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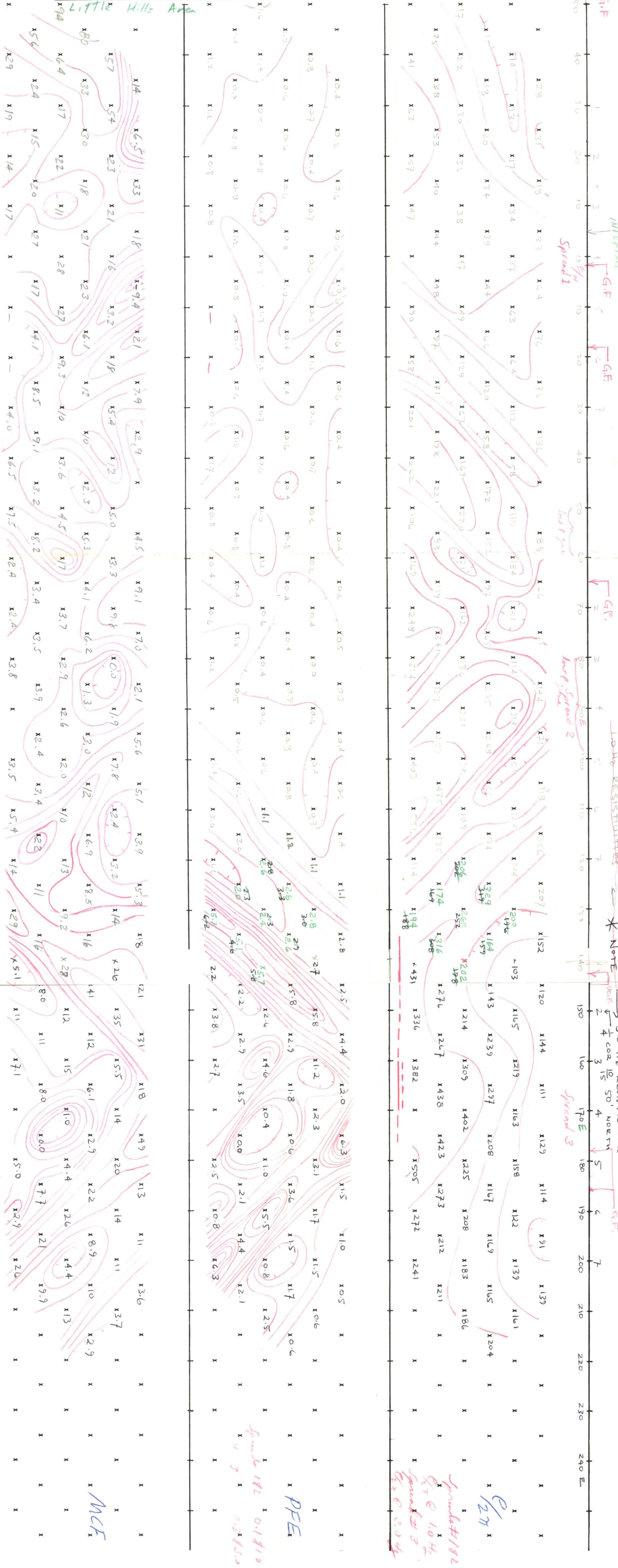
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JOB# 798 LINE# 1 SP ~~1000~~ a = 1000' Bearing 568° E
CLIENT Continental Oil Company DATE March, 1973 FREQUENCIES 1 & 0.1 Hz
AREA ~~NO Claims Area~~ Little Hills Area



I. P. RECEIVER NOTES, JOB No. _____, AREA LITTLE HILL MINESLINE 1, HALF E, SP. 3, $\alpha = 1000$, BEARING S 64° ESENDER STA. 107170 = ELECTRODE No. 4, DATE 3-20-73PAGE 1HEINRICH'S
GEOEX

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	160-170E	170-180E	→	180-190E	→	→	190-200E	→	→	→
MULTIPLIER	10	10	1.0	10	1.0	1.0	10	1.0	1.0	1.0
PFE	4.4	17 2.0	1.2	6.3	2.5	1.8	1.5	3.1	1.2 0.6	0.4
CUR. (AMPS)	3	→	→	5	3	→	5	→	3	→
POINT No.										
SEP. (n)	3	3	12	3	12	30	3	12	30	60
H. F. Mv	138	111 107	55 926	206	39.1	285	183	63.2	20.0	19.3
DRIFT	-	-	-	-	-	-	-	-	-	-
1.0 PFE $K_n/1000$										
0.3 PFE P_{CAL}										
0.1 PFE PFE_c										
3.0 MV $P/2\pi$	144	111	219	129	163	297	114	158	208	402
DRIFT MCF										
S. P.		+11.1	→	+3.0	→	→	17.9	→	→	→
NOISE										
POT RES.										
CULT & CMTS		grounded	1 cm at	186E						

SENDER STA. 170 = ELECTRODE NO. 4, DATE 3-20-73



PAGE 2

HEINRICH
GEOEX

[illegible]

SENDER STA. 170 = ELECTRODE No. 4, DATE 3-20-73



PAGE 3

HEINRICH
GEOEX

[illegible]

SENDER STA. 1706 = ELECTRODE NO. 4, DATE 3-20-73



PAGE 4

HEINRICH
GEOEX

[illegible]

SENDER STA. 170E = ELECTRODE NO. 4, DATE 3-20-73



PAGE 5

HEINRICH
GEOEX

[illegible]

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINES

LINE 1, HALF E, SP. 2, a = 1000', BEARING S 70 E

SENDER STA. 90 = ELECTRODE NO. 4, DATE 2-26-73

PAGE 1

HEINRICHSGEOEX

[illegible]

SENDER STA. 90 = ELECTRODE NO. 4, DATE 2-26-73



PAGE 2

HEINRICH
GEOEX

[illegible]

SENDER STA. 90 = ELECTRODE NO. 4, DATE _____



PAGE 3

HEINRICH
GEOEX

[illegible]

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINES
 LINE 1, HALF E, SP. 2, $\alpha = 1000'$, BEARING _____
 SENDER STA. 90 = ELECTRODE No. 4, DATE _____



PAGE 4
**HEINRICH'S
 GEOEX**

SEND	5-6	4-5	CAL						
RECEIVE	160-170E →								
MULTIPLIER	110	0.1							
PFE	5.6??	5.2?	0						
CUR. (AMPS)									
POINT No.									
SEP. (n)									
H. F. Mv	14.7	7.89	285						
DRIFT	-	-	-						
I.O PFE $K_n/1000$	105	168							
0.3 PFE P_{CAL}									
0.1 PFE PFE_c									
3.0 MV $P/2\pi$	325	199							
DRIFT MCF									
S. P.									
NOISE									
POT RES.									
CULT & CMTS	Schist								

SENDER STA. 90 = ELECTRODE NO. 4, DATE 2-26-73



PAGE 6

HEINRICH
GEOEX

[illegible]

SENDER STA. 90 = ELECTRODE No. 4, DATE _____



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HEINRICH
GEOX

[illegible]



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT

LITTLE HILL MINES

LINE 1

HALF E

SP. 2

DATE 4/26/72

PAGE

1

SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6
RECEIVE	90-100E	→	100-110E	→	→	110-120E	→	→	→	20-130E
RANGE	30x300	30x300	30x300	30x300	30x300	30x233.3	30x300	30x300	30x300	30x166.6
VOLTAGE	200	250	175	225	350	460	180	290	360	560
CURRENT	9000	1000	9000	9000	7000	7000	9000	9000	9000	5000
SEND	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2
RECEIVE	20-130E	→	→	→	130-140E	→	→	→	→	→
RANGE	30x333.3	30x300	30x300	30x300	30x166.6	30x166.6	30x233.3	30x300	30x300	30x300
VOLTAGE	460	180	220	340	480	520	440	180	220	340
CURRENT	7000	9000	9000	9000	5000	5000	7000	9000	9000	7000

FREQUENCIES LO 20-130E

SENDER NO. 66445

OPERATOR John Lundgren

RECEIVER NO.

OPERATOR Phil Matthews

COMMENTS:

1-2

$30 \times 300 = 9$

2-3

$30 \times 300 = 9$

3-4

$30 \times 300 = 9$

4-5

$30 \times 200 + 33.3 = 7$

5-6

$30 \times 100 + 66.6 = 5$

6-7

$30 \times 100 + 66.6 = 5$

Lowc



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT LITTLE HILL MINES
LINE 1 HALF E SP. 2 DATE 2/26/75

PAGE
2

SEND	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4	6-7
RECEIVE	140-150E				140-150E	150-160E				160-170E
RANGE	30X166	30X166	30X233	30X300	30X300	30X166	30X166	30X333	30X300	30X166
VOLTAGE	480	540	440	160	220	460	540	440	160	460
CURRENT	5000	5000	7000	9000	9000	5000	5000	7000	9000	5000
SEND	5-6	4-5		CHL						
RECEIVE	160-170E			5-6						
RANGE	30X166	30X233		30X100						
VOLTAGE	540	440		2310						
CURRENT	5000	7000		3000						

FREQUENCIES 1.0 0.1

SENDER NO. 0644

OPERATOR John Lundgren

RECEIVER NO.

OPERATOR Phil Matthews

COMMENTS:



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT Little Hill Mines
LINE 1 HALF W SP. 2 DATE 2/26/72

PAGE

3

SEND	3-4	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5
RECEIVE	70-60E	60-50E					50-40E			
RANGE	20x300	30x300	30x300	30x233	90x166	30x166	20x300	30x300	30x300	30x233
VOLTAGE	160	220	160	920	540	440	340	200	180	440
CURRENT	7000	9000	9000	7000	5000	5000	9000	2000	2000	7000
SEND	5-6	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	50-40E		40-30E					MAY NOT BE RECD		
RANGE	30x166	30x166	20x300	30x300	30x200	30x233	30x166			20x200
VOLTAGE	520	460	240	200	160	480	540			160
CURRENT	5000	5000	9000	9000	9000	7000	5000			9000

FREQUENCIES 10 2.1

SENDER NO. 6644-S

OPERATOR John R. (Gardner)

RECEIVER NO.

OPERATOR F. J. Matthews

COMMENTS:

1-2 30x300 = 9
2-3 30x300 = 9
3-4 30x300 = 9
4-5 30x233 = 7
5-6 30x166.6 = 5
6-7 30x166.6 = 5



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT LITTLE HILL MINES
LINE 1 HALF W SP. 2 DATE 2/26/78

PAGE

4

SEND	4-5	1-2	2-3	3-4						
RECEIVE	30-20E	(MAY NOT READ) 20-10E								
RANGE	30x232			30x300						
VOLTAGE	420			180						
CURRENT	7000			9000						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 10 0.5

SENDER NO. 66995

OPERATOR John Lundgren

RECEIVER NO.

OPERATOR Phil Mathews

COMMENTS :

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINESLINE 1, HALF W, SP. 1, $\alpha =$ 1000, BEARING N 69° WSENDER STA. 0 = ELECTRODE No. 4, DATE 2-16-73PAGE 1HEINRICHS
GEOEX

SEND	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7	2-3
RECEIVE	0-10W	→	10-20W	→	→	20-30W	→	→	→	30-40W
MULTIPLIER	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	1.0
PFE	-0.6	+0.2	0.6	0.6	1.0	0.6	0.7	0.8	1.3	0.2
CUR. (AMPS)										
POINT No.										
SEP. (n)										
H.F. MV	189	46.4	96.2	26.9	130	53.9	24.6	11.4	6.87	91.2
DRIFT	-	+0.1	-	-	-	-	-	-	-	-
I.O. PFE $K_n/1000$	2	12	3	12	20	5	12	30	60	
0.3 PFE P_{CAL}										
0.1 PFE PFE_c										
3.0 MV $P/2\pi$	64	63	33	37	44	18	34	39	47	31
DRIFT MCF	-9.4	3.2	18	16	23	33	21	21	28	6.5
S. P.	+485	→	+30.5	→	→	+41.2	→	→	→	+61.8
NOISE										
POT RES.										
CULT & CMTS										

64 63 33 37 44 18 34 39 47 31

SENDER STA. 0 = ELECTRODE NO. 4, DATE 2-16-73



PAGE 2

HEINRICH
GEOEX

[illegible]

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINES
 LINE 1, HALF W, SP. 1, $\alpha =$ 1000', BEARING N 69°W
 SENDER STA. 0 = ELECTRODE No. 4, DATE 2-16-73



PAGE 3

HEINRICH'S
GEOEX

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
RECEIVE	50-60W					60-70W				70-80
MULTIPLIER	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
PFE	0.8	0.6	0.5	0.8	0.8	1.2?	1.4?	0.9	1.2	1.6?
CUR. (AMPS)										
POINT No.										
SEP. (n)										
H. F. MV	10.09	5.14	4.45	4.40	2.96	4.34	3.28	3.20	3.27	2.48
DRIFT	-	-	-	-	-	-	-	-	-	-
I.O. PFE $K_n/1000$	12	20	20	105	105	20	60	105	105	60
0.3 PFE P_{CAL}										
0.1 PFE PFE_C										
3.0 MV $P/2\pi$	14	18	30	53	57	15	22	38	63	17
DRIFT MCF	57	33	17	15	14	80	64	24	19	94
S. P.	+19.0					+18.8				
NOISE										
POT RES.										8K
CULT & CMTS	Grid North - South fence at S6 west									

14 18 30 53 57 15 22 38 63 17

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINES
 LINE 1, HALF W, SR 1, $\alpha =$ 1000', BEARING N 69°W
 SENDER STA. 0 = ELECTRODE No. 4, DATE 2-16-73

[illegible]

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINES
 LINE 1, HALF E, SR. 1, $\alpha =$ 1000, BEARING S 64° E
 SENDER STA. 0 = ELECTRODE No. 4, DATE 2-17-73



PAGE 5
 HEINRICHS
 GEOEX

SEND			4-5	5-6	4-5	3-4	2-3	1-2	6-7	5-6
RECEIVE	0-10E	20-20E	20-30E	30-40E				→	40-50E	
MULTIPLIER			10	10	1.0	1.0	0.1	0.1	10	1.0
PFE			1.6	0.6	1.2	0.4	1.3?	0.8	0.4	0.6
CUR. (AMPS)										
POINT No.	SP	SP								
SEP. (n)										
H. F. Mv			222	223	46.9	19.3	7.25	4.02	398	82.0
DRIFT			-0.2	-	-	-	-	-	-	-
1.0 PFE $K_n/1000$			3	3	12	30	60	105	3	12
0.3 PFE P_{CAL}	1.023									
0.1 PFE PFE_c										
3.0 MV $P/2\pi$			76	76	64	66	49	48	136	112
DRIFT MCF			21	7.9	18	6.1	27	17	2.9	5.4
S. P.	+27.6	+19.2	+59.5	+4.1				→	+10.0	
NOISE										
POT RES.			12K							
CULT & CMTS			Crnd fence at 23E	$\frac{1}{2}$ 1 E						

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINES
 LINE 1, HALF E, SR. 1, $\alpha =$ 1000', BEARING S 64° E
 SENDER STA. 0 = ELECTRODE No. 4, DATE 2-17-73



PAGE 6
 HEINRICH'S
 GEOEX

SEND	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3	6-7
RECEIVE	40-50E				50-60E					60-70E
MULTIPLIER	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1	1.0
PFE	1.4	1.2??	0.4??	/	0.7	0.6	0.7?	0.6	/	0.4
CUR. (AMPS)										
POINT No.										
SEP. (n)										
H. F. Mv	35.1	18.9	8.13	4.69	42.7	17.1	9.85	5.91	2.75	50.4
DRIFT	-	-	-	-	-	-	-	-	-	-
1.0 PFE $K_n/1000$	30	60	105	168	12	30	60	105	168	30
0.3 PFE P_{CAL}	1.023									
0.1 PFE PFE_c										
3.0 MV $P/2\pi$	120	129	97	90	58	58	67	71	53	172
DRIFT MCF	12	9.3	4.1	-	12	10	10	8.5	/	2.3
S. P.					+30.5					
NOISE				1.0 + 0.5 - 0.2						
POT RES.										
CULT & CMTS					Gnd. fence at	65 E				

SENDER STA. 0 = ELECTRODE NO. 4, DATE 2-17-73



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HEINRICH
GEOEX

[illegible]



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PAGE 1
PROJECT CONOCO
LINE 1 HALF 60E SP. 1 DATE 2-16-72

SEND	2-3	1-2	2-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6
RECEIVE	0-10W	→	10-20W	→	→	20-30W	→	→	→	30-40W
RANGE						30x300				30x300
VOLTAGE						300				400
CURRENT						9000				9000
SEND	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2
RECEIVE	30-40W	→	→	→	40-50W	→	→	→	→	→
RANGE	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300
VOLTAGE	300	300	300	400	480	420	300	200	300	400
CURRENT	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000

FREQUENCIES 1.0 0.1

SENDER NO. 66449

OPERATOR John Henderson

RECEIVER NO. 25705-R

OPERATOR Mathew

COMMENTS: 30 x 300



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT

Conoco

LINE 1 HALF E SP. 1 DATE 2-16-73

PAGE

2

SEND	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4	6-7
RECEIVE	60-60E					60-70E				70-80E
RANGE	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300
VOLTAGE	480	410	280	200	310	480	410	280	200	470
CURRENT	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000
SEND	5-6	4-5		CHL						
RECEIVE	70-80E			4-5						
RANGE	30x300	30x300								
VOLTAGE	460	280								
CURRENT	9.000	9.000								

FREQUENCIES 1.0 0.1

SENDER NO. 6644 S

OPERATOR Toresdahl

RECEIVER NO. 25705-R

OPERATOR Mathews

COMMENTS :



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT CORROSION

LINE 1 HALF W SP. 1 DATE 2-15-77

PAGE

3

SEND	5-6	6-7	1-5	5-6	6-7	3-4	4-5	5-6	6-7	2-3
RECEIVE	0-10W	→	10-20W	→	→	20-300	→	→	→	3-400
RANGE	30x300	30x200	30x30	30x300	30x30	30x30	30x300	30x300	30x200	30x300
VOLTAGE	400	480	280	400	480	200	280	400	480	300
CURRENT	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000
SEND	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7
RECEIVE	3-400	→	→	→	40-500	→	→	→	→	→
RANGE	30x300	30x200	30x30	30x300	30x30	30x30	30x300	30x300	30x300	30x300
VOLTAGE	200	280	400	480	400	300	200	280	390	480
CURRENT	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000

FREQUENCIES 1.0 0.1

SENDER NO. 6644-S

OPERATOR Torresdon

RECEIVER NO. 25705-R

OPERATOR Matsumoto

COMMENTS:

9.0 ALL



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT CONDOR

LINE 1 HALF W SP. 1 DATE 2-15-7

PAGE

4

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2
RECEIVE	50-60	→				60-70W	→			
RANGE	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300
VOLTAGE	390	300	200	260	380	400	300	200	280	400
CURRENT	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000
SEND	2-3	3-4		CHL						
RECEIVE	70-80W	→		4-5						
RANGE	30x300	30x300		30x100						
VOLTAGE	300	200		90						
CURRENT	9000	9000		3000						

FREQUENCIES 1.0 0.1

SENDER NO. 6644-S

OPERATOR John Lundgren

RECEIVER NO. 25705-R

OPERATOR Matthews

COMMENTS :

9.0 ALL

I. P. RECEIVER NOTES, JOB No. _____, AREA LITTLE HILL MINES
 LINE 1, HALF E, SP. 3, $\alpha = 1000$, BEARING S 64° E
 SENDER STA. 107170 = ELECTRODE No. 4, DATE 3-20-73



PAGE 1
**HEINRICHS
 GEOEX**

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	160-170E	170-180E	→	180-190E	→	→	190-200E	→	→	→
MULTIPLIER	10	10	1.0	10	1.0	1.0	10	1.0	1.0	1.0
PFE	4.4	2.0	1.2	6.3	2.3	1.8	1.5	3.1	12.06	0.4
CUR. (AMPS)	3	→	→	5	3	→	5	→	3	→
POINT No.										
SEP. (n)	3	3	12	3	12	30	3	12	30	60
H. F. MV	138	#107	559526	206	39.1	285	183	63.2	20.0	19.3
DRIFT	-	-	-	-	-	-	-	-	-	-
1.0 PFE	$K_n/1000$									
0.3 PFE	P_{CAL}									
0.1 PFE	PFE_c									
3.0 MV	$P/2\pi$	144	111	219	129	163	297	114	158	208
DRIFT	MCF									
S. P.		+14.1	→	+3.0	→	→	+7.9	→	→	→
NOISE										
POT RES.										
CULT & CMTS		Grounded fence at	186E							

I. P. RECEIVER NOTES, JOB No. _____, AREA LITTLE HILL MINES

LINE 1, HALF E, SP. 3, $\alpha =$ 1000, BEARING _____

SENDER STA. 170 = ELECTRODE NO. 4, DATE 3-20-73



PAGE 2

HEINRICH
GEOEX

[illegible]

SENDER STA. 170 = ELECTRODE NO. 4, DATE 3-20-73



PAGE 3

HEINRICH
GEOEX

[illegible]

SENDER STA. 170C = ELECTRODE NO. 4, DATE 3-20-73



PAGE 4

HEINRICHSGEOEX

[illegible]

SENDER STA. 170E = ELECTRODE NO. 4, DATE 3-20-73



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HEINRICH
GEOEX

[illegible]

SENDER STA. 90 = ELECTRODE NO. 4, DATE 2-26-73



PAGE 2

HEINRICH
GEOEX

[illegible]

SENDER STA. 90 = ELECTRODE NO. 4, DATE _____



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HEINRICH
GEOEX

[illegible]



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT LITTLE HILL MINES
LINE 1 HALF E SP. 2 DATE 2/26/73

PAGE

1

SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6
RECEIVE	90-100E	→	100-110E	→	110-120E	→	120-130E	→	130-140E	→
RANGE	30x300	30x300	30x300	30x300	30x300	30x233.3	30x300	30x300	30x300	30x166.6
VOLTAGE	200	350	175	225	350	450	180	240	360	560
CURRENT	9000	9000	9000	9000	9000	7000	9000	9000	9000	5000
SEND	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2
RECEIVE	120-130E	→	→	→	130-140E	→	→	→	→	→
RANGE	30x233.3	30x300	30x300	30x300	30x166.6	30x166.6	30x233.3	30x300	30x300	30x200
VOLTAGE	460	180	220	340	480	520	440	180	220	340
CURRENT	7000	9000	9000	9000	5000	5000	7000	9000	9000	9000

FREQUENCIES 10 24
SENDER NO. 66445
OPERATOR John Lundgren
RECEIVER NO.
OPERATOR Phil Matthews

COMMENTS: 1-2 30 x 300 = 9
2-3 30 x 300 = 9
3-4 30 x 300 = 9
4-5 30 x 200 + 33.3 = 7
5-6 30 x 100 + 66.6 = 5
6-7 30 x 100 + 66.6 = 5

Low



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT LITTLE HILL MINES
LINE 1 HALF E SP. 2 DATE 2/26/73

PAGE
2

SEND	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4	6-7
RECEIVE	140-150E				140-150E	150-160E				160-170E
RANGE	30X166	30X146	30X233	30X200	30X300	30X166	30X166	30X233	30X300	30X166
VOLTAGE	480	590	440	160	220	460	590	440	160	460
CURRENT	5000	5000	7000	9000	9000	5000	5000	7000	9000	5000
SEND	5-6	4-5		CHL						
RECEIVE	160-170E			5-6						
RANGE	30X166	30X233		30X100						
VOLTAGE	540	440		2310						
CURRENT	5000	7000		3000						

FREQUENCIES 1.0 0.1

SENDER NO. 6644

OPERATOR John Lindgren

RECEIVER NO.

OPERATOR Phil Mathews

COMMENTS:



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT LITTLE HILL MINES
LINE 1 HALF W SP. 2 DATE 7/26/73

PAGE
3

SEND	3-4	2-3	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5
RECEIVE	70-60E	60-50E				→	50-40E			
RANGE	30X300	30X300	30X300	30X233	30X166	30X166	30X300	30X300	30X300	30X233
VOLTAGE	160	220	160	520	540	440	340	200	180	440
CURRENT	9000	9000	9000	7000	5000	5000	9000	9000	9000	7000
SEND	5-6	6-7	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4
RECEIVE	50-40E	→	40-30E				→	(MAY NOT READ) 30-20E		→
RANGE	30X166	30X166	30X300	30X300	30X200	30X233	30X166			30X300
VOLTAGE	520	460	340	200	160	420	540			160
CURRENT	5000	5000	9000	9000	9000	7000	5000			9000

FREQUENCIES 10 0.1

SENDER NO. 6644-5

OPERATOR John Burdgen

RECEIVER NO.

OPERATOR Phil Matthews

COMMENTS:

1-2 30X300 = 9
2-3 30X300 = 9
3-4 30X300 = 9
4-5 30X233 = 7
5-6 30X166.6 = 5
6-7 30X166.6 = 5
Low (C) →



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT LITTLE HILL MINES
LINE 1 HALF W SP. 2 DATE 2/26/73

PAGE
4

SEND	4-5	1-2	2-3	3-4						
RECEIVE	30-20E	(MAY NOT 20-10E)	READ	→						
RANGE	30x233			30x300						
VOLTAGE	420			180						
CURRENT	7000			9000						
SEND										
RECEIVE										
RANGE										
VOLTAGE										
CURRENT										

FREQUENCIES 10 0.1

SENDER NO. 66945

OPERATOR John Lundgren

RECEIVER NO.

OPERATOR Phil Matthews

COMMENTS :

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINESLINE 1, HALF W, SR 1, $\alpha =$ 1000, BEARING N 69°WSENDER STA. 0 = ELECTRODE No. 4, DATE 2-16-73PAGE 1HEINRICH'S
GEOEX

SEND	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7	2-3
RECEIVE	0-10W	→	10-20W	→	→	20-30W	→	→	→	30-40W
MULTIPLIER	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	1.0
PFE	-0.6	+0.2	0.6	0.6	1.0	0.6	0.7	0.8	1.3	0.2
CUR. (AMPS)										
POINT No.										
SEP. (n)	3	12	9	12	30	9	12	30	60	3
H. F. Mv	189	46.4	96.2	26.9	130	53.9	24.6	11.4	6.87	91.2
DRIFT	-	+0.1	-	-	-	-	-	-	-	-
I.O PFE	$K_n/1000$	3	12	3	12	30	3	12	30	60
0.3 PFE	P_{CAL}									
0.1 PFE	PFE_c	-0.6	+1.2	0.6						
3.0 MV	$P/2\pi$	64	63	33	37	44	18	34	39	47
DRIFT	MCF	-9.4	3.2	18	16	23	33	21	21	28
S. P.		+48.5	→	+30.5	→	→	+41.2	→	→	+61.8
NOISE										
POT RES.										
CULT & CMTS										

64 63 33 37 44 18 34 39 47 31

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINESLINE 1, HALF W, SR. 1, $\alpha =$ 1000, BEARING N 69°WSENDER STA. 0 = ELECTRODE No. 4, DATE 2-16-73PAGE 2HEINRICH'S
GEOEX

SEND	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7
RECEIVE	30-40W	—	—	→	40-50W	—	—	—	—	→
MULTIPLIER	1.0	0.1	0.1	0.1	1.0	0.1	0.1	0.1	0.1	0.1
PFE	0.4	0.6	0.4	1.2	0.4	0.7	0.6	0.8	0.8	0.8?
CUR. (AMPS)										
POINT No.										
SEP. (n)	12	30	60	105	3	12	30	60	105	168
H. F. MV	12.7	10.01	5.58	3.71	80.8	9.61	5.73	5.31	3.37	2.45
DRIFT	—	—	—	—	—	—	—	—	—	—
I.O PFE $K_n/1000$	12	30	60	105	3	12	30	60	105	168
0.3 PFE P_{CAL}										
0.1 PFE PFE_c										
3.0 MV $P/2\pi$	17	34	38	44	28	13	20	36	40	47
DRIFT MCF	23	18	11	27	14	54	30	22	20	17
S. P.	+61.8	—	—	→	+38.8	—	—	—	—	→
NOISE										
POT RES.										
CULT & CMTS										

17 34 38 44 28 13 20 36 40 47

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINES
 LINE 1, HALF W, SP. 1, $a =$ 1000', BEARING N 69°W
 SENDER STA. 0 = ELECTRODE No. 4, DATE 2-16-73



PAGE 3
 HEINRICH'S
 GEOEX

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6 1-2
RECEIVE	50-60W					60-70W				70-80W
MULTIPLIER	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
PFE	0.8	0.6	0.5	0.8	0.8	1.2?	1.4?	0.9	1.2	1.6?
CUR. (AMPS)	9.0									
POINT No.										
SEP. (in)	12	30	60	105	168	30	60	105	168	60
H. F. MV	10.09	5.14	4.45	4.40	2.96	4.34	3.28	3.20	3.27	2.48
DRIFT	-	-	-	-	-	-	-	-	-	-
1.0 PFE $K_n/1000$	12	30	60	105	168	30	60	105	168	60
0.3 PFE P_{CAL}										
0.1 PFE PFE_c										
3.0 MV $P/2\pi$	14	18	30	53	57	15	22	38	63	17
DRIFT MCF	57	33	17	15	14	80	64	24	19	94
S. P.	+19.0					+18.8				
NOISE										
POT RES.										8K
CULT & CMTS	Grid North-South fence at 56 west									

14 18 30 53 57 15 22 38 63 17

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINES
 LINE 1, HALF W, SR 1, $a = 1000'$, BEARING N 69°W
 SENDER STA. 0 = ELECTRODE No. 4, DATE 2-16-73



PAGE 4
 HEINRICH'S
 GEOEX

SEND	2-3	3-4	4-5							
RECEIVE	70-80W	→	CAL							
MULTIPLIER	0.1	0.1								
PFE	1.4	1.2	+0.0							
CUR. (AMPS)		-3.0								
POINT No.	3	0.5 0.5								
SEP. (n)	105	168								
H. F. Mv	2.10	2.12	293							
DRIFT	-	-	-							
I.O PFE $K_n/1000$	105	168								
0.3 PFE P_{CAL}										
0.1 PFE PFE_c										
3.0 MV $P/2\pi$	25	41								
DRIFT MCF	56	29								
S. P.										
NOISE										
POT RES.										
CULT & CMTS										

75 41

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINDS
 LINE 1, HALF E, SP. 1, $\alpha =$ 1000, BEARING S 64° E
 SENDER STA. 0 = ELECTRODE No. 4, DATE 2-17-73



PAGE 5
**HEINRICHS
 GEOEX**

SEND			4-5	5-6	4-5	3-4	2-3	1-2	6-7	5-6
RECEIVE	0-10E	10-20E	20-30E	30-40E	—	—	—	→ 40-50E	—	—
MULTIPLIER			10	10	1.0	1.0	0.1	0.1	10	1.0
PFE			1.6	0.6	1.2	0.4	1.3?	0.8	0.4	0.6
CUR. (AMPS)										
POINT No.	SL	SP								
SEP. (n)			3 1	1	2	?	?	5		
H. F. MV			222	223	46.9	19.3	7.25	4.02	398	82.0
DRIFT			-0.2	-	-	-	-	-	-	-
1.0 PFE $K_n/1000$			3	3	12	30	60	105	3	12
0.3 PFE P_{CAL}	1.023									
0.1 PFE PFE_c										
3.0 MV $P/2\pi$			76	76	64	66	49	48	136	112
DRIFT MCF			21	7.9	18	6.1	27	17	2.9	5.4
S. P.	+27.6	+19.2	+59.5	+4.1	—	—	—	→ +15.0	—	—
NOISE										
POT RES.			12K							
CULT & CMTS	Crd fence at		23E	1 E						

I. P. RECEIVER NOTES, JOB No. 798, AREA LITTLE HILL MINES
 LINE 1, HALF E, SP. 1, $\alpha =$ 1000', BEARING S 64° E
 SENDER STA. 0 = ELECTRODE No. 4, DATE 2-17-73



PAGE 6
 HEINRICHS
 GEOEX

SEND	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3	6-7
RECEIVE	40-50E				50-60E					60-70E
MULTIPLIER	1.0	1.0	0.1	0.1	1.0	1.0	0.1	0.1	0.1	1.0
PFE	1.4 1.4	1.2??	0.4??	/	0.7	0.6 0.6	0.7?	0.6	/	0.4
CUR. (AMPS)										
POINT No.										
SEP. (n)										
H. F. MV	35.1	18.9	8.13	4.69	42.7	17.1	9.85	5.91	2.75	50.4
DRIFT	-	-	-	-	-	-	-	-	-	-
1.0 PFE $K_n/1000$	30	60	105	168	12	30	60	105	168	30
0.3 PFE P_{CAL}	1.023									
0.1 PFE PFE_C										
3.0 MV $P/2\pi$	120	129	97	90	58	58	67	71	53	172
DRIFT MCF	12	9.3	4.1	-	12	10	10	8.5	/	2.3
S. P.					+30.5					
NOISE				1.0 = 1.05 - 0.2						
POT RES.										
CULT & CMTS					Gnd. fence at	65 E				

SENDER STA. 0 = ELECTRODE No. 4, DATE 2-17-73



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**HEINRICHS
GEOEX**

[illegible]



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PAGE 1
PROJECT CONOCO 2-16-73
LINE 1 HALF E SP. 1 DATE 2-15-73

SEND	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6
RECEIVE	0-10w	→	10-20w	→	20-30w	→	→	→	→	30-40w
RANGE	30x300	→	→	→	→	30x300	→	→	→	30x300
VOLTAGE	→	→	→	→	→	300	→	→	→	400
CURRENT	→	→	→	→	→	9000	→	→	→	9000
SEND	4-5	3-4	2-3	1-2	6-7	5-6	4-5	3-4	2-3	1-2
RECEIVE	30-40w	→	→	→	40-50w	→	→	→	→	→
RANGE	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300
VOLTAGE	300	200	300	400	480	420	300	200	300	400
CURRENT	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000

FREQUENCIES 1.0 0.1

SENDER NO. 6644.5

OPERATOR John Lundgren

RECEIVER NO. 25205-R

OPERATOR Mathew

COMMENTS: 30 x 300



HEINRICHS GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT

Conoco

LINE

HALF E SP. 1

DATE 2-16-78

PAGE

2

SEND	6-7	5-6	4-5	3-4	2-3	6-7	5-6	4-5	3-4	6-7
RECEIVE	60-60E				→	60-70E			→	70-80E
RANGE	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300
VOLTAGE	480	410	280	200	310	480	410	280	200	470
CURRENT	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000
SEND	5-6	4-5		CAH						
RECEIVE	70-80E	→		4-5						
RANGE	30x300	30x300								
VOLTAGE	460	280								
CURRENT	9.000	9.000								

FREQUENCIES 1.0 0.1

SENDER NO. 6644 S

OPERATOR Toresdahl

RECEIVER NO. 25705-R

OPERATOR Mathews

COMMENTS :



HEINRICH'S GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT

C O N O C U

LINE

1

HALF W

SP.

1

DATE 8-15-73

PAGE

3

SEND	5-6	6-7	4-5	5-6	6-7	3-4	4-5	5-6	6-7	2-3
RECEIVE	0-10W	→	10-20W	→	→	20-30W	→	→	→	30-40W
RANGE	30X300	30X300	30X300	30X300	30X300	30X300	30X300	30X300	30X300	30X300
VOLTAGE	400	480	280	400	480	200	280	400	480	300
CURRENT	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000
SEND	3-4	4-5	5-6	6-7	1-2	2-3	3-4	4-5	5-6	6-7
RECEIVE	30-40W	→	→	→	40-50W	→	→	→	→	→
RANGE	30X300	30X300	30X300	30X300	30X300	30X300	30X300	30X300	30X300	30X300
VOLTAGE	200	280	400	480	400	300	200	280	390	480
CURRENT	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000	9.000

FREQUENCIES 1.0 0.1SENDER NO. 6644-SOPERATOR TorresdahlRECEIVER NO. 25705-ROPERATOR Mathews

COMMENTS:

9.0 ALL



HEINRICH'S GEOEXPLORATION CO.
I. P. SENDER NOTES

PROJECT

CONOCO

LINE 1

HALF W

SP. 1

DATE 2-15-72

PAGE

4

SEND	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	1-2
RECEIVE	50-60W	—————→				60-70W	—————→			70-80W
RANGE	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300	30x300
VOLTAGE	390	300	200	260	380	400	300	200	280	400
CURRENT	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000
SEND	2-3	3-4		CHL						
RECEIVE	70-80W	————→		4-5						
RANGE	30x300	30x300		30x100						
VOLTAGE	300	200		90						
CURRENT	9000	9000		3000						

FREQUENCIES 1.0 0.1

SENDER NO. 6644-5

OPERATOR John Lundgren

RECEIVER NO. 25705-R

OPERATOR Mathews

COMMENTS:

9.0 ALL

I.P. SURVEY

Little Hills Area, Arizona

Pinal County

For

Continental Oil Company

March 29, 1973

GEOEX Job

#798



HEINRICH'S GEOEXPLORATION COMPANY

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

March 29, 1973

Mr. B. F. Kern
Geological Supervisor
Continental Oil Company
Metallics Division
1706 West Grant Road
Tucson, Arizona 85705

Re: I.P. Survey
Little Hills Area, AZ
GEOEX Job #798

Dear Mr. Kern:

This letter is to serve as a brief report on the I.P. survey we recently completed for you this month in the Little Hills Area, Pinal County, Arizona.

Three spreads of collinear dipole-dipole array I.P. coverage on 1000 foot dipole lengths and "n" intervals from 1 through 6 were run. This gave a total surface coverage of 6.1 miles of which 5.0 miles is "subsurface" plotted data. The multi-frequency I.P. technique was used on sending frequency pairs of 0.1 and 1.0 hz for Spreads 1 and 2 and 0.3 and 3.0 hz for Spread 3, employing GEOEX Mark 4 I.P. System gear.

The data are herewith presented on a Sectional Data Sheet showing apparent resistivity, percent frequency effect (PFE), and metallic conduction factor (MCF) contoured in "section" and self potential (SP) in profile form. A line location plan overlay to your 1:24,000 scale geology map is also presented herewith.

Within the main area of initial interest, in Section 8 and 9, no anomalous I.P. response was obtained. This implies that no significant concentration of polarizable material (sulfide) is likely present down to the resolvable penetration limit of the system, which in this case is

Mr. B. F. Kern
March 29, 1973
Page Two

perhaps 1500 or even as much as 2000 feet below surface. A significant concentration of sulfide mineralization in this case is, say, a block having dimensions of at least 1000 feet on a side and having at least 1 percent by volume sulfide content.

Due to the variety of rock types crossed in Section 8 and 9, the apparent resistivity pattern is quite complex but shows two zones of lower resistivity centered near 55E and 90E that correlate quite well with the two blocks of Gila conglomerate crossed in that area. The resistivity pattern implies a limited thickness of conglomerate, perhaps 500 ± 250 feet, in these two blocks.

No resistivity change with depth is noted which might be expected due to penetration through the Mogul fault from the schist into the granite. However, considering the two rock types involved, a lack of electrical contrast is not surprising.

Another resistivity feature of note is near 5W, west of which the resistivity is quite low and exhibits a layered aspect. This is likely due to alluvial fill west of about 5W and which gradually thickens to the west.

On the east end of Spread 2, anomalous I.P. effects were noted and the line was extended to the east by Spread 3. A complex zone of I.P. response was delineated between about 135E and 175E. The strongest effects within this zone appear between 160E and 170E fringed with very weakly anomalous response and a weak increase near 140E.

The anomaly pattern suggests a narrow (less than 1000 feet wide), steeply dipping polarizable source (or sources) located mainly between 160E and 170E possibly with minor fringing polarizable material on either side. The top of this source is likely within 300 feet of the surface and, therefore, the source is probably within the hanging wall of the fault. A more narrow and/or weaker but similar source may cause the increased I.P. effects near 140E.

The resistivities show no obvious correlation with the anomalous I.P. effects. In fact, they are rather uniform horizontally and increase with depth as might be caused by near-surface weathering or perhaps by higher resistivity material present in the Mogul fault footwall. The lack of a correlating low resistivity zone with the I.P. anomaly is typical of response obtained from certain non-sulfide polarizers, particularly manganese oxides or magnetite. Sulfides imbedded within a high resistivity matrix, for example, some limestones or quartzites can also give a similar

Mr. B. F. Kern
March 29, 1973
Page Three

response in some cases. Another possibility is cultural interference such as grounded fences, cased drill holes, or pipelines. No grounded conductors were noted crossing the line at the anomalous dipoles but there may be such near the line that went unnoticed by the field crew.

The self potentials show no significant response correlating with the I.P. response, or elsewhere on the line, suggesting a lack of near surface relatively massive, actively oxidizing, large sulfide zones.

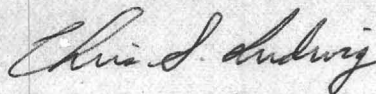
To further define the main anomalous source as to position and strike, additional parallel I.P. coverage on a 500 foot (or shorter) dipole spacing along Line 1 and 1000 feet south and perhaps north should be useful. A magnetometer traverse across the anomalous zone may add useful geologic information and help determine if magnetite could be causing some or all of the I.P. response.

In that the anomaly source is shallow, perhaps even outcropping, representative fresh surface samples should be laboratory tested for polarization effects. Dark colored rocks such as black shales, limestones, or schists would be particularly suspicious because of their possible carbonaceous or fine grained pyrite content as well as the possibility of contained magnetite and manganese oxides.

If drilling of this anomaly is contemplated, the attached copy of "Comments on Drilling I.P. Targets" discusses several factors which should be considered.

Respectfully yours,

Heinrichs GEOEXploration Co.

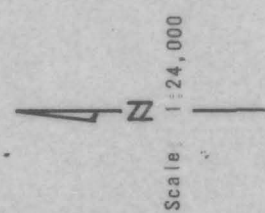
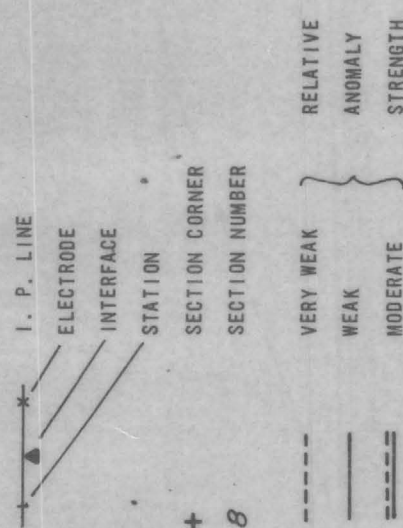


Chris S. Ludwig
Chief Geophysicist

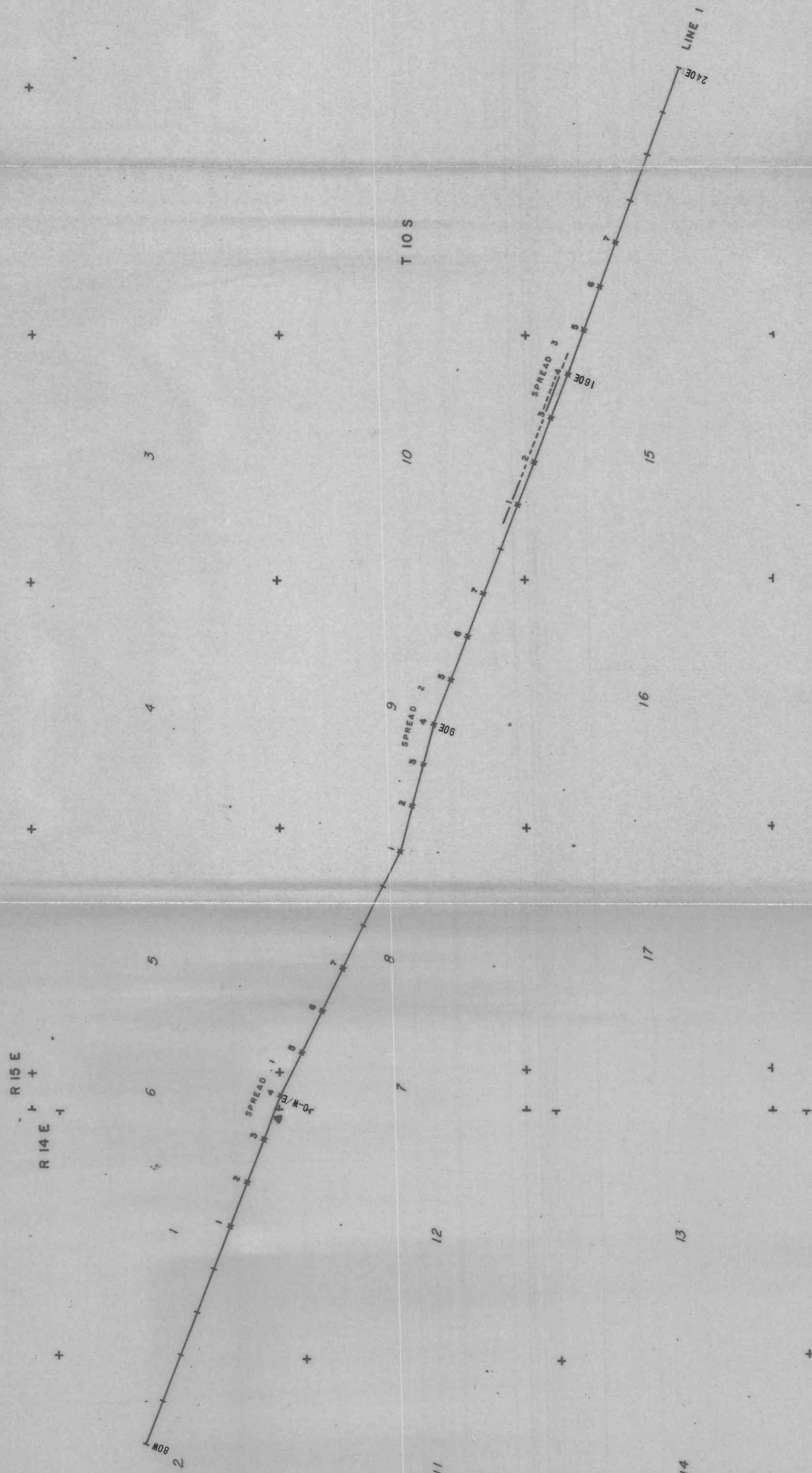
CSL:oek

Enclosures: I.P. Sectional Data Sheets
I.P. Plan
Comments on Drilling I.P. Targets

INDUCED POLARIZATION LOCATION AND
INTERPRETATION PLAN
of
LITTLE HILLS AREA
PINAL COUNTY, ARIZONA
for
CONTINENTAL OIL COMPANY
by
HEINRICHS GEOEXPLORATION COMPANY
Job number 798-73 March 1973



THIS SHEET OVERLAYS GEOLOGIC MAP SUPPLIED BY CLIENT



LINE NO. 1
SPREAD(S) 1, 2 & 3
BEARING S 68° E

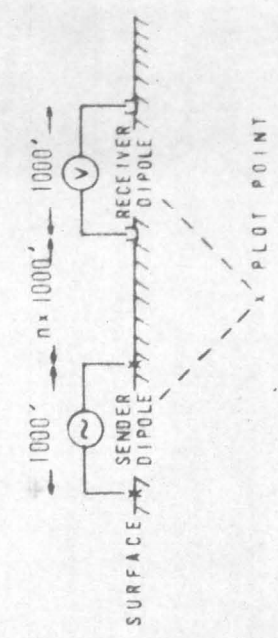
INDUCED POLARIZATION TRAVERSE
SECTIONAL DATA SHEET

of
LITTLE HILLS AREA
for
CONTINENTAL OIL COMPANY

RELATIVE ANOMALY STRENGTH

VERY WEAK WEAK MODERATE STRONG

DIPLOLE-DIPOLE ELECTRODE ARRAY

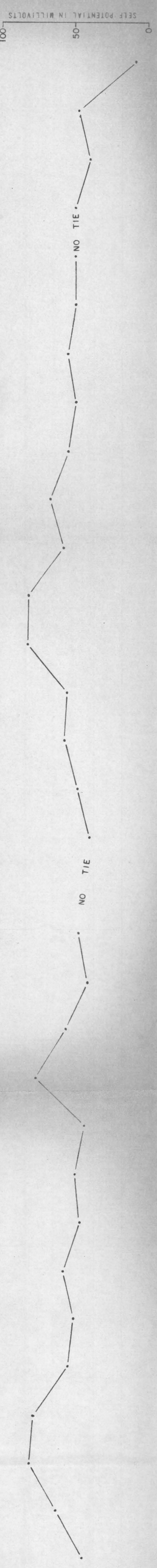
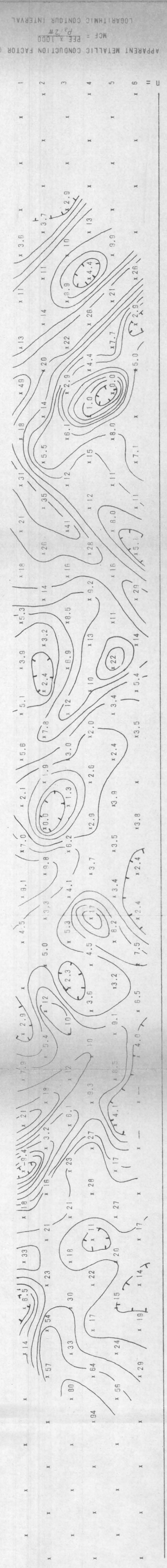
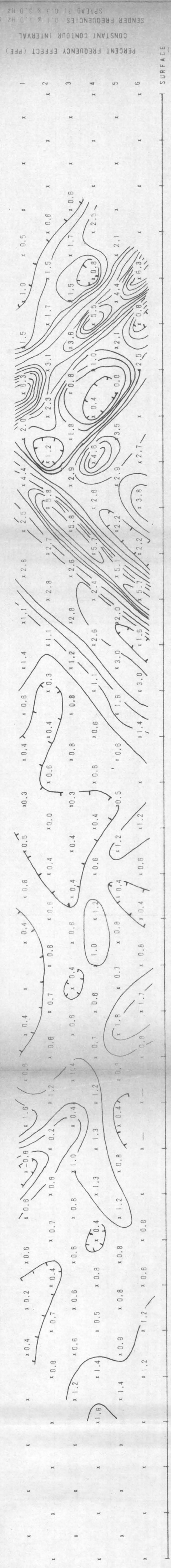
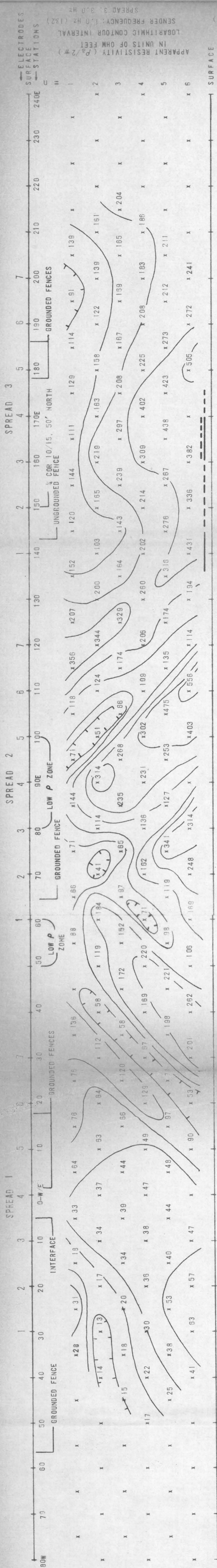


DATE
MARCH 1973



GEOEXPLORATION COMPANY

806 W. GRANT ROAD, POST OFFICE BOX 5964, TUCSON, ARIZ., 85703. PHONE: (502) 623-0578



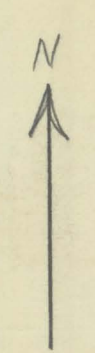


Proposed IPL line
(effective coverage)

Fault

- | | | |
|-------------|-----|-----------|
| Tertiary | Tc | Cong. |
| Laramide | Lm | Monzonite |
| | PCq | Quartzite |
| Precambrian | db | Diabase |
| | ps | Schist |

1" = 2000'





Minerals Department

Continental Oil Company
1706 West Grant Road
Tucson, Arizona 85705
(602) 623-3627

HEINRICH
GEOEX

Cable: GEOEX



REC'D FEB 7 1973 REC'D

BOX 5964 TUCSON, ARIZONA 85703

Phone: (AREA 602) 623-0578

February 7, 1973

Heinrichs Geoexploration Company
806 West Grant Road
Tucson, Arizona 85703

Subject: Our Contract MC 82
I.P. Contract
Little Hills Area
Pinal County, Arizona

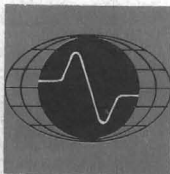
Gentlemen:

Attached is a copy of Induced Polarization contract dated January 18, 1973, which has been signed by Continental. We have also attached a copy of the insurance certificate which was forwarded to us by Paul H. Jones and Company.

Sincerely,

Wes E. Pokluda
Senior Landman

pb



HEINRICH'S GEOEXPLORATION COMPANY

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

January 18, 1973

Mr. B. F. Kern
Geological Supervisor
Continental Oil Co.
Metallics Division
1706 West Grant Road
Tucson, Arizona 85705

Re: Proposed I.P.
MO Claims near
Tucson, AZ

Dear Mr. Kern:

Persuant to initial discussions at our office with Mr. Gordon Pine, we herewith submit this proposal-contract letter for your approval to conduct an I.P. survey on your MO claims near Tucson.

We understand that roughly 10 line-miles of I.P. coverage are desired to determine if surface showings of copper in the Oracle granite may improve in sulfide content at depth, perhaps localized by a major 45° SW dipping, NW fault. This work is mainly on the downthrown block of Apache group sediments and Gila conglomerate southwest of the fault to penetrate into the granite to the northeast at depth.

This coverage will be on 1000 foot length dipoles and "n" intervals ranging from 1 through 6 to give penetration down to about 1500 feet. The terrain is fairly rugged but probably about one mile of traverse can be obtained per day or 10 field days to complete the 10 line-miles.

A three man crew plus necessary equipment to obtain this I.P. coverage would be charged at \$250.00 per work day plus expenses. Expenses include \$15.00 per day plus \$0.15 per mile per vehicle and one four wheel drive vehicle should suffice. The crew can commute from Tucson so no

Mr. B. F. Kern
January 18, 1973
Page Two

living expenses will be involved. Other direct job related expenses will be billed at our invoice cost plus 15 percent.

Our normal work schedule is based on a five day week and an eight hour work day. Travel time up to one hour per day each way to and from the job site will not be charged. Overtime in excess of this schedule will be charged at \$37.50 per hour for the three man crew plus expenses as above.

Standby time due to inclement weather or client request will be charged at half the daily rate plus expenses as above.

Final data compilation, computation, and drafting will be charged at \$10.00 per hour. Final interpretation and report will be charged at \$150.00 per day. Rough field plots and preliminary field interpretations will be available during the project as needed.

We estimate the total billing on this basis would be between \$3,500.00 and \$4,000.00 which includes final drafting, interpretation and report. If no report is involved, the total billing would be reduced by about \$500.00.

One or two extra helpers with their own vehicle would increase the rate of production proportionally if time is critical. Our daily base rate is increased by \$50.00 for each helper but the overall project cost should be about the same as with a three man crew.

GEOEX will save the client harmless from all Workmen's Compensation liability, public liability and property damage liability incurred by GEOEX employees. All property permits, brushing, and trespass liability and related costs which are incurred on behalf of the client will be chargeable to the client at GEOEX cost plus 15 percent. All special insurance premiums, bonds, fees, duties, licenses, taxes, trespass permits, and related special fees, if any, will be billed to the client at GEOEX cost plus 15 percent.

Payments are due on presentation. Billings may be submitted weekly with final payment due on presentation of final report.

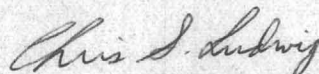
Mr. B. F. Kern
January 18, 1973
Page Three

Our crew availability at this time is likely one or two weeks.

Your understanding and approval of the above may be indicated by signing as provided below on the attached copy of this letter and returning it to us, or by submitting a purchase order.

Sincerely yours,

Heinrichs GEOEXploration Co.




Chris S. Ludwig
Senior Geophysicist

CSL:ock

Date:

Accepted by:

CONTINENTAL OIL COMPANY



W. A. Peterson

Title: Manager of Metallics Exploration

Feb. 5, 1973

Mr. Pokluda (Wes) called:

JOB# 798

Continental Oil

Crack No China job contract signed - ready to go.

We can start when ready

Check with Ray Barby or Gordon Pine this week
they will show us around property - preliminary to crew
work