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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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March 13, 1969

Mr. W. R. Ransone
Geochemical Surveys
2505 Turtle Creek Road
Dallas Texas 75219

Dear Mr. Ransone:

Enclosed is a copy of the Horizon Prospect Topographic plan showing the four I. P. lines as you suggested in your letter of March 7, 1969.

The crew has run Spread 1 of Line 1 and is now working on Spreads 2 and 3 of Line 1. They will work the lines in numerical order unless you wish otherwise. They will run magnetics down these lines also.

The three man crew is using standard gear and you will be charged at our usual rate of $250.00 per ten hour day plus expenses. If you would like a formal proposal - contract, please let us know.

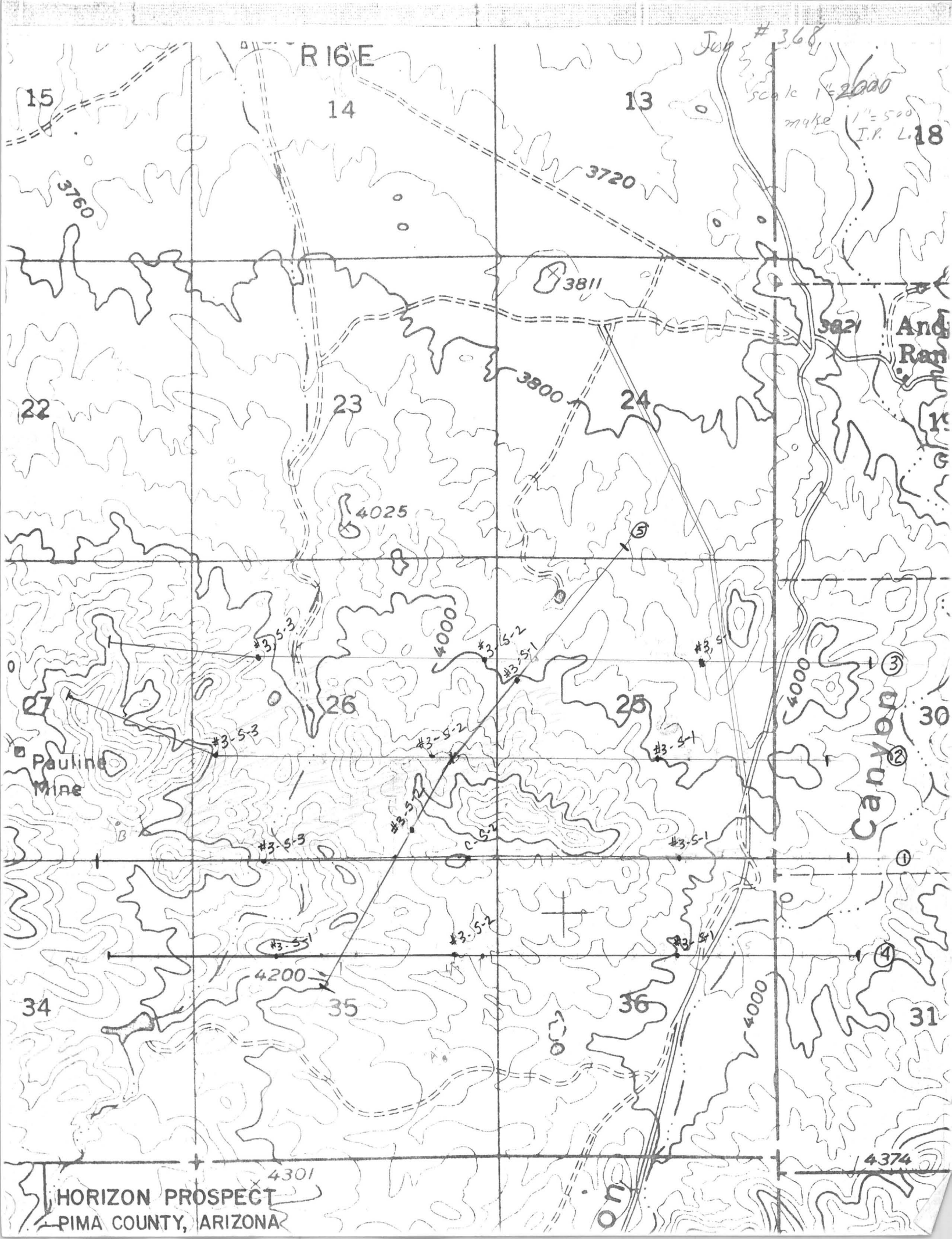
Inspecting some aerial photographs of this area a pronounced easterly-westerly strike in the sediments was noted. Therefore, it is suggested that some of the coverage be on a north-south orientation at some stage of the project, perhaps after the reconnaissance east-west coverage is completed. The geochemistry shows both north-south and east-west elongation making it difficult to determine the optimum reconnaissance direction.

Sincerely yours,
HEINRICHS GEOEXPLORATION CO.

Chris S. Ludwig

CSL:jh
Enclosure: 1

Chris S. Ludwig
Senior Geophysicist


R16E
15
14
13
18
3760
3720
3811
3821
3800
22
23
24
4025
4000
26
25
27
30
31
34
35
36
Pauline
Mine
#3-S-3
#3-S-2
#3-S-1
C-S-2
4200
4301
4374
Canyon
HORIZON PROSPECT
PIMA COUNTY, ARIZONA

GEOCHEMICAL SURVEYS
2505 TURTLE CREEK BOULEVARD
DALLAS, TEXAS 75219

MAILING ADDRESS
P. O. BOX 19508

TELEPHONE
LAKESIDE 1-5145

March 7, 1969

Job # - 368-69

HEINRICHS GEOEX
GEOPHYSICAL ENGINEERS
TUCSON, ARIZONA

REC'D MAR 10 1969 REC'D

BOX 5671 TUCSON, ARIZONA 85703
Phone: (AREA 602) 6[illegible]-0578

Heinrichs Geoexploration Company
P. O. Box 5671
Tucson, Arizona 85703

Attention: Mr. Walter Heinrichs

Dear Walter:

I am enclosing a property map, topographic map, copper geochemical map, and molybdenum geochemical map on our Horizon Prospect, T17S, R16 and 17E, Pima County, Arizona. If you will look at the property map, you will observe that we have prospecting permits in the northwest corner, Section 26E, half of 34, all of 35, west half of 36, southwest quarter of 25. We have verbal permission to do IP work from Arizona Land Title Company and from Andrada Ranch.

I would suggest an east-west line along the southern border of Sections, 26, 25, and 30, avoiding the mountain in the southwest corner of Section 25 and another mountain in the southwest corner of Section 26. I would furthermore suggest two more east-west lines, one about one-third mile north and the other about two-thirds mile north of the original line. Also, a fourth line about one-third mile south of the original line. We are ready to start the IP work whenever you are; and would furthermore suggest that you do ground magnetics.

There are core holes shown in both Sections 26 and 27 and the northwest corner of 35. While we have no good information on these core holes, we know that none went deeper than 500 feet and mostly had mineralization only at shallow depth.

Very truly yours,

GEOCHEMICAL SURVEYS

Bill
W. R. Ransone

WRR:tjc

Enclosures

R16E

R17E

T 17 S

22

P.P. Henry T. Eyrich 5-16-72

23

M/L Open

24

M/L Open

19

G/L Ariz. Land Title
M/L Open
State S/M

Horizon Land Corp. S/M

S/M

Horizon Land Corp. S/M

S/M

G/L Ariz. Land Title

S/M

California Mine
H.L.C. Sur.
U.S.A. Min.

M/L David C. Hartley 8-8-81

M/L Fern C. Hamil 5-28-79
State S/M

G/L Ariz. Land Title
State Sur.
U.S.A. All Min.

20

State = S/M

G/L = Winston Wheeler

State = S/M

21

Winston Wheeler
S/M

S/M

S/M

G/L = Winston Wheeler
M/L = Open

State = S/M

27

P.P. Henry T. Eyrich 5-16-72

State S/M

Pauline Mine

26

G.S. P.P. Appl.
1-13-69

Horizon Land Co.
Walter Burris
Andrada Ranco
Tel: Tusc: 623-9745

Horizon Land Corp. S/M

25

G.S. P.P. Appl.
1-13-69

State S/M

State Sur.
U.S.A. All Min.

30

M/L Charles P. Steel
8-25-88

G/L Arizona Land Title

State Sur.
U.S.A. All Min.

State S/M

29

G/L Winston Wheeler

M/L Charles P. Steel
7-9-88

State = S/M

28

Winston Wheeler
S/M

G/L = Winston Wheeler
M/L = Open

State = S/M

Winston Wheeler

S/M

34

G.S. P.P. Appl.
1-13-69

35

G/L Arizona Land Title
G.S. P.P. Appl. 1-13-69

Arizona Land Title Co.
Alton B. "Tex" Parker
Tucson
office 623-5758
res. 297-3190

State S/M

36

G.S. P.P. Appl.
1-13-69

31

G/L
E.P. Hilton
M/L = Open

State S/M

E.P. Hilton
S/M

Richard P. Thomas Sur.
U.S.A. All Min

E.P. Hilton Sur.
U.S.A. All Min.

32

G/L =
E.P. Hilton
M/L = Open

State = S/M

33

G/L =
E.P. Hilton
M/L Open

E.P. Hilton

S/M

State = S/M

Alex P. Weiss Sur.
U.S.A. All Min.

Ben H. Lerwill Sur.
U.S.A.

E.P. Hilton Sur.
All Min.

3

2

G/L Arizona Land Title
M/L Open

1

HORIZON PROSPECT
PIMA COUNTY, ARIZONA
1" = 2000'

6

5

S/M

4

S/M

S/M

US Sur Min

15 14 13 18 17 16

3760 3720 3760 3835 3890

3811 3821

Andrada Ranch

Davidson Spr

Bobo Spr

Murphy Ranch

Mescal Sp

22 23 24 19 20 21

3800

4025 4577 4200 4000

California Mine

T 17 S

LINE 3

LINE 2

Pauline Mine

LINE 1

26 25 30 29

4000

Canyon

4469

LINE 4

4200

5021

4400

34 35 36 31 32

4374

4301

HORIZON PROSPECT
PIMA COUNTY, ARIZONA
1" = 2000'

4600

JOB B368-69 LINE 5 SPREAD 1

LOOKING N53W DATE 4/5/69 A= 500'

CENTER 0.0 LABEL SW/NE FREQ. 3.0

COUPLING Yes (51) 0.10

4-7-69

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 5 HALF 5 SP. 1 DATE 9/9/69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	1.	.1	.03	.03
DC 1	199	295	61.9	244	65.8	24.2	452	72.6	30.2	15.1
DC 2	203	286	54.3	242	65.4	26.1	455	69.7	31.1	16.2
DC 3	199	295	61.9	244	65.8	24.2	455	72.7	29.9	15.0
DC 4	203	288	54.3	242	65.4	26.1	453	69.4	31.2	16.3
DC 5							457	72.8	29.9	14.9
DC 6							451	69.0	31.2	16.3
DC 7							458	73.0	29.8	15.0
DC 8							452	68.8	31.3	16.2
DC AVG.										
AC 1	177.	259.	51.0	212.	57.8	22.2	398.	62.1	27.1	13.9
AC 2	177.	259.	51.0	211.	57.8	22.2	398.	62.1	27.1	13.9
AC AVG.										
S.P.	-7.4	+25.5		+2.3			-12.9			
AC NOISE	.05		.03			.06				.04
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 5 HALF 5 SP. 1 DATE 9/4/69

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CALI	
RECEIVE										
RANGE	.3	.1	.03	.03	.03	.03	.01	.01	2-3	
DC 1	10.7	32.0	17.8	12.9	30.3	11.3	8.36	6.19	208	
DC 2	10.8	31.3	19.5	11.0	29.8	12.8	9.21	6.83	208	
DC 3	10.7	32.0	17.8	12.9	30.3	11.4	8.47	6.22	208	
DC 4	10.8	31.3	19.4	11.1	29.7	12.8	9.07	6.81	208	
DC 5			17.9	12.8	30.5	11.6	850	6.24		
DC 6			19.5	10.9	29.6	12.7	9.11	6.75		
DC 7			17.7	13.0	30.5	11.5	8.60	6.27		
DC 8			19.6	10.8	29.6	12.7	9.00	6.80		
DC AVG.										
AC 1	9.7	28.2	16.7	10.7	26.0	10.7	7.82	5.80	211	
AC 2	9.7	28.2	16.7	10.7	26.0	10.7	7.82	5.80	211	
AC AVG.										
S.P.	-1.3				-16.7					
AC NOISE				.03				.07		
POT RES.										

N-37°E

PAGE 1

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 5 HALF SW SP. 1 DATE 4-4

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-500SW	5-10	→	10-15		→	15-20			→
RANGE	Hi	Hi	→	Hi		→	Hi			→
VOLTAGE	270	340	270	340	340	270	220	340	340	270
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL.
RECEIVE	20-25	→	→	→	25-30	→	→	→		2-3
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	220	340	340	270	220	340	340	270		250
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0

FREQUENCIES 10 3.0

SENDER NO. 1367-S

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSACHS

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 5 HALF N SP. 1 DATE 9/4/69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	.3	.1	.03	.01
DC 1	290	204	65.1	116	30.3	15.7	139	34.8	14.9	9.28
DC 2	287	200	51.9	115	31.9	13.7	140	34.7	14.3	8.70
DC 3	290	205	65.2	116	30.3	15.8	139	34.8	14.9	9.32
DC 4	287	199	51.7	115	31.9	13.7	140	34.7	14.3	8.62
DC 5		206	65.7			15.9				9.37
DC 6		198	51.5			13.6				8.60
DC 7		206	65.7			15.8				9.38
DC 8		198	51.4			13.7				8.52
DC AVG.										
AC 1	248.	172	49.9	96.	26.6	12.6	118.	29.6	12.6	7.68
AC 2	248.	172.	49.9	96.	26.6	12.6	118.	29.7	12.6	7.68
AC AVG.										
S.P.	-5.6	-9.8		+13.6			+21.8			
AC NOISE	.04		.05			.04				.08
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 5 HALF N SP. 1 DATE 4/4/69

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CALC	
RECEIVE										
RANGE	.1	.03	.01	.01	.03	.03	.01	.01		
DC 1	47.6	19.8	9.46	6.38	23.0	13.0	6.52	4.82	208	
DC 2	45.0	16.2	9.17	6.20	25.2	9.4	6.60	4.61	208	
DC 3	47.8	19.8	9.40	6.39	22.8	13.0	6.51	4.78	208	
DC 4	44.7	16.0	9.17	6.19	25.3	9.4	6.66	4.67	208	
DC 5	47.9	19.9	9.40	6.37	22.7		6.57	4.78		
DC 6	44.6	16.0	9.15	6.20	25.5		6.59	4.59		
DC 7	48.0	19.8	9.41	6.37	22.5		6.50	4.71		
DC 8	44.4	16.0	9.15	6.20	25.7		6.62	4.63		
DC AVG.										
AC 1	41.2	16.0	8.38	5.60	22.3	10.4	6.17	4.38	207.	
AC 2	41.0	16.0	8.39	5.60	22.3	10.4	6.17	4.38	207.	
AC AVG.										
S.P.	+12.7				-7.2					
AC NOISE				.04						
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 5 HALF NE SP. 1 DATE 4-4

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-500' NE	5-10	→	10-15	→	→	15-20	→	→	→
RANGE	HI	HI	→	HI	→	→	HI	→	→	→
VOLTAGE	210	340	220	340	340	220	270	340	340	220
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL
RECEIVE	20-25	→	→	→	25-30	00 NE	→	→		3-4
RANGE	HI	→	→	→	HI	→	→	→		HI
VOLTAGE	270	340	340	220	270	340	340	220		256
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0

FREQUENCIES .10 3.0
SENDER NO. 13671-5
OPERATOR HIX
RECEIVER NO. 7651-B
OPERATOR BAURSACHS

COMMENTS:

HEINRICHS GEOEX (MAR 69) JOB B368-69 LINE 5 SPREAD 1 LOOKING N53W 4/5/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	I	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	2.000	
199	295	619	244	658	242	452	726	302	151	DC	107	320	178	129	303	113	838	619	208	LEFT
203	288	543	242	654	261	455	697	311	162		108	313	195	110	298	128	921	683	208	SIDE
						455	727	299	150				178	129	303	114	847	622		
						453	694	312	163				194	111	297	128	907	681		
						457	728	299	149				179	128	305	116	850	624		
						451	690	312	163				195	109	296	127	911	675		
						458	730	298	150				177	130	305	115	860	627		
						452	688	313	162				196	108	296	127	900	680		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
402	583	1162	486	1312	503	907	1423	613	313	DC	215	633	373	239	601	241	1759	1302	416	
						910	1424	610	312	SUMS			373	239	601	242	1768	1305		
						908	1421	611	313				372	240	600	242	1754	1303		
						910	1422	611	312				373	239	602	244	1757	1305		
						908	1418	611	312				374	237	601	243	1761	1299		
						909	1420	610	313				372	239	601	242	1771	1302		
						910	1418	611	312				373	238	601	242	1760	1307		
0.0	0.0	0.0	0.0	0.0	0.0	-.2	.2	.3	.2	DC	0.0	0.0	.0	.1	0.0	-.5	-.1	-.1	0.0	
						.1	.2	-.2	-.1	DEVS			.0	.1	0.0	-.1	.4	.1		
						-.1	.0	0.0	.2				-.2	.5	-.2	-.1	-.4	-.0		
						.1	.1	0.0	-.1				.0	.1	.2	.7	-.3	.1		
						-.1	-.2	0.0	-.1				.3	-.7	0.0	.3	-.0	-.3		
						.0	-.1	-.2	.2				-.2	.1	0.0	-.1	.5	-.1		
						.1	-.2	0.0	-.1				.0	-.3	0.0	-.1	-.1	.3		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
201.0	291.5	58.10	243.0	65.60	25.15	454.4	71.04	30.55	15.62	DCA	107.50	31.65	18.64	11.94	30.05	12.11	8.807	6.516	208.0	
177.0	259.0	51.00	212.0	57.80	22.20	398.0	62.10	27.10	13.90	AC1	97.00	28.20	16.70	10.70	26.00	10.70	7.820	5.800	211.0	
177.0	259.0	51.00	211.0	57.80	22.20	398.0	62.10	27.10	13.90	AC2	97.00	28.20	16.70	10.70	26.00	10.70	7.820	5.800	211.0	
177.0	259.0	51.00	211.5	57.80	22.20	398.0	62.10	27.10	13.90	ACA	97.00	28.20	16.70	10.70	26.00	10.70	7.820	5.800	211.0	
82.83	120.1	95.77	100.1	108.1	103.6	187.3	117.1	125.9	128.7	RHO	177.2	130.4	153.6	172.1	123.8	99.84	127.0	150.4	.962	DC CAL
15.2	14.2	15.6	16.6	15.1	14.9	15.8	16.1	14.4	14.0	PFE	12.4	13.9	13.2	13.2	17.2	14.9	14.2	14.0	1.014	AC CAL
183	118	163	165	140	144	85	137	114	109	MCF	70	106	86	76	139	149	112	93		

3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	I	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	2.000	
290	204	651	116	303	157	139	348	149	928	DC	476	198	940	638	230	130	652	482	208	RIGHT
287	200	519	115	319	137	140	347	143	870		450	162	917	620	252	94	660	461	208	SIDE
	205	652			158				932		478	198	940	639	228		651	478		
	199	517			137				862		447	160	917	619	253		660	467		
	206	657			159				937		479	199	940	637	227		657	478		
	198	515			136				860		446	160	915	620	255		659	459		
	206	657			158				938		480	198	941	637	225		650	471		
	198	514			137				852		444	160	915	620	257		662	463		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
577	404	1170	231	622	294	279	695	292	1798	DC	926	360	1857	1258	482	224	1312	943	416	
	405	1171			295				1802	SUMS	928	360	1857	1259	480		1311	939		
	404	1169			295				1794		925	358	1857	1258	481		1311	945		
	405	1174			296				1799		926	359	1857	1256	480		1317	945		
	404	1172			295				1797		925	359	1855	1257	482		1316	937		
	404	1172			294				1798		926	358	1856	1257	480		1309	930		
	404	1171			295				1790		924	358	1856	1257	482		1312	934		
0.0	-.1	-.1	0.0	0.0	-.3	0.0	0.0	0.0	.1	DC	.0	.3	.0	.0	.2	0.0	-.0	.4	0.0	
	.2	-.0			.0				.3	DEVS	.2	.3	.0	.1	-.2		-.1	0.0		
	-.1	-.2			.0				-.2		-.1	-.2	.0	.0	0.0		-.1	.6		
	.2	.2			.4				.1		.0	.0	.0	-.1	-.2		.3	.6		
	-.1	.1			.0				.0		-.1	.0	-.1	-.0	.2		.3	-.2		
	-.1	.1			-.3				.1		.0	-.2	-.0	-.0	-.2		-.3	-1.0		
	-.1	-.0			.0				-.4		-.2	-.2	-.0	-.0	.2		-.0	-.5		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
288.5	202.1	58.56	115.50	31.10	14.74	139.5	34.75	14.60	8.984	DCA	46.29	17.94	9.282	6.287	24.05	11.20	6.563	4.695	208.0	
248.0	172.0	49.90	96.00	26.60	12.60	118.0	29.60	12.60	7.680	AC1	41.20	16.00	8.380	5.600	22.30	10.40	6.170	4.380	207.0	
248.0	172.0	49.90	96.00	26.60	12.60	118.0	29.70	12.60	7.680	AC2	41.00	16.00	8.390	5.600	22.30	10.40	6.170	4.380	207.0	
248.0	172.0	49.90	96.00	26.60	12.60	118.0	29.65	12.60	7.680	ACA	41.10	16.00	8.385	5.600	22.30	10.40	6.170	4.380	207.0	
118.9	83.30	96.53	47.60	51.26	60.75	57.49	57.28	60.16	74.05	RHO	76.30	73.94	76.50	90.68	99.11	92.31	94.66	108.3	.962	DC CAL
15.8	17.0	16.8	19.7	16.4	16.4	17.7	16.6	15.3	16.4	PFE	12.1	11.6	10.2	11.7	7.3	7.2	5.9	6.7	.995	AC CAL
133	204	174	415	319	271	307	290	255	222	MCF	158	157	133	129	74	78	62	62		

PRINTED IN U.S.A.

23149

HEINRICHS GEOEX (MAR 69) JOB B-368-69 LINE 5 SPD 2 LOOKING N53W 4/9/69 A=

JOB B368-69 LINE 5 SPREAD 1 LOOKING N53W 4/5/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

65SW 60 55 50 45 40 35SW 30 25 20 15 10 5 0SW/NE 5 10 15 20 25 30NE SURFACE

RHO/2PI

PFF

MCF

51933

23151

Job 368-69

INDUCED POLARIZATION, RESISTIVITY, SELF POTENTIAL AND MAGNETIC SURVEY

Horizon Project, Pima County, Arizona

For

GEOCHEMICAL SURVEYS

INDUCED POLARIZATION, RESISTIVITY, SELF POTENTIAL AND MAGNETIC SURVEY

Horizon Project, Pima County, Arizona

for

GEOCHEMICAL SURVEYS

May 1969

by

HEINRICHS GEOEXPLORATION COMPANY
P. O. Box 5671, Tucson, Arizona 85703

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Line 3, Spreads 1, 2 and 3 a = 500 ft.

Line 4, Spreads 1, 2 and 3 a = 500 ft.

Line 5, Spreads 1 and 2 a = 500 ft.

(Magnetic profiles plotted on the Sectional Data Sheets.)

INTRODUCTION

At the request of Mr. W. R. Ransone and on the behalf of Geochemical Surveys, Heinrichs Geoexploration Company conducted an induced polarization and vertical intensity magnetic survey over parts of the Horizon Project, Pima County, Arizona, east of the Pauline Mine. The field work was completed during the interim period of March 17 through April 4, 1969. Apparent Resistivity and Self potential data were also obtained as a by-product of the induced polarization work.

The purpose of this survey was to localize and evaluate probable sulphide mineralization in the vicinity of certain copper and molybdenum geochemical anomalism in Sections 25 and 26, T. 17 S., R. 16 E. To accomplish this, fourteen spreads of 500 ft. dipole spacings on five lines were surveyed, oriented and located as shown on the accompanying "Induced Polarization Location and Interpretation Plan". A total of 61,500 feet of surface coverage and 49,200 feet of "subsurface" plotted data was obtained from the I. P. survey. A total of 61,500 feet of magnetic profiles were completed using a Jalander ten gamma sensitivity, vertical intensity, fluxgate magnetometer. The magnetic profile stations are spaced 125 feet apart along each I. P. line except on Line 1 where local conditions required 25 foot spacing over 500 ft. of the line.

The dual frequency technique for obtaining I.P. data was used with conventional collinear dipole-dipole electrode arrays. An upper sending frequency of 1.0 Hz was used to decrease electromagnetic coupling errors and a lower frequency of 0.1 was used to avoid some telluric noise problems.

The data are presented on sectional data sheets, one for each line, showing apparent resistivity ($\rho_a/2\pi$), percent frequency effect (PFE) and metallic conduction factor (MCF) profiles, contoured in section with the self potential (S.P.) data, which is superimposed on the magnetic profiles. The result of our interpretations and proposed drill holes are presented in plan form on the "Induced Polarization Location and Interpretation Plan".

Heinrichs personnel involved in the field work were Mr. James Bauersachs, crew chief; Mr. Gary Hix, sender operator; and Mr. Brian Terrell, technician. Report and interpretation are by Mr. C. S. Ludwig and Mr. Paul Head, geophysicists with the assistance of the Geoex staff.

Era

CONCLUSIONS AND RECOMMENDATIONS

All of the major frequency effect anomalies detected on this survey lie northwest of the boundary designated "A" on the Location Plan, except for the moderate anomaly at 7.5E on Line 3 which may be an entirely separate effect. The more westerly copper geochemical anomaly correlates fairly well with the area northwest of "A". The more intense I.P. anomalies located at the intersections of Line 5 with Line 1 and Line 3 are located outside of the copper anomalies. The moderate I.P. and S.P. anomaly at 7.5E on Line 3 is located within the easterly copper anomaly.

The geochemical results provided better resolution than the magnetics and therefore, though not necessarily true for the district, no additional magnetics on this particular project is recommended.

The only consistent resistivity interface is indicated crossing the east ends of Line 1 and Line 4, otherwise the resistivity is rather uniform over the entire area, indicating that the rock types are also rather uniform. There are weak self potential lows associated with some of the better I.P. anomalies which may very well be indicative of near surface, oxidizing sulfides. The field crew brought in several rock samples of the various types encountered in the area. All of these had negligable magnetic susceptibilities and many had distince limonite pseudomorphs after pyrite.

These observations seem to provide adequate reason to at least consider pursuing the project in greater detail. Two test drill hole sites are identified and are well enough defined to be recommended at this time. Proposed Drill Hole #1 is located on Line 1 at 47.5W, the intersection

of Line 1 and Line 5. It should be programmed for at least 500 ft. although sulfides should be encountered less than 300 ft. deep. Line 3 at 26.5W, which is also the intersection of Line 3 and Line 5, is the location of Proposed Drill Hole #2. Sulfides are expected relatively near surface but the hole should be programmed to go at least 500 ft. deep.

In addition to these two drill holes, we recommend that the following Induced Polarization work be carried out:

Line 6 - Two or three 500 ft. spreads, as needed, parallel to and 750 ft. northwest of Line 5.

Line 7 - Two or three 500 ft. spreads parallel to and 750 ft. southeast of Line 5.

Line 8 - One 500 ft. spread oriented north-south through 7.5E of Line 3.

Line 9 - Two or three 500 ft. spreads as needed, oriented north-south through 100W of Line 1.

These lines would help to guide and direct the possibility for further detailed I.P. work and establish additional drill hole sites. If they are available, it could also be very helpful to obtain the Cordero Mining Company drill logs and the factual results of other work known to have been done in the area.

INTERPRETATION

Lines 1 through 4 are spaced approximately one third of a mile apart which provided adequate reconnaissance coverage over the Horizon Project geochemical anomalies. Attempts at correlation of I. P. anomalies from line to line may result in misleading trends because of this wide spacing, nevertheless, some valid general conclusions can still be reached. A partial exception to the reconnaissance coverage is along Line 5 where it crosses the other lines.

The reason for some of this type of uncertainty in a reconnaissance survey is that frequency effect anomalies originating from buried sources are indistinguishable from the anomaly caused by a polarizing body lying at surface but located to either side of the line. The anomaly observed on a line parallel to the strike of a polarizing body may appear to be due to a wide dike or even a uniform high background over the entire line. This can ordinarily be avoided by running normal to the predominant strike trend of the area.

Line 1, a= 500 ft., Spreads 1, 2 and 3

A possible resistivity interface at 25E separates high apparent resistivities of over 200 ohm feet to the east from moderate apparent resistivities of 50 to 200 ohm ft. to the west. A relatively conductive tabular body is detected at station 47.5W. The fairly well defined interface at 77.5W separates slightly lower resistivity material on the west from the moderate resistivity material to the east. All strong anomalous frequency effects noted on this line are associated with the lower resistivity features mentioned above.

The strong anomaly located between stations 50W and 45W, and

its moderate fringe extending to 42.5W is a well defined pattern such as would be caused by a polarizable body buried no more than 300 ft. and having appreciable depth extent. This anomaly gradationaly changes from background frequency effects at 17.5W to moderate anomalism at 42.5W, suggesting that either the quantity of metallic lustered minerals increase gradationaly or that the line crosses the mineralized material at a small angle. At least part of the weak anomaly fring extending west to 67.5W is due to conflicting anomaly patterns of two or more adjacent polarizing bodies.

A moderate anomaly begins at station 67.5W and continues to 92.5W where it becomes strong. This strong anomaly continues west beyond the coverage obtained on this survey. These effects are probably due to polarizing material scattered more or less uniformly through the rocks and probably have relatively little cover.

The very weak anomaly beginning at 10E and continuing east beyond the survey may in part be the effect of preferential shunting of current paths through conductors in higher resistivity rocks, thereby exaggerating frequency effects. The grounded highway fences may also be the cause of this anomaly.

No significant self potential effects were recorded on this line.

The magnetic profile on this line has a very sharp anomaly at 85W having a total excursion of 1,810 gammas in less than 100 ft. This has no visible cause although it must be a surface effect. No definite correlations to the I.P. data are noted although the general character of the magnetics becomes somewhat more erratic over the moderate I.P. anomaly between

65W and 85W, whereas the magnetic profile becomes rather "quiet" over the strong I.P. anomalies from 45W to 50W and west from 92.5W.

Line 2, a=500 ft. Spreads 1, 2 and 3

The resistivity values noted on this line are somewhat lower, on the average, than on Line 1 and there are no definite patterns that can be ascribed to any specific geometric model.

A moderate, open ended I.P. anomaly begins at 92.5W and continues beyond this line to the west. The weak anomaly beginning at 92.5W and ending at 77.5W may be due to polarizable material at depth and in part represents an uncertain fringe of the moderate anomaly between 77.5W and 55W. This moderate anomaly appears to be caused by polarizing material at least 500 ft. deep or lateral effects to be discussed later. The weak I. P. anomaly from 55W to 42.5W is only slightly weaker than the moderate zones and probably can be considered as fringe of the moderate zone between 42.5W and 37.5W.

The moderate I.P. anomaly centered at 20W seems to be separate from the rest of the anomalies on Line 2 although it could also be a relatively more mineralized portion of the same material that causes the other anomalies. This anomaly grades from weak to very weak at 2.5W. Another very weak anomaly is noted beginning at 12.5E and continuing east beyond this survey.

No significant S.P. effects are noted on this line though a very minor low may exist at 20W, correlating with the moderate I.P. anomaly at that position.

As noted on Line 1, the magnetic profile is somewhat less erratic over the better I.P. anomalies. A general magnetic high centered at about 15W is about 6,000 ft. wide.

Line 3, a=500 ft. Spreads 1, 2 and 3

The resistivity plot indicates comparitively uniform values, lower than either Line 1 or Line 2. The interface indicated at 7.5E is not a simple, one boundary feature but more likely represents two or more closely spaced boundaries which produce a pattern similar to that expected from a resistive thin tabular body. The data might be suspect because of the grounded highway fences located between 0E/W and 5E except that the same fences were not bothersome on Line 1. In any case there very probably is a very low resistivity tabular body near 7.5E containing oxidizong sulfides as indicated by the S.P. low in that vicinity.

The moderate frequency effect noted between 5.0E and 10.0E on this line may be suspect because of the fences nearby and because of the resistive body at 7.5E which could accentuate frequency effects. On the other hand, a definite self potential low centered at 7.5E may indicate that oxidizing sulfides are present and the frequency effect anomaly noted is a valid feature. Additional field work is required to decide which is correct.

The entire line beginning at 10W to at least 90W indicates anomalous frequency effects of varying strength possibly due to irregularly mineralized material at surface with a more intense zone between 25W to 30W and somewhat weaker mineralization between 45W to 67.5W.

The magnetic profile is generally featureless although a high 8,000 ft. wide and centered at about 30.0W is noted which possibly correlates with the strong I.P. anomaly at 27.5W.

Other than the low at 7.5E, no significant self potential effects are noted.

Line 4, a=500 ft. Spreads 1, 2 and 3

Line 4 is the southern most line on the project and is adjacent to Line 1. The probable interface noted on the resistivity plot at 12.5E is very likely the same feature as noted on Line 1.

Just west of this interface, centered at 2.5E, is a very weak I.P. anomaly that may be related to fences at the highway. Another very weak frequency effect is noted at about 15W which cannot be due to the highway fences and seems related to either a deeply buried source or to one located on the surface either to the right or left of Line 4.

The polarization effects noted on the extreme west end of Line 4 are interpreted as very weak to weak. This anomalism seems to be caused by a deeply buried mineralized body beginning at about 70.0W possibly over 600 ft. deep but possibly approaching the surface beyond 95.0W. In support of this, an abrupt downward trend in the self potential profile at 95W is noted, which usually indicates near surface oxidizing sulfides.

No positive correlation of the magnetic effects in this line with Line 1 are noted though the general saw tooth character of the profile is more nearly like Line 1 than Line 3.

Line 5, a=500 ft. Spreads 1 and 2

This line crosses Lines 1 through 4 at about a 60° angle, nearly perpendicular to the geologic strike seen on aerial photographs.

No sharply defined resistivity features are noted on this line. The low resistivity feature on Line 1 at 47.5W correlates well with a low at 42.5W on Line 5. A similar low at about 10.0NE is also noted.

Strong frequency effect anomalies are present between 42.5SW and 32.5SW with probable moderate fringe effects on both sides. Based on MCF values, S. P. and Line 1, the most probable location of the polarizing body is at 40SW, probably no deeper than 300 ft. PFE values indicate the polarizing body at 32.5W.

At about 7.5NE, another strong anomaly was detected. Only half of the anomaly pattern is available so that another equally valid interpretation could be made if it were not for the correlation with Line 3.

A very weak S.P. low at 40.0SW correlates with the strong I.P. anomaly at that station, probably indicating oxidizing sulfides. No other positive S.P. or magnetic correlations are noted on this line.

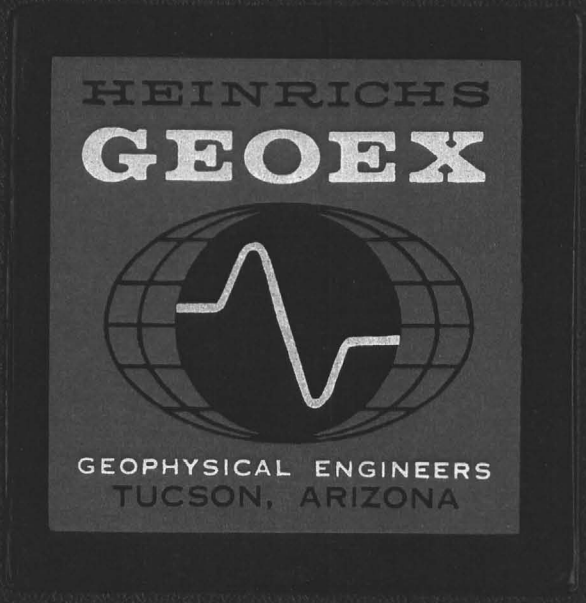
Respectfully submitted,
HEINRICHS GEOEXPLORATION COMPANY

Paul A. Head
Geophysicist

Approved:

Walter E. Heinrichs, Jr.
President & General Manager

May 6, 1969
Tucson, Arizona 85703


HEINRICHS
GEOEX
GEOPHYSICAL ENGINEERS
TUCSON, ARIZONA

INDUCED POLARIZATION, RESISTIVITY, SELF POTENTIAL AND MAGNETIC SURVEY

Horizon Project, Pima County, Arizona

for

GEOCHEMICAL SURVEYS

May 1969

by

HEINRICHS GEOEXPLORATION COMPANY
P. O. Box 5671, Tucson, Arizona 85703

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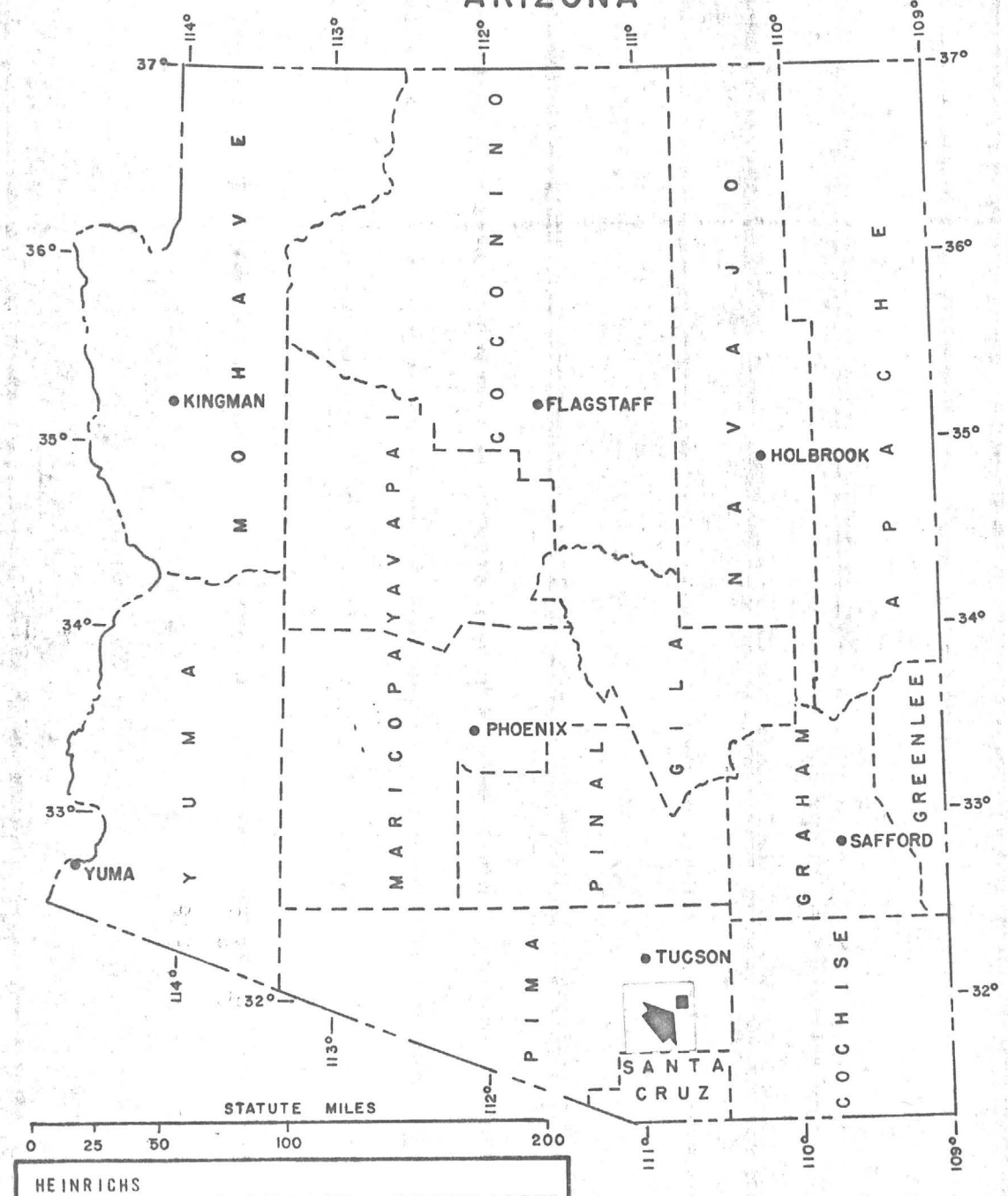
GENERAL LOCATION OF HORIZON PROSPECT FOR GEOCHEMICAL SURVEYS



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its moderate fringe extending to 42.5W is a well defined pattern such as would be caused by a polarizable body buried no more than 300 ft. and having appreciable depth extent. This anomaly gradationaly changes from background frequency effects at 17.5W to moderate anomalism at 42.5W, suggesting that either the quantity of metallic lustered minerals increase gradationaly or that the line crosses the mineralized material at a small angle. At least part of the weak anomaly fring extending west to 67.5W is due to conflicting anomaly patterns of two or more adjacent polarizing bodies.

A moderate anomaly begins at station 67.5W and continues to 92.5W where it becomes strong. This strong anomaly continues west beyond the coverage obtained on this survey. These effects are probably due to polarizing material scattered more or less uniformly through the rocks and probably have relatively little cover.

The very weak anomaly beginning at 10E and continuing east beyond the survey may in part be the effect of preferential shunting of current paths through conductors in higher resistivity rocks, thereby exaggerating frequency effects. The grounded highway fences may also be the cause of this anomaly.

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The resistivity values noted on this line are somewhat lower, on the average, than on Line 1 and there are no definite patterns that can be ascribed to any specific geometric model.

A moderate, open ended I.P. anomaly begins at 92.5W and continues beyond this line to the west. The weak anomaly beginning at 92.5W and ending at 77.5W may be due to polarizable material at depth and in part represents an uncertain fringe of the moderate anomaly between 77.5W and 55W. This moderate anomaly appears to be caused by polarizing material at least 500 ft. deep or lateral effects to be discussed later. The weak I. P. anomaly from 55W to 42.5W is only slightly weaker than the moderate zones and probably can be considered as fringe of the moderate zone between 42.5W and 37.5W.

The moderate I.P. anomaly centered at 20W seems to be separate from the rest of the anomalies on Line 2 although it could also be a relatively more mineralized portion of the same material that causes the other anomalies. This anomaly grades from weak to very weak at 2.5W. Another very weak anomaly is noted beginning at 12.5E and continuing east beyond this survey.

No significant S.P. effects are noted on this line though a very minor low may exist at 20W, correlating with the moderate I.P. anomaly at that position.

As noted on Line 1, the magnetic profile is somewhat less erratic over the better I.P. anomalies. A general magnetic high centered at about 15W is about 6,000 ft. wide.

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The resistivity plot indicates comparitively uniform values, lower than either Line 1 or Line 2. The interface indicated at 7.5E is not a simple, one boundary feature but more likely represents two or more closely spaced boundaries which produce a pattern similar to that expected from a resistive thin tabular body. The data might be suspect because of the grounded highway fences located between 0E/W and 5E except that the same fences were not bothersome on Line 1. In any case there very probably is a very low resistivity tabular body near 7.5E containing oxidizong sulfides as indicated by the S.P. low in that vicinity.

The moderate frequency effect noted between 5.0E and 10.0E on this line may be suspect because of the fences nearby and because of the resistive body at 7.5E which could accentuate frequency effects. On the other hand, a definite self potential low centered at 7.5E may indicate that oxidizing sulfides are present and the frequency effect anomaly noted is a valid feature. Additional field work is required to decide which is correct.

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Line 4 is the southern most line on the project and is adjacent to Line 1. The probable interface noted on the resistivity plot at 12.5E is very likely the same feature as noted on Line 1.

Just west of this interface, centered at 2.5E, is a very weak I.P. anomaly that may be related to fences at the highway. Another very weak frequency effect is noted at about 15W which cannot be due to the highway fences and seems related to either a deeply buried source or to one located on the surface either to the right or left of Line 4.

The polarization effects noted on the extreme west end of Line 4 are interpreted as very weak to weak. This anomalism seems to be caused by a deeply buried mineralized body beginning at about 70.0W possibly over 600 ft. deep but possibly approaching the surface beyond 95.0W. In support of this, an abrupt downward trend in the self potential profile at 95W, is noted, which usually indicates near surface oxidizing sulfides.

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This line crosses Lines 1 through 4 at about a 60° angle, nearly perpendicular to the geologic strike seen on aerial photographs.

No sharply defined resistivity features are noted on this line. The low resistivity feature on Line 1 at 47.5W correlates well with a low at 42.5W on Line 5. A similar low at about 10.0NE is also noted.

Strong frequency effect anomalies are present between 42.5SW and 32.5SW with probable moderate fringe effects on both sides. Based on MCF values, S. P. and Line 1, the most probable location of the polarizing body is at 40SW, probably no deeper than 300 ft. PFE values indicate the polarizing body at 32.5W.

At about 7.5NE, another strong anomaly was detected. Only half of the anomaly pattern is available so that another equally valid interpretation could be made if it were not for the correlation with Line 3.

A very weak S.P. low at 40.0SW correlates with the strong I.P. anomaly at that station, probably indicating oxidizing sulfides. No other positive S.P. or magnetic correlations are noted on this line.

Respectfully submitted,
HEINRICHS GEOEXPLORATION COMPANY

Paul A. Head
Geophysicist

Approved:

Walter E. Heinrichs, Jr.
President & General Manager

May 6, 1969
Tucson, Arizona 85703

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sydney

BASIS OF THE INDUCED POLARIZATION METHOD

The induced polarization method is based on the electrical properties exhibited by electronic or metallic conductors embedded in an ionic or electrolytic conducting matrix. These properties are noticed in that the potential across a block of this dual conduction mode material will increase with time, approaching a constant value, when a constant current is made to flow through the block. This phenomenon occurs because at the boundaries between the two conductor types, electrolytic ions have to give up or take on electrons thereby requiring an additional force (overvoltage) over that which would be needed with only one mode of conduction; showing up as a building of potential across the block with time as more ions are backed up. This potential approaches a constant value when an equilibrium is established between the ions backed up at the boundaries and those flowing across the boundaries. Therefore, from the preceeding discussion, it is seen that the gross effect is quite similar to the charging of a leaky capacitor and for most applications, it is proper to use this model as a guide. These capacitive-like properties are normally measured by one of three different field techniques.

In the time domain (pulse) method, a steady direct current is imposed in the ground for a few seconds and abruptly terminated so that the resulting capacitive-like voltage decay (discharge) curve can be measured or recorded. Usually, the voltage decay curve is integrated with respect to time to give the area under the decay curve in units of volt-seconds. This value is then normalized by the primary voltage measured while the steady current is on. The more area determined, the more capacitance or polarization the ground exhibits.

In the frequency domain (dual frequency) method, the percentage difference between the impedance (AC resistance) offered to a lower and higher frequency is measured. A capacitor offers a lower impedance to a higher frequency than it does to a lower frequency, therefore, the percentage difference between the impedances will increase with increased polarization.

A third technique is to measure the phase angle or delay between an introduced current wave-form and the received voltage wave. This phase delay also increases as polarization increases.

("n" separation) from the sending dipole. Figures 1 and 2 indicate this configuration and resulting data plotting positions. A precisely controlled square wave current is sent through a sending dipole at 0.05 and 3.0 cycles per second from which, at the receiving dipole, a "D.C." and an "A.C." voltage is measured respectively. By knowing the geometry involved (the dipole length or spacing and the separation distance between the two receiving-sending dipole pairs), along with the two voltages, an apparent "D.C." and an "A.C." resistivity can be calculated. From these apparent resistivities, their percentage difference is determined, thus giving the Percent Frequency Effect (PFE). A third quantity porportional to PFE and inversely porportional to "D.C." resistivity, called Metallic Conduction Factor (MCF) is computed in order to somewhat normalize PFE for variations in ground conductivity purely as a technical interpretational aid. Formulas for these various quantities are given on page 5.

Selection of electrode spacings [(a) in Fig. 1] is determined by the objectives to be reached in a given survey. This spacing will range from very small (50 ft. or less) for very detailed and shallow surveys, up to 1,000 ft., or occasionally more, for broad, deep reconnaissance work. Other factors involved in the selection of spacing are concerned with the anticipated physical geometry of any possibly existing mineral occurrence. This includes consideration of expected depth of burial to the top of the deposit, the dimensions of the deposit itself, its orientation, strike and dip, etc., as well as its expected electrical properties.

In general, the greater the dipole spacing and "n" separation, the greater the depth penetration and the less the resolution. An average rule of thumb, with a good contrast of electrical properties, using the symmetrical co-linear dipole-dipole system, and having data from 1 through 4 in "n" separations, is that two times the dipole length is the maximum depth of detectable penetration for a body having two or three of its dimensions large in relation to the dipole spacing. However, a body having two or three of its dimensions less than the dipole spacing, and buried more than one spacing probably will not be detectable. A zone, regardless of orientation, having a dimension less than 0.1 the dipole spacing likely will not be detected. Also, zones differing by less than about 30% in electrical conductivity will not be very easily resolved by resistivity measurements, but may still be detected if a polarization contrast exists.

To illustrate the above in more concrete terms, consider a dipole spacing of 1,000 ft. for the following: An overburden of more than 2,000 ft. would likely not allow enough current penetration into bedrock to detect even a large and highly mineralized zone in the bedrock. Also, a sulfide zone lying completely within 200 ft. of the surface generally would not be detected. A spherical or elongated cylindrical body whose diameter is much less than 1,000 ft. would be just out of the range of detectability. A dike-like or sill-like zone whose width is less than

increased background frequency effect due to an electromagnetic inductive coupling interference phenomenon that must be corrected for. The MCF tends to correct any high resistivity increased background effects, but tends to amplify the electromagnetic frequency effects making a correction imperative.

FORMULAS: $PFE = [\rho_{dc}/\rho_{ac} - 1]\ 100$

Where PFE is Percent Frequency Effect, ρ_{dc} is the apparent resistivity at the lower frequency and ρ_{ac} is the higher frequency apparent resistivity.

$$\rho = 2\pi VK_n/I$$

Where ρ is either ρ_{dc} or ρ_{ac} depending on frequency of the current I which is measured in amperes. The potential V, arising from I, is measured in volts. K_n is the geometric factor given by:

$$K_n = \tfrac{1}{2}an(n+1)(n+2) \quad \text{(Only for dipole-dipole arrays.)}$$

Where "a" is the dipole spacing in feet and "n" is the number of dipoles separating the sending and receiving dipoles; this gives, for apparent resistivity:

$$\rho = [2\pi V/I][\tfrac{1}{2}an(n+1)(n+2)]$$

from which we see that ρ is in units of ohm-feet. However, the apparent resistivity usually is plotted: $\rho/2\pi$

$$\rho/2\pi = VK_n/I = [V/I][\tfrac{1}{2}an\ (n+1)(n+2)]$$

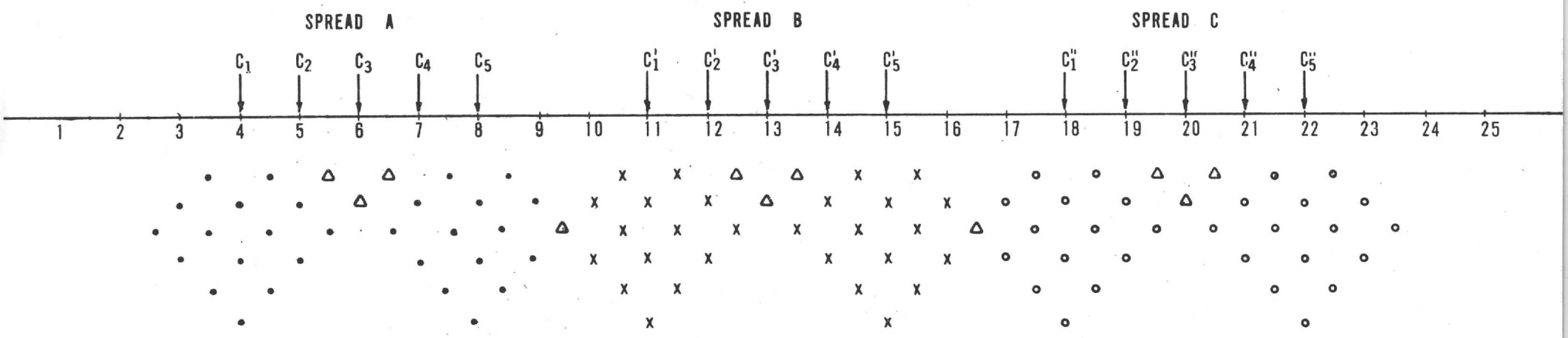
$$MCF = 1000 \times PFE/[\rho_{dc}/2\pi]$$

Where MCF is the Metallic Conduction Factor and $\rho_{dc}/2\pi$ is apparent "D.C." resistivity.

References:
1. Wait, James R., "Overvoltage Research and Geophysical Applications", Pergamon Press, 1959.
2. "Mining Geophysics", Society of Exploration Geophysicists, Vol. I, Case Histories, October 1966.

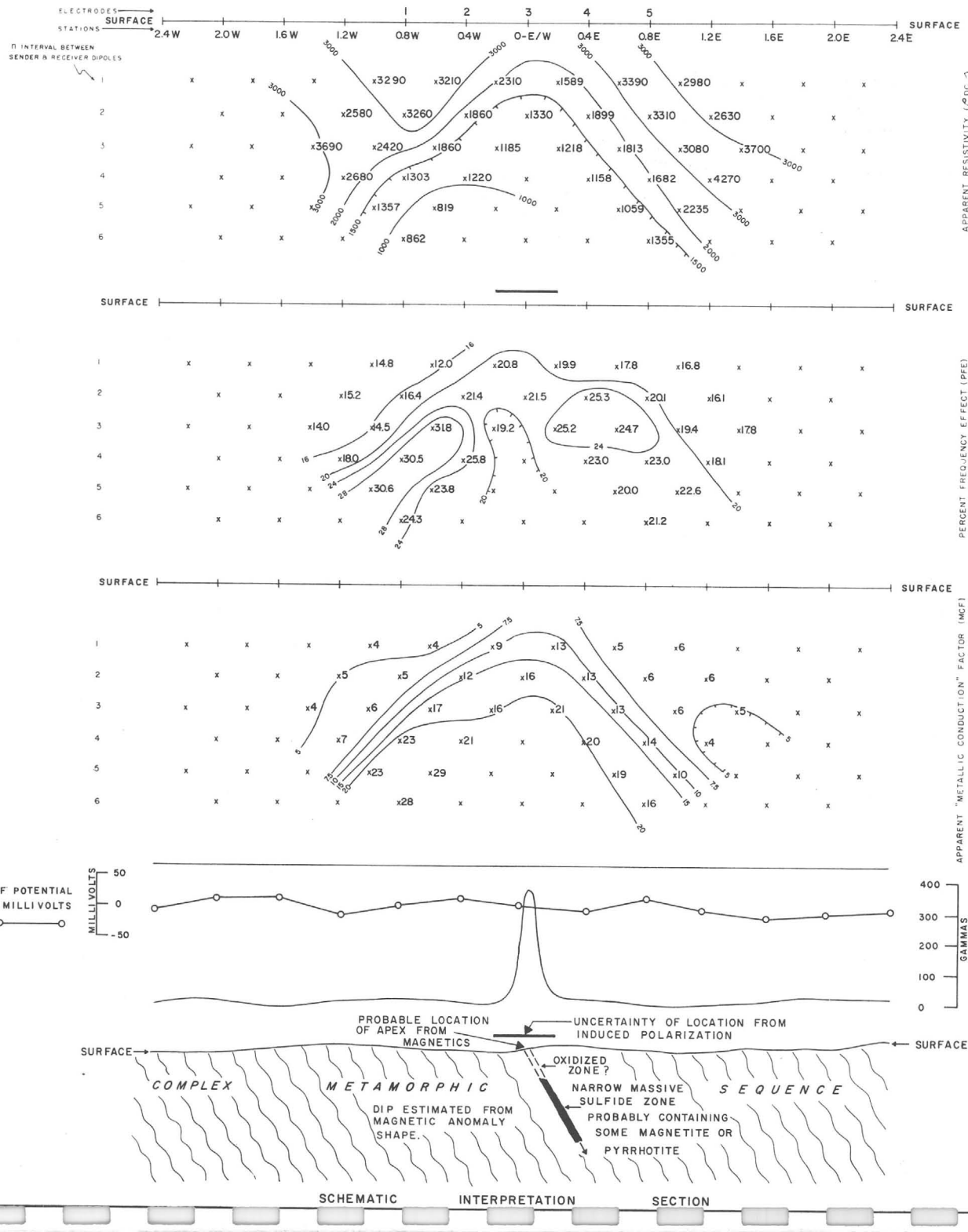
Published by W. E. Heinrichs, Jr., et al., Engineering and Mining Journal, September 1967.

(DATA POINTS OBTAINED FROM THE THREE SPREADS OF FIGURE 1)



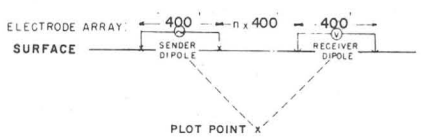
• SPREAD A
x SPREAD B
o SPREAD C
Δ RECIPROCAL VALUES (TIE POINTS)

Fig. 2

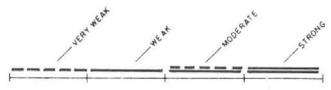


SCHEMATIC INTERPRETATION SECTION

EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING NORTH

MASSIVE SULFIDE VEIN
APPALACHIAN SULFIDE DISTRICT

SECTIONAL DATA SHEET
LINE NO. —
INDUCED POLARIZATION TRAVERSE

SCALE: 1"= 400' DATE: —

FOR

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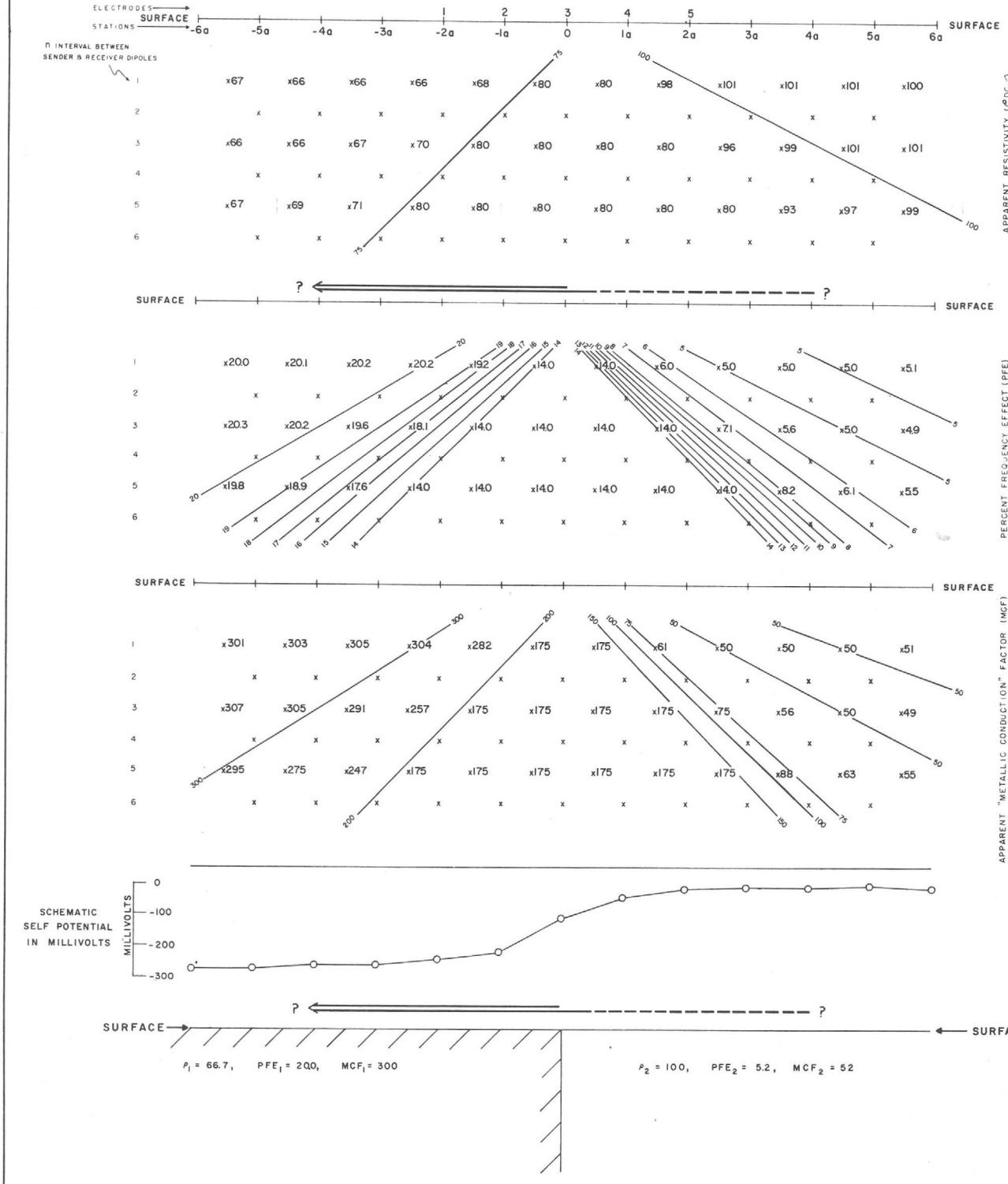
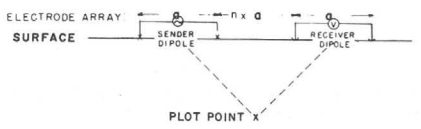
sydney

ACTUAL FIELD EXAMPLE OF COMBINED INDUCED POLARIZATION, RESISTIVITY, MAGNETIC AND SELF POTENTIAL SURVEY ACROSS A NARROW-STEEPLY DIPPING MASSIVE SULFIDE VEIN.

NOTE: INDUCED POLARIZATION ANOMALY ONLY INDICATES A STEEP BUT UNKNOWN DIP. DEPTH TO SULFIDES PROBABLY BETWEEN 200 AND 400 FEET BASED ON ROUNDED APPEARANCE OF INDUCED POLARIZATION ANOMALY AND LACK OF SELF POTENTIAL RESPONSE.



EXPLANATION



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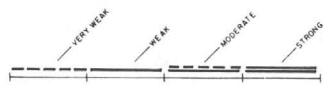
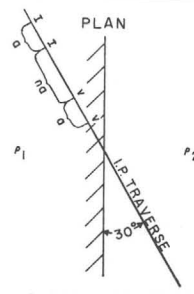


LOOKING 60° FROM STRIKE OF INTERFACE



VERTICAL INTERFACE

SECTIONAL DATA SHEET
LINE NO. —
INDUCED POLARIZATION TRAVERSE

SCALE: 1" = a DATE: —

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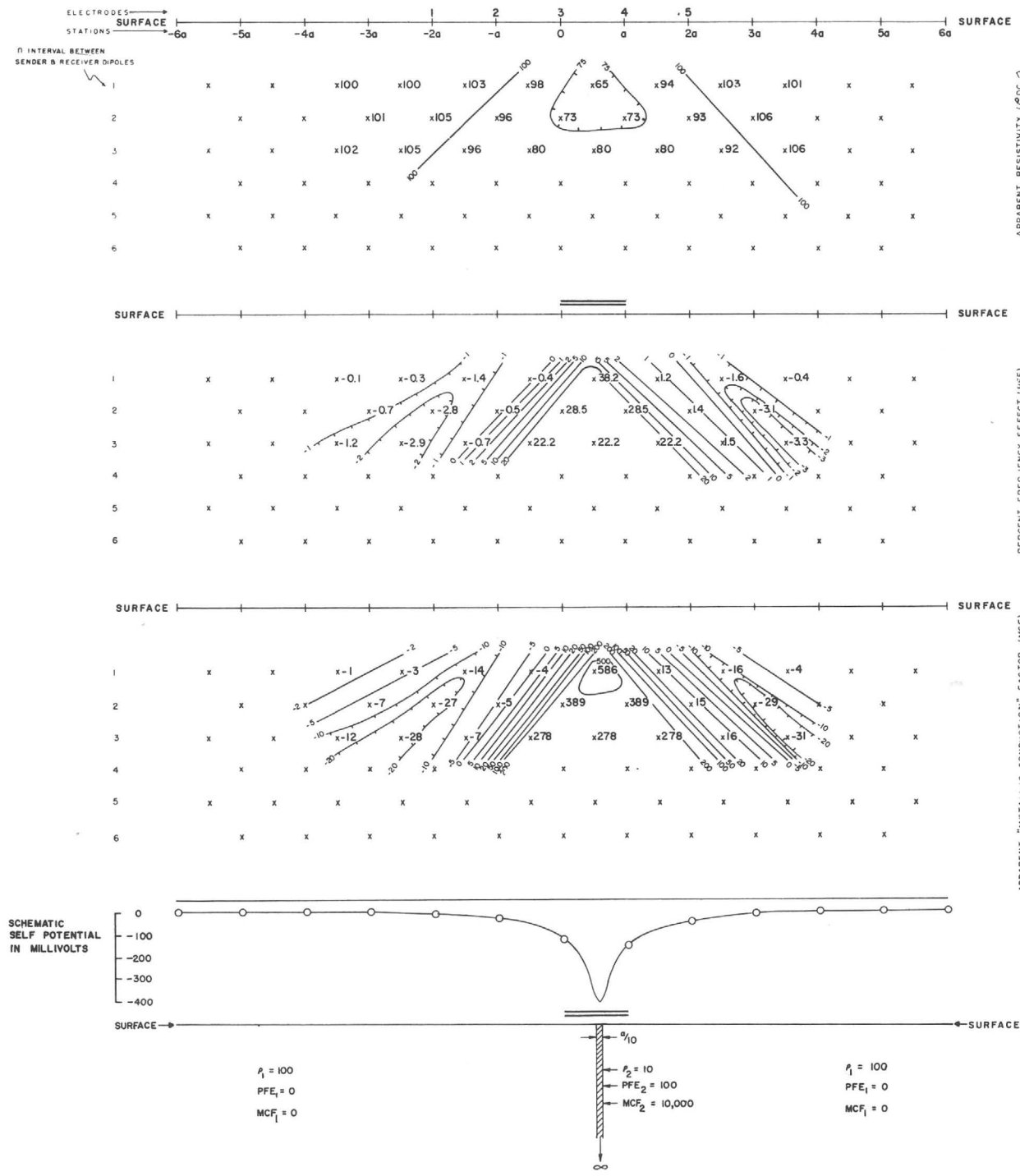
THEORETICAL INDUCED POLARIZATION TRAVERSE ACROSS A VERTICAL INTERFACE AT 30° - DIPOLE-DIPOLE ELECTRODE ARRAY.



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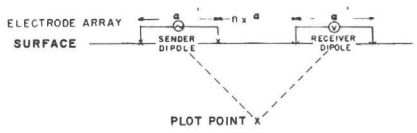

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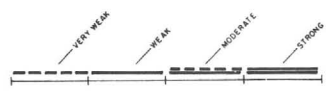

LOOKING NORMAL TO STRIKE

VERTICAL
TABULAR BODY

SECTIONAL DATA SHEET
LINE NO. ——
INDUCED POLARIZATION TRAVERSE

SCALE: 1" = a DATE: ——

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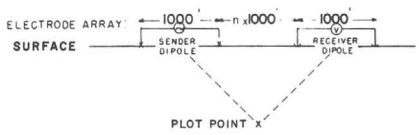
THEORETICAL DIPOLE-DIPOLE INDUCED POLARIZATION RESPONSE OVER A CONDUCTIVE VERTICAL TABULAR SULFIDE BODY CROSSED NORMAL TO THE STRIKE [HAVING A THICKNESS OF 1/10 THE ELECTRODE SPACING (a), A RESISTIVITY CONTRAST OF 10:1, A BACKGROUND RESISTIVITY (ρ_1) OF 100, A BACKGROUND PFE_1 OF 0, AND A PFE_2 OF 100 IN THE SULFIDE ZONE]

EXPLANATION



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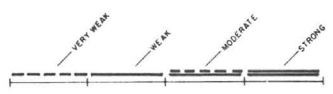

LOOKING WEST

PIMA MINING DISTRICT
PIMA COUNTY, ARIZONA

SECTIONAL DATA SHEET
LINE NO. —
INDUCED POLARIZATION TRAVERSE

SCALE: 1" = 1000' DATE: —

FOR ——

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ACTUAL FIELD EXAMPLE OF INDUCED POLARIZATION TRAVERSE OVER DISSEMINATED PORPHYRY TYPE SULFIDE MINERALIZATION

23 24 R 16 E 22 19 30 26 25 27 35 36 T 17 S

APPROXIMATE LOCATION PAULINE MINE

PDH #2 PDH #1

SPREAD 1 SPREAD 2 SPREAD 3

100W 70W 35W 0-W/E 30E 65SW 30NE 0-SW/NE

Cu Mo

"A"

Cu — COPPER (100 PPM OR MORE) } OUTLINES OF
Mo — MOLYBDENUM (5 PPM OR MORE) } GEOCHEMICAL ANOMALIES

+ SECTION CORNER

●PDH PROPOSED DRILL HOLE

GEOPHYSICAL BOUNDARY

NOTE: THIS PLAN IS SCHEMATIC

RELATIVE ANOMALY STRENGTH

VERY WEAK WEAK MODERATE STRONG

I.P. LINE NO. → ②

STATIONS ELECTRODES

INTERFACE SELF POTENTIAL LOW

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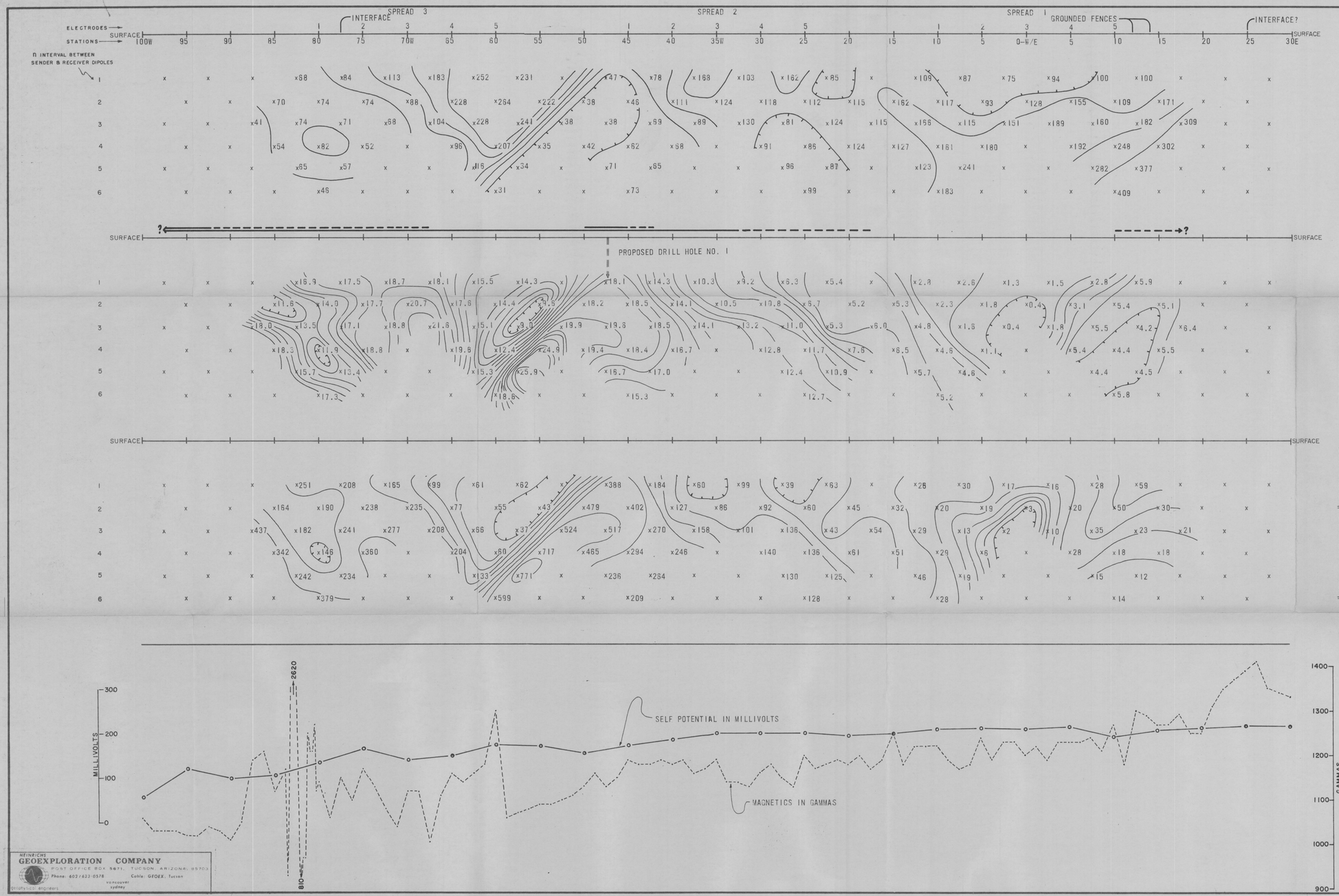
368-69

INDUCED POLARIZATION LOCATION AND INTERPRETATION PLAN HORIZON PROSPECT PIMA COUNTY, ARIZONA

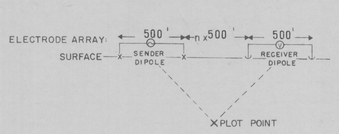
FOR

GEOCHEMICAL SURVEYS

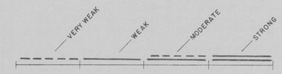
SCALE 1" = 800' | DRAWN BY: JAY DOWNS | DATE APRIL 1969



EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING NORTH

HORIZON PROSPECT

SECTIONAL DATA SHEET
LINE NO. 1 (SPREADS 1, 2 & 3)
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 500' DATE: MARCH 1969

FOR

GEOCHEMICAL SURVEYS

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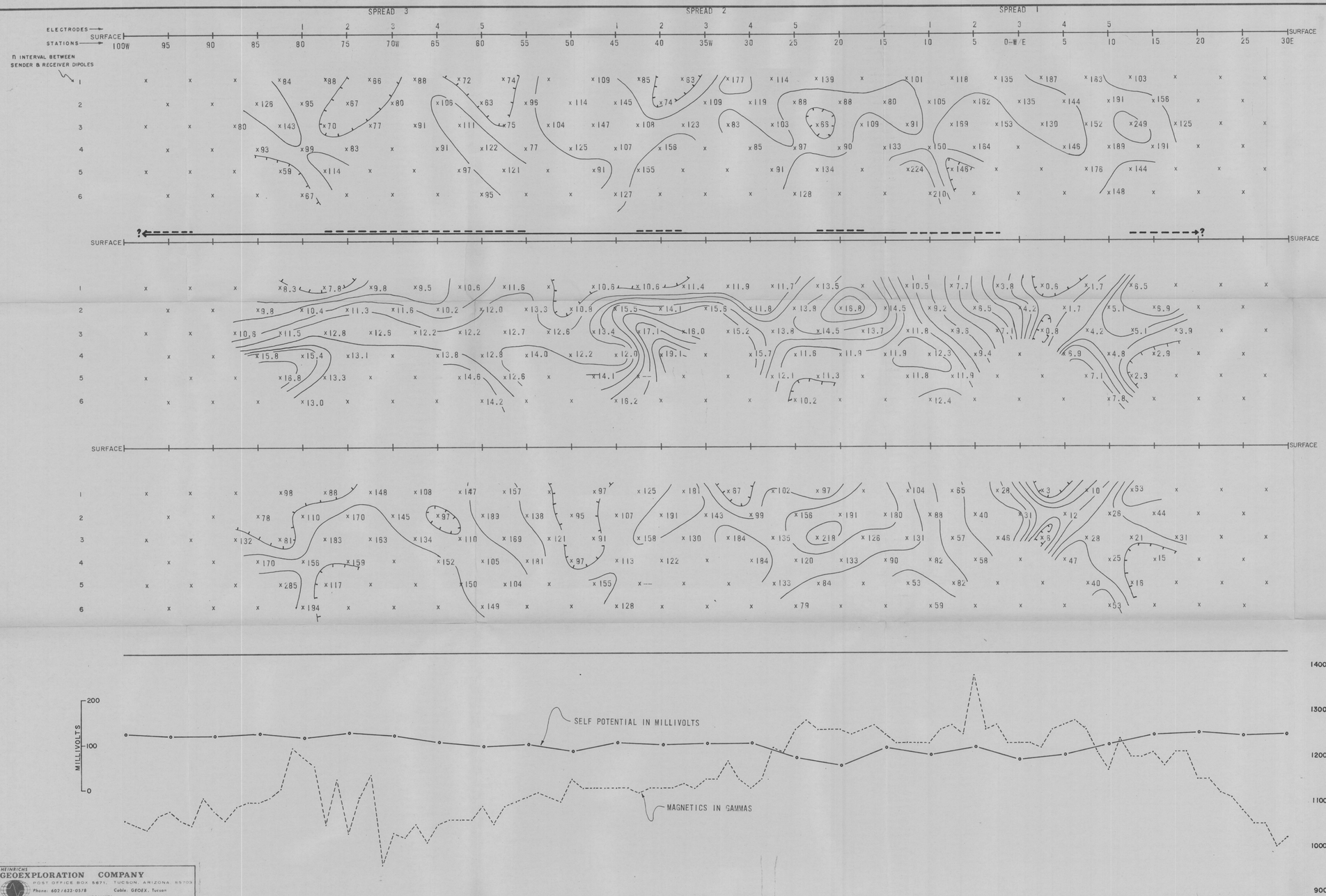
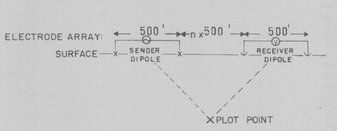
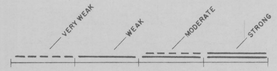


EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING NORTH

HORIZON PROSPECT

SECTIONAL DATA SHEET
LINE NO. 2 (SPREADS 1, 2 & 3)
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

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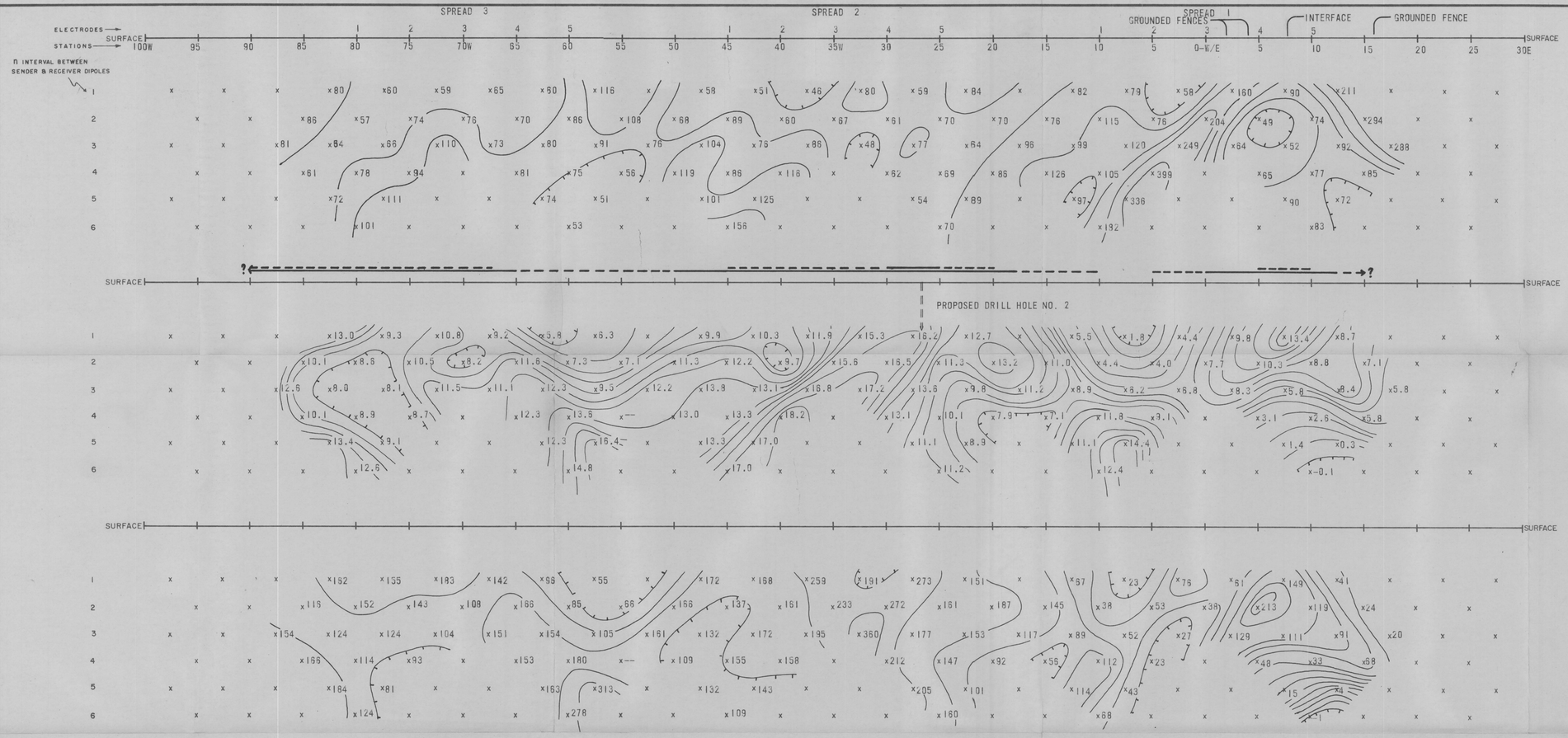
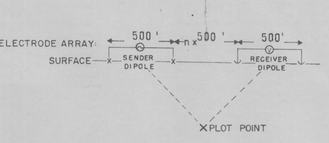


APPARENT RESISTIVITY (ρDC) IN UNITS OF OHM FEET $\frac{2\pi r}{}$
CONTOUR INTERVAL LOGARITHMIC
SENDER FREQUENCY: 0.1 cps

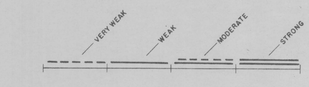
PERCENT FREQUENCY EFFECT (PFE)
CONTOUR INTERVAL CONSTANT
SENDER FREQUENCIES: 0.1 & 3.0 cps.

APPARENT "METALLIC CONDUCTION" FACTOR (MCF)
$(MCF = \frac{PFE \times 1000}{\rho DC \frac{2\pi r}{}})$
CONTOUR INTERVAL LOGARITHMIC

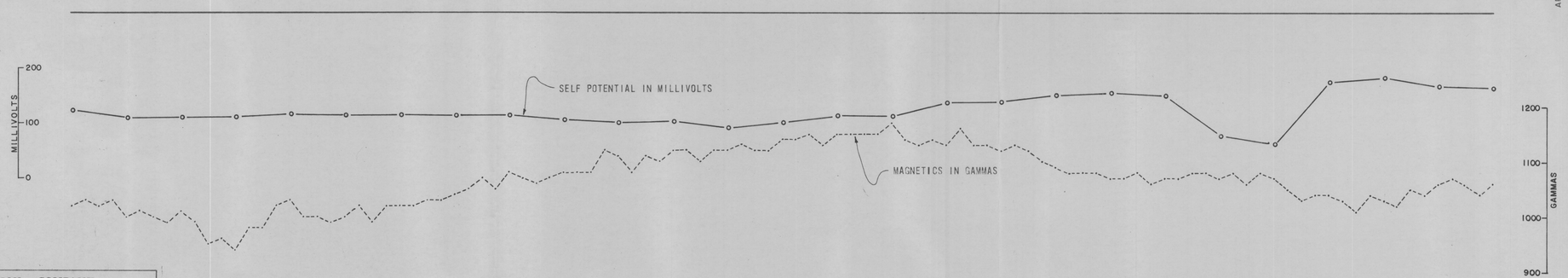
EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING NORTH



HORIZON PROSPECT

SECTIONAL DATA SHEET
LINE NO. 3 (SPREADS 1,2 & 3)
INDUCED POLARIZATION TRAVERSE

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SCALE: 1" = 500' DATE: MARCH 1969

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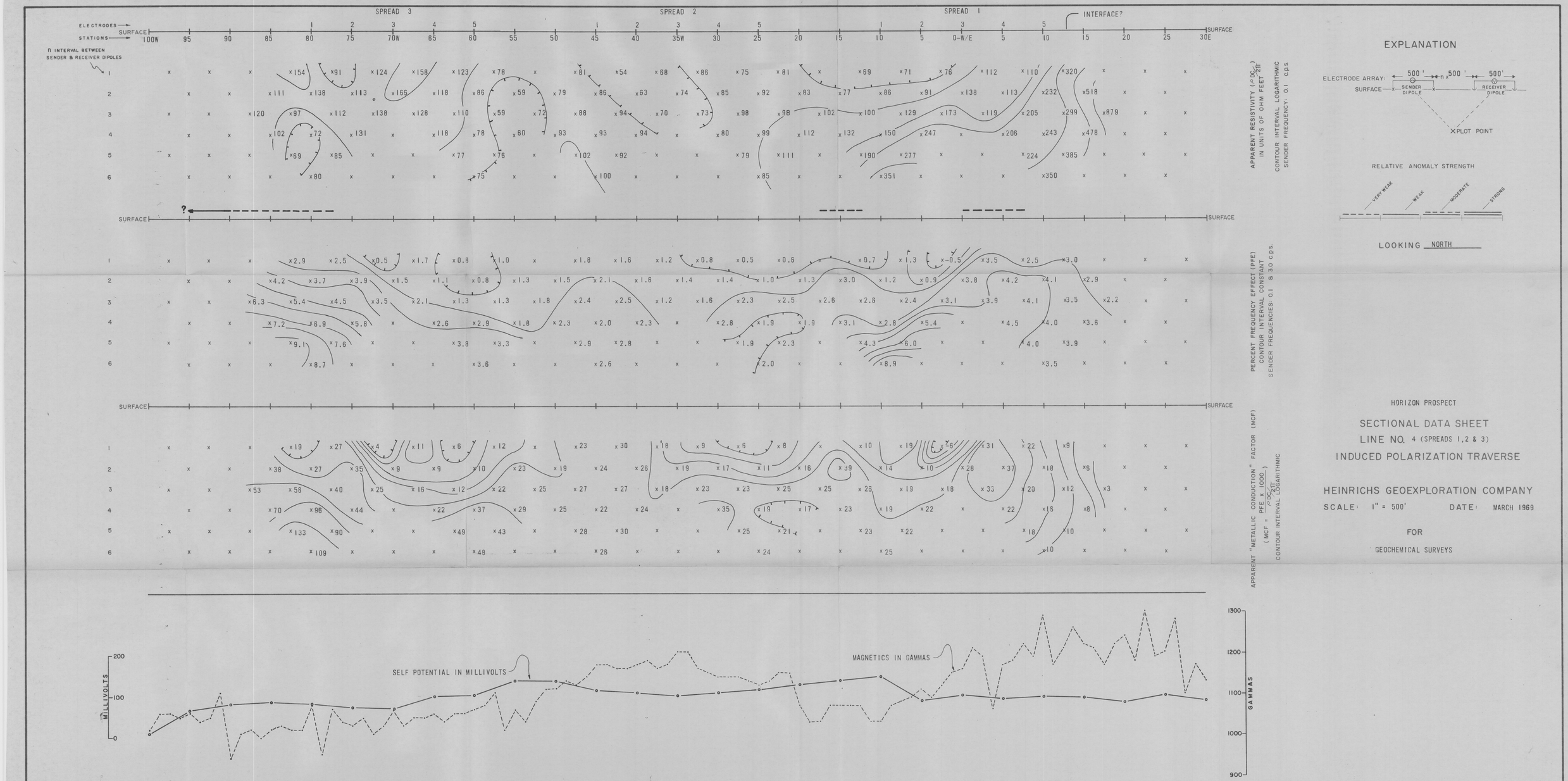
geophysical engineers vancouver sydney



EXPLANATION

RELATIVE ANOMALY STRENGTH

LOOKING NORTH

HORIZON PROSPECT

SECTIONAL DATA SHEET
LINE NO. 4 (SPREADS 1,2 & 3)
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 500' DATE: MARCH 1969

FOR

GEOCHEMICAL SURVEYS

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Phone: 602/623-0578 Cable: GEOEX, Tucson
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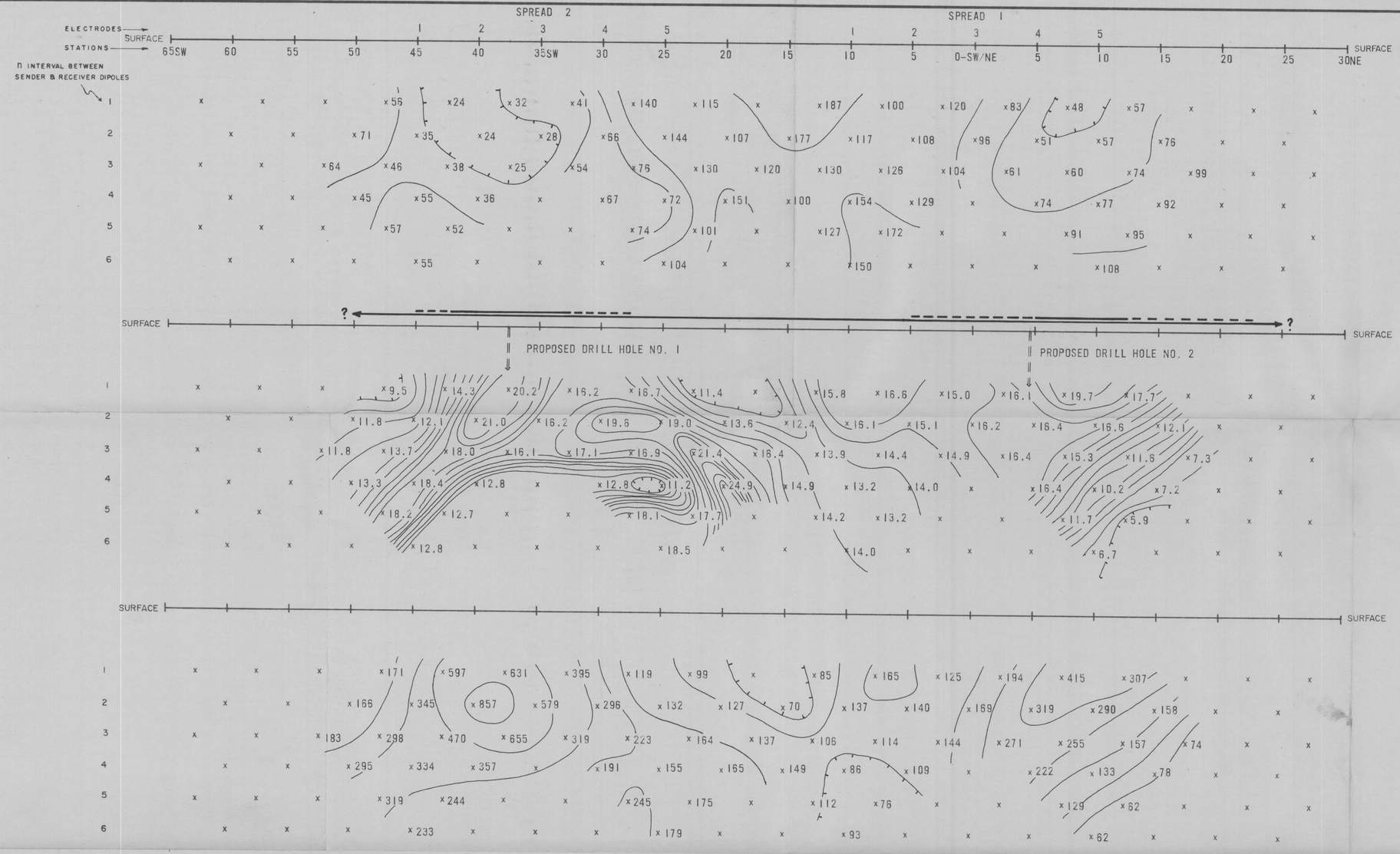
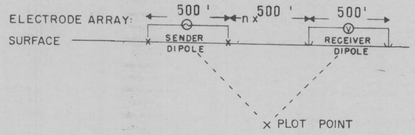


APPARENT RESISTIVITY (ρ_{DC}) IN UNITS OF OHM FEET
CONTOUR INTERVAL LOGARITHMIC
SENDER FREQUENCY: 0.1 c.p.s.

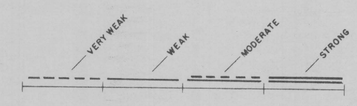
PERCENT FREQUENCY EFFECT (PFE)
CONTOUR INTERVAL CONSTANT
SENDER FREQUENCIES: 0.1 & 30 c.p.s.

APPARENT "METALLIC CONDUCTION" FACTOR (MCF)
$(MCF = \frac{PFE \times 1000}{\rho_{DC}})$
CONTOUR INTERVAL LOGARITHMIC

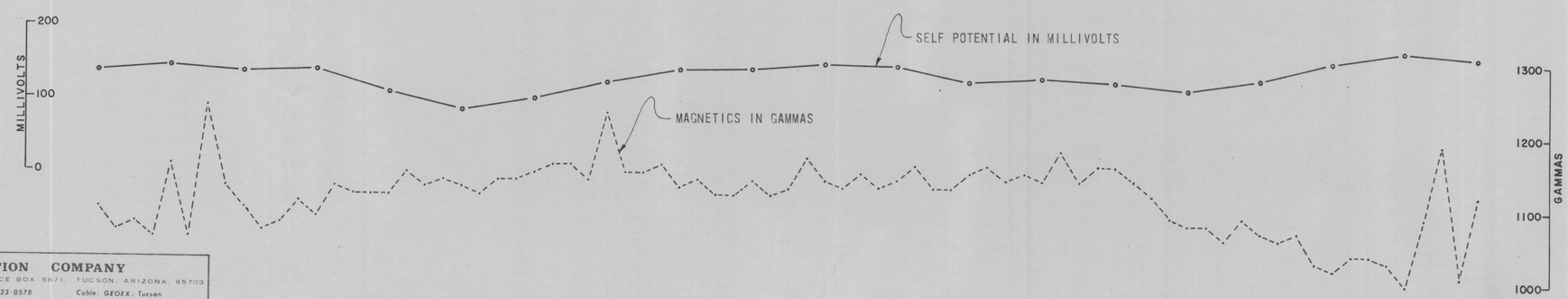
EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING N 53° W



HORIZON PROSPECT

SECTIONAL DATA SHEET
LINE NO. 5 (SPREADS 1 & 2)
INDUCED POLARIZATION TRAVERSE

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SCALE: 1" = 500' DATE: MARCH 1969

FOR

GEOCHEMICAL SURVEYS

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W Look North

Geochemical Surveys Horizon Prospect

B368-69 Magnetics

GEOCHEMICAL SURVEYS
2505 TURTLE CREEK BOULEVARD
DALLAS, TEXAS 75219

MAILING ADDRESS
P. O. BOX 19508

TELEPHONE
LAKESIDE 1-5145

March 24, 1969

HEINRICHS GEOEX
GEOPHYSICAL ENGINEERS
TUCSON, ARIZONA

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

Mr. Chris S. Ludwig
Heinrichs Geoexploration Company
P. O. Box 5671
Tucson, Arizona 85703

Dear Chris:

Attached are a partial geologic map and index sheet explaining references. I hope to arrange a visit with you in the next week or so to discuss the geophysical data and the relationship to our geochemistry.

Sincerely,

GEOCHEMICAL SURVEYS

I. C. Stone

ICS:tjc

Attachments

Propylitic

Arg: Illite

Phyllic

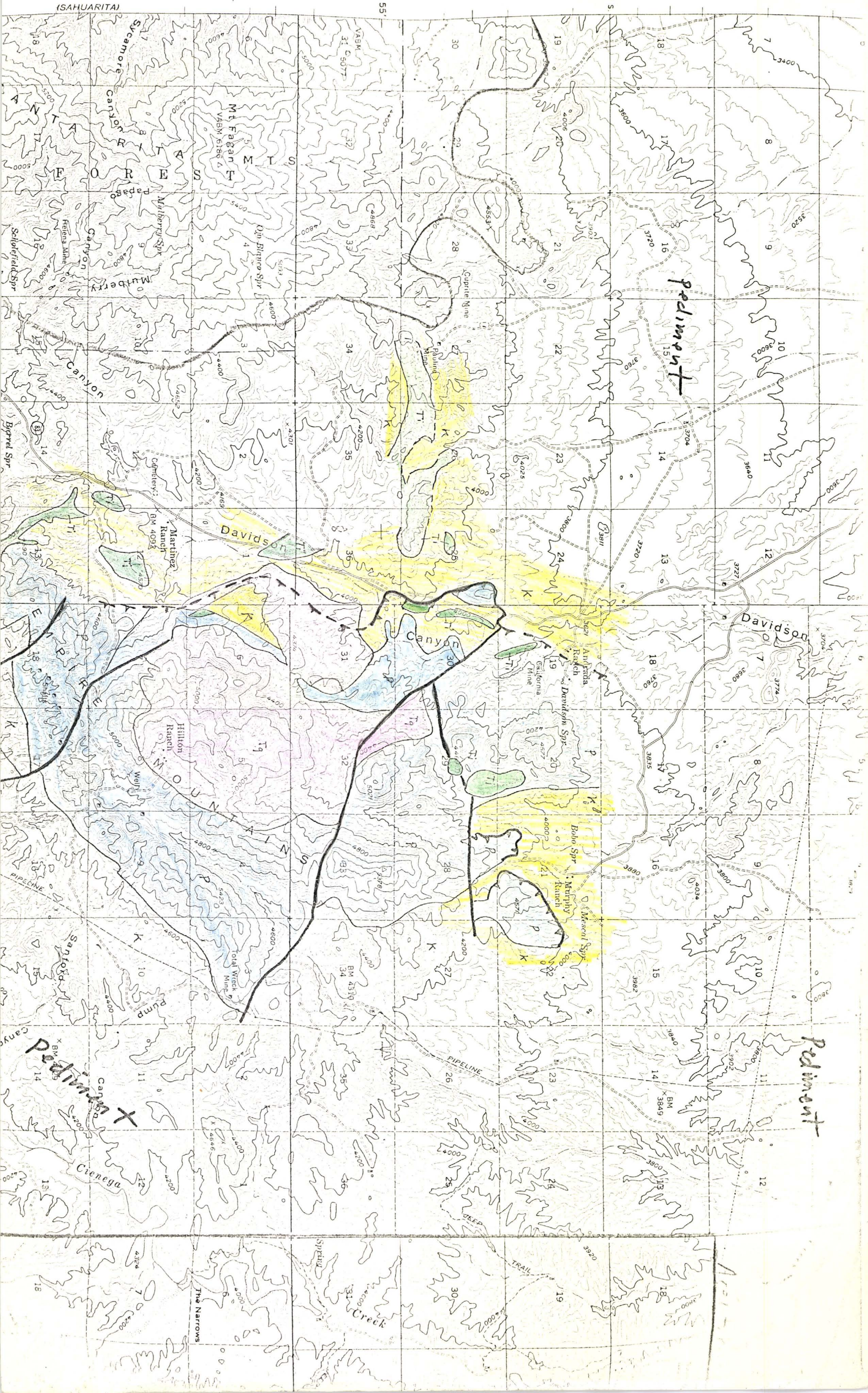
POT

Por · Sericite

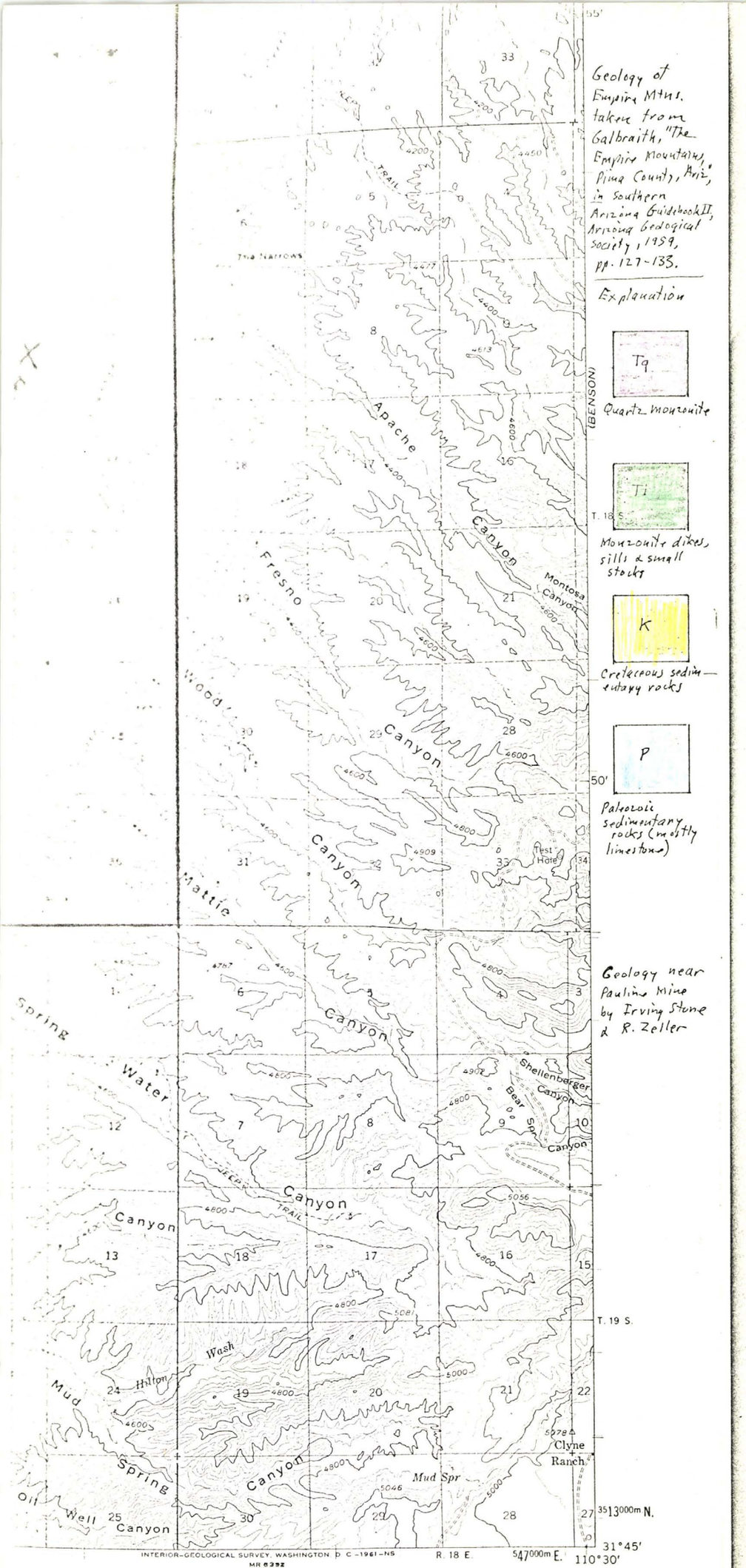
Mo — Anhyd
high K, $SO_4^=$

Phyl | Cu,
Arg | Pb, Zn, Ag

: Kaol, Chlorite
Ba, Hg, Pb



(SAHUARITA)
Pediment
Pediment
Pediment
Sycamore Canyon
Mt Fagan
Mulberry Spr
Mulberry Canyon
Papago Canyon
Helena Mine
Ojo Blanco Spr
Cuprite Mine
Pauline Mine
Davidson
Canyon
Davidson
Martinez Ranch
Cemetery
Andrada Ranch
California Mine
Davidson Spr
Hilton Ranch
MOUNTAINS
Bobo Spr
Murphy Ranch
Mescal Spr
Total Wreck Mine
PIPELINE
PIPELINE
Cienega
The Narrows
Spring
Creek



EMPIRE MOUNTAINS, ARIZ.

N3145—W11030/15

R 16 E

T 17 S

HORIZON PROSPECT

PIMA COUNTY, ARIZONA

1" = 2000'

COPPER P.P.M.

1-7 Drilled by Metler for Cordera Mining Co.

30' & 60' Drilled by Joy for Eyrich (Cypress Mining Co.).

T.D. of C.H.

#1	500'
#2	475'
#3	393'
#4	327'
#5	314'
#6	457'
#7	325'

R16E

T 17 S

California Mine

Pauline Mine

1-7 Drilled by Metler for Cordera Mining Co

30' & 60' Drilled by Joy for Eyrich (Cypress Mining Co)

T.D. of CH.

1	500'
2	475'
3	393'
4	327'
5	314
6	457'
7	325'

HORIZON PROSPECT

PIMA COUNTY, ARIZONA

1" = 2000'

MOLYBDENUM P.P.M.

R16E

R17E

T 17 S

15 14 13 18 17 16

22 23 24 19 20 21

27 26 25 30 29 28

34 35 36 31 32 33

3760 3720 3835 3880 3811 3821 3800 4025 4000 4200 4577 4469 5021 4374 4301 4600

Andrada Ranch

Davidson Spr

California Mine

Bobo Spr

Murphy Ranch

Mescal Sp

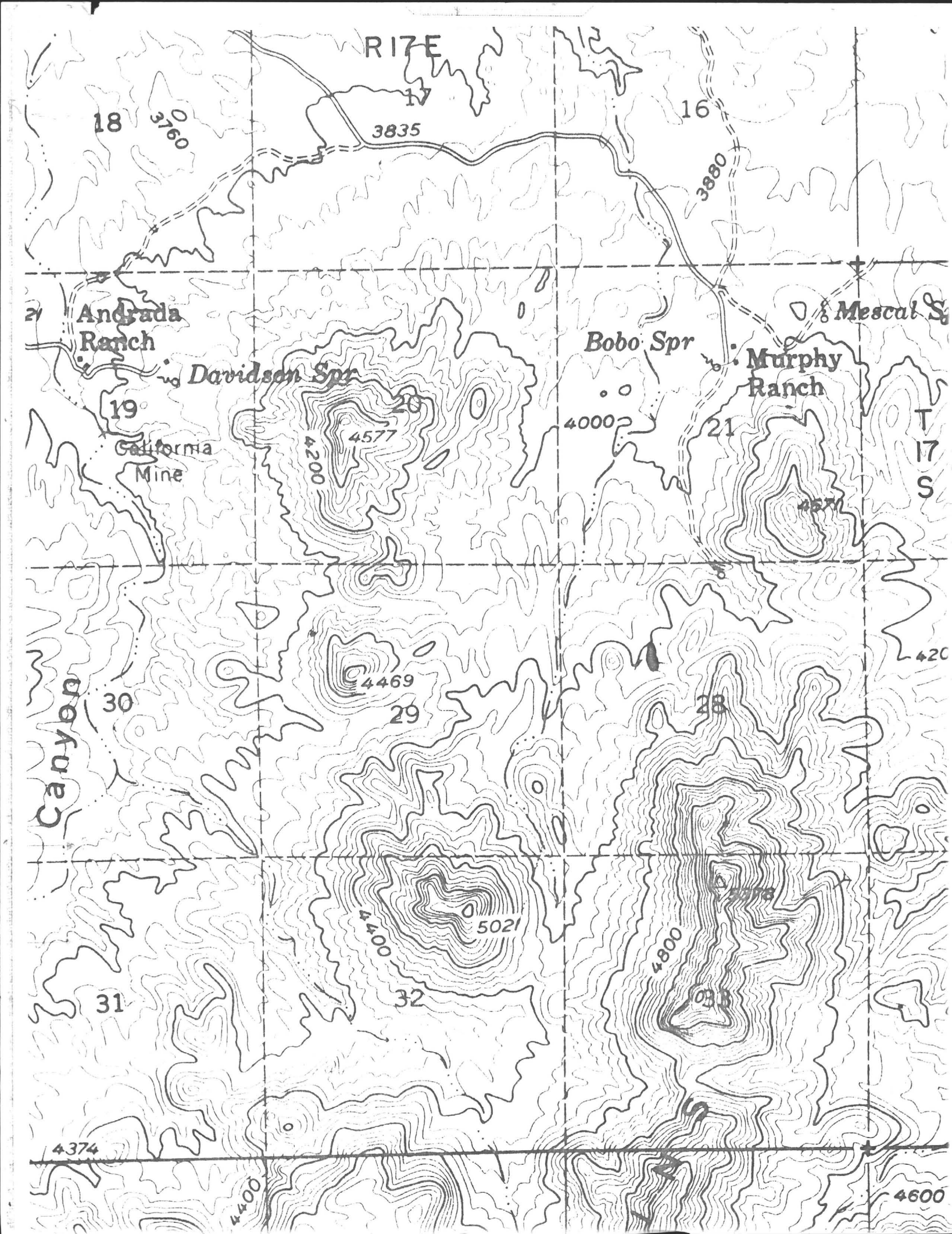
Paulina Mine

Canyon

Check your conduit

LINE 1 LINE 2 LINE 3 LINE 4

HORIZON PROSPECT
PIMA COUNTY, ARIZONA
1" = 2000'


R17E
17
16
18
3760
3835
3880
Andrada Ranch
Davidson Spr
Bobo Spr
Murphy Ranch
Mescal Sp
19
20
21
4000
4577
4200
California Mine
4570
T 17 S
4469
30
29
28
Canyon
5021
4400
4800
31
32
4374
4400
4600

HORIZON PROSPECT

PIMA COUNTY, ARIZONA

1" = 2000'

R16E

R17E

T 17 S

22 — P.P. Henry T. Eyrich 5-16-72

23 — M/L Open

24 — M/L Open

27 — P.P. Henry T. Eyrich 5-16-72

26 — G.S. P.P. Appl. 1-13-69

25 — G.S. P.P. Appl. 1-13-69

State S/M

Pauline Mine

Horizon Land Co.
Walter Burris
Andrada Ranco
Tel: Tusc: 623-9745

Horizon Land Corp. Sur.
U.S.A. All Min.

Horizon Land Corp. S/M

State S/M

State Sur.
U.S.A. All Min.

34 — G.S. P.P. Appl. 1-13-69

35 — G/L Arizona Land Title
G.S. P.P. Appl. 1-13-69

Arizona Land Title Co.
Alton B. "Tex" Parker
Tucson
office 623-5758
res. 297-3190

36 — G.S. P.P. Appl. 1-13-69

State S/M

3 — G/L Arizona Land Title
M/L Open

2

1

G/L Ariz. Land Title
M/L Open
State S/M

Horizon Land Corp. S/M

19

S/M

Horizon Land Corp. S/M

G/L Ariz. Land Title

M/L David Harrit

M/L Ferg C. Hamil
5-28-79
State S/M

California Mine
H.L.C. Sur.
U.S.A. Min.

G/L Ariz. Land Title
State Sur.
U.S.A. All Min.

30 — M/L Charles P. Steel
8-25-88

G/L Arizona Land Title

State S/M

Weiss Sur.
All Min.

Ben H. Lerwill Sur.
U.S.A.

E.P. Hilton Sur.
All Min.

6

20 — G/L = Winston Wheeler

State = S/M

State = S/M

29 — G/L Winston Wheeler

M/L Charles P. Steel
7-9-88

State = S/M

G/L =

E.P. Hilton
M/L = Open

State = S/M

5

21 — Winston Wheeler
S/M

S/M S/M

G/L = Winston Wheeler
M/L = Open

State = S/M

28 — Winston Wheeler
S/M

G/L = Winston Wheeler
M/L = Open

State = S/M

G/L =

E.P. Hilton
M/L Open

State = S/M

S/M

4
Sur
US Min

33 — G/L =

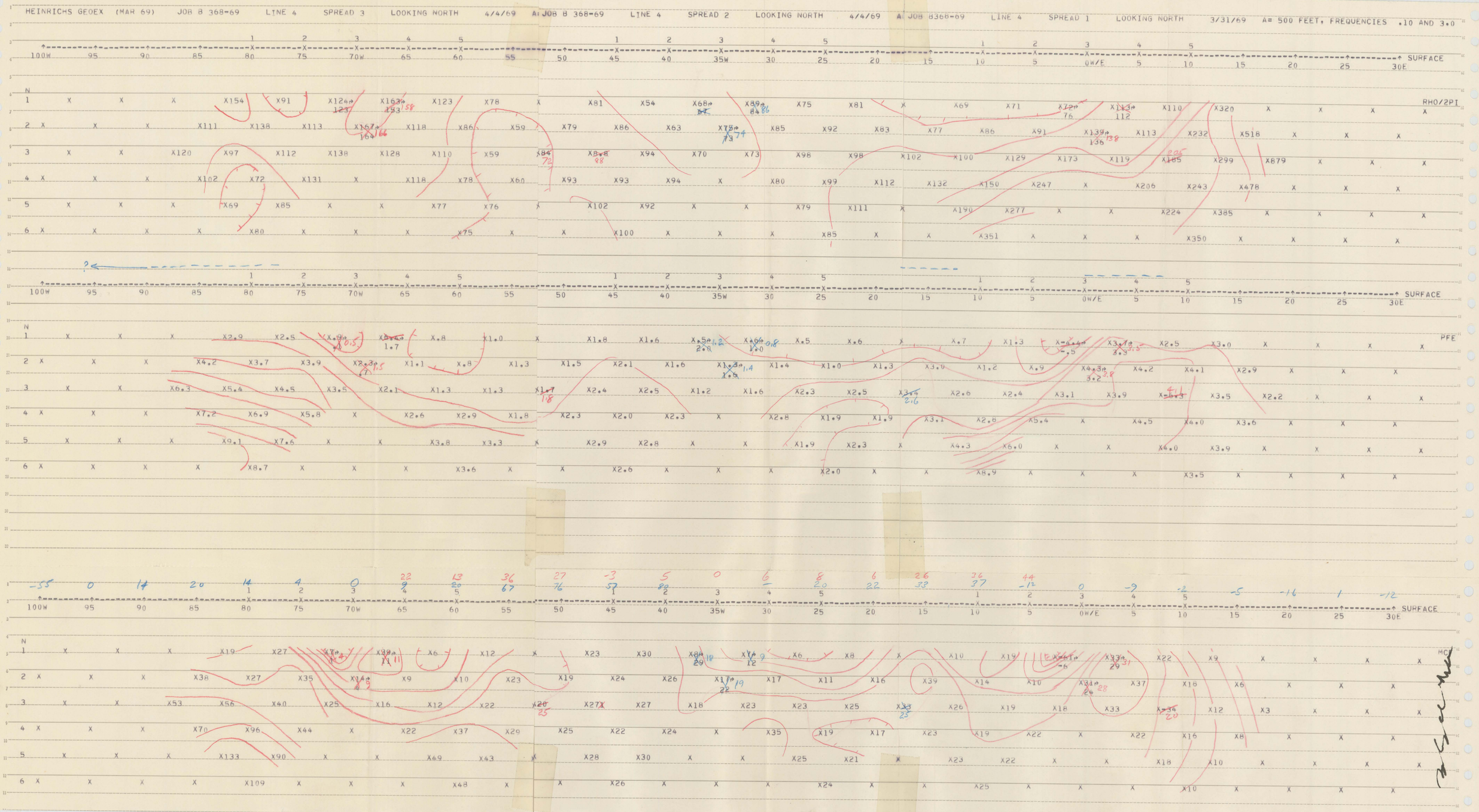
E.P. Hilton
M/L Open

State = S/M

S/M

36291

HEINRICHS GEOEX (MAR 69) JOB B 368-69 LINE 4 SPREAD 3 LOOKING NORTH 4/4/69 A= JOB B 368-69 LINE 4 SPREAD 2 LOOKING NORTH 4/4/69 A= JOB B368-69 LINE 4 SPREAD 1 LOOKING NORTH 3/31/69 A= 500 FEET, FREQUENCIES .10 AND 3.0



JOB B368-69 LINE 4 SPREAD 3

LOOKING North DATE 4/4/69 A= 500'

CENTER -70.0 LABEL W/W FREQ. 3.0

COUPLING Yes

(51) 0.10

4 April '69 plp

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Hoerlon
LINE 4 HALF W SP. 3 DATE 3/9/69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	1.	1.	.3	.3	.1	.1	1.	.1	.1	.03
DC 1	424	339	111	254	81.8	35.2	426	94.5	30.1	19.2
DC 2	422	346	116	250	75.2	41.3	427	96.5	32.1	17.0
DC 3	424	339	111	254	81.7	35.0	426	94.6	30.2	19.2
DC 4	422	346	116	250	75.1	41.4	427	96.4	32.1	17.0
DC 5					81.7	34.9		94.8	30.1	
DC 6					75.2	41.5		96.1	32.2	
DC 7					81.7	35.1		94.5	30.1	
DC 8					75.2	41.5		96.0	32.1	
DC AVG.										
AC 1	428.	352.	116.	253.	77.9	38.0	427.	94.7	30.7	17.6
AC 2	428.	352.	116.	253.	77.4	38.0	426.	94.7	30.6	17.6
AC AVG.										
S.P.	+4.2	+9.7		+6.3			-6.1			
AC NOISE	.06		.03			.05				.01
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 4 HALF W SP. 3 DATE 3/4/69

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CALC	
RECEIVE										
RANGE	.1	.03	.03	.01	.1	.03	.01	.01	2-3	
DC 1	76.9	27.5	10.8	6.86	32.6	13.4	5.46	4.22	208	
DC 2	76.8	26.4	9.2	6.61	33.9	15.0	5.38	3.81	208	
DC 3	76.9	27.5	10.8	6.86	32.6	13.3	5.62	4.06	208	
DC 4	76.8	26.4	9.1	6.60	34.0	15.0	5.14	3.68	208	
DC 5			11.0	6.80	32.6	13.3	5.57	4.40		
DC 6			9.0	6.60	33.9	15.1	5.38	3.46		
DC 7			10.9	6.78	32.7	13.2	5.62	4.38		
DC 8			8.9	6.64	33.9	15.1	5.21	3.63		
DC AVG.										
AC 1	76.0	26.3	9.6	6.41	32.2	13.6	5.12	3.74	214.	
AC 2	75.8	26.3	9.6	6.41	32.2	13.6	5.12	3.74	214.	
AC AVG.										
S.P.	-14.4				-55.2					
AC NOISE				.04				.04		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 4 HALF W SP. 3 DATE 4-3

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	7000'-7500'W	75-80	→	80-85	→	→	85-90	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	200	200	200	*140	200	200	290	180	200	200
CURRENT	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL.
RECEIVE	90-95	→	→	→	95-10,000'W	→	→	→		2-3
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	290	180	200	200	290	180	200	200		140
CURRENT	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		2.0

FREQUENCIES .10 3.0
SENDER NO. 13671.5
OPERATOR HIX
RECEIVER NO. 7651-R
OPERATOR BAUERSACHS

COMMENTS: *1. GEN. OUT PUT VOLTAGE SHAKEY.
2. HAVE TO FLASH GEN. EVERY TIME.
3.

4-5 —
3-4 —
2-3 —
1-2 —

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 4 HALF E SP. 3 DATE 3/4/69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	1.	1.	.3	1.	.1	.1	.3	.1	.1	.03
DC 1	343	450	113	338	84.6	40.0	213	61.0	32.7	13.5
DC 2	344	452	117	340	78.4	30.8	216	57.3	28.0	18.9
DC 3	343	450	113	338	84.8	39.9	213	61.1	32.7	13.5
DC 4	344	452	117	340	78.2	30.8	216	57.1	28.0	19.0
DC 5					85.0	39.9		61.3		13.4
DC 6					78.2	30.8		57.0		19.1
DC 7					85.1	40.0		61.8		13.4
DC 8					78.0	30.5		56.8		19.1
DC AVG.										
AC 1	342.	426.	113.	338.	81.1	34.8	214.	59.0	30.1	15.9
AC 2	342.	426.	113.	339.	81.1	34.8	213.	59.0	30.1	15.9
AC AVG.										
S.P.	+8.7	+10.9		+46.6			+9.0			
AC NOISE	.05		.04			.04				.02
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Hoenow
LINE 4 HALF E SP. 3 DATE 3/4/66

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAL 1	
RECEIVE									3-4	
RANGE	.1	.03	.03	.01	.03	.01	.01	.01		
DC 1	40.7	16.1	10.6	6.01	16.3	8.44	6.18	3.60	207	
DC 2	40.5	16.6	10.7	6.19	17.6	8.21	5.78	3.79	207	
DC 3	40.8	16.0	10.8	6.01	16.3	8.51	6.20	3.51	207	
DC 4	40.5	16.5	10.7	6.11	17.6	8.12	5.76	3.91	207	
DC 5	40.8	16.2		6.02		8.62	6.19	3.42		
DC 6	40.5	16.6		6.16		8.06	5.70	3.94		
DC 7	40.8	16.2		6.03		8.70	6.26	3.42		
DC 8	40.5	16.4		6.11		7.96	5.62	3.96		
DC AVG.										
AC 1	40.3	16.2	10.5	5.89	16.7	8.24	5.81	3.57	208.	
AC 2	40.3	16.2	10.5	5.89	16.7	8.24	5.81	3.57	208.	
AC AVG.										
S.P.	-19.3				+22.8					
AC NOISE				.04				.04		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 4 HALF E SP. 3 DATE 4-3-69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	7000-6500W	65-60	→	60-55	→	→	55-50	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	280	180	290	200	*140	220	150	150	140	220
CURRENT	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CHL.
RECEIVE	50-45	→	→	→	4500-4000'W	→	→	→		3-4
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	150	150	140	220	150	150	140	220		160
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		2.0

FREQUENCIES 10 30

SENDER NO. 12671-5

OPERATOR HIV

RECEIVER NO. 7651-R

OPERATOR BAUERSMITH'S

COMMENTS: * CUT back To 3A - VOLTAGE OUT of Gen Shakey - 100V MAX. OPPERATING LEVEL.

HEINRICHS GEOEX (MAR 69) JOB B 368-69 LINE 4 SRREAD 3 LOOKING NORTH 4/4/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

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	
424	339	111	254	818	352	426	945	301	192	DC	769	275	108	686	326	134	540	422	208	LEFT
422	346	116	250	752	413	427	965	321	170		768	264	92	661	339	150	538	381	208	SIDE
				817	350		946	302				275	108	680	326	133	562	406		
				751	414		964	321				264	91	660	340	150	514	368		
				817	349		948	301					110	680	326	133	557	440		
				752	415		961	322					90	660	339	151	538	340		
				817	351		945	301					109	678	327	132	562	438		
				752	415		960	321					89	664	339	151	521	363		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
846	685	227	504	1570	765	853	1910	622	362	DC	1537	539	200	1347	665	284	1078	803	416	
				1569	763		1911	623		SUMS		539	200	1341	665	283	1100	787		
				1568	764		1910	623				539	199	1340	666	283	1076	774		
				1568	763		1912	622					201	1340	666	283	1071	808		
				1569	764		1909	623					200	1340	665	284	1095	780		
				1569	766		1906	623					199	1338	666	283	1100	778		
				1569	766		1905	622					198	1342	666	283	1083	801		
0.0	0.0	0.0	0.0	.1	.1	0.0	.1	-.1	0.0	DC	0.0	0.0	.2	.4	-.1	.3	-.7	1.6	0.0	
				.0	-.2		.1	.1		DEVS		0.0	.2	-.0	-.1	-.1	1.3	-.4		
				-.1	-.1		.1	.1				0.0	-.3	-.1	.1	-.1	-.9	-2.0		
				-.1	-.2		.2	-.1					.7	-.1	.1	-.1	-1.4	2.3		
				.0	-.1		0.0	.1					.2	-.1	-.1	.3	.8	-1.3		
				.0	.2		-.2	.1					-.3	-.2	.1	-.1	1.3	-1.5		
				.0	.2		-.2	-.1					-.8	.1	.1	-.1	-.3	1.4		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
423.0	342.5	113.5	252.0	78.44	38.22	426.5	95.45	31.13	18.10	DCA	76.85	26.95	9.979	6.706	33.28	14.16	5.431	3.951	208.0	
428.0	352.0	116.0	253.0	77.90	38.00	427.0	94.70	30.70	17.60	AC1	76.00	26.30	9.600	6.410	32.20	13.60	5.120	3.740	214.0	
428.0	352.0	116.0	253.0	77.40	38.00	426.0	94.70	30.60	17.60	AC2	75.80	26.30	9.600	6.410	32.20	13.60	5.120	3.740	214.0	
428.0	352.0	116.0	253.0	77.65	38.00	426.5	94.70	30.65	17.60	ACA	75.90	26.30	9.600	6.410	32.20	13.60	5.120	3.740	214.0	
152.5	123.5	163.7	90.87	113.1	137.8	153.8	137.7	112.2	130.5	RHO	110.8	97.18	71.96	84.63	120.0	102.1	68.54	79.77	.962	DC CAL
1.7	.1	.7	2.5	3.9	3.5	2.9	3.7	4.5	5.8	PFE	4.2	5.4	6.9	7.6	6.3	7.2	9.1	8.7	1.029	AC CAL
11	1	4	27	35	25	19	27	40	44	MCF	38	56	96	90	53	70	133	109		

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	
343	450	113	338	846	400	213	610	327	135	DC	407	161	108	601	163	844	618	360	207	RIGHT
344	452	117	340	784	308	216	573	280	189		405	166	107	619	176	821	578	379	207	SIDE
				848	399		611		135		408	160		601		851	620	351		
				782	308		571		190		405	165		611		812	576	391		
				850	399		613		134		408	162		602		862	619	342		
				782	308		570		191		405	166		616		806	570	394		
				851	400		618		134		408	162		603		870	626	342		
				780	305		568		191		405	164		611		796	562	396		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
687	902	230	678	1630	708	429	1183	607	324	DC	812	327	215	1220	339	1665	1196	739	414	
				1632	707		1184		324	SUMS	813	326		1220		1672	1198	730		
				1630	707		1182		325		813	325		1212		1663	1196	742		
				1632	707		1184		324		813	327		1213		1674	1195	733		
				1632	707		1183		325		813	328		1218		1668	1189	736		
				1633	708		1188		325		813	328		1219		1676	1196	736		
				1631	705		1186		325		813	326		1214		1666	1188	738		
0.0	0.0	0.0	0.0	-.1	.1	0.0	-.1	0.0	-.2	DC	-.1	.1	0.0	.3	0.0	-.2	.2	.4	0.0	
				.0	0.0		-.0		-.2	DEVS	.0	-.2		.3		.2	.3	-.9		
				-.1	0.0		-.2		.1		.0	-.5		-.4		-.4	.2	.8		
				.0	0.0		-.0		-.2		.0	.1		-.3		.3	.1	-.4		
				.0	0.0		-.1		.1		.0	.4		.1		-.1	-.4	-.0		
				.1	.1		.3		.1		.0	.4		.2		.4	.2	-.0		
				-.0	-.3		.1		.1		.0	-.2		-.2		-.2	-.5	.2		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
343.5	451.0	115.0	339.0	81.57	35.35	214.5	59.21	30.35	16.23	DCA	40.64	16.34	10.75	6.083	16.95	8.346	5.970	3.681	207.0	
342.0	426.0	113.0	338.0	81.10	34.80	214.0	59.00	30.10	15.90	AC1	40.30	16.20	10.50	5.890	16.70	8.240	5.810	3.570	208.0	
342.0	426.0	113.0	338.0	81.10	34.80	213.0	59.00	30.10	15.90	AC2	40.30	16.20	10.50	5.890	16.70	8.240	5.810	3.570	208.0	
342.0	426.0	113.0	338.0	81.10	34.80	213.5	59.00	30.10	15.90	ACA	40.30	16.20	10.50	5.890	16.70	8.240	5.810	3.570	208.0	
124.5	163.4	166.7	122.8	118.2	128.1	77.72	85.82	110.0	117.6	RHO	58.90	59.19	77.90	77.14	61.41	60.48	75.71	74.70	.966	DC CAL
.9	6.4	2.3	.8	1.1	2.1	1.0	.8	1.3	2.6	PFE	1.3	1.3	2.9	3.8	2.0	1.8	3.3	3.6	1.005	AC CAL
7	39	14	6	9	16	12	10	12	22	MCF	23	22	37	49	32	29	43	48		

JOB B 368-69 LINE 4 SPREAD 2

LOOKING North DATE 4/4/69 A= 500'

CENTER -35.0 LABEL W/W FREQ. 3.0

COUPLING Yes

(57) 4/April '69 0.10 plp

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 4 HALF W SP. 2 DATE 2/4/69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-0	4-5
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	.3	.1	.03	.03
DC 1	238	191	56.0	153	44.3	20.2	229	60.0	27.3	13.0
DC 2	238	190	48.0	153	44.6	19.2	231	61.7	26.0	13.6
DC 3	238	195	55.7	153	44.3	20.2	229	60.0	27.3	13.1
DC 4	238	184	47.9	153	44.6	19.2	231	61.7	26.1	13.4
DC 5		195	55.8						27.7	13.2
DC 6		184	48.2						26.1	13.4
DC 7		195	55.2						27.3	13.2
DC 8		184	48.1						26.0	13.4
DC AVG.										
AC 1	230.	182.	49.8	147.	42.7	19.0	221.	58.2	25.4	12.7
AC 2	230.	182.	49.8	147.	42.7	19.0	220.	58.2	25.4	12.7
AC AVG.										
S.P.	+4.9	-8.4		+30.4			+8.6			
AC NOISE	.3		.04			.04				.05
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 4 HALF W SP. 2 DATE 2/4/69

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CAL 1	
RECEIVE									2.3	
RANGE	.1	.03	.03	.01	.03	.03	.01	.01	.3	
DC 1	56.0	25.0	13.1	6.81	23.4	13.3	9.05	5.13	212	
DC 2	56.3	24.6	13.4	8.18	23.9	12.7	7.84	4.87	212	
DC 3	56.0	25.1	12.8	6.62	23.7	13.7	8.65	5.25	212	
DC 4	56.3	24.6	13.4	8.09	23.9	12.6	7.62	4.90	212	
DC 5		25.1	12.9	6.70	23.4	13.4	8.95	5.20		
DC 6		24.7	13.5	8.21	24.0	12.7	7.73	4.91		
DC 7		25.0	12.9	6.72	23.7	13.7	8.82	5.25		
DC 8		24.7	13.4	8.38	23.6	12.5	7.55	4.88		
DC AVG.									207.	
AC 1	54.0	23.7	12.6	7.07	22.8	12.5	7.85	4.81	207.	
AC 2	54.0	23.7	12.6	7.07	22.8	12.5	7.85	4.81	↓	
AC AVG.										
S.P.	-23.1				+8.6					
AC NOISE				.04				.05		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 4 HALF W SP. 2 DATE 4-2-

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	3500'-4000'W	40-45W	→	45-50	→	→	50-55	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	250	190	240	250	190	250	220	250	190	250
CURRENT	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	55-60	→	→	→	60-65	→	→	→		2-3
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	220	250	190	250	220	250	190	250		190
CURRENT	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		2.0

FREQUENCIES .10 3.0
SENDER NO. 13671-S
OPERATOR HIX
RECEIVER NO. 7651-R
OPERATOR BAUERSACHS

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Hoerzon
LINE 4 HALF E SP. 2 DATE 4/2/65

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	.3	.1	.03	.03
DC 1	187	243	52.8	208	59.2	21.0	223	65.4	29.2	9.3
DC 2	189	247	50.4	207	57.2	19.0	222	62.0	25.0	12.5
DC 3	187	243	52.8	208	59.2	21.0	223	65.5	29.2	9.5
DC 4	189	247	50.4	207	57.2	19.0	222	62.0	25.1	12.7
DC 5								65.5	29.1	9.3
DC 6								61.9	25.1	12.6
DC 7								61.8	29.0	9.7
DC 8								65.6	25.2	12.3
DC AVG.										
AC 1	192.	250.	52.3	212.	58.9	20.2	227.	64.5	27.2	11.0
AC 2	192.	250.	52.3	212.	58.9	20.2	227.	64.5	27.2	11.0
AC AVG.										
S.P.	+6.3	+2.0		-1.9			+19.8			
AC NOISE	.05		.04			.08				.05
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 4 HALF E SP. 2 DATE 4/2/69

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CALC 1	
RECEIVE									3-4	
RANGE	.1	.03	.03	.01	.03	.03	.01	.01	.3	
DC 1	58.1	28.5	11.3	6.02	28.1	15.7	9.08	3.70	207	
DC 2	56.4	25.4	16.0	6.42	27.5	15.0	8.39	4.71	206	
DC 3	58.1	28.5	11.1	5.91	28.0	15.8	9.00	3.61	207	
DC 4	56.4	25.4	16.1	6.46	27.7	15.0	8.57	4.83	206	
DC 5			11.2	5.85	27.8	15.8	8.99	3.46		
DC 6			16.0	6.60	27.7	14.8	8.48	5.07		
DC 7			11.1	5.78	27.9	16.1	9.22	3.26		
DC 8			16.1	6.61	27.7	14.7	8.21	5.12		
DC AVG.										
AC 1	58.0	27.0	13.7	6.23	28.1	15.5	8.79	4.21	212.	
AC 2	58.0	27.0	13.7	6.24	28.0	15.5	8.78	4.21	212.	
AC AVG.										
S.P.	+9.5				+7.5					
AC NOISE				.03				.05		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 4 HALF E SP. 2 DATE 4-2

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	3500-3000W	3000-2500W	→	→	25-20	→	→	20-15	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	270	250	270	200	250	270	260	200	260	270
CURRENT	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL.
RECEIVE	15-10	→	→	→	10-500W	→	→	→		3-4
RANGE	Hi	→	→	→	Hi	→	→	→		HI
VOLTAGE	260	200	260	270	260	200	260	270		110
CURRENT	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		2.0

FREQUENCIES 10 3.0
SENDER NO. 13671-5
OPERATOR HIX
RECEIVER NO. 7651-R
OPERATOR BAUERSACHS

COMMENTS:
1-2 — 3.5
2-3 — 3.5
3-4 — 3.5
4-5 — 3.5

1, Voltage output from ONAN-gen, Does not come up To set Level each Time after shut down.
2, gen. OUT PUT VOLTAGE sh=key,
3. BLOWS Lots of Sender 20 Amp fuses

HEINRICHS GEOEX (MAR 69) JOB B 368-69 LINE 4 SPREAD 2 LOOKING NORTH 4/4/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

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	
238	191	560	153	443	202	229	600	273	130	DC	560	250	131	681	234	133	905	513	212	LEFT
238	190	480	153	446	192	231	617	260	136		563	246	134	818	239	127	784	487	212	SIDE
	195	557						273	131			251	128	662	237	137	865	525		
	184	479						261	134			246	134	807	239	126	762	490		
	195	558						272	132			251	129	670	234	134	895	520		
	184	482						261	134			247	135	821	240	127	773	491		
	195	552						273	132			250	129	672	237	137	882	525		
	184	481						260	134			247	134	838	238	125	755	488		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
476	381	1040	306	889	394	460	1217	533	266	DC	1123	496	265	1499	473	260	1689	1000	424	
	385	1037						533	267	SUMS		497	262	1480	476	264	1649	1012		
	379	1036						534	265			497	262	1469	476	263	1627	1015		
	379	1037						533	266			497	263	1477	473	260	1657	1010		
	379	1040						533	266			498	264	1491	474	261	1668	1011		
	379	1034						534	266			497	264	1493	477	264	1655	1016		
	379	1033						533	266			497	263	1510	475	262	1637	1013		
0.0	.2	.3	0.0	0.0	0.0	0.0	0.0	-.1	0.0	DC	0.0	-.2	.7	.7	-.4	-.8	2.1	-1.1	0.0	
	1.3	.0						-.1	.4	DEVS		0.0	-.5	-.6	.2	.8	-.3	.1		
	-.3	-.1						.1	-.4			0.0	-.5	-1.3	.2	.4	-1.7	.4		
	-.3	.0						-.1	0.0			0.0	-.1	-.8	-.4	-.8	.1	-.1		
	-.3	.3						-.1	0.0			.2	.3	.2	-.2	-.4	.8	0.0		
	-.3	-.3						.1	0.0			0.0	.3	.3	.5	.8	.0	.5		
	-.3	-.4						-.1	0.0			0.0	-.1	1.4	.0	0.0	-1.1	.2		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
238.0	190.1	51.84	153.0	44.45	19.70	230.0	60.85	26.66	13.30	DCA	56.15	2.485	13.16	7.442	23.74	13.10	8.273	5.055	212.0	
230.0	182.0	49.80	147.0	42.70	19.00	221.0	58.20	25.40	12.70	AC1	54.00	2.370	12.60	7.070	22.80	12.50	7.850	4.810	207.0	
230.0	182.0	49.80	147.0	42.70	19.00	220.0	58.20	25.40	12.70	AC2	54.00	2.370	12.60	7.070	22.80	12.50	7.850	4.810	207.0	
230.0	182.0	49.80	147.0	42.70	19.00	220.5	58.20	25.40	12.70	ACA	54.00	2.370	12.60	7.070	22.80	12.50	7.850	4.810	207.0	
84.20	67.24	73.35	54.13	62.90	69.69	81.37	86.11	94.33	94.10	RHO	79.46	8.79	93.14	92.15	84.00	92.69	102.4	100.1	.943	DC CAL
1.0	2.0	1.6	1.6	1.6	1.2	1.8	2.1	2.5	2.3	PFE	1.5	2.4	2.0	2.8	1.7	2.3	2.9	2.6	.976	AC CAL
12	29	22	30	26	18	23	24	27	24	MCF	19	27	22	30	20	25	28	26		
0.0	0.0	.1	0.0	.1	.2	0.0	.0	.1	.2	CPFE	.1	2.5	.2	.3	.1	.2	.3	.5		
1.0	2.0	1.6	1.6	1.6	1.1	1.8	2.0	2.4	2.1	CCPFE	1.5	-.1	1.8	2.4	1.6	2.1	2.6	2.2		
12	29	21	30	25	16	23	24	25	22	CCMCF	19	-13	20	27	19	23	26	22		
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	
187	243	528	208	592	210	223	654	292	93	DC	581	285	113	602	281	157	908	370	207	RIGHT
189	247	504	207	572	190	222	620	250	125		564	254	160	642	275	150	839	471	206	SIDE
							655	292	95				111	591	280	158	900	361		
							620	251	127				161	646	277	150	857	483		
							655	291	93				112	585	278	158	899	340		
							619	251	126				160	660	277	148	848	507		
							618	290	97				111	578	279	161	922	326		
							656	252	123				161	661	277	147	821	512		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
376	490	1032	415	1164	400	445	1274	542	218	DC	1145	539	273	1244	556	307	1747	841	413	
							1275	542	220	SUMS			271	1233	555	308	1739	832		
							1275	543	222				272	1237	557	308	1757	844		
							1275	542	220				273	1231	555	308	1756	823		
							1274	542	219				272	1245	555	306	1747	847		
							1237	541	223				271	1238	556	309	1770	833		
							1274	542	220				272	1239	556	308	1743	838		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	-1.0	DC	0.0	0.0	.4	.5	.1	-.2	-.2	.5	0.0	
							.5	0.0	-.1	DEVS			-.4	-.4	-.1	.1	-.7	-.6		
							.5	.2	.8				0.0	-.1	.2	.1	.3	.9		
							.5	0.0	-.1				.4	-.6	-.1	.1	.3	-1.7		
							.4	0.0	-.6				0.0	.6	-.1	-.6	-.2	1.2		
							-2.5	-.2	1.2				-.4	-.0	.1	.4	1.1	-.5		
							.4	0.0	-.1				0.0	.1	.1	.1	-.5	.1		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
188.0	245.0	51.60	207.5	58.20	20.00	222.5	63.46	27.10	11.01	DCA	57.25	26.95	13.60	6.191	27.79	15.39	8.756	4.184	206.5	
192.0	250.0	52.30	212.0	58.90	20.20	227.0	64.50	27.20	11.00	AC1	58.00	27.00	13.70	6.230	28.10	15.50	8.790	4.210	212.0	
192.0	250.0	52.30	212.0	58.90	20.20	227.0	64.50	27.20	11.00	AC2	58.00	27.00	13.70	6.240	28.00	15.50	8.780	4.210	212.0	
192.0	250.0	52.30	212.0	58.90	20.20	227.0	64.50	27.20	11.00	ACA	58.00	27.00	13.70	6.235	28.05	15.50	8.785	4.210	212.0	
68.28	88.98	74.96	75.36	84.55	72.64	80.81	92.19	98.43	80.01	RHO	83.17	97.88	98.79	78.70	100.9	111.8	111.3	85.10	.969	DC CAL
.5	.6	1.3	.5	1.4	1.6	.6	1.0	2.3	2.8	PFE	1.3	2.5	1.9	1.9	1.7	1.9	2.3	2.0	1.027	AC CAL
8	7	17	6	17	23	8	11	23	35	MCF	16	25	19	25	17	17	21	24		
0.0	0.0	.1	0.0	.0	.1	0.0	.0	.1	.2	CPFE	.1	.1	.2	.4	.1	.2	.3	.6		
.5	.6	1.2	.5	1.4	1.5	.6	1.0	2.2	2.6	CCPFE	1.3	2.4	1.7	1.5	1.6	1.8	2.1	1.5		
8	7	16	6	16	21	8	10	22	32	CCMCF	15	24	18	19	16	16	19	17		

N	65W	60	55	50	45	40	35W	30	25	20	15	10	5W	SURFACE
					1	2	3	4	5					

CCPFE

N														
1	X	X	X	X1.8	X1.6	X.5→2.0	X.6→1.0	X.5	X.6	X	X	X	X	
2	X	X	X	X1.5	X2.0	X1.6	X1.2→1.6	X1.4	X1.0	X1.3	X	X	X	
3	X	X	X1.6	X-.1	X2.4	X1.1	X1.5	X2.2	X2.4	X1.6	X	X	X	
4	X	X	X	X2.1	X1.8	X2.1	X	X2.6	X1.7	X1.8	X	X	X	
5	X	X	X	X2.6	X2.4	X	X	X1.5	X2.1	X	X	X	X	
6	X	X	X	X	X2.2	X	X	X	X1.5	X	X	X	X	

N	65W	60	55	50	45	40	35W	30	25	20	15	10	5W	SURFACE
					1	2	3	4	5					

CCMCF

N														
1	X	X	X	X23	X30	X8→29	X7→12	X6	X8	X	X	X	X	
2	X	X	X	X19	X24	X25	X16→21	X16	X10	X15	X	X	X	
3	X	X	X19	X-13	X25	X16	X21	X22	X24	X16	X	X	X	
4	X	X	X	X23	X20	X22	X	X32	X18	X16	X	X	X	
5	X	X	X	X26	X27	X	X	X19	X19	X	X	X	X	
6	X	X	X	X	X22	X	X	X	X17	X	X	X	X	

JOB B368-69 LINE 4 SPREAD 1

LOOKING North DATE 3/31/69 A= 500'

CENTER 0.0 LABEL W/E FREQ. 3.0

COUPLING Yes

31 March 1969
plp (51)

0.10

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 4 HALF W SP. 1 DATE 28/3/69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.1	.3	.1	.1	.03
DC 1	196	183	54.0	173	54.1	32.0	168	52.0	30.7	20.8
DC 2	193	188	64.1	173	56.6	27.9	169	52.6	31.6	22.0
DC 3	196	183	54.0	173	54.1	32.0	168	51.8	30.7	20.8
DC 4	193	188	64.1	173	56.6	27.9	169	53.0	31.8	22.0
DC 5								52.0		
DC 6								52.6		
DC 7								51.9		
DC 8								52.9		
DC AVG.										
AC 1	192.	190.	58.3	174.	55.9	29.6	171.	52.7	31.1	20.7
AC 2	192.	190.	58.3	174.	55.9	29.6	170.	52.7	31.1	20.7
AC AVG.										
S.P.	-11.6	+49.2		-3.6			-10.7			
AC NOISE	.12		.06			.07				.03
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 4 HALF W SP. 1 DATE 24/3/69

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CAL 1	
RECEIVE									2-3	
RANGE	.1	.03	.03	.03	.03	.03	.03	.03	"	
DC 1	45.7	22.8	19.8	11.9	25.2	16.6	13.8	11.2	208	
DC 2	47.2	25.7	16.5	15.5	24.3	15.3	12.6	12.6	208	
DC 3	45.8	22.8	19.8	11.9	25.0	16.7	13.8	11.4	208	
DC 4	47.0	25.7	16.6	15.7	24.4	15.3	12.6	12.7	208	
DC 5	45.6		19.8	11.8	25.1	16.7		11.2		
DC 6	47.4		16.5	15.5	24.2	15.4		12.7		
DC 7	45.7		19.7	11.9	25.1	16.5		11.2		
DC 8	47.6		16.6	15.7	24.4	15.3		12.7		
DC AVG.										
AC 1	46.0	24.1	18.8	13.2	24.4	15.8	12.9	11.2	212	
AC 2	46.0	24.1	18.0	13.2	24.3	15.8	12.9	11.2	212	
AC AVG.										
S.P.	-2.3									
AC NOISE				.03						
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 4 HALF W SP. 1 DATE 3-28

PAGE 1

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-500'W	S-10	→	10-15	→	→	15-20	→	→	→
RANGE	Hi	Hi'	→	Hi'	→	→	Hi	→	→	→
VOLTAGE	340	360	340	270	360	340	220	260	360	340
CURRENT	2.5	3.5	2.5	3.5	3.5	2.5	3.5	3.5	3.5	2.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	20-25	→	→	→	25-3000'W	→	→	→		2-3
RANGE	Hi	→	→	→	Hi'	→	→	→		Hi'
VOLTAGE	210	260	360	330	220	260	350	360		210
CURRENT	3.5	3.5	3.5	2.5	3.5	3.5	3.5	2.75		2.0

FREQUENCIES .10 3.0

SENDER NO. 13671-S

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSMCHS

COMMENTS:

4-5 - 2.55

3-4 - 3.5

2-3 - 3.5+

1-2 - 3.5

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 4 HALF E SP. 1 DATE 28/3/69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	1.	.3	.1	.03
DC 1	174	275	89.9	265	69.1	28.0	556	138	47.6	25.5
DC 2	174	270	78.0	267	68.0	29.8	555	143	42.6	24.2
DC 3	174	275	90.0	265	68.6	280	550	138	46.9	25.5
DC 4	174	270	77.8	267	67.8	29.8	555	143	42.6	24.5
DC 5			90.1		69.4				46.9	25.7
DC 6			77.7		67.7				42.6	24.2
DC 7			90.1		68.6				46.5	25.3
DC 8			77.2		67.6				42.7	24.3
DC AVG.										
AC 1	178.	257.	78.7	254.	64.2	27.2	525.	132.	46.7	23.3
AC 2	178.	257.	78.7	254.	64.2	27.2	525.	132.	46.7	23.3
AC AVG.										
S.P.	-8.9	+7.2		-2.5			-10.8			
AC NOISE	.07		.08			.08				.06
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 4 HALF E SP. 1 DATE 26/3/09

PAGE 40E4

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	DC 1	
RECEIVE									3-4	
RANGE	.3	.1	.03	.03	.3	.1	.03	.03		
DC 1	226	73.4	28.0	13.5	152	57.6	26.3	14.8	207	
DC 2	222	70.8	30.9	17.3	152	58.2	26.7	15.7	208	
DC 3	226	74.0	27.7	13.9	152	57.2	27.1	14.8	207	
DC 4	222	71.0	31.6	17.3	152	58.1	26.4	15.1	208	
DC 5		74.1	27.3	13.4		57.9	26.0	15.2		
DC 6		70.9	31.0	17.7		57.8	26.9	15.5		
DC 7		74.1	27.9	13.5		57.9	27.1	14.4		
DC 8		70.3	31.5	17.6		57.8	26.0	15.6		
DC AVG.										
AC 1	213	68.4	27.7	14.6	146	54.6	25.1	14.3	203	
AC 2	213	68.4	27.7	14.6	145	54.6	25.1	14.3	203	
AC AVG.										
S.P.	+16.5				-13.0					
AC NOISE				.05					.07	
POT RES.							OVER			

BEK →

26.7
26.0
26.8
27.2
27.3
26.1
27.2
26.4

PAGE 2

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 4 HALF E SP. / DATE 3-28

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-500'E	5-10E	→	10-15	→	→	15-20	→	→	→
RANGE	HI	HI	→	HI	→	→	HI	→	→	→
VOLTAGE	210	260	210	340	260	210	320	340	260	210
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	2.5	3.5	3.5	3.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL.
RECEIVE	20-25	→	→	→	25-3000'E	→	→	→		3-4
RANGE	HI	→	→	→	HI	→	→	→		HI
VOLTAGE	320	340	260	210	320	340	260	210		280
CURRENT	2.5	3.5	3.5	3.5	2.5	3.5	3.5	3.5		2.0

FREQUENCIES 10 3.0
SENDER NO. 1362I-5
OPERATOR HIX
RECEIVER NO. 7651-R
OPERATOR BAUERSACH'S

COMMENTS:

HEINRICHS GEOEX (MAR 69) JOB B368-69 LINE 4 SPREAD I LOOKING NORTH 3/31/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

2.500	3.500	2.500	3.500	3.500	2.500	3.500	3.500	3.500	2.500	I	3.500	3.500	3.500	2.500	3.500	3.500	3.500	2.750	2.000		
196	183	540	173	541	320	168	520	307	208	DC	457	228	198	119	252	166	138	112	208	LEFT	
193	188	641	173	566	279	169	526	318	220		472	257	165	155	243	153	126	126	208	SIDE	
							518				458	228	198	119	250	167		114			
							530				470	257	166	157	244	153		127			
							520				456		198	118	251	167		112			
							526				474		165	155	242	154		127			
							519				457		197	119	251	165		112			
							529				476		166	157	244	153		127			
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18			
389	371	1181	346	1107	599	337	1046	625	428	DC	929	485	363	274	495	319	264	238	416		
							1044			SUMS	930	485	363	274	493	320		240			
							1048				928	485	364	276	494	320		241			
							1050				926		364	275	495	320		239			
							1046				930		363	273	493	321		239			
							1045				931		362	274	493	319		239			
							1048				933		363	276	495	318		239			
0.0	0.0	0.0	0.0	0.0	0.0	0.0	-.1	0.0	0.0	DC	-.1	0.0	-.0	-.2	.2	-.2	0.0	-.5	0.0		
							-.3			DEVS	.0	0.0	-.0	-.2	-.2	.1		.3			
							.1				-.2	0.0	.2	.5	0.0	.1		.7			
							.3				-.4		.2	.2	.2	.1		-.1			
							-.1				.0		-.0	-.6	-.2	.4		-.1			
							-.2				.2		-.3	-.2	-.2	-.2		-.1			
							.1				.4		-.0	.5	.2	-.5		-.1			
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6			
194.5	185.5	59.05	173.0	55.35	29.95	168.5	52.34	31.25	21.40	DCA	46.48	24.25	18.16	13.73	24.70	15.98	13.20	11.96	208.0		
192.0	190.0	58.30	174.0	55.90	29.60	171.0	52.70	31.10	20.70	AC1	46.00	24.10	18.00	13.20	24.40	15.80	12.90	11.20	212.0		
192.0	190.0	58.30	174.0	55.90	29.60	170.0	52.70	31.10	20.70	AC2	46.00	24.10	18.00	13.20	24.30	15.80	12.90	11.20	212.0		
192.0	190.0	58.30	174.0	55.90	29.60	170.5	52.70	31.10	20.70	ACA	46.00	24.10	18.00	13.20	24.35	15.80	12.90	11.20	212.0		
112.2	76.44	136.3	71.29	91.24	172.8	69.44	86.27	128.8	246.9	RHO	76.61	99.93	149.6	277.2	101.8	131.7	190.4	351.4	.962	DC CAL	
3.3	-.5	3.2	1.3	.9	3.1	.7	1.2	2.4	5.4	PFE	3.0	2.6	2.8	6.0	3.4	3.1	4.3	8.9	1.019	AC CAL	
29	-6	24	19	10	18	10	14	19	22	MCF	39	26	19	22	33	23	23	25			

3.500	3.500	3.500	3.500	3.500	3.500	2.500	3.500	3.500	3.500	I	2.500	3.500	3.500	3.500	2.500	3.500	3.500	3.500	2.000		
174	275	899	265	691	280	550	138	470	255	DC	226	734	280	135	152	576	263	148	207	RIGHT	
174	270	780	267	680	298	555	143	426	242		222	708	309	173	152	582	267	157	208	SIDE	
		900		686				469	255			740	277	139		572	271	148			
		778		678				426	245			710	316	173		581	264	151			
		901		694				469	257			741	273	134		579	260	152			
		777		677				426	242			709	310	177		578	269	155			
		901		686				465	253			741	279	135		579	271	144			
		772		676				427	243			703	315	176		578	260	156			
																	267				
																	260				
																	268				
																	272				
																	273				
																	261				
																	272				
																	264				
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18			
348	545	1679	532	1371	578	1105	281	896	497	DC	448	1442	589	308	304	1158	530	305	415		
		1680		1366				895	497	SUMS		1448	586	312		1154	538	305			
		1678		1364				895	500			1450	593	312		1153	535	299			
		1679		1372				895	502			1451	589	307		1160	524	303			
		1678		1371				895	499			1450	583	311		1157	529	307			
		1678		1363				891	495			1450	589	312		1157	540	299			
		1673		1362				892	496			1444	594	311		1157	531	300			
																	527				
																	527				
																	528				
																	540				
																	545				
																	534				
																	533				
																	536				
0.0	0.0	.1	0.0	.3	0.0	0.0	0.0	.2	-.2	DC	0.0	-.4	0.0	-.8	0.0	.1	-.6	.8	0.0		
		.1		-.1				.1	-.2	DEVS		.0	-.5	.5		-.2	.9	.8			
		.0		-.2				.1	.4			.1	.7	.5		-.3	.4	-1.2			
		.1		.4				.1	.8			.2	0.0	-1.1		.3	-1.7	.1			
		.0		.3				.1	.2			.1	-1.0	.2		.0	-.8	1.5			
		.0		-.3				-.4	-.6			.1	0.0	.5		.0	1.3	-1.2			
		-.3		-.4				-.2	-.4			-.3	.8	.2		.0	-.4	-.8			
																	-1.2				
																	-1.2				
																	-1.0				
																	1.3				
																	2.2				
																	.2				
																	-.0				
																	.5				
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6			
174.0	272.5	83.89	266.0	68.35	28.90	552.5	140.5	44.71	24.90	DCA	224.0	72.39	29.45	15.52	152.0	57.83	26.66	15.13	207.5		
178.0	257.0	78.70	254.0	64.20	27.20	525.0	132.0	46.70	23.30	AC1	213.0	68.40	27.70	14.60	146.0	54.60	25.10	14.30	203.0		
178.0	257.0	78.70	254.0	64.20	27.20	525.0	132.0	46.70	23.30	AC2	213.0	68.40	27.70	14.60	145.0	54.60	25.10	14.30	203.0		
178.0	257.0	78.70	254.0	64.20	27.20	525.0	132.0	46.70	23.30	ACA	213.0	68.40	27.70	14.60	145.5	54.60	25.10	14.30	203.0		
71.88	112.6	138.6	109.9	112.9	119.4	319.5	232.2	184.7	205.7	RHO	518.2	299.0	243.3	224.4	879.0	477.8	385.4	350.0	.964	DC CAL	
-4.4	3.7	4.3	2.5	4.2	3.9	3.0	4.1	-6.3	4.5	PFE	2.9	3.5	4.0	4.0	2.2	3.6	3.9	3.5	.978	AC CAL	
-61	33	31	22	37	33	9	18	-34	22	MCF	6	12	16	18	3	8	10	10			

JOB B368-69 LINE 3 SPREAD 3

LOOKING North DATE 3/28/69 A= 500'

CENTER -70.0 LABEL W/W FREQ. 8.0

COUPLING Yes (51) 0.1

28 Mar 69
RC

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF W SP. 3 DATE 27/3/69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	.3	.1	.03	.03
DC 1	158	142	48.2	146	44.6	27.4	193	34.6	15.8	11.5
DC 2	157	139	42.8	144	44.2	25.7	193	34.1	16.4	11.3
DC 3	158	142	48.2	146	44.7	27.4	193	34.6	15.2	11.8
DC 4	157	139	42.8	144	44.4	25.7	193	33.9	16.0	10.8
DC 5					44.2			34.8	15.2	11.7
DC 6					44.7			33.9	16.7	11.3
DC 7					44.1			34.3	15.3	11.4
DC 8					44.7			34.1	16.7	11.0
DC AVG.										
AC 1	143.	126.	42.0	132.	40.0	23.7	170.	31.4	14.6	10.4
AC 2	143.	126.	42.0	132.	40.0	23.7	170.	31.4	14.6	10.4
AC AVG.										
S.P.	+.04	+1.3		-4.6						
AC NOISE	.04		.06			.03				.07
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF W SP. 3 DATE 27/3/69

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CAL 1	
RECEIVE									2-3	
RANGE	.1	.03	.01	.01	.03	.01	.01	.01		
DC 1	52.7	14.7	9.51	7.78	19.5	7.45	5.20	4.85	207	
DC 2	51.7	16.3	9.27	7.61	19.6	7.37	4.76	3.85	207	
DC 3	52.7	14.7	9.56	7.76	19.5	7.47	5.26	4.93	207	
DC 4	51.7	16.4	9.30	7.70	19.6	7.28	4.78	3.82	207	
DC 5		14.7	9.59	7.68		7.37	5.27	5.08		
DC 6		16.3	9.28	7.63		7.31	4.66	3.67		
DC 7		14.7	9.49	7.65		7.35	5.32	4.90		
DC 8		16.3	9.27	7.63		7.28	4.65	3.86		
DC AVG.										
AC 1	47.3	14.3	8.59	7.01	17.3	6.65	4.39	3.87	206.	
AC 2	47.1	14.3	8.59	7.00	17.3	6.65	4.39	3.86	206.	
AC AVG.										
S.P.	-1.2				+13.1					
AC NOISE				.05				.03	.	
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 3 HALF W SP. 3 DATE 3-27

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	7000-7500 W	75-80	→	80-85	W	→	85-90	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	280	280	270	290	280	270	300	290	280	270
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	90-95	→	→	→	95-10,000 W	→	→	→		2-3
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	300	290	280	270	300	280	280	260		230
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0

FREQUENCIES 10 3.0

SENDER NO. 13671-S

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSACHS

COMMENTS:

1. BOLT MISSING IN PART OF CRANKCASE. (1/4 x 20) - SAME SIDE AS CARB.

2. BOLT HOLE STRIPPED IN ONE END OF HANDLE OPPOSITE SIDE FROM SPARK PLUG.

3. TOP HOUSING COVERING FAN CRACKED THROUGH AROUND TWO BOLTS. JUST ABOVE SPARK PLUG.

4. GAS TANK COULD HAVE SMALL LEAK IN IT.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF E SP. 3 DATE 27/3/69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	.3	.1	.03	.01
DC 1	143	157	46.6	146.	42.6	17.4	280	52.0	19.2	10.0
DC 2	143	156	44.8	146	42.4	17.8	282	52.0	19.5	9.58
DC 3	143	157	46.6	146	42.6	17.7 17.7	280	52.0	19.2	10.0
DC 4	143	156	44.8	146	42.4	17.8 17.8	282	52.0	19.5	9.50
DC 5						17.6 17.6				9.98
DC 6						17.6 17.9				9.48
DC 7						17.8 17.7				10.0
DC 8						17.8 17.8				9.57
DC AVG.										
AC 1	132.	147.	43.0	141.	38.9	16.3	270.	49.5	17.6	8.88
AC 2	132.	147.	43.0	141.	38.9	16.3	270.	49.5	17.6	8.88
AC AVG.										
S.P.	-1.2	-2.9		-6.9			-5.7			
AC NOISE	.05		.04			.03				.06
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF E SP. 3 DATE 27/3/69

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAL 1	
RECEIVE									3-4	
RANGE	.1	.03	.01	.01	.03	.01	.01	.003		
DC 1	65.1	22.3	9.38	4.87	18.1	6.81	3.56	2.40	208	
DC 2	65.2	21.9	8.78	5.61	18.5	6.63	3.60	2.20	207	
DC 3	65.1	22.2	9.39	4.77	18.2	6.88	3.52	2.38	208	
DC 4	65.2	21.9	8.80	5.60	18.4	6.57	3.78	2.26	207	
DC 5		22.3	9.30	4.78	18.3	6.89	3.38	2.31		
DC 6		21.9	8.78	5.62	18.3	6.63	3.81	2.19		
DC 7		22.3	9.42	4.81	18.3	6.78	3.45	2.45		
DC 8		21.9	8.70	5.60	18.4	6.66	3.75	2.16		
DC AVG.										
AC 1	62.2	20.6	8.17	4.74	16.8	6.85	3.18	2.05	212.	
AC 2	62.1	20.6	8.17	4.73	16.8	6.87	3.18	2.05	212.	
AC AVG.										
S.P.	+3.1				-15.2	?				
AC NOISE				.04				.03		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 8 HALF E SP. 3 DATE 3-27

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	7000-6500'W	6500'-6000'	W →	60-55	→	→	55-50	→	→	→
RANGE	Hi'	Hi'	→	Hi'	→	→	Hi'	→	→	→
VOLTAGE	300	300	300	300	300	310	280	300	300	310
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL.
RECEIVE	50-45	→	→	→	45-4000'-W	→	→	→		3-4
RANGE	Hi'	→	→	→	Hi'	→	→	→		Hi'
VOLTAGE	280	290	300	310	280	290	300	310		260
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0

FREQUENCIES 1.0 3.0
SENDER NO. 13671-S
OPERATOR HIX
RECEIVER NO. 7651-R
OPERATOR BAUERSACHS

COMMENTS:
1-2 — Hi' — 3.5
2-3 — " — "
3-4 — " — "
4-5 — " — "

HEINRICHS GEOEX (MAR 69) JOB B368-69 LINE 3 SPREAD 3 LOOKING NORTH 3/28/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	I	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	2.000	
158	142	482	146	446	274	193	346	158	115	DC	527	147	951	778	195	745	520	485	207	LEFT
157	139	428	144	442	257	193	341	164	113		517	163	927	761	196	737	479	385	207	SIDE
				447			346	152	118			147	956	776		747	526	493		
				444			339	160	108			164	930	770		728	478	382		
				442			348	152	117			147	959	768		737	527	508		
				447			339	167	113			163	928	763		731	466	367		
				441			343	153	114			147	927	765		735	532	490		
				447			341	167	110			163		763		728	465	386		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
315	281	910	290	888	531	386	687	322	228	DC	1044	310	1878	1539	391	1482	999	870	414	
				889			687	316	231	SUMS		310	1883	1537		1484	1005	878		
				891			685	312	226			311	1886	1546		1475	1004	875		
				886			687	312	225			311	1889	1538		1465	1005	890		
				889			687	319	230			310	1887	1531		1468	993	875		
				888			682	320	227			310	1855	1528		1466	998	857		
				888			684	320	224			310		1528		1463	997	876		
0.0	0.0	0.0	0.0	-.0	0.0	0.0	.2	1.5	.3	DC	0.0	-.1	-.1	.2	0.0	.7	-.1	-.5	0.0	
				.1			.2	-.4	1.6	DEVS		-.1	.2	.1		.8	.5	.4		
				.3			-.1	-1.7	-.6			.2	.3	.7		.2	.4	.1		
				-.3			.2	-1.7	-1.0			.2	.5	.2		-.5	.5	1.8		
				.1			.2	.5	1.2			-.1	.4	-.3		-.3	-.7	.1		
				-.0			-.5	.9	-.1			-.1	-1.3	-.5		-.4	-.2	-2.0		
				-.0			-.2	.9	-1.4			-.1		-.5		-.6	-.3	.2		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
157.5	140.5	45.50	145.0	44.42	26.55	193.0	34.28	15.86	11.36	DCA	52.20	15.51	9.398	7.676	19.55	7.359	5.001	4.372	207.0	
143.0	126.0	42.00	132.0	40.00	23.70	170.0	31.40	14.60	10.40	AC1	47.30	14.30	8.590	7.010	17.30	6.650	4.390	3.870	206.0	
143.0	126.0	42.00	132.0	40.00	23.70	170.0	31.40	14.60	10.40	AC2	47.10	14.30	8.590	7.000	17.30	6.650	4.390	3.860	206.0	
143.0	126.0	42.00	132.0	40.00	23.70	170.0	31.40	14.60	10.40	ACA	47.20	14.30	8.590	7.005	17.30	6.650	4.390	3.865	206.0	
65.22	58.18	75.36	60.04	73.58	109.9	79.92	56.78	65.69	94.11	RHO	86.46	64.24	77.83	111.3	80.95	60.95	72.47	101.4	.966	DC CAL
9.6	11.0	7.8	9.3	10.5	11.5	13.0	8.6	8.1	8.7	PFE	10.1	8.0	8.9	9.1	12.5	10.1	13.4	12.6	.995	AC CAL
147	189	104	155	143	104	162	152	124	93	MCF	116	124	114	81	154	166	184	124		
0.0	0.0	.1	0.0	.1	.1	0.0	.1	.2	.2	CPFE	.0	.2	.3	.3	.1	.4	.5	.4		
9.6	11.0	7.8	9.3	10.5	11.4	13.0	8.6	8.0	8.6	CCPFE	10.0	7.8	8.6	8.8	12.3	9.8	12.9	12.1		
147	189	103	155	142	104	162	151	121	91	CCMCF	116	121	111	79	152	160	178	120		
3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	I	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	2.000	
143	157	466	146	426	174	280	520	192	1000	DC	651	223	938	487	181	681	350	240	208	RIGHT
143	156	448	146	424	178	282	520	195	958		652	219	878	561	185	663	380	220	207	SIDE
					177				1000			222	939	477	182	688	352	238		
					178				950			219	880	560	184	657	378	226		
					176				998			223	930	478	183	689	338	237		
					176				948			219	878	562	183	663	381	219		
					178				1000			223	942	481	183	678	345	245		
					178				957			219	870	560	184	666	375	216		
					177															
					178															
					176															
					179															
					177															
					178															
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
286	313	914	292	850	352	562	1040	387	1958	DC	1303	442	1816	1048	366	1344	730	460	415	
					355				1958	SUMS		441	1817	1038	367	1351	732	458		
					355				1950			441	1819	1037	366	1345	730	464		
					354				1948			442	1810	1038	367	1346	716	463		
					352				1946			442	1808	1040	366	1352	719	456		
					354				1948			442	1820	1043	366	1341	726	464		
					356				1957			442	1812	1041	367	1344	720	461		
					355															
					355															
					354															
					355															
					356															
					355															
0.0	0.0	0.0	0.0	0.0	-.7	0.0	0.0	0.0	.3	DC	0.0	.1	.1	.7	-.1	-.2	.7	-.2	0.0	
					.2				.3	DEVS		-.2	.1	-.3	.2	.4	1.0	-.6		
					.2				-.1			-.2	.2	-.4	-.1	-.1	.7	.7		
					-.1				-.2			.1	-.3	-.3	.2	-.0	-1.2	.5		
					-.7				-.3			.1	-.4	-.1	-.1	.4	-.8	-1.1		
					-.1				-.2			.1	.3	.2	-.1	-.4	.2	.7		
					.4				.2			.1	-.1	.0	.2	-.2	-.7	.0		
					.2															
					.2															
					-.1															
					.2															
					.4															
					.2															
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
143.0	156.5	45.70	146.0	42.50	17.72	281.0	52.00	19.35	9.761	DCA	65.15	22.09	9.073	5.204	18.32	6.731	3.624	2.304	207.5	
132.0	147.0	43.00	141.0	38.90	16.30	270.0	49.50	17.60	8.880	AC1	62.20	20.60	8.170	4.740	16.80	6.850	3.180	2.050	212.0	
132.0	147.0	43.00	141.0	38.90	16.30	270.0	49.50	17.60	8.880	AC2	62.10	20.60	8.170	4.730	16.80	6.870	3.180	2.050	212.0	
132.0	147.0	43.00	141.0	38.90	16.30	270.0	49.50	17.60	8.880	ACA	62.15	20.60	8.170	4.735	16.80	6.860	3.180	2.050	212.0	
59.07	64.65	75.51	60.31	70.22	73.21	116.1	85.92	79.93	80.64	RHO	107.6	91.23	74.96	75.23	75.68	55.61	52.39	53.30	.964	DC CAL
10.7	8.8	8.6	5.8	11.6	11.1	6.3	7.3	12.3	12.3	PFE	7.1	9.5	13.5	12.3	11.4	.2	16.4	14.8	1.022	AC CAL
181	136	114	96	166	151	55	85	154	153	MCF	66	105	180	163	151	4	313	278		
0.0	0.0	.1	0.0	.1	.1	0.0	.0	.1	.2	CPFE	.0	.1	.3	.4	.1	.4	.7	1.1		
10.7	8.8	8.5	5.8	11.6	10.9	6.3	7.3	12.2	12.1	CCPFE	7.1	9.4	13.2	11.8	11.3	-.2	15.7	13.8		
181	136	113	96	165	150	55	85	153	150	CCMCF	66	103	176	157	149	-3	300	258		

	1	2	3	4	5						
100W	95	90	85	80	75	70W	65	60	55	50	45	40W

SURFACE

CCPFE

N															
1	X	X	X	X13.0	X9.3	X10.7 → 11.0	X8.8 → 9.6	X5.8	X6.3	X	X	X	X		
2	X	X	X	X10.0	X8.6	X10.5	X8.5 → 7.8	X11.6	X7.3	X7.1	X	X	X		
3	X	X	X	X12.3	X7.8	X8.0	X11.4	X10.9	X12.2	X9.4	X11.3	X	X	X	
4	X	X	X	X9.8	X8.6	X8.6	X	X12.1	X13.2	X-.2	X	X	X		
5	X	X	X	X12.9	X8.8	X	X	X11.8	X15.7	X	X	X	X		
6	X	X	X	X	X12.1	X	X	X	X13.8	X	X	X	X		

	1	2	3	4	5						
100W	95	90	85	80	75	70W	65	60	55	50	45	40W

SURFACE

CCMCF

N															
1	X	X	X	X162	X155	X181 → 189	X136 → 147	X96	X55	X	X	X	X		
2	X	X	X	X116	X151	X142	X113 → 103	X165	X85	X66	X	X	X		
3	X	X	X	X152	X121	X121	X104	X150	X153	X103	X149	X	X	X	
4	X	X	X	X160	X111	X91	X	X150	X176	X-3	X	X	X		
5	X	X	X	X178	X79	X	X	X157	X300	X	X	X	X		
6	X	X	X	X	X120	X	X	X	X258	X	X	X	X		

JOB B368-69 LINE 3 SPREAD 2

LOOKING North DATE 3/27/69 A= 500'

CENTER -35.0 LABEL W/W FREQ 3.0

COUPLING Yes (51) 0.1

27 MAY 1969

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF W SP. 2 DATE 26/3/69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	.1	.03	.3	.1	.03	.3	.1	.03	.01
DC 1	111.	94.4	20.9	126	31.0	11.6	118	44.5	17.2	9.98
DC 2	112	92.9	25.6	127	30.8	12.0	119	47.0	14.0	9.85
DC 3	111	94.6	26.9	126	31.0	11.6	118	44.5	17.2	9.98
DC 4	112	92.7	25.8	127	30.8	12.0	119	47.1	14.0	9.85
DC 5		95.0	20.6					44.5		
DC 6		92.5	25.8					47.1		
DC 7		95.0	20.7							
DC 8		92.4	25.9							
DC AVG.										
AC 1	100.	86.1	20.7	118.	29.0	10.4	111.	42.0	14.2	8.63
AC 2	100.	86.1	20.7	118.	29.0	10.4	111.	42.0	14.2	8.63
AC AVG.										
S.P.	-8.9	+10.4		-.8			+3.9			
AC NOISE	.06		.05			.04				.04
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF W SP. 2 DATE 26/3/65

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CAL 1	
RECEIVE									2AMP	
RANGE	.1	.03	.01	.01	.03	.03	.01	.01	2-3	
DC 1	35.0	21.4	9.08	6.02	16.2	12.8	5.34	4.65	207	
DC 2	35.2	21.1	8.58	6.18	15.3	11.8	6.65	4,90	205	
DC 3	35.1	21.4	9.01	6.07	16.2	12.8	5.10	4.65	207	
DC 4	35.1	21.2	8.63	6.17	15.3	11.8	6.62	4.78	205	
DC 5	35.1	21.3	8.91	5.98			5.21	4.58		
DC 6	35.1	21.2	8.88	6.30			6.75	5.32		
DC 7		21.3	8.70	5.98			5.21	4.40		
DC 8		21.2	8.91	6.30			6.48	4.65		
DC AVG.										
AC 1	32.5	19.4	8.01	5.35	14.4	11.2	5.40	4.20	212.	
AC 2	32.4	19.4	8.01	5.35	14.3	11.2	5.40	4.19	212.	
AC AVG.										
S.P.	+7.5									
AC NOISE				.04				.06	.	
POT RES.							OVER			

BREAK	5.05	5.10
	6.84	4.47
	5.13	5.08
	6.88	4.40
	4.95	5.08
	6.72	4.45
	5.18	4.95
	7.05	4.58
	4.80	5.22
	7.15	4.45
	3-4	4-5

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 3 HALF W SP. 2 DATE 3-26

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	3500'-4000'W	40-45W	→	45-50	→	→	50-55	→	→	→
RANGE	Hi'	Hi'	→	Hi'	→	→	Hi'	→	→	→
VOLTAGE	300	330	300	390	340	300	380	390	330	380
CURRENT	2.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	3.0	2.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	55-60	→	→	→	60-65	→	→	→		2-3
RANGE	Hi'	→	→	→	Hi'	→	→	→		Hi'
VOLTAGE	380	390	330	380	380	390	330	380		350
CURRENT	3.0	3.0	3.0	2.5	3.0	3.0	3.0	2.5		2.0

FREQUENCIES 1.0 3.0

SENDER NO. 13671-5

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSACHS

COMMENTS:

4-5 — Hi' — 3.0

3-4 — " — 3.0

2-3 — " — 3.0

1-2 — " — 2.5

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF ~~E~~ SP. 2 DATE 25/3/85

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.1	.3	.1	.3	.1	.03	.3	.1	.03	.01
DC 1	96.0	167	33.8	123	31.8	9.4	115	36.2	15.4	6.38
DC 2	95.0	165	34.0	122	30.8	10.4	116	36.6	16.6	6.40
DC 3	96.0	167	33.8	123	31.9	9.4	115	36.4	15.4	6.50 | 6.27
DC 4	95.0	165	34.0	122	30.7	10.2	116	36.5	16.4	6.48 | 6.41
DC 5					31.9	9.6		36.6	15.6	6.33 | 6.46
DC 6					30.7	10.1		36.3	16.2	6.38 | 6.47
DC 7						9.7		36.8	15.8	6.58 | 6.44
DC 8						10.2		36.1	15.8	6.22 | 6.29
DC AVG.										
AC 1	87.1	146.	29.9	106.	27.4	8.6	105.	33.4	14.3	5.77
AC 2	87.1	146.	29.9	107.	27.4	8.6	104.	33.4	143	5.77
AC AVG.										
S.P.	-14.4	+22.6		+26.6			-1.2			
AC NOISE	.20		.06			.05				.06
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF E SP. 2 DATE 25/3/65

SEND	4-5	3-4	2-3		1-2	4-5	3-4	2-3	1-2	CAL.	
RECEIVE										3-4	
RANGE	.03	.03	.01		.01	.03	.01	.01	.003		
DC 1	24.1	14.5	7.35		3.30	13.8	7.90	5.41	2.62	2.96	207
DC 2	24.8	12.1	7.11		3.18	12.6	9.70	4.90	2.31	2.24	207
DC 3	23.6	14.3	7.25	7.2	3.28	3.6	13.8	8.18	5.17	2.68	2.97	207
DC 4	25.0	12.2	6.98	7.00	3.17	3.18	12.6	9.86	4.82	2.51	1.92	207
DC 5	23.5	14.3	7.40	7.21	3.17	3.06		7.80	5.58	2.88	3.14	
DC 6	25.2	12.2	6.93	7.07	3.42	3.22		10.00	4.98	1.95	1.97	
DC 7	23.5		7.38	7.22	3.25	3.08		9.65	5.30	2.75	3.04	
DC 8	25.2		7.00	7.08	2.78	3.38		9.96	5.18	3.08	2.25	
DC AVG.												
AC 1	21.9	12.3	6.62		2.94	12.0	8.39	4.90	2.37	211	21F
AC 2	21.9	12.3	6.62		2.95	12.6	8.39	4.90	2.37	211	
AC AVG.											
S.P.	+13.1					+1.9					
AC NOISE					.04				.07		
POT RES.											

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 3 HALF E SP. 2 DATE 3-25

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	3500'-3000'W	30-25W	→	25-20	→	→	20-15	→	→	→
RANGE	HI	HI	→	HI	→	→	HI	→	→	→
VOLTAGE	380	390	380	330	390	380	300	330	390	380
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL.
RECEIVE	15-10W	→	→	→	1000'-500'W	→	→	→		3-4
RANGE	HI	→	→	→	HI	→	→	→		HI
VOLTAGE	300	330	390	380	300	330	390	380		270
CURRENT	2.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0		2.0

FREQUENCIES 1.0 3.0
SENDER NO. 13671-S
OPERATOR HIX
RECEIVER NO. 7651 R
OPERATOR BAUERSACHS

COMMENTS:
1-2 — 3.0 HI
2-3 — 3.0 HI
3-4 — 3.0 — HI
4-5 — 2.5 — HI

HEINRICHS GEOEX (MAR 69) JOB B368-69 LINE 3 SPREAD 2 LOOKING NORTH 3/27/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

2.000	3.000	2.000	3.000	3.000	2.000	3.000	3.000	3.000	2.500	I	3.000	3.000	3.000	2.500	3.000	3.000	3.000	2.500	2.000		
111	944	209	126	310	116	118	445	172	998	DC	350	241	908	602	162	128	534	465	207	LEFT	
112	929	256	127	308	120	119	470	140	985		352	211	858	618	153	118	665	490	205	SIDE	
	946	209					445				351	214	901	607			510	465			
	927	258					471				351	212	863	617			662	478			
	950	206					445				351	213	891	598			521	458			
	925	258					471				351	212	888	630			675	532			
	950	207										213	870	598			521	440			
	924	259										212	891	639			648	465			
																	/	/			
																	508	510			
																	684	447			
																	513	508			
																	688	440			
																	495	508			
																	672	445			
																	518	495			
																	705	458			
																	480	522			
																	715	445			

1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
223	1873	465	253	618	236	237	915	312	1983	DC	702	452	1766	1220	315	246	1199	955	412	
	1875	465					915			SUMS	703	425	1759	1225			1175	955		
	1873	467					916				702	426	1764	1224			1172	943		
	1877	464					916				702	425	1754	1215			1183	936		
	1875	464					916				702	425	1779	1228			1196	990		
	1875	465										425	1758	1228			1196	972		
	1874	466										425	1761	1237			1169	905		
																	1192	957		
																	1197	955		
																	1201	948		
																	1183	948		
																	1167	953		
																	1190	940		
																	1223	953		
																	1185	980		
																	1195	967		

0.0	-.1	-.0	0.0	0.0	0.0	0.0	-.1	0.0	0.0	DC	-.0	5.4	.2	-.4	0.0	0.0	.8	.2	0.0
	.0	-.0					-.1			DEVS	.1	-.9	-.2	-.0			-1.2	.2	
	-.1	.4					.0				-.0	-.7	.1	-.1			-1.4	-1.1	
	.1	-.2					.0				-.0	-.9	-.5	-.8			-.5	-1.8	
	.0	.2					.0				-.0	-.9	.9	.2			.6	3.8	
	.0	-.0										-.9	-.3	.2			.6	1.9	
	-.0	.2										-.9	-.1	1.0			-1.7	-5.1	
																	.3	.4	
																	.7	.2	
																	1.0	-.6	
																	-.5	-.6	
																	-1.8	-.1	
																	.1	-1.4	
																	2.9	-.1	
																	-.3	2.8	
																	.5	1.4	

1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
111.5	93.73	23.26	120.5	30.90	11.80	118.5	45.78	15.60	9.915	DCA	35.11	21.45	8.815	6.126	15.75	12.30	5.945	4.768	206.0	
100.0	86.10	20.70	118.0	29.00	10.40	111.0	42.00	14.20	8.630	AC1	32.50	19.40	8.010	5.350	14.40	11.20	5.400	4.200	212.0	
100.0	86.10	20.70	118.0	29.00	10.40	111.0	42.00	14.20	8.630	AC2	32.40	19.40	8.010	5.350	14.30	11.20	5.400	.419	212.0	
100.0	86.10	20.70	118.0	29.00	10.40	111.0	42.00	14.20	8.630	ACA	32.45	19.40	8.010	5.350	14.35	11.20	5.400	2.309	212.0	
81.19	45.50	67.74	61.41	60.00	85.92	57.52	88.89	75.73	115.5	RHO	68.17	104.1	85.58	124.9	76.46	119.4	101.0	155.5	.971	DC CAL
14.7	12.0	15.6	10.3	9.7	16.8	9.9	12.2	13.1	18.2	PFE	11.3	13.8	13.3	17.8	13.0	13.0	13.3	112.5	1.029	AC CAL
182	264	231	168	161	195	172	137	172	158	MCF	166	132	155	143	169	109	132	123		

3.000	3.000	3.000	3.000	3.000	3.000	2.000	3.000	3.000	3.000	I	2.000	3.000	3.000	3.000	2.000	3.000	3.000	3.000	2.000	
960	167	338	123	318	94	115	362	154	638	DC	241	145	739	330	138	790	541	262	207	RIGHT
950	165	340	122	308	104	116	366	160	640		248	121	711	318	126	970	490	231	207	SIDE
				319	94		364	154	650		236	143	725	328		818	577	268		
				307	102		365	164	648		250	122	698	317		988	482	251		
				319	96		366	156	633		235	143	740	317		780	558	288		
				307	101		363	162	638		252	122	693	342		1000	498	195		
					97		368	158	658		235		738	325		765	530	275		
					102		361	158	622		252		700	278		998	518	308		
									627				722	360				290		
									641				700	318				224		
									640				721	306				297		
									647				707	322				192		
									644				722	308				314		
									629				708	338				197		
																		304		
																		225		

1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
1910	332	678	245	626	198	231	728	320	1278	DC	489	266	1446	648	264	1760	1031	493	414	
				627	198		730	320	1290	SUMS	484	264	1436	646		1788	1067	499		
				626	196		729	318	1298		486	265	1423	645		1806	1059	519		
				626	198		731	320	1281		485	265	1438	634		1768	1040	539		
				626	197		729	318	1271		487	265	1433	659		1780	1056	483		
					198		731	320	1296		487		1431	667		1765	1028	470		
					199		729	316	1280		487		1438	603		1763	1048	583		
									1249				1422	638				598		
									1268				1422	678				514		
									1281				1421	624				521		
									1287				1428	628				489		
									1291				1429	630				506		
									1273				1430	646				511		
																		501		
																		529		

0.0	0.0	0.0	0.0	-.0	.1	0.0	-.2	.4	-.2	DC	.5	.4	1.1	.9	0.0	-.9	-1.5	-4.6	0.0	
				.1	.1		.1	.4	.8	DEVS	-.5	-.4	.4	.6		.7	1.9	-3.5		
				-.0	-.9		-.1	-.3	1.4		-.1	0.0	-.5	.5		1.7	1.1	.4		
				-.0	.1		.2	.4	.1		-.3	0.0	.5	-1.2		-.4	-.7	4.3		
				-.0	-.4		-.1	-.3	-.7		.1	0.0	.2	2.6		.2	.9	-6.6		
					.1		.2	.4	1.2		.1		.0	3.9		-.6	-1.8	-9.1		
					.7		-.1	-.9	-.0				.5	-6.1		-.7	.1	12.8		
									-2.4				-.6	-.6				15.7		
									-1.0				-.6	5.6				-.6		
									.1				-.7	-2.8				.8		
									.5				-.2	2.2				-5.4		
									.6				-.1	-1.9				-2.1		
									-.6				-.0	.6				-1.2		
																		-3.1		
																		2.3		

1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
95.50	166.0	33.90	122.5	31.31	9.886	115.5	36.48	15.94	6.401	DCA	24.32	13.25	7.153	3.210	13.20	8.879	5.235	2.585	207.0	
87.10	146.0	29.90	108.0	27.40	8.600	105.0	33.40	14.30	5.770	AC1	21.90	12.30	6.620	2.940	12.00	8.390	4.900	2.370	211.0	
87.10	146.0	29.90	107.0	27.40	8.600	104.0	33.40	14.30	5.770	AC2	21.90	12.30	6.620	2.950	12.00	8.390	4.900	2.370	211.0	
87.10	146.0	29.90	107.5	27.40	8.600	104.5	33.40	14.30	5.770	ACA	21.90	12.30	6.620	2.945	12.00	8.390	4.900	2.370	211.0	
46.14	80.19	65.51	59.18	60.50	47.76	83.70	70.49	77.02	61.85	RHO	70.50	64.01	69.11	54.28	95.65	85.78	88.51	69.93	.966	DC CAL
11.8	15.9	15.6	16.2	16.5	17.2	12.7	11.3	13.6	13.1	PFE	13.2	9.8	10.1	11.1	12.1	7.9	8.9	11.2	1.019	AC CAL
255	198	238	273	272	360	151	161	177	212	MCF	187	153	147	205	127	92	101	160		

JOB B368-69 LINE 3 SPREAD 1

LOOKING North DATE 3/25/69 A= 500'

CENTER 0.0 LABEL W/E FREQ. 3.0

COUPLING Yes

(41)

(51) 0.1

25 Mar 69

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF W SP. 1 DATE 24/3/69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	.1	.1	.3	.1	.03	.3	.1	.03	.03
DC 1	165	62.2	55.2	137	33.1	25.3	197	70.0	20.7	20.3
DC 2	165	58.2	49.0	136	32.1	26.3	198	69.2	20.3	20.8
DC 3	165	62.4	55.2	137	33.1	25.3	197	70.0	21.0	20.5
DC 4	165	57.9	48.7	136	32.1	26.3	198	69.2	20.2	20.7
DC 5		62.9	55.5						21.3	20.7
DC 6		57.9	48.5						19.7	20.7
DC 7		63.2	55.2						21.6	20.7
DC 8		57.0	48.0						19.7	20.7
DC AVG.										
AC 1	153.	58.4	49.3	136.	31.8	24.5	190.	67.6	19.7	19.2
AC 2	153.	58.4	49.3	136.	31.8	24.5	190.	67.7	19.7	19.2
AC AVG.										
S.P.	+10.5	-8.0		-11.3			-3.6			
AC NOISE	.05		.05			.05				.05
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon.
LINE 3 HALF W SP. 1 DATE 24/3/65

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CAL 1	
RECEIVE									2-3	
RANGE	.1	.03	.01	.01	.03	.03	.01	.01	.3	
DC 1	46.2	23.4	9.00	9.90	23.5	15.1	6.72	7.42 8.27	207	
DC 2	45.6	24.3	9.10	10.0	23.0	15.3	6.70	8.26 7.19	207	
DC 3	46.0	23.6	8.96	9.92	23.5	15.1	6.75	7.39 852	207	
DC 4	45.5	24.3	9.09	9.97	23.0	15.3	6.69	8.35 7.18	207	
DC 5	45.9	23.5	8.95	9.98			6.70 6.62	7.35 8.59		
DC 6	45.5	24.4	9.10	9.90			6.80 6.84	8.30 7.06		
DC 7	46.0	23.4	8.99	10.00			6.60 6.59	7.37 8.61		
DC 8	45.2	24.6	9.10	9.87			6.82 6.90	8.40 7.04		
DC AVG.										
AC 1	41.8	22.3	8.20	8.82	21.4	14.4	6.13	7.08	210.	
AC 2	41.8	22.3	8.20	8.82	21.4	14.4	6.14	7.08	210.	
AC AVG.										
S.P.	-22.3				+23.0					
AC NOISE				.04				.05		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 3 HALF W SP. 1 DATE 3-24

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-500'W	500-1000'W →		1000-1500'W →			15-20 →			
RANGE	LO	LO →		HI	LO →		HI	HI	LO →	
VOLTAGE	690	380	690	160	620	680	220	220	620	680
CURRENT	1.5	1.5	1.5	2.5	2.5	1.5	3.5	3.5	2.5	1.5

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	20-25 →				25-30 →					2-3
RANGE	HI	HI	LO →		HI	HI	LO →			HI
VOLTAGE	220	220	620	680	220	220				220
CURRENT	3.5	3.5	2.5	1.5	3.5	3.5				2.0

FREQUENCIES 1.0 3.0

SENDER NO. 13671-S

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSACHS

COMMENTS: 4-5 - LO - 1.5

3-4 - LO - 2.5

2-3 - HI - 3.5

1-2 - HI - 3.5

AMP meter needle slow to rise above 2.5 to current being

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Horizon

LINE 3 HALF S SP. 1 DATE 29/3/69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.3	.3	.1	.3	.03	.03	.3	.1	.03	.01
DC 1	137	178	93.3	155	28.3	14.6	216	31.2	11.9	7.40
DC 2	139	152	82.0	152	29.7	16.2	217	32.2	13.0	8.20
DC 3	137	178	94.0	155	28.3	14.6	216	31.2	11.9	7.40
DC 4	139	152	81.8	152	29.7	16.2	217	32.2	13.0	8.18
DC 5			94.0							7.39
DC 6			81.8							8.22
DC 7			94.2							7.05
DC 8			81.1							8.01
DC AVG.										
AC 1	135.	152.	82.5	138.	26.8	14.5	203.	29.1	12.0	7.65
AC 2	135.	153.	82.5	138.	26.8	14.5	203.	29.1	12.0	7.65
AC AVG.										
S.P.	-70.5	-17.3		+110.1			+8.0			
AC NOISE	.05		.09			.03				.04
POT RES.										

NOTE OVER

200' E of #3 - Steel Fence
300 E " " Highway
400 E. " Steel Fence

600' E of #5 " "

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 3 HALF E SP. 1 DATE 24/3/69

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CALC	
RECEIVE									3-4	
RANGE	.1	.03	.01	.01	.03	.01	.01	.01		
DC 1	76.0	16.2	8.78	6.63	29.5	7.10	4.60	3.64	204	
DC 2	74.9	15.3	9.80	5.61	29.3	7.42	5.20	3.45	206	
DC 3	76.0	16.3	8.67	6.71	29.7	7.18	4.63	3.65	204	
DC 4	74.9	15.2	9.89	5.58	29.3	7.39	5.17	3.50	206	
DC 5		16.2	8.63	6.70	29.8	7.18	4.86	3.61		
DC 6		15.2	9.80	5.60	29.2	7.4	5.00	3.52		
DC 7		16.3	8.82	6.72	29.7	7.10	4.78	3.55		
DC 8		15.1	9.59	5.57	29.3	7.50	5.09	3.60		
DC AVG.										
AC 1	71.8	14.8	9.20	6.18	28.4	7.02	5.00	3.63	209.	
AC 2	71.8	14.8	9.20	6.18	28.4	7.02	5.00	3.63	209.	
AC AVG.										
S.P.	-12.6				-5.0					
AC NOISE				.05				.03		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 3 HALF E SP. 1 DATE 3-2

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-500'E	500-1000'E →		10-15 →			15-20 →			
RANGE	Hi	Hi →		Lo	Hi →		Lo	Lo	Hi →	
VOLTAGE	220	100	160	610	220	220	660	600	220	220
CURRENT	3.5	1.5	2.5	2.5	3.5	3.5	1.5	2.5	3.5	3.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL.
RECEIVE	20-25 →				25-3000'E →					3-4
RANGE	Lo	Lo	Hi →		Lo	Lo	Hi →			Lo
VOLTAGE	660	600	220	220	660	600	220	220		700
CURRENT	1.5	2.5	3.5	3.5	1.5	2.5	3.5	3.5		2.0

FREQUENCIES .10 3.0
SENDER NO. 1367I-S
OPERATOR I+I X
RECEIVER NO. 7651-R
OPERATOR BAUERSACHS

COMMENTS: 1-2 — Hi — 3.5
2-3 — Hi — 3.5
3-4 — Lo 2.5
4-5 — Lo 1.5

HEINRICHS GEOEX (MAR 69) JOB B368-69 LINE 3 SPREAD 1 LOOKING NORTH 3/25/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

1.500	1.500	1.500	2.500	2.500	1.500	3.500	3.500	2.500	1.500	I	3.500	3.500	2.500	1.500	3.500	3.500	3.500	3.500	2.000	
165	622	552	137	331	253	197	700	207	203	DC	462	234	900	990	235	151	672	742	207	LEFT
165	582	490	136	321	263	198	692	203	208		456	243	910	1000	230	153	670	828	207	SIDE
	624	552						210	205		460	236	896	992			675	739		
	579	487						202	207		455	243	909	997			669	835		
	629	555						213	207		459	235	895	998			670	739		
	574	485						197	207		455	244	910	990			680	830		
	632	552						216			460	234	899	1000			660	737		
	570	480						197			452	246	910	987			682	840		
																	662	/		
																	684	827		
																	659	719		
																	690	852		
																		718		
																		859		
																		708		
																		861		
																		704		

1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
330	1204	1042	273	652	516	395	1392	410	411	DC	918	477	1810	1090	465	304	1342	1570	414	
	1206	1042						413	413	SUMS	916	479	1806	1092			1345	1567		
	1203	1039						412	412		915	479	1805	1989			1344	1574		
	1208	1042						415	414		914	478	1804	1995			1339	1574		
	1203	1040						410	414		914	479	1805	1988			1350	1569		
	1206	1037						413			915	478	1809	1090			1340	1567		
	1202	1032						413			912	480	1809	1087			1342	1577		
																	1344	1546		
																	1346	1571		
																	1343	1570		
																	1349	1577		
																		1567		
																		1569		
																		1565		

0.0	-.0	.3	0.0	0.0	0.0	0.0	0.0	-.6	-.4	DC	.3	-.3	.2	-26.1	0.0	0.0	-.1	.1	0.0	
	.1	.3						.2	.0	DEVS	.1	.1	-.0	-26.0			.1	-.1		
	-.1	-.0						-.1	-.2		.0	.1	-.1	34.8			0.0	.3		
	.3	.3						.7	.3		-.1	-.1	-.2	35.2			-.4	.3		
	-.1	.1						-.6	.3		-.1	.1	-.1	34.7			.4	.0		
	.1	-.2						.2			.0	-.1	.1	-26.1			-.3	-.1		
	-.2	-.7						.2			-.3	.3	.1	-26.3			-.1	.5		
																	0.0	-1.5		
																	.1	.1		
																	-.1	.1		
																	.4	.5		
																		-.1		
																		.0		
																		-.2		

1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
165.0	60.23	51.96	136.5	32.60	25.80	197.5	69.60	20.61	20.64	DCA	45.74	23.93	9.034	7.379	23.25	15.20	6.720	7.844	207.0	
153.0	58.40	49.30	136.0	31.80	24.50	190.0	67.60	19.70	19.20	AC1	41.80	22.30	8.200	8.820	21.40	14.40	6.130	7.080	210.0	
153.0	58.40	49.30	136.0	31.80	24.50	190.0	67.70	19.70	19.20	AC2	41.80	22.30	8.200	8.820	21.40	14.40	6.140	7.080	210.0	
153.0	58.40	49.30	136.0	31.80	24.50	190.0	67.65	19.70	19.20	ACA	41.80	22.30	8.200	8.820	21.40	14.40	6.135	7.080	210.0	
159.4	58.19	200.8	79.13	75.59	249.3	81.78	115.3	119.5	398.8	RHO	75.76	99.08	104.7	~~249.5~~ 338	96.27	125.9	97.39	181.9	.966	DC CAL
9.4	4.6	6.9	1.8	4.0	6.8	5.5	4.4	6.2	9.1	PFE	11.0	8.9	11.8	~~-15.1~~ 14.1	10.2	7.1	11.1	12.4	1.014	AC CAL
59	79	34	23	53	27	67	38	52	23	MCF	145	89	112	~~-61~~ 43	106	56	114	68		

3.500	1.500	2.500	2.500	3.500	3.500	1.500	2.500	3.500	3.500	I	1.500	2.500	3.500	3.500	1.500	2.500	3.500	3.500	2.000	
137	178	933	155	283	146	216	312	119	740	DC	760	162	878	663	295	710	460	364	204	RIGHT
139	152	820	152	297	162	217	322	130	820		749	153	980	561	293	742	520	345	206	SIDE
		940							740		760	163	867	671	297	718	463	365		
		818							818		749	152	989	558	293	739	517	350		
		940							739			162	863	670	298	718	480	361		
		818							822			152	980	560	292	741	500	352		
		942							705			163	882	672	297	710	478	355		
		811							801			151	959	557	293	750	509	360		

1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
276	330	1753	307	580	308	433	634	249	1560	DC	1509	315	1858	1224	588	1452	980	709	410	
		1760							1560	SUMS	1509	316	1847	1232	590	1460	983	710		
		1758							1558		1509	315	1856	1229	590	1457	980	715		
		1758							1557			314	1852	1228	591	1457	997	711		
		1758							1561			314	1843	1230	590	1459	980	713		
		1760							1527			315	1862	1232	589	1451	978	707		
		1753							1506			314	1841	1229	590	1460	987	715		

0.0	0.0	-.2	0.0	0.0	0.0	0.0	0.0	0.0	.8	DC	0.0	.1	.4	-.4	-.3	-.3	-.4	-.3	0.0	
		.2							.8	DEVS	0.0	.4	-.2	.2	.0	.2	-.1	-.2		
		.0							.7		0.0	.1	.3	-.0	.0	.0	-.4	.5		
		.0							.6			-.2	.0	-.1	.2	.0	1.4	-.1		
		.0							.9			-.2	-.4	.1	.0	.2	-.4	.2		
		.2							-1.3			.1	.6	.2	-.1	-.4	-.6	-.6		
		-.2							-2.7			-.2	-.6	-.0	.0	.2	.3	.5		

1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
138.0	165.0	87.86	153.5	29.00	15.40	216.5	31.70	12.45	7.735	DCA	75.45	15.74	9.256	6.146	29.49	7.283	4.918	3.557	205.0	
135.0	152.0	82.50	138.0	26.80	14.50	203.0	29.70	12.00	7.650	AC1	71.80	14.80	9.200	6.180	28.40	7.020	5.000	3.630	209.0	
135.0	153.0	82.50	138.0	26.80	14.50	203.0	29.70	12.00	7.650	AC2	71.80	14.80	9.200	6.180	28.40	7.020	5.000	3.630	209.0	
135.0	152.5	82.50	138.0	26.80	14.50	203.0	29.70	12.00	7.650	ACA	71.80	14.80	9.200	6.180	28.40	7.020	5.000	3.630	209.0	
57.70	161.0	205.7	89.85	48.50	64.39	211.2	74.22	52.06	64.68	RHO	294.4	92.11	77.41	89.94	287.7	85.26	71.97	83.29	.976	DC CAL
4.2	10.3	8.6	13.4	10.3	8.3	8.7	8.8	5.8	3.1	PFE	7.1	8.4	2.6	1.4	5.8	5.8	.3	-.1	1.020	AC CAL
73	64	42	149	213	129	41	119	111	48	MCF	24	91	33	15	20	68	4	-1		

JOB B368-69 LINE 2 SPREAD 3

LOOKING North DATE 3/24/69 A= 500'

CENTER -70.0 LABEL W/W FREQ. 3.0

COUPLING Yes (51) 0.1

Fast Priority Please

24 MAY 69
RC

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 2 HALF W SP. 3 DATE 2/3/69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	.3	.1	.03	.03
DC 1	222	170	52.1	213	44.0	16.3	206	66.4	17.9	10.1
DC 2	212	168	46.2	213	42.7	18.7	204	65.8	18.6	9.8
DC 3	222	170	52.5	213	43.8	15.9	206	66.2	18.0	10.4
DC 4	212	168	46.6	213	42.7	18.9	204	65.5	18.4	9.8
DC 5			52.3		43.7	16.2		66.0	18.2	10.2
DC 6			46.1		42.8	18.8		65.6	18.4	9.7
DC 7			53.0		43.9	15.9		66.0	17.9	10.3
DC 8			46.2		42.2	18.8		65.6	18.5	10.0
DC AVG.										
AC 1	202.	157.	44.8	201.	39.4	15.7	192.	60.5	16.4	9.00
AC 2	201.	157.	44.9	200.	39.4	15.1	192.	60.5	16.4	"
AC AVG.										
S.P.	+3.5	-8.2		+1.5			-3.4			
AC NOISE	.08		.05			.06				.04
POT. RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 2 HALF W SP. 3 DATE 21/3/69

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	OAC 1	
RECEIVE									2-3	
RANGE	.1	.1	.03	.01	.03	.03	.01	.003		
DC 1	76.3	39.8	14.3	8.45	18.8	12.1	3.65	2.76.	208	
DC 2	76.3	39.1	11.7	7.10	20.0	13.7	5.10	3.06	208	
DC 3	76.6	39.5	13.6	8.60	18.8	12.1	3.62	2.77	208	
DC 4	76.3	40.0	12.1	7.20	20.0	13.7	5.11	3.04	208	
DC 5	76.2	39.7	13.5	8.80			3.68	2.80		
DC 6	76.3	40.1	12.2	7.02			5.09	3.00		
DC 7	76.0	39.4	13.7	8.76			3.72	2.80		
DC 8	76.3	40.3	12.1	7.01			5.05	3.02		
DC AVG.										
AC 1	70.5	36.1	11.3	7.06	17.8	11.3	3.80	2.61	211	
AC 2	70.5	36.1	11.3	7.06	17.8	11.3	3.81	2.61	211	
AC AVG.										
S.P.	+0.2				+5.6					
AC NOISE				.06				.04		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 2 HALF W SP. 3 DATE 3-21-

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	70-75 00'W	75-80	→	80-85	→	→	85-90	→	→	
RANGE	Hi'	Hi'	→	Hi'	→	→	Hi'	→	→	→
VOLTAGE	380	340	380	240	340	350	320	280	340	380
CURRENT	3.5	3.75	3.5	3.5	3.75	3.25	3.5	4.0	3.75	3.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	90-95	→	→	→	95-100 or W	→	→	→		2-3
RANGE	Hi'	→	→	→	Hi'	→	→	→		Hi'
VOLTAGE	320	280	340	380	320	280	340	380		140
CURRENT	3.5	4.0	3.75	3.5	3.5	4.0	3.75	3.5		2.0

FREQUENCIES .10 3.0
SENDER NO. 13671.5
OPERATOR HIX
RECEIVER NO. 7651 - R
OPERATOR BAUERSACHS

COMMENTS:
4-5 — 3.5
3-4 — 4.0
2-3 — 4.0
1-2 —

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Hoeron
LINE 2 HALF E SP. 3 DATE 20/5/69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	5-6	2-8	1-2
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	.3	.1	.03	.03
DC 1	182	237	59.0	199	62.6	20.8	179	38.1	26.7	10.7
DC 2	183	246	52.0	202	65.8	23.2	179	38.5	27.1	11.4
DC 3	182	237	59.0	199	62.6	20.8	179	38 2	26.7	10.7
DC 4	183	246	52.0	202	65.8	23.2	179	38.5	27.1	11.4
DC 5								38.3		
DC 6								38.4		
DC 7								38.4		
DC 8								38.5		
DC AVG.										
AC 1	167.	222.	50.2	183.	58.8	19.8	162.	34.6	24.2	9.8
AC 2	167.	222.	50.2	183.	58.8	19.8	162.	34.6	24.2	9.8
AC AVG.										
S.P.	-9.8	-18.2		+1.0			-14.3			
AC NOISE	.05		.04			.05				.05
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Horizon

LINE ____ HALF ____ SP. ____ DATE 20/7/69

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAL.	
RECEIVE									3-4	
RANGE	.1	.03	.03	.01	.03	.03	.01	.01		
DC 1	59.1	17.6	15.3	7.98	26.4	9.7	9.38	4.00	208	
DC 2	58.0	18.7	14.2	6.39	27.6	10.4	8.62	4.87	206	
DC 3	58.8	17.7	15.3	8.04	26.4	9.7	9.38	3.99	206	
DC 4	58.2	18.7	14.2	6.35	27.6	10.4	8.74	4.87	208	
DC 5	58.5	17.7		8.10			9.35	3.95		
DC 6	58.4	18.7		6.28			8.58	4.91		
DC 7	58.5			8.18			9.47	3.96		
DC 8	58.4			6.22			8.52	4.82		
DC AVG.										
AC 1	52.1	16.3	13.2	6.35	24.1	8.9	8.08	3.91	210.	
AC 2	52.1	16.3	13.2	6.35	24.6	8.9	8.08	3.91	210.	
AC AVG.										
S.P.	+18.5				+.99					
AC NOISE			.06					.04	.	
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 2 HALF E SP. 3 DATE 3-20

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	70-65W	65-60W	→	60-55	→	→	55-50W	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE ☆	330	240	330	270	210	280	290	240	210	280
CURRENT	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.5	3.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL
RECEIVE	50-45	→	→	→	45-40	→	→	→		3-4
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	290	240	210	300	310	250	230	300		180
CURRENT	3.5	3.5	3.5	3.75	3.75	3.75	3.75	3.75		2.0

FREQUENCIES .10 3.0
SENDER NO. 1467I-5
OPERATOR HIX
RECEIVER NO. 765I-R
OPERATOR BAUERSACHS.

COMMENTS:
1-2 — 4.0 ☆ AMP meter needle SLow To rise To sending level,
2-3 — 4.0
3-4 — 4.0
4-5 — 4.0

HEINRICHS GEOEX (MAR 69) JOB B-368-69 LINE 2 SPREAD 3 LOOKING NORTH 3/24/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

3.500	3.750	3.500	3.500	3.750	3.250	3.500	4.000	3.750	3.500	I	3.500	4.000	3.750	3.500	3.500	4.000	3.750	3.500	2.000	
222	170	521	213	440	163	206	664	179	101	DC	763	398	143	845	188	121	365	276	208	LEFT
212	168	462	213	427	187	204	658	186	98		763	391	117	710	200	137	510	306	208	SIDE
		525		438	159		662	180	104		768	395	136	860			362	277		
		466		427	189		655	184	98		763	400	121	720			511	304		
		523		437	162		660	182	102		762	397	135	880			368	280		
		461		428	188		656	184	97		763	401	122	702			509	300		
		530		439	159		660	179	103		760	394	137	876			372	280		
		462		422	188		656	185	100		765	403	121	701			505	302		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
434	338	983	426	867	350	410	1322	365	199	DC	1526	789	260	1555	388	258	875	582	416	
		987		865	346		1320	366	202	SUMS	1531	786	253	1570			872	583		
		991		865	348		1317	364	202		1531	795	257	1580			873	581		
		989		864	351		1315	366	200		1525	797	256	1600			879	584		
		984		865	350		1316	366	199		1525	798	257	1582			877	580		
		991		867	347		1316	363	200		1523	795	259	1578			881	580		
		992		861	347		1316	364	203		1525	797	258	1577			877	582		
0.0	0.0	-.5	0.0	.2	.5	0.0	.3	.0	-.9	DC	-.0	-.6	1.1	-1.4	0.0	0.0	-.1	.0	0.0	
		-.1		.0	-.7		.2	.3	.6	DEVS	.3	-1.0	-1.6	-.5			-.5	.2		
		.3		.0	-.1		-.0	-.2	.6		.3	.1	-.1	.2			-.4	-.1		
		.1		-.1	.7		-.2	.3	-.4		-.1	.4	-.4	1.4			.3	.4		
		-.4		.0	.5		-.1	.3	-.9		-.1	.5	-.1	.3			.1	-.3		
		.3		.2	-.4		-.1	-.5	-.4		-.2	.1	.7	.0			.5	-.3		
		.4		-.4	-.4		-.1	-.2	1.1		-.1	.4	.3	-.0			.1	.0		

1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
217.0	169.0	49.41	213.0	43.24	17.42	205.0	65.87	18.24	10.036	DCA	76.33	39.69	12.86	7.887	19.40	12.90	4.381	2.909	208.0	
202.0	157.0	44.80	201.0	39.40	15.70	192.0	60.50	16.40	9.000	AC1	70.50	36.10	11.30	7.060	17.80	11.30	3.800	2.610	211.0	
201.0	157.0	44.90	200.0	39.40	15.70	192.0	60.50	16.40	9.000	AC2	70.50	36.10	11.30	7.060	17.80	11.30	3.810	2.610	211.0	
201.5	157.0	44.85	200.5	39.40	15.70	192.0	60.50	16.40	9.000	ACA	70.50	36.10	11.30	7.060	17.80	11.30	3.805	2.610	211.0	
89.42	65.00	81.44	87.77	66.53	77.31	84.48	95.01	70.16	82.71	RHO	125.8	143.1	98.90	113.8	79.95	93.03	58.98	67.12	.962	DC CAL
9.2	9.2	11.7	7.8	11.3	12.6	8.3	10.4	12.8	13.1	PFE	9.8	11.5	15.4	13.3	10.6	15.8	16.8	13.0	1.014	AC CAL
103	141	144	88	170	163	98	110	183	159	MCF	78	81	156	117	132	170	285	194		

4.000	4.000	4.000	4.000	3.500	3.500	3.500	3.500	3.500	3.500	I	3.500	3.500	3.500	3.750	3.750	3.750	3.750	3.750	2.000	
182	237	590	199	626	208	179	381	267	107	DC	591	176	153	798	264	97	938	400	208	RIGHT
183	246	520	202	658	232	179	385	271	114		580	187	142	639	276	104	862	487	208	SIDE
							382		107		588	177		804			938	399		
							385		114		582	187		635			874	487		
							383				585	177		810			935	395		
							384				584	187		628			858	491		
							384				585			818			947	396		
							385				584			622			852	482		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
365	483	1110	401	1284	440	358	766	538	221	DC	1171	363	295	1437	540	201	1800	887	416	
							767		221	SUMS	1168	364		1443			1800	886		
							767		221		1170	364		1439			1812	886		
							768				1167	364		1445			1809	882		
							767				1169	364		1438			1793	886		
							768				1169			1446			1805	887		
							769				1169			1440			1799	878		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	-.2	0.0	0.0	DC	.2	-.2	0.0	-.3	0.0	0.0	-.1	.3	0.0	
							-.1		0.0	DEVS	-.1	.1		.1			-.1	.2		
							-.1		0.0		.1	.1		-.1			.5	.2		
							.1				-.2	.1		.3			.4	-.3		
							-.1				0.0	.1		-.2			-.5	.2		
							.1				0.0			.3			.1	.3		
							.2				0.0			-.1			-.2	-.7		

1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
182.5	241.5	555.0	200.5	64.20	22.00	179.0	38.37	26.90	11.050	DCA	58.45	18.19	14.75	7.206	27.00	10.050	9.013	4.423	208.0	
167.0	222.0	502.0	183.0	58.80	19.80	162.0	34.60	24.20	9.800	AC1	52.10	16.30	13.20	6.350	24.10	8.900	8.080	3.910	210.0	
167.0	222.0	502.0	183.0	58.80	19.80	162.0	34.60	24.20	9.800	AC2	52.10	16.30	13.20	6.350	24.00	8.900	8.080	3.910	210.0	
167.0	222.0	502.0	183.0	58.80	19.80	162.0	34.60	24.20	9.800	ACA	52.10	16.30	13.20	6.350	24.05	8.900	8.080	3.910	210.0	
65.81	87.08	800.5	72.30	105.8	90.66	73.76	63.25	110.9	91.07	RHO	96.35	74.96	121.6	97.00	103.8	77.31	121.3	95.26	.962	DC CAL
10.3	9.8	11.6	10.6	10.2	12.2	11.6	12.0	12.2	13.8	PFE	13.3	12.7	12.8	14.6	13.3	14.0	12.6	14.2	1.010	AC CAL
157	113	15	147	97	134	157	189	110	152	MCF	138	169	105	150	129	181	104	149		

JOB B 368-69 LINE 2 SPREAD 2

LOOKING North DATE 3/20/69 A= 500'

CENTER -35.0 LABEL W/W FREQ. 3.0

COUPLING Yes (51) 0.1

20 Mar 69 pc

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 2 HALF W SP. 2 DATE 10/3/65

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	.3	.1	.03	.03
DC 1	251	134	40.0	180	38.7	18.2	231	77.0	20.9	14.9
DC 2	251	131	36.3	179	39.0	16.3	229	75.8	24.6	10.9
DC 3	251	134	40.0	180	38.7	18.2	231	77.5	20.6	14.4
DC 4	251	134	36.2	179	39.0	16.3	229	75.8	24.9	9.7
DC 5								77.3	21.0	13.9
DC 6								75.9	24.7	9.7
DC 7								77.5	20.7	15.1
DC 8								76.0	24.7	10.2
DC AVG.										
AC 1	222.	118.	32.6	162	33.9	14.8	207.	66.0	19.3	10.3
AC 2	222	118.	32.8	161	33.9	14.8	207.	66.0	19.4	10.3
AC AVG.										
S.P.	-2.7	+9.4		-19.8			+18.7			
AC NOISE	.02		.04			.04				.04
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horton
LINE 2 HALF W SP. 2 DATE 19/3/4

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CAL 1	
RECEIVE									2-3	
RANGE	.1	.1	.03	.01	.03	.03	.01	.01	.3	
DC 1	58.6	32.2	12.8	7.45	21.0	14.7	6.38	3.28	211	
DC 2	61.2	29.8	9.2	6.60	22.2	11.6	4.45	4.90	211	
DC 3	58.6	32.3	13.3	7.40	21.0	15.0	6.20	2.18	211	
DC 4	61.2	29.7	9.7	6.65	23.1	11.5	4.41	3.80	211	
DC 5		32.2	13.2	7.38	20.6	15.0	6.90	3.21		
DC 6		29.8	8.9	6.42	22.7	11.4	4.52	4.72		
DC 7		32.3	13.5	7.58	20.9	14.6	6.88	2.91		
DC 8		29.6	9.2	6.65	23.4	11.7	3.78	3.40		
DC AVG.										
AC 1	53.8	27.2	10.0	6.60	19.4	11.7	4.79	3.07	210	
AC 2	53.8	27.2	10.0	6.60	19.4	11.7	4.79	3.06	210	
AC AVG.										
S.P.	-7.7				+9.6					
AC NOISE				.03				.03		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 2 HALF W 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	3500W-	40-45W	→	45-50W	→	→	50-55W	→	→	→
RANGE	HI	HI	→	HI	→	→	HI	→	→	→
VOLTAGE	360	250	360	220	250	360	240	220	250	390
CURRENT	2.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	3.0	2.25
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL.
RECEIVE	55-60	→	→	→	60-650'W	→	→	→		2-3
RANGE	HI	→	→	→	HI	→	→	→		HI
VOLTAGE	240	220	250	390	240	220	250	390		150
CURRENT	3.0	3.0	3.0	2.25	3.0	3.0	3.0	2.25		2.0

FREQUENCIES .10 3.0

SENDER NO. 1367I-S

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSACH'S

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 2 HALF E SP. 2 DATE 19/9/89

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.3	1.	.1	.3	.1	.03	.3	.1	.03	.01
DC 1	132	361	66.2	240	63 8	18.4	194	46.2	22.2	8.46
DC 2	132	378	48.2	240	61.6	16.3	195	46.7	21.2	9.46
DC 3	132	361	66.2	240	63.5	18.4	194	46.5	21.9	8.52
DC 4	132	378	48.2	240	61.6	16.3	195	46.2	21.3	9.31
DC 5					63.5			46.4	22.0	8.40
DC 6					61.8			46.4	21.3	9.41
DC 7					63.4			46.6	21.7	8.50
DC 8					61.8			46.2	21.3	9.37
DC AVG.										
AC 1	120.	335.	50.2	217.	56.6	15.2	173.	41.2	19.1	7.79
AC 2	120.	335.	50.2	217.	56.5	15.2	173.	41.2	19.2	7.79
AC AVG.										
S.P.	-.3	-32 6		-16.9			+397			
AC NOISE	.04		.03			.03				.05
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 2 HALF E SP. 2 DATE 19/3/69

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAL 1	
RECEIVE										
RANGE	.03	.03	.03	.01	.03	.03	.03	.01		
DC 1	30.5	14.3	9.6	4.51	15.6	11.8	11.3	6.97	210	
DC 2	30.8	13.5	10.8	6.30	14.3	13.4	9.9	5.61	210	
DC 3	30.5	14.3	9.4	4.30	15.6	11.7	11.7	7.05	210	
DC 4	30.8	13.3	10.8	6.61	14.3	13.4	9.6	5.71	210	
DC 5		14.7	9.6	4.38		11.8	11.6	7.08		
DC 6		13.4	10.8	6.61		13.5	9.8	5.74		
DC 7		14.7	9.6	4.40		11.7	11.7	7.20		
DC 8		13.2	10.8	6.61		13.4	9.8	5.80		
DC AVG.										
AC 1	26.5	12.3	9.2	4.91	13.4	11.4	9.7	5.89	212	
AC 2	26.5	12.3	9.2	4.91	13.4	11.3	9.7	5.88	212	
AC AVG.										
S.P.	-15.5				+22.1					
AC NOISE				.03				.05		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 2 HALF E SP. 2 DATE 3-18

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	35-30 W	30-25 W	→	25-20	→	→	20-15	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	240	230	240	260	230	240	370	260	220	240
CURRENT	3.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CHL
RECEIVE	15-10	→	→	→	10-5 W	→	→	→		3-4
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	370	260	220	240	370	340	300	320		180
CURRENT	2.0	3.0	3.0	3.0	2.0	4.0	4.0	4.0		2.0

FREQUENCIES .10 3.0

SENDER NO. 13671-5

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSACHS

COMMENTS: 1-2 — 4.

2-3 — 4.

3-4 — 4

4-5 — 2.

HEINRICHS GEOEX (MAR 69) JOB B368-69 LINE 2 SPREAD 2 LOOKING NORTH 3/20/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

2.000	3.000	2.000	3.000	3.000	2.000	3.000	3.000	3.000	2.250	I	3.000	3.000	3.000	2.250	3.000	3.000	3.000	2.250	2.000	
251	134	400	180	387	182	231	770	209	149	DC	586	322	128	745	210	147	638	328	211	LEFT
251	131	363	179	390	163	229	758	246	109		612	298	92	660	222	116	445	490	211	SIDE
		400					775	206	144			323	133	740	210	150	620	218		
		362					758	249	97			297	97	665	231	115	441	380		
							773	210	139			322	132	738	206	150	690	321		
							759	247	97			298	89	642	227	114	452	472		
							775	207	151			323	135	758	209	146	688	291		
							760	247	102			296	92	665	234	117	378	340		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
502	265	763	359	777	345	460	1528	455	258	DC	1198	620	220	1405	432	263	1083	818	422	
		763					1533	452	253	SUMS		621	225	1400	432	266	1065	708		
		762					1533	455	241			620	230	1405	441	265	1061	598		
							1531	459	236			619	229	1403	437	265	1131	701		
							1532	457	236			620	221	1380	433	264	1142	793		
							1534	454	248			621	224	1400	436	260	1140	763		
							1535	454	253			619	227	1423	443	263	1066	631		
0.0	0.0	.0	0.0	0.0	0.0	0.0	-.3	-.0	4.7	DC	0.0	0.0	-2.3	.2	-1.0	-.3	-1.4	14.2	0.0	
		.0					.0	-.7	2.7	DEVS		.2	-.1	-.2	-1.0	.9	-3.0	-1.1		
		-.1					.0	-.0	-2.2			0.0	2.2	.2	1.1	.5	-3.4	-16.5		
							-.1	.8	-4.2			-.2	1.7	.1	.2	.5	3.0	-2.1		
							-.0	.4	-4.2			0.0	-1.8	-1.6	-.8	.1	4.0	10.8		
							.1	-.3	.6			.2	-.5	-.2	-.1	-1.4	3.8	6.6		
							.2	-.3	2.7			-.2	.8	1.5	1.5	-.3	-2.9	-11.9		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
251.0	132.5	38.13	179.5	38.85	17.25	230.0	76.61	22.76	12.32	DCA	59.90	31.00	11.26	7.011	21.81	13.19	5.491	3.580	211.0	
222.0	118.0	32.60	162.0	33.90	14.80	207.0	66.00	19.30	10.30	AC1	53.80	27.20	10.00	6.600	19.40	11.70	4.790	3.070	210.0	
222.0	118.0	32.80	161.0	33.90	14.80	207.0	66.00	19.40	10.30	AC2	53.80	27.20	10.00	6.600	19.40	11.70	4.790	3.060	210.0	
222.0	118.0	32.70	161.5	33.90	14.80	207.0	66.00	19.35	10.30	ACA	53.80	27.20	10.00	6.600	19.40	11.70	4.790	3.065	210.0	
178.4	62.80	108.4	85.07	73.65	122.6	109.0	145.2	107.9	155.7	RHO	113.6	146.9	106.7	155.1	103.4	125.0	91.09	126.7	.948	DC CAL
12.5	11.8	16.1	10.6	14.1	16.0	10.6	15.5	17.1	19.1	PFE	10.8	13.4	12.0	5.7	11.9	12.2	14.1	16.2	.995	AC CAL
70	187	148	125	191	130	97	107	158	122	MCF	95	91	113	37	115	97	155	128		
3.000	3.000	3.000	3.000	3.000	3.000	2.000	3.000	3.000	3.000	I	2.000	3.000	3.000	3.000	2.000	4.000	4.000	4.000	2.000	
132	361	662	240	638	184	194	462	222	840	DC	305	143	96	451	156	118	113	697	210	RIGHT
132	378	482	240	616	163	195	467	212	946		308	135	108	630	143	134	99	581	210	SIDE
				635			465	219	852			143	94	430		117	117	705		
				616			462	213	931			133	108	661		134	96	571		
				635			464	220	840			147	96	438		118	116	708		
				618			464	213	941			134	108	661		135	98	574		
				634			466	217	850			147	96	440		117	117	720		
				618			462	213	937			132	108	661		134	98	580		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
264	739	1144	480	1254	347	389	929	434	1786	DC	613	278	204	1081	299	252	212	1278	420	
				1251			932	431	1798	SUMS		278	202	1060		251	216	1286		
				1251			927	432	1783			276	202	1091		251	213	1276		
				1251			926	433	1771			280	204	1099		252	212	1279		
				1253			928	433	1781			281	204	1099		253	214	1282		
				1252			930	430	1791			281	204	1101		252	215	1294		
				1252			928	430	1787			279	204	1101		251	215	1300		
0.0	0.0	0.0	0.0	.2	0.0	0.0	.0	.5	.0	DC	0.0	-.4	.3	-.9	0.0	.1	-.9	-.5	0.0	
				-.1			.4	-.2	.7	DEVS		-.4	-.7	-2.8		-.3	1.0	.1		
				-.1			-.2	.0	-.1			-1.1	-.7	.1		-.3	-.4	-.7		
				-.1			-.3	.3	-.8			.4	.3	.8		.1	-.9	-.5		
				.1			-.1	.3	-.2			.7	.3	.8		.5	.1	-.2		
				0.0			.2	-.4	.3			.7	.3	1.0		.1	.5	.7		
				0.0			-.1	-.4	.1			0.0	.3	1.0		-.3	.5	1.2		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
132.0	369.5	57.20	240.0	62.60	17.35	194.5	46.43	21.59	8.926	DCA	30.65	13.95	10.171	5.451	14.95	12.59	10.693	6.425	210.0	
120.0	335.0	50.20	217.0	56.60	15.20	173.0	41.20	19.10	7.790	AC1	26.50	12.30	9.200	4.910	13.40	11.40	9.700	5.890	212.0	
120.0	335.0	50.20	217.0	56.50	15.20	173.0	41.20	19.20	7.790	AC2	26.50	12.30	9.200	4.910	13.40	11.30	9.700	5.880	212.0	
120.0	335.0	50.20	217.0	56.55	15.20	173.0	41.20	19.15	7.790	ACA	26.50	12.30	9.200	4.910	13.40	11.35	9.700	5.885	212.0	
62.86	176.0	109.0	114.3	119.2	82.62	138.9	88.44	102.8	85.01	RHO	87.57	66.43	96.87	90.86	106.8	89.90	133.7	128.5	.952	DC CAL
11.0	11.3	15.0	11.7	11.8	15.2	13.5	13.8	13.8	15.7	PFE	16.8	14.5	11.6	12.1	12.6	11.9	11.3	10.2	1.010	AC CAL
176	65	138	102	99	184	97	156	135	184	MCF	191	218	120	133	118	133	84	79		

JOB B-368-69 LINE 2 SPREAD 1

LOOKING North DATE 3/19/69 A= 500'

CENTER 0.0 LABEL W/E FREQ. 3.0

COUPLING Yes (51) 0.1

19 Mar 69

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 2 HALF W SP. 1 DATE 18 March 69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	1.	1.	.1	.3	.1	.03	.3	.1	.03	.03
RANGE										
DC 1	317	223	57.0	202	71.1	28.4	17.4.	45.0	29.1	14.3
DC 2	318	224	56.7	203	67.3	23.9	17.3.	44.7	28.7	13.7
DC 3	317	223	57.1	202	71.1	28.4	17.4.	45.2	29.2	14.3
DC 4	318	224	56.3	203	67.3	23.9	17.3.	44.9	28.7	13.7
DC 5	317		57.1					45.0	28.9	
DC 6	318		56.1					45.0	28.7	
DC 7			57.2					45.1	29.2	
DC 8			55.9					45.0	28.6	
DC AVG.										
AC 1	322.	221.	56.0	194.	67.1	25.2	16.2.	42.5	27.2	13.2
AC 2	322.	221.	56.0	194.	67.0	25.2	16.2.	42.5	27.2	13.2
AC AVG.										
S.P.	+25.7			+2.3						
AC NOISE	.03		.04			.06				.06
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 2 HALF W SP. 1 DATE 15/3/69

PAGE 4 ord

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	Cal 1	
RECEIVE										
RANGE	.1	.03	.03	.01	.03	.01	.01	.01		
DC 1	33.9	14.6	11.7	7.61	12.8	8.11	7.78	5.75	206	
DC 2	35.0	16.4	14.1	6.65	17.7	9.80	9.19	4.78	205	
DC 3	33.9	14.6	11.6	7.62	12.8	8.62	7.62	5.38	206	
DC 4	35.0	16.4	14.2	6.63	17.7	10.00	9.80	4.57	205	
DC 5			11.5	7.72		7.99	7.78	5.80		
DC 6			14.2	6.57		9.98	9.82	4.75		
DC 7			11.4	7.65		8.42	7.80	5.52		
DC 8			14.3	6.58		9.96	9.60	4.62		
DC AVG.										
AC 1	31.1	14.3	11.8	6.58	13.7	8.41	8.08	4.72	212	
AC 2	31.0	14.3	11.8	6.57	13.7	8.40	8.08	4.72	212	
AC AVG.										
S.P.	-15.0				+10.6					
AC NOISE				.04						
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 2 HALF W SP. 1 DATE 8-18

PAGE 2

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-500'W	5-10W	→	10-15	→	→	15-20	→	→	→
RANGE	HI	HI	→	HI	→	→	HI	→	→	→
VOLTAGE	320	330	330	380	330	330	350	380	330	330
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	20-25	→	→	→	25-30	→	→	→		2-3
RANGE	HI	→	→	→	HI	→	→	→		HI
VOLTAGE	340	380	330	320 *	280 X	310	260	260		300
CURRENT	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0		2.0

FREQUENCIES .10 3.0

SENDER NO. 1367 1-S

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSACHS

COMMENTS:

INPUT - 115 -

AMP - (2.5 - 2.6) RANDOM

D-U - 105 T

VOLT - 330

* 100 Ω - 300 Ω -

+ cut current to 2.0 —— 20 V build on D.C.

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 2 HALF E SP. 1 DATE 17 M. 1965

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.3	1.	.1	1.	.1	.03	.3	.1	.03	.03
DC 1	336	328	64.1	338	62.2	24.8	213	98 0	24.8	14.3
DC 2	342	325	54.9	337	62.2	25.1	213	99.1	27.2	13.2
DC 3	336	328	64.1	338	62.0	24.5	213	98.4	25.0	14.7
DC 4	342	325	54.1	337	61.6	24 5	213	99 0	27.8	13.6
DC 5	2002		65 0		62.3	24.6		98.0	25.2	13.7
DC 6			53.8		62.0	24.4		99.7	27.5	13.3
DC 7			65.2		61,9	24.5		98,5	25.0	15.1
DC 8			53.6		62.0	24.4		99.1	27.4	13.0
DC AVG.										
AC 1	232.	329.	57.0	333.	61.0	24.4	200.	94.0	25.2	13.0
AC 2	238.	327.	57.0	331.	61.0	24.4	200.	94.0	25.2	13.0
AC AVG.										
S.P.	+99	+21.1		+21.6			+5.2			
AC NOISE	.1		.08			.1				.06
POT RES.										

ANGLIN –

→ T. Nilsen

Dec. 25

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 2 HALF E SP. 1 DATE 17 M 69

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAC1	
RECEIVE										
RANGE	.1	.1	.03	.01	.03	.03	.01	.01	3-4	
DC 1	74.1	46.4	16.3	9.72	24.9	19.0	7.72	5.30	207	
DC 2	74.1	47.8	16.0	9.40	22.3	17.3	6.00	4.35	207	
DC 3	76.1	47.1	16.9	9.68	24.9	19.2	8.19	5.74	207	
DC 4	73.9	46.9	15.8	9.27	22.7	16.2	6.08	4.57	207	
DC 5	74.0	47.0	16.6	10.00	24.6	20.4	7.95	5.60		
DC 6	73.9	47.8	16.2	9.10	22.0	16.4	6.17	4.51		
DC 7	73.9	47.9	16.6	10.05	25.5	19.3	8.58	5.38		
DC 8	73.9	47.0	16.3	8.80	22.0	16.9	5.48	4.41		
DC AVG.										
AC 1	69.2	45.0	15.6	8.90	22.8	17.6	6.92	4.63	207	
AC 2	69.2	45.0	15.6	8.91	22.7	17.6	6.92	4.65	207	
AC AVG.										
S.P.	-7.6				+1.5					
AC NOISE				.05						
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 2 HALF E SP. 1 DATE 3-17

PAGE 1

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-500'E	5-10	→	10-15E	→	→	15-20	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	340	380	340	390	380	380	390	390	380	380
CURRENT	2.5	2.5	2.5	3.0	2.5	2.75	3.0	3.0	2.5	2.75
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL
RECEIVE	20-25E	→	→	→	25-30	→	→	→		3-4
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	350 ★	350	380	380	350	350	380	380		260
CURRENT	2.75	2.75	2.5	2.75	2.75	2.75	2.50	2.75		2.0

FREQUENCIES .10 3.0

SENDER NO. 13671-5

OPERATOR 141X

RECEIVER NO. 7651-R

OPERATOR BAUERSACHS

COMMENTS: 1-2 — 2.75 ★ cut power back, Noticed Hot Smell from Sender Amp, Needle jumping around,

2-3 — 2.5

3-4 — 3.0 - 2.75

4-5 — 3.0 - 2.75

HEINRICHS GEOEX (MAR 69) JOB B-368-69 LINE 2 SPREAD 1 LOOKING NORTH 3/19/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	I	2.500	2.500	2.500	2.500	2.000	2.000	2.000	2.000	2.000	
317	223	570	202	711	284	174	450	291	143	DC	339	146	117	761	128	811	778	575	206	LEFT
318	224	567	203	673	239	173	447	287	137		350	164	141	665	177	980	979	478	205	SIDE
		571					452	292					116	762		862	762	538		
		563					449	287					141	663		1000	980	457		
		571					450	289					115	772		799	778	580		
		561					450	287					142	657		998	982	475		
		572					451	292					114	765		842	780	552		
		550					450	286					143	658		996	960	462		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
635	447	1137	405	1384	523	347	897	578	280	DC	689	310	258	1426	305	1791	1757	1053	411	
		1138					899	579		SUMS			257	1427		1842	1741	1016		
		1134					901	579					257	1425		1862	1742	995		
		1134					899	576					256	1435		1799	1758	1037		
		1132					900	576					257	1429		1797	1760	1055		
		1133					901	579					256	1422		1840	1762	1027		
		1122					901	578					257	1423		1838	1740	1014		
0.0	0.0	.4	0.0	0.0	0.0	0.0	-.3	.0	0.0	DC	0.0	0.0	.4	-.1	0.0	-1.8	.3	2.4	0.0	
		.5					-.1	.2		DEVS			.1	.0		1.0	-.6	-1.2		
		.1					.1	.2					.1	-.1		2.1	-.5	-3.2		
		.1					-.1	-.3					-.3	.6		-1.4	.4	.9		
		-.1					.0	-.3					.1	.2		-1.5	.5	2.6		
		.0					.1	.2					-.3	-.3		.9	.6	-.1		
		-1.0					.1	.0					.1	-.3		.8	-.7	-1.4		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
317.5	223.5	56.64	202.5	69.20	26.15	173.5	44.99	28.89	14.00	DCA	34.45	15.50	12.84	7.134	15.25	9.121	8.757	5.141	205.5	
322.0	221.0	56.00	194.0	67.10	25.20	162.0	42.50	27.20	13.20	AC1	31.10	14.30	11.80	6.580	13.70	8.410	8.080	4.720	212.0	
322.0	221.0	56.00	194.0	67.00	25.20	162.0	42.50	27.20	13.20	AC2	31.00	14.30	11.80	6.570	13.70	8.400	8.080	4.720	212.0	
322.0	221.0	56.00	194.0	67.05	25.20	162.0	42.50	27.20	13.20	ACA	31.05	14.30	11.80	6.575	13.70	8.405	8.080	4.720	212.0	
185.4	130.5	132.3	118.2	161.6	152.7	101.3	105.1	168.7	163.5	RHO	80.47	90.51	150.0	145.8	111.3	133.1	223.7	210.1	.973	DC CAL
1.7	4.3	4.3	7.7	6.5	7.1	10.5	9.2	9.6	9.4	PFE	14.5	11.8	12.3	11.9	14.8	11.9	11.8	12.4	1.032	AC CAL
9	33	33	65	40	46	104	88	57	58	MCF	180	131	82	82	133	90	53	59		

2.500	2.500	2.500	3.000	2.500	2.750	3.000	3.000	2.500	2.750	I	2.750	2.750	2.500	2.750	2.750	2.750	2.500	2.750	2.000	
336	328	641	338	622	248	213	980	248	143	DC	741	464	163	972	249	190	772	530	207	RIGHT
342	325	549	337	622	251	213	991	272	132		741	478	160	940	223	173	600	435	207	SIDE
		641		620	245		984	250	147		741	471	169	968	249	192	819	574		
		541		616	245		990	278	136		739	469	158	927	227	162	608	457		
		650		623	246		980	252	137		740	470	166	1000	246	204	795	560		
		538		620	244		997	275	133		739	478	162	910	220	164	617	451		
		652		619	245		985	250	151		739	479	166	1005	255	193	858	538		
		236		620	244		991	274	130		739	470	163	880	220	169	548	441		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
678	653	1190	675	1244	499	426	1971	520	275	DC	1482	942	323	1912	472	363	1372	965	414	
		1190		1242	496		1975	522	279	SUMS	1482	949	329	1908	472	365	1419	1009		
		1182		1236	490		1974	528	283		1480	940	327	1895	476	354	1427	1031		
		1191		1239	491		1970	530	273		1479	939	324	1927	473	366	1403	1017		
		1188		1243	490		1977	527	270		1479	948	328	1910	466	368	1412	1011		
		1190		1239	489		1982	525	284		1478	957	328	1915	475	357	1475	989		
		888		1239	489		1976	524	281		1478	949	329	1885	475	362	1406	979		
0.0	0.0	3.9	0.0	.3	1.4	0.0	-.2	-1.0	-1.0	DC	.2	-.5	-1.2	.2	-.2	.2	-3.1	-3.5	0.0	
		3.9		.1	.8		0.0	-.6	.4	DEVS	.2	.3	.7	.0	-.2	.8	.2	.9		
		3.2		-.3	-.4		-.1	.5	1.9		.0	-.7	.0	-.7	.7	-2.2	.8	3.1		
		4.0		-.1	-.2		-.3	.9	-1.7		-.0	-.8	-.9	1.0	.1	1.1	-.9	1.7		
		3.7		.2	-.4		.1	.4	-2.8		-.0	.2	.3	.1	-1.4	1.6	-.3	1.1		
		3.9		-.1	-.6		.4	-.0	2.2		-.1	1.1	.3	.4	.5	-1.4	4.1	-1.1		
		-22.5		-.1	-.6		.1	-.2	1.1		-.1	.3	.7	-1.2	.5	-.0	-.7	-2.1		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
339.0	326.5	57.28	337.5	62.01	24.60	213.0	98.75	26.26	13.89	DCA	73.99	47.31	16.34	9.537	23.64	18.11	7.081	5.001	207.0	
232.0	329.0	57.00	333.0	61.00	24.40	200.0	94.00	25.20	13.00	AC1	69.20	45.00	15.60	8.900	22.80	17.60	6.920	4.630	207.0	
231.0	327.0	57.00	331.0	61.00	24.40	200.0	94.00	25.20	13.00	AC2	69.20	45.00	15.60	8.910	22.70	17.60	6.920	4.650	207.0	
231.5	328.0	57.00	332.0	61.00	24.40	200.0	94.00	25.20	13.00	ACA	69.20	45.00	15.60	8.905	22.75	17.60	6.920	4.640	207.0	
196.5	189.3	132.8	163.0	143.8	129.6	102.9	190.8	152.2	146.4	RHO	156.0	249.4	189.5	175.9	124.6	190.9	143.7	147.6	.966	DC CAL
46.4	-.5	-.5	1.7	1.7	.8	6.5	5.1	4.2	6.9	PFE	6.9	5.1	4.8	7.1	3.9	2.9	2.3	7.8	1.000	AC CAL
236	-2	4	10	12	6	63	26	28	47	MCF	44	21	25	40	31	15	16	53		

Job B368-69 Line 5 Spread 2

Looking N53W Date 4/9/69 A = 500'

Center - 35.0 Labb SW/SW Freq 3.0

Coupling yes (51) 0.10

Fast priority 9 apr 68

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 5 HALF S SP. 2 DATE 7/9/65

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	.1	.03	.1	.03	.01	.1	.03	.01	.01
DC 1	107	57.8	18.1	44.6	15.3	6.79	66.3	17.0	9.65	4.07
DC 2	105	53.8	15.2	45.8	16.2	6.00	67.2	15.8	9.90	5.18
DC 3	107	57.8	18.3	44.6	15.3	6.58	66.4	17.2	7.82	4.09
DC 4	105	53.6	15.2	45.8	16.2	5.80	67.2	16.3	10.00	5.08
DC 5		57.8	18.3			6.71	66.5	17.0	9.88	4.22
DC 6		53.7	15.2			6.02	67.2	15.9	9.98	5.20
DC 7		57.8	18.3			6.72	66.2	17.2	9.62	3.87
DC 8		53.7	15.2			5.96	67.3	16.0	10.00	5.24
DC AVG.										
AC 1	94.	47.2	14.8	40.8	13.4	5.60	62.8	15.2	8.60	4.21
AC 2	94.	47.2	14.8	40.6	13.4	5.60	62.7	15.2	8.60	4.21
AC AVG.										
S.P.	-15.3	+24.0		+30.0			-5.4			
AC NOISE	.03		.05			.08				.04
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT HORIZON
LINE 5 HALF 5 SP. 2 DATE 7/9/69

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CAC 1	
RECEIVE										
RANGE	.03	.01	.01	.01	.01	.01	.01	.003	2-3	
DC 1	20.4	9.08	7.89	4.78	7.78	4.19	3.90	2.07	206	
DC 2	22.4	8.38	6.46	2.79	7.70	4.23	4.30	2.81	206	
DC 3	20.3	9.20	7.78	4.94	7.61	4.29	4.25	2.38	206	
DC 4	22.4	7.90	6.46	2.70	7.70	4.21	4.30	2.66	206	
DC 5	20.4	9.24	7.90	4.90	7.65	4.32	3.81	2.21		
DC 6	22.6	8.30	6.19	2.75	7.78	4.18	4.42	2.62		
DC 7	20.2	9.35	7.92	4.98	7.68	4.30	4.10	2.32		
DC 8	22.6	7.85	6.30	2.78	7.72	4.23	4.42	2.81		
DC AVG.										
AC 1	19.7	7.86	6.17	3.50	7.10	3.86	3.65	2.30	212.	
AC 2	19.7	7.87	6.17	3.50	7.10	3.86	3.65	"	212.	
AC AVG.										
S.P.	+8.0				-5.7					
AC NOISE				.04				.05		
POT RES.						(NOTE	OVER)			

NOTE. STATION 6.5 SW ON L-5, 5.2 LIES 275' E OF ELECTRODE #5, LINE 4, SD-3

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

NE-SW

PROJECT HORIZON

LINE 5 HALF SW SP. 2 DATE 4-7

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	3500'-4000'SW	4000'-4500'SW →		45-50	→	→	50-55	→	→	→
RANGE	Hi'	Hi' →	→	Hi'	→	→	Hi	→	→	→
VOLTAGE	330	240	300	400	380	330	380	400	380	330
CURRENT	3.75	2.5	3.5	2.75	3.75	3.75	1.75	2.75	3.75	3.75
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	55-60	→	→	→	60-65	→	→	→		2-3
RANGE	Hi'	→	→	→	Hi'	→	→	→		4.0
VOLTAGE	380	400	380	330	380	400	380	330		420
CURRENT	1.75	2.75	3.75	3.75	1.75	2.75	3.75	3.75		2.0

FREQUENCIES .10 3.0

SENDER NO. 13671-S

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSACHS

COMMENTS:

4-5 — 3.75

3-4 — 3.75

2-3 — 2.75

1-2 — 1.75

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 5 HALF N.E SP. 2 DATE 8/6/69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.1	.1	.01	1.	.03	.01	.3	.1	.03	.01
DC 1	32.1	73.0	7.21 7.07	362	30.6	6.08 6.28	295	93.2	14.0	3.80 4.30
DC 2	32.5	68.1	7.08 7.27	358	31.9	6.61 6.71	297	92.4	14.5	4.10 4.00
DC 3	32.1	73.0	7.23 7.06	362	30.9	6.42 6.10	295	92.4	14.2	4.02 4.04
DC 4	32.5	68.1	6.97 7.11	358	31.6	6.46 6.70	297	92.6	14.4	4.12 3.78
DC 5			7.20 7.13		30.9	6.09 6.02		92.4	14.2	3.90 4.11
DC 6			7.17 7.32		32.0	7.12 6.78		92.5	14.1	4.07 3.61
DC 7			7.17 6.91		30.7	6.07 6.19		92.5	14.5	4.13 4.41
DC 8			7.10 7.38		31.9	6.53 6.80		92.6	14.2	3.87 3.80
DC AVG.										
AC 1	28.3	63.1	6.40	321.	27.2	5.71	276.	80.8	12.7	3.70
AC 2	28.2	63.1	6.40	320.	27.2	5.71	276.	80.8	12.7	3.70
AC AVG.										
S.P.	+27.1	+15.6		-.3			+3.2			
AC NOISE	.05		.08			.09				.05
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Horizon

LINE 5 HALF NE SP. 2 DATE 8/4/69

PAGE 40 of 4

SEND	4-5	3-4	2-3		1-2		4-5	3-4	2-3		1-2		CALC	
RECEIVE														
RANGE	.1	.1	.01		.003		.1	.03	.01		.003		3-4	
DC 1	70.0	33.1	6.68	6.60	2.86	2.80	30.0	18.0	60.0	6.38	1.85	1.45	206	
DC 2	68.0	34.1	7.10	6.95	2.22	2.24	30.2	20.8	48.4	4.40	2.85	2.66	206	
DC 3	70.0	33.1	6.60	6.72	2.95	2.85	30.0	18.2	62.1	6.78	1.50	1.67	206	
DC 4	68.0	34.0	7.02	7.01	2.06	2.30	30.3	21.1	4.50	4.22	2.74	2.89	206	
DC 5		33.0	6.62	6.67	2.88	2.72	29.6	17.9	65.2	6.78	1.83	1.46		
DC 6		34.0	7.03	6.90	2.17	2.25	30.7	21.0	43.8	4.60	2.80	2.86		
DC 7		33.0	6.70	6.78	3.07	2.81	29.4	17.8	6.51	5.70	1.50	1.75		
DC 8		34.0	7.01	6.98	2.12	2.31	30.9	21.1	4.44	5.27	3.07	2.84		
DC AVG.														
AC 1	63.1	28.7	6.39		2.23		27.1	16.2	4.82		1.95		214.	
AC 2	63.1	28.7	6.38		2.23		27.0	16.2	4.82		1.95		214.	
AC AVG.														
S.P.	-2.5						-15.3							
AC NOISE					.03									
POT RES.														

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 5 HALF NE SP. 2 DATE 4-8

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	3500-2000SW	30-25	→	25-20	→	→	20-15	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	320	380	320	380	406	380	330	380	400	380
CURRENT	1.5	2.5	1.5	3.75	2.75	1.75	3.75	3.75	2.75	1.75
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		3-4
RECEIVE	15-10	→	→	→	1000'-500'SW	→	→	→		CAL.
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	330	380	400	380	330	380	400	380		300
CURRENT	3.75	3.75	2.75	1.75	3.75	3.75	2.75	1.75		2.0

FREQUENCIES 5/10 30

SENDER NO. 13671-S

OPERATOR HIX

RECEIVER NO. 7651-R

OPERATOR BAUERSACHS

COMMENTS:

HEINRICHS GEOEX (MAR 69) JOB 8-368-69 LINE 5 SPD 2 LOOKING N53W 4/9/69 A= 500 FEET, FREQUENCIES .10 AND 3.0

3.750	2.500	3.500	2.750	3.750	3.750	1.750	2.750	3.750	3.750	I	1.750	2.750	3.750	3.750	1.750	2.750	3.750	3.750	2.000	
107	578	181	446	153	679	663	170	965	407	DC	204	908	789	478	778	419	390	207	206	LEFT
105	538	152	458	162	600	672	158	990	518		224	838	640	279	770	423	430	281	206	SIDE
	578	183			658	664	172	982	409		203	920	778	494	761	429	425	238		
	536	152			580	672	163	1000	508		224	790	640	270	770	421	430	266		
	578	183			671	665	170	988	422		204	924	790	490	765	432	381	221		
	537	152			602	672	159	998	520		226	830	619	275	778	418	442	282		
	578	183			672	662	172	962	387		202	935	792	498	768	430	410	232		
	537	152			596	673	160	1000	524		226	785	630	278	792	423	442	281		

1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18	
212	1116	333	904	315	1279	1335	328	1955	925	DC	428	1746	1429	757	1548	842	820	488	412	
	1116	335			1258	1336	330	1972	927	SUMS	427	1758	1418	773	1531	852	855	519		
	1114	335			1238	1336	335	1982	917		427	1710	1418	764	1531	850	855	504		
	1114	335			1251	1337	333	1988	930		428	1714	1430	760	1535	853	811	487		
	1115	335			1273	1337	329	1986	942		430	1754	1409	765	1543	850	823	503		
	1115	335			1274	1334	331	1960	907		428	1765	1411	773	1546	848	852	514		
	1115	335			1268	1335	332	1982	911		428	1720	1422	776	1560	853	852	513		

0.0	.1	-.5	0.0	0.0	1.3	-.1	-.9	-.9	.2	DC	0.0	.5	.7	-1.3	.4	-.9	-2.2	-3.2	0.0	
	.1	.1			-.4	.0	-.3	-.0	.5	DEVS	-.2	1.1	-.1	.8	-.7	.3	2.0	3.0		
	-.1	.1			-2.0	.0	1.2	.5	-.6		-.2	-1.6	-.1	-.4	-.7	.0	2.0	0.0		
	-.1	.1			-1.0	.1	.6	.8	.8		0.0	-1.4	.7	-.9	-.5	.4	-3.3	-3.4		
	0.0	.1			.8	.1	-.6	.7	2.1		.5	.9	-.7	-.2	.1	.0	-1.8	-.2		
	0.0	.1			.9	-.1	-.0	-.6	-1.7		0.0	1.5	-.6	.8	.3	-.2	1.6	2.0		
	0.0	.1			.4	-.1	.3	-.5	-1.3		0.0	-1.0	.2	1.2	1.2	.4	1.6	1.8		

1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6	
106.00	55.75	16.74	45.20	15.75	6.315	66.79	16.56	9.861	4.614	DCA	21.40	8.691	7.098	3.834	7.710	4.249	4.191	2.520	206.0	
94.00	47.20	14.80	40.80	13.40	5.600	62.80	15.20	8.600	4.210	AC1	19.70	7.860	6.170	3.500	7.100	3.860	3.650	2.300	212.0	
94.00	47.20	14.80	40.60	13.40	5.600	62.70	15.20	8.600	4.210	AC2	19.70	7.870	6.170	3.500	7.100	3.860	3.650	2.300	212.0	
94.00	47.20	14.80	40.70	13.40	5.600	62.75	15.20	8.600	4.210	ACA	19.70	7.865	6.170	3.500	7.100	3.860	3.650	2.300	212.0	
41.17	32.48	27.85	23.94	24.47	24.52	55.58	35.07	38.29	35.83	RHO	71.23	46.02	55.13	52.12	64.16	45.00	56.97	54.80	.971	DC CAL
16.1	21.6	16.4	14.3	21.0	18.1	9.5	12.1	18.0	12.8	PFE	11.8	13.7	18.4	12.7	11.8	13.3	18.2	12.8	1.029	AC CAL
390	664	688	597	857	655	171	345	470	357	MCF	166	298	334	244	183	295	319	233		
.0	.1	.2	.1	.3	.6	0.0	.2	.4	.7	CPFE	.1	.3	.4	.7	.2	.5	.6	1.0		
16.0	21.5	16.1	14.2	20.7	15.4	9.5	11.9	17.6	12.1	CCPFE	11.7	13.4	18.0	12.0	11.6	12.7	17.5	11.7		
389	662	579	594	845	628	171	340	461	336	CCMCF	165	292	326	231	181	283	308	214		

1.500	2.500	1.500	3.750	2.750	1.750	3.750	3.750	2.750	1.750	I	3.750	3.750	2.750	1.750	3.750	3.750	2.750	1.750	2.000	
321	730	721	362	306	608	895	932	140	380	DC	700	331	668	286	300	180	600	185	206	RIGHT
325	681	708	358	319	661	297	924	145	410		680	341	710	222	302	208	484	285	206	SIDE
		723		309	642		924	142	402			331	660	295	300	182	621	150		
		697		316	646		926	144	412			340	702	206	303	211	450	274		
		720		309	609		924	142	390			330	662	288	296	179	652	183		
		717		320	712		925	141	407			340	703	217	307	210	438	280		
		717		307	607		925	145	413			330	670	307	294	178	651	150		
		710		319	653		926	142	387			340	701	212	309	211	444	307		
		707			628				430				660	280			638	145		
		727			671				400				695	224			440	266		
		706			610				404				672	285			678	167		
		711			670				378				701	230			422	289		
		713			602				411				667	272			678	146		
		732			678				361				690	225			460	286		
		691			619				441				678	281			570	175		
		738			680				380				698	231			527	284		

1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18	
646	811	1429	720	625	1269	892	1856	285	790	DC	1380	672	1378	508	602	388	1084	470	412	
		1431		628	1303		1848	287	812	SUMS		672	1370	517	602	390	1105	435		
		1420		625	1288		1850	286	814			671	1362	501	603	393	1071	424		
		1417		625	1255		1850	286	802			670	1364	494	599	390	1102	457		
		1437		629	1321		1849	283	797			670	1365	505	603	389	1090	463		
		1434		627	1319		1850	286	820			670	1373	524	601	388	1089	430		
		1427		626	1266		1851	287	800			670	1371	519	603	389	1095	457		
		1417			1281				817				1361	492			1082	452		
		1434			1299				830				1355	504			1078	411		
		1433			1281				804				1367	509			1118	433		
		1417			1280				782				1373	515			1100	456		
		1424			1272				789				1368	502			1100	435		
		1445			1280				772				1357	497			1138	432		
		1423			1297				802				1368	506			1030	461		
		1429			1299				821				1376	512			1097	459		

0.0	0.0	.1	0.0	-.2	-1.4	0.0	.3	-.2	-1.7	DC	0.0	.2	.8	.2	.0	-.4	-.7	5.6	0.0	
		.2		.3	1.2		-.1	.5	1.1	DEVS		.2	.2	2.0	.0	.1	1.2	-2.2		
		-.5		-.2	.1		-.0	.1	1.3			.0	-.4	-1.2	.2	.9	-1.9	-6.7		
		-.8		-.2	-2.5		-.0	.1	-.2			-.1	-.2	-2.6	-.5	.1	.9	2.7		
		.6		.4	2.6		-.1	-.9	-.8			-.1	-.2	-.4	.2	-.1	-.2	4.0		
		.4		.1	2.5		-.0	.1	2.1			-.1	.4	3.4	-.1	-.4	-.3	-3.4		
		-.1		-.1	-2.1		.0	.5	-.4			-.1	.3	2.4	.2	-.1	.3	2.7		
		-.8			-.5				1.7				-.5	-3.0			-.9	1.6		
		.4			.9				3.3				-.9	-.6			-1.3	-7.6		
		.4			-.5				.1				-.0	.4			2.4	-2.7		
		-.8			-.5				-2.7				.4	1.6			.7	2.5		
		-.3			-1.2				-1.8				.1	-1.0			.7	-2.2		
		1.2			-.5				-3.9				-.7	-2.0			4.2	-2.9		
		-.3			.8				-.2				.1	-.2			-5.7	3.6		
		.1			.9				2.2				.6	1.0			.5	3.1		

1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6	
32.30	40.55	7.139	360.0	31.32	6.435	440.0	92.53	14.29	4.017	DCA	69.00	33.54	6.838	2.535	30.09	19.48	5.460	2.225	206.0	
28.30	63.10	6.400	321.0	27.20	5.710	276.0	80.80	12.70	3.700	AC1	63.10	28.70	6.390	2.230	27.10	16.20	4.820	1.950	214.0	
28.20	63.10	6.400	320.0	27.20	5.710	276.0	80.80	12.70	3.700	AC2	63.10	28.70	6.380	2.230	27.00	16.20	4.820	1.950	214.0	
28.25	63.10	6.400	320.5	27.20	5.710	276.0	80.80	12.70	3.700	ACA	63.10	28.70	6.385	2.230	27.05	16.20	4.820	1.950	214.0	
31.36	52.62	27.72	139.8	66.35	53.55	175.2	143.7	75.65	66.86	RHO	107.2	130.2	72.40	73.83	116.9	151.3	101.2	103.7	.971	DC CAL
18.8	33.7	15.9	16.7	19.6	17.1	67.9	19.0	16.9	12.8	PFE	13.6	21.4	11.2	18.1	15.6	24.9	17.7	18.5	1.039	AC CAL
599	1407	573	119	296	319	392	132	223	191	MCF	127	164	155	245	133	166	175	179		
.1	.1	.2	0.0	.1	.2	0.0	0.0	.1	.3	CPFE	.0	.1	.3	.5	.1	.1	.3	.4		
18.7	33.3	15.6	16.7	19.6	16.8	67.9	19.0	16.7	12.5	CCPFE	13.6	21.3	10.9	17.6	15.5	24.8	17.4	18.1		
597	1411	564	119	295	315	392	132	221	187	CCMCF	127	164	151	239	133	164	172	175		

CCPFE

N	65SW	60	55	50	45	40	35SW	30	25	20	15	10	SURFACE
1	X	X	X	X9.5	X14.2	X18.7→21.5	X-33.3→16.0	X16.7	X67.9	X	X	X	X
2	X	X	X	X11.7	X11.9	X20.7	X15.6→16.1	X19.6	X19.0	X13.6	X	X	X
3	X	X	X	X11.6	X13.4	X17.6	X15.4	X16.8	X16.7	X21.3	X15.5	X	X
4	X	X	X	X12.7	X18.0	X12.1	X	X12.5	X10.9	X24.8	X	X	X
5	X	X	X	X17.5	X12.0	X	X	X17.6	X17.4	X	X	X	X
6	X	X	X	X	X11.7	X	X	X	X18.1	X	X	X	X

CCMCF

N	65SW	60	55	50	45	40	35SW	30	25	20	15	10	SURFACE
1	X	X	X	X171	X594	X597→662	X-1411→389	X119	X392	X	X	X	X
2	X	X	X	X165	X340	X845	X564→579	X295	X132	X127	X	X	X
3	X	X	X	X181	X292	X461	X628	X315	X221	X164	X133	X	X
4	X	X	X	X283	X326	X336	X	X187	X151	X164	X	X	X
5	X	X	X	X308	X231	X	X	X239	X172	X	X	X	X
6	X	X	X	X	X214	X	X	X	X175	X	X	X	X

JOB B-368-69 LINE 1 SPREAD 3

LOOKING North DATE 3/17/69 A= 500'

CENTER -70.0 LABEL W/W FREQ. 3.0

17 March 1969

COUPLING Yes

rw

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF E SP. 3 DATE 14 MA. 69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.03	.3	.1	.03	.01
DC 1	318	200	39.4	144	32.0	11.5	11.7	31.8	12.2	4.26
DC 2	321	194	36.8	147	32.2	12.0	11.6	31.7	12.3	4.78
DC 3	318	197	39.2	144	32.0	11.5	11.7	31.8	12.1	4.19
DC 4	321	196	36.8	147	32.2	11.9	11.6	31.7	12.3	4.80
DC 5		197	39.0			11.6			12.2	4.20
DC 6		196	37.0			12.0			12.4	4.87
DC 7			38.9			11.3			12.1	4.18
DC 8			37.1			12.0			12.3	4.83
DC AVG.										
AC 1	281.	172.	32.6	128.	28.2	10.2	103.	28.8	10.8	3.92
AC 2	280.	172.	32.6	128.	28.2	10.2	103.	28.8	10.8	3.92
AC AVG.										
S.P.	+12.5	+22.2		-2.6			-16.7			
AC NOISE	.02		.06			.03				.03
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF E SP. 3 DATE 14 MAR. 84

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAL 1	
RECEIVE									3-4	
RANGE	.1	.03	.01	.01	.01	.01	.01	.003		
DC 1	30.2	12.8	7.10	2.80	8.64	5.95	4.32	1.75	207	
DC 2	30.4	12.9	7.00	2.82	8.39	5.16	3.38	1.07	207	
DC 3	30.2	12.8	7.02	2.82	8.66	5.97	4.35	1.77	207	
DC 4	30.5	12.9	6.99	2.85	8.43	5.11	3.32	1.12	207	
DC 5	30.1		7.18	2.80	8.62	6.00	4.26	1.74		
DC 6	30.2		6.98	2.85	8.42	5.09	3.37	1.04		
DC 7	30.1		7.04	2.77	8.63	6.00	4.28	1.76		
DC 8	30.5		7.02	2.92	8.43	5.10	3.33	.95		
DC AVG.										
AC 1	28.2	11.7	6.50	2.58	7.47	4.85	3.42	1.24	214	
AC 2	28.0	11.7	6.50	2.57	7.47	4.85	3.42	1.24	214	
AC AVG.										
S.P.	+16.3				+13.5					
AC NOISE				.04				.04		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 1 HALF E SP. 3 DATE 3-14-89

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	7000'-6500' W	65-60 W	→	60-55	→	→	55-50	→	→	→
RANGE	Hi'	Hi'	→	Hi'	→	→	Hi'	→	→	→
VOLTAGE	390	330	390	340	330	390	330	340	330	390
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL.
RECEIVE	50-45	→	→	→	45-40 W	→	→	→		3-4
RANGE	Hi	→	→	→	Hi	→	→			Hi'
VOLTAGE	330	340	330	390	400	400	400	390		330
CURRENT	2.5	2.5	2.5	2.5	3.0	3.0	3.0	2.5		2.0

FREQUENCIES .10 3.0

SENDER NO. 1367 1 - S

OPERATOR HIX

RECEIVER NO.

OPERATOR BAUERSACHS

COMMENTS: 1-2 ——

2-3 ——

3-4 ——

4-5 ——

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF W SP. 3 DATE 14 M. 1969

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	1.0	.1	1.	.1	.03	1.	.3	.1	.01
DC 1	192	314	40.8	432	981	18.8	398	113	39.9	8.10
DC 2	196	312	35.9	439	986	17.0	400	115	38.3	8.62
DC 3	193	314	40.8	432	98.1	18.8	398	113	40.1	8.21
DC 4	195	312	35.9	439	986	16.8	400	115	38.2	8.25
DC 5	193					19.0			40.6	8.30
DC 6	195					16.8			38.0	8.42
DC 7						19.0			40.5	8.08
DC 8						16.7			38.2	8.52
DC AVG.										
AC 1	168	273	32.8	389	86.4	15.2	362	103	35.3	7.17
AC 2	168	273	32.8	389	86.5	15.2	360	103	35.2	7.18
AC AVG.										
S.P.	+25.2	-33.1		-23.5			-8.7			
AC NOISE	.03		.04			.03				.03
POT RES.										

SEC CORNER 200' W & 50' N OF ELEC #1

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF W SP. 3 DATE 15 Jul. 1965

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	OAC 1	
RECEIVE									2-3	
RANGE	.1	.1	.03	.01	.01	.01	.003	.003		
DC 1	95.7	50.2	20.4	7.88	6.18	3.71	1.84	1.32	207	
DC 2	95.6	49.5	22.4	5.78	5.95	3.60	2.10	1.00	207	
DC 3	96.0	50.6	20.4	7.91	6.18	3.65	1.87	1.32	207	
DC 4	96.2	49.1	22.5	5.76	5.95	3.62	2.11	.98	207	
DC 5	95.7	50.9	20.3	7.95	6.18	3.66	1.87	1.30		
DC 6	95.8	49.1	22.5	5.73	5.95	3.48	2.07	.96		
DC 7	95.6	51.0	20.5	7.90	6.12	3.62	1.90	1.31		
DC 8	95.3	49.2	22.2	5.70	5.95	3.45	2.10	1.00		
DC AVG.										
AC 1	90.3	47.4	19.7	6.12	5.14	2.98	1.63	1.00	214	
AC 2	90.4	47.4	19.7	6.13	5.15	2.98	*	1.00	214	
AC AVG.										
S.P.	+21.0				-64.4					
AC NOISE				.04				.03		
POT RES.							* NO 2ND A/C READ.			

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 1 HALF W SP. 3 DATE 3-14-69

PAGE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	70-75 W	75-80	→	80-85	→	→	85-90	→	→	→
RANGE	1X1	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	320	330	320	320	330	320	380	320	330	320
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	90-95	→	→	→	95-100	→	→	→		2-3
RANGE	Hi	→	→	→	Hi	→	→	→		1X1
VOLTAGE	380	390	390	380	380	380	390			260
CURRENT	2.5	3.0	3.0	3.0	2.5	3.0	3.0			2.0

FREQUENCIES 10 3.0

SENDER NO. 1467I-S

OPERATOR HIX

RECEIVER NO.

OPERATOR BAUERSACHS

COMMENTS: * Time

HEINRICHS GEOEX (MAR 69) JOB B-368-69 LINE 1 SPREAD 3 LOOKING NORTH 3/17/69 A= 500 FEET, FREQUENCIES .05 AND 3.0

2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	I	2.500	2.500	2.500	2.500	3.000	3.000	3.000	2.500	2.000	
318	200	394	144	320	115	117	318	122	420	DC	302	128	710	280	864	595	432	175	207	LEFT
321	194	368	147	322	120	116	317	123	478		304	129	700	282	839	516	338	107	207	SIDE
	197	392			115			121	419		302		702	282	866	597	435	177		
	196	368			119			123	480		305		699	285	843	511	332	112		
	197	390			116			122	420		301		718	280	862	600	426	174		
	196	370			120			124	487		306		698	285	842	509	337	104		
		389			113			121	418		301		704	277	863	600	428	176		
		371			120			123	483		305		702	292	843	510	333	95		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
639	394	762	291	642	235	233	635	245	898	DC	606	257	1410	562	1703	1111	770	282	414	
	391	760			235			244	897	SUMS	606		1402	564	1705	1113	773	284		
	393	760			234			244	899		607		1401	567	1709	1108	767	289		
	393	758			235			245	900		606		1417	565	1705	1111	758	286		
	393	760			236			246	907		607		1416	565	1704	1109	763	278		
		759			233			245	905		607		1402	562	1705	1109	765	280		
		760			233			244	901		606		1406	569	1706	1110	761	271		
0.0	.3	.3	0.0	0.0	.2	0.0	0.0	.1	-.3	DC	-.1	0.0	.2	-.5	-.1	.1	.6	.2	0.0	
	-.5	.0			.2			-.3	-.4	DEVS	-.1		-.4	-.2	-.0	.3	1.0	.9		
	.1	.0			-.2			-.3	-.2		.1		-.5	.4	.2	-.2	.2	2.7		
	.1	-.2			.2			.1	-.1		-.1		.7	.0	-.0	.1	-1.0	1.6		
	.1	.0			.7			.5	.7		.1		.6	.0	-.1	-.1	-.3	-1.2		
	-.1				-.6			.1	.4		.1		-.4	-.5	-.0	-.1	-.0	-.5		
	.0				-.6			-.3	0.0		-.1		-.1	.7	.0	-.0	-.6	-3.7		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
319.5	196.4	37.99	145.5	32.10	11.72	116.5	31.75	12.24	4.505	DCA	30.32	12.85	7.039	2.824	8.526	5.551	3.826	1.407	207.0	
281.0	172.0	32.60	128.0	28.20	10.20	103.0	28.80	10.80	3.920	AC1	28.20	11.70	6.500	2.580	7.470	4.850	3.420	1.240	214.0	
280.0	172.0	32.60	128.0	28.20	10.20	103.0	28.80	10.80	3.920	AC2	28.00	11.70	6.500	2.570	7.470	4.850	3.420	1.240	214.0	
280.5	172.0	32.60	128.0	28.20	10.20	103.0	28.80	10.80	3.920	ACA	28.10	11.70	6.500	2.575	7.470	4.850	3.420	1.240	214.0	
185.2	113.9	88.10	84.35	74.43	67.95	67.54	73.62	70.93	52.23	RHO	70.31	74.49	81.61	57.30	41.19	53.63	64.70	45.68	.966	DC CAL
17.8	18.0	20.5	17.5	17.7	18.8	16.9	14.0	17.1	18.8	PFE	11.6	13.5	11.9	13.4	18.0	18.3	15.7	17.3	1.034	AC CAL
96	159	233	208	238	277	251	190	241	360	MCF	164	182	146	234	437	342	242	379		
0.0	0.0	.0	0.0	.1	.2	0.0	.1	.1	.4	CPFE	.1	.1	.2	.6	.3	.4	.5	1.3		
17.8	18.0	20.4	17.5	17.6	18.6	16.9	13.9	17.0	18.4	CCPFE	11.5	13.4	11.7	12.8	17.7	17.9	15.1	16.0		
96	159	232	208	237	274	251	189	239	352	CCMCF	163	180	144	223	429	334	234	350		

2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	I	2.500	3.000	3.000	3.000	2.500	3.000	3.000	3.000	2.000	
192	314	408	432	981	188	398	113	399	810	DC	957	502	204	788	618	371	184	132	207	RIGHT
196	312	359	437	986	170	400	115	383	862		956	495	224	578	595	360	210	100	207	SIDE
193					188			401	821		960	506	204	791	618	365	187	132		
195					168			382	825		962	491	225	576	595	362	211	98		
193					190			406	830		957	509	203	795	618	366	187	130		
195					168			380	842		958	491	225	573	595	348	207	96		
					190			405	800		958	510	205	790	612	362	190	131		
					167			382	852		953	492	222	570	595	345	210	100		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
388	626	767	869	1967	358	798	228	782	1672	DC	1913	997	428	1366	1213	731	394	232	414	
389					358			784	1683	SUMS	1916	1001	428	1369	1213	725	397	232		
388					356			783	1646		1922	997	429	1367	1213	727	398	230		
388					358			788	1655		1919	1000	428	1371	1213	728	398	228		
388					358			786	1672		1915	1000	428	1368	1213	714	394	226		
					358			785	1642		1916	1001	430	1363	1207	710	397	227		
					357			787	1652		1911	1002	427	1360	1207	707	400	231		
-.1	0.0	0.0	0.0	0.0	.1	0.0	0.0	-.4	.7	DC	-.2	-.3	-.1	-.0	.1	1.5	-.7	1.1	0.0	
.2					.1			-.1	1.4	DEVS	0.0	.1	-.1	.2	.1	.7	.0	1.1		
-.1					-.4			-.3	-.9		.3	-.3	.2	.1	.1	.9	.3	.2		
-.1					.1			.4	-.3		.2	.0	-.1	.3	.1	1.1	.3	-.6		
-.1					.1			.1	.7		-.1	.0	-.1	.1	.1	-.9	-.7	-1.5		
					.1			0.0	-1.1		0.0	.1	.4	-.2	-.4	-1.4	.0	-1.1		
					-.2			.3	-.5		-.3	.2	-.3	-.5	-.4	-1.8	.8	.7		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
194.1	313.0	38.35	434.5	98.35	17.88	399.0	114.0	39.25	8.301	DCA	95.80	49.99	21.41	6.831	6.056	3.601	1.984	1.147	207.0	
168.0	273.0	32.80	389.0	86.40	15.20	362.0	103.0	35.30	7.170	AC1	90.30	47.40	19.70	6.120	5.140	2.980	1.630	1.000	214.0	
168.0	273.0	32.80	389.0	86.50	15.20	360.0	103.0	35.20	7.180	AC2	90.40	47.40	19.70	6.130	5.150	2.980	1.630	1.000	214.0	
168.0	273.0	32.80	389.0	86.45	15.20	361.0	103.0	35.25	7.175	ACA	90.35	47.40	19.70	6.125	5.145	2.980	1.630	1.000	214.0	
112.5	181.4	88.93	251.9	228.1	103.6	231.3	264.3	227.5	96.25	RHO	222.1	241.5	206.9	115.5	35.11	34.80	33.55	31.03	.966	DC CAL
19.4	18.5	20.9	15.5	17.6	21.6	14.3	14.4	15.1	19.6	PFE	9.6	9.0	12.4	15.3	21.7	24.9	25.9	18.6	1.034	AC CAL
173	102	235	61	77	208	62	55	66	204	MCF	43	37	60	133	618	717	771	599		
0.0	0.0	.0	0.0	0.0	.1	0.0	0.0	0.0	.2	CPFE	0.0	0.0	.1	.2	.4	.8	1.3	2.2		
19.4	18.5	20.8	15.5	17.6	21.5	14.3	14.4	15.1	19.4	CCPFE	9.6	9.0	12.3	15.1	21.3	24.2	24.6	16.4		
173	102	234	61	77	208	62	55	66	202	CCMCF	43	37	60	130	607	695	732	529		

CCPFE

N	100W	95	90	85	80	75	70W	65	60	55	50	45	40W	SURFACE
					1	2	3	4	5					
1	X	X	X	X16.9	X17.5	X19.4→18.0	X18.5→17.8	X15.5	X14.3	X	X	X	X	
2	X	X	X	X11.5	X13.9	X17.6	X20.8→20.4	X17.6	X14.4	X9.6	X	X	X	
3	X	X	X	X17.7	X13.4	X17.0	X18.6	X21.5	X15.1	X9.0	X21.3	X	X	X
4	X	X	X	X17.9	X11.7	X18.4	X	X19.4	X12.3	X24.2	X	X	X	
5	X	X	X	X15.1	X12.8	X	X	X15.1	X24.6	X	X	X	X	
6	X	X	X	X	X16.0	X	X	X	X16.4	X	X	X	X	

CCMCF

N	100W	95	90	85	80	75	70W	65	60	55	50	45	40W	SURFACE
					1	2	3	4	5					
1	X	X	X	X251	X208	X173→159	X102→96	X61	X62	X	X	X	X	
2	X	X	X	X163	X189	X237	X234→232	X77	X55	X43	X	X	X	
3	X	X	X	X429	X180	X239	X274	X208	X66	X37	X607	X	X	X
4	X	X	X	X334	X144	X352	X	X202	X60	X695	X	X	X	
5	X	X	X	X234	X223	X	X	X130	X732	X	X	X	X	
6	X	X	X	X	X350	X	X	X	X529	X	X	X	X	

JOB B-368-69 LINE 1 SPREAD 2

LOOKING North DATE 3/14/69 A= 500'

CENTER -35.0 LABEL W/W FREQ 3.0

COUPLING Yes

14 Mar 69
pc

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF W SP. 2 DATE 13 March 69

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	1.	.1	.3	.1	.03	.1	.03	.03	.01
DC 1	248	410	77.1	187	67.8	22.6	88.7	28.1	16.9	7.61
DC 2	248	406	75.0	188	65.9	20.4	88.0	27.5	16.2	8.78
DC 3	248	410	77.0	187	67.8	22.6	88.8	28.1	17.0	7.64
DC 4	248	408	74.9	188	65.9	20.4	88.0	27.4	16.1	8.76
DC 5			76.8				88.7	28.1	17.0	7.65
DC 6			75.0				88.1	27.4	16.0	8.78
DC 7			76.7				88.7	28.1	17.0	7.63
DC 8			75.0				88.1	27.4	16.1	8.78
DC AVG.										
AC 1	233	380	69.5	168	60.0	19.3	76.7	24.0	14.3	7.20
AC 2	233	380	69.5	168	60.0	19.3	76.6	24.0	14.3	7.20
AC AVG.										
S.P.	-11.6	-11.4		-21.9			+16.3			
AC NOISE	.07		.04			.06				.06
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF W SP. 2 DATE 14 Mch. 69

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CAL 1	
RECEIVE									2-3	
RANGE	.03	.01	.01	.01	.01	.01	.01	.01	.3	
DC 1	18.4	9.59	8.03	3.99	7.36	6.08	6.06	2.11	207	
DC 2	17.6	8.78	7.08	4.90	8.38	4.77	4.66	4.63	207	
DC 3	18.4	9.59	8.02	4.00	7.40	6.05	6.60	2.12	207	
DC 4	17.6	8.70	7.06	4.99	8.44	4.75	4.51	4.66	207	
DC 5		9.65	8.02	3.99	7.38	6.08	6.65	2.10		
DC 6		8.71	7.05	4.92	8.52	4.68	4.48	4.69		
DC 7		9.60	8.00	3.99	7.12	6.20	6.65	2.12		
DC 8		8.73	7.11	4.91	8.60	4.61	4.47	4.69		
DC AVG.										
AC 1	15.6	7.85	6.53	3.90	6.84	4.64	4.89	3.01	212	
AC 2	15.6	7.85	6.52	3.91	6.85	4.64	4.89	3.01	212	
AC AVG.										
S.P.	+1.8				+25.2					
AC NOISE				.04				.05		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 1 HALF W SP. 2 DATE 3-13-

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	35-40	40-45	→	45-50	→	→	50-55	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	380	280	380	340	280	380	400	340	280	380
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	2.75	3.5	3.5	3.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	55-60	→	→	→	60-65	→	→	→		2-3
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	400	340	280	380	400	370	320	400		200
CURRENT	2.75	3.5	3.5	3.5	2.75	3.75	4.0	3.75		2.0

FREQUENCIES .10 3.0
SENDER NO. 13671-5
OPERATOR HIX
RECEIVER NO.
OPERATOR BAUERSACHS

COMMENTS:

-52 -27 -29 -45 -23 -12 0 8 5 -1 -2 7 11

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Horizon

LINE 1 HALF E SP. 2 DATE 13 M-69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	1.	.3	.1	1.	.1	.03	.3	.1	.03	.01
DC 1	321	250	60.0	392	71.5	25.2	207	68.8	20.4	7.71
DC 2	322	250	59.0	394	71.8	24.6	208	67.1	18.7	9.78
DC 3	321	250	56.0	392	71.5	25.2	207	68.7	20.5	7.69
DC 4	322	250	59.0	392	71.8	24.7	208	67.2	18.7	9.72
DC 5				393	71.5	25.0		68.6	20.5	7.70
DC 6				393	71.8	24.8		67.2	18.7	9.71
DC 7				394		25.1		68.5	20.6	7.72
DC 8				393		24.8		67.1	18.7	9.77
DC AVG.										
AC 1	302	237	55.2	384	67.0	22.8	204	65.9	18.3	8.01
AC 2	302	237	55.2	382	67.0	22.8	204	65.9	18.3	8.01
AC AVG.										
S.P.	+7.7	-3.2		-6.4			-.08			
AC NOISE	-		.03			.04				.06
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF E SP. 2 DATE 13 M. 69

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAL 1	
RECEIVE										
RANGE	.1	.1	.03	.01	.03	.03	.01	.01		
DC 1	70.0	30.3	10.6	4.81	27.8	15.7	5.48	4.01	209	
DC 2	70.1	30.2	10.3	5.62	28.1	14.5	6.60	2.78	208	
DC 3	70.0	30.3	10.6	4.78	27.8	15.6	5.50	4.06	209	
DC 4	70.1	30.2	10.2	5.70	28.2	14.5	6.59	2.75	208	
DC 5			10.7	4.77	27.7	15.6	5.54	4.00		
DC 6			10.3	5.70	28.2	14.5	6.58	2.77		
DC 7			10.7	4.78	27.7		5.48	3.98		
DC 8			10.2	5.72	28.2		6.61	2.70		
DC AVG.										
AC 1	69.0	29.8	9.7	4.82	27.4	14.5	5.65	3.11	216	
AC 2	69.0	29.7	9.7	4.82	27.4	14.5	5.65	3.10	216	
AC AVG.										
S.P.	+ 8.8				+3.7					
AC NOISE				.04				.06		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON
LINE 1 HALF E SP. 2 DATE 3-13

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	35-30E	30-25	→	25-20	→	→	20-15	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	400	360	400	300	350	400	380	300	350	400
CURRENT	2.75	3.5	2.75	3.5	3.5	2.75	3.5	3.5	3.5	2.75
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL.
RECEIVE	15-10	→	→	→	10-5	→	→	→		3-4
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	380	300	350	400	380	300	350	400		170
CURRENT	3.5	3.5	3.5	2.75	3.5	3.5	3.5	2.75		2.0

FREQUENCIES 3.0 3.0
SENDER NO. 13671-5
OPERATOR Hix
RECEIVER NO. -
OPERATOR BAUERSACHS

COMMENTS: 1-2 - 2.75 - Hi
2-3 - 3.5 -
3-4 - 3.5 -
4-5 - 3.5 -

HEINRICHS GEOEX (MAR 69) JOB B-368-69 LINE 1 SPREAD 2 LOOKING N 3/14/69 A= 500 FEET, FREQUENCIES .05 AND 3.0

3.500	3.500	3.500	3.500	3.500	3.500	2.750	3.500	3.500	3.500	I	2.750	3.500	3.500	3.500	2.750	3.750	4.000	3.750	2.000	
248	410	771	187	678	226	887	281	169	761	DC	184	959	803	399	736	608	656	211	207	LEFT
248	408	750	188	659	204	880	275	162	878		176	878	708	490	838	477	460	463	207	SIDE
		770				888	281	170	764			959	802	400	740	605	660	212		
		749				880	274	161	876			870	706	499	844	475	451	466		
		768				887	281	170	765			965	802	399	738	608	665	210		
		750				881	274	160	878			871	705	492	852	468	448	469		
		767				887	281	170	763			960	800	399	712	620	665	212		
		750				881	274	161	878			873	711	491	860	461	447	469		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
496	818	1521	375	1337	430	1767	556	331	1639	DC	360	1837	1511	889	1574	1085	1116	674	414	
		1520				1768	556	332	1642	SUMS		1837	1510	890	1578	1082	1120	675		
		1519				1768	555	331	1640			1829	1508	899	1584	1080	1111	678		
		1517				1767	555	331	1641			1835	1508	898	1582	1083	1116	676		
		1518				1768	555	330	1643			1836	1507	891	1590	1076	1113	679		
		1517				1768	555	330	1641			1831	1505	891	1564	1088	1113	681		
		1517				1768	555	331	1641			1833	1511	890	1572	1081	1112	681		
0.0	0.0	.2	0.0	0.0	0.0	-.0	.1	.0	-.1	DC	0.0	.2	.2	-.4	-.2	.3	.1	-.5	0.0	
		.1				.0	.1	.3	.1	DEVS		.2	.1	-.3	.0	-.0	.5	-.4		
		.0				.0	-.1	.0	-.1			-.3	-.0	.7	.4	-.2	-.3	.0		
		-.1				-.0	-.1	.0	0.0			.1	-.0	.6	.3	.1	.1	-.3		
		-.0				.0	-.1	-.3	.1			.1	-.1	-.2	.8	-.6	-.1	.2		
		-.1				.0	-.1	-.3	0.0			-.2	-.2	-.2	-.9	.5	-.1	.5		
		-.1				.0	-.1	.0	0.0			-.1	.2	-.3	-.4	-.1	-.2	.5		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
248.0	409.0	75.92	187.5	66.85	21.50	88.39	27.76	16.54	8.205	DCA	18.00	9.170	7.543	4.463	7.889	5.411	5.572	3.389	207.0	
233.0	380.0	69.50	168.0	60.00	19.30	76.70	24.00	14.30	7.200	AC1	15.60	7.850	6.530	3.900	6.840	4.640	4.890	3.010	212.0	
233.0	380.0	69.50	168.0	60.00	19.30	76.60	24.00	14.30	7.200	AC2	15.60	7.850	6.520	3.910	6.850	4.640	4.890	3.010	212.0	
233.0	380.0	69.50	168.0	60.00	19.30	76.65	24.00	14.30	7.200	ACA	15.60	7.850	6.525	3.905	6.845	4.640	4.890	3.010	212.0	
102.7	169.4	125.7	77.64	110.7	89.03	46.58	45.99	68.50	67.95	RHO	37.94	37.97	62.47	64.68	41.57	41.82	70.66	73.34	.966	DC CAL
9.0	10.2	11.9	14.3	14.1	14.1	18.1	18.5	18.5	16.7	PFE	18.2	19.6	18.4	17.0	18.0	19.4	16.7	15.3	1.024	AC CAL
88	60	94	184	127	158	388	402	270	246	MCF	479	517	294	264	434	465	236	209		

2.750	3.500	2.750	3.500	3.500	2.750	3.500	3.500	3.500	2.750	I	3.500	3.500	3.500	2.750	3.500	3.500	3.500	2.750	2.000	
321	250	600	392	715	252	207	688	204	771	DC	700	303	106	481	278	157	548	401	209	RIGHT
322	250	590	394	718	246	208	671	187	978		701	302	103	562	281	145	660	278	208	SIDE
		560	392		252		687	205	769				106	478	278	156	550	400		
		590	392		247		672	187	972				102	570	282	145	659	275		
			393		250		686	205	770				107	477	277	156	554	400		
			393		248		672	187	971				103	570	282	145	658	277		
			394		251		685	206	772				107	478	277		548	398		
			393		248		671	187	977				102	572	282		661	270		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
643	500	1190	786	1433	498	415	1359	391	1749	DC	1401	605	209	1043	559	302	1208	679	417	
		1150	786		498		1358	392	1747	SUMS			209	1040	559	301	1210	678		
		1150	784		499		1359	392	1741				208	1048	560	301	1209	675		
			785		497		1358	392	1742				209	1047	559	301	1213	675		
			786		498		1358	392	1741				210	1047	559	301	1212	677		
			787		499		1357	393	1743				210	1048	559		1206	675		
			787		499		1356	393	1749				209	1050	559		1209	668		
0.0	0.0	2.3	.0	0.0	-.1	0.0	.1	-.3	.3	DC	0.0	0.0	-.1	-.3	-.0	.3	-.1	.6	0.0	
		-1.1	.0		-.1		.0	-.0	.1	DEVS			-.1	-.6	-.0	-.1	.0	.4		
		-1.1	-.2		.1		.1	-.0	-.2				-.5	.2	.2	-.1	-.0	-.0		
			-.1		-.3		.0	-.0	-.1				-.1	.1	-.0	-.1	.3	-.0		
			.0		-.1		.0	-.0	-.2				.4	.1	-.0	-.1	.2	.3		
			.1		.1		-.1	.2	-.1				.4	.2	-.0		-.3	-.0		
			.1		.1		-.1	.2	.3				-.1	.4	-.0		-.0	-1.1		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
321.5	250.0	58.17	392.9	71.65	24.91	207.5	67.89	19.61	8.723	DCA	70.05	30.25	10.457	5.231	27.96	15.06	6.048	3.376	208.5	
302.0	237.0	55.20	384.0	67.00	22.80	204.0	65.90	18.30	8.010	AC1	69.00	29.80	9.700	4.820	27.40	14.50	5.650	3.110	216.0	
302.0	237.0	55.20	382.0	67.00	22.80	204.0	65.90	18.30	8.010	AC2	69.00	29.70	9.700	4.820	27.40	14.50	5.650	3.100	216.0	
302.0	237.0	55.20	383.0	67.00	22.80	204.0	65.90	18.30	8.010	ACA	69.00	29.75	9.700	4.820	27.40	14.50	5.650	3.105	216.0	
168.2	102.8	121.7	161.5	117.8	130.4	85.30	111.6	80.60	91.28	RHO	115.2	124.4	85.98	95.79	114.9	123.8	87.02	98.93	.959	DC CAL
10.3	9.3	9.2	6.3	10.8	13.2	5.4	6.7	11.0	12.8	PFE	5.2	5.3	11.7	12.4	5.7	7.6	10.9	12.7	1.036	AC CAL
61	90	75	39	92	101	63	60	136	140	MCF	45	43	136	130	50	61	125	128		

JOB B-368-69 LINE 1 SPREAD 1

LOOKING North DATE 3/13/69 A= 500'

CENTER 0.0 LABEL W/E FREQ. 3.0

COUPLING Yes

13 Mar 69
RC

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF W SP. 1 DATE 12 March

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.1	.3	.1	.1	.1
DC 1	227	179	77.8	212	55.9	37.2	263	70.1	26.1	23.8
DC 2	228	179	76.6	211	56.5	36.1	264	71.8	30.0	19.9
DC 3	227	179	77.9	212	55.8	37.2	263	70.1	26.0	23.8
DC 4	228	179	76.6	211	56.8	36.1	264	72.6	29.9	19.9
DC 5			77.9	212	55.9			70.0	26.1	
DC 6			76.6	211	56.6			72.0	29.9	
DC 7			77.8		55.8			70.0	26.1	
DC 8			76.7		56.5			71.9	29.9	
DC AVG.										
AC 1	232	183	79.6	213	57.1	37.8	265	71.7	28.5	22.5
AC 2	232	183	79.7	213	57.1	37.9	265	71.9	28.5	22.2
AC AVG.										
S.P.	+1.1	+.2		-13.4			-8.1			
AC NOISE	.04		.03			.06				.04
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF W SP. 1 DATE 3/12/69

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	CAL 1	
RECEIVE									2-3	
RANGE	.1	.1	.03	.03	.1	.03	.01	.01		
DC 1	97.8	39.7	18.7	15.7	27.8	15.7	8.82	8.17	208	
DC 2	98.4	41.1	20.4	17.7	28.3	15.2	8:20	7.70	208	
DC 3	97.8	39.5	18.8	15.7	27.8	15.7	8.81	8.20	208	
DC 4	98.6	41.2	20.3	17.8	28.2	15.2	8.21	7.61	208	
DC 5	97.7	39.6	18.7	15.6	27.8		8.78	8.31		
DC 6	98.4	41.1	20.3	17.8	28.2		8.31	7.60		
DC 7	97.8	39.6	18.8	15.6	27.8		8.62	8.21		
DC 8	98.3	41.1	20.2	17.7	28.2		8.38	7.70		
DC AVG.										
AC 1	96.4	39.8	19.3	16.5	27.2	15.0	8.32	7.80	215	
AC 2	96.3	39.8	19.3	16.5	27.3	15.0	8.32	7.80	215	
AC AVG.										
S.P.	+4.8				-2.2.					
AC NOISE				.05				.03		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Horizon

LINE 1 HALF W SP. 1 DATE 3-12-9

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-30 W	5-10	→	10-15	→	→	15-20	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	260	290	260	320	290	260	400	320	290	260
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	20-25	→	→	→	25-30	→	→	→		2-3
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	400	320	280	260	400	320	280	260		200
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0

FREQUENCIES .10 3.0

SENDER NO. 13671.5

OPERATOR HIY

RECEIVER NO. 7651-R

OPERATOR BAUER SACHS

COMMENTS: 3.5 Amp — 1-2 Hi
2-3 "
3-4 "
4-5 "

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT HORIZEN
LINE 1 HALF E SP. 1 DATE 3/11/69

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE										
RANGE	.3	.3	.1	.3	.1	.1	.3	.1	.1	.03
DC 1	178	226	76.9	240	92.3	44.3	244	66.3	39.5	24.0
DC 2	182	227	77.9	242	95.0	46.7	241	64.9	38.0	22.3
DC 3	178	226	77.0	240	92.7	44.3	244	66.3	39.5	24.1
DC 4	182	227	77.9	242	94.9	47.2	241	64.9	37.9	22.3
DC 5	179	226	76.9		92.3	44.2	243	66.4	39.6	23.9
DC 6	182	227	77.8		95.2	47.4	241	65.0	37.9	22.5
DC 7	179		76.9		92.2	44.3	243	66.2	39.7	24.0
DC 8	182		77.9		95.8	47.8	241	64.7	37.9	22.4
DC AVG.										
AC 1	184.	231	79.8	243	94.2	46.6	237	64.5	38.1	22.8
AC 2	184.	231	79.8	243	94.2	46.5	237	64.5	38.0	22.8
AC AVG.										
S.P.	+1.9	-20.9	"	+17.2	"	"	+3.3			
AC NOISE	.02		.05			.06				.06
POT RES.							(NOTE	OVER)		

2 grounded Steel Fences

Cross E 1/2 of line at 90°.

#1 is 200' E of elec. # 5, #2 400' E of elec. # 5

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Horizon
LINE 1 HALF E SP. 1 DATE 3/11/69

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	CAL 1	
RECEIVE										
RANGE	.3	.1	.1	.03	.1	.1	.1	03	.3	
DC 1	104	43.0	29.0	21.6	75.1	37.2	27.1	16.9	207	
DC 2	103	44.4	30.9	17.8	74.0	35.7	25.0	18.3	207	
DC 3	104	43.0	29.1	20.9	75.0	37.2	27.0	17.2	207	
DC 4	103	44.8	31.0	17.9	74.0	35.8	25.0	18.1	207	
DC 5		42.9	29.0	21.6	75.2	37.3	27.0	17.2		
DC 6		45.0	31.1	18.1	73.8	35.7	25.1	18.1		
DC 7		42.9	28.7	20.7	75.6	37.5	27.0	17.2		
DC 8		44.8	30.9	18.3	73.7	35.6	25.1	18.1		
DC AVG.										
AC 1	102	43.7	29.7	19.3	72.6	35.8	25.8	17.3	215	
AC 2	102	43.5	29.8	19.3	72.6	35.9	25.8	17.3	214	
AC AVG.										
S.P.	+6.4				-1.9					
AC NOISE				.05				.05		
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT HORIZON

LINE 1 HALF E SP. 1 DATE 3-11-69

PAGE 1

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-500E	500-1000 →		10-15	→	→	15-20	→	→	→
RANGE	Hi	Hi	→	Hi	→	→	Hi	→	→	→
VOLTAGE	400	330	400	270	330	400	240	270	330	400
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CHL
RECEIVE	20-25	→	→	→	25-30	→	→	→		3-4
RANGE	Hi	→	→	→	Hi	→	→	→		Hi
VOLTAGE	240	270	330	400	240	270	320	400		180
CURRENT	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0

FREQUENCIES 1 3.0

SENDER NO. 13671

OPERATOR HIY

RECEIVER NO. 7651R

OPERATOR BAUERSACHT

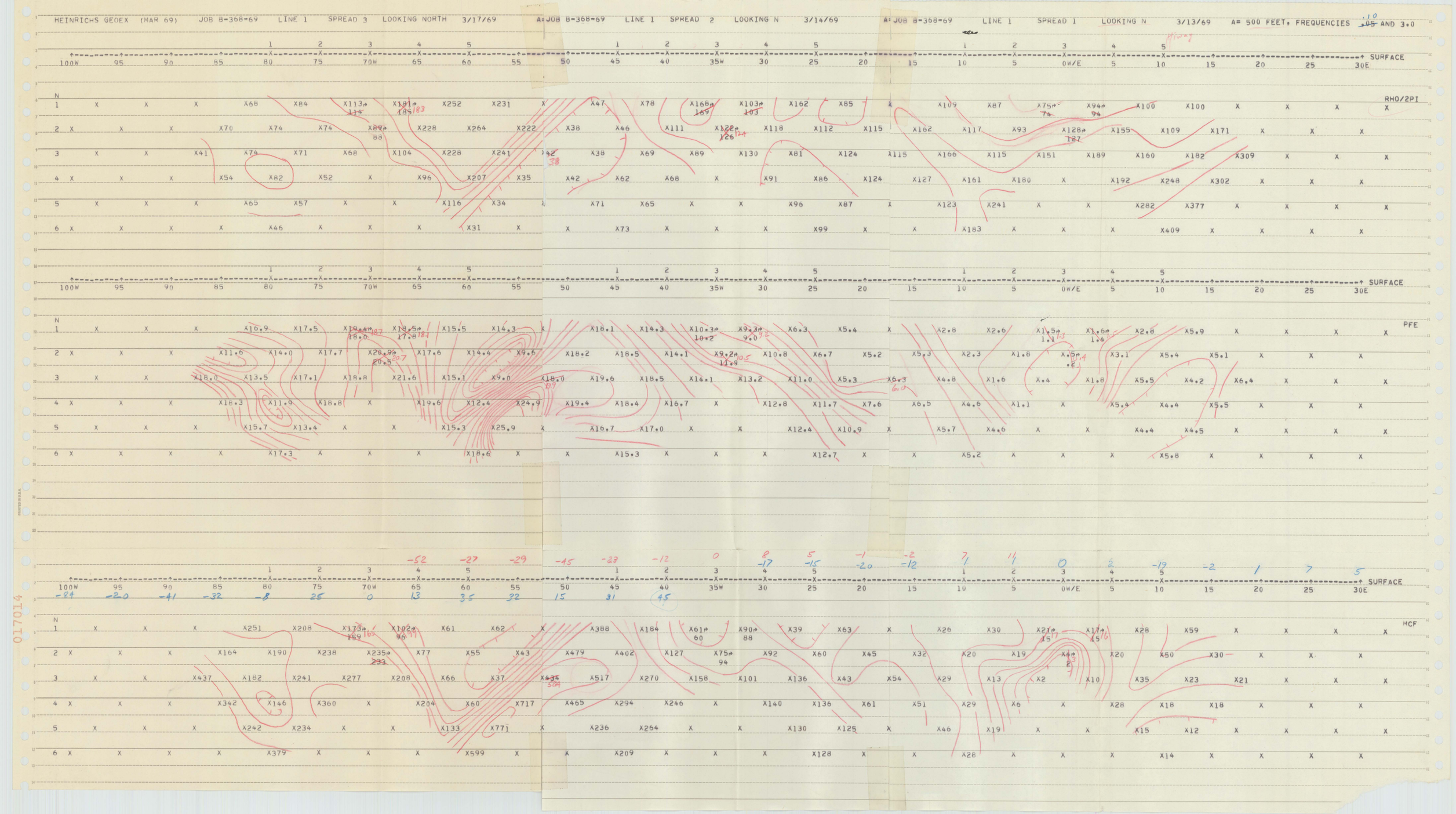
COMMENTS: 3.5 — 1-2 — 52
2-3 —
3-4 —
4-5 —

HEINRICHS GEOEX (MAR 69) JOB B-368-69 LINE 1 SPREAD I LOOKING N 3/13/69 A= 500 FEET, FREQUENCIES .05 AND 3.0

3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	I	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	2.000	
227	179	778	212	559	372	263	701	261	238	DC	978	397	187	157	278	157	882	817	208	LEFT
228	179	766	211	565	361	264	718	300	199		984	411	204	177	283	152	820	770	208	SIDE
		779		558	372		701	260			978	395	188	157	278		881	820		
		766		568	361		720	299			986	412	203	178	282		821	761		
		779		559			700	261			977	396	187	156	278		878	831		
		766		566			720	299			984	411	203	178	282		831	760		
		778		558			700	261			978	396	188	156	278		862	821		
		767		565			719	299			983	411	202	177	282		838	770		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
455	358	1544	423	1124	733	527	1419	561	437	DC	1962	808	391	334	561	309	1702	1587	416	
		1545		1123	733		1419	560		SUMS	1962	806	392	334	561		1701	1590		
		1545		1126	733		1421	559			1964	807	391	335	560		1702	1581		
		1545		1127			1420	560			1963	808	390	334	560		1699	1592		
		1545		1125			1420	560			1961	807	390	334	560		1709	1591		
		1544		1124			1420	560			1962	807	391	334	560		1693	1581		
		1545		1123			1419	560			1961	807	390	333	560		1700	1591		
0.0	0.0	-.0	0.0	-.1	0.0	0.0	-.1	.2	0.0	DC	-.0	.1	.1	0.0	.1	0.0	.1	-.0	0.0	
		.0		-.1	0.0		-.1	0.0		DEVS	-.0	-.1	.3	0.0	.1		.0	.2		
		.0		.1	0.0		.1	-.2			.1	-.0	.1	.3	-.1		.1	-.4		
		.0		.2			.0	0.0			.0	.1	-.2	0.0	-.1		-.1	.3		
		.0		.0			.0	0.0			-.1	-.0	-.2	0.0	-.1		.5	.2		
		-.0		-.1			.0	0.0			-.0	-.0	.1	0.0	-.1		-.5	-.4		
		.0		-.1			-.1	0.0			-.1	-.0	-.2	-.3	-.1		-.1	.2		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
227.5	179.0	77.24	211.5	56.23	36.65	263.5	70.99	28.00	21.85	DCA	98.11	40.36	19.54	16.70	28.01	15.45	8.504	7.938	208.0	
232.0	183.0	79.60	213.0	57.10	37.80	265.0	71.70	28.50	22.50	AC1	96.40	39.80	19.30	16.50	27.20	15.00	8.320	7.800	215.0	
232.0	183.0	79.70	213.0	57.10	37.70	265.0	71.70	28.50	22.20	AC2	96.30	39.80	19.30	16.50	27.30	15.00	8.320	7.800	215.0	
232.0	183.0	79.65	213.0	57.10	37.75	265.0	71.70	28.50	22.35	ACA	96.35	39.80	19.30	16.50	27.25	15.00	8.320	7.800	215.0	
93.75	73.76	127.3	87.16	92.68	151.0	108.6	117.0	115.4	180.1	RHO	161.7	166.3	161.0	240.9	115.4	127.3	122.7	183.2	.962	DC CAL
1.4	1.1	.2	2.6	1.8	.4	2.8	2.3	1.6	1.1	PFE	5.3	4.8	4.6	4.6	6.3	6.5	5.7	5.2	1.034	AC CAL
15	15	2	30	19	2	26	20	13	6	MCF	32	29	29	19	54	51	46	28		

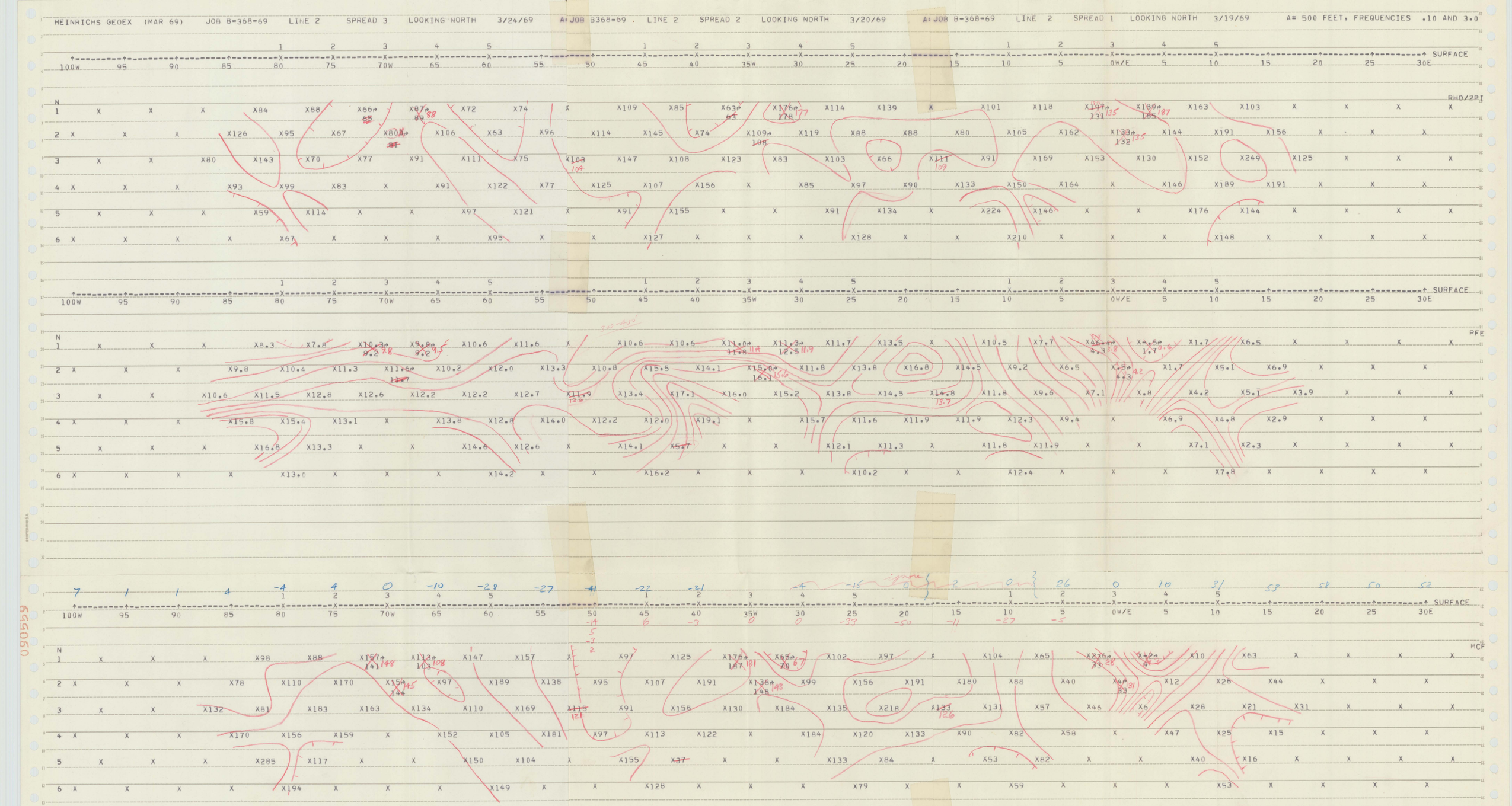
3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	I	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	2.000	
178	226	769	240	923	443	244	663	395	240	DC	104	430	290	210	751	372	271	169	207	RIGHT
182	227	779	242	950	467	241	649	380	223		103	444	309	178	740	357	250	183	207	SIDE
178		770		927	443	244	663	395	241			430	291	209	750	372	270	172		
182		779		949	472	241	649	379	223			448	310	179	740	358	250	181		
179		769		923	442	243	664	396	239			429	290	210	752	373	270	172		
182		778		952	474	241	650	379	225			450	311	181	738	357	251	181		
179		769		922	443	243	662	397	240			429	287	207	756	375	270	172		
182		779		958	478	241	647	379	224			448	309	183	737	356	251	181		
1	2	3	4	5	6	7	8	9	10	PT.	11	12	13	14	15	16	17	18		
360	453	1548	482	1873	910	485	1312	775	463	DC	207	874	599	388	1491	729	521	352	414	
360		1549		1877	910	485	1312	775	464	SUMS		874	600	387	1490	729	520	355		
360		1549		1876	915	485	1312	774	464			878	601	388	1490	730	520	353		
361		1548		1872	914	484	1313	775	462			877	600	389	1492	731	520	353		
361		1547		1875	916	484	1314	775	464			879	601	391	1490	730	521	353		
361		1547		1874	917	484	1312	776	465			879	598	388	1494	732	521	353		
361		1548		1880	921	484	1309	776	464			877	596	390	1493	731	521	353		
-.2	0.0	0.0	0.0	-.1	-.5	.1	0.0	-.0	-.2	DC	0.0	-.3	-.0	-.2	-.0	-.2	.1	-.3	0.0	
-.2		.1		.1	-.5	.1	0.0	-.0	.1	DEVS		-.3	.1	-.4	-.1	-.2	-.1	.5		
-.2		.1		.0	.0	.1	0.0	-.1	.1			.1	.3	-.2	-.1	-.0	-.1	-.0		
.1		0.0		-.2	-.1	-.1	.1	-.0	-.4			.0	.1	.1	.0	.1	-.1	-.0		
.1		-.1		-.0	.1	-.1	.2	-.0	.1			.2	.3	.6	-.1	-.0	.1	-.0		
.1		-.1		-.1	.2	-.1	0.0	.1	.3			.2	-.2	-.2	.2	.2	.1	-.0		
.1		0.0		.3	.7	-.1	-.2	.1	.1			.0	-.5	.3	.1	.1	.1	-.0		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
180.3	226.5	77.40	241.0	93.76	45.74	242.2	65.60	38.76	23.19	DCA	103.5	43.84	29.96	19.44	74.57	36.51	26.03	17.66	207.0	
184.0	231.0	79.80	243.0	94.20	46.60	237.0	64.50	38.10	22.80	AC1	102.0	43.70	29.70	19.30	72.60	35.80	25.80	17.30	215.0	
184.0	231.0	79.80	243.0	94.20	46.50	237.0	64.50	38.00	22.80	AC2	102.0	43.50	29.80	19.30	72.60	35.90	25.80	17.30	214.0	
184.0	231.0	79.80	243.0	94.20	46.55	237.0	64.50	38.05	22.80	ACA	102.0	43.60	29.75	19.30	72.60	35.85	25.80	17.30	214.5	
74.65	93.79	128.2	99.79	155.3	189.4	100.3	108.7	160.5	192.0	RHO	171.4	181.5	248.2	281.7	308.8	302.4	377.2	409.4	.966	DC CAL
1.5	1.6	.5	2.8	3.1	1.8	5.9	5.4	5.5	5.4	PFE	5.1	4.2	4.4	4.4	6.4	5.5	4.5	5.8	1.036	AC CAL
21	17	4	28	20	10	59	50	35	28	MCF	30	23	18	15	21	18	12	14		

HEINRICHS GEOEX (MAR 69) JOB 8-368-69 LINE 1 SPREAD 3 LOOKING NORTH 3/17/69 A=JOB 8-368-69 LINE 1 SPREAD 2 LOOKING N 3/14/69 A=JOB 8-368-69 LINE 1 SPREAD 1 LOOKING N 3/13/69 A= 500 FEET, FREQUENCIES .10 .05 AND 3.0



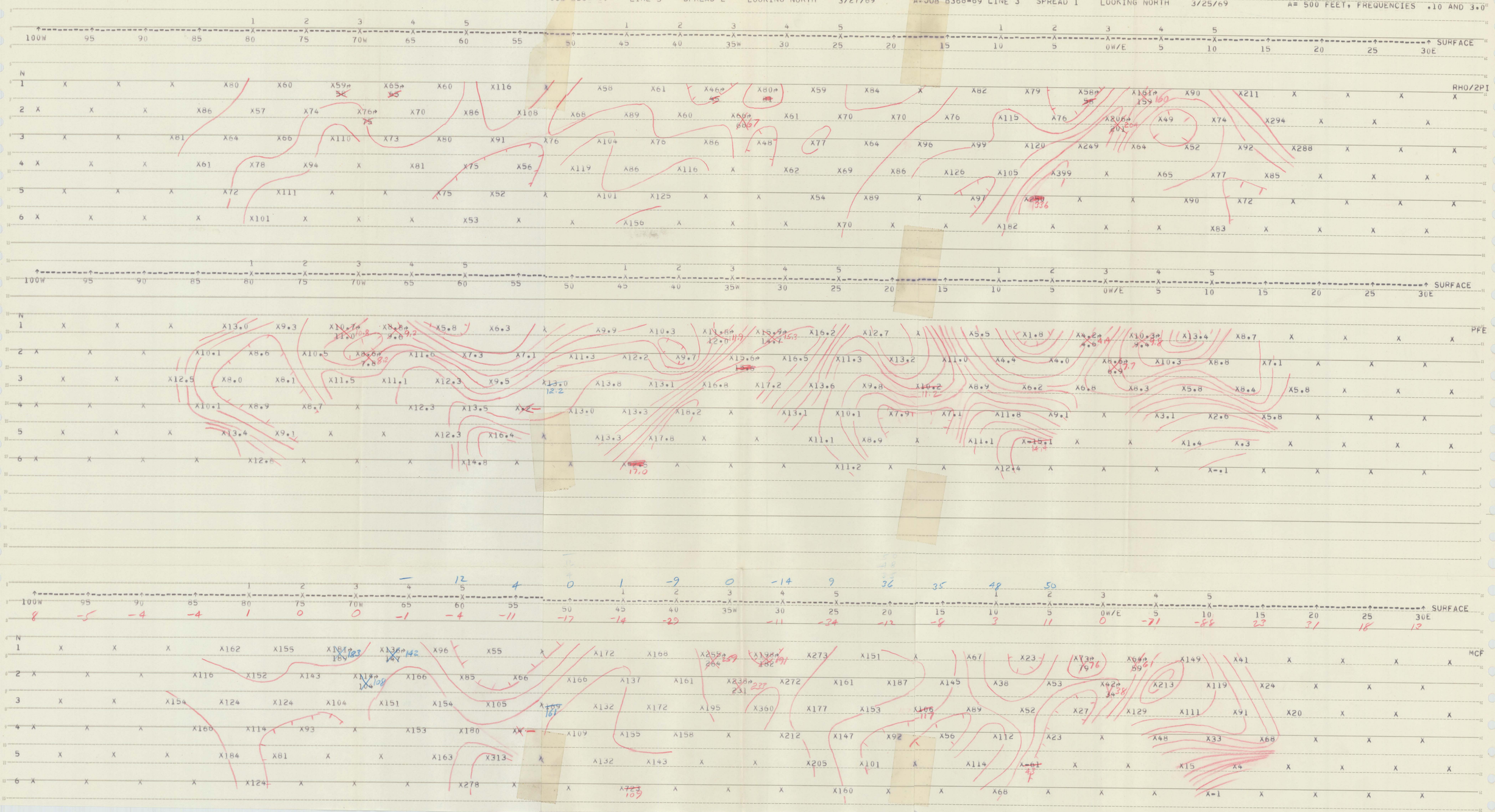
017014

HEINRICHS GEOEX (MAR 69) JOB B-368-69 LINE 2 SPREAD 3 LOOKING NORTH 3/24/69 A: JOB B368-69 . LINE 2 SPREAD 2 LOOKING NORTH 3/20/69 A: JOB B-368-69 LINE 2 SPREAD 1 LOOKING NORTH 3/19/69 A= 500 FEET, FREQUENCIES .10 AND 3.0



090559

HEINRICHS GEOEX (MAR 69) JOB B368-69 LINE 3 SPREAD 3 LOOKING NORTH 3/28/69 A= JOB B368-69 LINE 3 SPREAD 2 LOOKING NORTH 3/27/69 A=JOB B368-69 LINE 3 SPREAD 1 LOOKING NORTH 3/25/69 A= 500 FEET, FREQUENCIES .10 AND 3.0



Job 368

4-10-69

HAND MAG

HORIZON

368-69

J. B & G. H — MAG Notes

Jalander

No. 57126

LINE 3 Heading EAST.

BASE "B"

Time	Pol.	RNG	Val.
9:51	+	1	116 - 11 105
12:45	+	1	115 - 10 105
3:25	+	1	117 - 12 105

LINE 3 (1) 4-10-69

STA.	Time	Pol.	Rng	δ Val.	
10,000'W	10:15	+	1	112	—
				113	
750				112	
				113	
500	10:20			110	✓
				111	
250				110	
				109	
9,000	10:24			111	✓
				109	
750				105	
				106	
500	10:27			104	✓
				108	
250				108	
				112	
8000	10:32			113	✓
				110	
750				110	
				109	
500	10:36			110	✓
				112	
250				109	
				112	
7,000	10:38			112	✓
				112	
750				113	
				113	
6500	10:43			114	✓

42

LINE 3 (2) 4-10-69

TR.MK. REG. U.S. PAT. OFF.

STA	Time	Pol	RNG	V_{al}	
6,375	10:44	+	1	115	
250				117	
				115	
6,000	10:47			118	✓
				117	
750				116	
				117	
500	10:50			118	✓
				118	
250				118	
				122	
5,000	11:02			121	✓
				118	
750				121	
				120	
500	11:05			122	✓
				122	
250				120	
				122	
4,000	11:00			122	✓
				123	
750				122	
				122	
500	11:13			124	✓
				124	
250				125	
				123	
3,000	11:16			125	
				125	

42

LINE 3

(3) 4-10-69

STA	Time	Pol +	RNG 1	S Val	
750	11:17			125	X (5-1) 500 NE
				125	
500	11:20			127	✓
				124	
250				123	
				124	
2,000	11:24			123	✓
				126	
750				123	
				123	
500	11:30			122	✓
				123	
250				122	
				120	
1,000	11:35			119	✓
				118	
750				118	
				118	
500	11:37			117	✓
				117	
250				118	
				116	
-0-	11:43			117	✓
				117	
250 E				118	highway
				118	fence
500 E	11:46			117	✓
				118	
42750E				116	

LINE 3 (4) 4-10-69

STA.	Time	Pol	RNG	S Val	
	11:52	+	1	118	
1.000	11:57			117	✓
				115	
250				113	
				114	
500	11:55			114	✓
				113	Power Line Source
750				111	
				114	
2.000	12:13			113	✓
				112	
250				115	
				114	
500	12:16			116	✓
				117	
750				116	
				114	
3,000E	12:20			116	

Job #368

4-10-69

LINE 5

STA	Time	Pol	RNG	%Val	
	1				
750	2:42	+	1	123	
				120	
1,000E	2:43			119	✓
				119	
250				117	
				120	
500	2:45			118	✓
				117	
750				118	
				114	
2,000	2:50			113	✓
				115	
250				116	
				114	
500	2:54			111	✓
				120	
750				130	
				112	
3,000E	3:00			123	

4-10-69

(2)

LINE 5

STA	Time	Pol	Rng	Sval	
		+	1	126	
750	2:09			126	
				127	
500	2:13			124	✓
				125	
250				123	
				123	
2000	2:18			125	✓
				123	
750				124	
				128	
500	2:22			125	✓
				124	X line 2
250				126	
				124	
1,000W	2:25			125	✓
				127	
750				124	
				124	
500	2:30			126	✓
				127	
250				125	
				126	
-0-	2:35			125	✓
				129	
250				125	
				127	
500				127	✓
42	2:40			125	

SW to NE

4-10-69

LINE 5- (1)

STA	Time	Pol	Rng	SVal	
6,500	SW 1:35	+	1	121	✓
				118	
250				119	
				117	
6,000	1:40			127	✓
				117	
750				135	
				124	
500	1:45			121	✓
				118	
250				119	
				122	
5,000	1:49			120	✓
				124	
750				123	
				123	
500				123	✓
				126	
250				124	
				125	
4,000	1:55			124	✓
				123	
750				125	
				125	
500	1:58			126	✓
				127	
250				127	
				125	
3,000	2.06			134	

Job 368

4-9-69

TR.MK. REG. U.S. PAT. OFF.

LINE 2 - heading EAST

HORIZON
368-69

J. B - MAG

6.14 - NOTES

J.A. MADER
No 57196

BASE "B"

Time	Pol.	RNG	Val	
2:05	+	1	117	105
4:44	+	1	117	105

- 12 all data

Note scale values plotted as originally taken -12 divisions removed graphically

· LINE 2 - heading EAST (1)

4-9-69

STA	Time	Pol	Rng	§ Val	
10,000'w	2:30	+	1	118	—
				117	
750				116	
				119	
500	2:34			120	✓
				118	
250				117	
				123	
9,000	2:42			120	✓
				118	
750				121	
				122	
500	2:45			122	✓
				123	
250				125	
				134	
8,000	2:50			132	✓
				130	
750				117	
				127	
500	2:55			115	—
				123	
250				128	
				108	
7,000	2:59			115	✓
				114	
750				117	
				113	
6,500	3:03			117	✓

(2) 4-9-69

STA.	Time	P-L	RNG	Sval	
6,375	3:04	+	1	118	
250				118	
				118	
6,000	3:07			121	✓
				117	
750				121	
				122	
500	3:10			123	✓
				124	
250				123	
				122	
5,000(W)	3:17			127	✓
				125	
750				135	
				125	
500	3:21			125	✓
				125	
250				124	
				125	
4,000	3:25			125	✓
				125	
750				126	
				135	
500	3:30			127	✓
				127	
250				131	
				127	at (5-1) 1500 sw
3,000	3:34			125	✓
				127	

42

LINE 2 (3) 4-9-69

Sta	Time	Pol	Rng	Val	
2,750	3:37	+	1	134	
				133	
500	3:39			138	✓
				140	
250				138	
				138	
2,000	3:42			138	✓
				137	
750				138	
				139	
1,500	3:45			137	✓
				135	
250				135	
				135	
1,000	3:47			135	✓
				138	
750				139	
				137	
500	3:50			150	✓
				138	
250				139	
				135	
-0-	3:55			135	✓
				135	
250				134	
				138	
500	4:00			139	✓
				140	
4250				138	

LINE 2 (4) 4-9-69

Sta	Time	Pol	Rng	Val.	
875	4:05	+	1	133	
1,000E				129	✓
				136	
250				132	fence
				132	hi hwy
500	4:09			133	fence
				130	old hiway
750				133	under pr. Li.
				133	
2,000E	4:12			127	✓
				127	
250				124	
				123	
500	4:15			120	✓
				117	
750				117	
				112	
3,000	4:18			114	✓

Job # 368

4-9-69

LINE / heading EAST

HAND MAG.

HORIZON

368-69

J.B. MAG:
G.H. NOTES

VALANDER
No 57196

BASE "A"

START

Time	Pol	RNG	VAL	
9:55	+	1	131	120
END.			-11	

BASE "B"

10:15	+	1	116	
2d.			-11	~~120~~ 105
1:13	+	1	118	120

AT 218

Note subtract 15 Diurnal from all values

42

J. B & G.H.

LINE - 1 heading EAST.

(1)

4-9-69

TR.MK. REG. U.S. PAT. OFF.

STA.	Time	Pol.	RNG.	8 VAL.	Notes	
10,000'W	10:31	+	1	117	+4	121
				114		118
750				114		118
				114		118
500	10:34			113		117
				113		117
250				115		119
				114		118
9,000W	10:40			112	✓	116
				116		120
750				130		134
				132		136
500	10:45			123	✓	127
				128	Section 13,2 Corner near by	
250	10:55	+	1	181	27 26 / 34 35	185
				136		140
8,000'	10:59			125	✓	129
				117		121
750				126		130
				121		125
500	11:05			127	✓	132
				124		128
250				119		123
				115		119
7,000	11:09			123	✓	127
				123		127
6,750				111		115
				122		126
6,500	11:12			117	✓	131

J. B & G H,

(2)

4-9-69

LINE 1 heading EAST.

STA	TIME	POL +	RNG 1	S VAL		
6,375	11:13			126		129
6,250				128		131
				130		133
6,000	11:20			142	✓	145
	11:28			118		121
750				119		122
				120		123
500	11:31			121		124
				121		124
250				122		125
				123		126
5,000	11:35			125	✓	128
				128		131
750				125	X (5-2)	128
				127		130
500	11:46			131	✓+3	134
				130		133
250				130		133
				131		134
4,000	11:51			130	✓	133
				131		134
750				128		131
				129		132
500	11:59			131		134
				126		129
250				126		129
				125		128
3,000	12:00			128	✓	131
875				130		133

(3)

4-9-69

J. B.
G. H.

LINE 1 heading EAST.

STA	TIME	POL	RNG	S VAL		
750	12:02	+	1	127		130
2,625				125		128
500	12:09			132	↙	135
				129	↑	132
250W				130		133
				131	+3	134
2000W	12:13			130	↙+2	133
				133	↓	135
750W				130		132
				132		139
1,500	12:19			138	✓	140
				131		133
250				135		137
				135		137
1,000	12:23			135	✓	137
				132		134
750				130		132
				131		133
500	12:27			137	✓	139
				132		134
250				136		138
				136		138
-0-	12:33			134		136
				135		137
250				132		134
				136		138
500	12:37			136		138
42				136		138
1,750E				137		139

J. B
G. H
LINE 1

(4)
4-9-69

STA	TIME	P.L	RNG	S VAL		
875	12:40	+	1	134		136
1000'E				140	✓	142
				131	streak fence	133
250				143	highway	145
				138	fence	140
500	12:45			140	✓	142
				140		142
750				142		144
				140		140
2,000'E	12:47			140	✓	140
				146		146
250				148		150
				150		152
500	12:50			152	✓	154
				154		156
750				148		150
				147		149
3000	12:52			146	+2	148

STARTING - 50'S of 27 | 26 / 34 | 35

LINE	POL	RNG	8		
8,375 W					132
,350	+	1	104		108
,325			165		169
300	+	2	86		262
275		1	176		180
250			181		185
225			155		159
200			92		96
175			108		112
150			108		112
125			136		140
100			132		136
75			132		136
50			138		142
8025			125	+4	127

56
7
25 8

Plotted C.S.L. 4/5/69

HAND MAG. NOTES

368-69

HORIZON,

1. LINE 4 -

START AT West end spread 3 (10,000-W) to EAST END Spread 1, (3,000'E)

MAG - J.B.
Notes - G.H. 4-8-69

BASE STATION "A"

1. ST.
Time. 2:48 Pol. + Rng 1 VAL 120
2nd.
" 5:23 " + " 1 " 141
ΔT=155 ΔV=21
ΔV/ΔT = .1355

ALL STATION FOOTAGE

Corresponds to F.P. FOOTAGE

9. 125 J.B G.H LINE-4- DATE-4-8-69

ST.	TIME	POL	RANGE	% VAL.		
10,000'W	3:00	+	1	103	-2	1010
	3:01			107		1050
750	3:03			107		1050
	3:05			106	CH RANGE	1040
500	3:07			108	-3	1050
	3:08			106		1030
250	3:09			107		1040
	3:10			113		1100
9,000				97		940
				103		1000
750	3:12			104		1010
				102		990
500	3:14			105	-4	1010
				106		1020
250				105		1010
				105		1010
8,000	3:18			111		1070
	:23			100	IN. STOP 1 SAM-PLE -5 WASH	950
750	:25			111		1060
				108		1030
500	:27			107		1020
				109		1040
250				105		1000
				108	-6	1020
7000	3:30			112		1060
				108		1020
750				110		1040
				110		1040
7500	3:34			111		1050
375				109		1030

(2) J. B G. H

LINE 4
4-8-69

TR.MK. REG. U.S. PAT. OFF.

STA.	TIME	POL.	RING.	& VAL.		
7,250W	3:36	+	1	111	↙6	1050
	3:37			112	-7	1050
6,000	3:39			113	↓	1060
				114		1070
750	3:40			117	X at 6.5	(6-105)
				108		1010
500	3:42			113	↙	1060
				110		1030
250				115		1080
				118	↓	1110
5,000	3:45			119	-8	1110
				121		1130
750				120		1120
				122		1140
500	3:49			125	↙	1170
				125	↓	1170
250				125	-9	1160
				125		1160
4,000	3:57			126		1170
				127	↓	1180
750				126	-10	1160
				127		1170
500	4:00			130	↙	1200
				130	↓	1200
250	4.09			127	-11	1160
				126		1150
3,000	4:11			125	↙	1140
875				125		1140
42 750				125		1140
625	413			124	↓	1130

(3) J, B G, H,

LINE - 4

DATE - 4-8-69

STA	TIME	POL.	RNG.	% VAL		
2,500W	4:15	+	1	124	-12	1120
	4:17			125		1130
250				127		1150
				127		1150
2,000				119		1070
				116	-13	1030
750				116		1030
				120		1070
1 500	4:24			120		1070
				120		1070
250				120		1070
				116		1030
1,000	4:27			116		1030
				120		1070
750				122	-14	1080
				123		1090
500	4:30			125		1110
				123		1090
250				126		1120
				129		1150
—0—	4:33			130		1160
				135		1210
250				133	High Val	1190
				121	-15 Steel Fence	1060
500	4:40			132		1170
				133		1180
750				137		1220
				134		1190
1,000	4:43			144		1290
—0—						

(4)

J.B
G.H.

LINE 4
4-8-69

STA	TIME	POL.	RNG	δ VAL		
-0E						
125E	4:45	+	1	133	-16	1170
250				137		1210
				142		1260
500	4:46			138	✓	1220
				137		1210
750				133		1170
				138		1220
1,000	4:50			140	✓	1240
				135	-17	1180
250				147		1300
				136		1190
500	4:54			137	✓ Sample	1200
				145		1280
750				127	IN Riverbed	1100
				134	✓	1170
1,000E	5:00			131	-18	1130