivity feature still dominates the data but a possible interface at 45.0 NE is noted.

PFE values are quite uniform over this Line and show no positive relation to previous Lines. Very marginally anomalous values on the SW end of the Line are possibly caused by the monzonite intrusive.

No significant S.P. effects are noted on this Line.



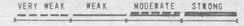
478-70 EXT

LINE NO
6S
SPREAD(S)
1

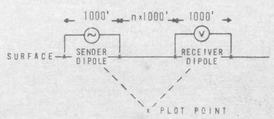
INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH



DIPOLE DIPOLE ELECTRODE ARRAY



AREA
JOHNSON CAMP
LOOKING
N 45° W
DATE
MAY 1970

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478-70 EXT

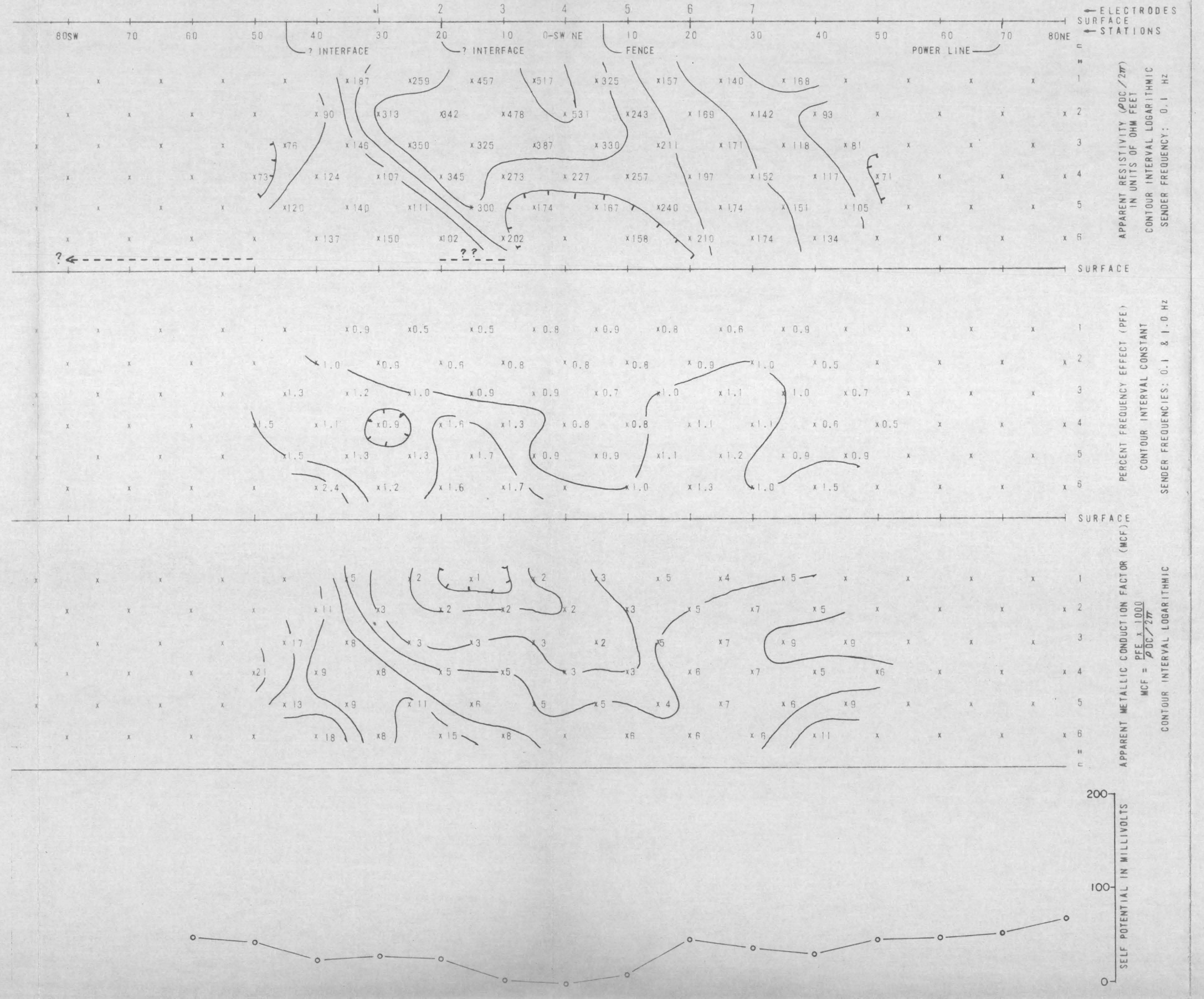
LINE NO. 5S
SPREAD(S) I

Line 5S

The character of the apparent resistivity pattern is fairly complex on this Line. The high resistivity zone traced from the northwest is present but its edges are difficult to pin down. Questionable interfaces which may be equated to these edges are shown at 5.0 SW and 20.0 SW. The questionable interface shown at 45.0 SW is possibly due to the Texas Canyon Monzonite contact with the old sedimentary rocks. There is also a suggestion that there may be a interface somewhere northeast of 50.0 NE.

It is doubtful that the PFE anomaly shown between 10.0 SW and 20.0 SW is valid. If it is valid, depth to sulphides would be well over 1000 feet. These slightly higher PFE values are more apt to be part of the anomaly beginning at 50.0 SW, and are likely caused by weak mineralization in the Texas Canyon Monzonite.

No significant S.P. effects are noted on this Line.



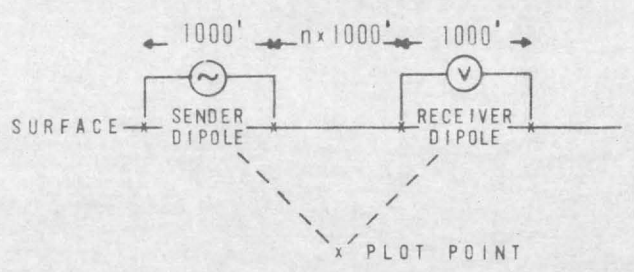
INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET
for

CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



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478-70 EXT

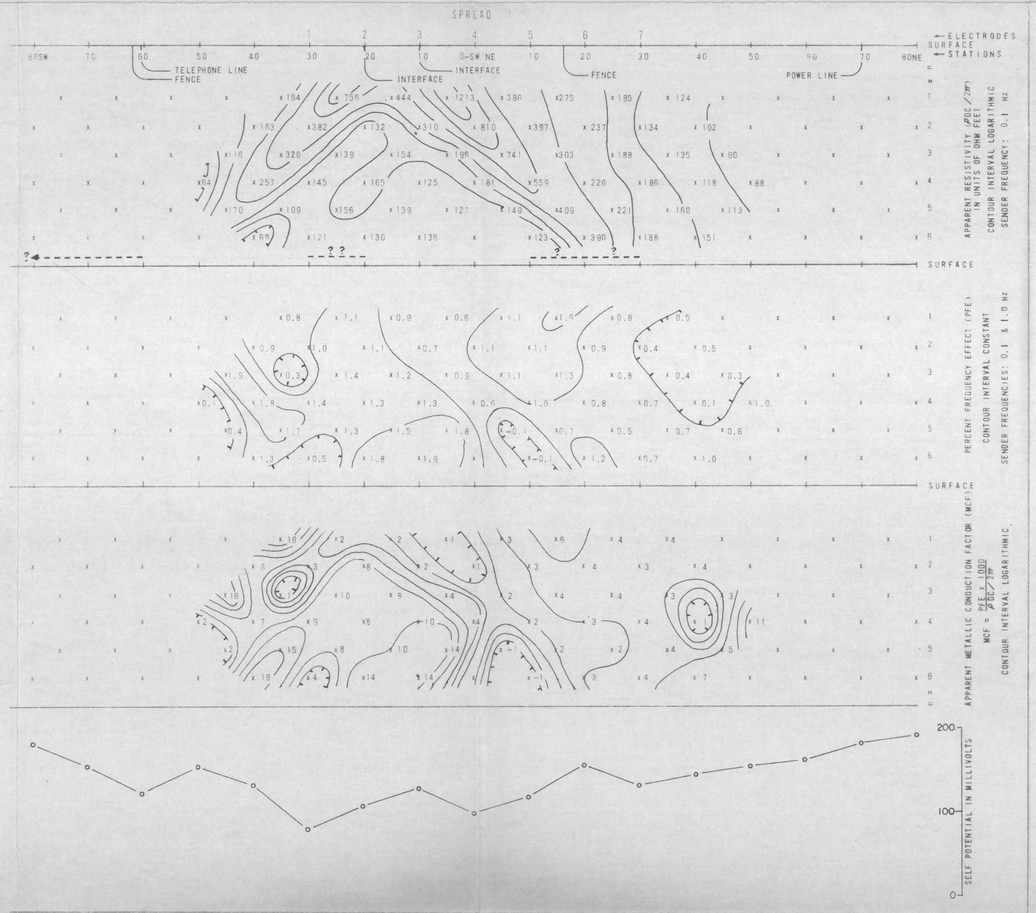
LINE NO. 4S
SPREAD(S) 1

Line 4S

The high resistivity feature noted on Lines 1S, 2S and 3S continues to Line 4S. However, the pattern has changed to that of a tabular body having little down dip continuation. No other abrupt resistivity changes are noted.

No definitely anomalous frequency effects are noted which correlate to anomalies on previous Lines. The questionable zones shown are likely to be due to changes of background effects. A possible exception is shown beginning at 60.0 SW.

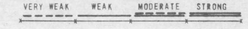
A possible S.P. low exists at about 30.0 SW.



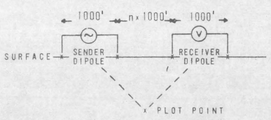
INDUCED POLARIZATION TRAVERSE
SECTIONAL DATA SHEET
for

CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH



DIPOLE DIPOLE ELECTRODE ARRAY



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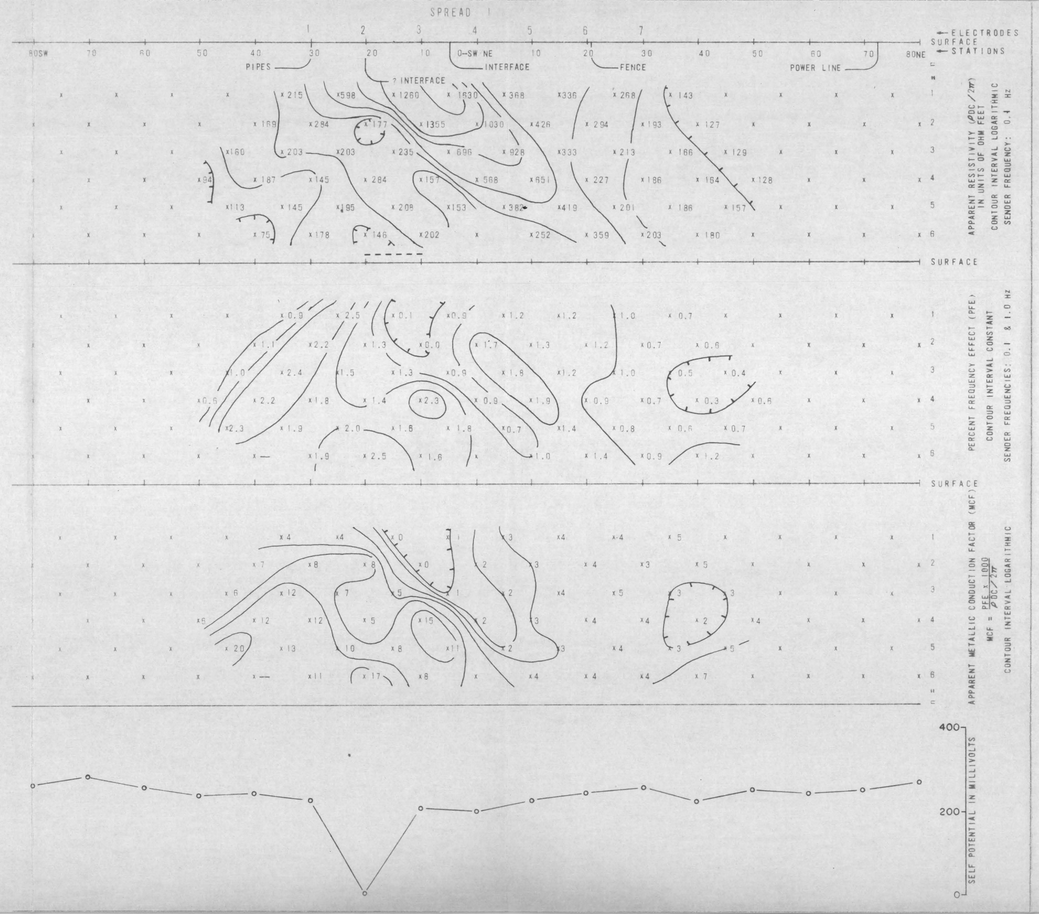
Line 3S

The apparent resistivity pattern on this Line is not so clear cut as seen on Lines 1S and 2S, however, the high resistivity zone still persists with a well defined boundary at 5.0 SW and its southwest edge somewhat questionably located at 20.0 SW. This uncertainty is very probably caused by the Monzonite contact at about 50.0 SW and would undoubtedly be shown by additional full coverage to the southwest. There is no significant resistivity change northeast of 0.0 NE.

A very weak PFE anomaly due to a narrow polarizing body between 10.0 SW and 20.0 SW is the only anomalous feature on Line 3. The remainder of the Line shows only background PFE effects.

A single station S.P. low is noted at 20.0 SW correlating well with the I.P. anomaly. This correlation indicates very high probability that oxidizing sulphides are present.



479-70 EXT

LINE NO. 3S
SPREAD(S) 1

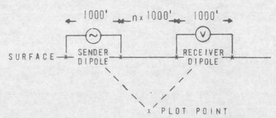
INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH

VERY WEAK | WEAK | MODERATE | STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



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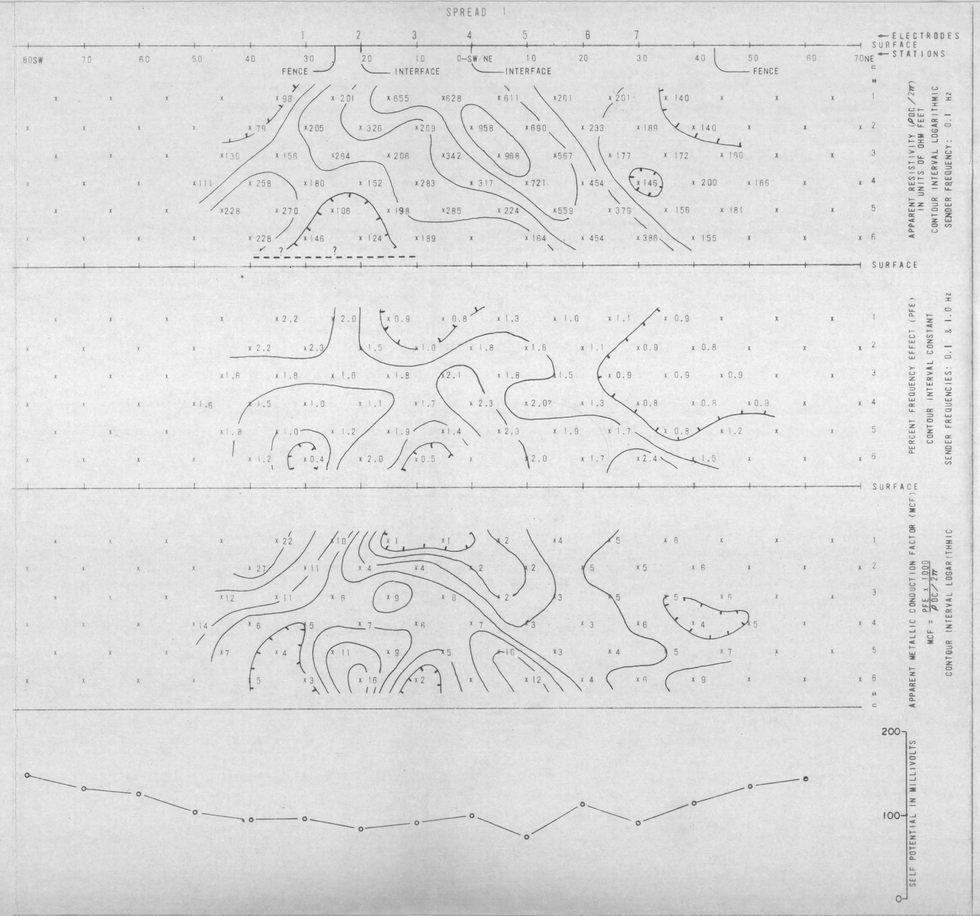
Line 2S

The resistive body noted on Line 1S is somewhat wider on this Line located between stations 0.0 SW and 20.0 SW. As before, this feature dominates the apparent resistivity pattern on the southwest end of the Line. To the northeast, no abrupt changes are noted which would indicate deep alluvial cover.

Very weak frequency effects are noted beginning at 10.0 SW and continuing to at least 20.0 SW. Continuing from 20.0 SW there are also slightly anomalous PFE values which may be a second anomaly or high background PFE not related to mineralization. These questionable anomalous values could be caused by the Texas Canyon Monzonite.

No significant S.P. effects are noted on this Line.



478-70 EXT

LINE NO. 2S
SPREAD(S) 1

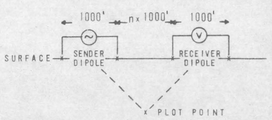
INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for

CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

DIPOLE DIPOLE ELECTRODE ARRAY



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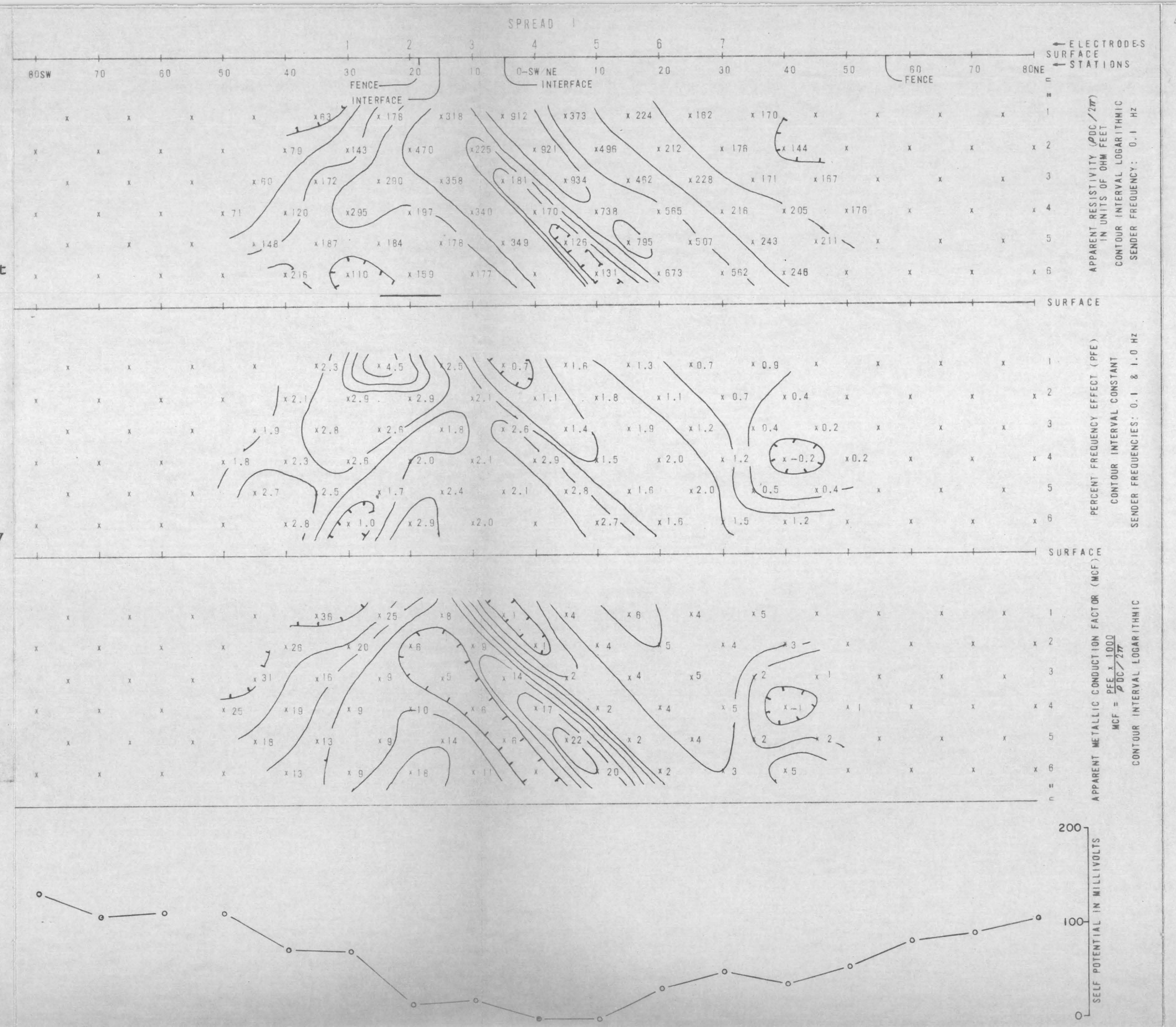
Line 1S

The apparent resistivity data pattern on this Line is typical of a steeply dipping resistive tabular body which outcrops or has little cover. This tabular body is one to two dipoles wide located between 5.0 SW and 15.0 SW and probably is a composite of several limeston formations. Northeast from this high resistivity section, the apparent resistivity decreases slowly from about 1000 ohm feet to about 150 ohm feet. This may indicate rather gradual increasing alluvium over rocks of moderate resistivity. No abrupt change to deep alluvium is probable to at least station 60.0 NE. To the southwest of the high resistivity body there is insufficient data to predict with certainty where the monzonite intrusion is first encountered.

Weak but definite frequency effects centered at 20.0 SW indicate sulphides relatively near surface and in a fairly thin tabular body, probably just at the southwest edge of the recistive beds. This mineralization should be weak but have fair persistence down dip.

No significant self potential effects have been noted on this Line.



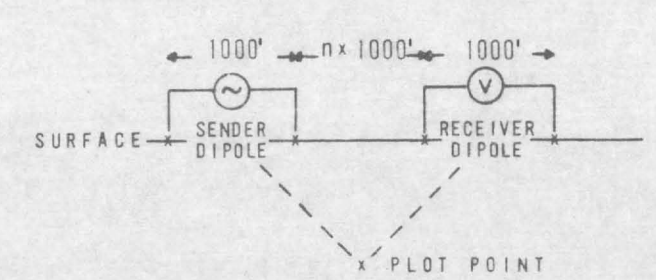
478-70EXT

LINE NO.
1S
SPREAD(S)
I

INDUCED POLARIZATION TRAVERSE SECTIONAL DATA SHEET for CYPRUS MINES CORP.

RELATIVE ANOMALY STRENGTH

DIPOLE DIPOLE ELECTRODE ARRAY



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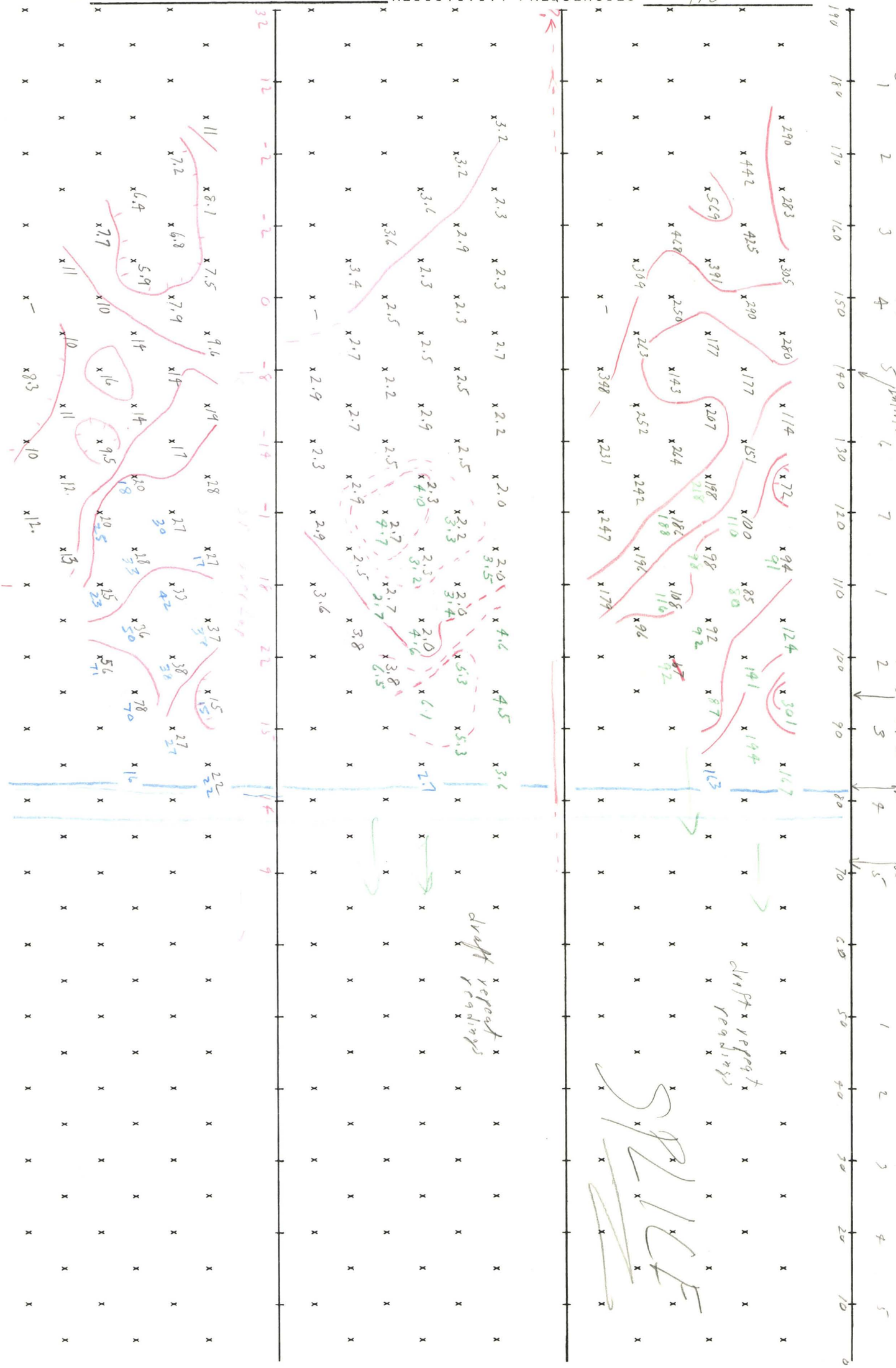
JOB# 923 LINE# 2 SP 3 a = 1000 BEARING N45E

CLIENT _____ DATE _____ FREQUENCIES 3 & 0.1 Hz

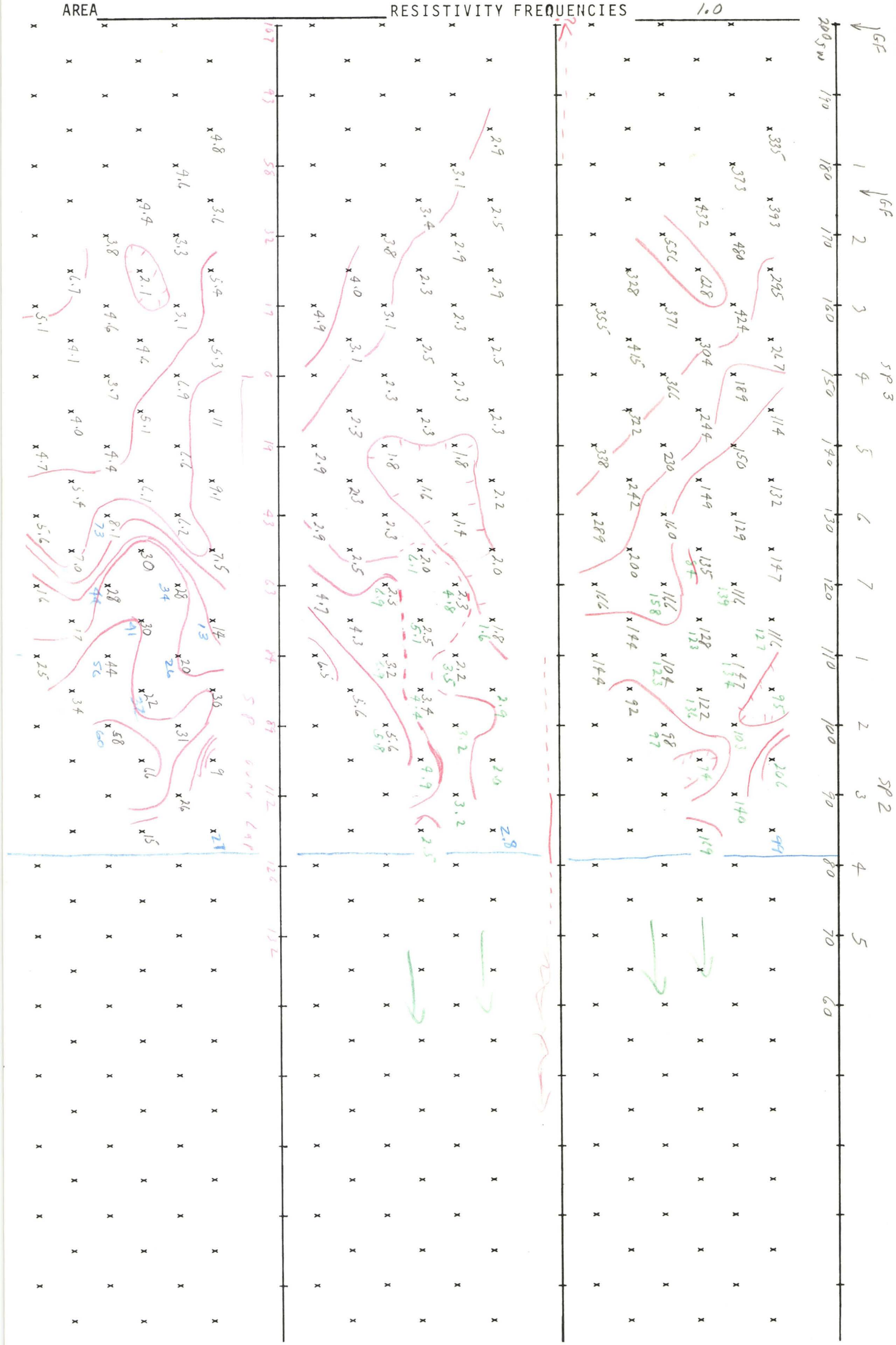
AREA _____ RESISTIVITY FREQUENCIES 1.0



JOB# 923 LINE# 3 SP 3 a = 1000 BEARING

CLIENT DATE FREQUENCIES 3.0 & 0.1 Hz

AREA RESISTIVITY FREQUENCIES 1.0



I. P. RECEIVER NOTES, JOB NO. 923, AREA Johnson Camp

LINE 2, HALF SW, SR. 1, a = 1000', BEARING S45W

SENDER STA. 0+00 = ELECTRODE NO. 4, DATE 4-19-74

PAGE 1

HEINRICHS GEOEX

SEND	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7	Cal
RECEIVE	0 →	10S W	10 →	→	20S W	20 →	→	→	30S W	4-19-74
MULTIPLIER	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
PFE	1.8	1.7	1.6	1.6	1.8	1.4	1.7	1.3	1.5	+0.3
CUR. (AMPS)	5	5	5	5	5	5	5	5	5	1.0
POINT NO.										
SEP. (n)	1	2	1	2	3	1	2	3	4	
H. F. MV	467	72.8	508	121	29.7	471	177	65.1	21.0	1026
DRIFT	—	+0.1	—	—	—	—	—	-0.2	—	—
1.0 PFE K_n/1000										
0.3 PFE P_{CAL}										0.0
0.1 PFE PFE_c	1.5	1.4	1.3	1.3	1.5	1.3	1.6	1.3	1.4	
3.0 MV P/2π	280	175	305	290	178	283	425	391	252	-0.1
DRIFT MCF	5.3	8.0	4.3	4.5	8.4	4.6	3.8	3.3	5.6	
S. P.	-2		0.0			+14				
NOISE					2-5 mV			1.0-2.0		
POT RES.										
CULT & CMTS						*				D.D

New Sender — 2nd Cal #11604 - p. 2

I. P. RECEIVER NOTES, JOB NO. 923, AREA Johnson Camp

LINE 2, HALF SW ¼ NE, SR. ____, a = 1000', BEARING 54SW & N35E

SENDER STA. 0;0 = ELECTRODE NO. 4, DATE 4-19-74

HEINRICHS GEOEX

SEND		2-3	3-4	4-5	5-6	6-7		SP	ST		Cal
RECEIVE		30 →				40SW		0-10NE	10-30NE		4-19-74
MULTIPLIER		1.0	1.0	1.0	1.0	1.0					1.0
PFE		1.9	1.9	2.1	2.1	2.0					+0.1
CUR. (AMPS)		5	5	5	5	5					1.0
POINT NO.											
SEP. (n)		1	2	3	4	5					
H. F. MV		483	184	94.8	39.0	14.7					1013
DRIFT		—	—	—	—	—					—
1.0 PFE	K_n/1000										
0.3 PFE	ρ_{CAL}										+0.3
0.1 PFE	PFE_c	1.8	1.8	2.0	2.0	1.9					
3.0 MV	$\rho/2\pi$	290	442	569	468	309					+0.2
DRIFT	MCF	6.2	4.1	3.5	4.3	6.2					
S. P.		+20						-8	-6		
NOISE						1.6-2.2					
POT RES.											
CULT & CMTS		*									#11664

End. Fence at 30SW

I. P. RECEIVER NOTES, JOB No. 923, AREA Johnson Camp

LINE 2, HALF NE, SR. 1, a = 1000', BEARING N45E

SENDER STA. 0,0 = ELECTRODE No. 4, DATE 4-19-74

HEINRICHS GEOEX

SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	6-7
RECEIVE	20	→	→	30NE	30	→	→	→	40NE	40
MULTIPLIER	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	1.0
PFE	1.3	1.5	1.4	1.7	1.2	1.5	1.7	1.3	1.6	1.4
CUR. (AMPS)	6	5	5	4.5	6.75	6	5	5	4	6
POINT NO.										
SEP. (n)	1	2	3	4	1	2	3	4	5	1
H. F. MV	227	74.0	29.2	18.5	163	75.6	34.5	16.1	10.0	187
DRIFT	—	—	—	+0.2	—	—	—	—	—	+0.4
1.0 PFE K_n/1000										
0.3 PFE ρ_{CAL}										
0.1 PFE PFE_c	1.2	1.4	1.3	1.5	1.1	1.4	1.6	1.2	1.5	1.1
3.0 MV $\rho/2\pi$	114	178	175	247	72	151	207	193	263	94
DRIFT MCF	11	7.9	7.4	6.1	15	9.3	7.7	6.2	5.7	12
S. P.	+13				+19					+4
NOISE										
POT RES.					80k					100k
CULT & CMTS										

I. P. RECEIVER NOTES, JOB NO. 723, AREA Johnson Camp

LINE 2, HALF NE, SR. 1, a = 1000', BEARING N45E

SENDER STA. 0,0 = ELECTRODE NO. 4, DATE 4-19-74

HEINRICHS GEOEX

PAGE 4

SEND	5-6	4-5	3-4	2-3	1-2	6-17	5-6	4-5	3-4	2-3
RECEIVE	→				SONE	50 →				COIL
MULTIPLIER	1.0	1.0	1.0	1.0	0.1	1.0	1.0	1.0	1.0	0.1
PFE	1.4	1.4	1.5	1.6	1.7	1.5	1.6	1.8	1.9	1.6
CUR. (AMPS)	6.75	6	5.25	5.25	4.5	5	5	5	5	5
POINT NO.										
SEP. (n)	2	3	4	5	6	2	3	4	5	6
H. F. MV	56.5	39.6	23.1	12.6	9.31	35.5	16.4	15.5	11.5	6.88
DRIFT	+0.2	—	—	—	—	+0.2	—	—	—	—
1.0 PFE K_n/1000										
0.3 PFE P_{CAL}										
0.1 PFE PFE_C	1.2	1.3	1.4	1.5	1.6	1.1	1.3	1.5	1.6	1.3
3.0 MV $P/2\pi$	100	198	264	252	348	85	98	186	242	231
DRIFT MCF	12	6.6	5.3	6.0	4.6	13	13	8.1	6.6	5.6
S. P.						-71				
NOISE	0.6-1.8			1.0-1.8						
POT RES.						ok - -21FS				
CULT & CMTS						*				

Begin 4-22

I. P. RECEIVER NOTES, JOB No. 923, AREA Johnson Camp

LINE 2, HALF NE, SR. 1, a = 1000', BEARING N45E

SENDER STA. 0,0 = ELECTRODE No. 4, DATE 4-19-74

PAGE 5

HEINRICHS GEOEX

SEND	6-7	5-6	4-5	3-4	6-7	5-6	4-5		Cal	
RECEIVE	60 →			70 NE	70 →		80 NE		4-22-74	
MULTIPLIER	1.0	0.1	0.1	0.1	0.1	0.1	0.1		1.0	
PFE	1.4	1.8	1.7	1.8	2.4	2.4	2.2		+0.3	
CUR. (AMPS)	5	5	5	5	5	5	5		1.0	
POINT No.										
SEP. (n)	3	4	5	6	4	5	6			
H. F. MV	15.3	8.98	9.32	7.34	5.62	4.55	5.32		1025	
DRIFT	—	—	—	-0.2	—	—	-0.2		—	
1.0 PFE K_n/1000										
0.3 PFE P_{CAL}							1.8		+0.1	
0.1 PFE PFE_c	1.1	1.5	1.4	1.6	2.1	2.1	2.0			
3.0 MV $P/2\pi$	92	108	196	247	67	96	-2.8/179		0.0	
DRIFT MCF	12	14	7.2	6.5	31	22	11			
S. P.	-1				-5					
NOISE										
POT RES.					Ok - 6 PFE					
CULT & CMTS	*				* Power line at ≈ 68 NE					

G.N.D. Fence & Power line at ≈ 55 NE Ungnd. Fence at ≈ 79 NE

I. P. SENDER NOTES

JOB NO. _____ AREA Texas Coynon Cy.

LINE 2, HALF SW, SP. 1, DATE 4 - -74

PAGE 1

HEINRICHS GEOEX

SEND	5-6	6-7	4-5	5-6	6-7	4-3 New	5-4	5-6	6-7	
RECEIVE	0 —	10 SW	10 —	20 SW	→	20 —	30	SW →		
RANGE	30 X166	30 X166	30 X166	30 X166	30 X166	30 X166	30 X166	30 X166	30 X166	
VOLTAGE	300	360	420	300	340	400	380	275	320	
CURRENT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
SEND	2-3	3-4	4-5	5-6	6-7		4-5	3-4	2-3	1-2
RECEIVE	30 —	40	SW →				20 — 30 NE		→	
RANGE	30 X166	"	"	"	"		30 X200	30 X166	30 X166	30 X150
VOLTAGE	400	400	380	275	320		460	420	400	540
CURRENT	5.0	5.0	5.0	5.0	5.0	Half	6.0	5.0	5.0	4.5

FREQUENCIES	COMMENTS:
SENDER NO.	
OPERATOR	
RECEIVER NO.	
OPERATOR	

I. P. SENDER NOTES

JOB No. _____ AREA Texas Caynon

LINE 2, HALF NE, SP. 1, DATE _____

2.25
3

PAGE 2

HEINRICHS GEOEX

SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	30 — 40 NE		→			40 —	50	NE		
RANGE	30 x 225	30 x 200	30 x 1666	30 x 166	30 x 133.3	30 x 200	30 x 225	30 x 200	30 x 175	30 x 175
VOLTAGE	360	460	440	400	440	400	380	460	420	410
CURRENT	6.75	6.0	5.0	5.0	4.0	6.0	6.75	6.0	5.25	5.25
SEND	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4
RECEIVE	→	50 —	60	NE	→		60	→		20 NE
RANGE	30 x 150	30 x 1666	30 x 1666	30 x 1666	30 x 1666	30 x 1666	30 x 1666	30 x 1666	30 x 1666	30 x 1666
VOLTAGE	480	510	470	400	520	510	510	470	400	520
CURRENT	4.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

FREQUENCIES 1. + .1

SENDER No.

OPERATOR Joe

RECEIVER No.

OPERATOR Ron

COMMENTS: Bullshit

176
4 | 700
4
30
28
20

175
3
525

I. P. SENDER NOTES

JOB NO. _____ AREA TEXAS CANYON

LINE 2, HALF NE, SP. 1, DATE 4-22-74

PAGE 3

HEINRICHS GEOEX

SEND	6-7	5-6	4-5							
RECEIVE	70 NE	→	80 NE							
RANGE	30K 1666	30K 1666	30K 1666							
VOLTAGE	500	460	400							
CURRENT	510	510	510							
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 1. & 0.1

SENDER NO.

OPERATOR MARLATT

RECEIVER NO.

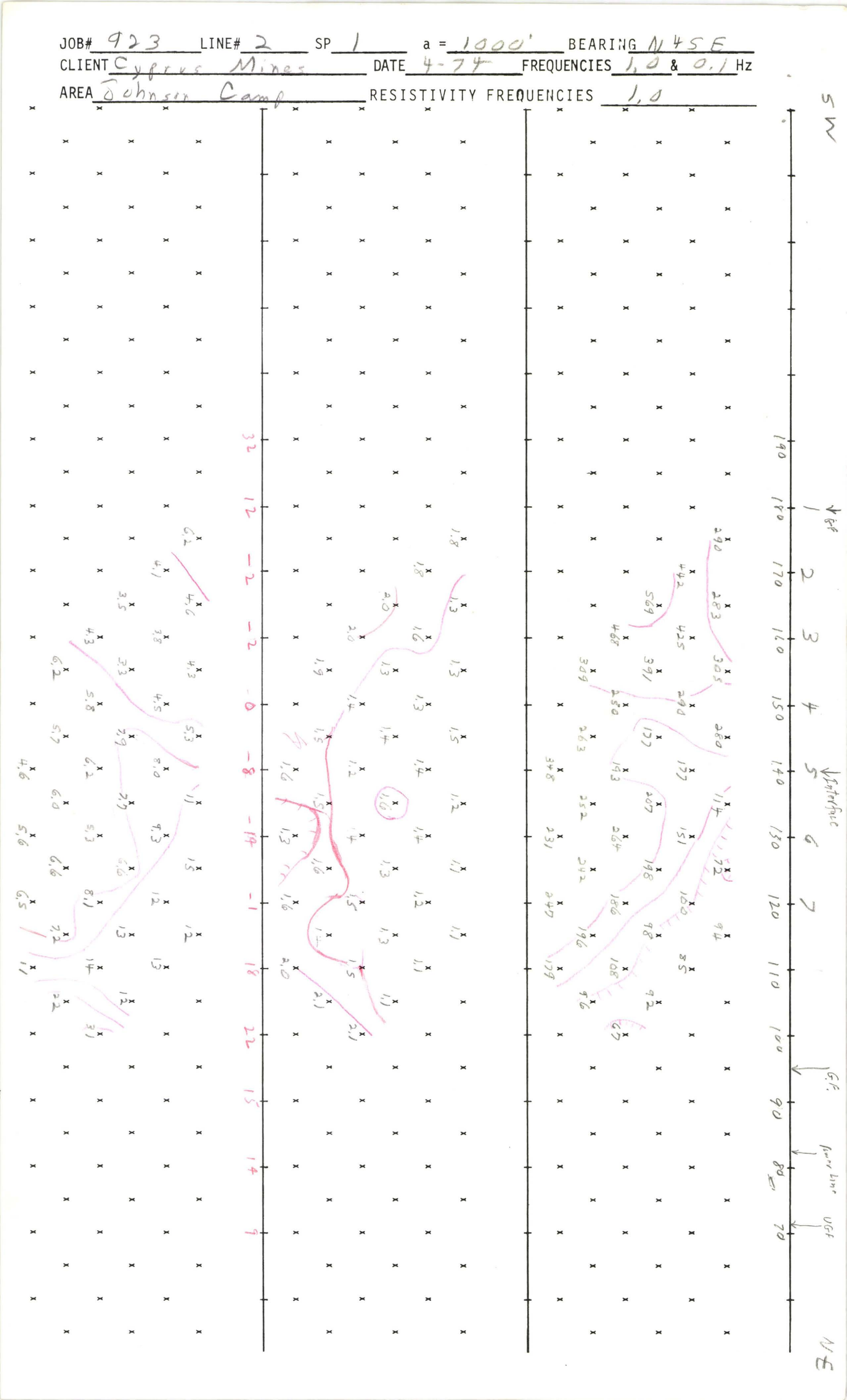
OPERATOR PETERSEN

COMMENTS:

JOB# 923 LINE# 2 SP 1 a = 1000' BEARING N45E

CLIENT Cyprus Mines DATE 4-74 FREQUENCIES 1.0 & 0.1 Hz

AREA Johnson Camp RESISTIVITY FREQUENCIES 1.0



I. P. RECEIVER NOTES, JOB No. 723, AREA Johnson Camp

LINE 3, HALF SW, SP. 1, a = 1000', BEARING S45W

SENDER STA. 0.0 = ELECTRODE No. 4, DATE 4-17-74

HEINRICHS GEOEX

SEND	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7	Cal
RECEIVE	0 →	10SW	10 →		20SW	20 →			30SW	4-17-74
MULTIPLIER	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
PFE	1.3	1.1	1.5	1.3	1.4	1.7	1.4	1.5	1.4	+0.1
CUR. (AMPS)	7.5	6.0	7.5	7.5	3.75	6.0	7.5	6.0	3.75	1.0
POINT NO.										
SEP. (n)	1	2	1	2	3	1	2	3	4	
H. F. MV	388	75.5	667	182	30.5	589	265	99.9	22.5	989
DRIFT	—	—	—	—	—	—	—	—	—	—
1.0 PFE K_n/1000										0.0
0.3 PFE P_{CAL}										
0.1 PFE PFE_c	1.2	1.0	1.4	1.2	1.3	1.6	1.3	1.4	1.3	
3.0 MV $P/2\pi$		151	267		244	295	424		360	0.0
DRIFT MCF		6.6	5.3		5.3	5.4	3.1		3.6	
S. P.	+17		+15			+26				
NOISE										
POT RES.	10		50			78				
CULT & CMTS										

Note: electrodes #6 & 7 were reversed

I. P. RECEIVER NOTES, JOB No. 923, AREA Johnson Camp

LINE 3, HALF SW, SP. 1, a = 1000', BEARING S45W

SENDER STA. 0.0 ÷ ELECTRODE No. 4, DATE 4-17-74

HEINRICHS GEOEX

SEND	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	
RECEIVE	30 →				40SW	40 →					
MULTIPLIER	10	10	10	1.0	1.0	10	10	1.0	1.0	1.0	
PFE	1.5	1.7	1.4	1.6	1.8	1.8	1.9	2.1	2.3	2.5	
CUR. (AMPS)	4.5	4.0	7.5	7.5	4.5	3.0	4.5	6	7.5	7.5	
POINT NO.											
SEP. (n)	1	2	3	4	5	1	2	3	4	5	
H. F. MV	590	160	157	75.7	17.8	335	140	86.3	69.5	39.2	
DRIFT	—	—	—	—	+0.1	+0.4	+0.2	+0.2	+0.2	—	
1.0 PFE K_n/1000											
0.3 PFE ρ_{CAL}										1.3	
0.1 PFE PFE$_c$	1.4	1.6	1.3	1.5	1.7	1.6	1.7	1.9	2.1		
3.0 MV $\rho/2\pi$	393	480	628		415.	335	373	432	556	141	
DRIFT MCF	3.6	3.3	2.1		4.1	4.8	4.6	4.4	3.8		
S. P.	+35					+14					
NOISE											
POT RES.	38										
CULT & CMTS	*					*					

GND. Fence at ≈265W

GND Fence at ≈475W

I. P. RECEIVER NOTES, JOB No. 923, AREA Johnson Camp — PAGE 3

LINE 3, HALF SW, SP. NE 1, a = 1000', BEARING S45W & N45E

SENDER STA. 0.0 = ELECTRODE No. 4, DATE 4-17-74

HEINRICHS GEOEX

SEND		6-7				SP	SP	4-5	3-4	2-3	1-2	
RECEIVE		505W				0-10NE	10-20NE	20 →			30NE	
MULTIPLIER		0,1						10	1,0	1,0	1,0	
PFE		2,8						1,3	1,1	1,3	1,5	
CUR. (AMPS)		4,5						7,5	6,0	4,0	3,0	
POINT NO.												
SEP. (n)		6						1	2	3	4	
H. F. MV		9,52						330	74,7	32,7	18,6	
DRIFT		+0,4										
1.0 PFE	K_n/1000											
0.3 PFE	P_{CAL}	1,8										
0.1 PFE	PFE_c	2.7						1,2	1,0	1,2	1,4	
3.0 MV	P/2π	-141 ← 355						132	149	245	372	
DRIFT	MCF	5.1						9,1	6,7	4,9	3,8	
S. P.						+19	+24	+20				
NOISE												
POT RES.												
CULT & CMTS												

I. P. RECEIVER NOTES, JOB No. 923, AREA Johnson Camp

LINE 3, HALF NE, SR. 1, a = 1000', BEARING N45E

SENDER STA. 0,0 ÷ ELECTRODE No. 4, DATE 4-10-74

HEINRICHS GEOEX

SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3	
RECEIVE	30	→	→	→	40 NE	40	→	→	→	→	
MULTIPLIER	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	
PFE	1.2	0.9	1.0	1.1	1.4	0.8	1.3	1.2	1.0	1.4	
CUR. (AMPS)	7.0	7.5	6.0	4.0	3.0						
POINT NO.											
SEP. (n)	1	2	3	4	5	1	2	3	4	5	
H. F. MV	342	80.5	29.7	15.3	9.21	272	66.9	34.0	16.4	9.03	
DRIFT	—	—	—	—	—	-0.2	—	—	—	—	
1.0 PFE K_n/1000											
0.3 PFE ρ_{CAL}											
0.1 PFE PFE_c	1.1	0.8	0.9	1.0	1.3						
3.0 MV $\rho/2\pi$	147	129	149	230	322						
DRIFT MCF	7.5	6.2	6.1	4.4	4.0						
S. P.	+21					+26					
NOISE											
POT RES.						45					
CULT & CMTS											

I. P. RECEIVER NOTES, JOB NO._____, AREA_____

LINE_____, HALF_____, SP._____, a = _____, BEARING_____

SENDER STA._____ = ELECTRODE NO._____, DATE_____

HEINRICHS GEOEX

SEND		6-7	5-6	4-5	3-4	2-3	1-2				
RECEIVE		40 →					SONE				
MULTIPLIER		10	1.0	1.0	1.0	0.1	0.1				
PFE		1.2	1.5	1.3	1.5	1.5	1.8				
CUR. (AMPS)		6.0	6.0	6.0	6.0	4.0	4.0				
POINT NO.											
SEP. (n)		1	2	3	4	5	6				
H. F. MV		231	58.1	26.9	16.0	9.22	8.05				
DRIFT		—	—	—	—	—	—				
1.0 PFE	K_n/1000										
0.3 PFE	ρ_{CAL}										
0.1 PFE	PFE_c	1.0	1.3	1.1	1.3	1.3	1.6				
3.0 MV	$\rho/2\pi$	116	116	135	160	242	338				
DRIFT	MCF	8.7	11	8.2	8.1	5.4	4.7				
S. P.											
NOISE							1.0-2.0				
POT RES.		+5									
CULT & CMTS		D.D.									

I. P.-RECEIVER NOTES, JOB No. T23, AREA Johnson Camp

LINE 3, HALF NE, SR. 1, a = 1000', BEARING N45E

SENDER STA. 0,0 = ELECTRODE No. 4, DATE 4-17-74

HEINRICHS GEOEX

SEND	1-2	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4
RECEIVE	→50NE	50	→	→	→	60NE	60	→	→	70NE
MULTIPLIER	0.1	1.0	1.0	1.0	1.0	0.1	1.0	1.0	0.1	0.1
PFE	1.4	1.4	1.6	1.6	1.6	1.8	2.2	2.0	2.6	2.8
CUR. (AMPS)		6.0	6.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0
POINT NO.										
SEP. (n)	6	2	3	4	5	6	3	4	5	6
H. F. MV	5.94	73.3	25.5	16.6	11.4	6.87	24.4	10.4	8.21	5.92
DRIFT	—	—	—	+0.2	—	—	+0.2	—	—	—
1.0 PFE K_n/1000										
0.3 PFE P_{CAL}						1.2				
0.1 PFE PFE_c		1.2	1.4	1.3	1.4	1.6	1.9	1.8	2.4	2.6
3.0 MV $P/2\pi$		147	128	166	200	-1.8/289	122	104	144	166
DRIFT MCF		8.2	11	7.8	7.0	5.6	16	17	17	16
S. P.		+23					+14			
NOISE				1.2-2.0		1.4-2.2				
POT RES.										
CULT & CMTS										

I. P.-RECEIVER NOTES, JOB No. 923, AREA Johnson Camp

LINE 3, HALF NE, SR. 1, a = 1000', BEARING N45E

SENDER STA. 0,0 ÷ ELECTRODE No. 4, DATE 4-17-74

HEINRICHS GEOEX

SEND	6-7	5-6	4-5	Cal		5-6 →				
RECEIVE	70 →	→	80 NE	4-18-74		0-10 SW	10-20	20-30	30-40	40-50
MULTIPLIER	0,1	0,1	0,1	1,0		10	1,0	1,0	1,0	1,0
PFE	3,3	3,2	3,8	+0,2		1,5	1,5	1,6	2,1	2,4?
CUR. (AMPS)	6,0	6,0	5,0	1,0		6,0	6,0	6,0	6,0	5,0
POINT NO.										
SEP. (n)	4	5	6			1	2	3	4	5
H. F. MV	9,80	5,23	4,29	1021		228	94,4	60,8	37,1	15,6
DRIFT	—	-0,2	—	—		—	—	—	+0,4	—
1.0 PFE K_n/1000										
0.3 PFE P_{CAL}			2,1	0,0						
0.1 PFE PFE_c	3,1	3,1	3,6			1,2	1,3	1,4	1,7	2,2
3.0 MV P/2π	98	92	-3,6/144	-0,2		114	189	304	371	328
DRIFT MCF	32	34	25			11	6,9	4,6	4,6	6,7
S. P.	+6									
NOISE		2,4-4,0	3,2-4,0				1,2-1,8			2,0-3,0
POT RES.										
CULT & CMTS	*			D.D.						

Power line & underground cable at ≈ 66 NE

" " at ≈ 52 NE; House at sta 80 NE

I. P. SENDER NOTES

JOB No. 923 AREA Johnson Camp

LINE 3, HALF SW, SP. 1, DATE 4-17-74

PAGE 1

HEINRICHS GEOEX

SEND	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7	2-3
RECEIVE	0 →	10S W	10 →	→	20S W	20 →	→	→	30S W	30
RANGE	30X250	30X200	30X250	30X200	30X125	30X200	30X250	30X200	30X125	30X100
VOLTAGE	320	360	250	310	230	240	250	260	240	160
CURRENT	7.5	6.0	7.5	7.5	3.75	6.0	7.5	6.0	3.75	1
SEND	3-4	4-5	5-6	6-7	1-2	2-1	3-4	4-5	5-6	6-7
RECEIVE	→	→	→	40S W	40 →	→	→	→	→	50S W
RANGE	30X400	30X250	30X250	30X150	30X100	30X150	30X200	30X250	30X250	30X150
VOLTAGE	250	240	300	260	460	460	360	240	310	260
CURRENT	4	7.5	7.5	4.5	3	4.5	6	7.5	7.5	4.5

FREQUENCIES 1, 0 4 0.1

SENDER No.

OPERATOR Johnson

RECEIVER No. 34726

OPERATOR RCP

COMMENTS:

2-3 - 30SW - 30X150 MHD 4.50

I. P. SENDER NOTES

JOB No. 923 AREA Johnson Camp

LINE 3 ; HALF NE , SP. 1 , DATE 4-17-74

PAGE 2

HEINRICHS GEOEX

SEND	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	6-7
RECEIVE	20 NE	→	→	30 NE	30	→	→	→	40 NE	40
RANGE	30X250	30X200	10X400	30X100	30X233	30X250	30X200	10X400	10X300	30X253
VOLTAGE	250	370	420	460	340	250	370	420	480	3
CURRENT	7.5	6	4	3	7	7.5	6	4	3	7
SEND	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3
RECEIVE	←	←	←	→	50 NE	50				40 NE
RANGE	30X233	30X250	30X200	30X333	30X100					
VOLTAGE	340	240	370	320	460					
CURRENT	7.0	7.5	6	4	3					

FREQUENCIES 1,048.1

SENDER No.

OPERATOR Johnson

RECEIVER No. 3472 6

OPERATOR RCP

COMMENTS:

I. P. SENDER NOTES

JOB No. 923 AREA Johnson Camp

LINE 3, HALF NE, SP. 1, DATE 4/18/74

HEINRICHS GEOEX

SEND	6-7	5-6	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4
RECEIVE	40 —	50 NE	———	———	———	→	50 —	60 NE		
RANGE	30X200	30X200	30Y300	30X200	10Y400	10Y400	30X200	30Y200	30X300	30X300
VOLTAGE	360	300	225	400	440	640	360	300	200	400
CURRENT	6.0	6.0	6.0	6.0	4.0	4.0	6.0	6.0	6.0	6.0
SEND	2-3	1-0	6.7	5-6	4-5	3-4	6-7	5-6		
RECEIVE	50 —	60 NE	60 ———		70 NE		70 —	80 NE		NE
RANGE	0X400	10Y400	30X200	30X300	30X300	30X300	30Y300	30Y300		300
VOLTAGE	400	640	360	300	200	400	360	300		400
CURRENT	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0

FREQUENCIES 1,0 #0,1

SENDER No.

OPERATOR

RECEIVER No.

OPERATOR

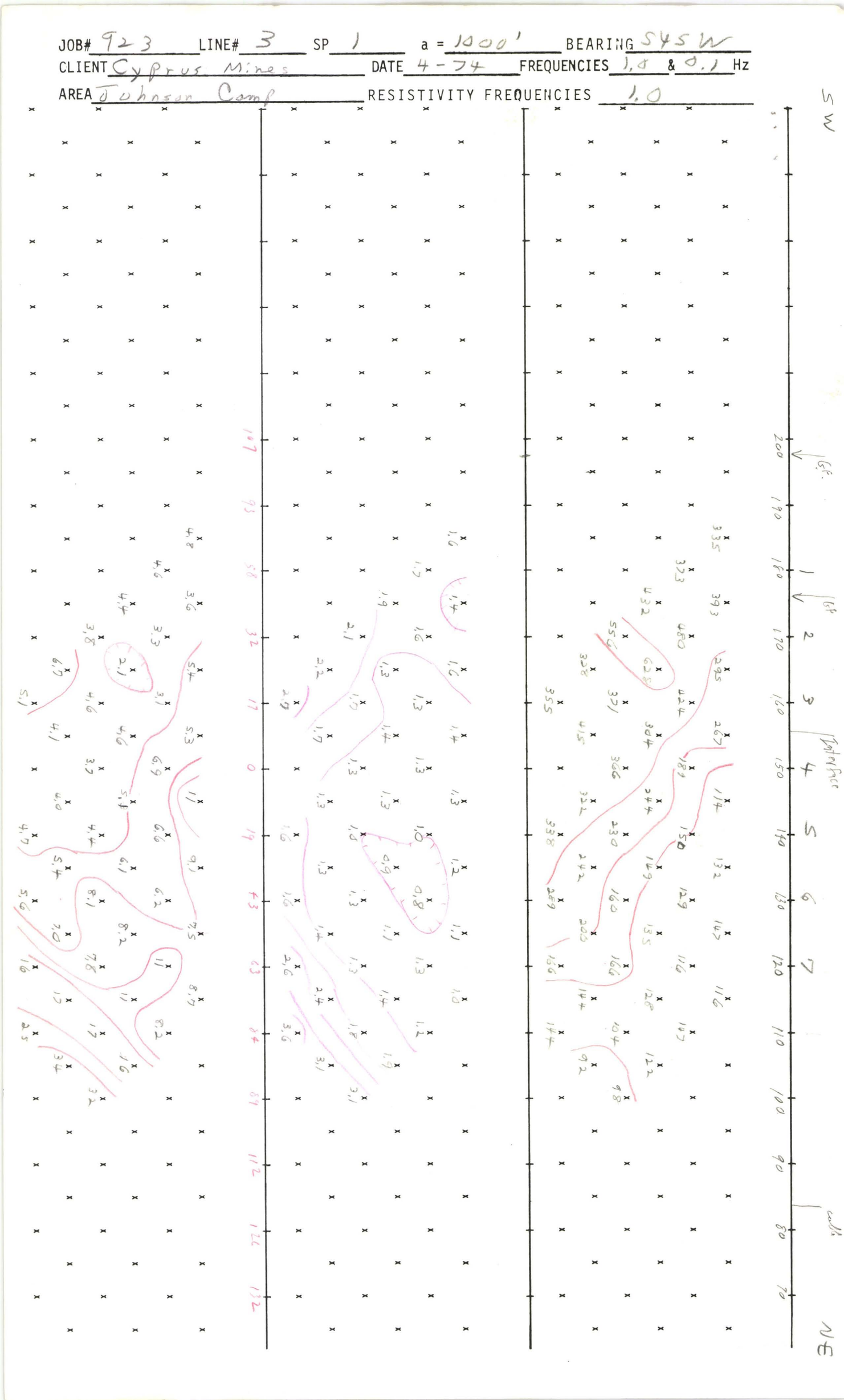
COMMENTS:

4-5
30X 166.6
5.0

JOB# 923 LINE# 3 SP 1 a = 1000' BEARING S45W

CLIENT Cyprus Mines DATE 4-74 FREQUENCIES 1.0 & 0.1 Hz

AREA Johnson Camp RESISTIVITY FREQUENCIES 1.0



HEINRICHS GEOEX
Cable: GEOEX

RECD APR 9 1974 RECD

BOX 5964 TUCSON, ARIZONA 85703
Phone: (AREA 602) 623-0578

HEINRICHS GEOEXPLORATION COMPANY

806 WEST GRANT ROAD, TUCSON, ARIZONA 85703. P.O. BOX 5964. PHONE: (602) 623-0578

April 4, 1974

Mr. Robert Clayton
Cyprus Mines Corporation
2343 E. Broadway
Tucson, AZ 85716

Re: I.P. Survey-Johnson Camp
Cochise County, Arizona
GEOEX Job #923

Dear Mr. Clayton:

This letter sets forth our understanding of the terms and conditions under which Heinrichs GEOEXploration Company (hereinafter called "Contractor")agrees to perform an induced polarization survey for Cyprus Mines Corporation (hereinafter called "Company") in the vicinity of Johnson Camp, Cochise County, Arizona, commencing on or about the week of April 8, 1974.

1. Contractor agrees to furnish induced polarization equipment and a three-man field crew, using conventional field procedures, over terrain to be specifically designated by officials of Company. Services of other personnel of Contractor's technical staff will be made available as mutually agreed upon by the parties should the need for such services arise. Company will not be required to furnish any field assistants.

2. Company agrees to pay Contractor for the services of the three-man field crew and for the use of the equipment furnished by Contractor, at the rate of $400.00 per eight-hour field day. Up to two hours total commuting time to and from Wilcox each day will not be charged. Mobilization from Tucson and return will not be charged. Overtime will be charged at the rate of $60.00 per hour for field services rendered in excess of eight hours each day only when requested in writing by Company to an authorized agent of Contractor. Said charges shall include the cost of the final report to be submitted by Contractor. Charges for the services of personnel in addition to the three-man field crew and for equipment beyond that specified in paragraph 1. above shall be at such rates as the parties may agree upon when the necessity for such additional personnel or equipment arises. Company further agrees to pay standby charges at the rate of $125.00 per day for delays caused by inclement weather and for delays requested by Company. In the event that Contractor's equipment should be mechanically inoperable for a period exceeding one hour on any given day, Contractor may at his option either make up the time that is thereby lost or forfeit payment for the time that is thereby lost.

3. Billings by Contractor may be submitted periodically and a final statement shall be submitted upon completion of final report. Payments shall be due upon receipt of all billings.

4. Contractor represents that through the use of conventional field procedures production will be at the approximate rate of one to two line miles per day, assuming 1000' dipole spreads.

5. Any costs incurred by Contractor relating to property permits, brushing or liability for trespass shall be reimbursed by Company at Contractor's cost plus 15%.

6. Contractor shall maintain strict security over all knowledge and information acquired or developed by it during the performance of this agreement. Contractor shall not divulge any such knowledge and information directly or indirectly to any person without prior written consent of Company.

7. Contractor shall at all times be acting as an independent contractor and shall in no way be considered an employee or agent of Company.

8. Company shall have the right to terminate this Agreement by giving ten (10) days written notice of such termination to the Tucson office of the Contractor and Contractor's field crew and the Contractor shall immediately cause all work to stop and shall remove all equipment and personnel from the project as soon as possible.

9. All certificates, notices, affidavits or other documents prepared by Contractor in connection with the services performed pursuant to this Agreement shall be approved by Company prior to the delivery of such documents to any governmental agency or other third party.

10. Any notices permitted or required to be given hereunder shall be deemed to have been received if mailed by registered mail, postage prepaid and addressed as follows:

If to Company:
Cyprus Mines Corporation
2343 E. Broadway
Tucson, Arizona 85716

If to Contractor:
Heinrichs GEOEXploration Company
P. O. Box 5964
Tucson, Arizona 85703

11. Contractor shall be compensated for services rendered and reimbursed for expenses incurred in accordance with the rates set forth in this Agreement. No costs or expenses in excess of or in addition to those set forth in this Agreement shall be incurred by Contractor without the prior written consent of Company.

12. Contractor shall perform the services set forth in this Agreement pursuant to the direction and control of Company.

13. Contractor agrees to indemnify and save harmless Company against any and all loss and expense, including attorney's fees and other legal expenses, by reason of liability imposed or claimed to be imposed by law upon Company for damage because of bodily injury, including death at any time resulting therefore, or on account of damage to property sustained by any person or persons arising out of or in consequence of the performance of the work, whether or not such bodily injuries or damage to property are due to or claimed to be due to any negligence or acts, including violation of any duty imposed by a statute, ordinance or regulation, of Contractor, the subcontractors, the employees or agents of any of them.

14. Contractor will obtain and continue in force, during the term of this agreement, at its own expense, all insurance specified below. Contractor will not commence work nor allow any subcontractor to commence work until all insurance has been approved and accepted by Company.

The insurance continued in force by Contractor is the following:

a) Workmen's Compensation and Occupational Disease disability insurance as required by the laws of the state wherein the work is to be performed.

b) Employer's liability insurance, unless the laws of the state in which the work is to be performed preclude an independent right of action by an employee against an employer under common law.

c) Comprehensive Automobile Liability insurance with Bodily Injury limits of no less than $500,000 each person and 1,000,000 each accident and Property Damage with a limit of no less than $100,000 each accident.

d) Comprehensive General Liability and Property Damage insurance including Operation, Protective and Contractual Liability coverages with Bodily Injury limits of no less than $500,000 each occurrence; and Property Damage limits of no less than $100,000 each occurrence, and $300,000 aggregate contractual.

Contractor shall furnish Company with certificates of insurance which shall include the following statements:

aa) At least ten (10) days prior to effective date of any material change or cancellation, written notice thereof will be sent by registered mail to Cyprus Mines Corporation, 523 West Sixth Street, Los Angeles, California, 90014.

bb) Contractual Liability insurance covers the liability of the insured assumed under the indemnity and insurance provisions of the Agreement entered into with Cyprus Mines Corporation under date of April 4, 1974.

If this letter correctly sets forth the terms and conditions of our Agreement, please indicate your acceptance by signing and returning this copy of the letter to us.

Very truly yours,

Heinrichs GEOEXploration Co.

Paul A Head

Paul A. Head
Senior Geophysicist

PAH:mt
Enclosure

Accepted By:
Cyprus Mines Corporation

By W J Rundell

Title: _____

Dated: 4/8/74