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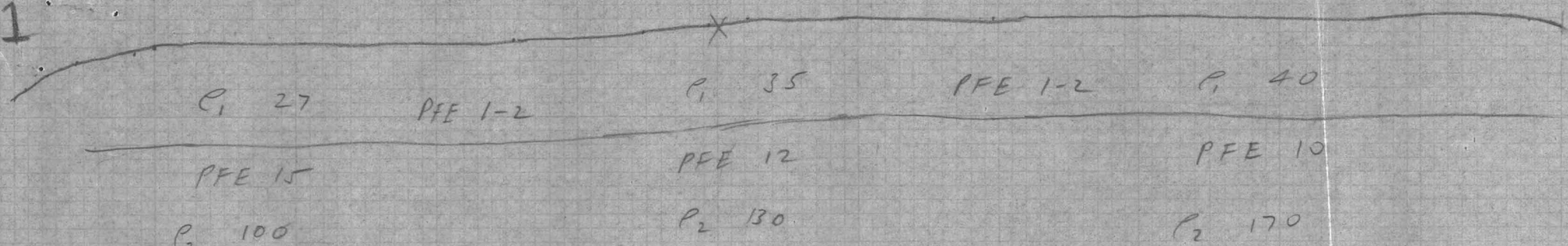
Line 1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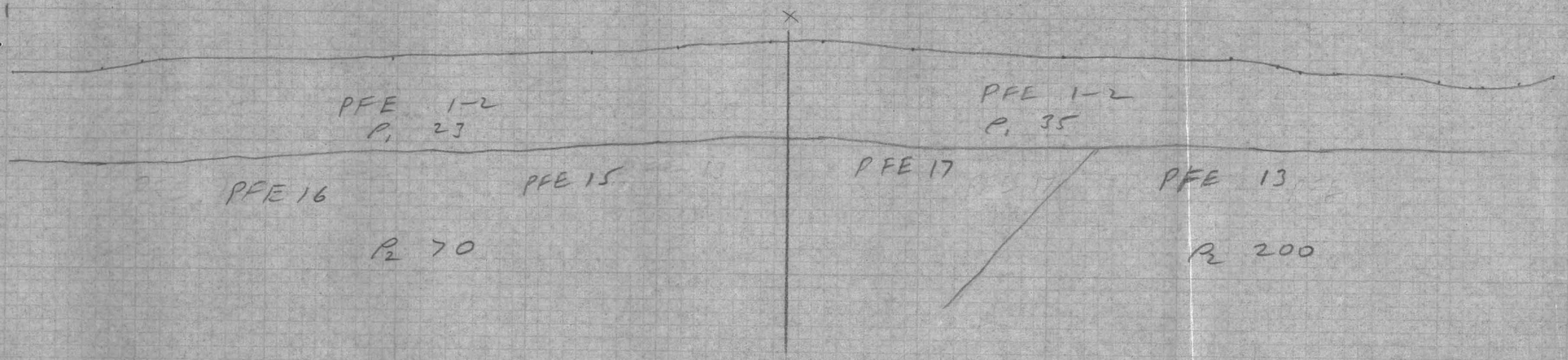
PFE 1-2
P_1 35
PFE 1-2
P_1 40
PFE 15
P_2 100
PFE 12
P_2 130
PFE 10
P_2 170

Line 2



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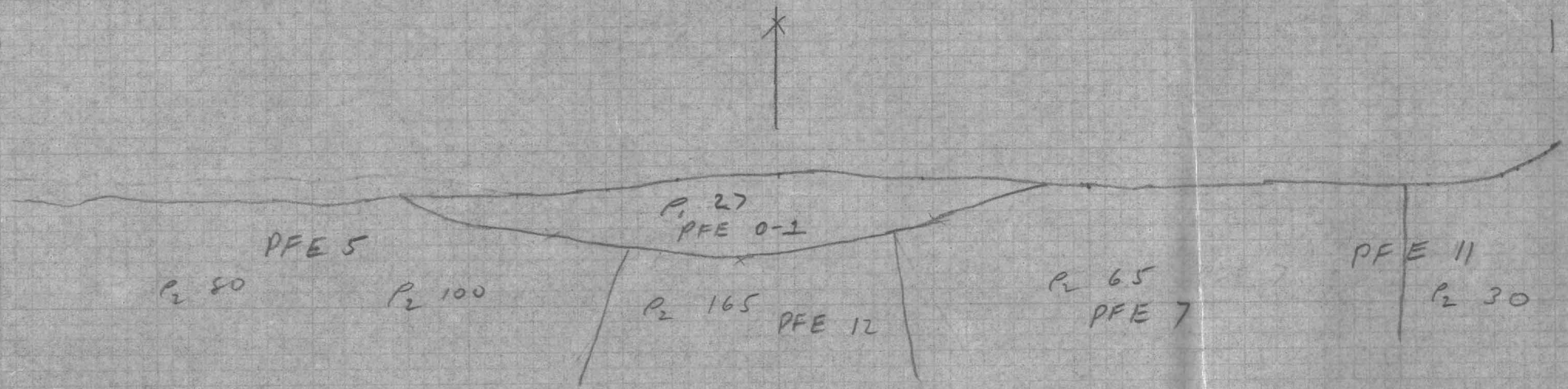

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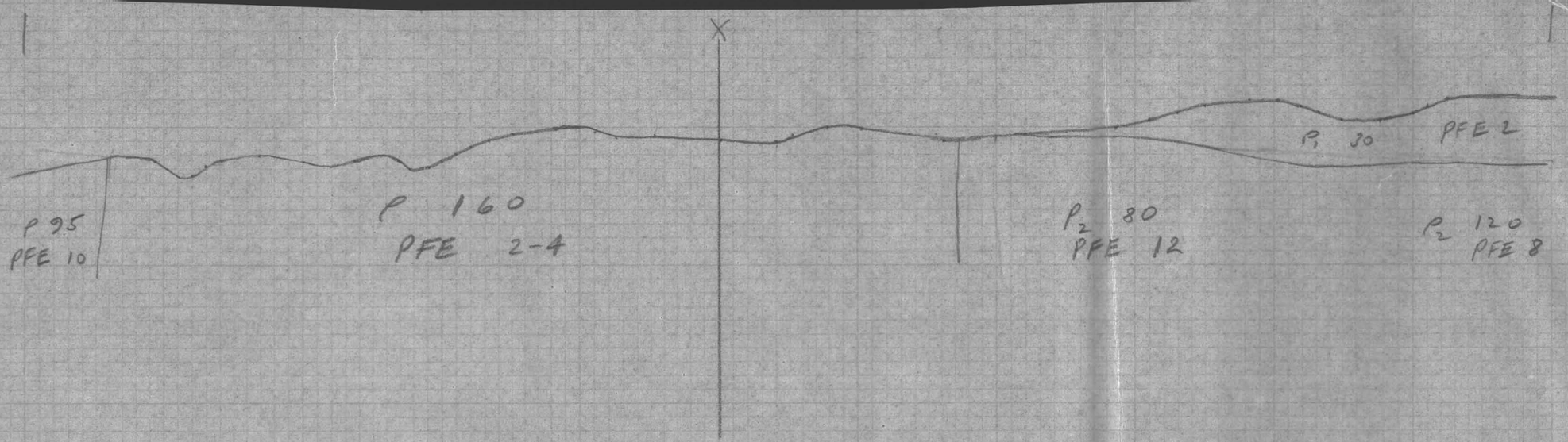

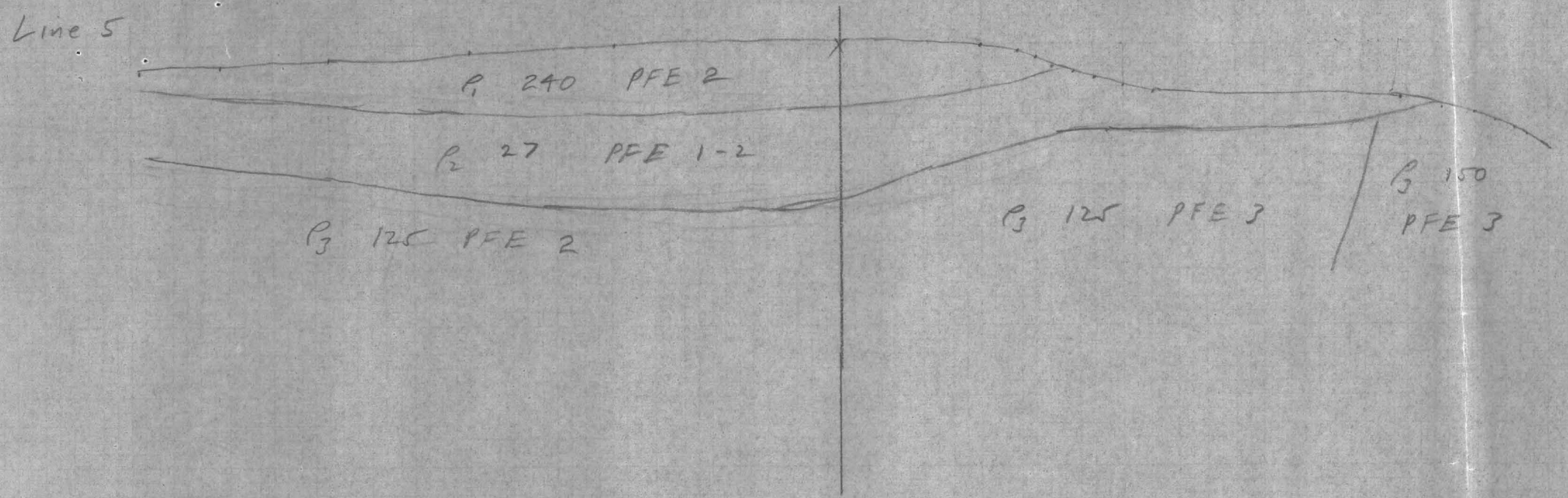
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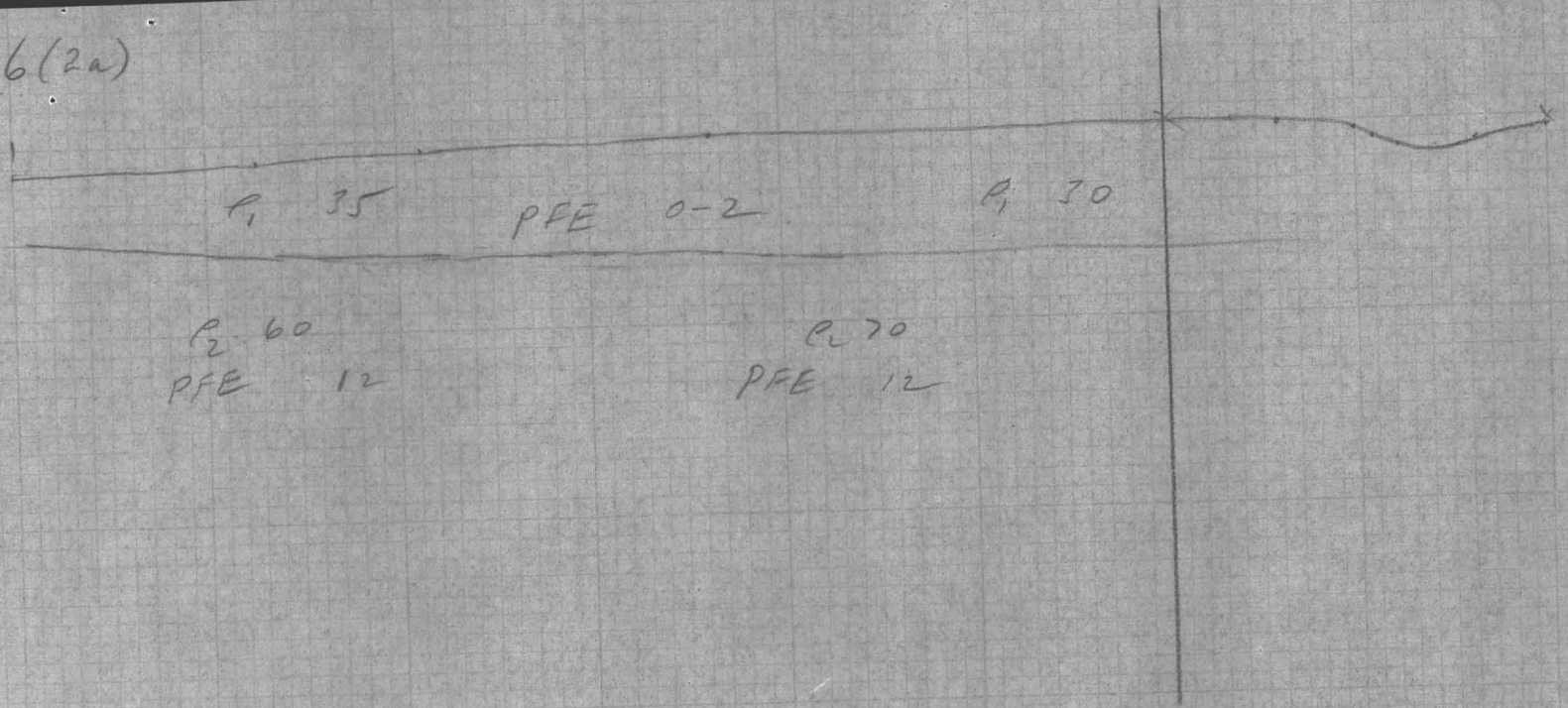
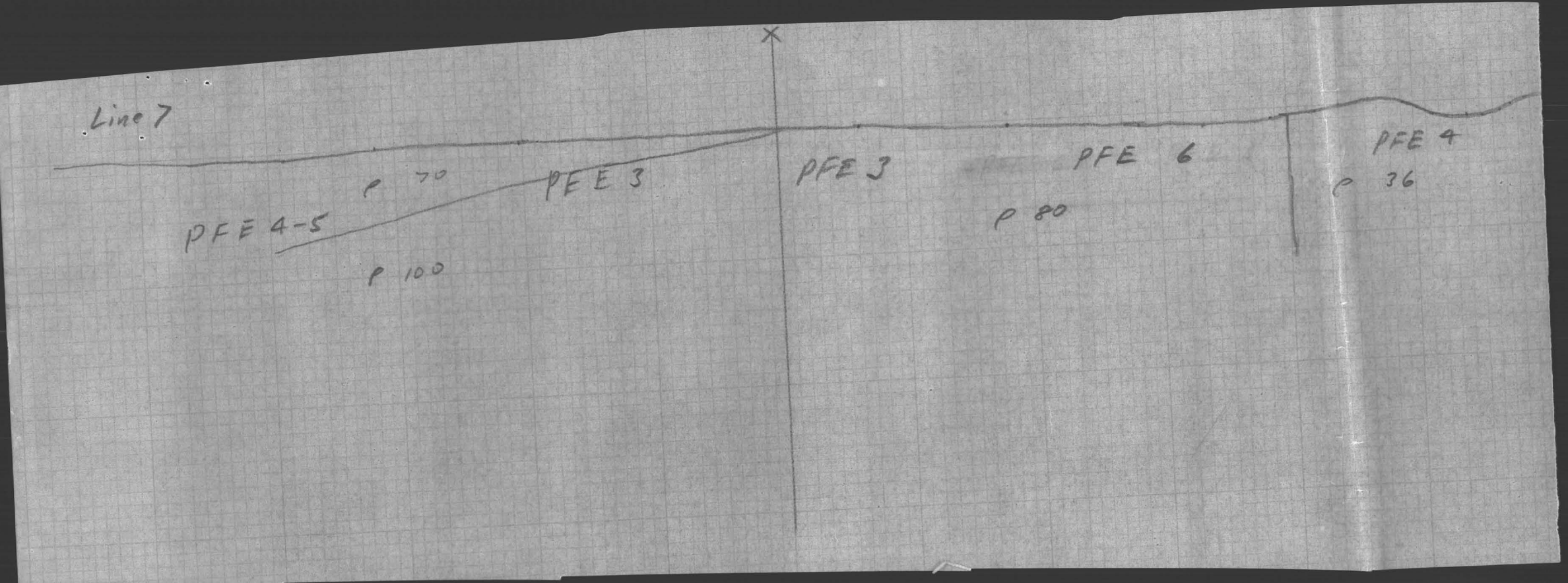
P2 27 PFE 1-2
P3 125 PFE 2
P3 125 PFE 3
P3 150
PFE 3

Line 6(2a)

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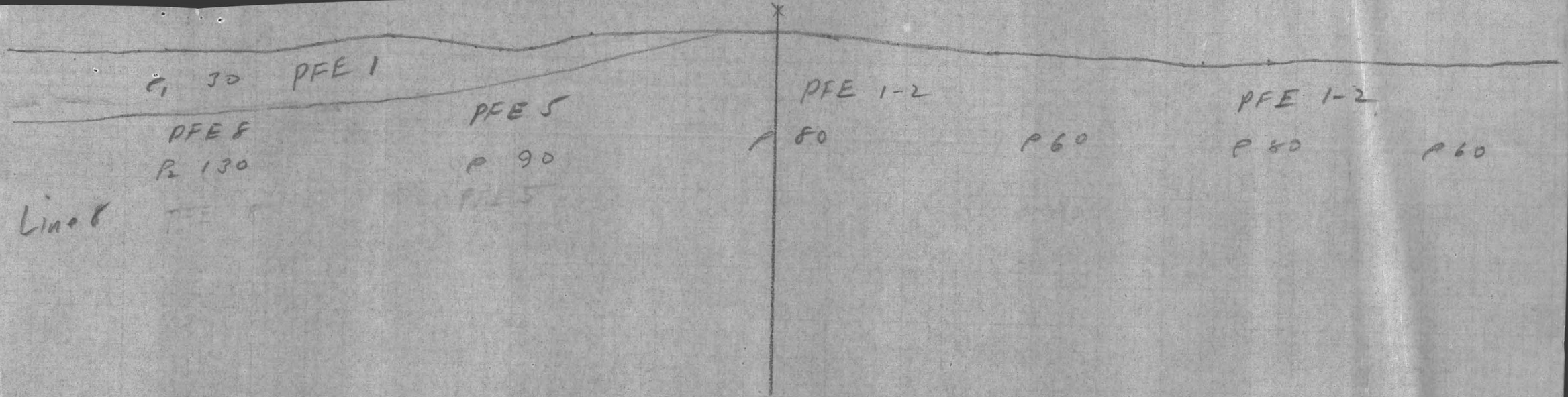
ρ 70
PFE 3
ρ 100
PFE 3
PFE 6
ρ 80
PFE 4
ρ 36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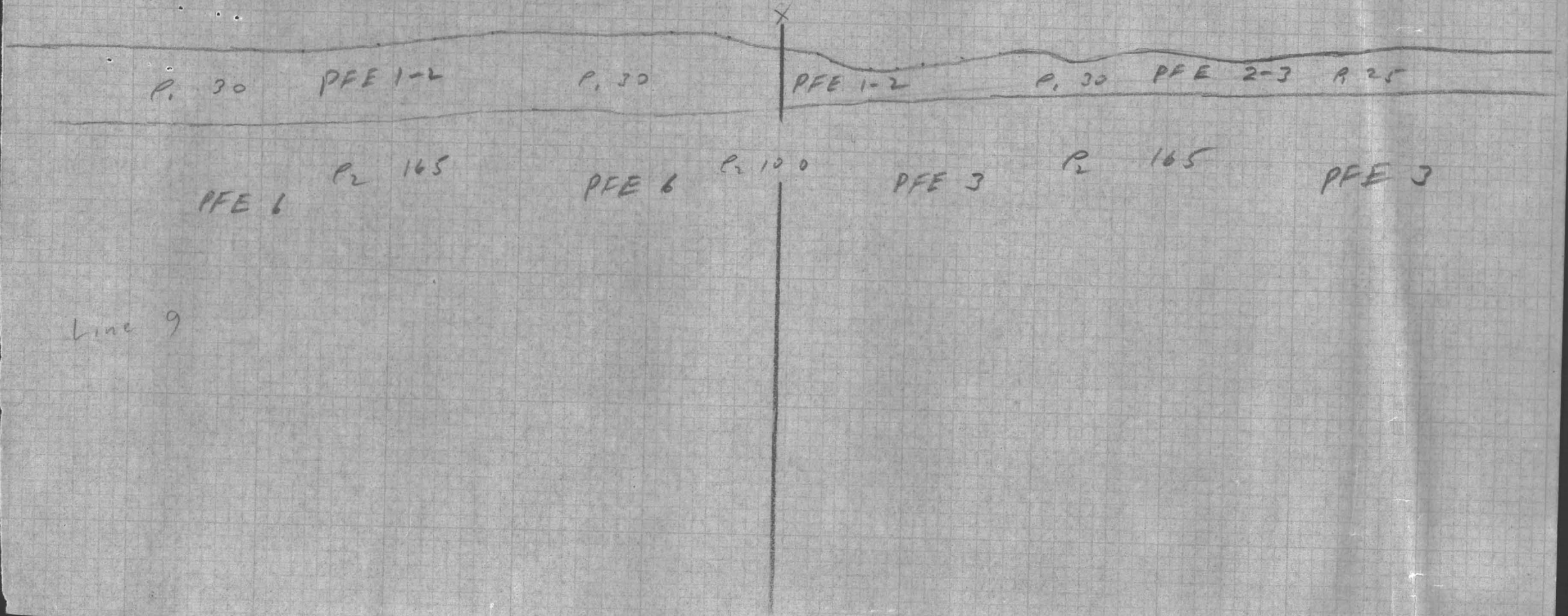
PFE 8
P2 130
P 90
PFE 1-2
P 80
P 60
PFE 1-2
P 60
P 60
Line 6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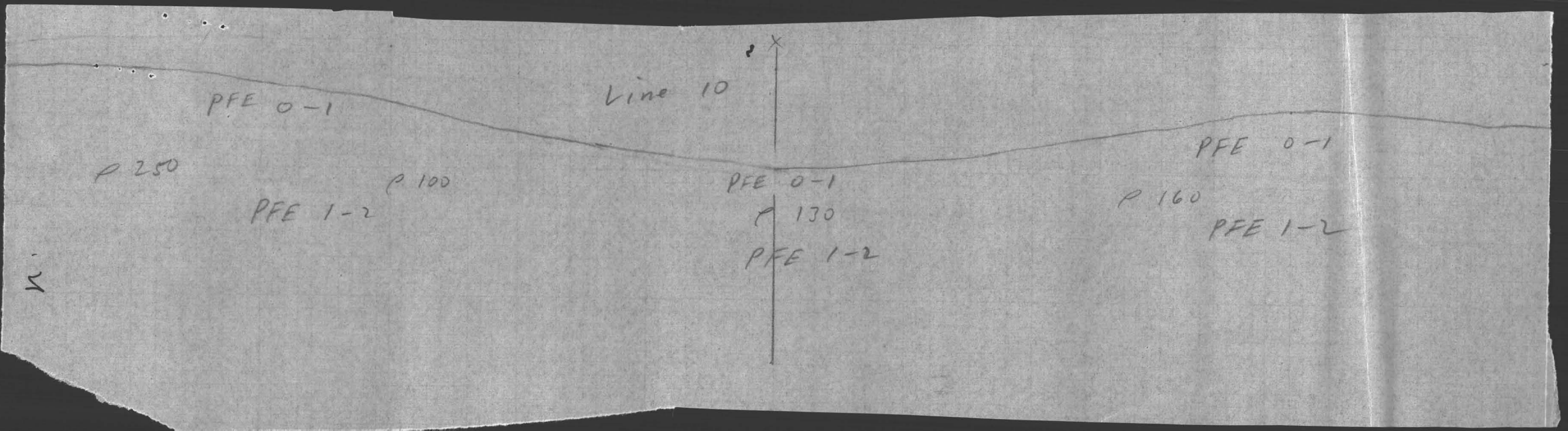
P, 30
PFE 1-2
P, 30
PFE 2-3
P 25
P2 165
PFE 6
PFE 6
P2 100
PFE 3
P2 165
PFE 3

Line 9


Line 10
PFE 0-1
ρ 250
ρ 100
PFE 1-2
PFE 0-1
ρ 130
PFE 1-2
PFE 0-1
ρ 160
PFE 1-2

INDUCED POLARIZATION - RECEIVER NOTES

PAGE 1

Project: Bagdad Line: 1-Spr. 1-E½ Int.Cal _____ Date: 7/9/64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
Time	100	10	100	30	10	30	10	10	3	10	10	3
DC-1	23.9 23.7	6.06 5.93	27.7	9.6 9.7	3.07 3.35	18.2 18.1	6.05 6.72 5.95 5.97	2.79 3.15	1.37 1.15 1.38 1.42	4.73 4.77 4.88 5.04	2.52 2.17 2.24 2.60	1.39 1.81 1.54 1.35
DC-2	22.2 22.4	5.66 6.03	28.3	8.8 8.7	3.77 3.15	18.5 18.7	6.24 5.68 6.42 6.32	3.12 2.70	1.13 1.37 1.15 1.05	5.02 4.99 4.84 4.64	2.36 2.68 2.68 2.42	1.70 1.72 1.60 1.73
Σ	46.1 46.1	11.72 11.96	56.0	18.4 18.4	6.99 6.50	36.7 36.8	12.29 12.40 12.37 12.25	5.91 5.85	2.50 2.52 2.53 2.47	9.75 9.76 9.72 9.88	4.88 4.85 4.92 5.02	3.09 3.13 3.14 3.08
DC-3	22.2	5.83 5.37 6.47 6.77	28.3	8.8 8.7	3.15 3.23 3.25 3.35	18.5 18.7	6.33 6.40 5.60 5.75	2.63 3.20	1.16 1.03	4.78 4.97	3.66 2.60 2.57 2.55	1.68 1.72 1.38 1.30
Dc-4	23.7	6.35 6.66 5.40 5.16	27.7	9.7 9.6	3.28 3.9 3.20 3.16	18.1 17.9	5.76 5.84 6.72 6.62	2.27 2.65	1.37 1.33	4.97 4.81	2.30 2.27 2.25 2.26	1.40 1.29 1.76 1.76
Σ	45.9	12.18 12.03 11.87 11.93	56.0	18.5 18.7	6.43 6.55 6.45 6.51	36.6 36.6	12.09 12.24 12.32 12.37	5.90 5.89	2.53 2.46	9.75 9.78	4.96 4.87 4.75 4.87	3.05 3.11 3.14 3.06
DC-AV	46.0	11.95	56.0	18.4	6.48	36.7	12.29	5.89	2.50	9.75	4.86	3.10
AC-1	22.2	6.00	26.9	9.1	3.18	18.4	6.16	2.90	1.22	4.94	2.43	1.51
AC-2	22.2	6.00	27.0	9.1	3.18	18.4	6.14	2.90	1.22	4.94	2.41	1.51
Σ	44.4	12.00	53.9	18.2	6.36	36.8	12.30	5.80	2.44	9.88	4.84	3.02
S. P.	-50.5	→	-38.1	→	→	-43.6	→	→	→	-58.2	→	→
AC-N	.07	→	.09	→	→	.07	→	→	→	.06	→	→
I.C.	50.0	→	49.9	→	→	49.8	→	→	→	49.9	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: Bagdad Line: 1-Spr. 1-E½ Int.Cal _____ Date: 7/9/64

Send	1-2	4-5	3-4	2-3	1-2		CAL	→				
Rec.	→	5-6E	→	→	→		4-5	→				
Time Range	3	10	3	3	3		100	30				
DC-1	.74 .92 .52 .76	2.76 1.99 1.98 2.80	1.57 1.61 1.92 1.49	1.28 1.00 .94 1.24	.57 .48 .73 .73		48.9	14.6				
DC-2	.66 .62 .95 .72	2.00 2.84 2.77 1.99	1.73 1.64 1.35 1.79	.95 1.27 1.36 1.08	.63 .72 .46 .41		48.7	14.6				
Σ	1.40 1.54 1.47 1.48	4.76 4.83 4.75 4.79	3.30 3.25 3.27 3.28	2.23 2.27 2.30 2.32	1.30 1.20 1.19 1.14		97.4	29.2				
DC-3	.66 .48 .86 .60	2.23 2.57	1.42 1.68 1.73 1.40	1.37 1.15 1.23 1.13	.37 .48 .72 .82		48.7	14.6				
Dc-4	.83 .90 .52 .83	2.56 2.08	1.78 1.46 1.58 1.80	.87 1.15 1.00 1.12	.79 .72 .48 .32		48.7	14.6				
Σ	1.49 1.38 1.38 1.47	4.79 4.65	3.20 3.34 3.31 3.20	2.24 2.30 2.23 2.25	1.16 1.20 1.20 1.14		97.4	29.2				
DC-AV	1.44	4.72	3.27	2.27	1.17		97.4	29.2				
AC-1	.70	2.31	1.65	1.10	.55		48.3	14.8				
AC-2	.70	2.31	1.64	1.10	.55		48.3	14.8				
Σ	1.40	4.62	3.29	2.21	1.10		96.6	29.6				
S. P.	→	-37.6	→	→	→							
AC-N	→	.055	→	→	→							
I.C.	→	+9.7	→	→	→							

INDUCED POLARIZATION - RECEIVER NOTES PAGE 3

Project: Bagdad Line: 1-Spr. 1-W½ Int.Cal _____ Date: 7/10/64

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	1-2 W	→	2-3 W	→	→	3-4 W	→	→	→	4-5 W	→	→
Time	30	10	30	10	10	30	10	10	3	10	3	3
DC-1	17.2 17.1	6.05 5.92	14.7 14.8	5.40 5.46 5.19 5.62	2.44 2.60 2.34 2.14	12.7	4.93 4.60 4.57	2.45 2.18 2.53 2.77	1.48 1.5 1.28 1.20	9.03 3.13 2.83 3.99	1.74 1.95 1.87 1.76	1.24 1.14 1.00 1.05
DC-2	17.0 17.0	5.85 5.97	14.5 14.6	5.14 5.04 5.35 4.82	2.29 2.00 2.39 2.45	11.9	4.53 4.80 4.88	2.50 2.76 2.37 2.28	1.24 1.16 1.43 1.49	2.87 3.87 4.15 2.92	1.85 1.71 1.79 1.90	.96 1.03 1.20 1.13
Σ	34.2 34.1	11.90 11.89	29.2 29.1	10.54 10.50 10.54 10.44	4.73 4.60 4.73 4.59	24.6	9.46 9.40 9.45	4.95 4.94 4.90 5.01	2.72 2.67 2.71 2.69	6.90 7.00 6.98 6.91	3.59 3.66 3.66 3.66	2.20 2.17 2.20 2.18
DC-3	17.0	5.85 6.05	14.5	5.[illegible] 5.27	2.41 2.43 2.11 2.42	11.9	4.88 4.41 5.04 4.92	2.38 2.37 2.70 2.63	1.48 1.31 1.37 1.24	3.35 2.92 3.59 4.14	1.99 1.99 1.63 1.66	1.21 1.16 1.16 1.11
Dc-4	17.1	6.07 5.85	14.5	5.05 4.80	2.17 2.37 2.55 2.37	12.7	4.53 4.87 4.37 4.53	2.60 2.56 2.18 2.27	1.27 1.24 1.32 1.46	3.64 4.03 3.15 2.64	1.61 1.63 1.97 1.98	.99 1.04 1.09 1.09
Σ	34.1	11.92 11.90	29.0	10.62 10.43	4.58 4.80 4.66 4.79	24.6	9.41 9.34 9.41 9.45	4.98 4.97 4.88 4.90	2.75 2.70 2.69 2.70	6.99 6.95 6.69 6.86	3.55 3.62 3.60 3.64	2.20 2.20 2.25 2.20
DC-AV	34.1	11.90	29.1	10.51	4.68	24.6	9.42	4.93	2.70	6.91	3.62	2.20
AC-1	17.1	5.99	14.6	5.18	2.26	12.3	4.63	2.36	1.31	3.39	1.78	1.06
AC-2	17.2	5.98	14.5	5.20	2.25	12.3	4.61	2.36	1.29	3.40	1.78	1.06
Σ	34.3	11.97	29.1	10.38	4.51	24.6	9.24	4.72	2.60	6.79	3.54	2.12
S. P.	-43.7	→	-69.3	→	→	-51.7	→	→	→	-52.3	→	→
AC-N	.09	→	.09	→	→	.11	→	→	→	.11	→	→
I.G.	50.1	→	50.0	→	→	50.0	→	→	→	50.0	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE 4

Project: Bagdad Line: 1 - split - W½ Int.Cal Date: 7/10/64

Send	4-5	1-2	2-3	3-4	4-5		CAL	→				
Rec.	→	5-6E	→	→	→		2-3	→				
~~Range~~ Time	3						100	30				
DC-1	.195 .197 .196 .196						49.0	14.7				
DC-2	.142 .196 .120 .197						49.0	14.8				
Σ	1.27 1.23 1.27 1.23						98.0	29.5				
DC-3	.55 .55 .56 .55						49.0	14.7				
Dc-4	.70 .69 .68 .54						49.0	14.8				
Σ	1.25 1.18						98.0	29.5				
DC-AV	1.24						98.0	29.5				
AC-1	.59						~~48.3~~	14.8				
AC-2	.59						48.3	14.8				
Σ	1.18						96.6	29.6				
S. P.	→											
AC-N	→											
I.	→											

INDUCED POLARIZATION SENDER NOTES

Project: _____ Line: 1 Spr 1 Date: 6-9-64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Receive	→	→	→	→	→	→	→	→	→	→	→	→
Time	2x10	2x10	2x10	2x10	2x10	2x10	2x10	2x10	2x10	2x10	2x10	2x10
Range	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	1-2	4-5	3-4	2-3	1-2		CAL					
Receive	→	→	→	→	→		4-5					
Time	2x10	2x10	2x10	2x10	2x10							
Range	2.0	2.0	2.0	2.0	2.0							
Current	2000	2000	2000	2000	2000		300	100				

INDUCED POLARIZATION SENDER NOTES

Project: BAGDAD Line: L spx 1 Date: 6-9-64

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	→	→	→	→	→	→	→	→	→	→	→	→
Time	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10
Range	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	4-5	1-2	2-3	3-4	4-5		2-3					
Receive	→	→	→	→	→		CAL					
Time	2X10						1X10	1X3				
Range	2.0											
Current	2000						1000	300				

1000'a & 1 cps

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page 1

Project Bagdad Line 1 - Spoil - E½ Field date 7/9/64 Data page _____ Comp. date 7/9/64. Comp by C.S.L.

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	1-2E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
(C) n separation	100	10	100	30	10	30	10	10	3	10	10	3
(D) I	2000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	46.0	11.95	56.0	18.4	6.48	36.7	12.29	5.89	2.50	9.75	4.86	3.10
(F) DCcal USED	1.028	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	70.9	73.6	86.4	113	99.9	56.6	75.7	90.8	77.0	60.1	74.9	95.5
(I) Vac Σ	44.4	12.00	53.9	18.2	6.36	36.8	12.30	5.80	2.44	9.88	4.84	3.02
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.992	1.023	.992	1.017	1.023	1.017	1.023	1.023	1.024	1.023	1.023	1.024
(M) ρ dc/ρac=ExL/K	1.028	1.020	1.030	1.028	1.041	1.014	1.022	1.038	1.049	1.011	1.027	1.050
(N) PFE=(M-1)(10^2)	3	2	3	3	4	1	2	4	5	1	3	5
(O) MCF=(M-1)(10^5)/H	39	27	35	25	41	25	29	42	64	18	36	52

Project _____ Line _____ Field date _____ Data page _____ Comp. date _____ Comp by _____

(A) Send	1-2	4-5	3-4	2-3	1-2		CAL	→				
(B) Receive	→	5-6E	→	→	→		4-5	→				
(C) n separation	3	10	3	3	3		100	30				
(D) I	→	→	→	→	→		1000	300				
(E) Vdc (avg)	1.44	4.72	3.27	2.27	1.17		97.4	29.2				
(F) DCcal	→	→	→	→	→		1.028	1.028				
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρ dc=ExFxGx10^3/D	77.6	72.8	101	122	101							
(I) Vac Σ	1.40	4.62	3.29	2.21	1.10		96.6	29.6				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	1.024	1.023	1.024	1.024	1.024		.992	1.013				
(M) ρdc/ρac =ExL/K	1.055	1.043	1.019	1.051	1.089							
(N) PFE=(M-1)(10^2)	5	4	2	5	9							
(O) MCF=(M-1)(10^5)/H	77	59	19	42	88							

10PFEC

1" = 1000 & 1 CPS

1.792
.048
1.7494 .50
.01
4.45

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page 2

Project Bagdad Line 1 Spr 1 W½ Field date 7-10-64 Data page _____ Comp. date 7/10 . Comp by C.J.L.

(A) Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
(B) Receive	1-2 W	→	2-3 W	→	→	3-4	→	→	→	4-5 W	→	→
(C) n separation	30	10	30	10	10	30	10	10	3	10	3	3
(D) I	2000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	34.1	11.90	29.1	10.51	4.68	24.6	9.42	4.93	2.70	6.91	3.62	2.20
(F) DCcal USED	1.028	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	52.5	73.3	44.9	64.7	72.1	37.9	58.0	76.0	83.0	42.6	56.8	67.7
(I) Vac Σ	34.3	11.97	29.1	10.38	4.51	24.6	9.24	4.72	2.60	6.79	3.54	2.12
(J) AC noise x 2												.22
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												2.11
(L) AC-DC cal.	1.017	1.023	1.017	1.023	1.023	1.017	1.023	1.023	1.024	1.023	1.024	1.024
(M) ρ dc/ρac=ExL/K	1.012	1.020	1.017	1.037	1.062	1.017	1.042	1.068	1.066	1.040	1.049	1.068
(N) PFE=(M-1)(10^2)	1	2	2	4	6	2	4	7	7	4	5	7
(O) MCF=(M-1)(10^5)/H	23	27	38	57	86	45	73	90	80	94	86	100

Project Bagdad Line 1 Spr 1 W½ Field date 7-9-64 Data page _____ Comp. date _____ Comp by _____

(A) Send	4-5	1-2	2-3	3-4	4-5		CAL	→				
(B) Receive	→	5-6 W	→	→	→		2-3	→				
(C) n separation	3	10	3	3	3		100	30				
(D) I	2000	→	→	→	→		1000	300				
(E) Vdc (avg)	1.24						98.0	29.5				
(F) DCcal	→	→	→	→	→		1.020	1.018				
(G) Kn x 10^{-3}	105	30	60	105	168		~1.019					
(H) ρ dc=ExFxGx10^3/D	66.9											
(I) Vac Σ	1.18						96.6	29.6				
(J) AC noise x 2	.22											
(K) Vac (corr) = $\sqrt{I^2 - J^2}$	1.16											
(L) AC-DC cal.	1.029						986	1.003				
(M) ρdc/ρac =ExL/K	1.096											
(N) PFE=(M-1)(10^2)	10											
(O) MCF=(M-1)(10^5)/H	143											

[illegible] 7/9/64

INDUCED POLARIZATION - RECEIVER NOTES

PAGE

Project: Bagdad Line: 2 - W½ - ReReReRe Repeat Int. Cal Date: 8/4/64

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	1-2W	→	2-3W	→	→	3-4W	→	→	→	4-5W	→	
Time Range	100	30	100	30	10	100	30	10	10	30	10	10
DC-1	41.9 41.3	12.5 12.0	37.4	13.6 13.7	6.02 6.10	48.1	11.1 11.6	5.50 6.23	2.38 2.41	16.0 15.8	5.78 5.60	3.23 3.22
DC-2	41.3 41.8	12.0 12.6	36.5	12.8 12.7	6.10 6.06	47.5	11.6 11.1	6.23 5.53	2.41 2.39	15.8 16.0	5.60 5.76	3.22 3.42
Σ	83.2 83.1	24.5 24.1	73.9	26.4 26.0	12.12 12.16	95.6	22.7 22.7	11.73 11.76	4.79 4.80	31.8 31.1	11.38 11.36	6.45 6.64
DC-3	41.8	12.6 12.1	36.5	12.8	6.04 6.19	47.5	11.1	5.53 5.63 6.36 6.22	2.39 2.40	16.0	5.76 5.95	3.42 3.22 3.13 3.33
Dc-4	41.5	12.1 12.5	37.4	13.7	6.18 5.96	48.1	11.6	6.36 6.22 5.63 5.57	2.40 2.43	15.8	5.45 6.01	3.09 3.27 3.23 3.13
Σ	83.3	24.7 24.6	73.9	26.5	12.22 12.15	95.6	22.7	11.59 11.85 11.99 11.79	4.79 4.83	31.8	11.21 11.46	6.51 6.49 6.36 6.46
DC-AV	83.2	24.6	73.9	26.4	12.16	95.6	22.7	11.83	4.80	31.8	11.35	6.48
AC-1	38.2	11.6	34.5	12.6	5.79	45.0	10.7	5.56	2.23	15.1	5.19	2.95
AC-2	38.3	11.6	34.6	12.7	5.81	45.2	10.7	5.56	2.23	15.0	5.20	2.94
Σ	76.5	23.2	69.1	25.3	11.60	90.2	21.4	11.12	4.46	30.1	10.39	5.89
S. P.	-5.6	→	+3.8	→	→	+4.7	→	→	→	-11.7	→	
AC-N	.07	→	.06	→	→	.055	→	→	→	.03	→	
IC	51.6	→	51.7	→	→	51.5	→	→	→	51.3	→	

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Baghdad Line: 2 - W½ Int.Cal Date: 8/9/10

Send	4-5	1-2	2-3	3-4	4-5		C-1					
Rec.	→	5-6	→	→	→		1-2					
~~Time~~	3	30	10	3	3		300					
DC-1	1.57 1.40 1.50 1.67	7.1 7.9	2.85 3.03	1.86 1.76 1.82 1.90	.77 .81 .90 .88		17.8					
DC-2	1.50 1.67 1.55 1.32	7.8 7.0	3.03 2.84	1.82 1.80 1.77 1.73	.90 .88 .81 .79		17.8					
Σ	3.07 3.07 3.05 2.99	14.8 14.3	5.84 5.87	3.68 3.66 3.59 3.63	1.67 1.69 1.71 1.67		35.6					
DC-3	1.55 1.51 1.50 1.58	7.8 7.0	2.84 3.09	1.77 1.87	.79 .76 .92 .97		17.8					
Dc-4	1.50 1.58 1.54 1.60	7.0 7.9	3.08 2.79	1.87 1.76	.92 .97 .77 .77		17.8					
Σ	3.04 3.09 3.04 2.98	14.9 14.9	5.92 5.88	3.64 3.63	1.69 1.69 1.69 1.70		35.6					
DC-AV	3.04	14.9	5.89	3.64	1.69		35.6					
AC-1	1.37	6.9	2.63	1.66	.76		17.4					
AC-2	1.37	6.9	2.64	1.66	.77		17.4					
Σ	2.74	13.8	5.27	3.32	1.53		34.8					
S. P.	→	-13.1	→	→	→							
AC-N	→	.04	→	→	→							
F.C.	→	51.2	→	→	→							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bay Lad Line: 2-E ½ Int.Cal Date: 8/5/64

Send	2-3	1-2	3-4	2 ⇒	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
Time	100	30	100	30	10	100	30	30	10	30	30	10
DC-1	61.0 62.3	11.7 13.2	62.5 63.9	15.6	6.10 5.46 5.57 6.26	44.4	16.1	7.8	3.41	16.2	12.5 12.4	7.15 6.33
DC-2	62.3 60.2	13.3 13.9	62.9 62.1	16.0	5.58 6.26 6.07 5.47	45.1	15.9	7.7	3.45	17.0	12.4 10.4	6.33 7.21
Σ	123.3 123.3	24.9 25.3	124.9 124.5	31.6	11.68 11.66 11.63 11.69	89.9	32.0	15.5	6.86	35.2	23.2 23.2	13.68 13.74
DC-3	60.4	11.9 12.9	62.1 62.5	16.0 15.9	6.07 5.51	44.8	16.0	7.7	3.46 3.42	17.0	12.4 11.0	7.21 6.68
Dc-4	61.7	12.9 12.0	62.5 62.3	15.6 15.7	5.56 6.12	45.1	15.9	7.8	3.42 3.40	16.2	11.0 12.9	6.68 7.21
Σ	122.1	24.8 24.9	124.6 124.8	31.6 31.6	11.59 11.65	89.9	31.9	15.5	6.88	35.2	23.9 23.9	13.89 13.89
DC-AV	122.8	24.9	124.7	31.6	11.55	89.9	31.9	15.5	6.87	35.2	23.3	13.90
AC-1	57.9	11.6	63.5	15.0	5.31	41.7	15.2	7.2	3.08	16.5	10.9	6.50
AC-2	57.9	11.6	63.5	15.0	5.31	41.7	15.1	7.2	3.08	16.6	10.9	6.48
Σ	115.8	23.2	127.0	30.0	10.62	83.4	30.3	14.4	6.16	33.1	21.8	12.98
S. P.	+10.7	→	-2.3	→	→	+15.1	→	→	→	+9.9	→	→
AC-N	.02	→	.02	→	→	.03	→	→	→	.03	→	→
E.C.	51.7	→	51.6	→	→	51.5	→	→	→	51.4	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 2 - E½ Int.Cal Date: 8/5/64

Send	1-2	4-5	3-4	2-3	1-2		CAL					
Rec.	→	5-6E	→	→	→		4-5					
~~Time~~ Range	10	30	30	10	10							
DC-1	3.10 3.35	10.6 11.1	9.1 8.6	5.53 5.51 6.04 5.[illegible]	2.91 2.94 3.06 [illegible]		17.9					
DC-2	3.35 3.08	11.1 10.6	8.6 9.2	6.04 5.82 5.40	3.06 2.94 2.83		17.8					
Σ	6.45 6.43	21.7 21.7	17.7 17.8	11.57 11.33 11.44	5.97 5.93 5.89		35.7					
DC-3	3.08 3.06 3.44 3.47	10.6	9.2 8.6	5.40 5.59 6.13 6.00	2.83 3.07		17.8					
Dc-4	3.44 3.47 3.04 2.75	11.1	8.6 9.1	6.13 6.00 5.59 5.51	3.02 2.94		17.9					
Σ	6.52 6.53 6.48 6.42	21.7	17.8 17.7	11.53 11.59 11.72 11.51	5.85 5.01		35.7					
DC-AV	6.47	21.7	17.75	11.52	5.72		35.7					
AC-1	2.94	9.8	8.1	5.31	2.66		17.4					
AC-2	2.92	9.8	8.1	5.31	2.66		17.4					
Σ	5.86	19.6	16.20	10.62	5.32		34.8					
S. P.	→	+0.5	→	→	→							
AC-N	→	.03	→	→	→							
I. C.	→	51.3	→	→	→							

INDUCED POLARIZATION SENDER NOTES

Project: BAGDAD Line: 2 W 1/2 Date: 8-4-64

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	→	→	→	→	→	→	→	→	→	→	→	→
Time												
Range	1X6	1X6	1X6	1X6	1X6	1X6	1X6	1X6	1X5	1X6	1X6	1X6
Current	6A	6A	6A	6A	6A	6A	6A	6A	5A	6A	6A	6A
Send	4-5	1-2	2-3	3-4	4-5		4-5					
Receive	→	→	→	→	→		1-2					
Time												
Range	1X5	1X6	1X6	1X6	1X5		1X3					
Current	5A	6A	6A	6A	5A		3A					

INDUCED POLARIZATION SENDER NOTES

Project: Bagdad Line: 2 E½ Date: 8-4-64

Send	23	12	34	23	12	45	34	23	12	45	34	23
Receive	12E →		23E →			34E →				45E →		
Time												
Range												
Current	6A	6A	6A	6A	6A	6A	6A	6A	6A	6A	6A	6A
Send	12	45	34	23	12		Cal	45				
Receive	→	51E			→							
Time												
Range												
Current	6A	6A	6A	6A	6A		5A					

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 2 spoke w½ Int.Cal Date: 7-15-6

	13	14	15	16	17							
Send	45	12	23	34	45		Cal					
Rec.	→	SCH →			→		34					
Time	1	3	3 .75	1	1		100	30				
DC-1	.54, .65 .62, .50	1.54 1.23 1.70 1.50	.66 .72 .55 .79	.32 .37 .48 .42	3.0 .42 3.2 .20		49.8 49.4	14.9 14.8				
DC-2	.58 .68 .64 .47	1.58 1.37 1.85 1.45	.65 .70 .85 .81	.33 .40 .47 .38	.32 .45 .29 .17		49.8 49.7	14.9 14.8				
Σ												
DC-3	.59 .69 .58 .44	1.64 1.83 1.58 1.41	.61 .66 .92 .86	.35 .44 .44 .34	.35 .47 .26 .15							
Dc-4	.61 .73 .53 .43	1.69 1.66 1.55 1.36	.60 .60 .92 .90	.37 .48 .45 .32	.40 .45 .21 .14							
Σ												
DC-AV	1.167	3.26	1.50	.804	.629		99.6	29.7				
AC-1	.52	1.56	.69	.345	2.76		49.0	15.2				
AC-2	.52	1.56	.69	.345	2.76		49.0	15.1				
Σ	1.04	3.12	1.37	.690	.552		98.0	30.3				
S. P.	-34.1	-10.6 →			→							
AC-N	.04	.04 →		→	.04							
							.984	1.021				

INDUCED POLARIZATION - RECEIVER NOTES PAGE 3

Project: Bagdad Line: 2 spd 1 W½ Int.Cal Date: 7-15-64

	1	2	3	4	5	6	7	8	9	10	11	12
Send	34	45	23	34	45	12	23	34	45	12	23	34
Rec.	12W →	→	23W →	→	→	34W →	→	→	→	45W →	→	→
Time	30	10	30	10	3	30	10	3	3	10	3	3
DC-1	10.0 9.5	4.05 4.00	11.2 10.9	3.00 4.00	2.122.43 317 1.50	11.0 10.5	3.10 3.07	1.40 1.64 1.50 1.27	.99 1.12 1.03 .85	3.55 3.62	1.54 1.74 1.54 1.35	.65 .48 .90 1.05
DC-2	10.0 9.4	4.07 4.00	11.0 11.0	2.95 4.05	2.202.46 2.071.99	11.3 10.2	3.20 3.00	1.43 1.66 1.45 1.24	.98 1.15 1.00 .80	3.55 3.61	1.56 1.76 1.48 1.30	.63 .45 .95 1.13
Σ		9.05 8.07										
DC-3	10.0 9.5	4.11 3.94	11.0 11.0	3.35 3.65	2.27 2.20	11.9 10.1	3.30 2.95	1.50 1.39	1.02 .96	3.60 3.57	1.65 1.43	.55 .42 .97 1.16
Dc-4	10.1 9.4	4.18 3.89	11.0 11.0	3.25 3.75	2.37 1.95	11.5 9.9	3.45 2.90	1.58 1.35	1.05 .90	3.60 3.52	1.70 1.30	.54 .35 1.01 1.19
Σ	19.5	8.07 8.08	22.0	7.0								
DC-AV	19.5	8.074	22.0	7.06	4.29	21.35	6.25	2.94	1.99	7.178	2.974	1.56
AC-1	9.40	3.94	11.0	3.33	2.11	10.4	3.03	1.35	.94	3.50	1.44	.69
AC-2	9.40	3.95	11.0	3.31	2.12	10.8	3.02	1.36	.95	3.48	1.44	.69
Σ	18.80	7.89	22.0	6.61	4.23	21.6	6.05	2.71	1.89	6.94	2.96	1.38
S. P.	-25.5 →	→	-21.1 →	→	→	-27.9 →	→	→	→	-34.1 →	→	→
AC-N	.04 →	→	.04 →	→	→	.04 →	→	→	→	.04 →	→	→
		1,034										

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 2 sydl E½ Int.Cal 50.2 Date: 7-16-64

	1	2	3	4	5	6	7	8	9	10	11	12
Send	23	12	34	23	12	45	34	23	12	45	34	23
Rec.	1-2E	→	23E	→	→	34E	→	→	→	4-5E	→	→
Time	30	10	30	10	3	30	10	3	3	10	10	3
DC-1	14.8 16.1	4.20 4.20	14.2 14.7 12.6 12.2	3.30 3.02 3.85 4.17	1.50 1.63 1.55 1.27	12.0 11.6 13.8 14.6	4.06 4.00 3.78 3.78	1.78 1.76 2.09 2.03	1.86, 61 1.14 1.22	5.13 4.32 5.19 6.00	2.63 2.37 3.63 2.90	1.36 1.44 1.35 1.38
DC-2	14.6 16.4	4.00 4.30	14.4 12.5	3.20 2.95 3.97 4.20	1.51 1.76 1.47 1.18	12.0 11.2 14.1 14.9	4.10 4.02 3.78 3.79	1.60 1.78 2.20 1.95	1.70 1.63 1.15 1.16	4.88 4.12 5.86 6.16	2.56 2.26 2.77 3.00	1.40 1.47 1.43 1.32
Σ												
DC-3	14.4 16.5	3.90 4.46	14.5 12.4	3.10 4.05	1.57 1.88 1.40 1.17	12.7 13.3	4.04 3.78	1.62 1.85 2.15 1.94	1.66, 68 1.20 1.17	4.70 4.60 5.52 6.24	2.42 2.20 2.82 3.04	1.44 1.52 1.38 1.27
Dc-4	14.2 16.6	3.75 4.50	14.1 12.25	3.07 4.05	1.66 1.93 1.37 1.04	12.6 14.5	4.00 3.78	1.66 2.06	1.65 1.62	4.50 5.77	2.40 2.85	1.43 1.62 1.40 1.20
Σ												
DC-AV	30.7	8.27	26.93	7.124	2.946	27.87	7.97	3.792	1.85	10.28	5.218	2.83
AC-1	15.2	4.03	13.2	3.27	1.40	13.9	3.82	1.76	.86	5.10	2.46	1.31
AC-2	15.2	4.03	13.15	3.27	1.41	13.9	3.80	1.75	.86	5.10	2.46	1.31
Σ	30.4	8.06	26.35	6.54	2.81	27.8	7.62	3.51	1.72	10.20	4.92	2.62
S. P.	-17.0	→	-9.3	→	→	-13.1	→	→	→			
AC-N	1.05	→	.65	→	→	.06	→	→	→			
		1.037										

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 2 sp 1 E½ Int.Cal 49.9/49.8 Date: 7-18-64

	13	14	15	16	17							
Send	12	45	34	23	12		Cal					
Rec.	→	5-6	→	→	→		1000	300				
Time	3	10	3	3			100	30				
DC-1	.76 .80 .94 .74	3.423.12 2.963.20	2.052.02 2.022.04	1.20 1.12 1.06 1.16	.75 .74 .63 .63		50.0 49.7	15.0 14.8				
DC-2	1.15 1.90 1.93 .72	3.263.04 3.143.32	2.091.93 1.962.10	1.20 1.15 1.07 1.14	.75 .72 .61 .63		50.0 49.8	15.0 14.9				
Σ							99.9 99.7					
DC-3	1.67 1.90 1.95 1.63	3.122.75 3.193.44	2.07 1.85 1.97 2.15	1.16 1.10 1.08 1.21	.62 .72 .63 .60		50.0 49.7	15.0 14.8				
Dc-4	1.74 1.96 1.83 1.65	3.112.82 3.213.52	2.08 1.86 2.022.17	1.15 1.07 1.12 1.23	.77 .71 .61 .62		50 49.9	15.0 14.9				
Σ							99.9 99.8					
DC-AV	1.618	6.252	4.035	2.266	1.340		99.75	29.8				
AC-1	.750	3.14	1.93	1.06	.62		49.2	15.12				
AC-2	.750	3.14	1.93	1.06	.61		49.2	15.1				
Σ	1.500	6.28	3.86	2.12	1.23		98.4	30.2				
S. P.	-23.9											
AC-N	.03	.05 →		.045	.055							
							984	.1013				

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: Int.Cal Date:

Send	45	34	23	12								
Rec.	3-4E	→	→	→								
Time	100	10	3									
DC-1	26.3 24.4	4.22 4.24	1.45 2.25	.93 .93								
DC-2	26.3 24.5	4.18 4.26	1.54 2.25	.92 .96								
Σ												
DC-3	26.3 24.7	4.16 4.33	1.82 2.24	.87 .97								
Dc-4	22.1 24.8	4.09 4.36	1.85 2.27	.74 1.03								
Σ	51.0	8.45	4.07	1.87								
DC-AV												
AC-1	27.2	4.24	1.92	.86								
AC-2	29.2	4.30	1.92	.86								
Σ	56.4	8.56	3.84	1.72								
S. P.												
AC-N	.65	→	→	→								
	-13	-3	6	9								

Too close to fence Repeat

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad 13 Line: 2 spd 1 E½ Int.Cal 50.2 Date: 7-14-64 +15

Send	12	45	39	23	12		Cal					
Rec.	→	5-6E	→	→	→		39					
Time	3	10	3	3			100	30	30	100		
DC-1	.95 .80 .90 1.05	3.21 3.18 3.48 3.50	1.97 1.98 1.96 2.00	1.10 1.16 1.25 1.20	.68 .70 .81 .59		50.1 50.2	14.9 15.0	15.0 14.8	49.5 49.7		
DC-2	1.00 .85 .85 1.00	3.25 3.14 3.44 3.52	2.00 1.92 2.00 1.99	1.14 1.15 1.15 1.20	.68 .70 .57 .58		50.1 50.1	14.9 15.0	14.8 14.8	49.5 49.5		
Σ	1.85 1.85							2.99				
DC-3	1.00 .85 .90 1.00	3.20 3.20 3.50 3.50	1.90 1.96 2.04 1.98	1.15 1.13 1.22 1.17	.72 .67 .60 .61		50.1 50.1	14.9 15.0	14.8 14.9			
Dc-4	1.00 .75 .95 1.10	3.22 3.10 3.46 3.58	2.02 1.99 1.95 1.98	1.18 1.12 1.18 1.18	.68 .68 .59 .62		50.1 50.1	14.9 15.0	14.8 14.8			
Σ	1.9	7.80	3.98	2.37	1.28							
DC-AV	1.86	3.					100.2	29.9	29.6	99.1		
AC-1	.87	3.39	1.91	1.07	.58		49.4	15.2	14.9	48.5		
AC-2	.87	3.38	1.91	1.06	.59		49.3	15.2	14.8	48.5		
Σ	1.74	7.77	3.82	2.13	1.17		98.7	30.4	29.7	97.0		
S. P.		-38.2	→	→	→							
AC-N	.10 .10	.03	→	→	→							
		0	4	11	9							

INDUCED POLARIZATION - RECEIVER NOTES PAGE 1

Project: Bagdad -sa Line: 2 spd 1 -E end Int.Cal Date: 7/4/89

	1	2	3	4	5	6	7	8	9	10	11	12
Send	23	12	34	23	12	45	34	23	12	45	34	23
Rec.	12 →	→	23 →	→	→	34E			→	45		
Time	30	10	30	10	3	30	10	3	3	10	10	3
DC-1	16.9 16.9	5.2 4.0 5.0 5.8	13.3 14.0 12.9 11.2	4.4 4.0 3.6 4.5	1.6 2.1 2.4 1.6	18.1 17.5 21.6 22.4	4.3 4.1 3.8 4.0	2.32.0 2.52.4	1.2 1.1 .5 1.3	4.5 4.4 5.2 5.5	2.72.6 2.3 2.3	1.4 1.45 2.0 1.95
DC-2	17.4 16.1	4.6 3.7 6.8 6.0	12.7 14.2 12.2 11.0	4.9 3.9 3.4 4.6	1.22.4 2.61.5	18.0 17.5 21.7 22.5	4.1 4.0 3.9 4.1	2.22.0 2.52.4	1.3 1.0 .9 1.3	4.5 4.3 5.2 5.5	2.62.6 2.3 2.3	1.3 1.4 1.72.0
Σ	33.3 33.3	10.2 9.4 10.1 11.8	26.2 25.1									
DC-3	18.0 15.6	4.3 4.0 5.7	13.2 14.5 11.8 10.9	5.1 4.0 3.2 4.6	1.35 2.1 2.80.9	17.8 17.3 22.3 22.6	4.8 4.0 3.8 4.1	2.12.2 2.52.5	1.4 1.0 .8 1.4	4.4 4.5 5.4 5.4	2.72.5 2.3 2.5	1.5 1.4 1.92.0
Dc-4	18.5 15.2	4.1 5.6	13.8 14.4 11.5 11.0	9.2 3.8 4.3 4.6	1.60 1.9 2.01 2.0	17.5 17.0 22.4 23.9	4.3 4.2 4.0 3.9	2.11.9 2.32.6	1.6 1.9 .5 1.0	4.5 4.4 5.3 5.5	2.62.4 2.4 2.6	1.4 1.4 2.02.2
Σ	33.7 33.7	1.9 9.9	25.0 25.3									
DC-AV	33.9	9.96	25.38	8.33	3.91	38.9	8.06	4.57	2.15	9.67	4.94	3.37
AC-1	16.9	4.87	12.5	4.07	1.85	22.5	4.05	2.16	1.10	4.90	2.17	1.53
AC-2	16.9	4.85	12.5	3.98	1.83	22.7	4.05	2.16	1.08	4.95	2.19	1.54
Σ	33.8	9.72	25.0	7.98	3.68	45.2	8.10	4.32	2.18	9.85	4.36	3.07
S. P.	+14.7 →	→	+1.40. →	→	→	+9.2 →	→	→	→	→	→	→
AC-N	.1 →	→	.10 →	→	→	.10 →	→	.10 ←	←	.20 →	→	.10

100-125'

600' Bedrock Sandstone

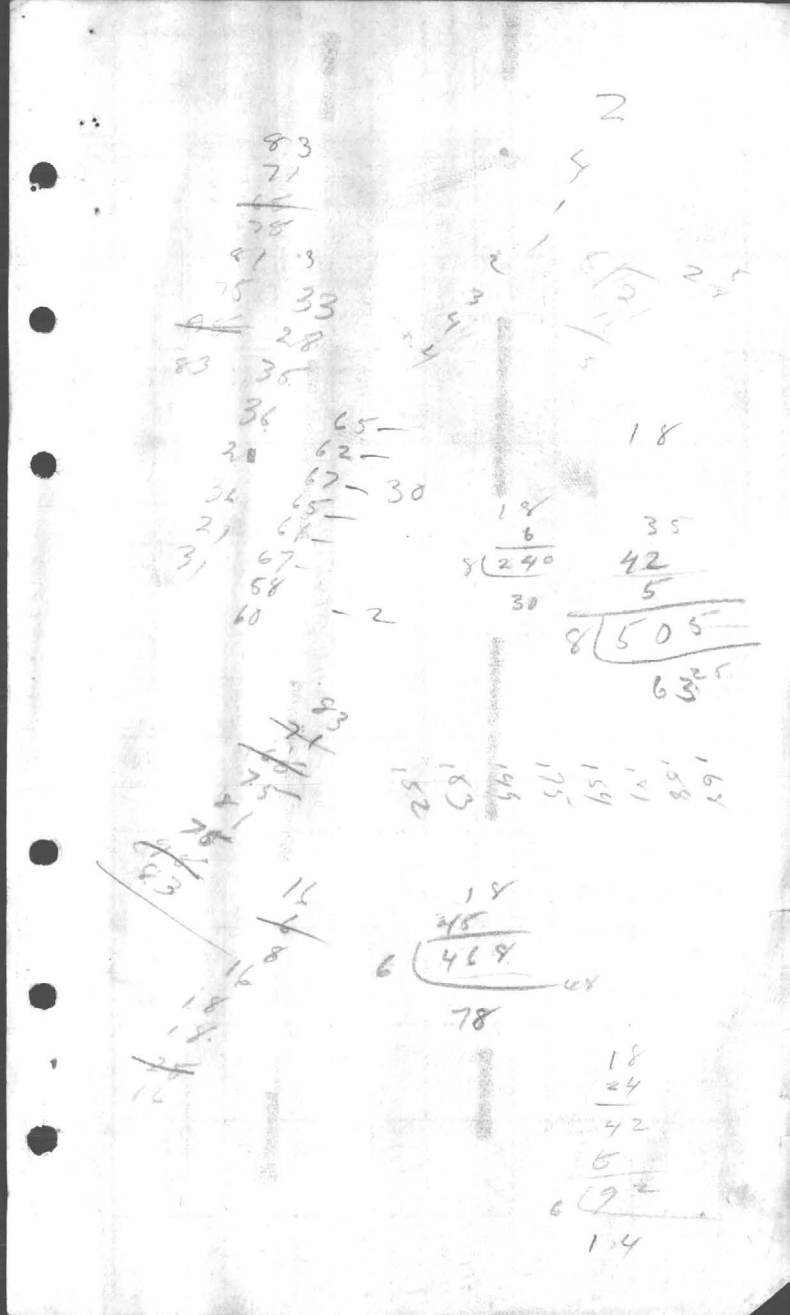
1010' other small mesa

INDUCED POLARIZATION - RECEIVER NOTES

PAGE _____

Project: Bagdad Line: L spd 2 W½ Int.Cal 50.5 Date: 7-22-64

	1	2	3	4	5	6	7	8	9	10	11	12
Send	34	45	23	34	45	12	23	34	45	12	23	34
Rec.	12 W	→	23 W		→	34 W			→	45 W		
Time	30	10	30	10	3	30	10	3	3	10	3	
DC-1	14.4 14.5 14.0 [illegible]	4.20 4.19 4.20 4.18	10.6 10.6 11.0 11.0	4.18 4.40 4.38 4.20	1.75 1.90 1.90 1.80	12.5 12.4 11.0 11.0	3.44 3.42 3.20 3.25	2.00 1.98 1.70 1.62	1.00 1.04 .71 .82	3.88 3.92 4.12 3.98	1.40 2.18 2.03 1.15	1.11 1.16 .96 .94
DC-2	14.5 13.9 [illegible]	4.20 4.09 4.06 4.18	11.0 11.0 10.6 10.5	4.38 4.20 4.14 4.36	1.90 1.90 1.93 2.00	11.0 11.0 12.4 12.2	3.20 3.25 3.38 3.38	1.70 1.62 1.94 1.93	.71 .82 1.02 1.03	4.12 3.98 3.92 4.04	2.03 1.15 1.18 2.35	.96 .94 1.16 1.14
Σ	[illegible]	8.40 8.36 8.25 8.27	21.6 21.6 21.6 21.5	8.56 8.60 8.52 8.56	3.65 3.70 3.63 3.90	23.5 24.4 23.4 23.2	6.64 6.57 6.64 6.63	3.70 3.60 3.64 3.55	1.71 1.86 1.73 1.85	8.10 7.90 8.04 8.08	3.45 3.33 3.21 3.50	2.07 2.10 2.02 2.08
DC-3	14.4 14.0	4.05 4.20 4.07 4.04	10.6 10.5 11.0 11.1	4.14 4.36 4.30 4.09	1.93 2.00 1.80 1.75	12.4 12.2 10.9 11.0	3.38 3.38 3.12 3.16	1.94 1.93 1.68 1.68	1.02 1.03 .82 .75	3.92 4.04 3.83 3.82	2.30 2.35 1.10 1.15	1.16 1.14 .92 .91
Dc-4	14.5 14.0	4.07 4.10 4.18 4.09	11.0 11.1 10.6 10.5	4.30 4.05 4.38 4.58	1.80 1.75 1.90 2.05	10.9 11.0 12.4 12.3	3.12 3.16 3.42 3.42	1.68 1.68 1.98 2.02	.82 .75 1.04 .98	3.83 3.86 3.92 3.90	1.10 1.15 2.18 2.35	.92 .91 1.16 1.16
Σ	28.3 28.4	8.12 8.29 8.25 8.19	21.6 21.6 21.6 21.6	8.44 8.41 8.63 8.63	3.73 3.75 3.70 3.90	23.3 23.2 23.3 23.3	6.50 6.54 6.54 6.53	3.62 3.61 3.66 3.70	1.84 1.78 1.86 1.73	7.75 7.86 7.75 7.76	3.40 3.45 3.38 3.50	2.08 2.05 2.08 2.06
DC-AV	28.5	8.23	21.6	8.55	3.75	23.3	6.68	3.66	1.795	7.90	3.39	2.08
AC-1	14.4	4.12	10.7	4.21	1.83	12.15	3.31	1.81	.85	3.82	1.61	.95
AC-2	14.4	4.12	10.7	4.22	1.83	12.15	3.30	1.81	.85	3.82	1.61	.95
Σ	28.8	8.28	21.4	8.43	3.66	24.30	6.61	3.62	1.70	7.64	3.22	1.90
S. P.	-22.4 →		-10.0 →			-37.6 →				7.2 →		
AC-N	.06 →		.06 →			.05 →				.05 →		.08
	1	1	7.8	3.1	4.	2.2	2.9	2.9	[illegible]	7.3	7.1	10.7



INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bazdad Line: 2 SP 2W½ Int.Cal Date:

	13	14	15	16	17							
Send	45	12	23	34	45		cal →					
Rec.	→	56W →					1000	20				
Time	1	3	3	1	1							
DC-1	.61 72 .72 .63	1.98 1.70 1.95 1.95	1.62 1.80 .80 .76	.55 .47 .61 .61	.30 .33 .35 .24		49.9	14.9	11.8 11.4 11.4 11.7	.62 .80 .76 .57		
DC-2	.72 .63 .56 .73	1.95 1.95 1.76 1.80	.80 .76 .97 1.00	.61 .61 .45 .55	.35 .24 .27 .41		49.8	14.9	11.9 11.7 11.5 11.4	.76 .57 .51 .70		
Σ	1.33 1.35 1.28 1.36	3.83 3.65 3.71 3.75	1.82 1.76 1.77 1.76	1.16 1.08 1.06 1.16	.65 .67 .62 .65				23.2 23.1 23.4 23.1	1.32 1.37 1.33 1.27		
DC-3	.56 .73 .64 .48	1.76 1.80 2.15 2.15	.97 1.00 .74 .74	.45 .55 .73 .70	.27 .41 .34 .17		49.9	14.9	11.5 11.4 11.8 12.0	.57 .70 .72 .64		
Dc-4	.64 .48 .72 .83	2.15 2.15 1.70 1.64	.78 .60 1.00 1.13	.73 .70 .47 .46	.64 .17 .33 .43		49.8	14.9	11.8 12.0 11.4 11.4	.58 .64 .80 .73		
Σ	1.20 1.21 1.36 1.31	3.81 3.95 3.75 3.83	1.75 1.74 1.74 1.73	1.18 1.25 1.18 1.16	.61 .58 .67 .60		99.7	29.8	23.3 23.4 23.3 23.4	1.29 1.34 1.34 1.37		
DC-AV	1.30	3.78	1.78	1.14	.63				23.26			
AC-1	.495	1.86	.89	.52	.31		49.2	15.15	12.2	.505		
AC-2	5.00	1.85	.89	.52	.31		49.2	15.15	12.2	.505		
Σ	.995	3.71	1.78	1.04	.61		98.4	30.30	24.4	.		
S. P.	→	0.0 →									DCN .31	
AC-N	.05 .06	.14	.14	.14	.14			1.018	-3	.10		

1 2 3 4 5

6 4 3 2 1 0 1 2 3 4 5

$2 \times 2 \times 6 \quad 24$

12×12

144

18×64

18

512

64

1152

$24 \overline{)1728}$ 72

168

48

$\frac{1}{72} \times 1152$

$72 \overline{)1152}$ 16

72

432

2

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bag Sub Line: 2 - E ½ Int.Cal Date: 7/25/64

Send	2-3	1-7	3-4	2-7	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2 E	→	3-4 E	→	→	3-4 E	→	→	→	4-5 E	→	→
Time	20	10										
DC-1	-.2 +1.7	+1.3 2.7 +2.0 1.2					2.0 3.2 3.3					
DC-2	-1.7 -3.3	+2.4 1.2 +2.3 2.0					4.7 3.5 5.6					
Σ	-1.9 -1.6											
DC-3	-2.9 -2.9	3.8 3.3										
Dc-4	+1.9 +1.2	-0.3 +1.4										
Σ	-1.9	+1.8										
DC-AV AVE	-1.5	+1.8										
AC-1 DD	619	468										
AC-2 DD	619	468										
Σ Avg	619	468?										
S. P.	-19.0	→										
AC-N	very	noisy										

INDUCED POLARIZATION - RECEIVER NOTES PAGE

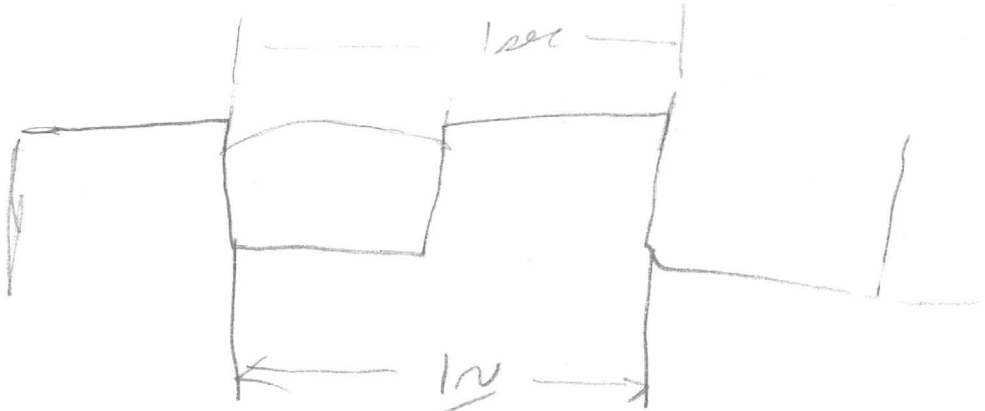
Project: Bagdad Line: 2 - E ½ Int.Cal Date: 7/25/[illegible]

Send	1-2	4-5	3-4	2-3	1-2		CAL →					
Rec.	→	5-6 E	→	→	→		3-4	→				
~~Time~~ Range							100	30				
~~DC-1~~							-2.5 -2.9	-2.5 -2.2				
~~DC-2~~							-2.4 -2.6	-1.8 -2.0				
Σ							-2.6	-2.1				
~~DC-3~~							-2.5 -2.2	-2.0 -2.2				
~~Dc-4~~							-2.4 -2.7	-2.6 -2.0				
Σ							-2.4	-2.2				
~~DC~~-AV							-2.5	-2.2				
AC-1 DD							649	623				
AC-2 DD							649	623				
Σ AVE												
S. P.												
AC-N												

INDUCED POLARIZATION SENDER NOTES

Project: Bagdad Line: 2 Spr 2 W 1/2 Date: _____

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	—	→			→				→			
Time	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Range	2.0	—										
Current	2000	20000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	4-5	1-2	2-3	3-4	4-5		2-3	2-3				
Receive	→				→		CAL	CAL				
Time	2.10	2.10	2.10	2.10	2.10		1.10	1.3				
Range	2.0	—			→		1.0	1.0				
Current	2000	2000	2000	2000	2000		1000	300				



10

20

INDUCED POLARIZATION SENDER NOTES

Project: Bagdad Line: 2 E½ Date: 7-25-64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Receive	→	→	→	→	→	→	→	→	→	→	→	→
Time												
Range												
Current												
Send	1-2	4-5	3 4	2-3	1-2							
Receive	→	→	→	→	→		CAL					
Time												
Range												
Current							300	1000				

INDUCED POLARIZATION SENDER NOTES

Project: Bagdad Line: 2 Spr 2 E½ Date: 7-14-64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Receive	→	→	→	→	→	→	→	→	→	→	→	→
Time	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10
Range	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	1-2	4-5	3-4	2-3	1-2		3-4	3-4				
Receive	→	→	→	→	→		CAL	CAL				
Time	2X10	2X10	2X10	2X10	2X10							
Range	2.0	2.0	2.0	2.0	2.0							
Current	2000	2000	2000	2000	2000		1000	300				

INDUCED POLARIZATION SENDER NOTES

Project: Bagdad Line: 2 W 1/2 Spr 4 Date: 7-15-69

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	→	→	→	→	→	→	→	→	→	→	→	→
Time	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Range	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	4-5	1-2	2-3	3-4	4-5		~~3-4~~	~~3-4~~	2-3	2-3		
Receive	→	→	→	→	→				1.10	1.3		
Time	2.10	2.10	2.10	2.10	2.10				1.0	1.0		
Range	2.0	2.0	2.0	2.0	2.0							
Current	2000	2000	2000	2000	2000				1000	300		

INDUCED POLARIZATION SENDER NOTES

Project: Baqdad Line: 2 Spr 1 E½ (Return) Date: 7-16-64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Receive	1-2 E →		2-3 E →			3-4 E →				4-5 E		
Time	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10
Range	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	1-2	4-5	3-4	2-3	1-2		3-4	3-4				
Receive	→	5-6 E →					CAL	CAL				
Time	2X10	2X10	2X10	2X10	2X10		1X3	1X10				
Range	2.0	2.0	2.0	2.0	2.0							
Current	2000	2000	2000	2000	2000		300	1000				

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bagdad Line 2''' Field date 8-4-64 Data page_____ Comp. date_____. Comp by_____

(A) Send	34	45	23	34	45	12	23	34	45	12	23	34
(B) Receive	12W →	→	23W →	→	→	34W →	→	→	→	45W →	→	→
(C) n separation	100	30	100	30	10	100	30	10	10	30	10	10
(D) I	6000	→	→	→	→	→	→	→	5000	5000	→	→
(E) Vdc (avg)	83.2	24.6	73.9	26.4	12.16	95.6	22.7	11.83	4.80	31.8	11.35	6.48
(F) DCcal 6gal 843	→	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρdc=ExFxGx10^3/D	35.1	46.5	31.1	44.6	51.2	40.3	38.3	49.8	48.6	53.7	42.8	54.6
(I) Vac Σ	76.5	23.2	69.1	25.3	11.60	90.2	21.4	11.12	4.46	30.1	10.39	5.89
(J) AC noise x 2												
(K) Vac(corr) =$\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	970	1,000	970	1,000	→	970	1,000	→	→	→	→	→
(M) ρdc/ρac=ExL/K	1.053	1.060	1.039	1.044	1.049	1.029	1.061	1063	1.076	1.057	1.092	1.100
(N) PFE=(M-1)(10^2)	5.3	6.0	3.9	4.4	4.9	2.9	6.1	6.3	7.6	5.7	9.2	10.0
(O) MCF=(M-1)(10^5)/H	151	145	125	97	96	72	159	126	157	106	193	183

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	45	12	23	34	45		Cal 45					
(B) Receive	→	56W →	→	→	→							
(C) n separation	3	30	10	3	3		300					
(D) I	6000	6000	→	→	5000							
(E) Vdc (avg)	3.64	14.9	5.89	3.64	1.69		356					
(F) DCcal	→	→	→	→	→		843					
(G) Kn x 10^{-3}	105	30	60	105	167							
(H) ρdc=ExFxGx10^3/D	53.9	62.8	49.6	53.8	47.8							
(I) Vac Σ	2.74	13.4	5.27	3.32	1.53		348					
(J) AC noise x 2												
(K) Vac (corr) =$\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→		978					
(M) ρdc/ρac =ExL/K	1.110	1.080	1.118	1.097	1.104							
(N) PFE=(M-1)(10^2)	11.0	8.0	11.8	9.7	10.4							
(O) MCF=(M-1)(10^5)/H	205	127	239	180	218							

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bagdad Line 2" E½ Field date 8-5-64 Data page_____ Comp. date 8-5-64. Comp by KH & CSL

(A) Send	23	12	34	23	12	45	34	23	12	45	34	23
(B) Receive	12E →	→	23E →	→	→	34E →	→	→	→	45E →	→	→
(C) n separation	100	30	100	30	10	100	30	30	10	30	30	10
(D) I 6600	→	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	122.8	24.5	134.7	31.6	11.55	89.5	31.9	15.5	6.87	35.2	23.3	13.9
(F) DCcal x100	→	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	51.6	41.8	56.6	53.1	48.6	37.8	53.6	65.2	57.6	59.1	98.0	117
(I) Vac Σ	115.8	23.2	127.0	30.0	10.62	83.4	30.3	14.4	6.16	33.1	21.8	12.98
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.970	1.000	.970	1.000 →	→	.970	1.000	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1.029	1.072	1.028	1.053	1.087	1.045	1.052	1.077	1.114	1.063	1.069	1.071
(N) PFE=(M-1)(10^2)	2.9	7.2	2.8	5.3	8.7	4.5	5.2	7.7	11.4	6.3	6.9	7.1
(O) MCF=(M-1)(10^5)/H	56	172	49	99	179	119	97	118	198	107	70	61

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	45	34	23	12		Col					
(B) Receive	→	45E →	→	→	→		45					
(C) n separation	10	30	30	10	10		300					
(D) I	→	→	→	→	→							
(E) Vdc (avg)	6.47	21.7	17.75	11.52	5.72		3.57					
(F) DCcal	→	→	→	→	→		.840					
(G) Kn x 10^{-3}	105	30	60	105	164							
(H) ρ dc=ExFxGx10^3/D	95.0	91.2	149	172	135							
(I) Vac Σ	5.86	19.6	16.2	10.62	5.32		3.47					
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→		.975					
(M) ρdc/ρac =ExL/K	1.105	1.109	1.096	1.086	1.077							
(N) PFE=(M-1)(10^2)	10.5	10.9	9.6	8.6	7.7							
(O) MCF=(M-1)(10^5)/H	111	120	64	51	57							

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Page _____

Project Bagdad Line 2 spr 1 W½ Field date 7-15-64 Data page _____ Comp. date 7-16-64. Comp by KH

(A) Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
(B) Receive	1-2-W →		2-3W →		→	3-4W	→	→	→	4-5 W	→	→
(C) n separation												
(D) I	2.00 →											
(E) Vdc (avg)	19.5	8.075	22.0	7.06	4.35	21.35	6.25	2.94	1.99	7.178	3.078	1.56
(F) DCcal 1.000 →												
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	29.2	4.14	33.0	42.4	65.2	32.0	37.4	44.1	59.6	43.0	46.1	46.8
(I) Vac Σ	14.80	7.89	22.0	6.61	4.23	21.6	6.05	2.71	1.85	6.98	2.96	1.38
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. 1.020												
(M) ρ dc/ρac=ExL/K	1.058	1.044	1.020	1.049	1.049	1.007	1.053	1.106	1.074	1.050	1.060	1.152
(N) PFE=(M-1)(10^2)	6	4	2	9	5	-1	5	11	7	5	6	15
(O) MCF=(M-1)(10^5)/H	158	92	61	212	75	22	142	240	124	116	130	324

Project _____ Line _____ Field date _____ Data page _____ Comp. date _____ Comp by _____

(A) Send	4-5	1-2	2-3	3-4	4-5		Col →	→				
(B) Receive	→	5-L W	→	→	→		101	30				
(C) n separation												
(D) I	→	→	→	→	→							
(E) Vdc (avg)	1.167	326	1.50	.804	.629		99.6	29.7				
(F) DCcal	→	→	→	→	→							
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρ dc=ExFxGx10^3/D	61.2	48.8	45.0	42.2	52.7							
(I) Vac Σ	1.04	3.12	1.37	.690	.552		98.0	30.3				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.975	1.020 →		.975 →								
(M) ρdc/ρac =ExL/K	1.094	1.065	1.116	1.136	1.110		.984	1.020				
(N) PFE=(M-1)(10^2)	9	7	12	14	11							
(O) MCF=(M-1)(10^5)/H	153	133	258	322	208							

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Page_____

Project Bagdad Line 2 spr1 F½ Field date 7-16-64 Data page_____ Comp. date 7-16-64. Comp by KH

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	1-2E →	→	2-3E →		→	3-4E →			→	4-5E →		
(C) n separation												
(D) I	2000 →											
(E) Vdc (avg)	30.7	8.27	26.53	7.124	2.946	26.14	7.97	3.792	1.85	10.28	5.23	2.83
(F) DCcal 1.000 →												
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	46.0	49.5	37.8	43.6	44.8	39.2	47.4	56.8	55.5	61.5	78.5	85.0
(I) Vac Σ	30.4	8.06	26.35	6.54	2.81	27.8	7.62	3.51	1.72	10.20	4.92	2.62
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.												
(M) ρ dc/ρac=ExL/K	1.023	1.039	1.037	1.104	1.080	.954	1.150	1.095	1.050	1.021	1.078	1.096
(N) PFE=(M-1)(10^2)	2	4	4	10	8	-5	15	10	5	2	8	10
(O) MCF=(M-1)(10^5)/H	50	80	98	248	179	-118	314	183	162	34	99	113

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	4-5	3-4	2-3	1-2		3-4	3-4				
(B) Receive	→	5-6E →			→							
(C) n separation												
(D) I	2000 →				→		300	1000				
(E) Vdc (avg)	1.614	6.252	4.035	2.266	1.340		29.8	99.75				
(F) DCcal →												
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρ dc=ExFxGx10^3/D	84.8	94.2	121	119	113							
(I) Vac Σ	1.501	6.28	3.86	2.12	~~1.23~~		30.2	98.4				
(J) AC noise x 2				.9	.11							
(K) Vac (corr) = $\sqrt{I^2 - J^2}$					1.227							
(L) AC-DC cal.							1.013	.995				
(M) ρdc/ρac =ExL/K	1.094	1.014	1.060	1.086	1.108							
(N) PFE=(M-1)(10^2)	9	1	6	9	11							
(O) MCF=(M-1)(10^5)/H	111	15	50	72	95							

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Page _____

Project Bagdad Line 2 spr 1E½ Field date 7-14-64 Data page _____ Comp. date 7-14-64. Comp by _____

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	1-2E →		2-3E →			3-4E →				4-5E →		
(C) n separation												
(D) I	2000											
(E) Vdc (avg)	33.9	9.96	25.38	8.33	3.94	38.9	8.06	4.57	2.15	9.67	4.94	3.37
(F) DCcal 1.022												
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	66	12	30	60
(H) ρdc=ExFxGx10^3/D												
(I) Vac Σ	33.8	9.72	25.0	7.98	3.68	45.2	8.10	4.32	~~2.18~~	9.89	~~4.36~~	~~3.07~~
(J) AC noise x 2	.20 →										.40 →	
(K) Vac(corr) =$\sqrt{I^2 - J^2}$									2.17		4.34	3.04
(L) AC-DC cal. 1.000												
(M) ρdc/ρac=ExL/K	1.002	1.026	1.013	1.044	1.062	1.003	.996	1.054	.990	.979	1.138	1.109
(N) PFE=(M-1)(10²)	0	3	1	4	6	1	0	4	-1	-2	14	11
(O) MCF=(M-1)(10^5)/H												

Project Bagdad Line 2 spr 1 Field date 7-14-64 Data page _____ Comp. date 7-14-64 Comp by _____

(A) Send	1-2	4-5	3-4	2-3	1-2		3-4	3-4	1-2C	12		
(B) Receive	→	5-6E →					CAL	CAL	Cal	Cal		
(C) n separation												
(D) I	2000	→					1000	300	301	1104		
(E) Vdc (avg)	1.86						100.2	29.9	29.6	99.1		
(F) DCcal	→											
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρdc=ExFxGx10^3/D												
(I) Vac Σ	~~1.74~~						98.7	30.4	29.7	97.0		
(J) AC noise x 2	.20											
(K) Vac (corr) =$\sqrt{I^2 - J^2}$	1.73											
(L) AC-DC cal.	→						.964	1.017	.996	.978		
(M) ρdc/ρac =ExL/K	1.081											
(N) PFE=(M-1)(10²)	8											
(O) MCF=(M-1)(10^5)/H												

97.85

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Page _____

Project Bayhead Line 2 Repeat Field date 7/25/64 Data page _____ Comp. date 7/25/64 Comp by C.S.L.

(A) Send	2-3	1-2		CAL	→							
(B) Receive	1-2E	→		3-4	→							
(C) ~~n separation~~ Rng	30	10		100	30							
(D) I	2000	2000		1000	300							
(E) Vdc (avg)	60.7	18.02		208	618							
(F) DCcal w ED	.483	→		.480	.486	~ .483						
(G) Kn x 10^{-3}	3	12										
(H) ρ dc=ExFxGx10^3/D	44.0	52.2										
(I) Vac Σ	60.2	17.3		203	60.3							
(J) ~~AC noise x 2~~ DD	619	468		649	623							
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal PFE	+2.4	+2.4		+2.5	+2.2(2.7) ~ +2.4							
(M) ~~ρ dc/ρac=ExL/K~~ PFE	-1.5	+1.8?										
(N) PFE=(M-1)(10^2)	0.9	+4.2?										
(O) MCF=(M-1)(10^5)/H	20	50										

Project _____ Line _____ Field date _____ Data page _____ Comp. date _____ Comp by _____

(A) Send												
(B) Receive												
(C) n separation												
(D) I												
(E) Vdc (avg)												
(F) DCcal												
(G) Kn x 10^{-3}												
(H) ρ dc=ExFxGx10^3/D												
(I) Vac Σ												
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal PFE												
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)												
(O) MCF=(M-1)(10^5)/H												

$$A = \begin{pmatrix} 1 & q \\ q & 1 \end{pmatrix} \qquad Au = \lambda u$$

$$\Rightarrow Au - \lambda u = 0 \quad \Rightarrow (A - \lambda I)u = 0$$

$$|A - \lambda I| = 0$$

$$A - \lambda I = \begin{pmatrix} 1 & q \\ q & 1 \end{pmatrix} - \begin{pmatrix} \lambda & 0 \\ 0 & \lambda \end{pmatrix} = \begin{pmatrix} 1-\lambda & q \\ q & 1-\lambda \end{pmatrix}$$

$$|A - \lambda I| = 1 - 2\lambda + \lambda^2 - q^2 = 0$$

$$\lambda^2 - 2\lambda + (1 - q^2) = 0$$

$$\lambda = \frac{2 \pm \sqrt{4 - 4 + 4q^2}}{2} = \frac{2 \pm 2q}{2} \qquad 1+q,\ 1-q$$

$$\lambda_1 = 1 + q$$

$$\lambda_2 = 1 - q$$

$$(A - I\lambda_1)u = 0$$

$$\Rightarrow \left[\begin{pmatrix} 1 & q \\ q & 1 \end{pmatrix} - \begin{pmatrix} 1+q & 0 \\ 0 & 1+q \end{pmatrix} \right] \begin{bmatrix} x \\ y \end{bmatrix} = 0$$

$$\begin{pmatrix} -q & q \\ q & -q \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = 0 \quad \therefore \quad -qx + qy = 0$$

$$qx - qy$$

$$\therefore \quad q(x - y) = 0$$

$$x - y = 0$$

$$\begin{pmatrix} -q & q \\ q & -q \end{pmatrix} \begin{pmatrix} \alpha \\ \beta \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \end{pmatrix}$$

$$\begin{pmatrix} -q\alpha + q\beta \\ q\alpha - q\beta \end{pmatrix}$$

$$\alpha - \beta = 0$$

$$\alpha = \beta$$

$$\begin{pmatrix} \alpha \\ \alpha \end{pmatrix} \qquad \alpha = 1$$

$$\begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

$$\lambda_2 = 1 - q$$

$$(A - I\lambda_2)u = 0$$

$$\Rightarrow \left[\begin{pmatrix} 1 & q \\ q & 1 \end{pmatrix} - \begin{pmatrix} 1-q & 0 \\ 0 & 1-q \end{pmatrix} \right] \begin{bmatrix} x \\ y \end{bmatrix} = 0$$

$$\begin{pmatrix} q & q \\ q & q \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = 0 \quad \therefore \quad qx + qy = 0$$

$$\therefore \quad q(x + y) = 0$$

$$x + y = 0$$

$$\begin{pmatrix} q & q \\ q & q \end{pmatrix} \begin{pmatrix} \alpha \\ \beta \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \end{pmatrix}$$

$$\begin{pmatrix} q\alpha + q\beta \\ q\alpha + q\beta \end{pmatrix}$$

$$\alpha + \beta = 0$$

$$\alpha = -\beta$$

$$\begin{pmatrix} -\beta \\ \beta \end{pmatrix} \qquad \beta = 1$$

$$\begin{pmatrix} -1 \\ 1 \end{pmatrix}$$

$$u(0) = \begin{pmatrix} u_1(0) \\ u_2(0) \end{pmatrix} = \frac{c+2}{2}\begin{pmatrix} 1 \\ 1 \end{pmatrix} + \frac{c-2}{2}\begin{pmatrix} -1 \\ 1 \end{pmatrix}$$

$$= \begin{pmatrix} \frac{c+2}{2} \\ \frac{c+2}{2} \end{pmatrix} + \begin{pmatrix} \frac{c-2}{2} \\ \frac{-c+2}{2} \end{pmatrix}$$

$$\therefore \quad \begin{matrix} u_1(0) = c_1 \\ u_2(0) = c_2 \end{matrix}$$

$$\begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$$

$$\left(\begin{array}{cc|cc} 1 & 0 & 3 & -1 \\ 0 & 1 & -2 & 1 \end{array}\right)$$

$$\left(\begin{array}{cc|cc} 1 & 0 & -2 & 1 \\ 0 & 1 & \frac{3}{2} & -\frac{1}{2} \end{array}\right) \qquad \begin{pmatrix} -2 & 1 \\ \frac{3}{2} & -\frac{1}{2} \end{pmatrix}$$

$$\left(\begin{array}{ccc|ccc} 0 & 1 & 0 & 1 & 0 & -2 \\ 2 & 0 & -1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 & -1 \end{array}\right)$$

$$\left(\begin{array}{ccc|ccc} 1 & 0 & 0 & 0 & \frac{1}{2} & -\frac{1}{2} \\ 0 & 1 & 0 & 1 & -\frac{1}{2} & \frac{3}{2} \\ 0 & 0 & 1 & 1 & -\frac{1}{2} & \frac{5}{2} \end{array}\right)$$

$$\begin{pmatrix} 0 & 1 \\ \frac{1}{2} & 0 \end{pmatrix} \begin{pmatrix} 2 & -1 \\ -2 & 1 \end{pmatrix} = \begin{pmatrix} -2 & 1 \\ \frac{2}{2} & -\frac{1}{2} \end{pmatrix}$$

$$\begin{pmatrix} 0 & 1 & 0 \\ 1 & -1 & 0 \\ 1 & -1 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & -2 \\ 0 & \frac{1}{2} & -1 \\ 0 & 0 & -1 \end{pmatrix} = \begin{pmatrix} 0 & \frac{1}{2} & -\frac{1}{2} \\ 1 & -\frac{1}{2} & \frac{3}{2} \\ 1 & -\frac{1}{2} & \frac{5}{2} \end{pmatrix}$$

$$\begin{pmatrix} -2 & 1 \\ \frac{3}{2} & -\frac{1}{2} \end{pmatrix} \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix} = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$$

$$\begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix} \begin{pmatrix} -2 & 1 \\ \frac{3}{2} & -\frac{1}{2} \end{pmatrix} = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$$

$$\begin{pmatrix} 0 & 1 \\ \frac{1}{2} & 0 \end{pmatrix} \begin{pmatrix} 2 & -1 \\ -2 & 1 \end{pmatrix} = \begin{pmatrix} -2 & 1 \\ \frac{2}{2} & -\frac{1}{2} \end{pmatrix}$$

$$\begin{pmatrix} 0 & 1 & 0 \\ 1 & -1 & 0 \\ 1 & -1 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & -2 \\ 0 & \frac{1}{2} & -1 \\ 0 & 0 & -1 \end{pmatrix} = \begin{pmatrix} 0 & \frac{1}{2} & -\frac{1}{2} \\ 1 & -\frac{1}{2} & \frac{3}{2} \\ 1 & -\frac{1}{2} & \frac{5}{2} \end{pmatrix}$$

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page ____

Project Bagdad Line 2 Field date 7-21-64 Data page ____ Comp. date 7-21-64. Comp by K.H.

	1	2	3	4	5	6	7	8	9	10	11	12
(A) Send	34	45	23	34	45	12	23	34	45	12	23	34
(B) Receive	12W →	→	23W →	→	→	34W →	→	→	→	45W →	→	→
(C) n separation												
(D) I 2000	→	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	28.5	8.23	21.6	8.55	3.70	23.3	6.45	3.60	1.71	7.90	3.33	1.98
(F) DCcal 1.000	→	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	42.7	49.5	32.4	51.4	52.0	35.0	39.9	54.0	51.4	47.4	50.0	59.5
(I) Vac Σ	28.8	8.24	21.4	8.43	3.66	24.30	6.61	3.62	1.69	7.64	3.22	1.91
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. 1.017	→	→	→	→	→	→	→	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1.007	1.010	1.027	1.031	1.029	975	1.022	1.012	1.028	1.050	1.051	1.064
(N) PFE=(M-1)(10^2)	1	1	3	3	3	-2.5	2	1	3	5	5	6
(O) MCF=(M-1)(10^5)/H	17	20	86	60	51	-71	55	22	55	106	102	108

Project ____ Line ____ Field date ____ Data page ____ Comp. date ____ Comp by ____

	13	14	15	16	17							
(A) Send	45	12	23	34	45		Cal →	→				
(B) Receive	→	56W →	→	→	→							
(C) n separation												
(D) I	→	→	→	→	→							
(E) Vdc (avg)	1.14	3.28	1.28	1.14	.63		99.7	29.8				
(F) DCcal	→	→	→	→	→							
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρ dc=ExFxGx10^3/D	59.8	56.1	53.4	59.8	53.0							
(I) Vac Σ	.989	3.20	1.65	1.01	.542		98.4	30.30				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.980	1.017	1.017	.980	.981		.981	1.017				
(M) ρdc/ρac =ExL/K	1.130	1.040	1.097	1.106	1.140							
(N) PFE=(M-1)(10^2)	13	4	10	10	14							
(O) MCF=(M-1)(10^5)/H	217	72	183	177	264							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 3 - N½ Int.Cal Date: 7/27/69

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2N	→	2-3N	→	→	3-4N	→	→	→	4-5N	→	→
~~Time~~ Range	30	10	30	10	10	100	10	3	3	10	3	3
DC-1	.9 -2.6	-2.1 0.8	2.6 4.3	3.0 6.3	2.2 3.7	9.8	13.6 11.3	1.5 1.0	9.5 14.1 2.2 -1.2	4.8 12.5	4.0 11.8	4.0 4.7
DC-2	-2.7 .3	0.8 -2.3	4.3 2.6	6.3 4.7	3.7 3.2	5.9	6.2 6.6	10.5 9.0	2.2 -1.2 15.0 14.0	12.5 7.7	11.8 0.0	4.7 5.6
Σ	-1.8 -2.3	-1.3 -1.5	6.9 6.7	9.7 1.7	5.9 5.9	5.7	19.8 17.9	12.3 1.0	11.7 12.9 17.2 12.8	17.3 20.2	15.8 11.8	8.7 10.3
DC-3	.3 -2.5	-2.3 0.3 1.3 -2.0	2.6 4.5	4.7 6.4	2.2 3.3	5.9	6.6 12.0	9.0 0.5	15.0 0.0	7.7 10.2	0.0 16.8 14.8 0.6	5.6 9.0 2.0
Dc-4	-2.3 -.3	1.3 -2.0 -2.3 0.4	4.5 2.2	6.3 3.9	2.2 2.8	9.8	12.0 6.0	0.5 10.0	0.0 13.8	10.2 8.0	14.8 0.6 -2.8 9.4	2.0 -3.0 9.0
Σ	-2.8 -2.6	-1.0 -1.7 -1.0 -1.6	7.1 6.7	11.0 10.3	4.4 6.1	15.7	18.6 18.0	9.5 10.5	15.0 13.8	17.9 18.2	14.8 15.4 12.0 10.3	8.6 11.0 6.0
~~DC~~ AV PFE	-2.2 +.3 -1.9	-1.1 -1.0	3.4	5.2 ±2.2	2.8 +.4 3.2	7.8	9.1	5.5	6.9	9.2 = 8.6	6.6	4.5
AC-1 DD	652	592 +.1	779	631	219	22	485	951	425	183 .6	440	113
AC-2 DD	652	592 +.3	779	631	219 -.8	22	485	951	425	183	440	113
Σ AVG												
S. P.	-10.8	→	-19.5	→	→	-15.9	→	→	→	-21.0	→	→
AC-N												
ACR	62.1	19.6	69.3	20.3	12.5	81	17.6	7.68	4.73	11.8	4.81	2.99

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 3 - N2 Int.Cal Date: 7/23/84

Send	1-2	4-5	3-4	2-3	1-2		C1-2	→				
Rec.	→	5-6N	→		→		1-5	→				
~~Time~~ Range	1						100	30				
DC-1	12.0 -7.0						-2.3 -2.3	-2.2 -2.3				
DC-2	-7.0 15.0						-1.6 -1.6	0.7				
Σ	7.0 12.3						-1.9 -2.3					
DC-3	-3.0 14.0						-1.6 -1.6					
Dc-4	12.0 -4.3						-2.7 -2.5					
Σ	9.3 12.2						-2.2 -2.2					
~~DC~~-AV	3.7?						-2.1 -2.1					
AC-1 DD	503?						612 +1	588 -1				
AC-2 DD	5k?						512 -1					
Σ												
S. P.	→											
AC-N												
	1.82						197	86.6				

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 3 - 5½ Int.Cal Date: 7/27/64

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	1-2.5	→	2-3.5	→	→	3-4.5	→	→	→	4-5.5	→	→
Range Time	30	10	30	10	10	100	10	10	3	10	10	3
DC-1	-1.8 -2.1	0.0 -1.1	0.0 4.2	3.4 2.3	11.9 7.8	0.7 7.3	3.5 3.2	7.2 4.7 4.5 6.0	10.3 5.5	2.4 3.7	7.5 -3.0	1.5 4.8
DC-2	-2.1 -1.2	-1.1 0.0	4.2 0.4	2.3 5.1	-2.9 2.8	4.8 2.2	3.2 4.0	0.6 6.0 0.8 3.8	5.2 9.4	3.7 1.9	-3.0 8.0	4.8 -1.0
Σ	-3.9 -3.4	-1.1 -1.1	4.2 4.6	5.7 5.4	9.0 10.4	5.5 5.5	6.7 7.2	7.8 10.7 10.3 9.8	15.5 14.9	6.1 5.6	4.5 5.0	6.3 10.1 3.8
DC-3	-1.5 -2.2	0.0 -1.0	0.4 3.2	5.1 5.2	2.8 1.2 9.2 9.8	2.9 2.4	4.0 2.8	0.8 5.5	9.4 6.2	1.9 4.0	8.0 -3.5	6.6 12 -2
Dc-4	-7.2 -1.4	-1.0 0.0	3.2 2.0	1.7 1.3	9.2 9.8 12.0 0.0	2.4 3.3	2.8 4.6	10.2 4.0	6.2 8.2	4.0 1.6	-3.0 8.8	9.0 -14 -2
Σ	-3.5 -3.6	-1.0 -1.0	3.6 5.2	6.8 5.5	12.0 11.0 10.2 9.8	5.3 5.7	6.8 7.4	11.0 9.5	15.6 14.4	5.9 5.6	5.0 5.2	-3.6 -3.0
DC-AV	-1.8	-0.5 -0.7	2.2	4.0	5.2	2.7	3.5	4.9	5.5 7.5	2.9	2.5	3.8 +1
AC-1 DD	584	675 2	569	568	98	142	812	190	837 +1	971	98 ?	490 ?
AC-2 DD	584 +.4	675 2	569	568	98	142	812	190 ?	837	971	98 ?	-2
Σ												
S. P.	0.0	→	-15.5	→	→	-4.1	→	→	→	-13.5		
AC-N							very	noisy				
ACR	58.2	21.2	57.4	19.2	10.2	104	23.9	12.0	7.03	26.7	10.2	5.10

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 3 - 5½ Int.Cal Date: 7/27/69

Send	4-5	1-2	2-3	3-4	4-5		CAL	→				
Rec.	→	5-6.5	→	→	→		1-2	→				
~~Time~~ Range	7						100	30				
~~DC-1~~							-1.6 -3.6	-3.4 -1.0				
~~DC-2~~							-3.6 -1.6	-1.4 -3.4				
Σ							-5.2 -5.1	-4.8 -4.4				
~~DC-3~~	too noisy						-1.6	-3.1 -0.8				
~~Dc-4~~							-3.6	-1.3 -3.6				
Σ							-5.2	[illegible]				
~~DC~~-AV							-2.6 -2.3	-2.3				
AC-1 DD	228						689	666				
AC-2 DD							.6	[illegible]				
Σ												
S. P.												
AC-N												
ACR	3.62						211	629				

INDUCED POLARIZATION SENDER NOTES

Project: BAGDAD Line: Spr 1 E ½ Date: 7-27-64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Receive	→	→	→	→	→	→	→	→	→	→	→	→
Time	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10	2X10
Range	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	1-2	4-5	3-4	2-3	1-2		4-5	4-5				
Receive	→	→	→	→	→		CAL	CAL				
Time	2X10											
Range	2.0											
Current	2000						1000	300				

INDUCED POLARIZATION SENDER NOTES

Project: BAGDAD Line: 3 Spr / 5½ Date: 7-27-64

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	←	→	→	→	→	→	→	→	→	→	→	→
Time	2·10	2·10	→	→	→	→	→	→	→			
Range	2.0	→	→	→	→	→	→	→	→	→	→	→
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	4-5	1-2	2-3	3-4	4-5		1-2	1-2				
Receive	→	→	→	→	→		CAL	CAL				
Time							1·10	1·3				
Range	2.0	→	→	→	→		1.0	1.0				
Current	2000	X	X	X	X		1000	300				

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bagdad Line J - N½ Field date 7/27/68 Data page_____ Comp. date 7/27/68 Comp by C.S.L.

(A) Send	2 - 3	1 - 2	3 - 4	2 - 3	1 - 2	4 - 5	3 - 4	2 - 3	1 - 2	4 - 5	3 - 4	2 - 3
(B) Receive	1 - 2 N	→	2 - 3 N	→	→	3 - 4 N	→	→	→	4 - 5 N	→	→
(C) ~~n separation~~ Range	30	10	30	10	10	100	10	3	3	10	3	3
(D) I	2000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)												
(F) DCcal USED	.521	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	48.7	62.0	57.1	67.5	103	69.5	64.9	65.0	81.6	40.8	41.3	50.8
(I) Vac Σ	62.1	19.6	69.3	20.3	12.5	+1	17.6	7.66	4.73	11.6	4.61	2.99
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) ~~AC-DC cal.~~ FPFE	-1.9	-1.0	3.4	5+ ~2.6	3.2	7.6	9.1	5.5	6.9	6.6	6.6	4.5
(M) ρ dc/ρac=ExL/K Corr	2.1	2.4	2.1	2.4	2.6	2.1	2.3	3.0	3.3	2.5	3.3	4.7
(N) PFE=(M-1)(10^2)	0.3	1.4	5.5	6.3	5.6	9.9	11.4	6.5	10.2	11.0	9.9	8.6
(O) MCF=(M-1)(10^5)/H	6	23	96	93	56	142	186	131	125	270	241	173

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1 - 2		< AL	→								
(B) Receive	→		4 - 5	→								
(C) n separation	1		100	30								
(D) I	→		1000	300								
(E) Vdc (avg)			193	57.1								
(F) DCcal	→		518	.524								
(G) Kn x 10^{-3}	105		N.S	21								
(H) ρ dc=ExFxGx10^3/D	54.4											
(I) Vac Σ	1.82		197	58.6								
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) ~~AC-DC cal.~~ FPFE	3.7 ?		-2.1	~-2.4								
(M) ρdc/ρac =ExL/K Corr	5.7											
(N) PFE=(M-1)(10^2)	9.4 ?											
(O) MCF=(M-1)(10^5)/H	173 ?											

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Baghad Line 3-5½ Field date 7/22/69 Data page_____ Comp. date 7/22/69. Comp by C.S.G.

(A) Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
(B) Receive	1-2 5	→	2-3 5	→	→	3-4 5	→	→	→	4-5 5	→	→
(C) ~~n separation~~ Range												
(D) I	2000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)												
(F) DCcal USED	.487	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	42.8 42.8	63.0 63.0	43.8 43.8	59.7 59.7	80.2 80.2	80.0 80.0	74.2 74.2	94.2 94.2	112 112	82.5 82.5	78.1 78.1	94.0 94.0
(I) Vac Σ	58.2	21.2	51.4	19.2	10.2	104	23.9	12.0	7.03	26.7	10.2	5.10
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) ~~AC-DC cal.~~ FPFE	-1.8	-0.7	2.2	4.0	5.2	2.7	3.5	4.9	5.5	2.9	2.5	3.8
(M) ~~ρ dc/ρac=ExL/K~~ Corr	+2.7	→	→	→	→	→	→	→	2.7	2.3	2.3	3.0
(N) PFE=(M-1)(10^2)	0.5	1.6	4.5	6.3	7.5	5.0	5.4	7.2	8.2	5.2	4.8	6.8
(O) MCF=(M-1)(10^5)/H	12	25	103	106	94	63	76	76	73	63	61	72

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5		(4-2	→								
(B) Receive	→		(1-2	→								
(C) n separation												
(D) I	→		1000	300								
(E) Vdc (avg)			2.06	61.8								
(F) DCcal	→		.485	.489								
(G) Kn x 10^{-3}	105		~.487									
(H) ρ dc=ExFxGx10^3/D	92.9 104											
(I) Vac Σ	3.62		↑	↑								
(J) AC noise x 2			211	62.9								
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) ~~AC-DC cal.~~ FPFE	—		-2.3	-2.3								
(M) ~~ρdc/ρac =ExL/K~~ Corr												
(N) PFE=(M-1)(10^2)	~4											
(O) MCF=(M-1)(10^5)/H												

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bigdad Line: 4 W 2 Int.Cal Date: 7/28/61

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	1-2 W	→	2-3 W	→	→	3-4 W	→	→	→	4-5 W	→	→
Time	100	30	100	30	10	100	30	10	3	30	10	3
DC-1	0.9 6	0.3 0.4	0.4 1.6	0.0 0.5	3.7 -9.0	2.9 3.0	1.2 3.4	-0.2 2.2	1.2 2.4	3.2 10.6	+7.2 5.8	
DC-2	0.0 1.3	-1.0 -0.3	1.6 0.2	0.4 0.5	2.9 12.4	3.0 3.0	3.4 0.7	3.4 3.6	2.4 0.4	10.6 7.6	3.4 5.8	
Σ	0.9 3.9	-0.7 -0.3	2.0 1.8	0.9 0.9	0.8 3.4	3.9 6.0	4.6 4.1	3.2 2.8	3.6 2.8	13.8 14.2	10.6 9.6	20.1
DC-3	0.0 1.3 1.7 0.1	[illegible]	0.2 1.8	0.5 0.1	13.0 +13.0	3.9 4.4	0.7 4.5	0.6 2.2	0.4 1.8	3.6 11.0	6.2 5.0	
Dc-4	1.1 0.0 1.6 1.2	0.2 0.3	1.8 0.4	0.1 0.5	-12.0 -12.0	4.4 3.4	4.5 0.2	2.2 2.2	1.8 0.4	11.0 2.2	5.0 7.2	
Σ	1.1 1.4 2.2 1.3	-0.1 0.2	2.0 2.2	0.6 0.6	1.0 1.0	8.7 7.8	5.1 4.1	2.8 2.4	2.2 2.2	13.6 13.2	11.2 12.2	4.6
DC-AV	0.6	-0.2 -0.2	2.0 2.0	0.8 0.8	0.8 0.2	3.5 2.1	2.3 1.6	2.8 2.2	2.7 3.5?	13.2 6.6	5.5 7.0	
AC-1 DD	360 +3	221 ?	368	22 9 -.5	387 +.7	297 +1.6	105 +0.4	258 ?	892 -.8	12 ?	11 +.5	38.8
AC-2 DD	360 +.3	221	368	229 .1	387 +.5	297 .4	105 +1.1	258 0.6	892 ?	12	11	
Σ Avg												
S. P.												
AC-N												
ACR	147	38.1	150	38.5	15.8	134	31.5	13.2	7.33	26.2	8.3	4.52

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 4 W½ Int.Cal Date: 7/28/64

Send	8-5	1-2	2-3	3-4	4-5		CAL	→				
Rec.	→	5-6 W	→	→	→		1-2	→				
Time Range	?						100	30				
DC-1							-2.2 -3.3	-1.5 -1.8				
DC-2							-2.2 -2.8	-1.3 -1.4				
Σ							-5.0 -5.1	-2.8 -3.2 -6.1				
DC-3							-2.8 -2.9	-1.3 -1.3				
Dc-4							-2.3 -2.3	-2.0 -2.2				
Σ							-5.1 -5.1	-3.3 -3.5				
DC-AV							-2.55 -2.7	-1.6 -2.2				
AC-1 OD	14.2						707 -.3	688 .6				
AC-2 DD							707 .1	688 .6				
Σ Avg												
S. P.												
AC-N												
ACR	2.14						214	64.2				

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 4-E ½ Int.Cal Date: 7/29/64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2 E	→	2-3 E	→	→	3-4 E	→	→	→	4-5 E	→	→
~~Time~~ Range	100	30	30	10	3	30	10	3	3	10	3	3
~~DC-1~~	-2.0 1.6	-0.4 0.0 1.6 1.	-0.4 -7.0	+2.7 -2.4	1.2 0.0 -4.0 3.8	-0.5 0.8 -0.2 3.6	6.2 1.1 6.2 7.0	4.8 3.3 0.0 1.5	2.0 13.0 6.0 5.0	-1.3 8.0 2.0 7.6	20 14 -7 0	10 14 -6 -12
~~DC-2~~	1.6 -2.0	1.0 1.0 -0.2 0.	-2.0 2.4	-2.4 +2.7	-0.6 3.8 5.0 3.0	1.7 2.0 1.8 -1.0	6.2 7.0 9.3 0.0	2.0 5.8 7.0 6.0	6.0 -3.0 3.0 10.0	7.2 3.0 3.6 -0.2	-7 0 14 15	-5 -12 22 30
~~Σ~~	-0.4 -0.4	1.2 1.0 -1.4 1.0	-2.4 -0.9	0.3 0.3	0.4 3.6 1.0 3.8	1.2 2.8 1.6 2.6	13.4 6.1 15.5 7.0	6.8 7.1 7.0 7.5	8.0 10.0 9.0 15.0	5.9 11.0 5.6 7.0	13 14 7 15	5 2 16 16
~~DC-3~~	-2.0 1.8	-0.2 0.0 1.2 0.2	-2.7 1.4 0.6 -2.	0.6 0.3 1.7 3.5	5.5 +7. -3.7 -7.0	3.4 2.0 2.0 1.4	9.3 1.4 6.0 7.0	6.0 5.3 -2.0 13.0	6.0 11.0	3.6 6.4 0.2 -3.0	15 4 12 -7	22 15 -5 -7
~~Dc-4~~	1.8 -2.2	1.0 0.2 0.0 0.6	0.6 -2.0 -0.9 1.2	0.0 3.5 -0.5 -2.2	-3.0 -7.0 +7.0 +11.0	2.0 1.4 2.0 1.6	6.0 7.0 1.1 1.2	9.6 -3.0 9.2 -6.0	12.0 0.0	0.4 -3.0 10.4 9.2	-6 14 4 16	-5 -7 15 14
~~Σ~~	-0.2 -0.4	1.0 0.2 1.2 0.6	-2.4 -0.6 -0.3 -0.8	0.6 2.2 1.2 1.3	2.5 0.0 3.3 4.0	5.4 3.4 4.0 3.0	15.3 6.4 7.1 8.2	15.6 2.3 7.2 7.0	18.0 11.0	4.0 7.4 10.6 6.2	9 10 16 9	17 8 10 9
DC-AV	-0.4	0.6	-0.3	0.5	1.2	1.5	5.1 4.6	3.9	6.0	3.4 -3.1	5.2	5.2
AC-1 DD	647	360	380	261	508	430	79 +5	445	20	791 +6	875	393
AC-2 DD	647	360	380	261 +4	508	430	79 +5	445	20	791	875	393
~~Σ~~												
S. P.	EXTREME				NOISE							
~~AC-N~~												
ACR	203	45.7	46.9	13.3	5.19	49.8	9.8	4.84	2.47	23.5	7.25	4.55

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 4 E ½ Int.Cal Date: 7/29/64

Send	1-2	4-5	3-4	2-3	1-2		CAL	→				
Rec.	→	5-6E	→	→	→		4-5	→				
Time	1	10	3	3	1		100	30				
DC-1		4 8 2 3	1 7				-2.0 -2.3 -2.0 -1.8	-1.2 -3.7				
DC-2		2 4 10 7	0 2				-2.0 -1.8 -2.6 -2.1	-3.7 -1.0				
Σ		6 12 12 10	1 5	65			-4.0 -4.1 -4.6 -4.9	-4.9 -4.7				
DC-3		7 9 5 -3	0 8				-2.6 -2.7	-3.5 -1.5				
Dc-4		3 -2 4 6	2 -6	DC DD	DC DD 500		-2.7 -2.0	-1.5 -3.1				
Σ		18 7 9 3	2 2				-5.3 -4.7	-5.0 -4.6				
DC-AV		4.3 3.8	2.5				-2.2	-2.4				
AC-1 DD	808	55	245?				642	624				
AC-2 DD	?	55 +5	245?				642	624				
Σ			N.G.									
S. P.												
AC-N												
AC R	2.34	9.3	3.73	2.72	1.73		202	60.5				

INDUCED POLARIZATION SENDER NOTES

Project: BAGDAD Line: 4 Sp x 1 W ½ Date: 7-28-64

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive												
Time	2x7	2x7	2x7	2x7	2x7	2x7	2x7	2x7	2x7	2x7	2x7	2x7
Range												
Current	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Send	4-5		1-2	1-2								
Receive			CAL	CAL								
Time	2x7											
Range												
Current	1400											

INDUCED POLARIZATION SENDER NOTES

Project: BABOAO Line: 4 Spry E ½ Date: 7-29-64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Receive	→	→	→	→	→	→	→	→	→	→	→	→
Time	2.10	2.9	2.7	2.9	2.8	2.6	2.6	2.9	2.8	2.7	2.7	2.10
Range	2.0	2.0	1.5	2.0	1.5	1.0	1.0	2.0	2.0	2.0	2.0	2.0
Current	2000	1800	1400	1800	1600	1200	1200	1800	1600	1400	1400	2000
Send	1-2	4-5	3-4	2-3	1-2		4-5	4-5				
Receive	→	→	→	→	→		CAL	CAL				
Time	2.8	2.7					1.10	1.3				
Range	1600	1400	1400	2000	1800		1.0	1.0				
Current	2.0						1000	300				

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bagdad Line 4 - W½ Field date 7/28/60 Data page_____ Comp. date 7/25/60. Comp by C.S.L.

(A) Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
(B) Receive	1-2 W	→	2-3 W	→	→	3-4 W	→	→	→	4-5 W	→	→
(C) n separation												
(D) I	1400	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)												
(F) DCcal USED	.479	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	155	160	161	164	166	144	135	142	160	118	93.3	102
(I) Vac Σ	147 151.5	38.1 39.0	150 156.5	38.5 39.8	15.8 16.6	134 140	31.5 32.8	13.2 13.8	7.33 7.79	26.2 28.6	8.3 9.09	4.52 4.98
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) ~~AC-DC cal.~~ FPFE	0.6	-0.2	2.0	0.8	0.2	2.1	1.6	2.2	3.5 ?	6.6	7.0	—
(M) ρ dc/ρac=ExL/K	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.6	2.4	2.5	3.2
(N) PFE=(M-1)(10^2)	3.0	2.2	4.4	3.2	2.2	4.5	4.0	4.6	6.1 ?	9.0	9.5	—
(O) MCF=(M-1)(10^5)/H	19	14	27	20	13	31	30	32	38	76	102	—

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5		CAL	→								
(B) Receive	→		1-2	→								
(C) n separation												
(D) I	→		1000	300								
(E) Vdc (avg)			209	62.7								
(F) DCcal	→		.479	.479								
(G) Kn x 10^{-3}	105											
(H) ρ dc=ExFxGx10^3/D	124											
(I) Vac Σ	3.14 3.97		214	64.2								
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) ~~AC-DC cal.~~ FPFE	—		-2.7	-2.2								
(M) ρdc/ρac =ExL/K	—		~	-2.4								
(N) PFE=(M-1)(10^2)	—											
(O) MCF=(M-1)(10^5)/H	—											

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page _____

Project Baghdad Line 4-E ½ Field date 7/29/64 Data page _____ Comp. date 7/29/64 Comp by C.J.L.

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	1-2E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
(C) n separation												
(D) I	2000	1800	1400	1800	1600	1200	1200	1800	1600	1400	1400	2000
(E) Vdc (avg)												
(F) DCcal USED	.508	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	157	159	52.1	46.2	51.5	65.5	53.2	43.8	52.2	108	85.0	75.1
(I) Vac Σ	203	45.7	16.9	13.3	5.19	49.8	9.8	4.84	2.47	23.5	7.25	4.55
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) ~~AC-DC cal.~~ PFE	-0.4	0.6	-0.3	0.5	1.2	1.5	4.6	3.9	6.0	3.1	5.2	5.2
(M) ~~ρ dc/ρac=ExL/K~~ Corr	2.3	2.3	2.3	2.3	2.9	2.3	2.3	3.0	4.6	2.3	2.5	3.1
(N) PFE=(M-1)(10^2)	1.9	2.9	2.0	2.8	4.1	3.8	6.9	6.9	10.6	5.8	7.5	8.3
(O) MCF=(M-1)(10^5)/H	12	18	38	61	80	58	130	158	203	50	91	111

Project _____ Line _____ Field date _____ Data page _____ Comp. date _____ Comp by _____

(A) Send	1-2	4-5	3-4	2-3	1-2		C+L	→				
(B) Receive	→	5-6E	→	→	→		4-5	→				
(C) n separation												
(D) I	1600	1400	1400	2000	1800		1000	300				
(E) Vdc (avg)				2.72	1.73		197.5	59.1				
(F) DCcal	→	→	→	→	→		.507	.508				
(G) Kn x 10^{-3}	105	30	60	105	165							
(H) ρ dc=ExFxGx10^3/D	85.8	108	860	72.6	82.1							
(I) Vac Σ	2.34	9.3	3.73				202	60.5				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) ~~AC-DC cal.~~ PFE	—	3.8	2.5				-2.2	-2.9				
(M) ~~ρdc/ρac =ExL/K~~ Corr	—	2.4	3.4									
(N) PFE=(M-1)(10^2)	~0	6.2	5.9	—	—							
(O) MCF=(M-1)(10^5)/H		57	69									

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 5-N½ Int.Cal Date: 8/11/64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2N	→	2-3N	→	→	3-4N	→	→	→	4-5N	→	→
Time	300	30	300	100	30	100	30	10	3	100	30	30
DC-1	125	20.6 20.6	69	37.4 36.6	13.3 13.3	37.2 39.2	6.7 7.7	4.45 4.64	1.96 1.88	54.7 54.7	14.8 14.0 14.1	10.4 9.7 10.9 11.0
DC-2	125	20.7 20.6	68	35.4 35.3	13.6 13.2	37.2 38.4	7.7 6.7	4.62 4.35	1.87 1.95	52.6 53.3	13.6 4.6 14.2	10.9 10.1 9.6 9.1
Σ	250	41.3 41.2	137	72.8 71.9	26.9 26.9	78.4 77.6	14.4 14.4	9.07 8.99	3.83 3.87	107.3 ~~108.0~~	28.4 28.6 28.3	21.7 19.8 20.5 20.1
DC-3	125	20.6 20.8	68	35.4	13.5 13.8 13.8	38.5 39.3	6.7 7.7	4.60 4.58 4.55	1.97 1.87 1.99 1.95	53.5 54.7	14.4 14.5	9.1 10.2
Dc-4	125	20.8 20.8	69	37.6	13.6 13.7 13.7	39.3 38.8	7.7 7.7	4.50 4.60 4.60	2.08 2.18 1.94 1.92	53.0 53.0	14.3 14.3	11.0 9.6
Σ	250	41.3 41.2	137	73.0	27.1 27.5 27.5	77.8 78.1	14.4 14.4	9.10 9.8 9.15	4.05 4.05 3.93 3.87	106.5 107.7	28.7 28.8	20.1 19.8
DC-AV	250	41.3	137	72.6	27.2	78.0	14.4?	9.05	3.93	107.0	28.4	20.3
AC-1	121	20.4	66	33.9	13.1	35.7	6.7	4.34	1.89	50.0	13.8	9.8
AC-2	120	20.4	65	34.2	13.1	35.7	6.7	4.31	1.90	50.0	13.8	9.8
Σ	241	40.8	131	68.1	26.2	71.4	13.4?	8.68	3.79	100.0	27.6	19.6
S. P.	-46.4	→	-40.9	→	→	-40.1	?	→	→	41.9	→	→
AC-N	.02	→	.01	→	→	.04	→	→	→	.05	→	→
I.C.	51.7 1	→ 1	51.7 2	→ 2	→ 3	51.6 2.5 5	P. pr. line 4	PL 3	→ 4	51.6 3	→ 3	→ 3

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 5-N½ Int.Cal Date: 8/11/64

Send	1-7	1-5	3-4	2-3	1-2		CAL					
Rec.	→	5-6N	→	→	→		45					
Time Range	10						300					
DC-1	6.00 4.96 4.42 6.22	2.06 4.10					178					
DC-2	4.13 5.15 5.96 4.30	4.00 5.60					177					
Σ	10.17 10.43 9.88 ~~10.52~~	10.06 ~~9.60~~					355					
DC-3	5.00 6.44	5.00					178					
Dc-4	5.40 4.00	5.00 10.00					177					
Σ	~~10.00~~						355					
DC-AV	10.05						355					
AC-1	4.80						173					
AC-2	4.80						173					
Σ	9.60						346					
S. P.	→											
AC-N	→											
I.C.	→											

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Baghdad Line: 5-5½ Int.Cal Date: 7/11/69

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	1-5	1-2	2-3	3-4	
Rec.	1-25	→	2-35		→	2-45				4-55			
Time	300	30	300	30	10	3.00	30	10	10	30	10	3	
DC-1	106	21.0 20.9	116	11.3	6.60 6.66	159	12.1 11.7	3.05 3.03	2.61 2.70	13.9 13.8	3.59 3.59	1.66 1.57	
DC-2	98	20.4 20.6	116	10.0	6.62 6.58	162	11.6 12.1	3.02 3.04	2.68 2.57	13.8 13.9	3.58 3.58	1.56 1.63	
Σ	204	41.4 41.5	232	21.3	13.22 13.24	321	23.7 23.8	6.10 6.07	5.29 5.27	27.7 27.7	7.17 7.17	3.22 3.24	
DC-3	99	20.5 20.9	116	10.0	6.57 6.66	167	12.2	3.04 3.12	2.57 2.80	13.5 13.6	3.58 3.59	1.57 1.53	
Dc-4	105	21.4 20.9	116	11.3	6.69 6.57	158	11.6	3.11 2.95	2.75 2.84	13.7 13.6	3.59 3.58	1.51 1.52	
Σ	204	41.5	232	21.3	13.26 13.19	321	23.8	6.15	5.32 5.24	27.3 27.2	7.17 7.17	3.19 3.24	
DC-AV	204	41.5	232	21.3	13.21	321	23.8	6.12	5.28	27.2	7.17	3.24	
AC-1	97	20.6	111	10.4	6.49	153	11.6	2.99	2.57	13.5	3.53	1.60	
AC-2	97	20.5	111	10.4	6.49	154	11.1	2.99	2.57	13.4	3.49	1.60	
Σ	194	41.1	222	20.8	12.98	307	23.2	5.98	5.14	26.9	7.02	3.20	
S. P.	-13.7	→	-46.>	→	→	-93.3	→	→	→	-51.6	→	→	
AC-N	.14	→	.03	→	→	.02	→	→	→	.02	→	→	
I.C.	51.5	→	51.5	→	→	51.4	→	→	→	51.3	→	→	

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 5-5½ Int.Cal _____ Date: 8/11/64

Send	1 5	1-7	2-3	3 4	4 5		CAL					
Rec.	→	5-65	→	→	→		1-2					
~~Time~~ Range	3						300					
DC-1	2.08 1.86						178					
DC-2	1.88 2.06						177					
Σ	3.96 3.92						355					
DC-3	2.08 2.14 1.85 1.85						177					
Dc-4	1.80 1.86 2.14 2.13						178					
Σ	3.85 4.00 3.99 3.98						355					
DC-AV	3.95						355					
AC-1	1.90						173					
AC-2	1.90+						173					
Σ	3.80						346					
S. P.	→											
AC-N	→											
[illegible]	→											

INDUCED POLARIZATION SENDER NOTES

Project: Bagdad Line: 5 N 1/2 Date: 8-11-64

Send	23	12	34	23	12	45	34	23	12	45	34	23
Receive	12N →		23N →			34N →				45N →		
Time												
Range												
Current	6A →		6A →			6A →				6A →		
Send	12						cc					
Receive	→						45					
Time												
Range												
Current	→						3A					

INDUCED POLARIZATION SENDER NOTES

Project: Bagdad Line: 11 5½ Date: 8-11-64

Send	34	45	23	34	45	12	23	34	45	12	23	34
Receive	125 →		235 →		→	345	→		→	455	→	
Time												
Range												
Current	6A →		CA →		→	6A	→		→	5A	→	
Send	45						Col					
Receive	→						12					
Time												
Range												
Current	6A						3A					

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bagdad Line 5-N½ Field date 8/11/64 Data page_____ Comp. date 8/11/64. Comp by C.S.L.

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	1-2 N	→	2-3 N	→	→	3-4 N	→	→	→	4-5 N	→	→
(C) ~~n separation~~ Range	300	30	300	100	30	100	30	10	3	100	30	30
(D) I	6000											
(E) Vdc (avg)	250	41.3	137	72.6	27.2	78.0	14.4	9.05	3.93	107.0	28.4	20.3
(F) DCcal USED	.845											
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	106	70.0	58.0	123	115	33.0	24.4	38.1	28.7	181.	112	172
(I) Vac Σ	241	40.8	131	68.1	26.2	71.4	13.4	8.68	3.79	100.0	27.6	19.6
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.975	.997	.975	.967	.997	.967	.997	.997	.997	.967	.997	.997
(M) ρ dc/ρac=ExL/K	1.010	1.010	1.019	1.029	1.036	1.056	1.070	1.039	1.034	1.033	1.025	1.032
(N) PFE=(M-1)(10^2)	1.0	1.0	1.9	2.9	3.6	5.6	7.0	3.9	3.4	3.3	2.5	3.2
(O) MCF=(M-1)(10^5)/H	9.4	14	33	24	31	170	287	102	118	18	22	19

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2		CAL									
(B) Receive	→		45									
(C) n separation	10		300									
(D) I	→		3000									
(E) Vdc (avg)	10.05		355									
(F) DCcal	→		.845									
(G) Kn x 10^{-3}	105											
(H) ρ dc=ExFxGx10^3/D	149											
(I) Vac Σ	9.60		346									
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.997		.975									
(M) ρdc/ρac =ExL/K	1.041											
(N) PFE=(M-1)(10^2)	4.1											
(O) MCF=(M-1)(10^5)/H	28											

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page _____

Project Baghdad Line 5 5½ Field date 8-11-64 Data page _____ Comp. date 8-11-64 . Comp by CRE

(A) Send	34	45	23	34	48	12	23	34	45	12	23	34
(B) Receive	125 →		235 →			345				455		
(C) n separation	300	30	300	30	10	300	30	11	10	30	10	3
(D) I	CA →									5A		
(E) Vdc (avg)	204	41.5	232	21.3	13.21	321	23.8	6.12	5.24	27.2	7.17	3.24
(F) DCcal 845												
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	86.3	70.2	98.1	36.0	55.9	136	40.3	25.9	44.5	55.3	36.4	32.9
(I) Vac Σ	194	41.1	222	20.7	12.98	307	23.2	5.98	5.14	26.9	7.02	3.20
(J) AC noise x 2												
(K) Vac(corr) $=\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	975	957	975	957	991	975	957					
(M) ρ dc/ρac=ExL/K	1.026	1.008	1.019	1.020	1.015	1.020	1.023	1.021	1.023	1.010	1.020	1.011
(N) PFE=(M-1)(10^2)	2.6	.8	1.9	2.0	1.5	2.0	2.3	2.1	2.3	1.0	2.0	1.1
(O) MCF=(M-1)(10^5)/H	30	11	19	55	27	15	57	71	52	18	55	33

Project _____ Line _____ Field date _____ Data page _____ Comp. date _____ Comp by _____

(A) Send	45					Cal						
(B) Receive	→											
(C) n separation	3											
(D) I	CA											
(E) Vdc (avg)	3.95					355						
(F) DCcal	→											
(G) Kn x 10^{-3}	105											
(H) ρ dc=ExFxGx10^3/D	58.3											
(I) Vac Σ	3.80					346						
(J) AC noise x 2												
(K) Vac (corr) $=\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→					.975						
(M) ρdc/ρac =ExL/K	1.035											
(N) PFE=(M-1)(10^2)	3.5											
(O) MCF=(M-1)(10^5)/H	60											

INDUCED POLARIZATION - RECEIVER NOTES

PAGE

Project: Bagdad Line: 2'A spd 1 W½ = 6 Int.Cal Date: 7-17-64

	1	2	3	4	5	6	7	8	9	10	11	12
Send	34	45	23	34	45	12	23	34	45	12	23	34
Rec.	12 W →		2.3W →			34 W →				45W →		
Time	30	10	100	10	3	30	10	10	3	3	3	1
DC-1	16.0 16.5	3.40 4.32	330 33.7	5.82 5.62 5.80 6.14	2.40 2.51 2.39 2.30	2.06 2.13	7.30 6.8 6.60 7.0	3.29 3.40 2.81 2.70	1.47 1.60 1.44 1.23	1.30 1.83 1.64 2.18	1.25 .90 .95 .66	.34 .78 .56 .64
DC-2	15.9 16.8	3.55 4.28	335 33.6	5.85 5.64 5.87 6.02	2.75 2.37 2.00 2.35	2.05 2.11	7.10 7.25 6.80 6.8	3.24 3.00 2.70 3.75	1.45 1.45 1.56 1.20	2.35 1.75 1.10 2.70	.85 .90 1.20 .75	.90 .64 .16 .55
Σ												
DC-3	15.8 16.5	3.50 4.26	33.5 33.2	5.68 5.64 5.78 5.98	2.45 2.45 2.46 2.09	2.04 2.14	6.25 7.30 6.50 6.6	3.20 3.10 2.75 2.87	1.33 1.57 1.52 1.30	1.90 1.95 1.48 1.72	.25 .95 .45 .65	.69 .26 .32 .65
Dc-4	15.3 15.4	3.44 4.30	33.5 33.0	5.80 5.84	2.14 2.66 2.35 2.07	2.06 2.12	7.87 7.55 6.66 6.75	3.38 2.98 2.64 3.04	1.57 1.45 1.32 1.25	1.98 1.58 1.45 1.78	1.30 .40 .90 .45	.65 .34 .26 .70
Σ									1.60			
DC-AV	32.14	7.77	6.687	11.65	4.59	4.18	13.80	5.925	2.847	3.62	1.55	1.046
AC-1	16.45	3.82	32.0	5.79	2.26	2.09	6.94	2.88	1.36	1.45	.64	.42
AC-2	16.46	3.80	32.0	5.78	2.27	20.8	6.94	2.48	1.36	1.45	.64	.42
Σ	32.90	7.42	64.0	11.57	4.53	41.7	13.88	5.76	2.72	2.90	1.28	.84
S. P.	-8.7 →		+9.0 →			-22.1 →						
AC-N	.14 →		.10 →			-.08				.10 →		.10

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 24 Spd 1 Wtr Int.Cal 50.1 Date:

Send	13 45	12	23	34	45		Cal →	→				
Rec.	→	56W	→	→	→		1000	30				
Time	1						100	30				
DC-1	.28 .18 .36 .34						50.1 49.9	15.2 15.1				
DC-2	.06 .17 .20 .41						50.0 50.0	15.2 15.1				
Σ								30.3 30.3				
DC-3	.21 .22 .30 .38							15.15 15.15				
Dc-4	.18 .22 .44 .24											
Σ								30.3				
DC-AV	.496						100.0	30.3				
AC-1	.22 →	.22					49.7	15.2				
AC-2	.23	.225					49.8	15.2				
Σ	.45						99.5	30.4				
S. P.	-18.6											
AC-N	.09	.085										

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Baghdad Line: 2A Spd/Wh Int.Cal 50.05 Date: 7-20-6

	1	2	3	4	5	6	7	8	9	10	11	12
Send	34	45	23	34	45	12	23	34	45	12	23	34
Rec.	1-2P	→	2-3	→	→	34	→	→	→	45	→	→
Time	30	10	100	10	3	30	10	10	3	10	3	3
DC-1	16.45 15.70	3,38 4.26	33.4 33.2	6.01 5.70	2.38 2.32	18.0 17.4	5,76 1.64	2,50 2.57	1,24 1.14	2.98 3.01	1.64 1.46 1.87 1.78	.94 .86 .89 .88
DC-2	16.45 15.70	3.42 4.28	33.9 33.3	6.00 5.77	2.38 2.30	18.0 17.4	5.79 6.02	2.56 2.56	1.23 1.20	2.92 3.04	1.56 1.45 1.74 1.80	.93 .90 .88 .90
Σ												
DC-3	16.50 15.60	3,40 4.24	33.9 33.2	5.95 5.79	2.35 2.32	17.9 17.8	5,78 1.00	2,50 2.55	1,21 1.22	2,88 3.16	1.49 1.76	.90 .89
Dc-4	16.50 15.55	3.42 4.28	33.9 33.3	5.97 5.77	3.38 3.32	18.0 17.4	5.79 6.94	2.50 2.57	1.16 1.18	2.80 3.20	1.59 1.78	.90 .90
Σ												
DC-AV	32.15	7.67	67.1	11.73	4.69	35.8	11.80	5.08	2.41	5.98	3.27	1.78
AC-1	16.20	3.79	32.1	5.82	2.32	17.9	5.84	2.46	1.15	2.78	1.52	.83
AC-2	16.25	3.78	32.0	5.82	2.32	17.9	5.84	2.43	1.15	2.78	1.51	.83
Σ	32.45	7.57	64.1	11.64	4.64	35.8	11.68	4.88	2.30	5.56	3.03	1.66
S. P.	-9.2	→	+2.4	→	→	-16.6	→	→	→	-11.4	→	→
AC-N	.04		.07	→	→	.69	→	→	→	.10	→	→

10 -10
4 -25
2 -25
-14
-29

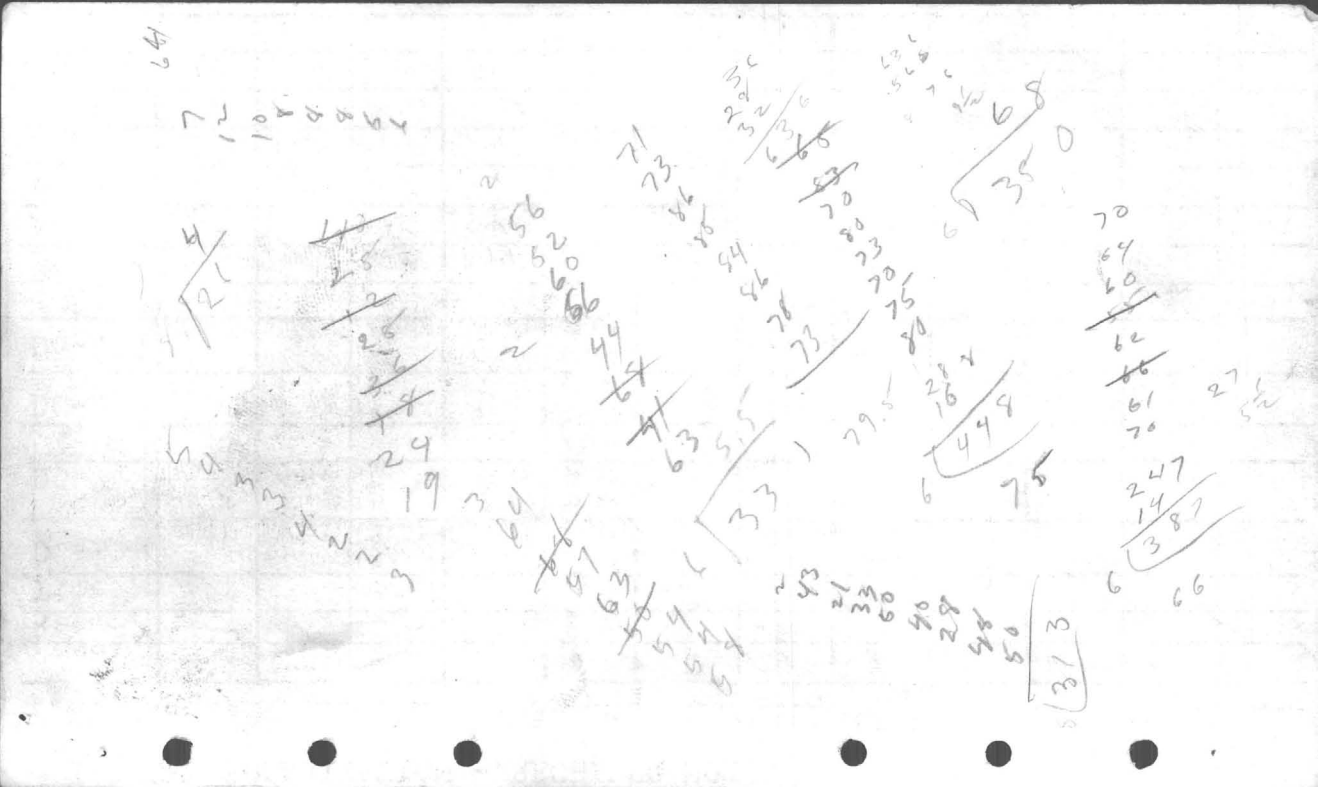
98
16
82
8
10

INDUCED POLARIZATION - RECEIVER NOTES

PAGE

Project: Bagdad Line: 2A Spl 1 W½ Int.Cal _____ Date: 7-20-84

	13	14	15	16	17							
Send	4.5	12	23	34	46		Cal →					
Rec.	→ 13	56.2 →			→		1000	300				
Time	1	3	3	1	1							
DC-1	.47, .42 .47, .32	1.36 1.45 1.42 1.33	1.06 .72	.59, .55 .58, .61	.32, .27 .29, .37		49.8 49.9	~~15.0~~ ~~15.0~~				
DC-2	.46, .38 .46, .50	1.43 1.45 1.44 1.33	1.12 .70	.54, .54 .58, .60	.33, .24 .30, .35		49.8 49.9	~~15.0~~ ~~14.9~~				
Σ							99.7 99.7					
DC-3	.46, .41 .50, .56	1.40 1.42	1.12 .70	.58 .58	.29, .27 .34, .36			14.9 14.9				
Dc-4	.40, .35 .49, .54	1.38 1.37	1.12 .70	.57 .60	.27, .25 .33, .36			14.9 14.9				
Σ							99.7					
DC-AV	.92	2.805	1.82	1.14	.62		99.7	29.8				
AC-1	.420	1.33	.85	.54	.29		48.8	15.0				
AC-2	.420	1.33	.85	.54	.29		48.8	15.1				
Σ	.840	2.66	1.70	1.08	.58		97.6	30.1				
S. P.	→	-7.6 →			→							
AC-N	.10	.12	.11	.11	.10							



INDUCED POLARIZATION SENDER NOTES

Project: BAGDAD Line: 2-A Sprl W/2 Date: _____

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Receive	→	→	→	→	→	→	→	→	→	→	→	→
Time	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Range	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	4-5	1-2	2-3	3-4	4-5		2-3	2-3				
Receive	→	→	→	→	→		CAL	CAL				
Time	2.10						1.10	1.3				
Range	2.0	2.0	2.0	2.0	2.0		1.0	1.0				
Current	2000						1000	300				

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page 6

Project Bagdad Line 2 A W½ Field date 7-20-64 Data page _____ Comp. date 7-21-64 . Comp by ISH

(A) Send	34	45	23	34	45	12	23	34	45	12	23	34
(B) Receive	12W →	→	23W →	→	→	34W →	→	→	→	45W →	→	→
(C) n separation			100									
(D) I	2000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	32.15	7.67	67.1	11.73	4.69	35.8	11.80	5.08	2.41	5.98	3.27	1.78
(F) DCcal 1.000	→	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρdc=ExFxGx10^3/D	48.3	46.0	101	70.5	70.3	53.6	70.8	71.2	72.3	35.8	39.1	53.4
(I) Vac Σ	32.45	7.57	64.1	11.64	4.64	3.58	11.61	4.88	2.20	5.56	3.03	~~1.66~~
(J) AC noise x 2												.20
(K) Vac(corr) =$\sqrt{I^2 - J^2}$												1.65
(L) AC-DC cal. 1.010	→	→	.980	1.010	→	→	→	→	→	→	→	→
(M) ρdc/ρac=ExL/K	1.000	1.023	1.026	1.018	1.021	1.010	1.026	1.051	1.067	1.084	1.090	1.091
(N) PFE=(M-1)(10²)	0	2	3	2	2	1	3	5	7	8	9	9
(O) MCF=(M-1)(10⁵)/H	0	50	23	25	30	19	32	72	94	240	230	171

Project _____ Line _____ Field date _____ Data page _____ Comp. date _____ Comp by _____

(A) Send	45	12	23	34	45		Cal	23				
(B) Receive	→	56W	→	→	→		100	300				
(C) n separation	1			1	1							
(D) I	→	→	→	→	→							
(E) Vdc (avg)	.92	2.805	1.82	1.15	.62		99.7	29.7				
(F) DCcal	→	→	→	→	→		1.004	1.004				
(G) Kn x 10^{-3}	105	30	60	105	164							
(H) ρdc=ExFxGx10^3/D	48.3	42.2	54.6	60.4	52.0							
(I) Vac Σ	~~.84~~	~~2.67~~	~~1.70~~	~~1.04~~	~~.54~~		97.6	30.1				
(J) AC noise x 2	.20	.24	.22	.22	.20							
(K) Vac (corr) =$\sqrt{I^2 - J^2}$	.816	2.65	1.67	1.037	.55							
(L) AC-DC cal.	.961	1.010	→	.960	→		.980	1.010				
(M) ρdc/ρac =ExL/K	1.051	1.070	1.100	1.075	1.082							
(N) PFE=(M-1)(10²)	8	7	10	8	8							
(O) MCF=(M-1)(10⁵)/H	168	162	183	125	154							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 7 - W ½ Int.Cal Date: 6/3/64

Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	1-2W	→	2-3W	→	→	3-4W	→	→	→	4-5W	→	→
Time	300	30	300	30	30	300	100	30	10	30	30	10
DC-1	112	22.7	80	24.2	8.2	83	26.0	12.1	5.00 4.75	20.9 21.0	9.3 9.0	5.73 5.35
DC-2	111	23.3	80	23.4	7.7	83	25.2	12.5	4.75 5.02	20.3 20.2	9.0 9.3	6.20 6.20
Σ	223	46.0	160	48.0	15.9	166	51.2	24.6	9.75 9.77	41.2 41.2	18.3 18.3	11.52 11.55
DC-3	111	22.7	80	23.4	8.3	83	26.0	12.2	4.70 5.04	20.3	9.3	6.29 6.33
Dc-4	112	23.3	80	24.2	7.6	83	25.2	12.4	5.02 4.70	21.0	9.0	5.35 6.22
Σ	223	46.0	160	48.0	15.9	166	51.2	24.6	9.72 9.74	41.3	18.3	11.55 11.55
DC-AV	223	46.0	160	48.0	15.9	166	51.2	24.6	9.75	41.3	18.7	11.55
AC-1	106	22.5	76	23.2	7.7	77	23.7	11.7	4.70	19.7	8.9	5.50
AC-2	106	22.5	76	23.2	7.7	78	23.7	11.7	4.68	19.8	8.8	5.50
Σ	212	45.0	152	46.4	15.4	155	47.4	23.4	9.38	39.5	17.7	11.10
S. P.	+1.7	→	-1.9	→	→	+2.9	→	→	→	L4.0	→	→
AC-N	1.03	→	.025	→	→	.04	→	→	→	.04	→	→
I.L.	51.6	→	51.6	→	→	51.6	→	→	→	51.5	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 7 - W½ Int.Cal Date: 8/3/64

Send	4-5	1-2	2-3	3-4	4-5		(A) →					
Rec.	→	5-6	→	→	→		1-2 →					
~~Time~~	10	30	10	10	3		300	100				
DC-1	2.62 2.80	6.2 5.7	4.57 5.33	3.50 3.42	1.98 2.03		174					
DC-2	2.80 2.85	7.9 7.9	5.33 4.48	3.42 3.46	2.03 1.98		174					
Σ	5.42 5.65	14.1 13.6	10.30 10.21	6.92 6.88	4.01 4.01		356					
DC-3	2.85 2.76	7.9 8.9	4.48 5.35	3.46 3.54	2.00 2.03		178					
Dc-4	2.76 2.56	8.4 7.5	5.35 4.46	3.52 3.38	2.03 1.98		178					
Σ	5.61 5.32	16.3 16.3	10.23 10.21	6.98 6.92	4.03 3.97		356					
DC-AV	5.32	16.2	10.22	6.92	4.01		356					
AC-1	2.55	7.2	4.87	3.30	1.93		174	57.6				
AC-2	2.55	7.4	4.85	3.30	1.92		174					
Σ	5.10	15.5	9.72	6.60	3.85		348					
S. P.	→	-2.0	→	→	→							
AC-N	→	.05	→	→	→							
~~Z.~~	→	51.5	→	→	→							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 7-E ½ Int.Cal Date: 8/4/64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
~~Time~~ Range	300	30	300	100	30	300	30	30	10	30	10	10
DC-1	97 98	22.6 22.8	98	25.6 25.1	8.6 9.2	97	24.0 24.8	9.7	4.33 5.20	13.7 13.8	4.89 5.17	2.74 2.41
DC-2	109 109	23.2 23.2	97	26.0 25.9	9.2 9.1	98	24.5 23.9	10.6	5.20 4.24	12.8 12.7	5.37 4.85	2.41 2.76
Σ	206 206	45.8 46.0	195	51.6 51.0	17.8 18.3	195	48.5 48.7	20.3	9.53 9.48	26.5 26.5	10.17 10.18	5.15 5.17
DC-3	109	23.2 23.2	97	26.0 25.9	9.0 9.6	98	23.9 24.9	10.6 9.8	4.24 5.30	12.8	4.85 5.15	2.78 2.41
Dc-4	97	22.8 22.8	98	25.1 25.3	9.6 8.6	97	24.8 23.9	9.8 10.5	5.29 4.15	13.8	5.17 4.89	2.00 2.74
Σ	206	46.0 46.0	195	51.1 51.2	18.1 18.2	195	48.7 48.8	20.4 20.3	9.48 9.45	26.6	10.02 10.04	5.08 5.14
DC-AV	206	45.9	195	51.2	18.2	195	48.7	20.3	9.49	26.5	10.09	5.13
AC-1	98	22.3	91	23.3	8.6	89	23.2	9.6	4.48	12.8	4.85	2.42
AC-2	98	22.5	91	23.3	8.6	90	23.6	9.6	4.50	12.7	4.84	2.42
Σ	196	44.8	182	46.6	17.2	179	46.4	19.2	8.98	25.5	9.69	4.84
S. P.	-10.1	→	+7.2	→	→	+11.8	→	→	→	-0.4	→	→
AC-N	.03	→	.02	→	→	.02	→	→	→	.02	→	→
I.C.	51.8	→	51.8	→	→	51.7	→	→	→	51.6	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bayland Line: 7-E' Int.Cal Date: 8/4/64

Send	1-2	4-5	3-4	2-3	1-2		CAL					
Rec.	→	5-6E	→	→	→		4-5					
~~Time~~ Range	3	30	10	3	3		300					
DC-1	1.10 1.04	6.2 6.6	3.20 2.53	1.69 1.66	1.24 .96		179					
DC-2	1.63 1.65	6.9 6.7	2.55 2.27	1.71 1.75	.94 1.24		179					
Σ	2.73 2.69	11.9 11.9	5.75 4.80	3.40 3.41	2.22 2.22		358					
DC-3	1.07 1.05	6.3 6.3	2.27 2.54	1.70 1.75	1.29 .92		179					
Dc-4	1.52 1.59	6.2 6.6	3.57 3.29	1.75 1.66	.90 1.26		179					
Σ	3.18 3.18	12.8 12.8	5.84 5.83	3.45 3.41	1.19 2.18		358					
DC-AV	3.12	12.9	5.81	3.42	2.20		358					
AC-1	1.49	6.2	2.81	1.66	1.07		175					
AC-2	1.50	6.2	2.82	1.64	1.06		175					
Σ	2.99	12.4	5.63	3.32	2.13		350					
S. P.	→	-0.4	→	→	→							
AC-N	→	.2	→	→	→							
I.C.	→	51.6	→	→	→							

INDUCED POLARIZATION SENDER NOTES

Project: Bagdad Line: 7 W½ Date: 8-2-64

Send	34	45	23	34	45	12	23	34	45	12	23	34
Receive	12W →		23W →			34W →				45W →		
Time												
Range	1X6	1X6	1X6	1X6	1X6	1K6	1K6	1K6	1K5			
Current	6A	6A	6A	6A	6A	6A	6A	6A	5A	6	6	6
Send	45	12	23	34	45							
Receive	→	12W →										
Time												
Range												
Current	5	6	6	6	5							

INDUCED POLARIZATION SENDER NOTES

Project: Bagdad Line: 2 E 1/2 Date: 7-2-64

Send	23	12	34	23	12	45	34	23	12	45	34	23
Receive												
Time												
Range	6x1	6x1	6x1	6x1	6x1	6x1	6x1	6x1	6x1	6x1	6x1	6x1
Current	6A	6A	6A	6A	6A	6A	6A	6A	6A	6A	6A	6A
Send	12	45	34	23	12		12	45				
Receive												
Time												
Range	6x1	6x1	6x1	6x1	6x1							
Current	6A	6A	6A	6A	6A			3A				

.978 .969

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bagdad Line 7-W½ Field date 8/3/68 Data page_____ Comp. date 8/3/68. Comp by C.S.L.

(A) Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
(B) Receive	1-2W	→	2-3W	→	→	3-4W	→	→	→	4-5W	→	→
(C) n separation Range	300	30	300	30	30	300	100	30	10	30	30	10
(D) I	6000	6000	6000	→	→	→	→	→	5000	6000	→	→
(E) Vdc (avg)	22.3	96.0	160	48.0	15.9	16.6	51.2	24.6	9.75	41.3	16.2	11.55
(F) DCcal used	.843											
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρdc=ExFxGx10^3/D	94.0	77.6	67.4	81.0	67.0	69.9	86.3	104	98.6	69.8	78.7	97.5
(I) Vac Σ	2.12	45.0	1.52	46.4	15.4	15.5	47.4	23.4	9.35	39.5	17.7	11.10
(J) AC noise x 2												
(K) Vac(corr) =$\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.978	1.000	.978	1.000	1.000	.978	.970	1.000	1.000	1.000	→	→
(M) ρdc/ρac=ExL/K	1.029	1.022	1.030	1.034	1.032	1.046	1.047	1.050	1.040	1046	1056	1041
(N) PFE=(M-1)(10^2)	2.9	2.2	3.0	3.4	3.2	4.6	4.7	5.0	4.0	4.6	5.6	4.1
(O) MCF=(M-1)(10^5)/H	31	28	45	42	44	66	54	48	41	66	71	42

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5	1-2	2-3	3-4	4-5		C 1-2					
(B) Receive	→	5-6W	→	→	→		1-2					
(C) n separation	10	30	10	10	3		300					
(D) I	5000	6000	→	→	5000		7000					
(E) Vdc (avg)	5.32	16.2	10.22	6.72	4.01		356					
(F) DCcal							.843					
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρdc=ExFxGx10^3/D	94.0	69.2	86.3	102	113							
(I) Vac Σ	5.10	15.5	9.72	6.60	3.85		348					
(J) AC noise x 2												
(K) Vac (corr) =$\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→		.978					
(M) ρdc/ρac =ExL/K	1.042	1045	1.051	1.048	1040							
(N) PFE=(M-1)(10^2)	4.2	4.5	5.1	4.8	4.0							
(O) MCF=(M-1)(10^5)/H	45	66	59	47	35							

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bryfed Line 7-E½ Field date 8/4/64 Data page_____ Comp. date 8/4/64. Comp by C.S.L.

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	1-2E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
(C) ~~n separation~~ Range	300	30	300	100	30	300	30	30	10	30	10	10
(D) I	6000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	206	45.9	195	51.2	18.2	195	48.7	20.3	9.49	26.5	10.09	5.13
(F) DCcal USED	.838	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	86.3	77.1	81.7	86.0	76.3	81.7	81.7	85.0	79.5	44.5	42.2	43.0
(I) Vac Σ	196	44.8	182	46.6	17.2	179	46.4	19.2	8.98	25.5	9.69	4.84
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.978	1.000	.978	.970	1.000	.978	1.000	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1.029	1.024	1.047	1.064	1.059	1.065	1.051	1.058	1.058	1.040	1.041	1.059
(N) PFE=(M-1)(10^2)	2.9	2.4	4.7	6.4	5.9	6.5	5.1	5.8	5.8	4.0	4.1	5.9
(O) MCF=(M-1)(10^5)/H	34	31	58	74	77	80	62	68	73	90	97	137

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	4-5	3-4	2-3	1-2		CAL					
(B) Receive	→	5-6E	→	→	→		4-5					
(C) n separation	3	30	10	3	3		300					
(D) I	→	→	→	→	→		3000					
(E) Vdc (avg)	3.12	12.9	5.81	3.42	2.20		358					
(F) DCcal	→	→	→	→	→		.838					
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρ dc=ExFxGx10^3/D	45.7	54.1	48.7	50.2	51.7							
(I) Vac Σ	2.99	12.4	5.63	3.32	2.13		350					
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→		.978					
(M) ρdc/ρac =ExL/K	1.043	1.040	1.031	1.030	1.032							
(N) PFE=(M-1)(10^2)	4.3	4.0	3.1	3.0	3.2							
(O) MCF=(M-1)(10^5)/H	94	74	64	60	62							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Baghdad Line: 8 - E ½ Int.Cal Date: 8/5/64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
Time	300	30	300	100	30	300	100	30	10	100	30	10
DC-1	115	19.8 16.8	79	21.4	6.5 6.3	106	25.5	12.9	4.00	22.6	9.9	5.82
DC-2	114	16.5 19.9	80	21.7	6.6 6.6	108	24.3	11.6	4.02 4.00	24.7	9.4	5.82 6.00
Σ	229	36.6 36.7	159	43.5	13.19	214	53.8	24.5	8.02 8.00	47.3	19.3	11.82 11.82
DC-3	115	19.9 16.3	79	21.7	6.6 6.5	108	28.3	11.6	4.05 4.00	22.7	9.4	5.91
Dc-4	114	16.7 20.0	80	21.8	6.7 6.7	106	25.3	12.9	5.99 4.00	24.6	9.9	5.99
Σ	229	36.5 36.5	159	43.5	13.3	214	53.6	24.5	9.99 8.00	47.3	19.3	11.89
DC-AV	229	38.7	159	43.5	13.0	214	53.7	24.5	8.01	47.3	19.3	11.81
AC-1	110	19.1	76	20.3	6.4	103	25.4	11.9	3.90	22.3	9.5	5.75
AC-2	110	19.1	76	20.3	6.4	103	25.4	11.9	3.90	22.4	9.5	5.78
Σ	220	38.2	152	40.6	12.8	206	50.8	23.8	7.80	44.7	19.0	11.56
S. P.	+3.4	→	-2.4	→	→	-3.0	→	→	→	-8.5	→	→
AC-N	.06	→	.07	→	→	.05	→	→	→	.18	→	→
I.C.	51.4	→	51.2			51.0	→	→	→	51.1	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Baghdad Line: 8 - E 2 Int.Cal Date: 8/5/68

Send	1-2	4-5	3-4	2-3	1-2		CAL					
Rec.	→	5-6E	→	→	→		4-5					
Time	3	30	10	10	3		300					
DC-1	3.30 3.14	7.1	3.50 3.90	2.63 2.35			18.10					
DC-2	2.18 2.36	7.6	3.90 3.50	2.35 2.60			18.3					
Σ	4.48 4.50	14.7	7.40 7.40	4.95 4.95			36.7					
DC-3	2.34 2.16	7.1	3.50	2.60 2.38			17.9					
Dc-4	2.23 2.43	7.6	3.90	2.38 2.57			18.4					
Σ	4.57 4.59	14.7	7.40	4.95 4.95			36.7					
DC-AV	4.54	14.7	7.40	4.96			36.7					
AC-1	2.26	7.1	3.60	2.40			17.8					
AC-2	2.26	7.2	3.60	2.40			17.9					
Σ	4.52	14.3	7.20	4.80			35.7					
S. P.	→	+9.6	→	→	→							
AC-N	→	.05	→	→	→							
T.C.	→	51.2	→	→	→							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 8 - W½ Int.Cal Date: 8/6/64

Send	7-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	1-2W	→	2-3W	→	→	3-4W	→	→	→	4-5W	→	→
~~Time~~ Range	300	100	300	100	30	100	30	30	10	30	30	30
DC-1	108	21.9	75	23.7	9.1	46.1	21.1 21.1	9.7 9.3	4.42 4.39	20.4 20.1	13.6 11.8	6.7 6.8
DC-2	108	22.9	75	23.2	8.6	46.1	21.3 21.1	9.5 9.7	4.40 4.43	21.0 21.5	11.8 13.7	6.4 6.3
Σ	216	44.8	150	46.9	17.7	92.2	42.4 42.2	19.2 19.0	8.82 8.82	41.4 41.6	25.4 25.5	13.5 13.1
DC-3	108	22.0	75	23.2	8.6	46.1	20.9 21.1	9.5 9.4	4.45 4.36	21.0 21.5	13.8 11.7	6.2 6.5 7.2
Dc-4	108	22.8	75	23.7	9.1	46.1	21.3 21.1	9.4 9.4	4.32 4.43	20.1 19.8	11.5 13.5	7.2 6.6 6.2
Σ	216	44.8	150	46.9	17.7	92.2	42.2 42.2	18.9 18.8	8.77 8.79	41.1 41.3	25.3 25.3	13.4 13.1 13.4
DC-AV	216	44.8	150	46.9	17.7	92.2	42.2	18.9	8.80	41.3	25.3	13.3
AC-1	104	21.0	72	22.0	8.6	43.9	20.7	9.2	4.25	20.2	12.3	6.4
AC-2	104	21.0	72	22	8.6	44.0	20.8	9.2	4.26	20.3	12.3	6.3
Σ	208	42.0	144	44.0	17.2	87.9	41.5	18.4	8.51	40.5	24.6	12.7
S. P.	-9.4	→	-26.9	→	→	-4.7	→	→	→	-12.5	→	→
AC-N	.02	→	.03	→	→	.05	→	→	→	.02	→	→
I.C.	51.7	→	51.7	→	→	51.7	→	→	→	51.6	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 8 - W½ Int.Cal Date: 8/6/64

Send	4-5	1-2	2-3	3-4	4-5		CAL					
Rec.	→	5-6W	→	→	→		1-2					
~~Time~~ Range	10	30	10	10	3		300					
DC-1	3.20 3.77	7.8 7.0	5.90 5.73	3.11 3.92	1.78 2.16		17.9					
DC-2	3.77 3.05	6.9 7.8	5.60 5.66	3.80 2.90	2.09 1.62		17.8					
Σ	6.97 6.82	14.7 14.6	11.51 11.39	6.81 6.82	3.87 3.78		35.7					
DC-3	3.23 3.23 3.59 3.47	7.8 7.7 6.9 7.0	5.64 5.52 6.01 6.09	2.96 3.16 3.80 3.12	1.68 1.79 2.07 1.99		17.9					
Dc-4	3.56 3.50 3.20 3.27	6.4 7.0 7.8	6.00 6.02 5.94	3.80 3.10 3.12	2.09 1.76 1.73 1.76		17.8					
Σ	6.89 6.73 6.79 6.74	14.3 14.7 14.3	11.64 11.54 11.45	6.80 6.86 6.92	3.77 3.75 3.80 3.75		35.7					
DC-AV	6.80	14.7	11.50	6.84	3.77		35.7					
AC-1	3.25	7.0	5.50	3.25	1.80		17.4					
AC-2	3.26	7.0	5.51	3.23	1.81		17.3					
Σ	6.51	14.0	11.01	6.48	3.61		34.7					
S. P.	→	-22.1	→	→	→							
AC-N	→	.02	→	→	→							
	→	51.4	→	→	→							

INDUCED POLARIZATION SENDER NOTES

Project: Bastad Line: 8 - E½ Date: _____

Send	23	1L	34	23	12	45	34	23	1L	45	34	23
Receive	1L E	→	23E	→	→	34E	→	→	→	45E	→	→
Time												
Range	6X											
Current	6A	5A	6A	6A	6A	6A	6A	6A	5A	6A	6A	6A
Send	12	45	34	23	12			Cal	45			
Receive	→	56E	→	→	→							
Time												
Range												
Current	5A	6A	6A	6A	—							

INDUCED POLARIZATION SENDER NOTES

project: Bagdad Line: 8 W½ Date: 8-[illegible]-71

Send	34	45	23	34	48	12	23	34	45	12	[illegible]	34
Receive	12 W →		23W	→		34W →			→	45 W	→	
Time												
Range												
Current	6A	6A	6A	6A	6A	CA	6A	6A	6A	6A	6A	6A
Send	45	12	23	34	45		Cal	12				
Receive	→	5CW →			→							
Time												
Range												
Current	6A	6A	6A	6A	6A		3A					

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bagdad Line 8 E½ Field date 8-5-64 Data page_____ Comp. date 8-5-64. Comp by KH&CSL

(A) Send	23	12	34	23	12	45	34	23	12	45	34	23
(B) Receive	12E →		23E →									
(C) n separation	300	30	300	100	30	300	100	30	30	100	30	10
(D) I	6000	5000	6000 →						5000	6000	→	
(E) Vdc (avg)	229	38.7	159	43.5	13.0	214	53.7	24.5	8.01	47.3	19.3	11.81
(F) DCcal 818	→											
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	93.7	76.0	65.1	71.2	53.2	87.6	87.9	100	78.5	77.5	79.0	96.7
(I) Vac Σ	220	38.2	15.2	40.6	12.8	206	50.8	23.8	7.8	44.7	19.0	11.56
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.974	.995	.974	.966	.995	.974	.966	.995	→	.966	.995 →	
(M) ρ dc/ρac=ExL/K	1.012	1.008	1.019	1.032	1.010	1.013	1.022	1.023	1.020	1.021	1.011	1.018
(N) PFE=(M-1)(10^2)	1.2	.8	1.9	3.2	1.0	1.3	2.2	2.3	2.0	2.1	1.1	1.8
(O) MCF=(M-1)(10^5)/H	13	11	29	45	19	15	25	23	26	27	14	19

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	12	45	34	23								
(B) Receive												
(C) n separation	3	30	10	10								
(D) I	5000	6000 →										
(E) Vdc (avg)	4.54	14.7	7.4	4.96		367						
(F) DCcal	→					.818						
(G) Kn x 10^{-3}	105	30	60	105								
(H) ρ dc=ExFxGx10^3/D	78.0	60.1	60.6	70.9								
(I) Vac Σ	4.52	14.3	7.2	4.8		357						
(J) AC noise x 2	.34											
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→					.974						
(M) ρdc/ρac =ExL/K	1.000	1.022	1022	1.028								
(N) PFE=(M-1)(10^2)	0	2.2	2.2	2.8								
(O) MCF=(M-1)(10^5)/H	0	37	36	40								

$\frac{300}{\cancel{367}}$ .818(367)

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page _____

Project Bagdad Line 8 W½ Field date 8-6-64 Data page _____ Comp. date 8-6-64. Comp by CSCollins

(A) Send	34	45	23	34	45	12	23	34	45	12	23	34
(B) Receive	12W	→	23W	→	→	34W	→	→	→	45W	→	→
(C) n separation	3a	1a	3a	1a	2a	1a	3a	→	1a	3a	→	→
(D) I	6000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	216	44.8	150	46.7	12.7	92.2	42.2	18.5	8.80	41.3	25.3	13.3
(F) DCcal .841	→	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	90.9	75.3	63.1	78.8	74.5	38.8	71.0	79.5	74.0	69.3	106	112
(I) Vac Σ	208	42.0	144	44.0	12.2	82.9	41.5	18.4	8.31	40.5	24.6	12.7
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.973	965	.973	965	995	965	995	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1.011	1.028	1.011	1.028	1.024	1.014	1.011	1.021	1.029	1.015	1.022	1.039
(N) PFE=(M-1)(10^2)	1.1%	2.8%	1.1%	2.8%	2.4%	1.4%	1.1%	2.1	2.9	1.5	2.2	3.9
(O) MCF=(M-1)(10^5)/H	12.0	37.	17	36	32	36	15	26	39	22	21	35

Project _____ Line _____ Field date _____ Data page _____ Comp. date _____ Comp by _____

(A) Send	45	12	23	34	45		801-12					
(B) Receive	→	56W	→	→	→							
(C) n separation	1a	3a	1a	1a	3		300					
(D) I	→	→	→	→	→							
(E) Vdc (avg)	6.80	14.7	11.58	6.84	3.72		357					
(F) DCcal	→	→	→	→	→		.841					
(G) Kn x 10^{-3}	105	30	60	105	1cx							
(H) ρ dc=ExFxGx10^3/D	100	61.8	96.5	101	88.6							
(I) Vac Σ	6.51	14.0	11.01	6.48	3.61		347					
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→		.973					
(M) ρdc/ρac =ExL/K	1.039	1.044	1.040	1.050	1.040							
(N) PFE=(M-1)(10^2)	3.9	4.4	4.0	5.0	4.0							
(O) MCF=(M-1)(10^5)/H	59	71	41	50	45							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 9-W½ Int.Cal Date: 6/17/64

Send	2-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
Rec.	1-2W	→	2-3W	→	→	3-4W			→	4-5W	→	
Time	100	30	100	100	30	100	30	30	30	30	30	30
DC-1	54.3	20.1 20.5	66.5	22.5 22.7	12.1 12.2	43.1	17.0 17.0	10.0 10.5	5.4 5.4	11.8 13.1	7.3 7.7	5.4 5.5
DC-2	52.5	20.5 19.9	70.6	24.4 24.7	11.8 11.8	42.9	16.6 16.6	10.9 10.0	5.9 5.9	13.0 16.2	7.8 7.5	5.5 5.4
Σ	106.8	40.6 40.4	139.1	46.9 46.6	23.9 24.0	86.0	33.6 33.6	20.9 20.5	11.3 11.3	24.8 24.8	15.1 15.2	10.9 10.9
DC-3	52.5	19.9 20.7	70.6	24.4	11.8 11.9	42.9	16.6	10.1 10.6	5.9	11.7 13.2	7.5 7.8	5.4 5.4
Dc-4	54.3	20.6 19.6	68.5	22.3	12.1 12.1	43.1	17.0	10.4 10.0	5.4	13.1 11.6	7.7	5.4 5.5
Σ	106.8	40.5 40.5	139.1	46.7	24.0 24.0	86.0	33.6	20.6 20.6	11.3	24.8 24.8	15.2	10.9 10.9
DC-AV	106.8	40.4	139.1	46.7	24.0	86.0	33.6	20.5	11.3	24.8	15.2	10.9
AC-1	50.7	19.6	66.5	22.0	11.5	41.0	16.3	9.9	5.4	12.0	7.3	5.1
AC-2	50.9	19.7	66.6	22.0	11.6	41.0	16.3	9.9	5.3	12.0	7.3	5.2
Σ	101.6	39.3	133.1	44.0	23.1	82.0	32.6	19.8	10.7	24.0	14.6	10.3
S. P.	-21.7	→	-7.8	→	→	-17.6	→	→	→	-30.3	→	→
AC-N	.04	→	.03	→	→	.05	→	→	→	.04	→	→
E.C.	51.7	→	51.7	→	→	51.7	→	→	→	51.7	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 9-W½ Int.Cal Date: 8/7/84

Send	4-5	1-2	2-3	3-4	4-5		CAL					
Rec.	→	5-6W	→	→	→		1-2					
~~Time~~ Range	10	30	10	10	10		300					
DC-1	3.41 3.38	7.8 7.2	6.11 5.33	4.15 4.60	2.60 2.46		178					
DC-2	3.27 3.33	7.3 7.8	5.33 6.07	4.60 4.18	2.48 2.77		179					
Σ	6.68 6.71	15.1 15.0	11.44 11.40	8.75 8.78	5.24 5.23		357					
DC-3	3.35 3.36	7.8	6.17 5.30	4.20 4.53	2.82 2.50		179					
Dc-4	3.35 3.36	7.3	5.24 6.02	4.53 4.20	2.45		178					
Σ	6.68 6.72	15.1	11.31 11.32	8.73 8.73	5.27		357					
DC-AV	6.70	15.07	11.37	8.75	5.25		357					
AC-1	3.20	7.2	5.43	4.19	2.49		174					
AC-2	3.18	7.2	5.45	4.18	2.49		174					
Σ	6.38	14.40	10.88	8.37	4.98		348					
S. P.	→	-20.0	→	→	→							
AC-N	→	.05	→	→	→							
I.C.	→	51.7	→	→	→							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 9-E½ Int.Cal Date: 8/6/84

Send	2-3	1-2	3-4	2-3	1-2	1-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	1-2E	→	3-4E	→	→	3-6E	→	→	→	1-5E		
Time	100	30	100	30	30	100	30	30	10	30	30	30
DC-1	56.0	19.6 19.8	56.0	20.0 20.3	7.9	30.4	16.3	7.7 7.1	3.59 3.65	20.2	14.0	7.3 7.2
DC-2	56.0	19.9 19.6	55.0	20.7 19.9	8.7	31.3	16.2	7.0 7.7	3.65 3.57	20.2	14.0	7.7 7.7
Σ	112.0	39.5 39.4	111.0	40.7 40.6	16.6	61.7	32.5	14.7 14.8	7.24 7.22	40.4	28.0	14.6 14.5
DC-3	56.0	19.7 19.9	55.0	20.1 20.3	8.7 7.9	31.3 30.2	16.2	7.7 7.0	3.57 3.70	20.2	14.0	7.3 7.3
Dc-4	56.0	19.8 19.7	56.0	20.8 19.8	7.9 8.7	30.2 31.1	16.3	7.0 7.8	3.68 3.54	20.2	14.0	7.2
Σ	112.0	39.5 39.5	111.0	40.9 40.5	16.6 16.6	61.5 61.7	32.5	14.7 14.8	7.24	40.4	28.0	14.6.5
DC-AV	112.0	39.5	111.0	40.7	16.6	61.6	32.5	14.75	7.24	40.4	28.0	14.55
AC-1	52.6	19.1	52.2	19.6	7.9	29.0	15.8	7.1	3.47	19.7	13.6	7.0
AC-2	52.8	19.2	52.2	19.6	7.9	29.1	15.8	7.1	3.49	19.7	13.6	6.9
Σ	105.4	38.3	104.4	39.2	15.8	58.1	31.6	14.20	6.96	39.4	27.2	13.90
S. P.	+24.7	→	-20.7	→	→	-37.4	→	→	→	-27.0	→	→
AC-N	.03	→	.03	→	→	.02	→	→	→	.03	→	→
I.C.	51.8	→	51.8	→	→	51.7	→	→	→	51.7	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bayhead Line: 9-E½ Int.Cal Date: 5/8/66

Send	1-2	1-5	3-4	2-3	1-2		CAL					
Rec.	→	5-6E	→	→	→		E-5					
Time	10	30	10	10	3		300					
DC-1	3.92 4.00	6.0	5.04 5.38	3.19 3.02	1.88 1.87		178					
DC-2	4.00 3.88	6.4	5.76 5.00	3.02 3.21	1.86 1.88		179					
Σ	3.92 3.88	12.4	10.80 10.38	6.21 6.23	3.74 3.75		357					
DC-3	3.90 4.02	6.4	5.00 5.83	3.22 3.00	1.89 1.85		179					
Dc-4	4.00 3.90	6.0	5.42 4.97	3.00 3.23	1.85 1.88		178					
Σ	3.92 3.92	12.4	10.42 10.80	6.22 6.23	3.70 3.72		357					
DC-AV	7.90	12.4	10.80	6.22	3.74		357					
AC-1	3.81	5.9	5.23	3.01	1.80		174					
AC-2	3.81	6.0	5.23	3.00	1.81		174					
Σ	7.62	11.9	10.46	6.01	3.61		348					
S. P.	→	-184	→	→	→							
AC-N	→	.07	→	→	→							
I. C.	→	51.6	→	→	→							

INDUCED POLARIZATION SENDER NOTES

project: Bagdad Line: 9 W½ Date:

Send	34	45	23	34	45	12	23	34	45	12	23	34
Receive	12W →		23W →			34W →				45W →		
Time												
Range												
Current	6A	6A →			6A →				6A	→		

Send	45	12	23	34	45							
Receive	→	56W →										
Time												
Range												
Current	→	6A →										

INDUCED POLARIZATION SENDER NOTES

project: Bagdad Line: 9 E2 (I hope) Date: 8-7-64?

Send	23	12	34	23	12	45	34	23	12	45	34	23
Receive	12E →		23E →			34E →				45E →		
Time												
Range												
Current	6A →		1A →			6A →				6A →		
Send	12	45	34	23	12		Cal					
Receive	→	5-45 →										
Time												
Range												
Current	→	6A →					3A					

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Beyond Line 9-W½ Field date 4/7/64 Data page_____ Comp. date 8/3/64. Comp by C.S.L.

(A) Send	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3	3-4
(B) Receive	1-2W	→	2-3W	→	→	2-3W	→	→	→	4-5W	→	→
(C) n separation Range	100	30	100	100	30	100	30	30	30	30	30	30
(D) I	6 000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg) 2	106.8	40.4	139.1	46.7	24.0	86.0	33.6	20.5	11.3	24.8	15.2	10.9
(F) DCcal USED .841	→	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	44.9	68.0	58.6	78.4	101	36.2	56.5	86.2	95.0	41.7	63.9	91.5
(I) Vac Σ 3	101.6	39.3	133.1	44.0	23.1	82.0	32.6	19.8	10.7	24.0	14.6	10.3
(J) AC noise x 2												
(K) Vac(corr) =$\sqrt{I^2 - J^2}$												
(L) AC-DC cal. 1	.967	.997	.967	→	.997	.967	.997	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1.016	1.026	1.010	1027	1.033	1.014	1.028	1.032	1.052	1.030	1.039	1.053
(N) PFE=(M-1)(10^2)	1.6	2.6	1.0	2.7	3.3	1.4	2.8	3.2	5.2	3.0	3.9	5.3
(O) MCF=(M-1)(10^5)/H	36	38	17	34	33	39	50	37	55	72	61	58

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5	1-2	2-3	3-4	4-5		C+L					
(B) Receive	→	5-6W	→	→	→		1-2					
(C) n separation	10	30	10	10	10		300					
(D) I	→	→	→	→	→		2000					
(E) Vdc (avg)	6.30	15.07	11.37	8.75	5.25		3570					
(F) DCcal	→	→	→	→	→		.841					
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρ dc=ExFxGx10^3/D	98.5	63.2	95.5	129	124							
(I) Vac Σ	6.38	14.4	10.88	8.37	4.98		348					
(J) AC noise x 2												
(K) Vac (corr) =$\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→		.975					
(M) ρdc/ρac =ExL/K	1.048	1.042	1.042	1.041	1.051							
(N) PFE=(M-1)(10^2)	4.8	4.2	4.2	4.1	5.1							
(O) MCF=(M-1)(10^5)/H	49	67	44	32	41							

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page _____

Project Baghdad Line 9 - E½ Field date 8/4/64 Data page _____ Comp. date 8/8/64 Comp by C.J.L.

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-3	4-5	3-4	2-3
(B) Receive	1-2E	→	2-3E	→	→	3-4E	→	→	→	4-5E	→	→
(C) n separation ~~Range~~	100	30	100	30	30	100	30	30	10	30	30	30
(D) I	6000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	112.0	39.5	111.0	40.7	16.6	61.6	32.5	14.75	7.25	40.4	25.0	14.55
(F) DCcal USED	.841	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	47.1	66.4	46.7	68.4	69.8	25.8	54.6	62.0	60.8	68.0	118.0	122.0
(I) Vac Σ	105.4	38.3	104.9	39.2	15.8	58.1	31.6	14.20	6.96	39.4	27.2	13.90
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.967	.997	.967	.997	.997	.967	.997	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1.028	1.028	1.027	1.035	1.049	1.025	1.024	1.035	1.040	1.024	1.025	1.043
(N) PFE=(M-1)(10^2)	2.8	2.8	2.7	3.5	4.9	2.5	2.4	3.5	4.0	2.4	2.5	4.3
(O) MCF=(M-1)(10^5)/H	59	42	58	51	70	97	44	56	66	35	21	35

Project _____ Line _____ Field date _____ Data page _____ Comp. date _____ Comp by _____

(A) Send	1-2	4-5	3-4	2-3	1-2		(4L					
(B) Receive	→	5-6E	→	→	→		4-5					
(C) n separation	60	30	10	10	3		300					
(D) I	→	→	→	→	→		3000					
(E) Vdc (avg)	7.90	12.4	10.80	6.22	3.74		357					
(F) DCcal	→	→	→	→	→		.841					
(G) Kn x 10^{-3}	105	30	60	105	168							
(H) ρ dc=ExFxGx10^3/D	116.0	52.2	90.6	91.6	88.3							
(I) Vac Σ	7.60	11.9	10.46	6.01	3.61		348					
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→		.975	300				
(M) ρdc/ρac =ExL/K	1.036	1.039	1.029	1.030	1.035							
(N) PFE=(M-1)(10^2)	3.6	3.9	2.9	3.0	3.5							
(O) MCF=(M-1)(10^5)/H	31	75	32	33	40							

East End Line 2

From Electrode #5:
N 25° W and 140' to location post of San 16.
N 85 W and 375' to S.W. corner of airport fence (fence runs approx N 50° E) and is 150' north of electrode.

From 1st Pot Hole (3rd N):
S 20° E and 360' to location post of San 17.
400' down line (Easterly) there is a ~~fence~~ N-S power line which terminates at the airport beacon, 100' North of line.

From 5th N:
N-S fence line 200' West of Sta.

West End Line 2

Drill rig moved to new location N 15° W from 3rd Pot hole.
Old drill location 200' from 2nd Pot hole

EAST END Line 2A

Pipe Line N. 35° E. at 4006' from center Electrode 5 is 20 ft from power line that goes to airport

Log Bagdad Ext. Project Newmont

Monday July 13, 1964 Bagdad

F.F.H + D.A - 4 hrs. Equipt Maintenance + 4 hrs Travel time

K.H. - 6 hrs Equipt. Maintenance 2 hrs. Computing + 7 hrs. Travel time

Tuesday July 14, 1964

F.F.H - D.A. + K.H. 3 hrs. Travel time 2 hrs. working with wire + electrode 3 hrs. reading East ½ of line 2 ½ hrs. locating line 2A

Wednesday July 15, 1964

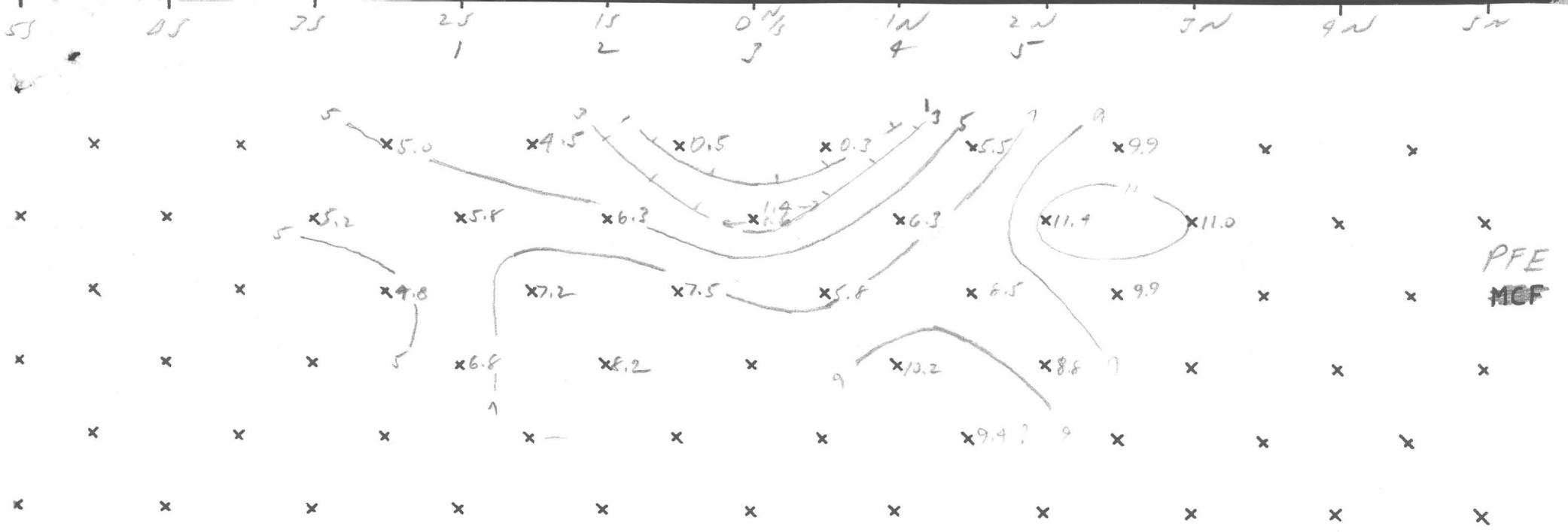
F.F.H - D.A. + K.H - 3 hrs Travel time 2 hrs. rechecking data on East ½, 1.5 hrs. laying out electrode points on line 2A. 2.5 hrs reading running West ½ of line 2

Thursday

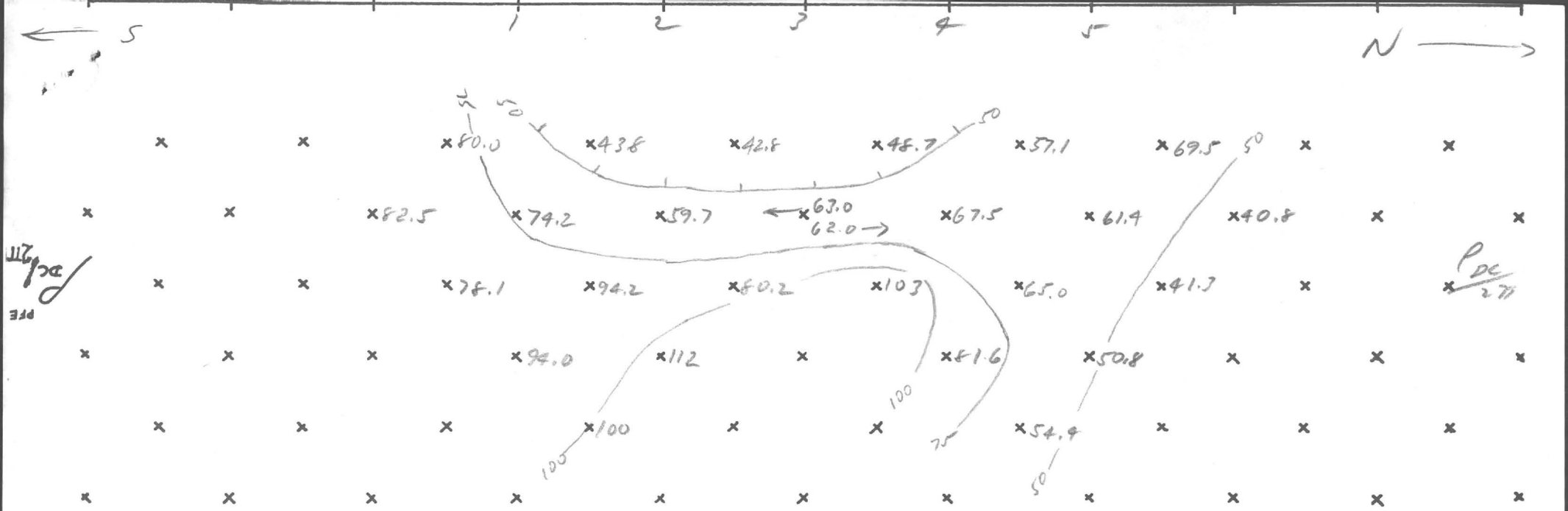
F.F.H - D.A. + K.H 3 hrs on east end of line 2. and lay electrode pits 1, 2 & 3 on line 2A. 3 hrs - 3 hrs travel time

Friday

3 hrs. Put in electrode 4 & 5 and put in all wire. Read from W. End ZA 3 hrs - 3 hrs travel time

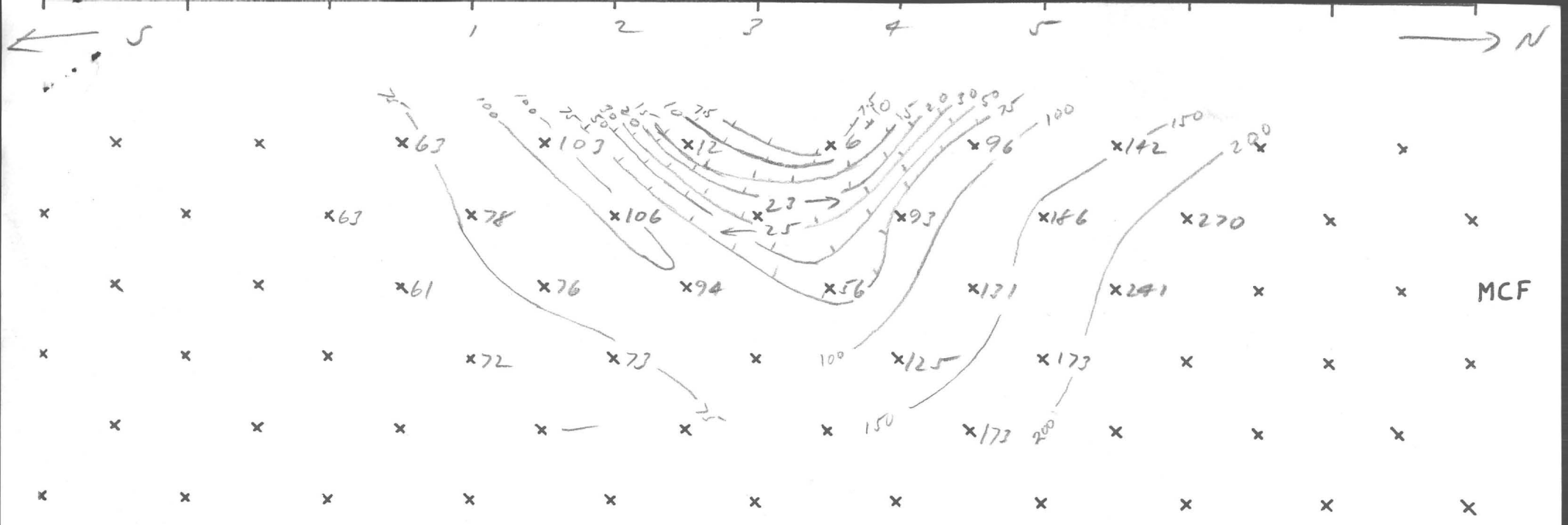


Area Bagdad Line 3 Scale 1" = 1000' Date 7/27/60

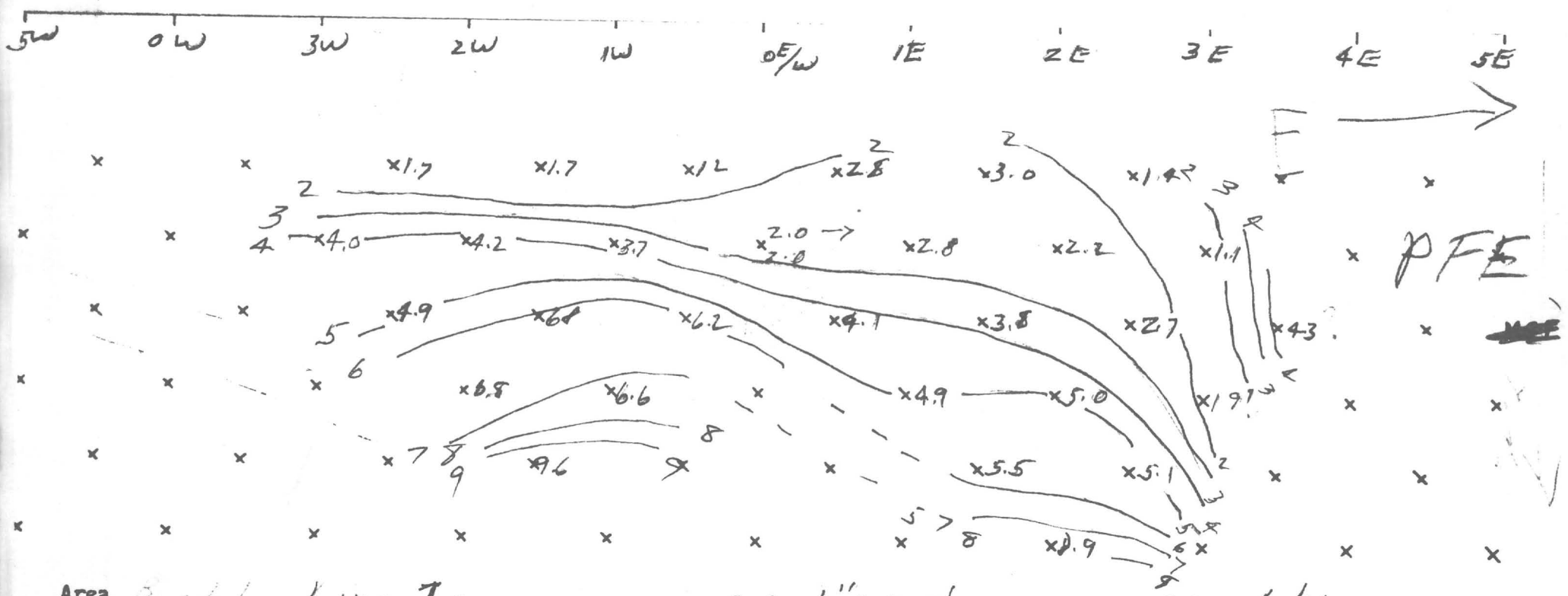


INDUCED POLARIZATION WORK SHEET

Bagdad Line 3 1" = 1000' 7/27/64

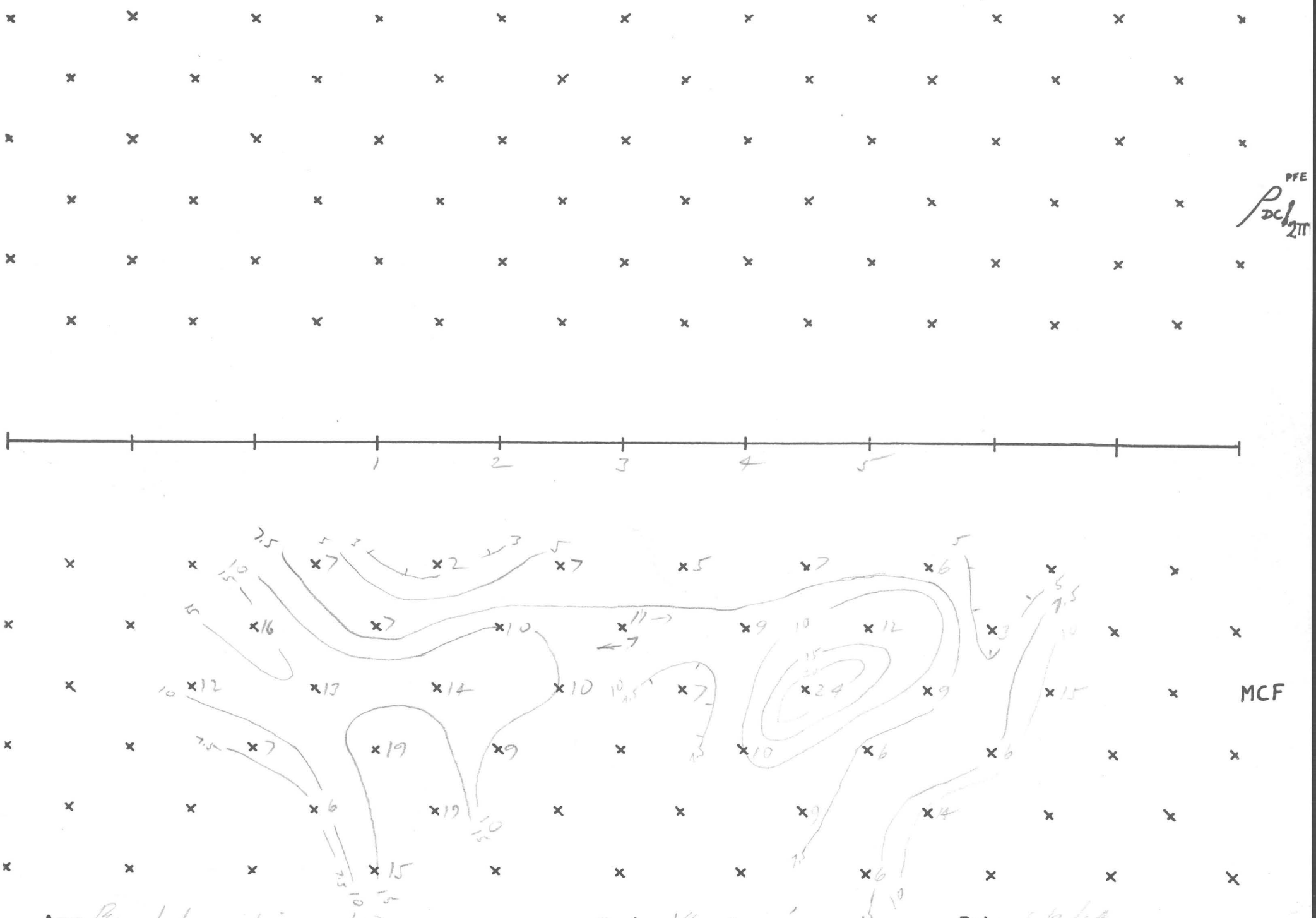


Area Bagdad Line 3 Scale 1" = 1000' Date 7/27/64



Area Bridal Line I - Scale 1" = 1000' Date 7/9/64

INDUCED POLARIZATION WORK SHEET



Area Bagdad Line 10 Scale 1" = 200' Date 7/9/68

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 10-E Int.Cal Date: 6/9/64

Send	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	2-3
Rec.	.2-.4E	→	.8-.6E		→	.6-.8E	→		→	.8-1.0E		
Time	300	100	300	100	30	300	300	100	30	100	100	30
DC-1	139	50.1	193	42.3	19.6 19.5	194	62	21.7	13.3 13.2	68.0	32.3	13.7
DC-2	140	51.4	187	37.9	19.2 19.4	196	64	22.2	13.1 13.1	64.7	32.1	12.7
Σ	279	101.5	380	80.2	38.8	390	126	43.9	26.4	132.7	64.4	27.4
DC-3	142	51.4	188	38.0	19.2	194	65	22.2	13.1	64.8	32.1	13.7
Dc-4	139	50.1	192	42.2	19.7	196	61	21.7	13.3	67.9	32.3	13.7
Σ	279	101.5	380	80.2	38.9	390	126	43.9	26.4	132.7	64.4	27.4
DC-AV	279	101.5	380	80.2	38.8	390	126	43.9	26.4	132.7	64.4	27.4
AC-1	135	48.0	183	38.2	19.0	188	60	20.9	12.8	63.3	30.4	13.4
AC-2	135	48.1	183	38.1	19.5	188	60	20.4	12.8	63.5	30.4	13.5
Σ	270	96.1	366	76.3	38.0	376	120	40.8	25.6	126.8	60.8	26.9
S. P.	+49.5	→	-51.5	→	→	-32.4	→	→	→	-34.6	→	→
AC-N	.11	→	.10	→	→	.01	→	→	→	.02	→	→
T.C.	51.0	→	51.9	→	→	51.7	→	→	→	51.8	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bagdad Line: 10-E½ Int.Cal Date: 7/16/64

Send	1-2	4-5	3-4	2-3	1-2		6+4					
Rec.	→	1.0-12E	→	→	→		4-5					
Time	30	100	30	30	10		100					
DC-1	6.9	24.3	15.1	6.8	5.02		45.7					
DC-2	8.4	24.2	15.4	7.0	5.20		45.7					
Σ	17.3	48.5	30.5	13.8	10.22		91.4					
DC-3	8.4	24.2	15.4	7.0	5.21		45.7					
Dc-4	8.9	24.3	15.1	6.8	5.01		45.7					
Σ	17.3	48.5	30.5	13.8	10.22		91.4					
DC-AV	17.3	48.5	30.5	13.8	10.22		91.4					
AC-1	8.4	22.7	14.9	6.7	4.99		43.9					
AC-2	8.9	22.8	15.0	6.7	4.99		43.8					
Σ	16.8	45.5	29.9	13.4	9.98		87.7					
S. P.	→	-76.5	→	→	→							
AC-N	→	.101	→	→	→							
I.C.	→	51.8	→	→	→							

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Bayard Line: 10 - W½ Int.Cal Date: 8/9/66

Send	2-0	1-5	2-3	3-0	4-5	1-2	2-3	3-0	4-5	1-2	2-3	3-0
Rec.	2-4N	→	0-6W	→	→	6-8W	→	→	→	8-10W	→	→
Time	300	100	300	100	30	300	100	100	30	100	30	30
DC-1	262	55.8 55.8	193	44.0	16.8 16.8	225	52.0	23.0	11.5 11.5	35.2 34.4	13.7	8.7 9.0
DC-2	257	57.8 57.8	150	41.6	16.8 16.9	219	44.6	24.0	11.1 11.1	39.8 40.0	13.1	8.9 8.5
Σ	519	113.6 113.7	293	85.6	33.6 33.7	444	96.6	47.0	22.6 22.6	74.8 74.8	26.8	17.6 17.5
DC-3	258	58.0	150	40.6	16.8	219	44.6	24.0	11.1	39.8 40.0	13.0	8.9 8.5
Dc-4	261	55.8	143	44.0	16.6	225	52.0	23.0	11.5	34.8 34.8	13.8	8.6 8.0
Σ	519	113.8	293	85.6	33.4	444	96.6	47.0	22.6	74.6 74.8	26.8	17.5 17.5
DC-AV	519	113.7	293	85.6	33.5	444	96.6	47.0	22.6	74.4	26.8	17.5
AC-1	250	53.9	142	42.1	16.4	217	46.0	22.1	11.1	35.1	13.1	8.5
AC-2	249	54.1	142	42.2	16.4	217	46.0	22.1	11.0	35.1	13.2	8.5
Σ	499	108.0	284	84.3	32.8	426	92.0	44.2	22.1	70.2	26.3	17.0
S. P.	-26.5	→	-41.5	→	→	-30.0	→	→	→	-35.1	→	→
AC-N	.02	→	.01	→	→	.06	→	→	→	.02	→	→
I. C.	51.7	→	51.8	→	→	51.7	→	→	→	51.7	→	→

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Dugbud Line: 10 - W Int.Cal Date: 4/16

Send	0-5	1-2	2-3	3-4	4-5		(All					
Rec.	→	1-2	→	→	→		1-2					
Time	10	100	30	30	20		100					
DC-1	5.00 4.95	28.0	13.9	9.3	5.3		46.1					
DC-2	4.93 5.01	28.0	13.2	9.3	5.7		46.1					
Σ	9.93	56.0	26.6	19.0	11.0		92.2					
DC-3	5.04 4.93	28.0	13.2	9.3	5.7		46.1					
Dc-4	4.92 5.05	28.0	13.4	9.7	5.3		46.1					
Σ	9.96	56.0	26.6	19.0	11.0		92.2					
DC-AV	9.97	56.0	26.6	19.0	11.0		92.2					
AC-1	4.84	26.3	13.0	9.3	5.3		44.3					
AC-2	4.85	26.3	13.0	9.2	5.3		44.3					
Σ	9.69	52.6	26.0	18.6	10.6		88.6					
S. P.	→	36.6	→	→	→							
AC-N	→	.02	→	→	→							
I.C.	→	51.)	→	→	→							

INDUCED POLARIZATION SENDER NOTES

project: _____ Line: _____ Date: _____

Send												
Receive												
Time												
Range												
Current												
Send												
Receive												
Time												
Range												
Current												

INDUCED POLARIZATION SENDER NOTES

Project: [illegible] Line: [illegible] Date: [illegible]

Send	34	45	[illegible]	[illegible]	[illegible]	12	[illegible]	34	45	[illegible]	[illegible]	[illegible]
Receive	[illegible]	→	[illegible]	[illegible]	→	[illegible]	[illegible]	[illegible]	→	[illegible]	[illegible]	[illegible]
Time												
Range												
Current		[illegible]	[illegible]	[illegible]	→	[illegible]	[illegible]	[illegible]	→	[illegible]	[illegible]	[illegible]
Send	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Receive	[illegible]	[illegible]	[illegible]	[illegible]	>	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Time												
Range												
Current	[illegible]	[illegible]	[illegible]	[illegible]	→	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bagdad Line 10-E½ Field date 8/9/64 Data page _____ Comp. date 8/9/64 Comp by CCL

(A) Send	2-3	1-2	3-4	2-3	1-2	4-5	2-4	2-3	1-2	4-5	3-4	2-3
(B) Receive	2-4E	→	4-6E	→	→	6-8E	→	→	→	.8-1.0E		
(C) ~~n separation~~ n	300	100	300	100	30	300	300	100	30	100	100	30
(D) I	2000	1800	2000	2000	1600	2000	2000	2000	1600	2000		
(E) Vdc (avg)	279	101.5	380	80.2	38.8	390	126	43.9	26.4	132.7	64.4	27.4
(F) DCcal USED	.980	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	.6	2.4	.6	2.4	6.0	.6	2.4	6.0	12	2.4	6.0	12
(H) ρ dc=ExFxGx10^3/D	82.0	132	112	94.3	143	115	148	129	194	156	189	161
(I) Vac Σ	270	96.1	366	76.3	38.0	376	120	40.8	25.6	126.8	60.8	26.9
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.971	.960	.971	.960	.990	.971	.971	.960	.990	.960	960	990
(M) ρ dc/ρac=ExL/K	1.004	1.015	1.008	1.009	1.010	1.007	1.014	1.031	1.020	1.005	1.017	1.009
(N) PFE=(M-1)(10^2)	.4	1.5	.8	.9	2.0	.7	1.8	3.1	2.0	.5	1.7	.9
(O) MCF=(M-1)(10^5)/H	5	11	7	9	7	6	12	24	10	3	9	6

Project _____ Line _____ Field date _____ Data page _____ Comp. date _____ Comp by _____

(A) Send	1-2	4-5	3-4	2-3	1-2		CAL					
(B) Receive	→	1.0-1.2E	→	→	→		4-5					
(C) n separation	30	100	30	30	10		100					
(D) I	1600	2000	→	→	1600		900	900				
(E) Vdc (avg)	17.3	48.5	30.5	13.8	10.2		71.4	92.4				
(F) DCcal	→	→	→	→	→		.985	.976				
(G) Kn x 10^{-3}	21	6	12	21	32.6		~	.980				
(H) ρ dc=ExFxGx10^3/D	222	143	179	142	210							
(I) Vac Σ	16.8	45.5	29.9	13.4	9.96		69.7	88.6				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.990	.960	.990	→	→		.960	.961				
(M) ρdc/ρac =ExL/K	1.019	1.022	1.010	1020	1.012							
(N) PFE=(M-1)(10^2)	1.9	2.2	1.0	2.0	1.2							
(O) MCF=(M-1)(10^5)/H	9	15	6	14	6							

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

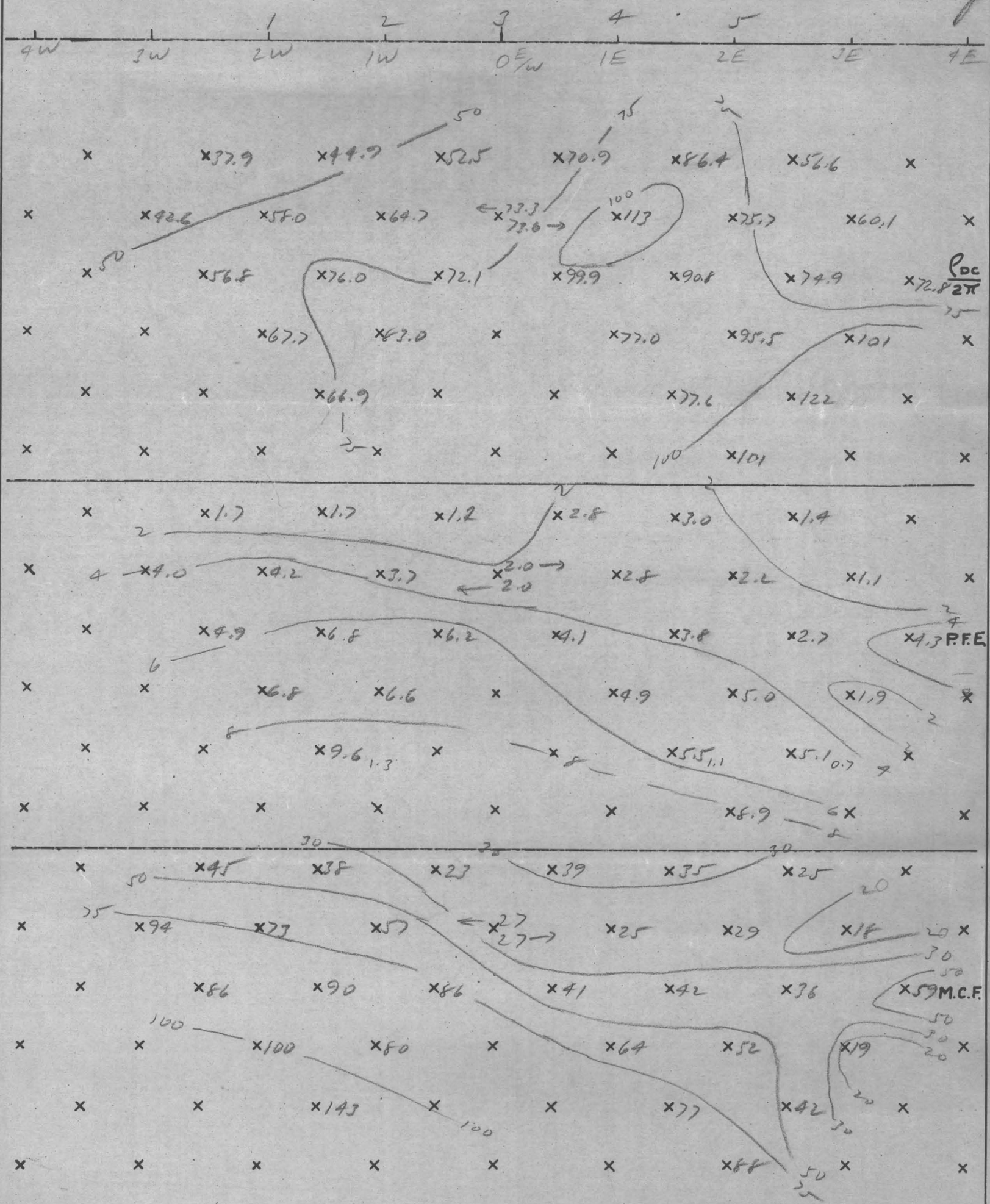
Project Bagdad Line 10 - W½ Field date 8/9/64 Data page_____ Comp. date 8/9/64. Comp by C.S.L.

(A) Send	J-4	4-5	2-3	J-4	4-5	1-2	2-3	J-4	4-5	1-2	2-3	J-4
(B) Receive	.2-.4W	→	.4-.6W	→	→	.6-.8W	→	→	→	.8-1.0W	→	→
(C) ~~n separation~~ Range	300	100	200	100	30	300	100	100	30	100	30	30
(D) I	2000	→	→	→	→	1600	2000	→	→	1600	2000	→
(E) Vdc (avg)	519	113.7	293	68.6	33.5	444	96.6	47.0	22.6	74.4	26.8	17.5
(F) DCcal 980	→	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	.6	2.4	.6	2.4	6	.6	2.4	6	12	2.4	6	12
(H) ρ dc=ExFxGx10^3/D	153	134	86.4	104	99.6	163	114	138	133	108	79.0	103
(I) Vac Σ	499	108.0	284	84.3	32.8	426	92.0	44.2	22.1	70.2	26.3	17.0
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.971	.960	.971	.960	.990	.971	.960	.960	.990	.960	.990	→
(M) ρ dc/ρac=ExL/K	1.011	1.010	1.002	1.010	1.010	1.011	1.008	1.020	1.012	1.017	1.010	1.019
(N) PFE=(M-1)(10^2)	1.1	1.0	.2	1.0	1.0	1.1	.8	2.0	1.2	1.7	1.0	1.9
(O) MCF=(M-1)(10^5)/H	7	7	2	10	10	7	7	14	9	16	13	19

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

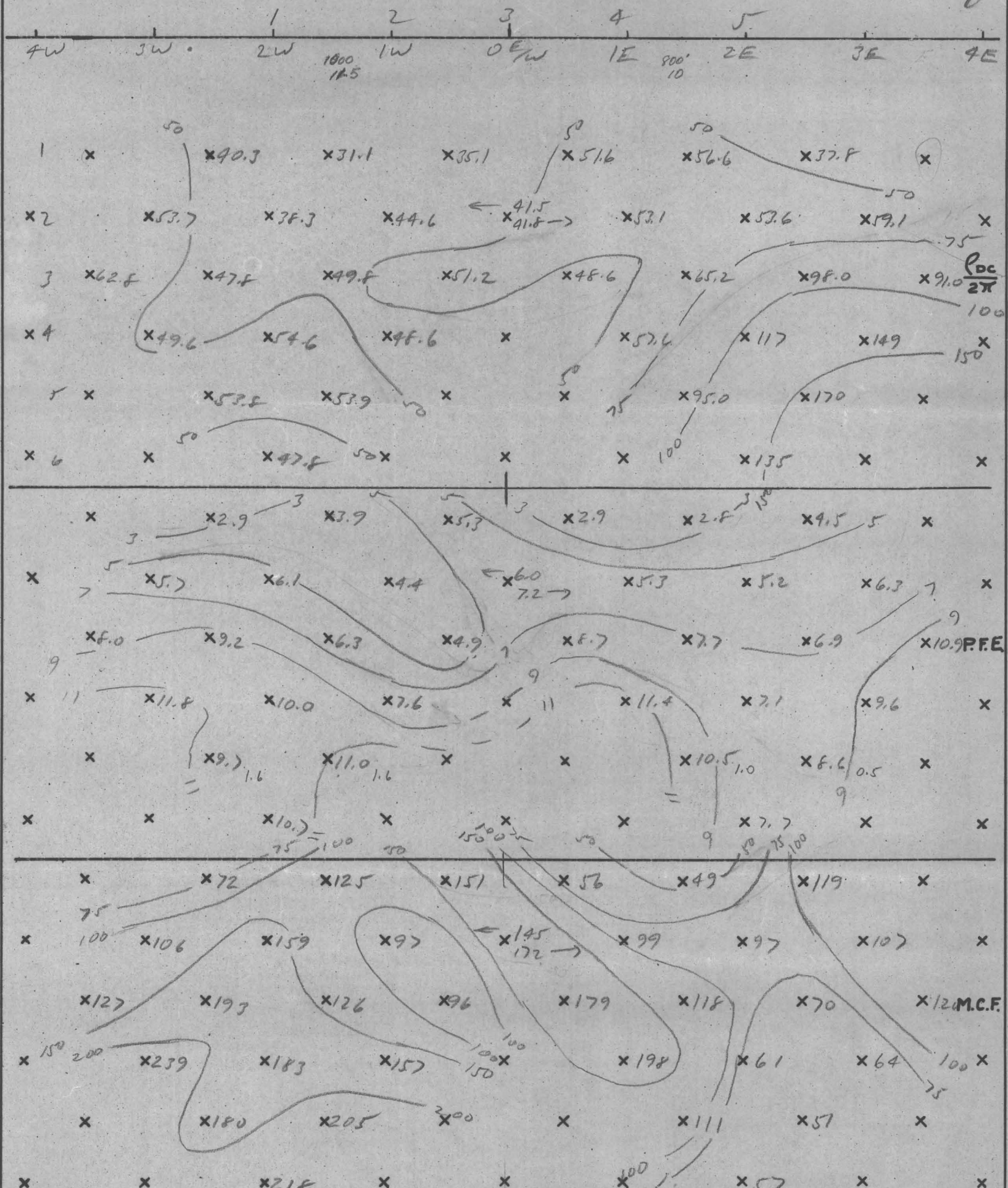
(A) Send	4-5	1-2	2-3	J-4	4-5		C4L					
(B) Receive	→	1.0-1.2W	→	→	→		1-2					
(C) n separation	10	100	30	30	30		100					
(D) I	→	1600	2000	→	→		See E ½					
(E) Vdc (avg)	9.97	56.0	26.6	19.0	11.0							
(F) DCcal	→	→	→	→	→							
(G) Kn x 10^{-3}	21	6	12	21	33.6							
(H) ρ dc=ExFxGx10^3/D	103	206	157	196	181							
(I) Vac Σ	9.69	52.6	26.0	18.6	10.6							
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	.960	990	→	→							
(M) ρdc/ρac =ExL/K	1.019	1.024	1011	1.011	1.028							
(N) PFE=(M-1)(10^2)	1.9	2.4	1.1	1.1	2.8							
(O) MCF=(M-1)(10^5)/H	19	12	7	6	15							

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Northerly



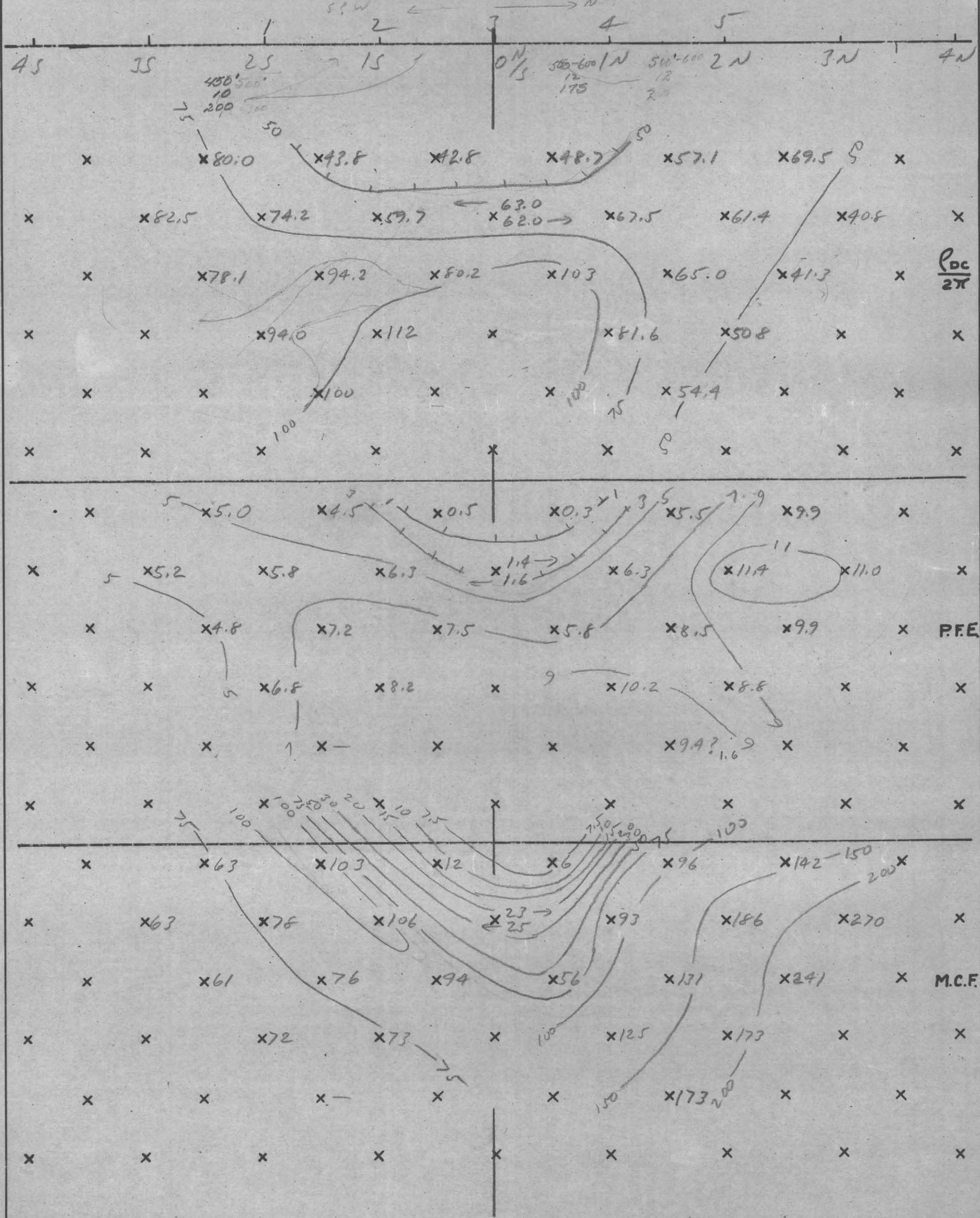
AREA Bagdad LINE 1 a = 1000' SCALE: 1" = 1000' DATE: 7/10/64

HEINRICHS GEOEX. - INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Northerly



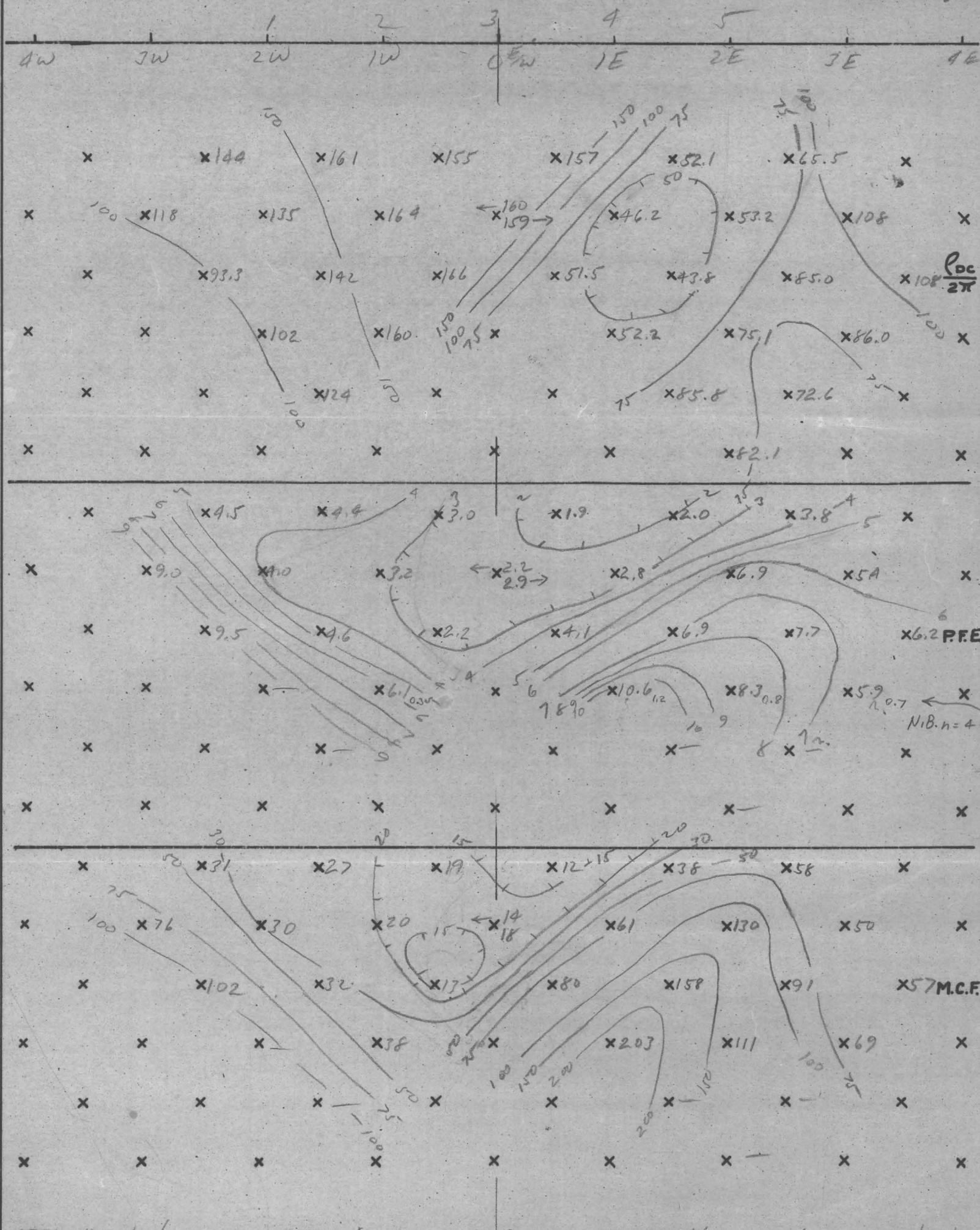
AREA Bugdad LINE 2 a = 1000' SCALE: 1" = 1000' DATE: 8/4/64

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Westerly



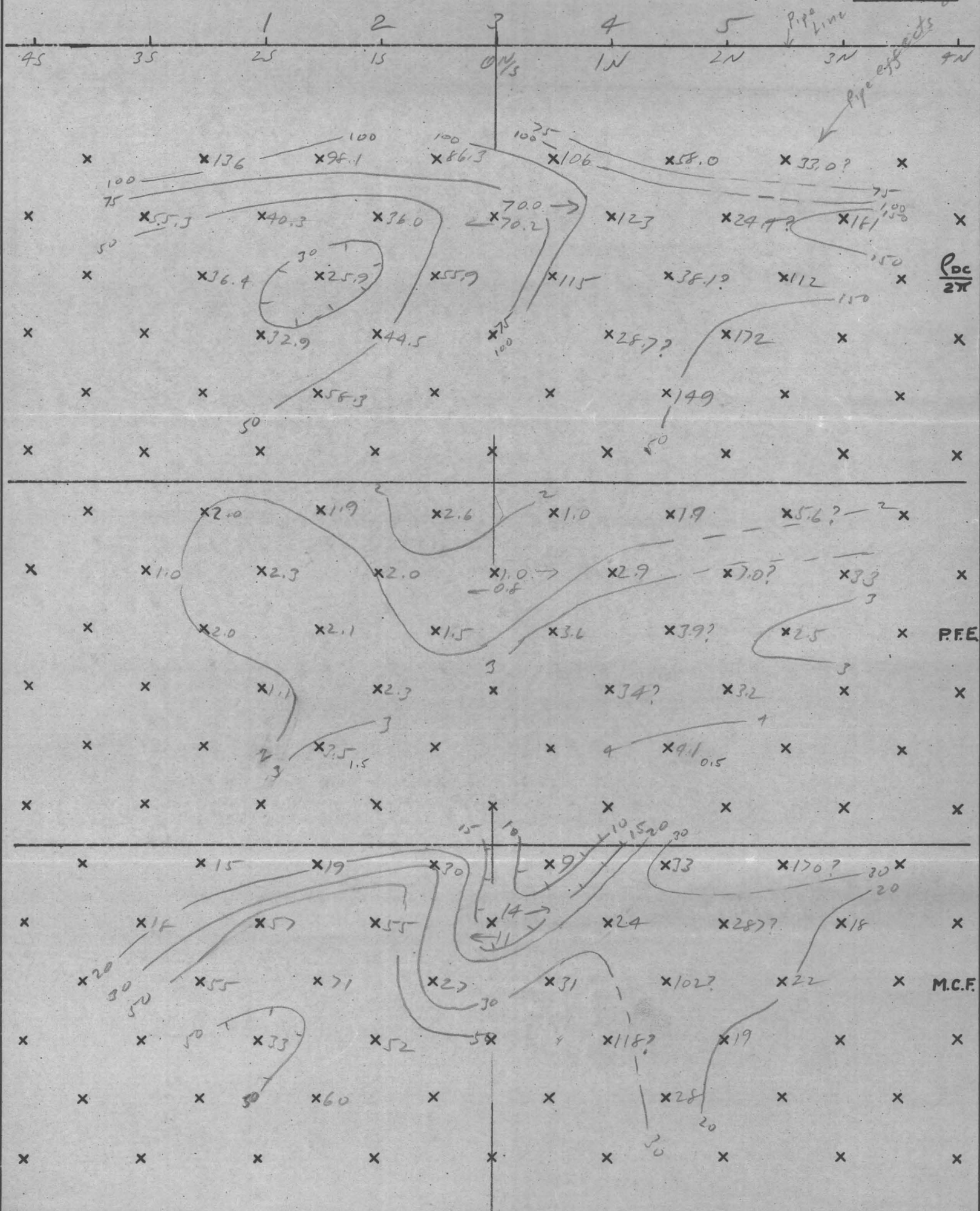
AREA Bagdad LINE 3 a = 1000' SCALE: 1" = 1000' DATE: 7/27/69

N85°E HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Northerly



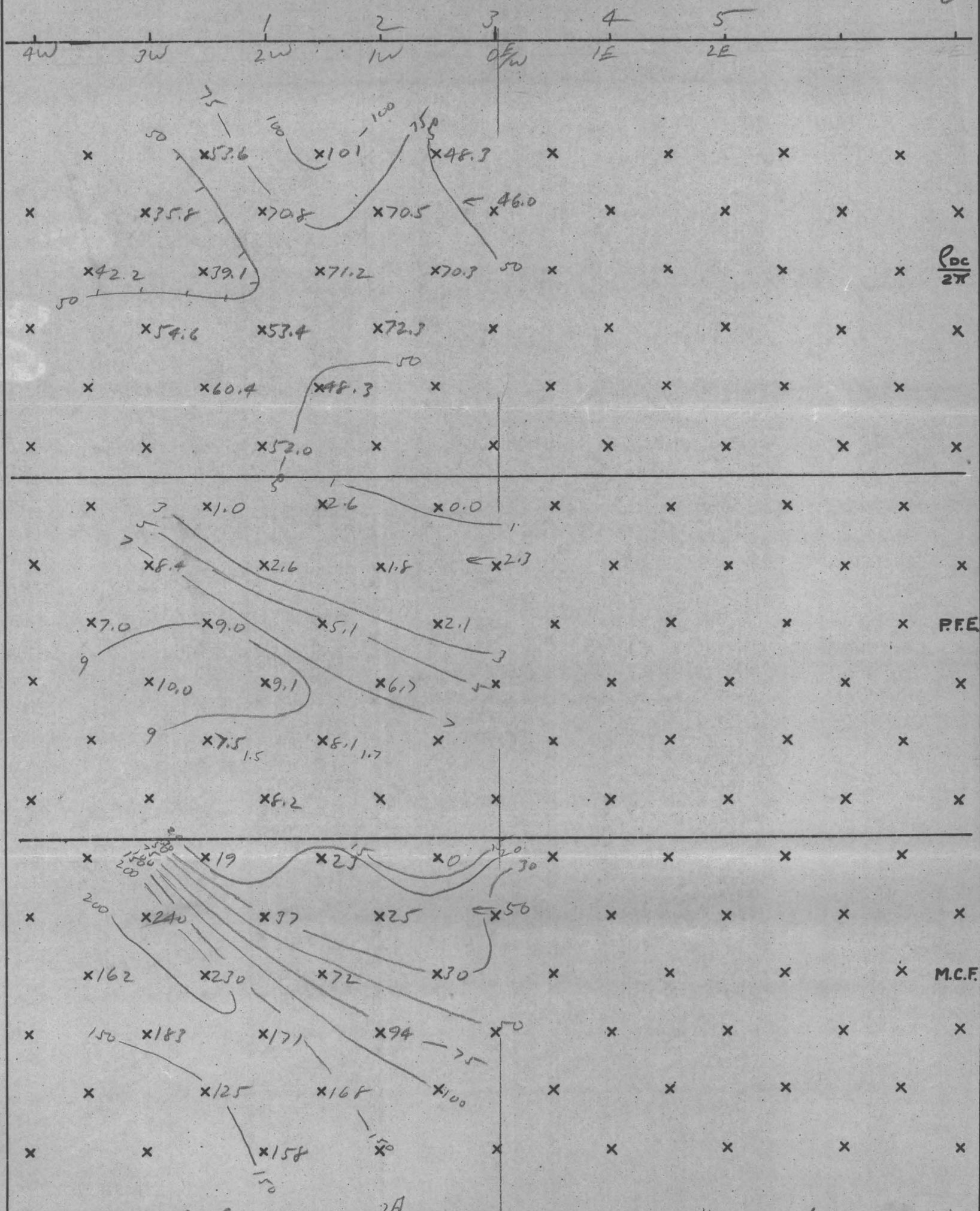
AREA Bagdad LINE 4 a = 1000.' SCALE: 1"=1000' DATE: 7/24/64

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Westerly



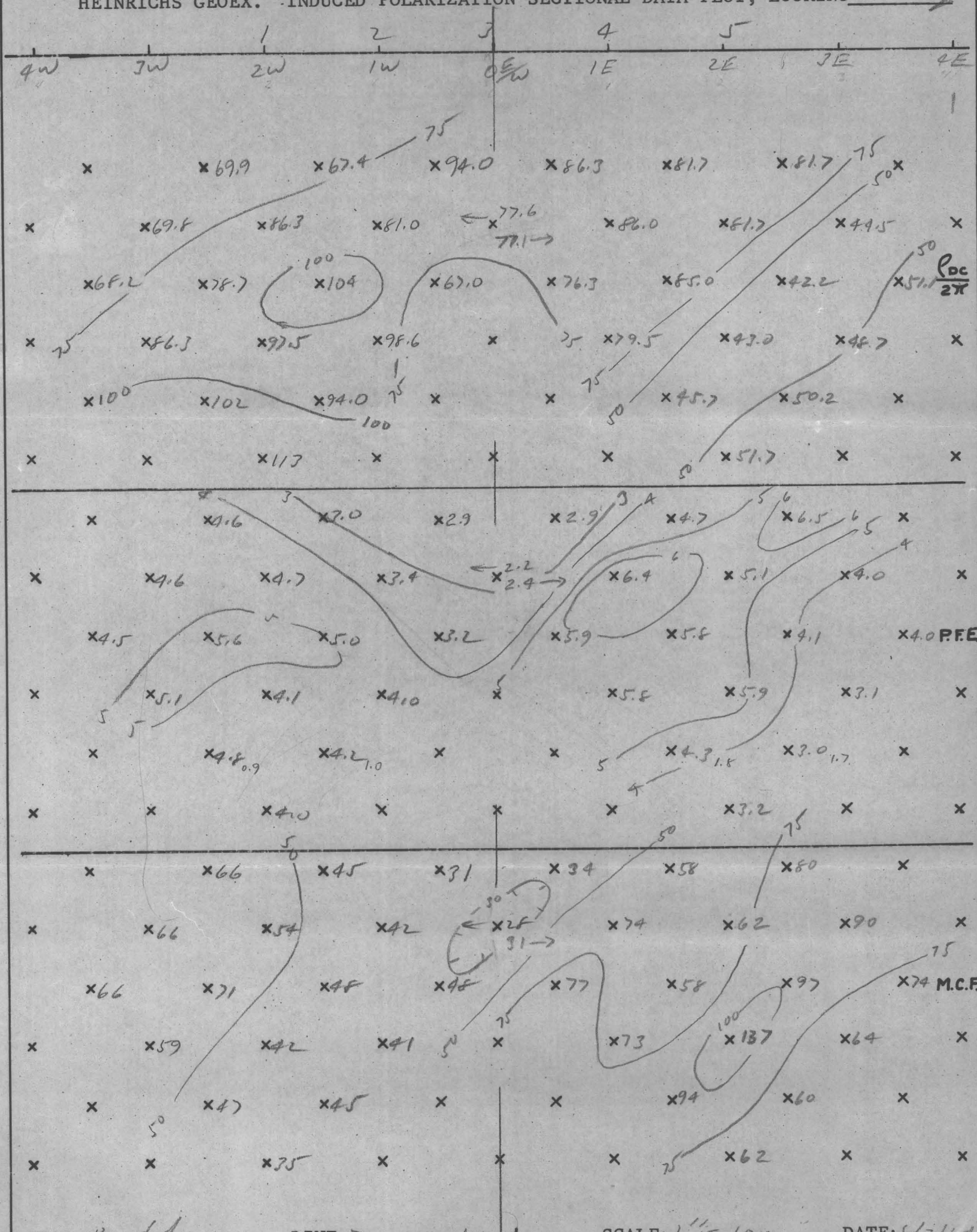
AREA Baghdad LINE 5 a = 1000' SCALE: 1"=1000' DATE: 8/11/64

HEINRICHS GEOEX. - INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Northerly



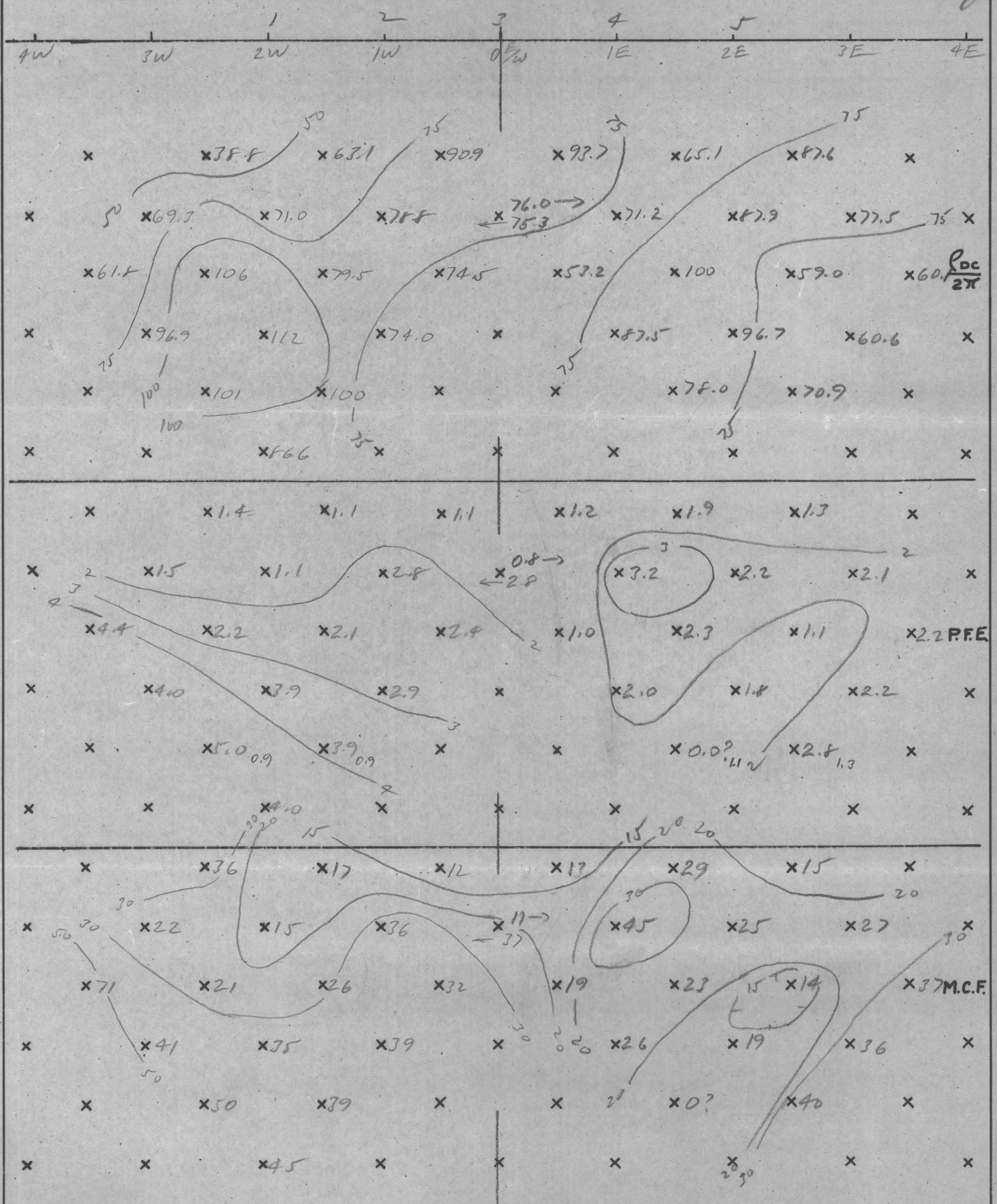
AREA Bagdad LINE 6 2A a = 1000' SCALE: 1" = 1000' DATE: 2/1/64

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Northeast



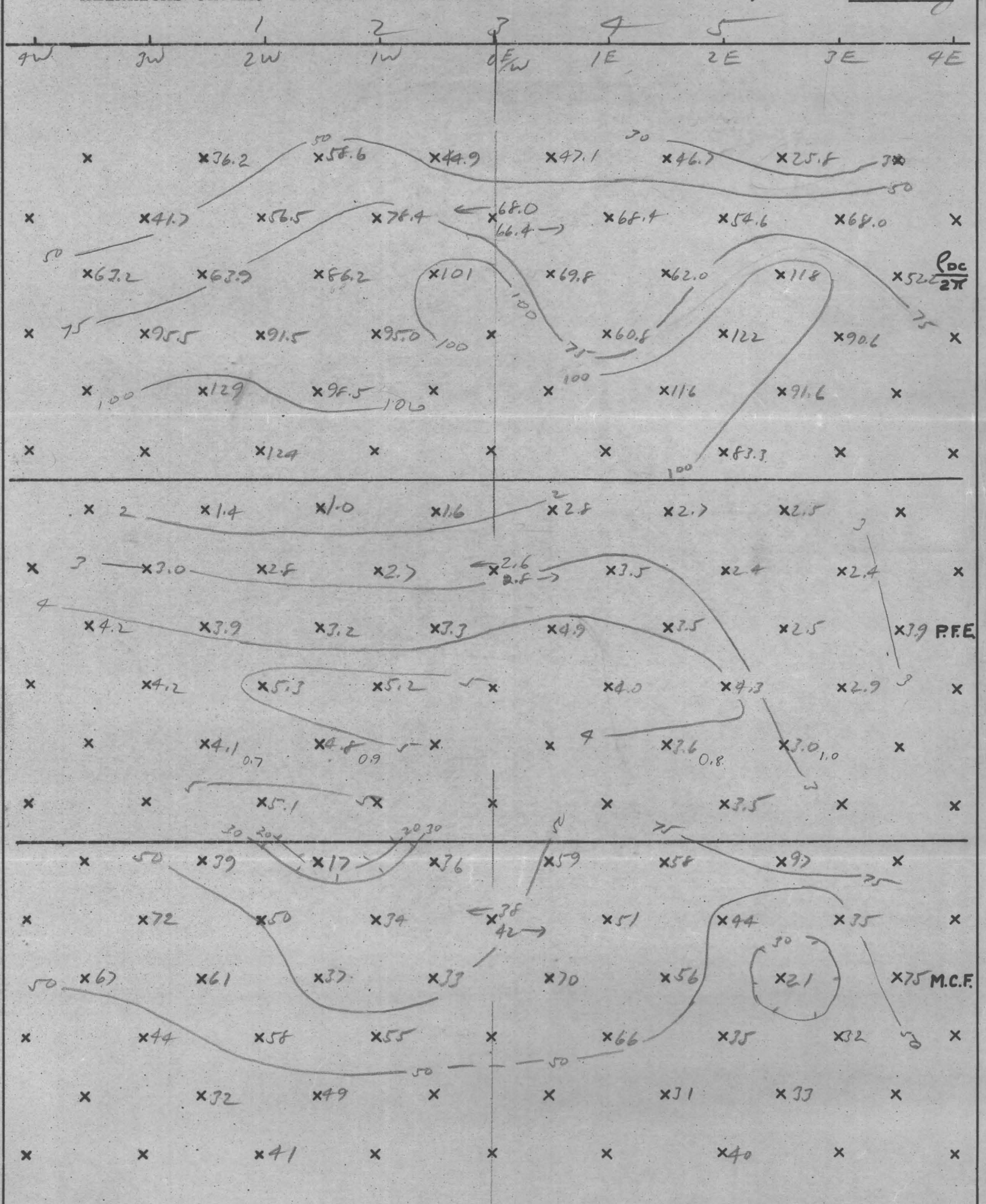
AREA Baghdad LINE 7 a = 1000' SCALE: 1" = 1000' DATE: 8/3/64

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Northerly



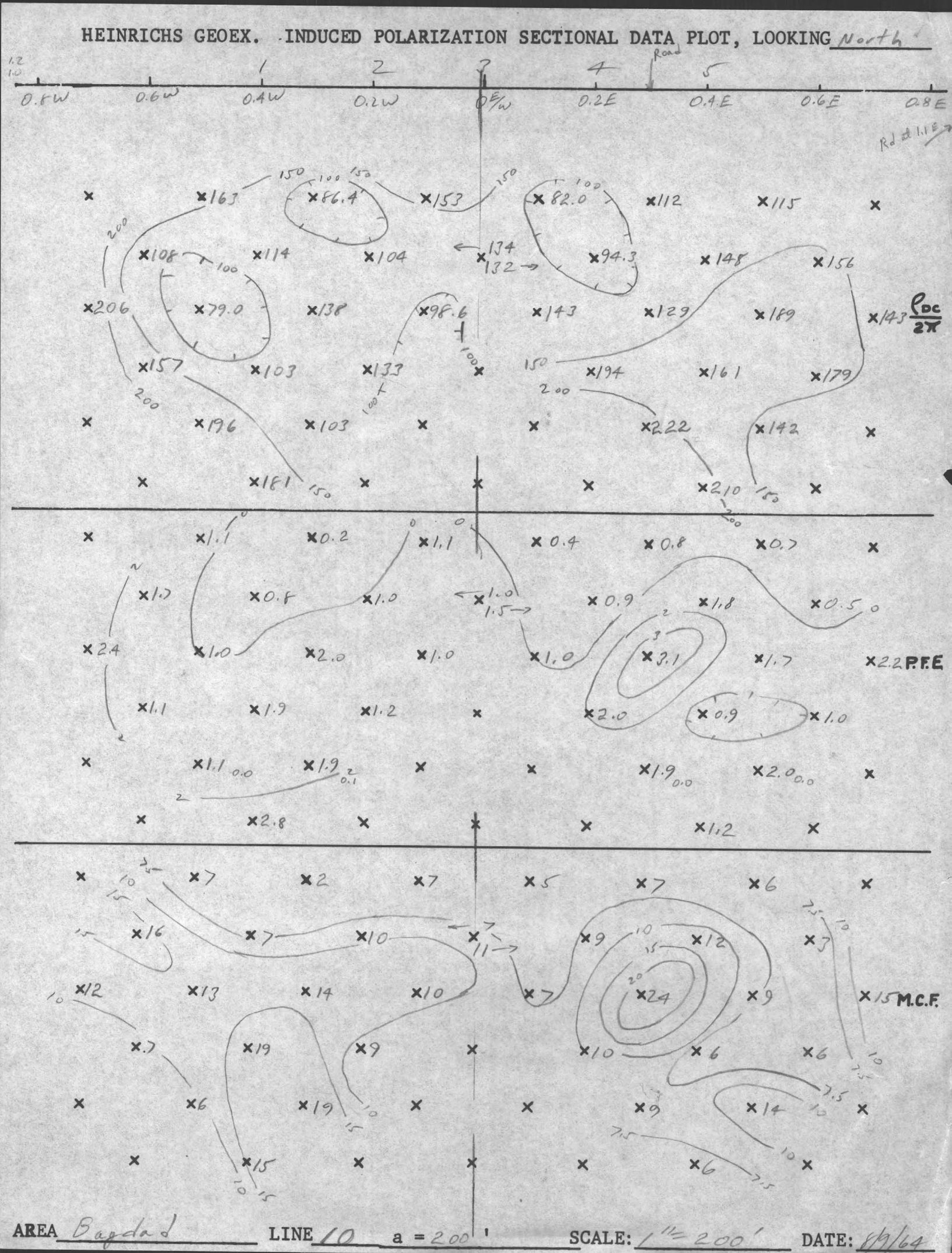
AREA Bagdad LINE 8 a = 1000' SCALE: 1"=1000' DATE: 8/5/64

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Northerly



AREA Baystad LINE 9 a = 1000' SCALE: 1" = 1000' DATE: 8/7/64

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING North



AREA Bagdad LINE 10 a = 200' SCALE: 1" = 200' DATE: 8/9/64

NEWMONT EXPLORATION LIMITED
40 BRIAN RIDGE ROAD
DANBURY, CONNECTICUT, 06811

GEOPHYSICAL DEPARTMENT

June 22, 1964

Mr. Walter E. Heinrichs, Jr.
Heinrichs Geoexploration Co.
806-808 West Grant Road
P. O. Box 5871
Tucson, Arizona

Dear Walt:

Could you give us a quote on the following I.P. project:

Location - Within 100 miles of Phoenix

Elevations - 3000-5000', moderate mesa-like terrain

Problem - To explore for porphyry-type mineralization through 300-1200' of volcanics and Gila

Area - Three sections

Lines - 1/4 mile apart; minimum of 8 miles of line; lines to be run more or less along elevation contour.

N.B. Starting Date -- Not later than July 6, 1964.

Physical Properties - Gila - Resistivity 30 ohm meters average
p.f.e 1-3

Volcanics - Resistivity 50 ohm meters
p.f.e. 1 1/2-3

Underlying Porphyry and/or granite
- Resistivity 100-400 ohm meters
- p.f.e. barren 1 1/2-3
- p.f.e. mineralized 10

Cautions

(1) Note that the k involved, of 40.7 or more requires a dipole source of 800-1000' and separations out to at least 5 steps. Even then the expected response is only some 40% of the p.f.e. of the

underlying [illegible] or grant [illegible], an increase in p.f.e. of 4.

(2) Note the possibility of [illegible] for the long dipole intervals. From the enclosed Figure (A) [illegible] a dipole of 1000' and an interval of 5 (na = 5000') a resistivity of 50 ohm meters and D.C. and 1 c.p.s., the coupling gives [illegible] p.f.e. contribution. Thus an upper frequency of 1/2 c.p.s. would be preferable to keep the p.f.e. coupling error to +2.

(3) A few, say one per line, i.e., about 6, dipole dipole spreads with short dipoles of 200' will have to be run to n = 5, to give shallow physical properties for interpretive purposes.

Requirements: (1) Recording of p.f.e. to ± 1%

(2) Control of coupling to not over + 2%, for n = 5 and dipoles of 800 or 1000'

(3) Presentation of resistivity, p.f.e. and metal factor on transparent squared paper, more or less in form shown, Figure B, while work in progress, with preliminary interpretation indicated.

(4) No final report or drafting of 3 is required, as long as form and presentation of 3 conform to approved standards.

When you have had a chance to go over this you might telephone me to discuss the above.

We would wish a firm quote, on say 8 miles of line, with a per mile additional figure.

Regards.

Sincerely yours,

A Brant

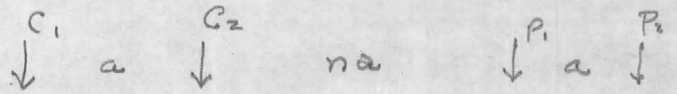
Arthur A. Brant

AAB:lu
Encls.

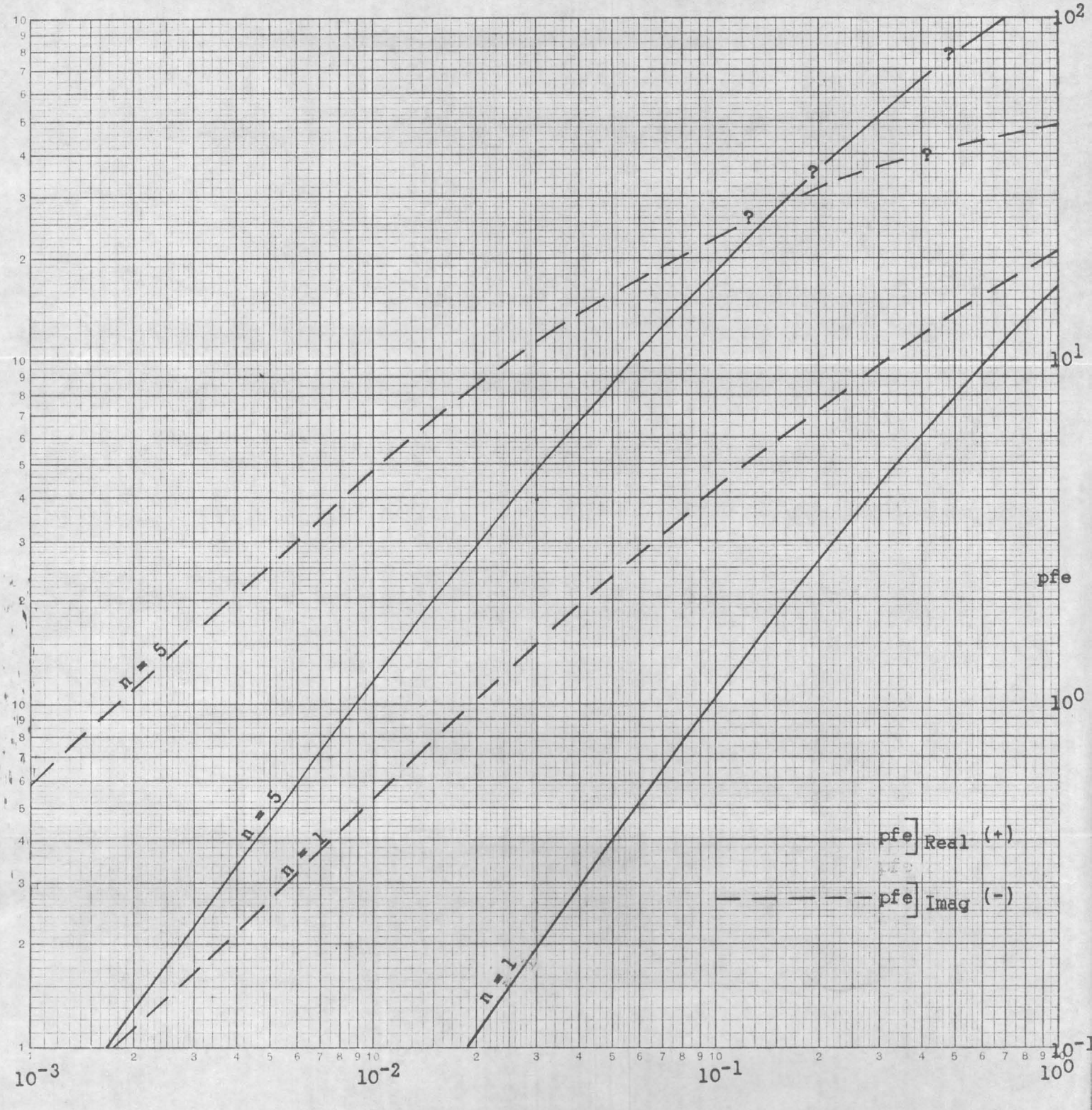
cc: R. B. Fulton, Elko, Nev.
Files (2)

Figure (A)

Dipole-Dipole Configuration
EM Line Coupling
Frequency Domain

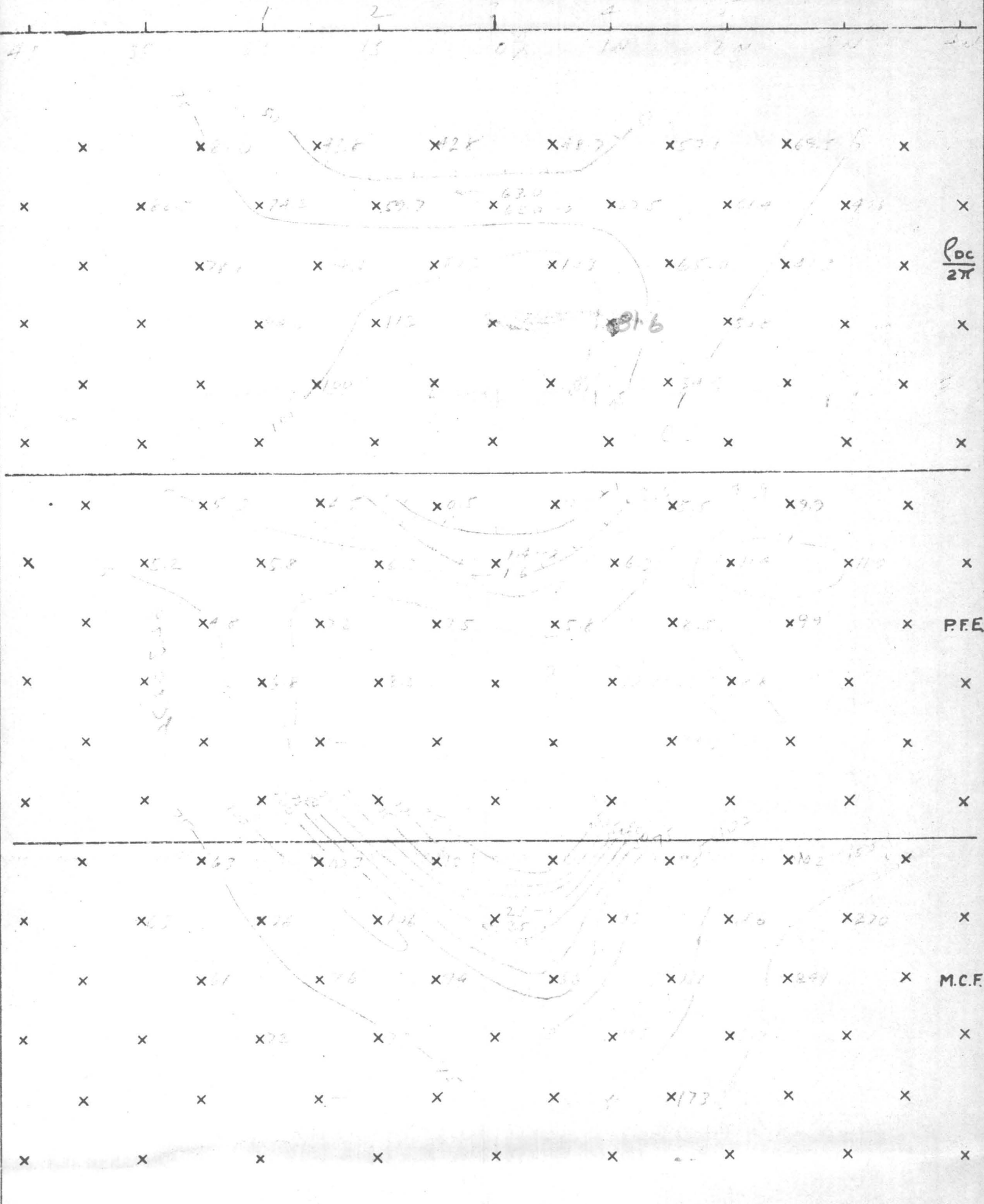


a = 1000 feet



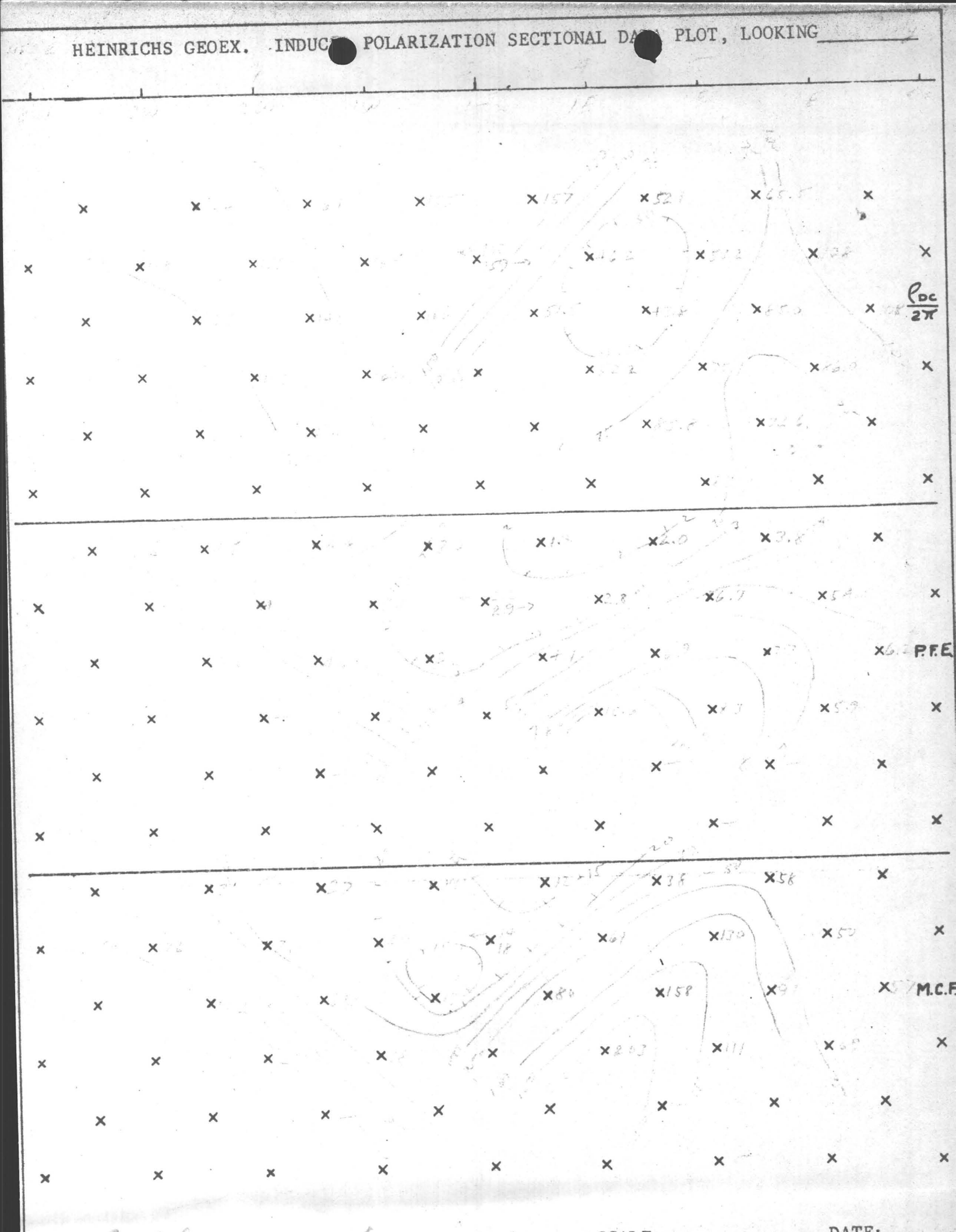
LOGARITHMIC 359-120G
KEUFFEL & ESSER CO. MADE IN U.S.A.
3 X 3 CYCLES

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING _____



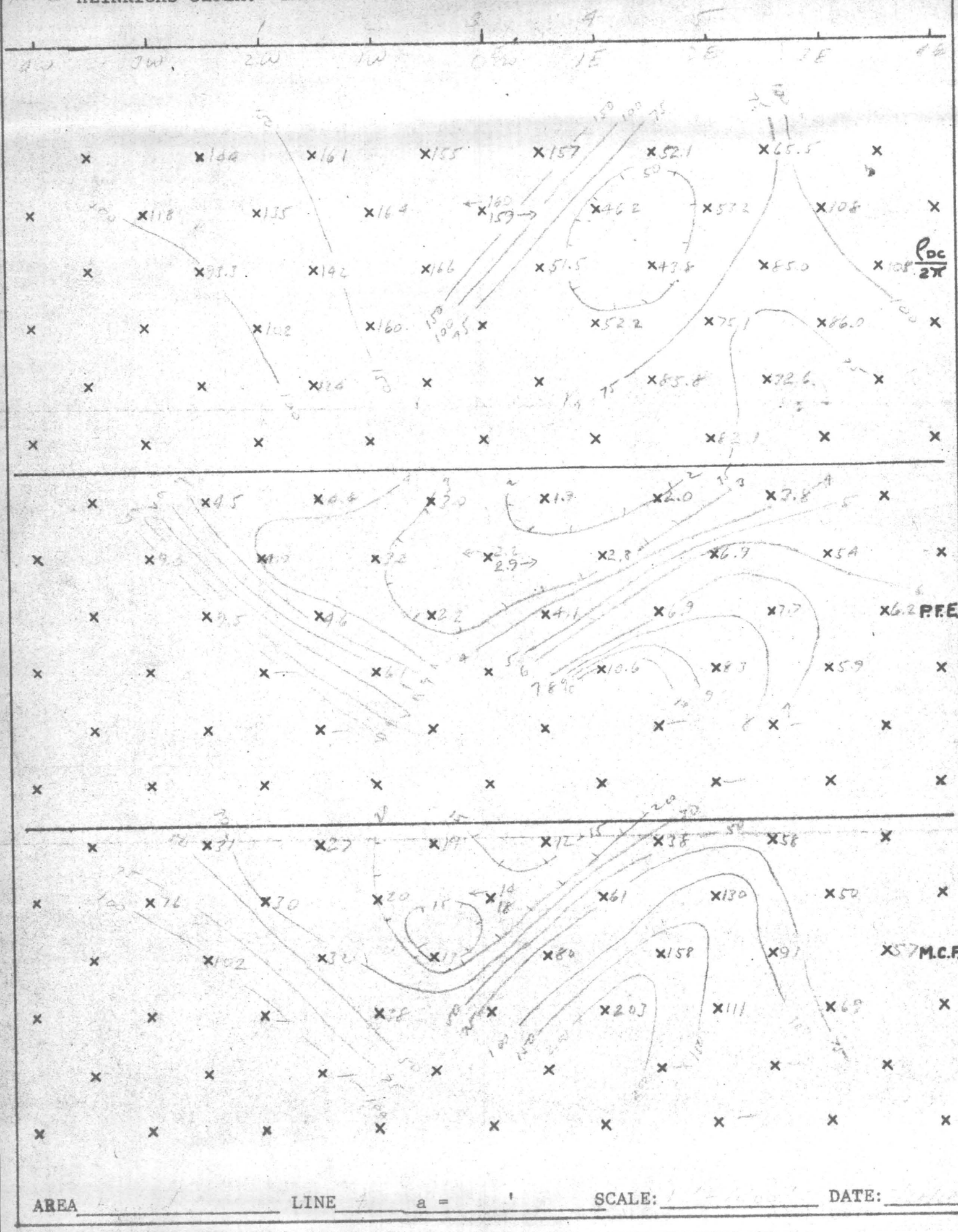
AREA Bagdad LINE 3 a = ' SCALE: DATE:

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING _____



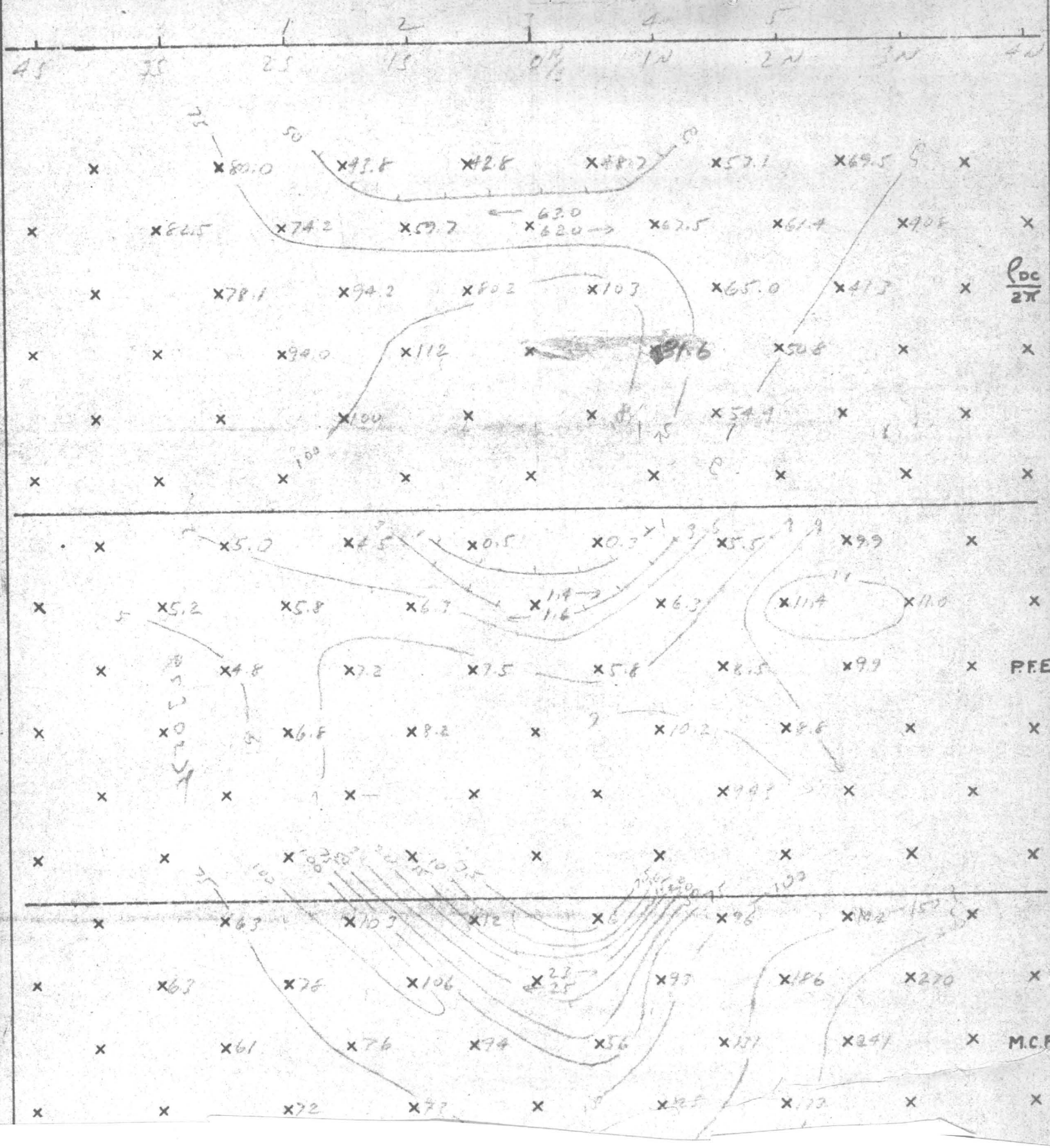
AREA Bagdad LINE 4 a = ' SCALE: _____ DATE: _____

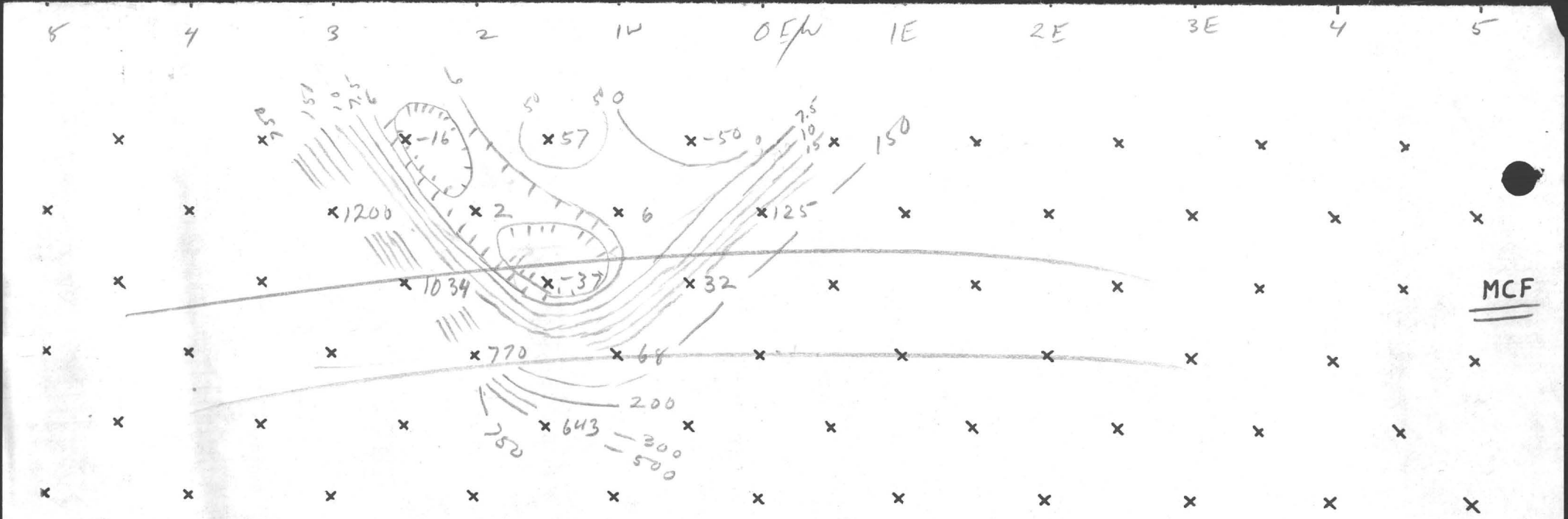
HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Northerly

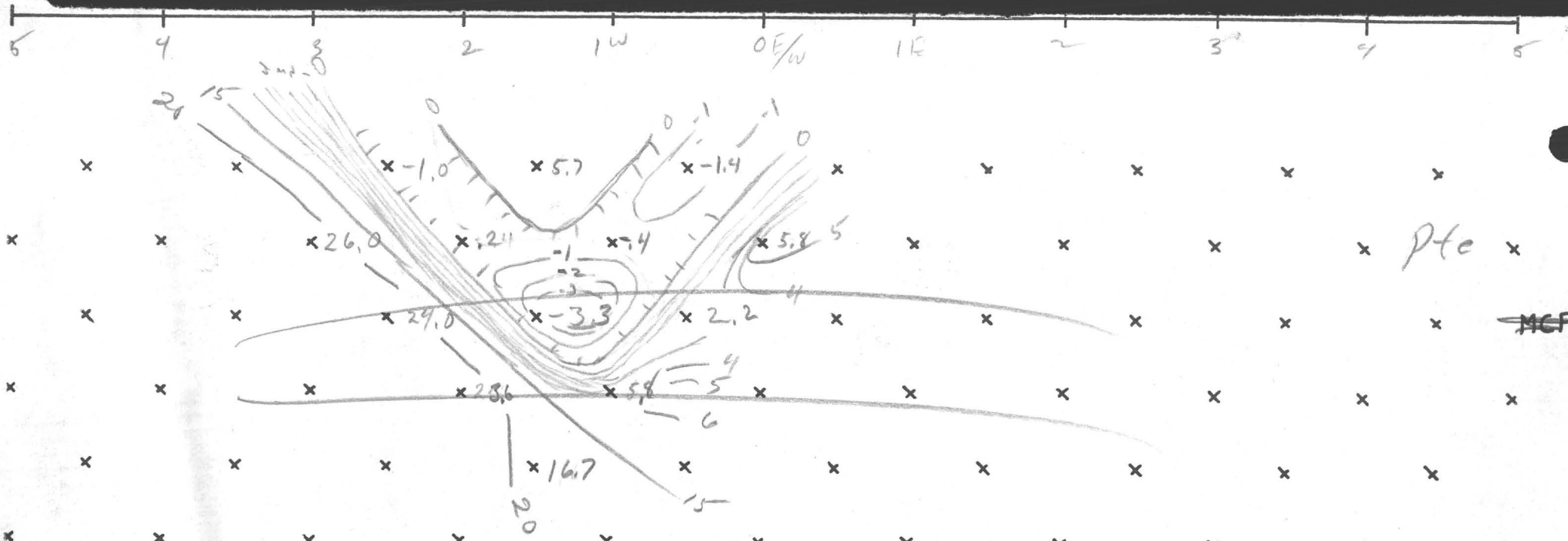


AREA _____ LINE 4 a = ' SCALE: _____ DATE: _____

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING Westerly




5
4
3
2
1W
0E/W
1E
2E
3E
4
5
MCF
-16
57
-50
1200
2
6
125
1034
-37
32
770
64
200
643
-300
-500
Area
Scale
Date



Area _____ Scale _____ Date _____

INDUCED POLARIZATION WORK SHEET

First Attempt

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Bagdad Line 2-A Wonly Field date 7-17-64 Data page_____ Comp. date 7-17-64. Comp by KH

(A) Send	23	12	34	23	12	45	34	23	12	45	34	23
(B) Receive	1-2W →		2-3W →			34W			→	45W		
(C) n separation												
(D) I	2000											
(E) Vdc (avg)	32.14	7.77	66.89	11.55	4.59	41.8	13.80	5.525	2.847	3.62	1.55	1.046
(F) DCcal 1.000												→
(G) Kn x 10^{-3}	3	12	3	12	30	3	12	30	60	12	30	60
(H) ρ dc=ExFxGx10^3/D	48.2	46.6	100(+)	69.3	68.9	62.2	82.9	89.2	85.5	21.7	23.2	31.2
(I) Vac Σ	32.90	7.42	64.0	11.57	4.53	41.7	13.84	5.76	2.72	2.90	.84	.84
(J) AC noise x 2											.20	.20
(K) Vac(corr) = $\sqrt{I^2 - J^2}$											1.263	.816
(L) AC-DC cal. 1.010											→	9.85
(M) ρ dc/ρac=ExL/K	.986	1.058	1.057	996	1.022	990	1.002	.967	1.058	1.260	1.240	1.236
(N) PFE=(M-1)(10^2)	-2	6	6	0	2	-1	0	-3	6	26	24	24
(O) MCF=(M-1)(10^5)/H	-50	145	57	6	32	+6	2	-37	68	1200	1034	778

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	12 →					Cal →						
(B) Receive	→					1000	300					
(C) n separation						100	30					
(D) I	→											
(E) Vdc (avg)	.496					100	30.3					
(F) DCcal	→											
(G) Kn x 10^{-3}	105											
(H) ρ dc=ExFxGx10^3/D	2610											
(I) Vac Σ	.495					99.5	30.4					
(J) AC noise x 2	.18											
(K) Vac (corr) = $\sqrt{I^2 - J^2}$	.415											
(L) AC-DC cal.	.988											
(M) ρdc/ρac =ExL/K	1.167											
(N) PFE=(M-1)(10^2)	17											
(O) MCF=(M-1)(10^5)/H	643											

5 4 3 2 1W 0EW 1E 2 3 4 5

53.6 101 48.3

35.8 70.8 76.5 46.0

42.2 39.1 71.2 70.3

54.6 53.4 72.3

60.4 48.3

52.0

MCF

5 4 pipe 3 2 1W 1000' 0EW 1E 2 3 4 5

1.0 2.6 0.0

8.4 2.6 1.8 2.3

7.0 9.0 5.1 2.1

10.0 9.1 6.7

7.5 8.1

8.2

INDUCED POLARIZATION WORK SHEET

6 4 3 2 1W 0EW 1E 2 3 4 5

19 23 0

240 37 25 50

162 230 72 30

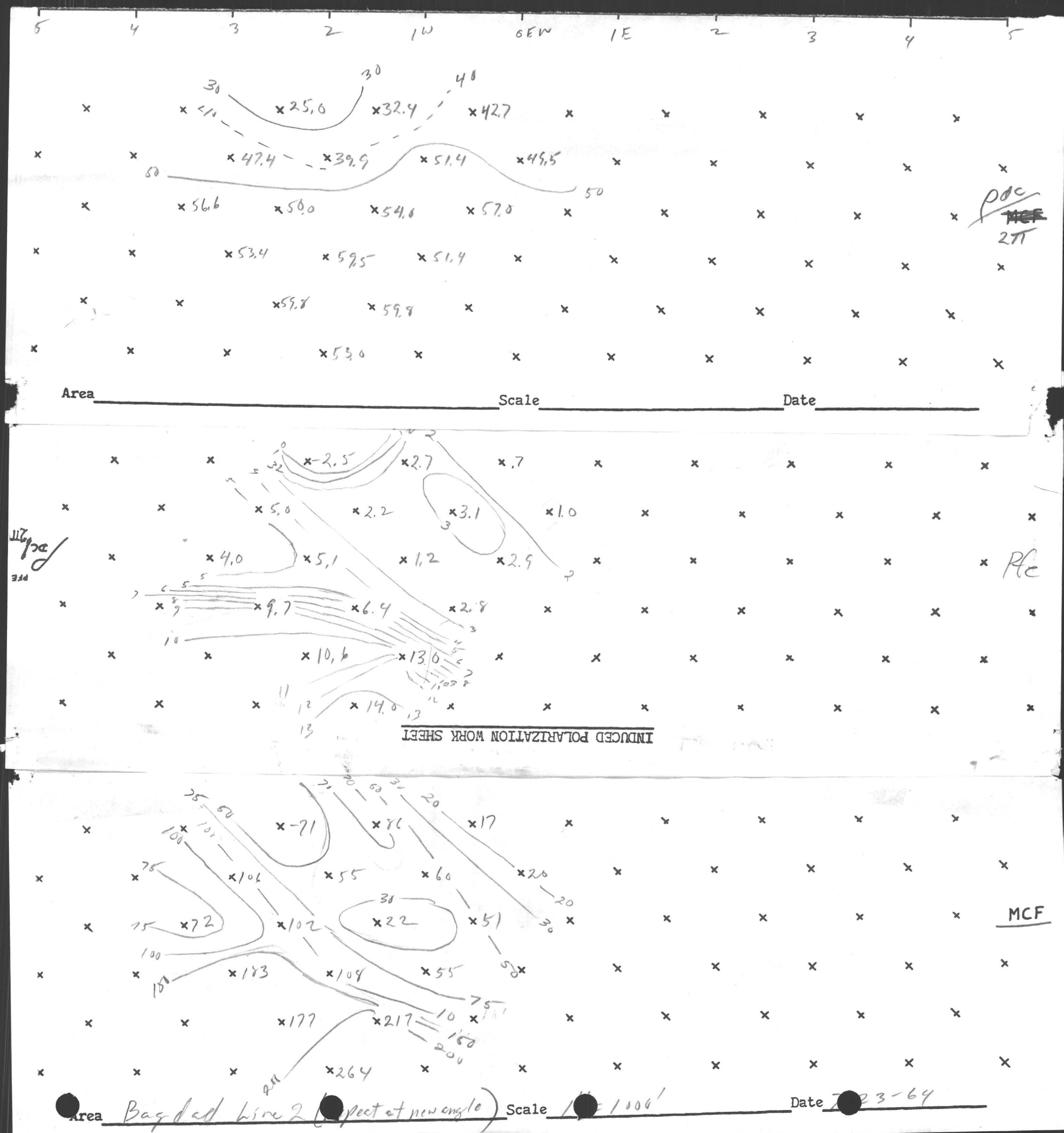
183 171 94

125 168

158

MCF

Area Baghdad Line #6 (JA) Scale 1"=1000' Date 7-21-64



5 4 3 2 1W 0EW 1E 2 3 4 5
25.0 32.4 42.7
47.4 39.9 51.4 49.5
56.6 50.0 54.0 57.0
53.4 59.5 51.4
59.8 59.8
53.0
ρdc
~~MCF~~
2π
Area
Scale
Date
2.5 2.7 .7
5.0 2.2 3.1 1.0
4.0 5.1 1.2 2.9
9.7 6.4 2.8
10.6 13.0
14.0
INDUCED POLARIZATION WORK SHEET
Pfe
-71 86 17
106 55 60 20
72 102 22 51
183 108 55
177 217
264
MCF
Area Bagdad Line 2 (repeat at new angle)
Scale 1" = 1000'
Date 2-23-64

6 4 3 2 1W 0 E/W 1E 2 3 4 5

32.0 33.0 29.2 46.0 37.8 39.2

43.0 37.4 42.4 49.5 48.4 42.6 47.8 61.5

48.8 46.1 44.1 65.2 44.8 56.8 78.5 94.2

45.0 46.8 59.6 55.5 85.0 121

42.2 61.2 84.8 119

52.7 113

~~MCF~~ Pdc 2H

6 4 3 2 1W 0 E/W 1E 2 3 4 5

0.7 2.0 5.8 2.3 3.7 41.6

5.0 5.3 8.9 4.4 3.9 10.4 15.0 2.1

6.5 6.0 10.6 4.9 8.0 9.5 7.8 1.4

11.6 15.2 7.4 9.0 9.6 6.0

13.6 9.4 9.4 8.6

11.0 10.8

Pdc 2H PTE

Pfe

6 4 3 2 1W 0 E/W 1E 2E 3E 4E 5E

22 61 198 50 98 118

116 142 212 92 248 314 34

133 130 240 75 179 183 99 15

258 324 124 162 113 50

322 153 111 72

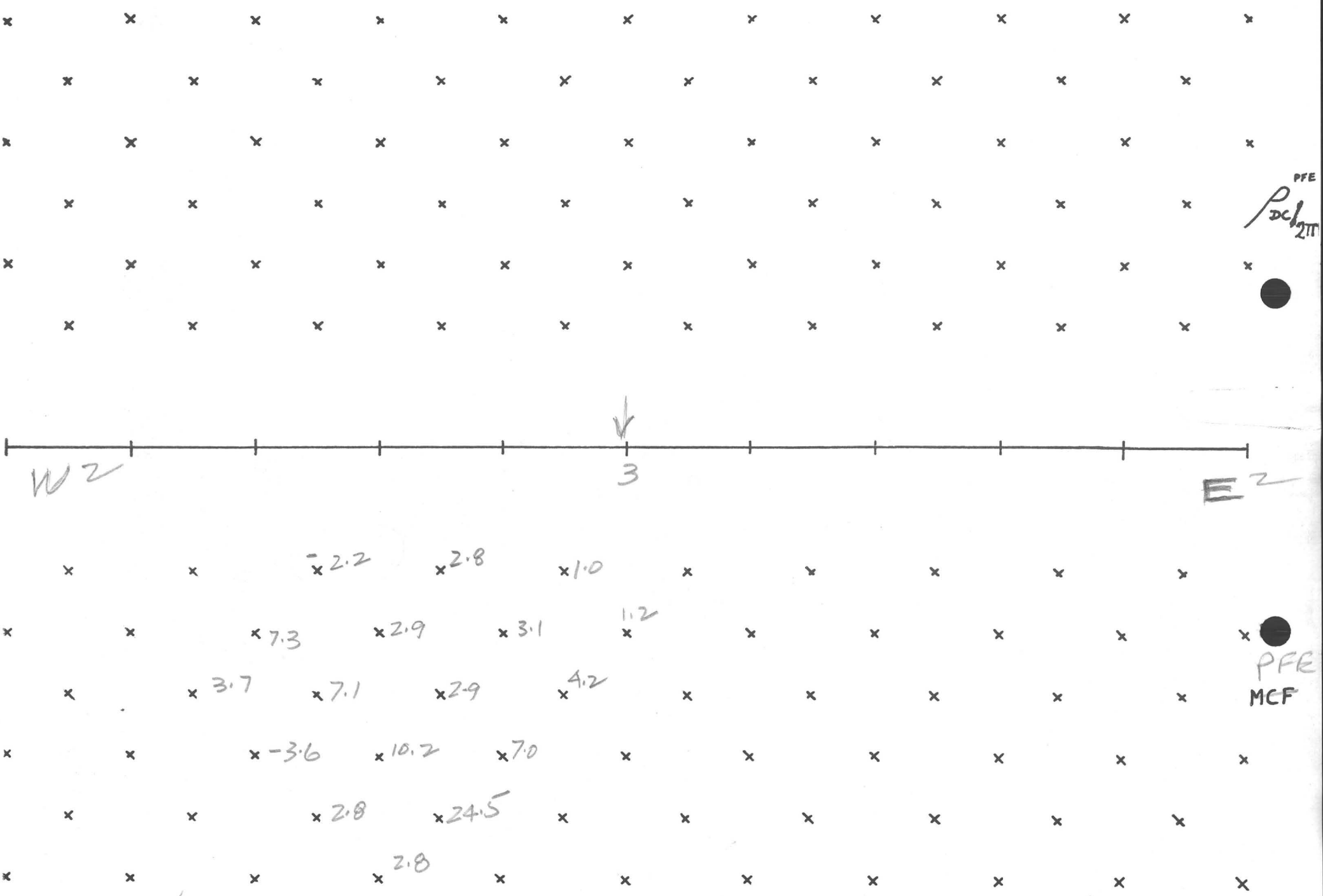
208 95

This line represents many contouring levels

MCF

Area Bagdad Line 2 spd. 1 :E+W ½ Scale 1"=1000' Date 7-14-64

INDUCED POLARIZATION WORK SHEET



Area W1/2 Line 2(S) Vermont - Bagdad. Scale 1000' Date 7/22/64

Newmont

7/22/64

Kieth W 1/2 Line 2(a)

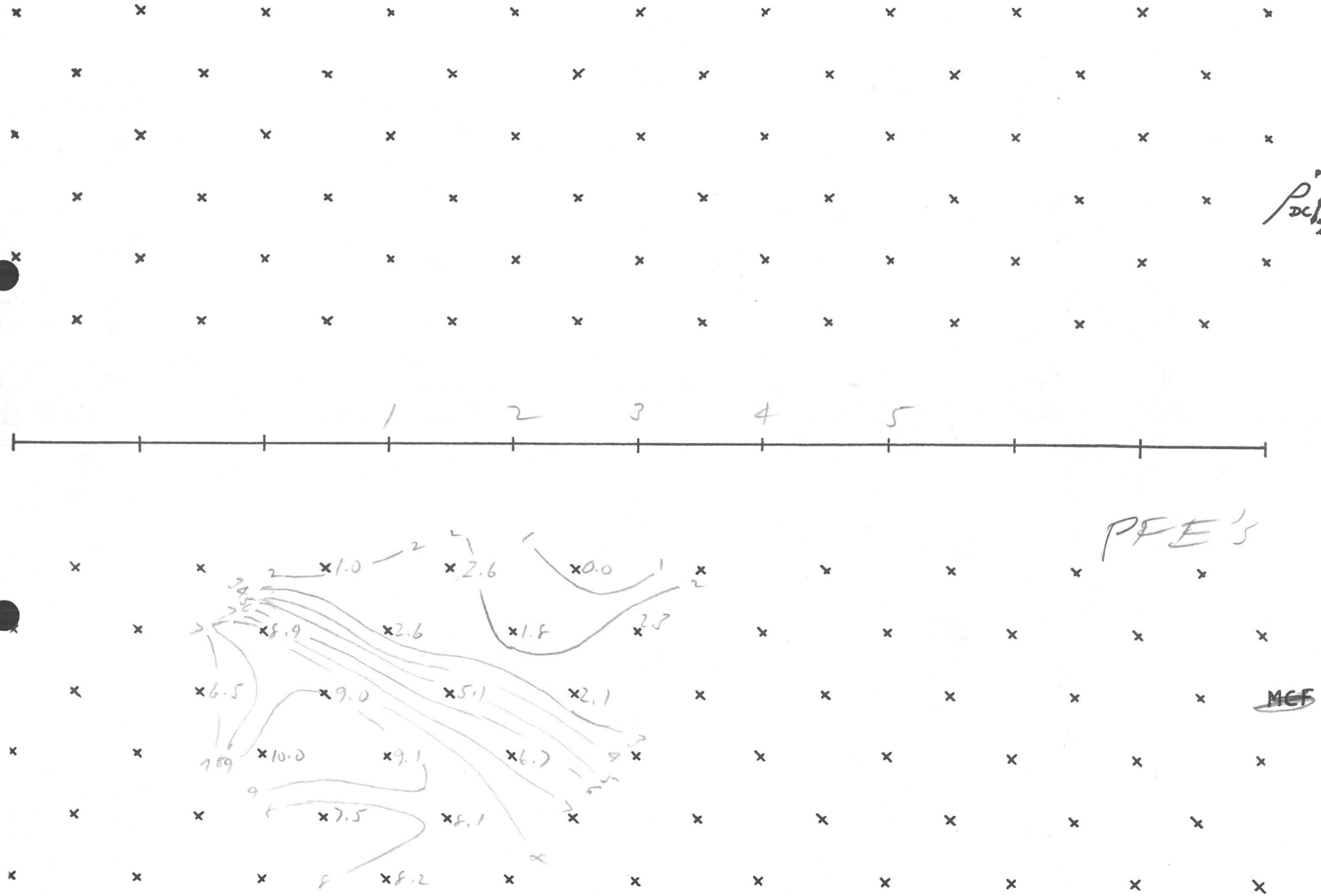
Unbuck-0.3 MV.

ME 3-9908

PFE
1.0
1.2
2.8
3.1
4.2
-2.2
2.9
2.9
7.0
7.3
7.1
10.2 — Noise correction applied
24.5 — " " "
3.7
-3.6
2.8
2.8

Line 2a

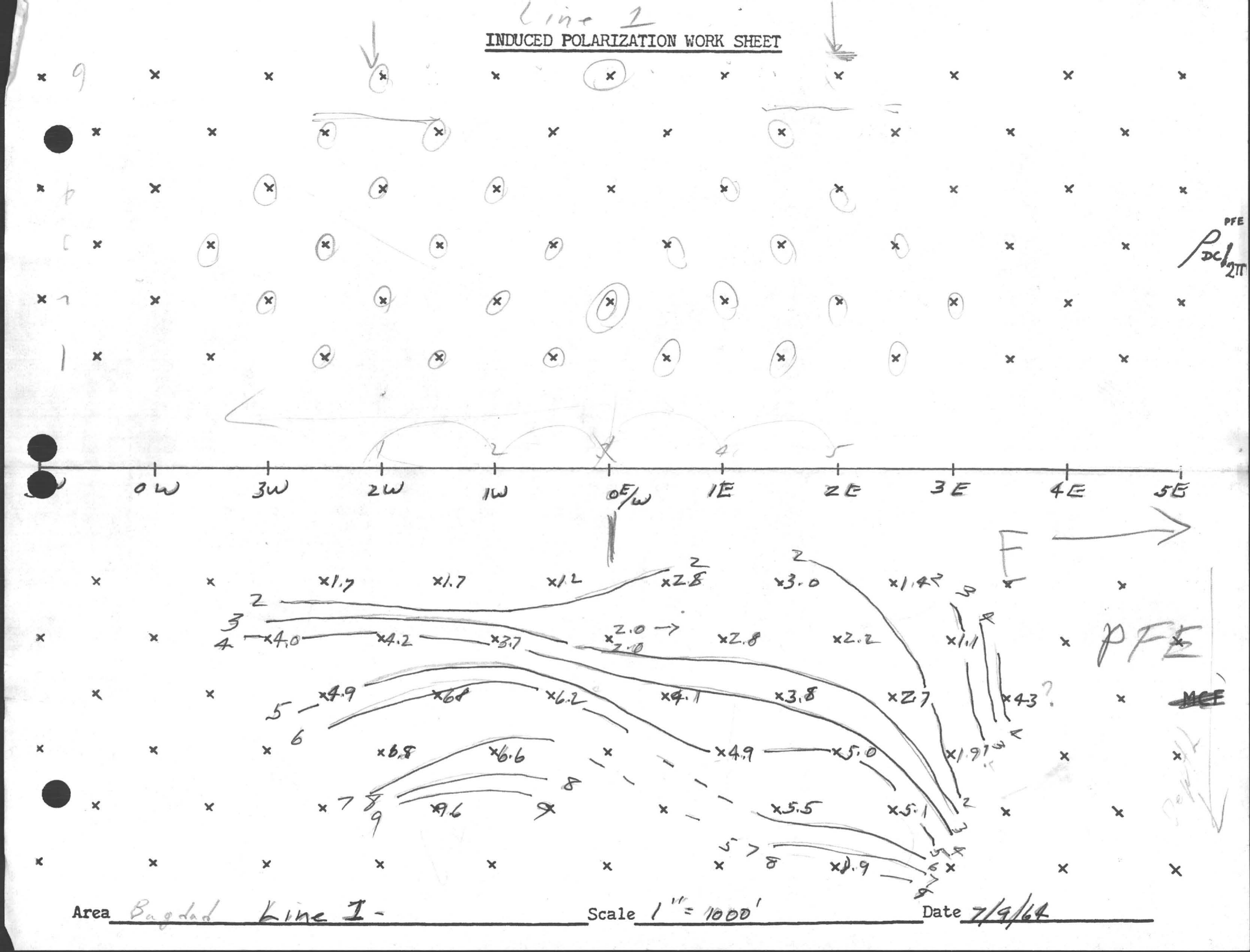
INDUCED POLARIZATION WORK SHEET



Area Bagdad - Newmont Scale _____ Date 7/20/64

Line 1

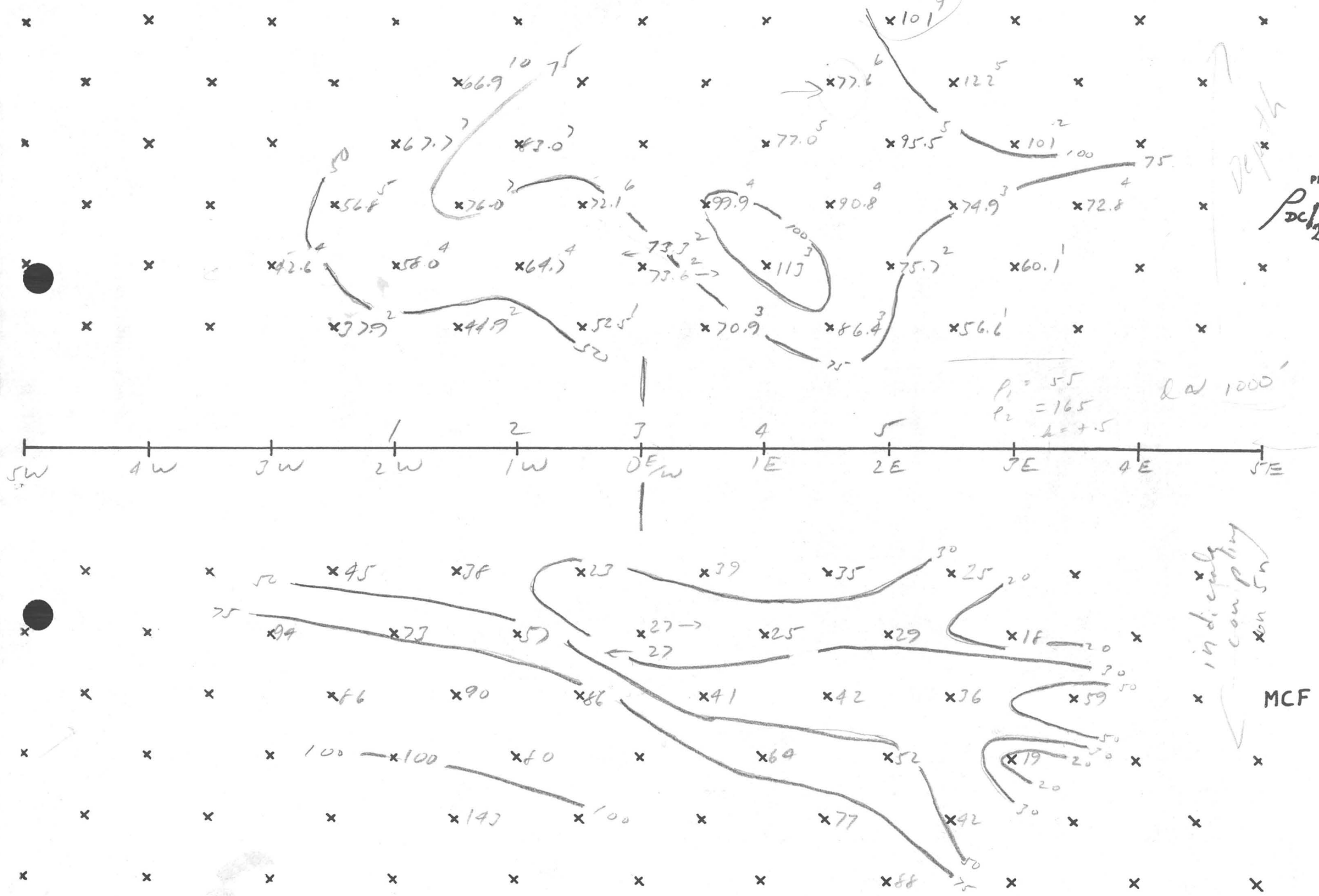
INDUCED POLARIZATION WORK SHEET



Area Baghdad Line I- Scale 1" = 1000' Date 7/9/64

Line 1

INDUCED POLARIZATION WORK SHEET



Area Bagdad Line 1 - Span 1 - E ½ Scale 1" = 1000' Date 7/9/68

Daily Log of Newmont – Bagdad I.P.

Tues 7/7/64 Gear preparation (A.M.)
2 men travel (P.M.) (Tucson → Wickenburg)

Wed 7/8/64 Lay out Line 1 (2 men AM-PM)
2 men travel (P.M) Tucson → Wickenburg

Thur 7/9/64 Read E ½ of Line 1 (4 men AM-PM)

Fri 7/10/64 Read & Compute W ½ of Line 1 & partially layout Line 2 (4 men AM-PM)

Sat 7/11/64 Tucson

Sun 7/12/64 Tucson

Mon 7/13/64 Equipment maintenance AM
travel Tuc → Wick PM for 3 men

Tues 7/14/64 Complete Layout of Line 2 AM & read E ½ Line 2 (PM) 3 men

Wed 7/15/64 Repeat reading on E ½ Line 2 (AM) & read W ½ Line 2 & partial layout of Line 2A (PM) 3 men

Thur 7/16/64 Repeat readings on E ½ Line 2 (AM) & continue layout of Line 2A

Fri 7/17/64 Complete layout of Line 2A (AM) & read W end of Line 2A (PM) 3 men

Sat 7/18/64 Tucson

Sun 7/19/64 Tucson

Mon 7/20/64 Equipment maintenance AM & travel (PM) 3 men.

Tues 7/21/64 Re-set line 2 (AM-PM) 3 men

Wed 7/22/64 Read W½ line 2 AM 3 men

7/7/64

List of Gear taken on Newmont Job.

4 - WATER CANS (Plastic)
1 - 50# bag salt
4 boxes of aluminum foil

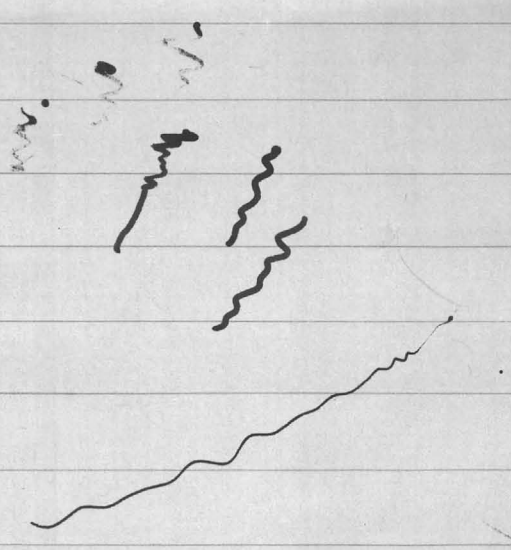
P.M.

Radio 2 way 1 watt.
5

Ranchos Conde
MU 4-5445
Room #31

Bagdad Pit
S½ Sec 34
Flat Top Mesa

Also Sec 3
Sanders Mesa
Airport.



COPY

July 1, 1964

Mr. R. B. Fulton
Newmont Exploration Limited
P. O. Box 1001
Elko, Nevada

Dear Bob:

At Dr. Brant's request, we are submitting our charges for geophysical surveys.

I. P. - 3 man crew, including geophysicist	$250.00/day
- 3 man crew, technicians only	200.00/day
- 2 man crew, including geophysicist (1 additional man furnished by client)	200.00/day
2 man crew - technicians only	180.00/day
Standby (due to weather or at client request)	125.00/day
Travel (out of town Tucson - Tucson)	125.00/day
Magnetics - Total intensity - Mobile Magnetometer	280.00/day
- Hand magnetics - vertical intensity, - 10 gamma sensitivity, torsion equipt, 2 men	125.00/day
Standby (see above)	80.00/day
Travel (see above)	80.00/day
Self Potential - 2 man crew	125.00/day
Standby and/or travel	80.00/day
Electro-Magnetics (E.M.) Turam Method, Horizontal coil----3 men	250.00/day
Standby and/or Travel	125.00/day
Resistivity - 3 men	250.00/day
Standby and/or travel	125.00/day

Geo-Chem - Field Sampling----2 men----------$125.00/day
Standby and/or Travel---------- 80.00/day
Sample determinations and preparation,
Cu, Pb, Zn---------- 1.65 ea.
Mo.---------- 2.00 ea.
Other elements, priced on request.

Gravity - 2 men----------$150.00/day
Data processing via IBM 1401 processing unit, approx. cost $0.20 per station -- any parameter or series included
Standby and/or Travel---------- $100.00/day
Federal, State and Local Land Status investigation work---------- $10.00/hr.

Claim Survey - Transit-Stadia----3 men----------$125.00/day
Standby and/or Travel---------- 80.00/day

Prices may be negotiated on jobs of not less than two months duration.

Again, may I point out that travel, as stated in each instance above is termed Tucson to out of town destination back to Tucson, and standby time is charged if the crew is shut down due to weather or client request. Usually, this time is made up either by working data or at the end of a project, and need not be extensive.

To the above quotes add daily vehicle charges at $10.00/day/vehicle plus $0.10 per mile; miscellaneous expendable items and personnel living expenses on out of Tucson -- at cost.

Drafting, compilation, computing and report--$100.00 per staff day. (Usually 1 field day equals one staff day.)

Our field crews work an 8 hour day, travel time not included and any negotiated contract will specify an 8 hour day, five day week although usually crews endeavor to expedite field jobs by working Saturdays. This usually involves added cost to the client as well as to us.

COPY

As you know, many geophysical projects are run on a line-by-line basis (particularly I. P.) and it is difficult to schedule crews without considerable advance notice and planning.

You may be interested to learn that our Mark III Sender is now operational and we are field testing it today. If these tests prove satisfactory, it will be available for your work in the Bagdad area.

We will have a party chief meet Mr. Dave Lowell in Wickenburg at noon on July 6 to organize and lay out the initial lines. The electrical equipment should be available by Wednesday, July 8.

It is our understanding that you wish the I. P. lines oriented somewhat North of East but generally East-West, parallel to the meaas and on quarter mile spacing.

If available, we would like to have a base map on which to compile our data. Perhaps Dr. Brant could bring it with him when he arrives on Wednesday.

Should you have any questions regarding our prices or services, please ask. It is a pleasure to be of service to you and we trust our work will meet with your complete approval.

Best regards,

Sincerely yours,

HEINRICHS GEOEXPLORATION CO.

E. Grover Heinrichs
Vice President

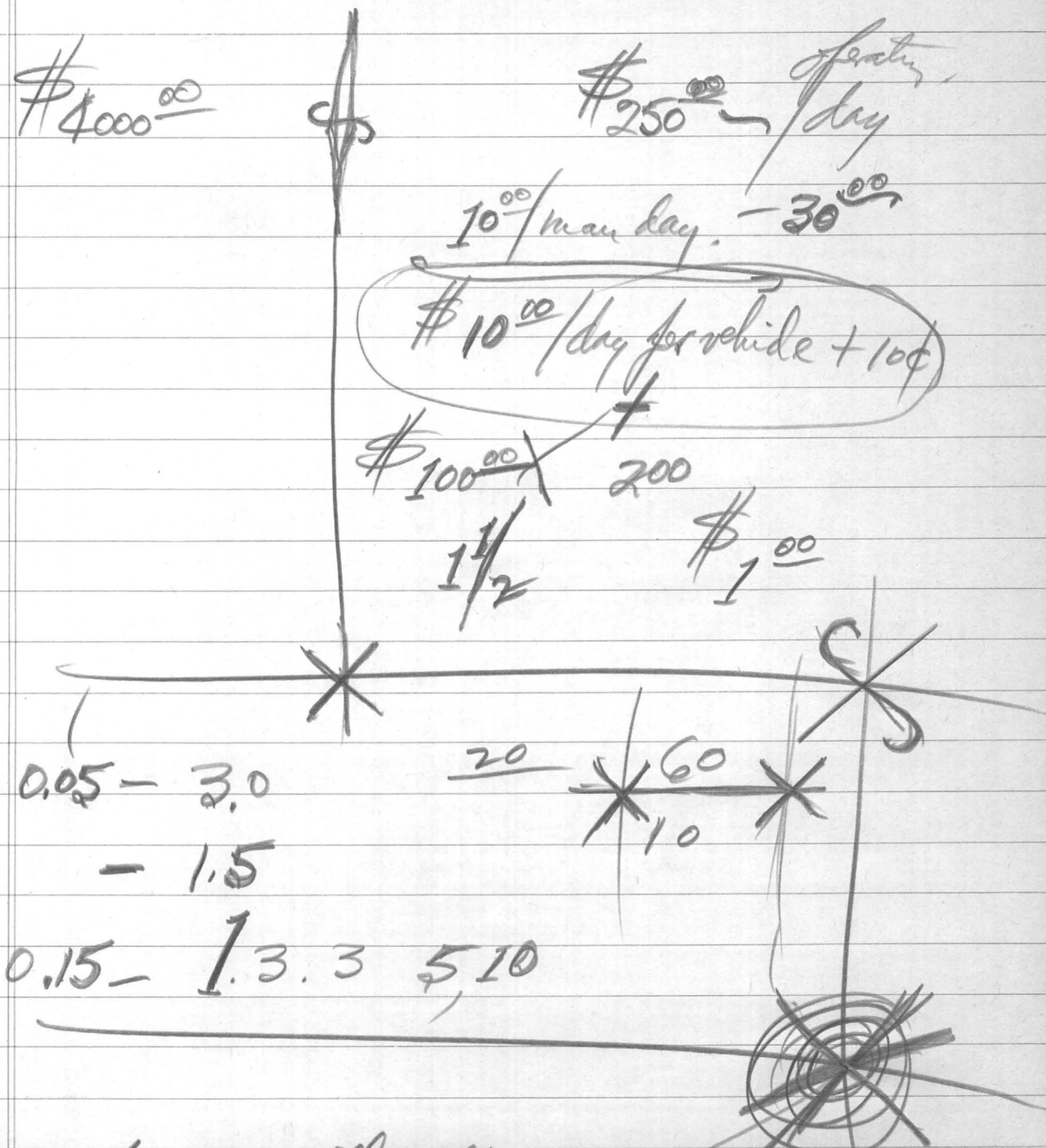
EGH:jh
cc: Extra Encl
Dr. A. A. Brant

COPY

6/25/64

Newmont Ex Ltd.

A. Brant – Collect:



$4000.00

$250.00 – /day operating

10.00/man day. – 30.00

$10.00/day for vehicle + 10¢

$100.00 200

1 1/2

$1.00

0.05 – 3.0

– 1.5

0.15 – 1.3.3 5,10

20 60 10

Will call

coupling out in several 100

leave offs long enough. drop. coupling.

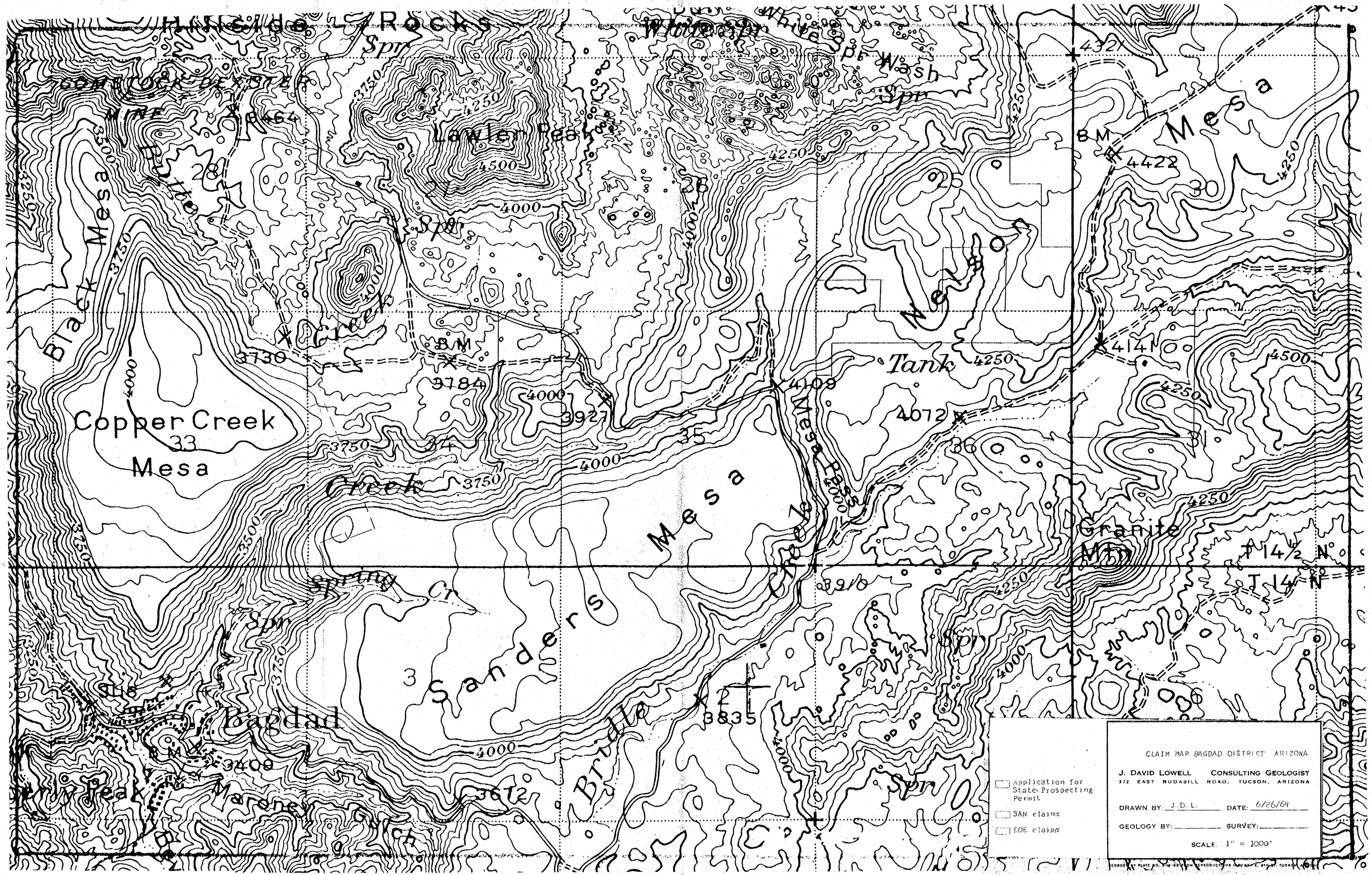
6/25/64

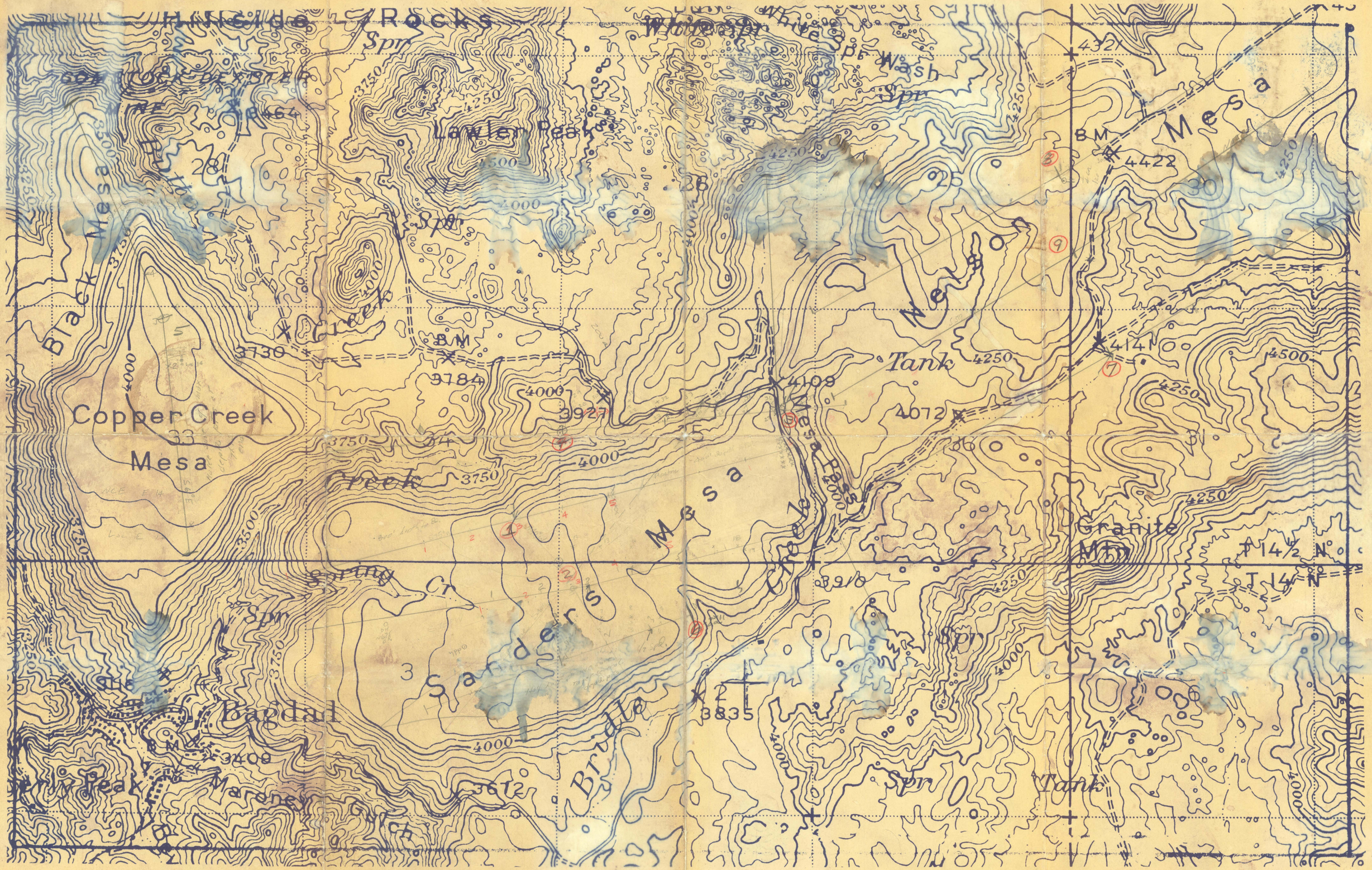
Newmont - Brant I.P. job estimate :-

Newmont new Job

8 miles @ 500.00/mi

= $ 8 / 4000.00


Hillside Rocks
Spr
White Spr
White Spr Wash
Spr
COMSTOCK-DEXSTER MINE
Lawler Peak
Black Mesa
Creek
Copper Creek
Mesa
Creek
Sanders Mesa
Spring Cr
Spr
Bagdad
Maroney Gulch
Bridle Creek
Mesa Pass
Tank
Nelson Mesa
Granite Mtn
T 14½ N
T 14 N
BM
3730
3784
3927
4109
4072
4141
4422
4321
3910
3835
3672
3409
3464
4250
4500
4000
3750
3500
3250
Application for State Prospecting Permit
SAN claims
EDE claims
CLAIM MAP BAGDAD DISTRICT ARIZONA
J. DAVID LOWELL CONSULTING GEOLOGIST
3/2 EAST RUDASILL ROAD, TUCSON, ARIZONA
DRAWN BY: J.D.L.
DATE: 6/26/64
GEOLOGY BY:
SURVEY:
SCALE: 1" = 1000'


Hillside Rocks
Spr
White Spr
White Spr Wash
Spr
Lawler Peak
Black Mesa
Copper Creek
Mesa
Creek
Creek
Sarders Mesa
Bridle Creek
Mesa Pass
Nelson Mesa
Tank
Granite Mtn
T 14½ N
T 14 N
Spring Cr
Spr
Bagdad
Maroney Gulch
Spr
Tank
3730
3784
3927
4109
4072
4141
4422
4321
3910
3835
3612
3409
3464
3750
3500
4000
4250
4500
3250
28
27
26
25
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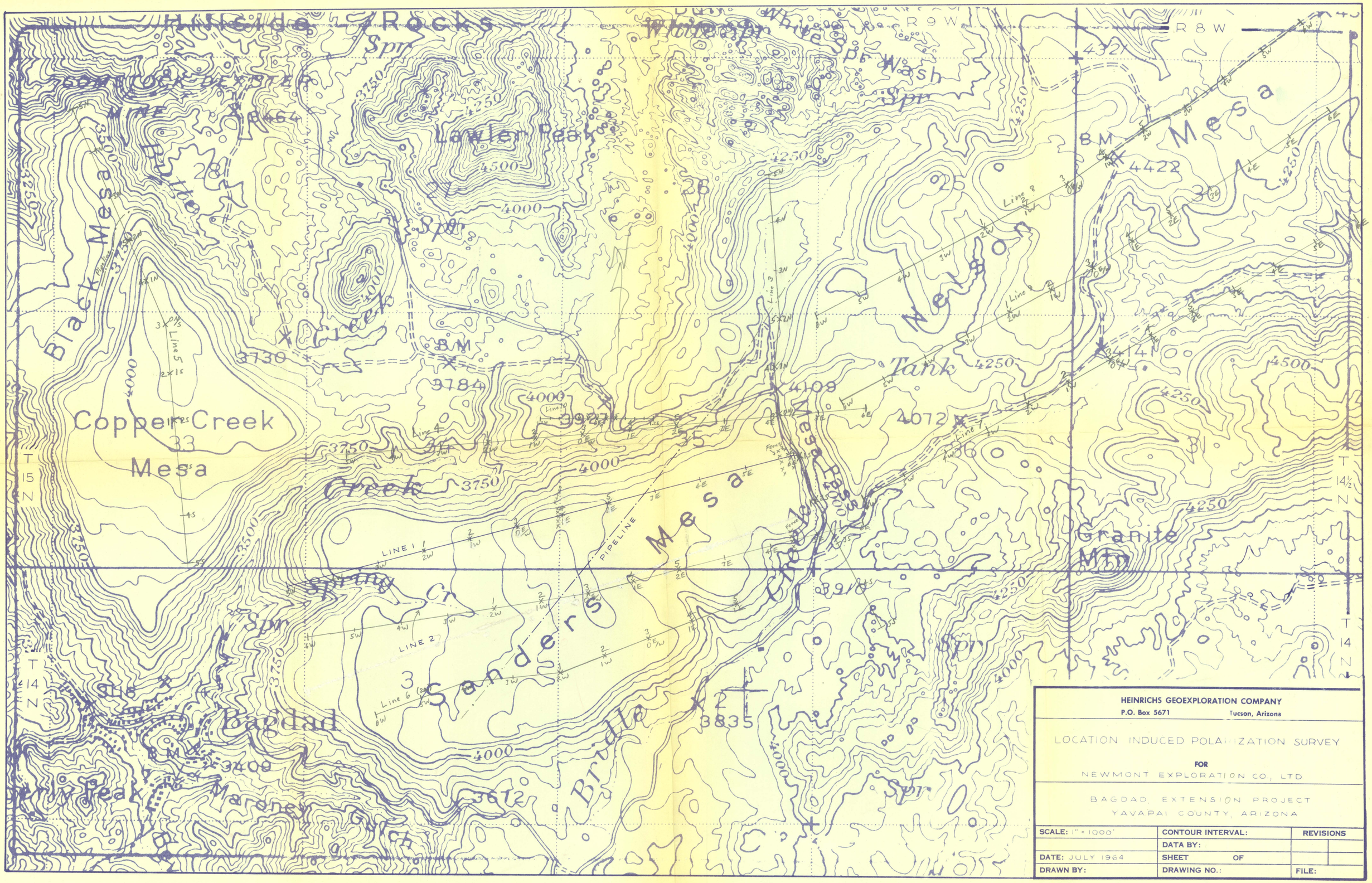
35
36
31
3
2
1
6
7
9
8
Scale 1" = 1000' Dave Lowell



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

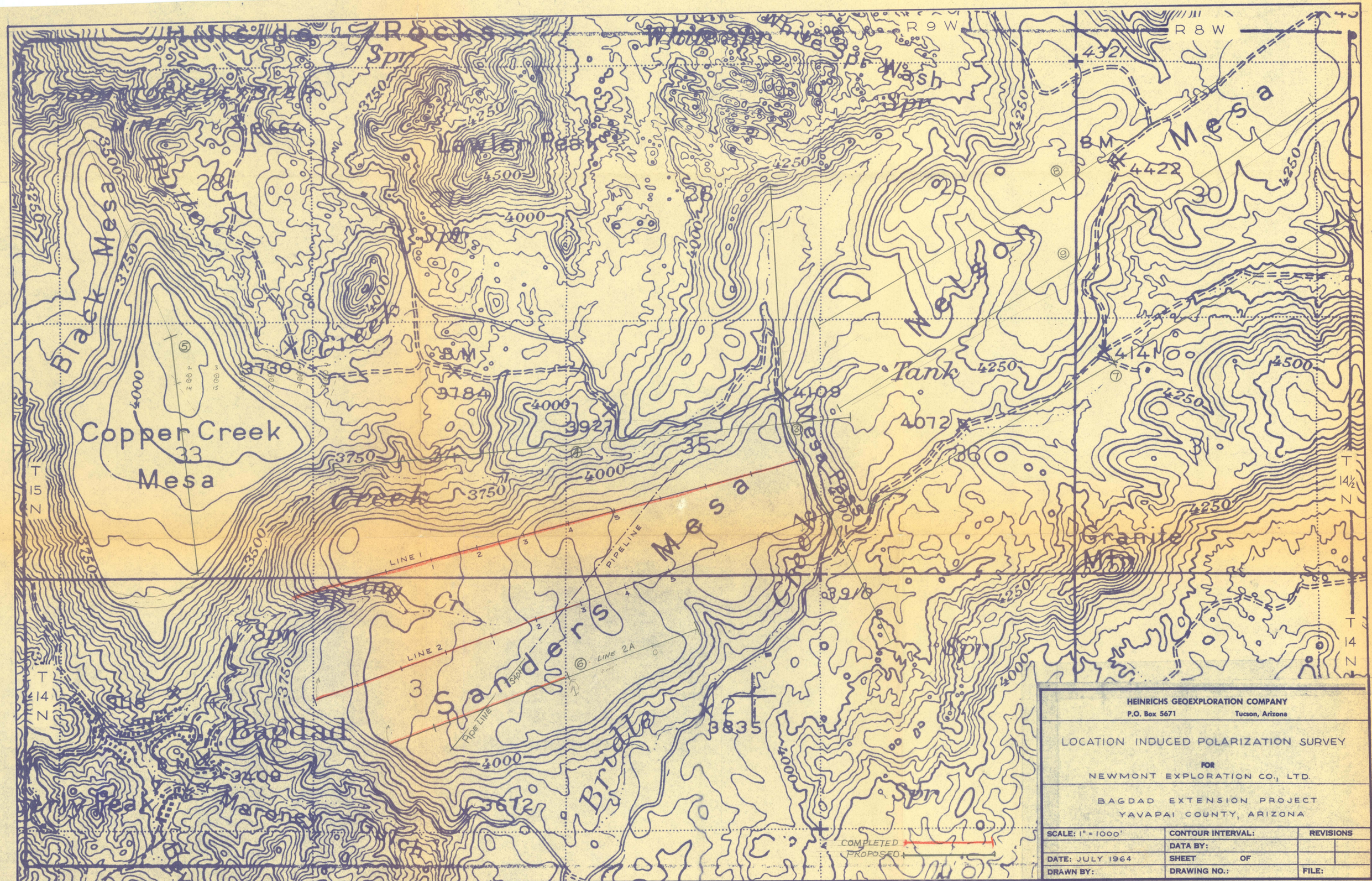
LOCATION INDUCED POLARIZATION SURVEY

FOR

NEWMONT EXPLORATION CO., LTD

BAGDAD EXTENSION PROJECT
YAVAPAI COUNTY, ARIZONA

SCALE: 1" = 1000'	CONTOUR INTERVAL:	REVISIONS
	DATA BY:	
DATE: JULY 1964	SHEET OF	
DRAWN BY:	DRAWING NO.:	FILE:



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

LOCATION INDUCED POLARIZATION SURVEY
FOR
NEWMONT EXPLORATION CO., LTD.

BAGDAD EXTENSION PROJECT
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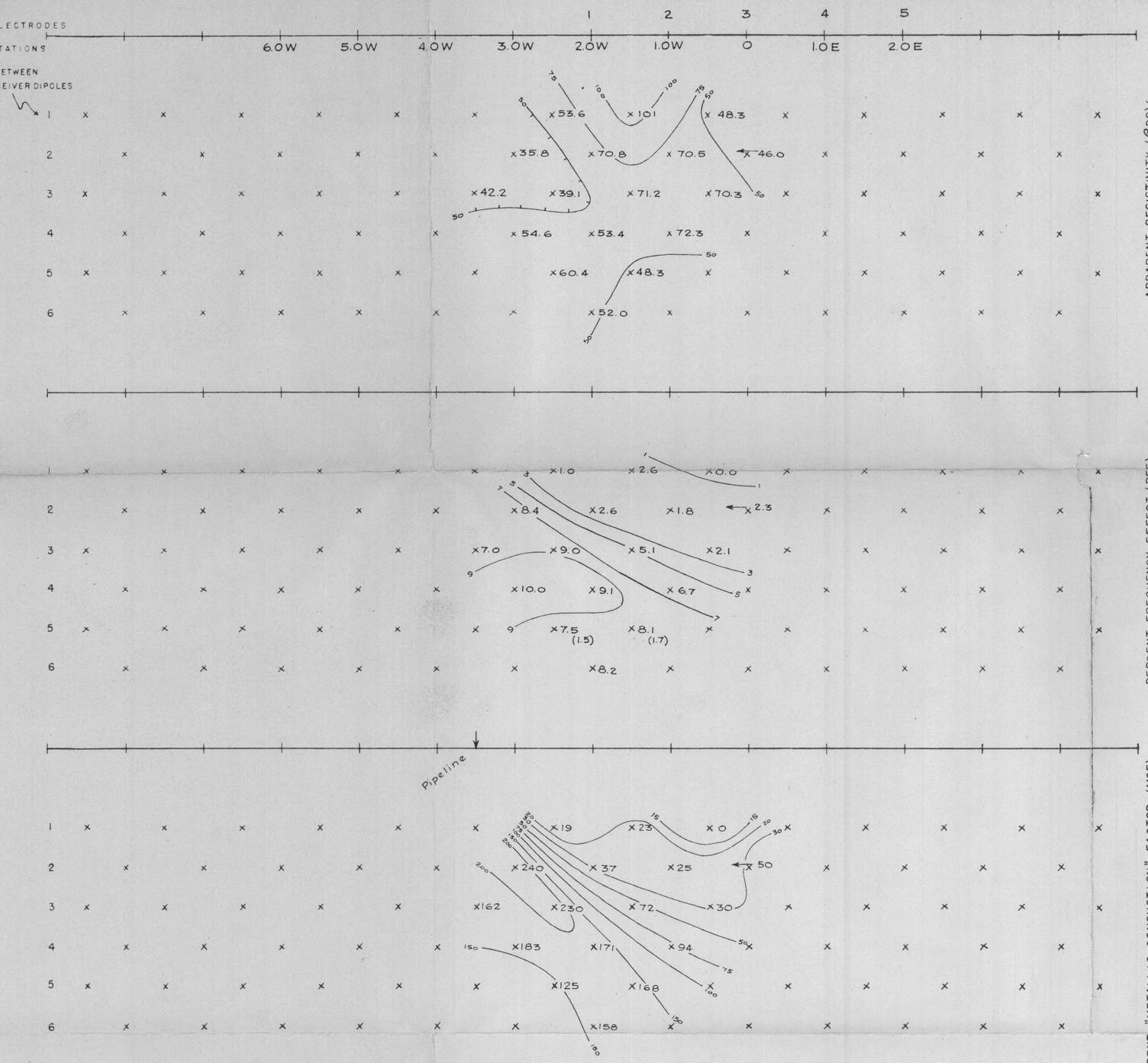
SCALE: 1" = 1000'	CONTOUR INTERVAL:	REVISIONS
	DATA BY:	
DATE: JULY 1964	SHEET OF	
DRAWN BY:	DRAWING NO.:	FILE:



APPARENT RESISTIVITY (ρ_{DC})/2π IN UNITS OF OHM FEET

CONTOUR INTERVAL LOGARITHMIC

SENDER FREQUENCY: 0.05 c.p.s.

PERCENT FREQUENCY EFFECT (PFE)

CONTOUR INTERVAL CONSTANT

SENDER FREQUENCIES: 0.05 & 1.0 c.p.s.

APPARENT "METALLIC CONDUCTION" FACTOR (MCF)

$\left(MCF = \frac{PFE \times 1000}{\rho_{DC}/2\pi}\right)$

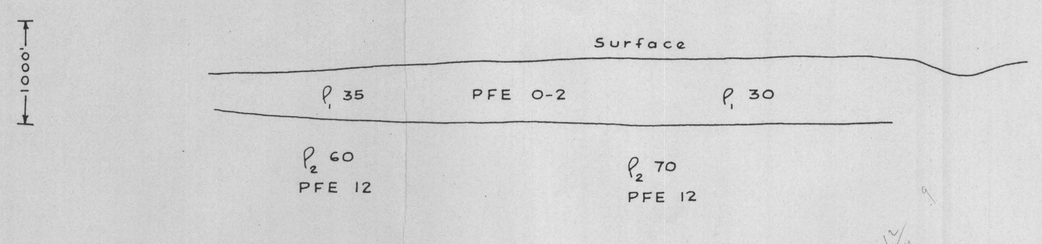
CONTOUR INTERVAL LOGARITHMIC

EXPLANATION

ELECTRODE ARRAY: 1000' — n x 1000' — 1000'

SENDER DIPOLE — RECEIVER DIPOLE

Subscripts on 5n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity).



INTERPRETATION

Looking Northerly

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 6 (2a)

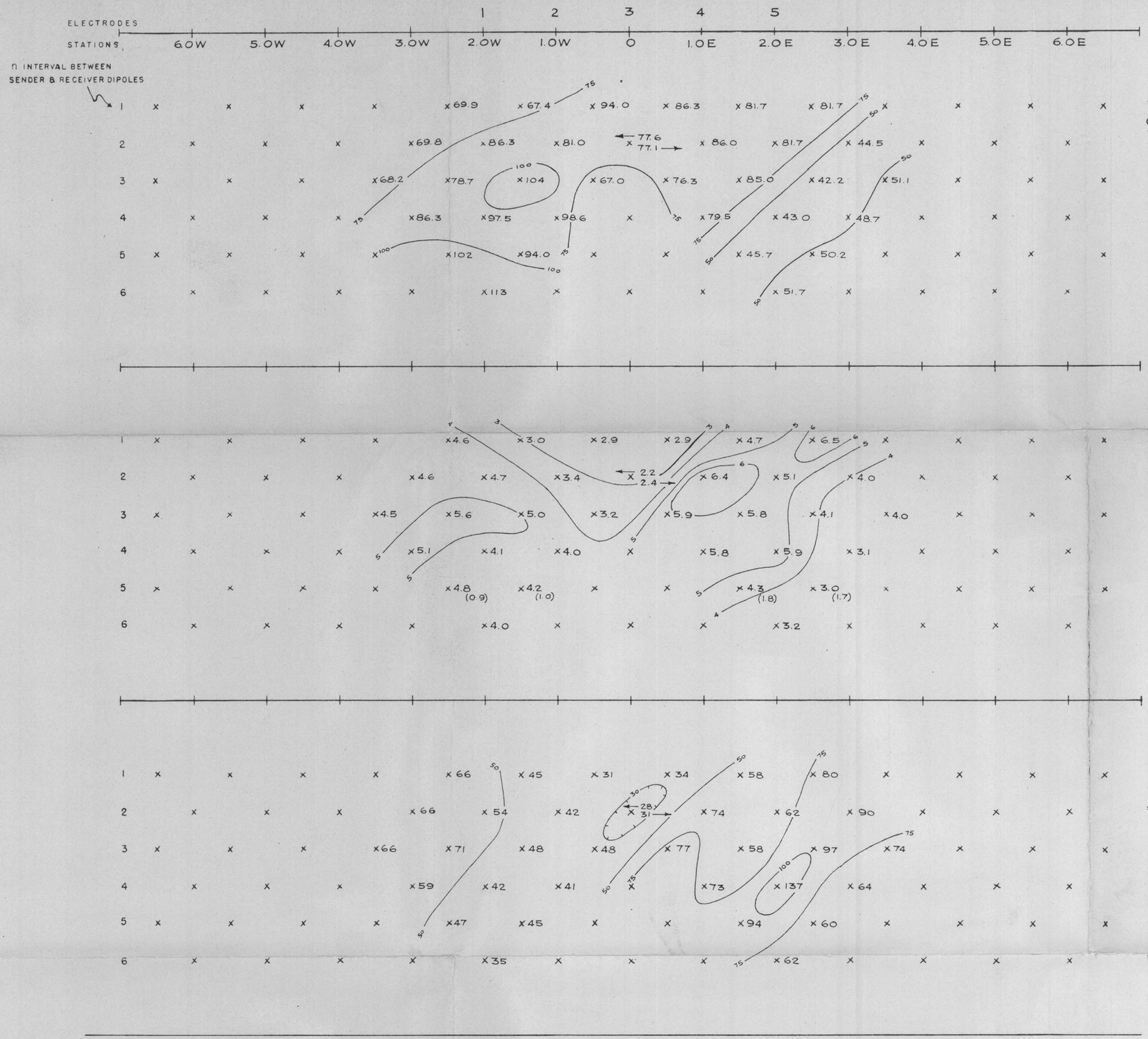
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JULY 1964

FOR

NEWMONT EXPLORATION LTD.



EXPLANATION

ELECTRODE ARRAY: 1000' — n x 1000' — 1000'
SENDER DIPOLE — RECEIVER DIPOLE

Subscripts on 5n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity)

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 7

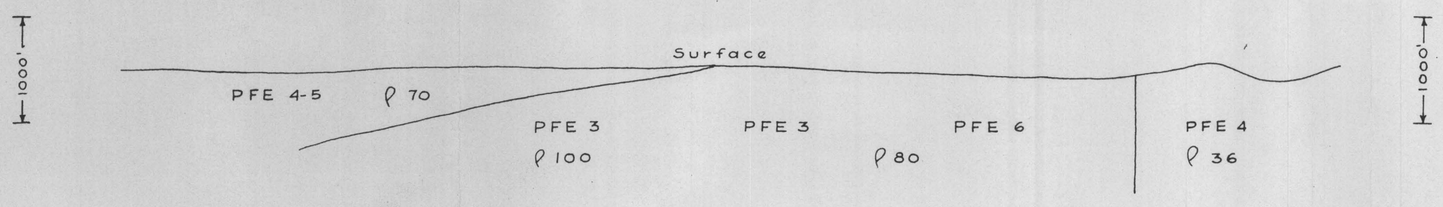
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JULY 1964

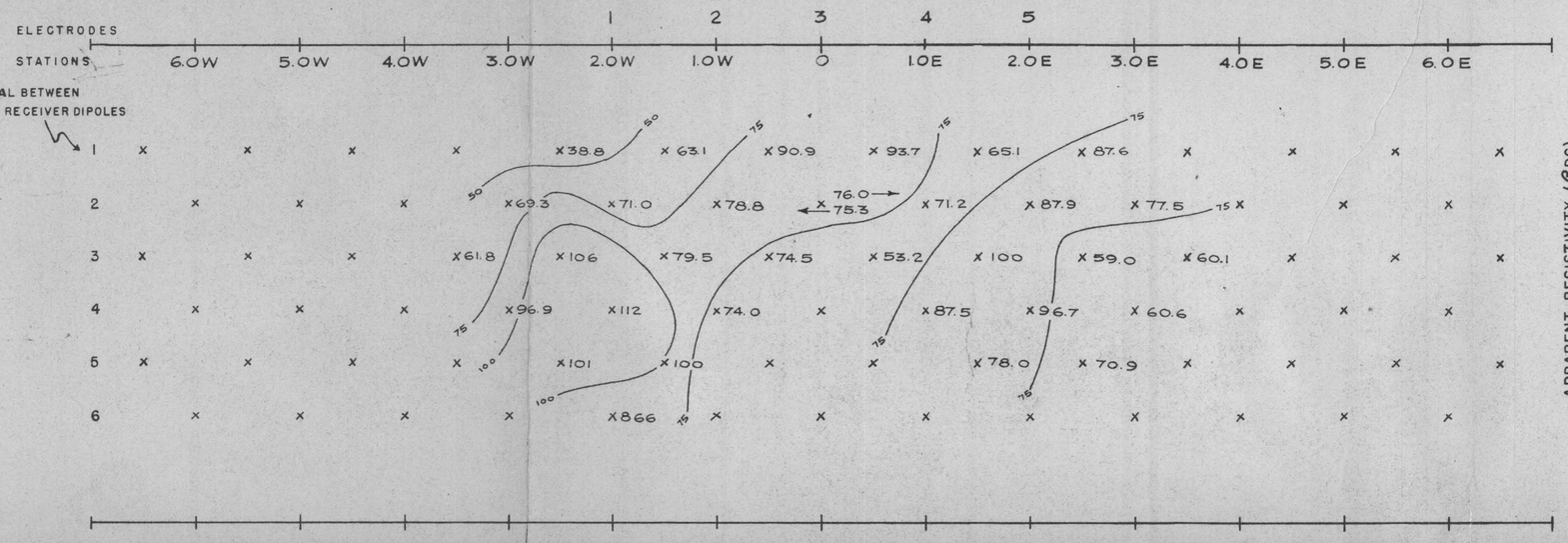
FOR

NEWMONT EXPLORATION LTD.



INTERPRETATION

Looking Northerly



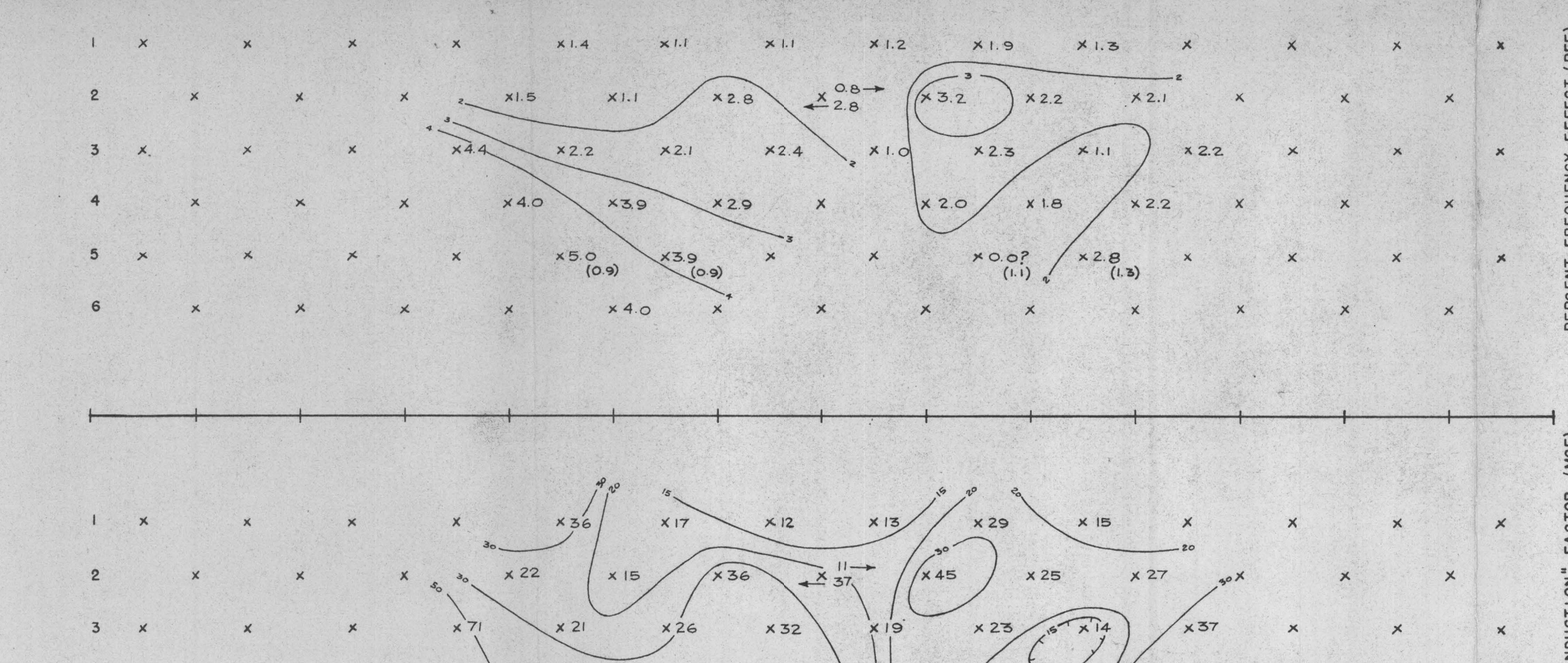
APPARENT RESISTIVITY $(\rho_{DC})/2\pi$ IN UNITS OF OHM FEET

CONTOUR INTERVAL LOGARITHMIC

SENDER FREQUENCY: 0.05 c.p.s.

EXPLANATION

ELECTRODE ARRAY: 1000' — n x 1000' — 1000' (SENDER DIPOLE, RECEIVER DIPOLE)



PERCENT FREQUENCY EFFECT (PFE)

CONTOUR INTERVAL CONSTANT

SENDER FREQUENCIES: 0.05 & 1.0 c.p.s.

Subscripts on 5n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity)

APPARENT "METALLIC CONDUCTION" FACTOR (MCF) $\left(MCF = \frac{PFE \times 1000}{\rho_{DC}/2\pi}\right)$

CONTOUR INTERVAL LOGARITHMIC

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 8

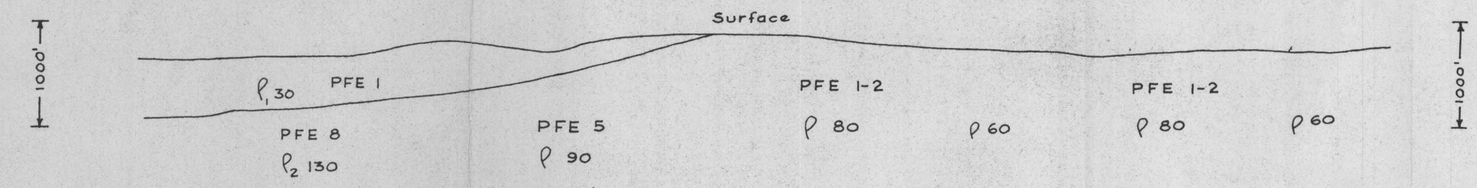
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1"=1000' DATE: JULY 1964

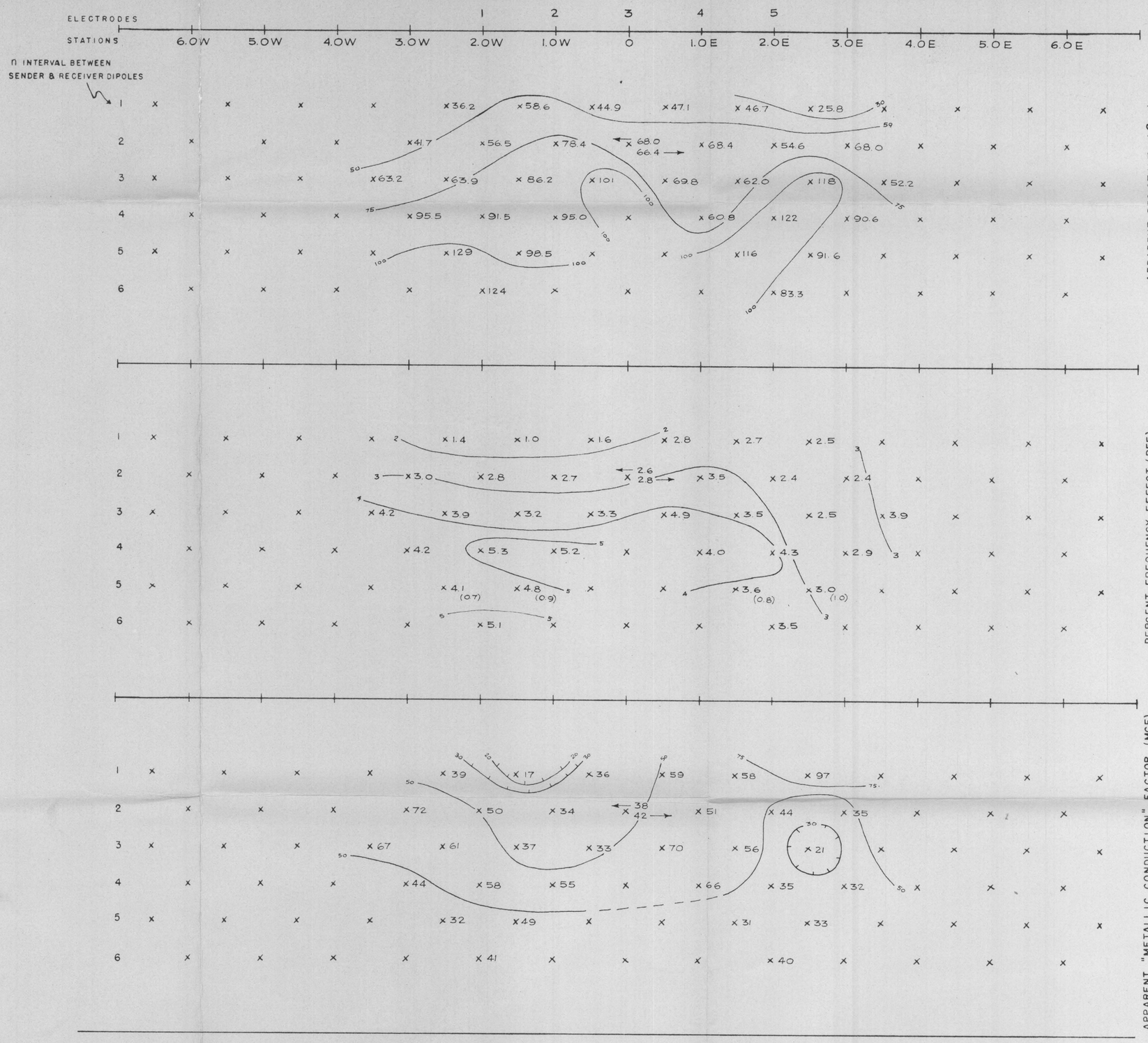
FOR

NEWMONT EXPLORATION LTD.



INTERPRETATION

Looking Northerly



EXPLANATION

ELECTRODE ARRAY: 1000' — n × 1000' — 1000'
SENDER DIPOLE — RECEIVER DIPOLE

Subscripts on 5n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity).

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 9

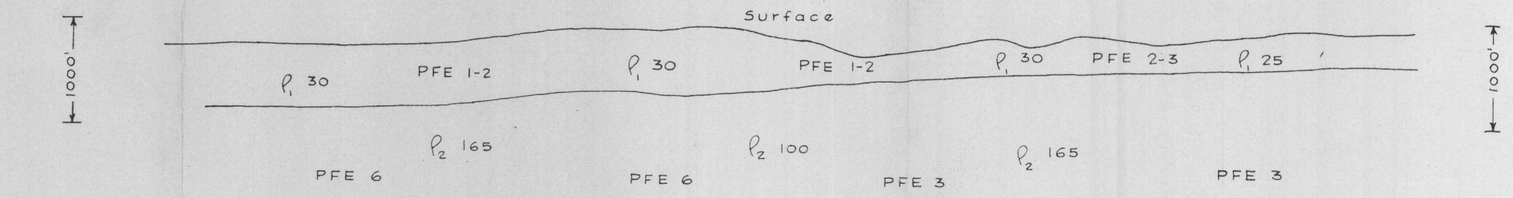
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JULY 1964

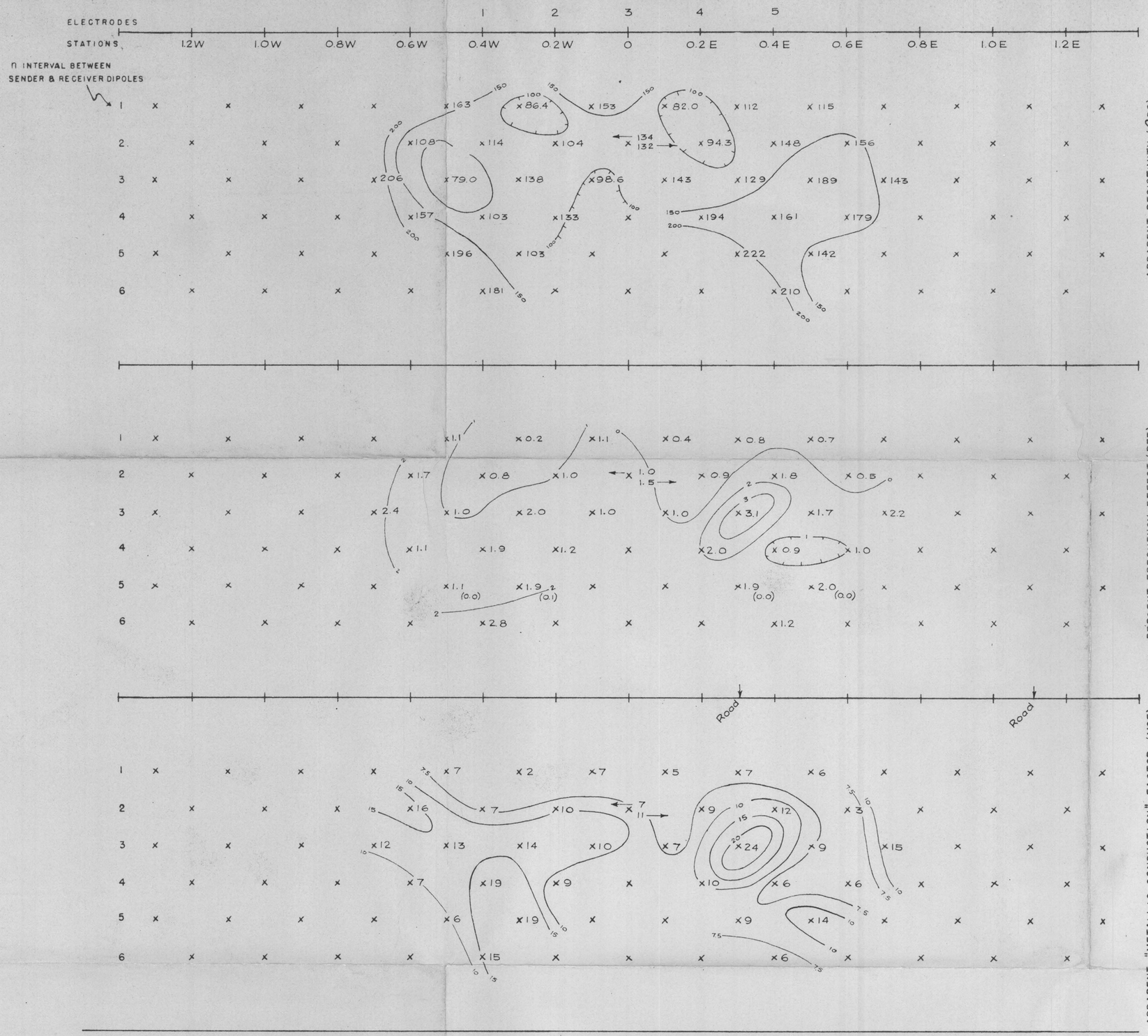
FOR

NEWMONT EXPLORATION LTD.



INTERPRETATION

Looking Northerly



APPARENT RESISTIVITY (ρ_{DC}) $/2\pi$ IN UNITS OF OHM FEET

CONTOUR INTERVAL LOGARITHMIC

SENDER FREQUENCY: 0.05 c.p.s.

EXPLANATION

ELECTRODE ARRAY: 200' — n x 200' — 200'

SENDER DIPOLE — RECEIVER DIPOLE

PERCENT FREQUENCY EFFECT (PFE)

CONTOUR INTERVAL CONSTANT

SENDER FREQUENCIES: 0.05 & 1.0 c.p.s.

Subscripts on 5n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity).

APPARENT "METALLIC CONDUCTION" FACTOR (MCF)

$\left(MCF = \frac{PFE \times 1000}{\rho_{DC}/2\pi}\right)$

CONTOUR INTERVAL LOGARITHMIC

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 10

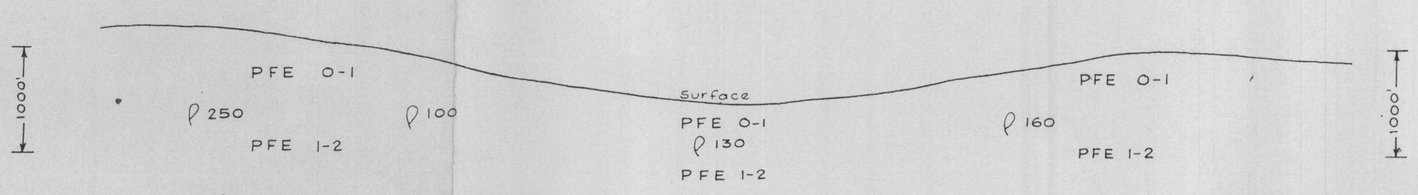
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 200' DATE: JULY 1964

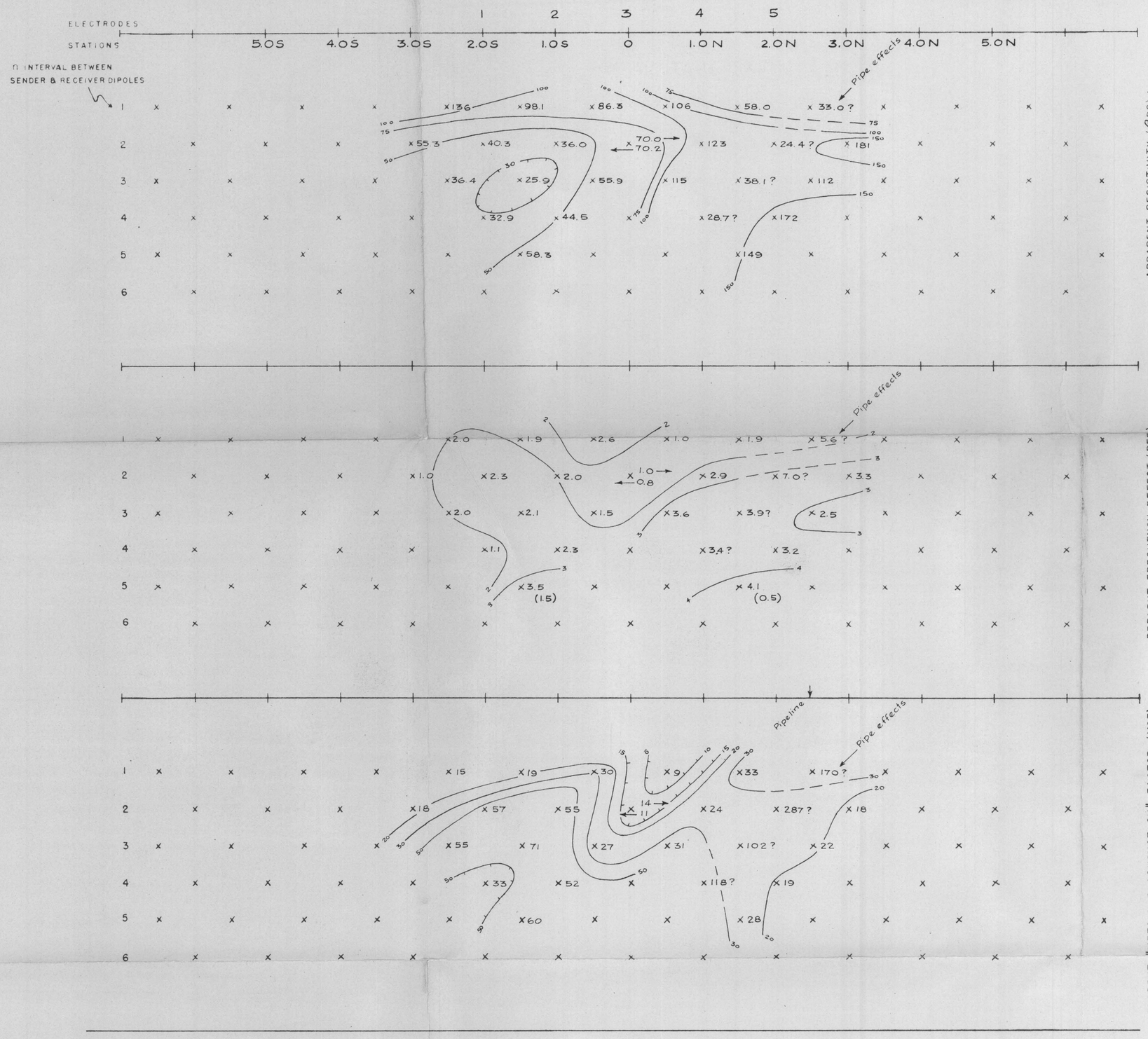
FOR

NEWMONT EXPLORATION LTD.



INTERPRETATION

Looking North



APPARENT RESISTIVITY ($\rho_{DC}/2\pi$) IN UNITS OF OHM FEET

CONTOUR INTERVAL LOGARITHMIC

SENDER FREQUENCY: 0.05 cps

PERCENT FREQUENCY EFFECT (PFE)

CONTOUR INTERVAL CONSTANT

SENDER FREQUENCIES: 0.05 & 1.0 cps

APPARENT "METALLIC CONDUCTION" FACTOR (MCF)

$\left(MCF = \frac{PFE \times 1000}{\rho_{DC}/2\pi}\right)$

CONTOUR INTERVAL LOGARITHMIC

EXPLANATION

ELECTRODE ARRAY: 1000' — n x 1000' — 1000'

SENDER DIPOLE — RECEIVER DIPOLE

Subscripts on 5n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity)

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 5

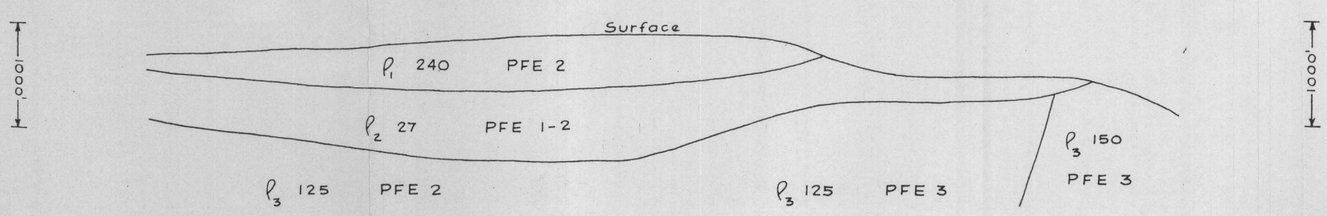
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JULY 1964

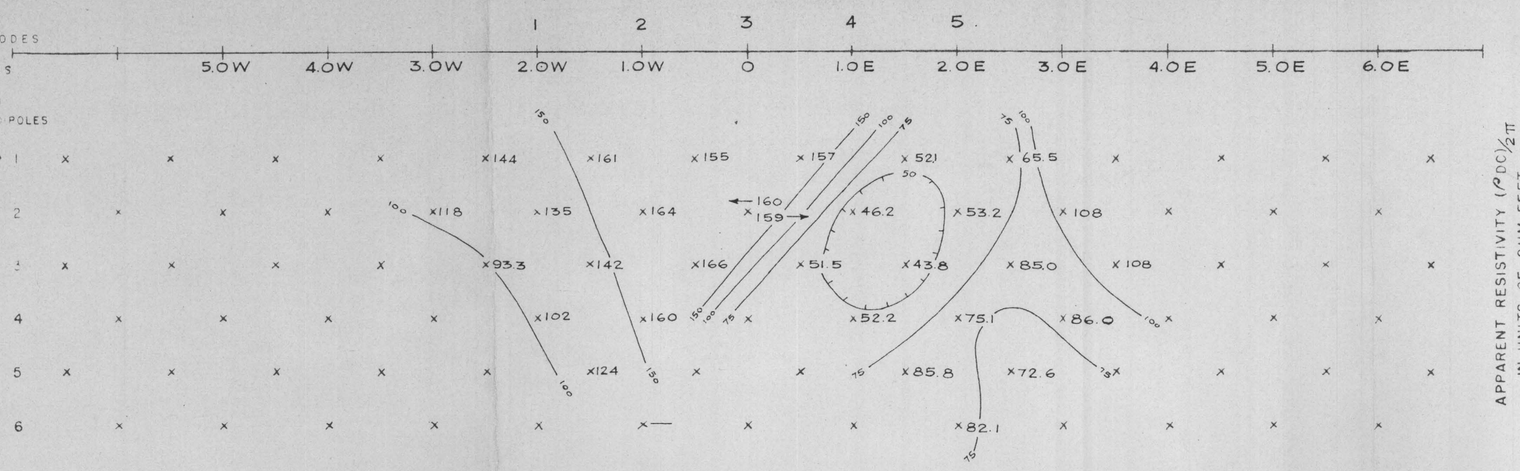
FOR

NEWMONT EXPLORATION LTD.



INTERPRETATION

Looking Westerly

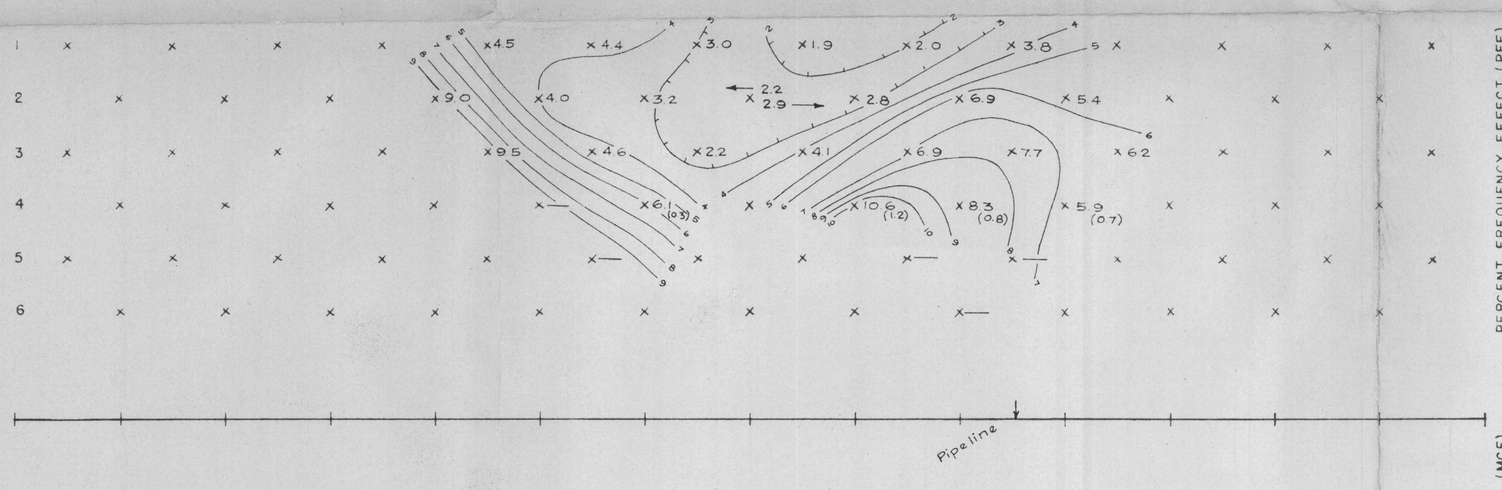


APPARENT RESISTIVITY $(\rho_{DC})_{2\pi}$ IN UNITS OF OHM FEET

CONTOUR INTERVAL LOGARITHMIC
SENDER FREQUENCY: 0.05 cps

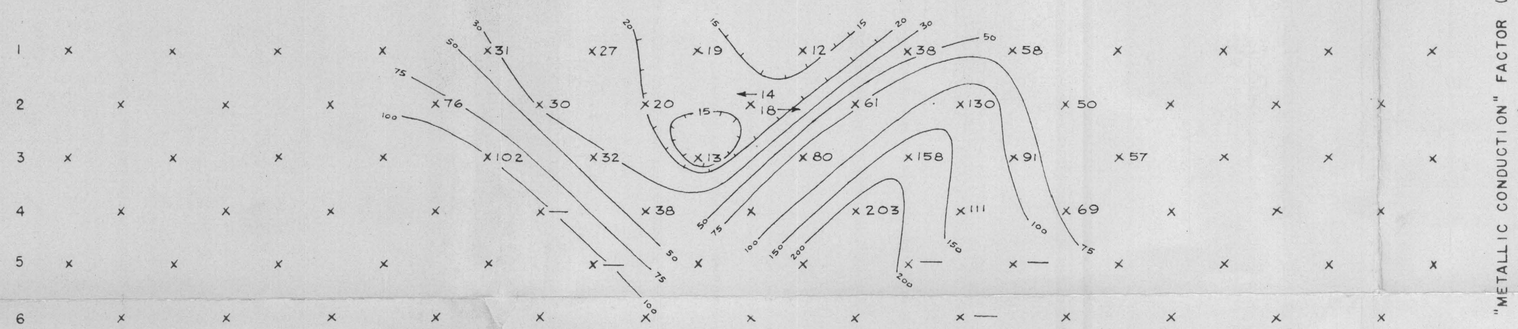
EXPLANATION

ELECTRODE ARRAY: 1000' — n x 1000' — 1000'
SENDER DIPOLE — RECEIVER DIPOLE



PERCENT FREQUENCY EFFECT (PFE)
CONTOUR INTERVAL CONSTANT
SENDER FREQUENCIES: 0.05 & 1.0 cps

Subscripts on 4n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity)



APPARENT "METALLIC CONDUCTION" FACTOR (MCF) $\left(MCF = \frac{PFE \times 1000}{\rho_{DC}/2\pi}\right)$

CONTOUR INTERVAL LOGARITHMIC

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 4

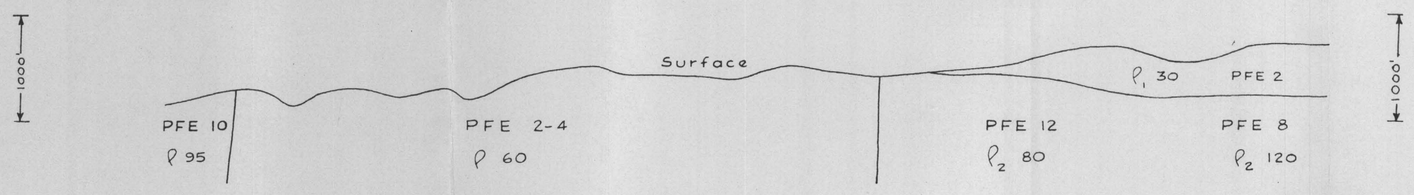
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JULY 1964

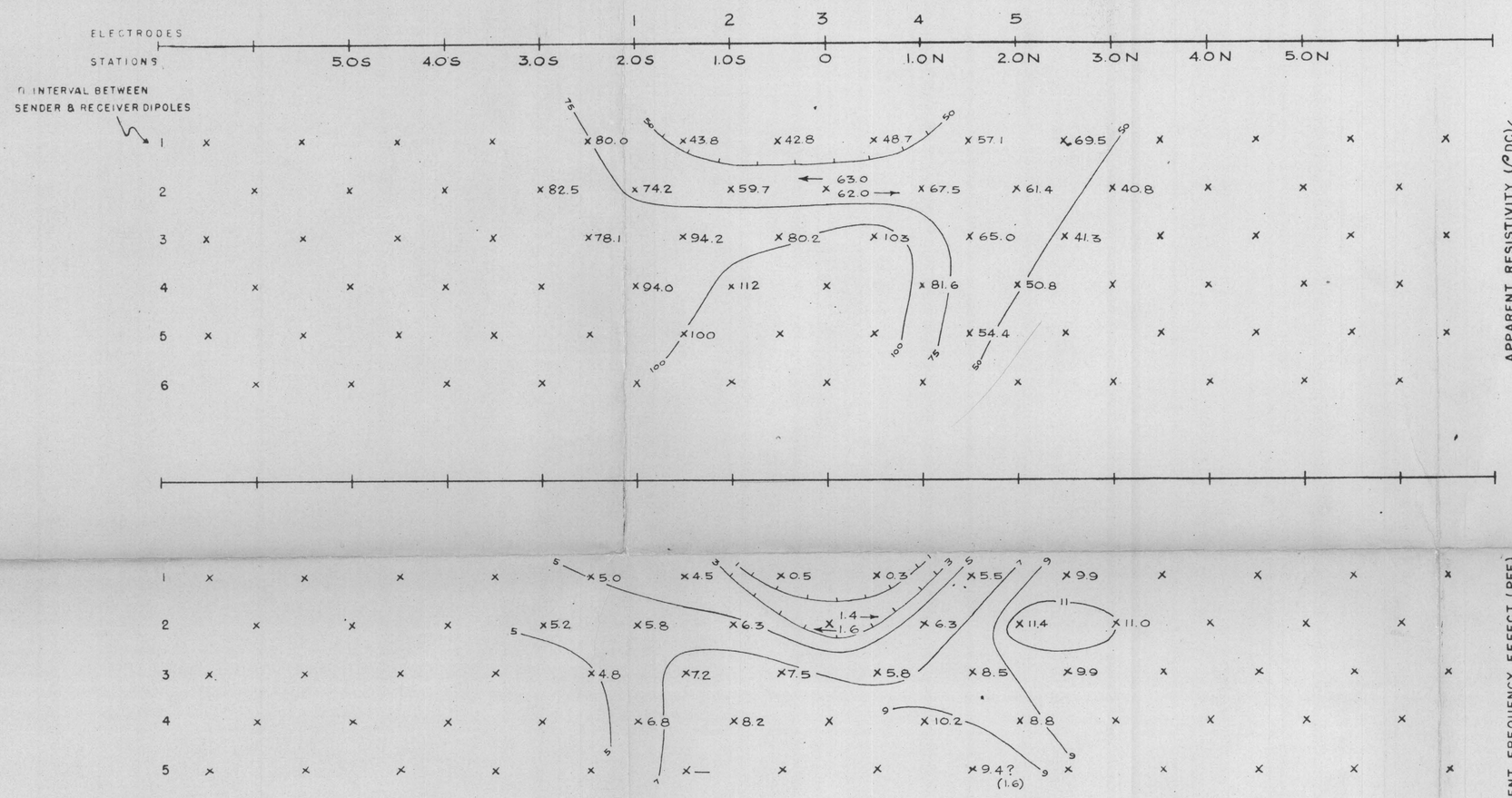
FOR

NEWMONT EXPLORATION LTD.



INTERPRETATION

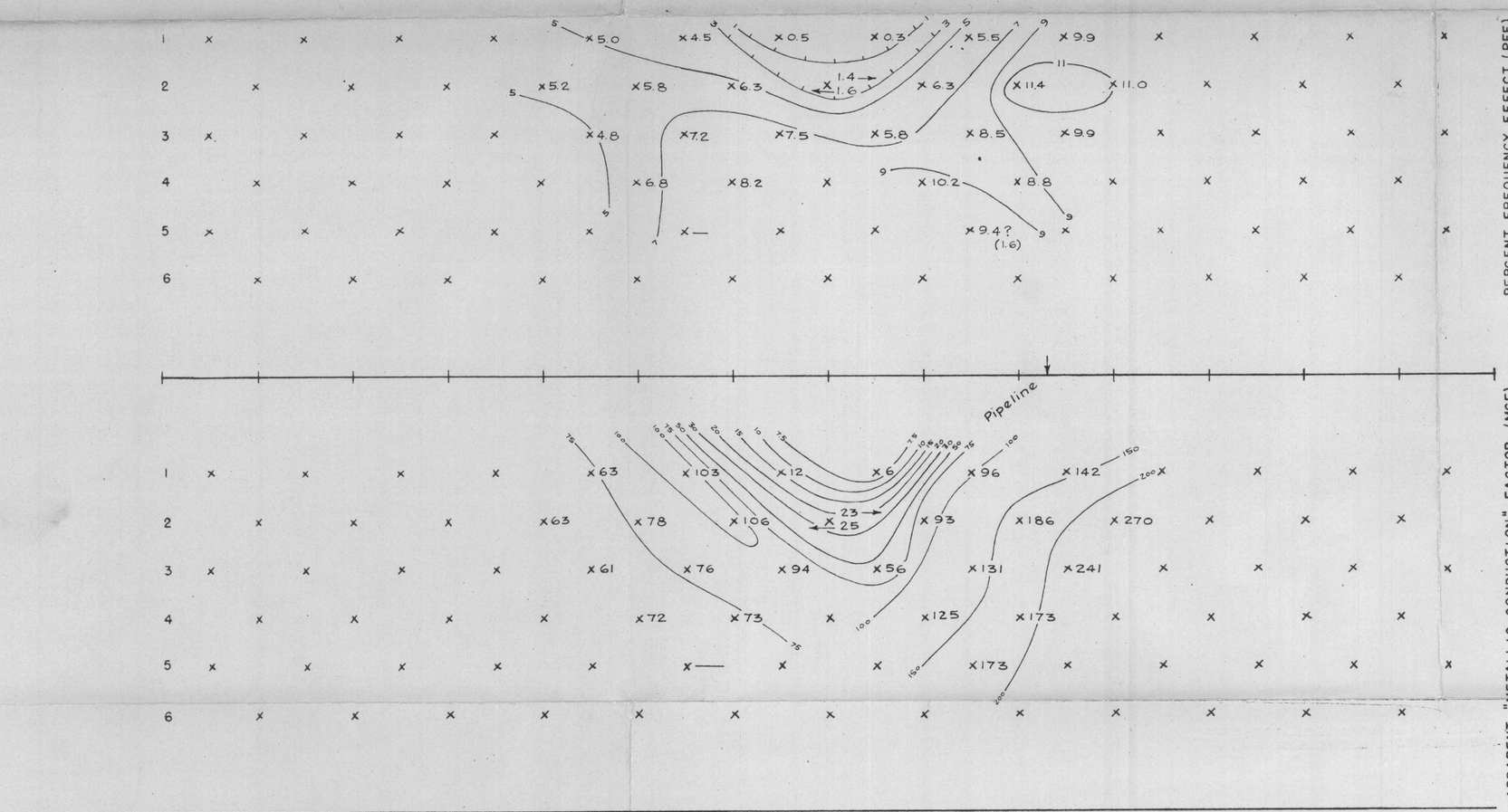
Looking Northerly



APPARENT RESISTIVITY $(\rho_{DC})_{2\pi}$ IN UNITS OF OHM FEET

CONTOUR INTERVAL LOGARITHMIC

SENDER FREQUENCY: 0.05 c.p.s.



PERCENT FREQUENCY EFFECT (PFE)

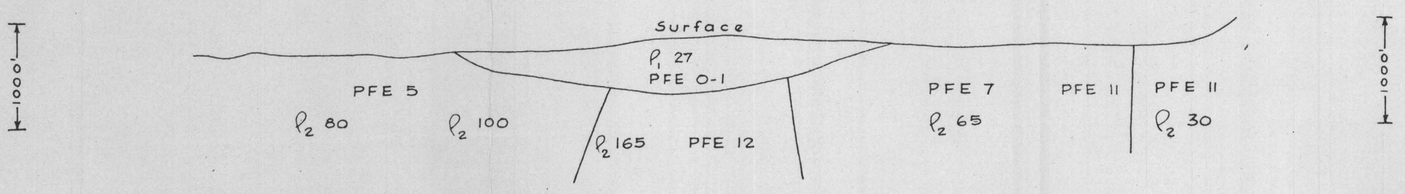
CONTOUR INTERVAL CONSTANT

SENDER FREQUENCIES: 0.05 & 1.0 c.p.s.

APPARENT "METALLIC CONDUCTION" FACTOR (MCF)

$\left(MCF = \frac{PFE \times 1000}{\rho_{DC/2\pi}}\right)$

CONTOUR INTERVAL LOGARITHMIC



INTERPRETATION

Looking Westerly

EXPLANATION

ELECTRODE ARRAY: 1000' — n x 1000' — 1000' (SENDER DIPOLE, RECEIVER DIPOLE)

Subscript on 5n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity)

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 3

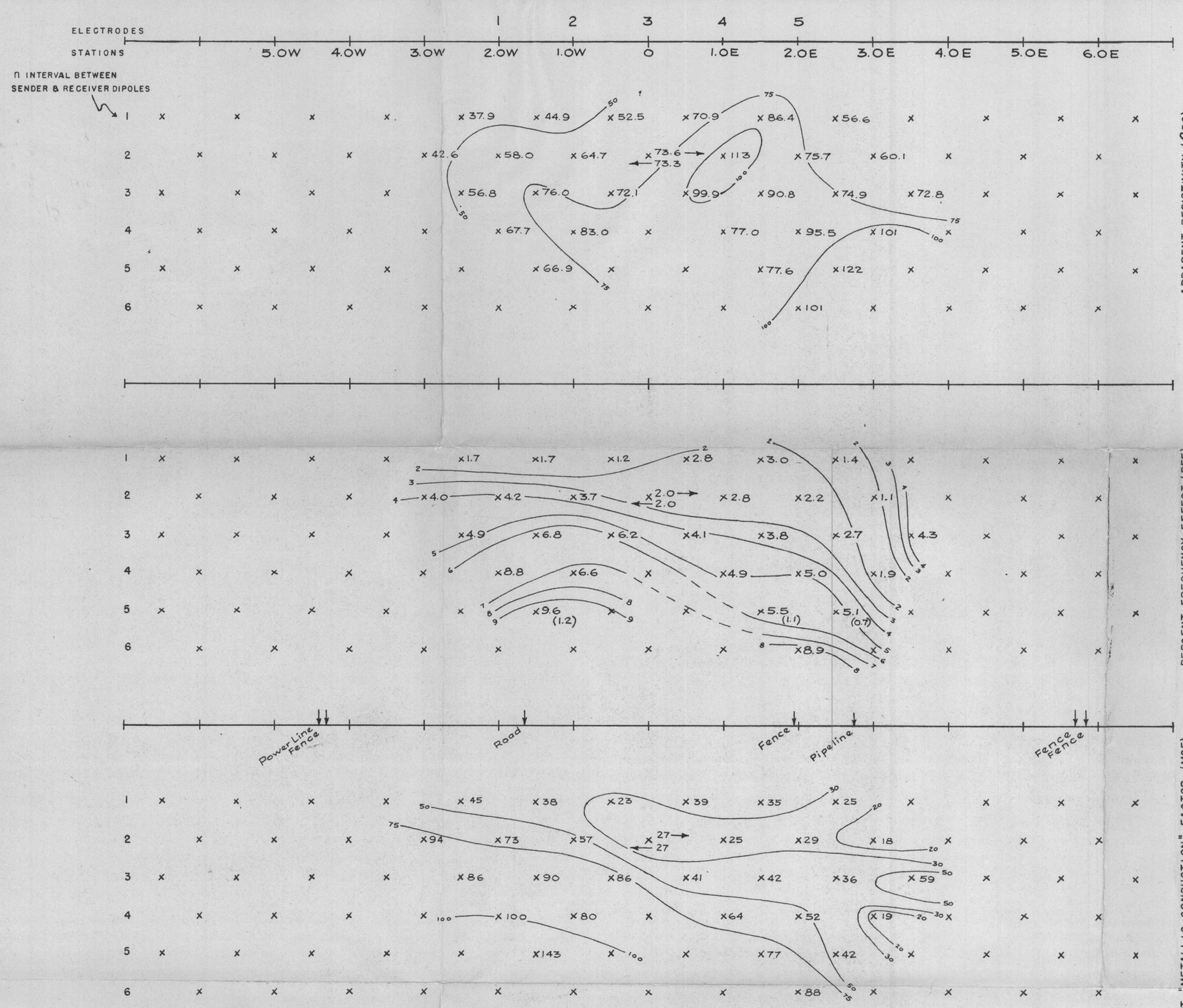
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JULY 1964

FOR

NEWMONT EXPLORATION LTD.



APPARENT RESISTIVITY $(\rho_{DC})/2\pi$ IN UNITS OF OHM FEET

CONTOUR INTERVAL LOGARITHMIC
SENDER FREQUENCY: 0.05 c.p.s.

PERCENT FREQUENCY EFFECT (PFE)
CONTOUR INTERVAL CONSTANT
SENDER FREQUENCIES: 0.05 & 1.0 c.p.s.

APPARENT "METALLIC CONDUCTION" FACTOR (MCF) $\left(MCF = \frac{PFE \times 1000}{\rho_{DC}/2\pi}\right)$

CONTOUR INTERVAL LOGARITHMIC

EXPLANATION

ELECTRODE ARRAY: 1000' — n x 1000' — 1000'
SENDER DIPOLE — RECEIVER DIPOLE

Subscripts on 5n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity).

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 1

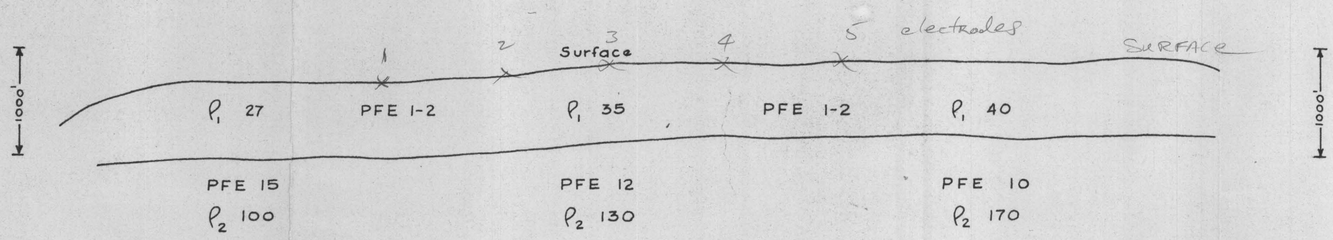
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JULY 1964

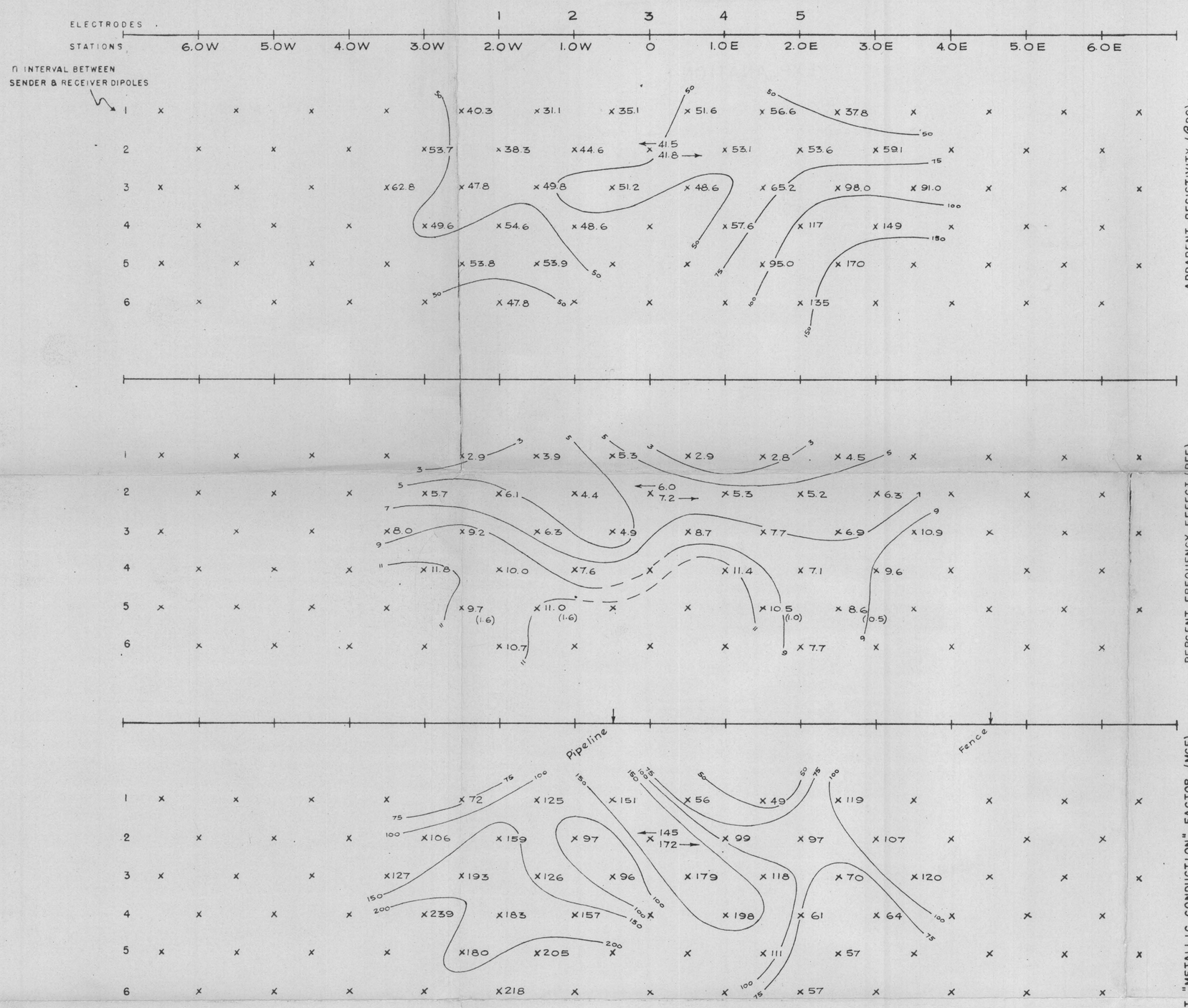
FOR

NEWMONT EXPLORATION LTD.



INTERPRETATION

Looking Northerly



APPARENT RESISTIVITY ($\rho_{DC}/2\pi$) IN UNITS OF OHM FEET
CONTOUR INTERVAL LOGARITHMIC
SENDER FREQUENCY: 0.05 c.p.s.

PERCENT FREQUENCY EFFECT (PFE)
CONTOUR INTERVAL CONSTANT
SENDER FREQUENCIES: 0.05 & 1.0 c.p.s.

APPARENT "METALLIC CONDUCTION" FACTOR (MCF)
$\left(MCF = \frac{PFE \times 1000}{\rho_{DC}/2\pi}\right)$
CONTOUR INTERVAL LOGARITHMIC

EXPLANATION

ELECTRODE ARRAY: 1000' — n x 1000' — 1000'
SENDER DIPOLE — RECEIVER DIPOLE

Subscripts on 5n PFE's refer to the inductive coupling frequency effect (computation based on homogeneity)

BAGDAD EXTENSION PROJECT

SECTIONAL DATA SHEET

LINE No. 2

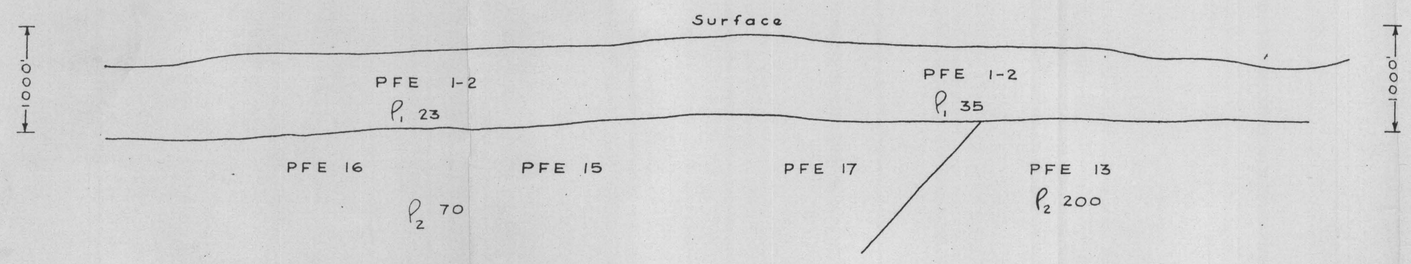
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JULY 1964

FOR

NEWMONT EXPLORATION LTD.



INTERPRETATION

Looking Northerly

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

LOCATION INDUCED POLARIZATION SURVEY

FOR

NEWMONT EXPLORATION CO., LTD.

BAGDAD EXTENSION PROJECT
YAVAPAI COUNTY, ARIZONA

SCALE: 1" = 1000'	CONTOUR INTERVAL:	REVISIONS
	DATA BY:	
DATE: JULY 1964	SHEET OF	
DRAWN BY:	DRAWING NO.:	FILE: