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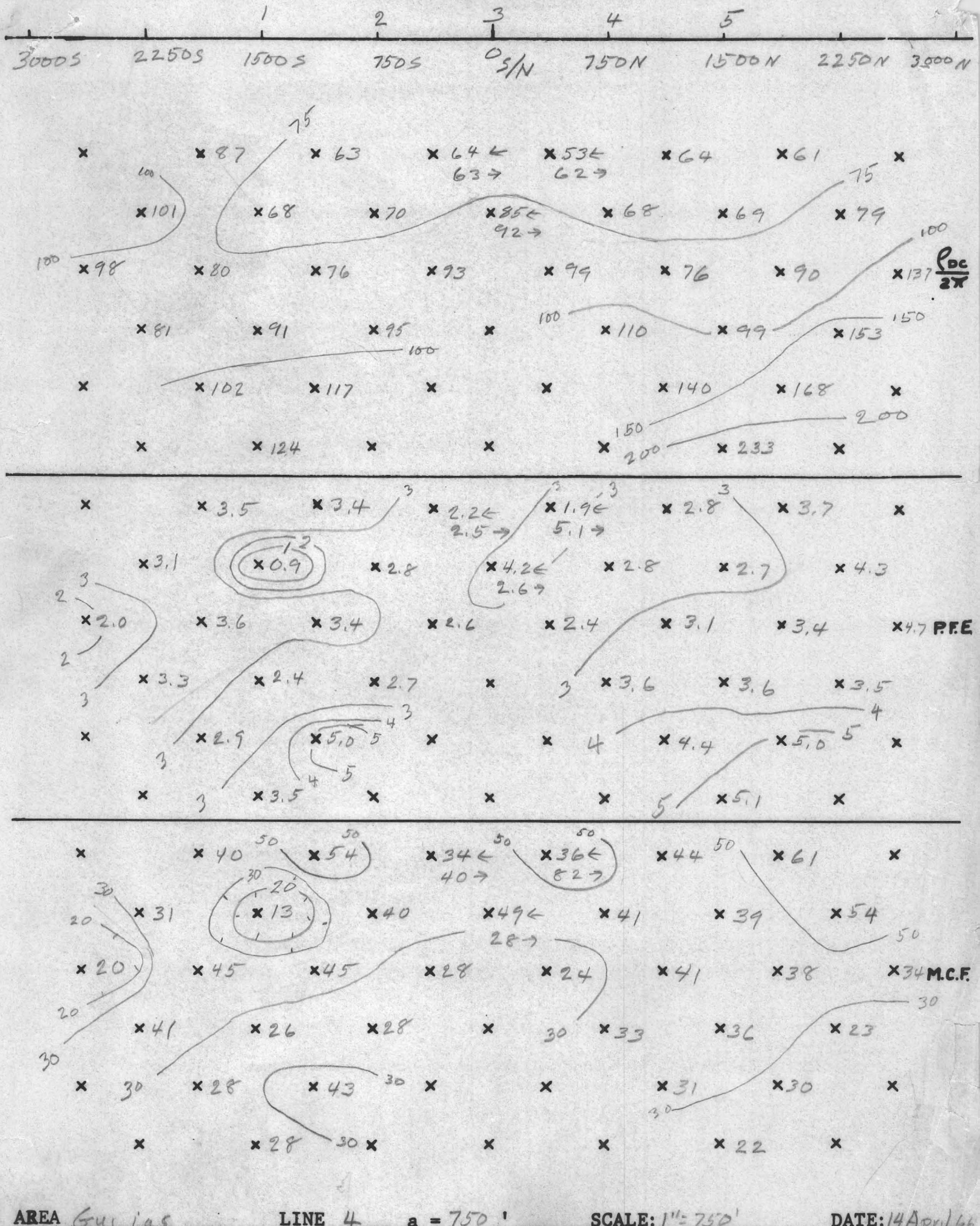
HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING S80°W



AREA Guijas LINE 4 a = 750' SCALE: 1"=750' DATE: 14 Apr. 66

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page _____

Project Guijas Line Line# 4 N½ Field date 13 April Data page _____ Comp. date 14 April. Comp by J.W.L

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
(B) Receive	0-7.5N	7.5-15N	→	15-22.5	→	→	22.5-3	→	→	→	3-37.5	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	1300	2040	1300	2040	2040	1300	2040	2040	2040	1300	2040	2040
(E) Vdc (avg) (1)	38.2	54.27	14.025	60.9	16.15	6.015	58.5	16.35	7.22	3.35	18.9	8.6033
(F) DCcal	.9501	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	2.25	2.25	9	2.25	9	22.5	2.25	9	22.5	45	9	22.5
(H) ρ dc=ExFxGx10^3/D (2)	63	62	92	64	68	99	61	69	76	110	79	90
(I) Vac Σ (3)	37	56	13.57	58.8	15.6	5.83	56	15.8	6.95	3.21	18.0	8.26
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.993	→	→	→	→	→	→	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1025	1051	1026	1028	1028	1024	1037	1027	1031	1036	1043	1034
(N) PFE=(M-1)(10^2) I x 100	2.5	5.1	2.6	2.8	2.8	2.4	3.7	2.7	3.1	3.6	4.3	3.4
(O) MCF=(M-1)(10^5)/H Ams	40	82	28	44	41	24	61	39	41	33	54	38

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

(A) Send	2-3	1-2	4-5	3-4	2-3	1-2		Cal.				
(B) Receive	→	→	37.5-45	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I	2040	1300	2040	2040	2040	1300		2000				
(E) Vdc (avg) (1)	4.705	2.44	13.03	7.32	4.57	2.53		210.5				
(F) DCcal	→	→	→	→	→	→						
(G) Kn x 10^{-3}	45	78.75	22.5	45	78.75	126						
(H) ρ dc=ExFxGx10^3/D (2)	94	140	137	153	168	233						
(I) Vac Σ (3)	4.51	2.32	12.36	7.02	4.32	2.39		204				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→	→						
(M) ρdc/ρac =ExL/K	1036	1044	1047	1035	1050	1051						
(N) PFE=(M-1)(10^2)	3.6	4.4	4.7	3.5	5.0	5.1						
(O) MCF=(M-1)(10^5)/H	36	31	34	23	30	22						

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Eurjas Line 4 S½ Field date 13April Data page_____ Comp. date 14April. Comp by TWL

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
(B) Receive	0-750S	750-1500	→	1500-2250S	→	→	2250-3000S	→	→	→	3-3750	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	2020	2020	2020	2020	2020	2020	1260	2020	2020	2020	1260	2020
(E) Vdc (avg)	50.6	61.1	20.2	54.5	16.6	8.87	51.8	16.2	7.2	4.5	14.995	7.585
(F) DCcal	.9434	—	—	—	—	—	—	—	—	—	—	→
(G) Kn x 10^{-3}	2.25	2.25	9	2.25	9	22.5	2.25	9	22.5	45	9	22.5
(H) ρ dc=ExFxGx10^3/D ②	53	64	85	68	70	93	87	68	76	95	101	80
(I) Vac Σ	49.2	59.2	19.2	57	16	8.56	49.6	15.9	6.9	4.34	14.41	7.25
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.991	—	—	—	—	—	—	—	—	—	—	→
(M) ρ dc/ρac=ExL/K	1.019	1.022	1.042	1.034	1028	1.026	1.035	1.009	1.034	1.027	1.031	1.026
(N) PFE=(M-1)(10^2) ①	1.9	2.2	4.2	3.4	28	2.6	3.5	0.9	3.4	2.7	3.1	3.6
(O) MCF=(M-1)(10^5)/H Ans	36	34	49	54	40	28	40	13	45	28	31	45

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal				
(B) Receive	→	→	37.5-4500S	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I	2020	2020	1860	2020	2020	2020		2000				
(E) Vdc (avg)	4.32	3.19	8.59	3.86	2.763	2.11		2.121				
(F) DCcal	—	—	—	—	—	→						
(G) Kn x 10^{-3}	45	78.75	22.5	45	78.75	126						
(H) ρ dc=ExFxGx10^3/D ②	91	117	98	81	102	124						
(I) Vac Σ	4.18	3.01	8.34	3.70	2.66	2.02		2.10				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	—	—	—	—	—	→						
(M) ρdc/ρac =ExL/K	1.024	1.050	1020	1033	1.029	1035						
(N) PFE=(M-1)(10^2) ①	2.4	5.0	2.0	3.3	2.9	3.5						
(O) MCF=(M-1)(10^5)/H Ans	26	43	20	41	28	28						

George (Roosevelt) 14 March

Kayser Assey List Prospect # 13

1.) High grade sample (?) not enough apparent sulfide to relate to EM anomaly. - actually only sparse disseminated pyrite.
05526

2.) Quartz vein material
Low in sulfide
05527

3.) Apparently Barren country rock with probably Sericite alteration

To: HAWLEY & HAWLEY
Tucson, Arizona

05528

From Heinrich Geoexploration

Ident: #3 / Kuyer

Date 14 March Sampler Lodge

CLASS OF ANALYSIS

Special ☐ Standard ☐ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2	W	
✓	✓		✓				✓	

To: HAWLEY & HAWLEY
Tucson, Arizona

05528

From

Ident: /

Date Sampler

CLASS OF ANALYSIS (See price list)

Special ☐ Standard ☐ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		

From .....

.....

.....

To HAWLEY & HAWLEY

BOX 5934

TUCSON, ARIZ. 85705

To: HAWLEY & HAWLEY
Tucson, Arizona

05526

From Heinrichs Geoex

Ident: #1 / Kayser

Date 13 March Sampler Langs

CLASS OF ANALYSIS

Special ☐ Standard ☒ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2	W	
✓	✓		✓				✓	

To: HAWLEY & HAWLEY
Tucson, Arizona

05526

From

Ident: /

Date Sampler

CLASS OF ANALYSIS (See price list)

Special ☐ Standard ☐ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		

From .....

.....

.....

To HAWLEY & HAWLEY

BOX 5934

TUCSON, ARIZ. 85705

To: HAWLEY & HAWLEY
Tucson, Arizona

05527

From Heinrichs Geoexploration

Ident: #2 / Kayser

Date 14 March Sampler L Dwyer

CLASS OF ANALYSIS

Special ☐ Standard ☐ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		
1	1		1				1	

To: HAWLEY & HAWLEY
Tucson, Arizona

05527

From

Ident: /

Date Sampler

CLASS OF ANALYSIS (See price list)

Special ☐ Standard ☐ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		

From .....

.....

.....

To HAWLEY & HAWLEY

BOX 5934

TUCSON, ARIZ. 85705

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Guijas Line: Line 4, 750'S Int.Cal Date: 12 April

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Rec.	0-750S	750-1500S	→	1500-2250S	→	→	2250-3000	→	→	→	3000-3750	→
Time	100	100	30	100	30	10	100	30	10	3	10	10
DC-1	24.6 26.0	31.4 29.7	10.1 10.7 10.5 9.3	29.5 30	8.2 8.4	4.6 4.3	25.8 26	8.1 8.1	3.6 3.6	2.30 2.20	7.6 7.39	3.79 3.8
DC-2	26.0 24.6	29.7 31.4	10.5 9.3 9.5 10.9	30 29.5	8.4 8.2	4.3 4.6	26 25.8	8.1 8.1	3.6 3.6	2.20 2.30	7.39 7.61	3.8 3.78
Σ	50.6 50.6	61.1 61.1	10.6 20.2 20.0			8.9 8.9	51.8 51.8			4.5		
DC-3	24.6 26.0		9.5 10.9 10.7 9.3			4.6 4.2						
Dc-4												
Σ	50.6		20.2 20.0 20.2			8.8						
DC-AV	50.6	61.1	20.2	59.5	16.6	8.87	51.8	16.2	7.2	4.5	14.995	7.585
AC-1	24.6	29.6	9.6	28.5	8	4.28	24.8	8	3.45	2.17	7.2	3.63
AC-2	24.6	29.6	9.6	29.5	8.0	4.28	24.8	7.9	3.45	2.17	7.21	3.62
Σ	49.2	59.2	19.2	57	16	8.56	49.6	15.9	6.9	4.34	14.41	7.25
S. P.	+11	-1		-4			-1				+14	
AC-N	.06	.03		.04			.04				.04	
Pot.Res.	70K	50K		20K			20K				12K	

9.7

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: Gunjas Line: 4,750' SE Int.Cal Date: 12 April

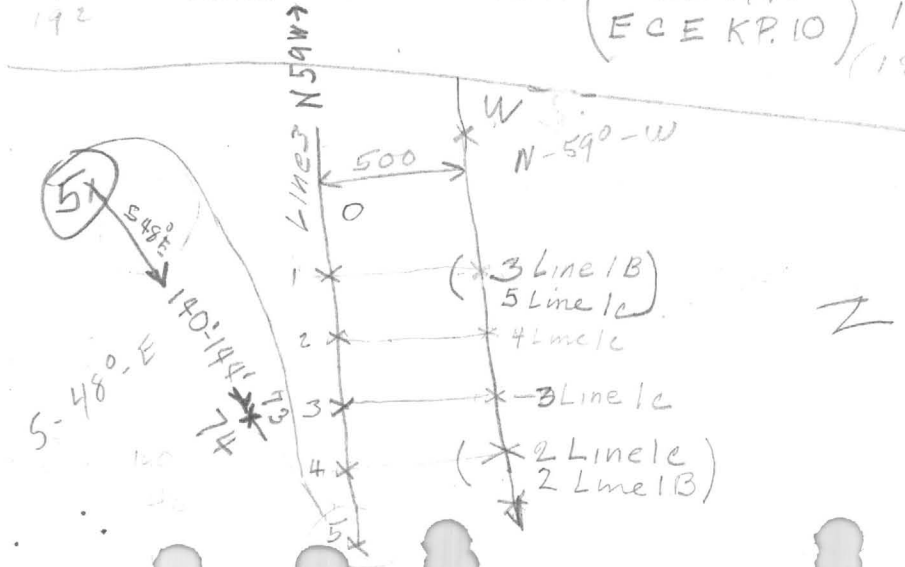
Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal				
Rec.	→	→	3750-45	→	→	→		2-3				
Time R	3	3	10	3	3	3		300				
DC-1	2.18 2.14	1.55 1.64	4.50 4.01	2.05 1.80	1.30 1.46	1.01 1.10		106 106				
DC-2	2.14 2.18	1.64 1.54	4.01 4.59	1.80 2.07	1.46 1.30	1.10 1.01		106 106				
Σ	4.32 4.32	3.19 3.18	8.56 8.60	3.85 3.87	2.76 2.76	2.11 2.11						
DC-3		1.54 1.66	~~4.60~~ 4.38 4.22		1.30 1.47	1.01 1.18						
Dc-4			4.21 4.38									
Σ		3.20				2.11						
DC-AV	4.32	3.19	8.59	3.86	2.763	2.11		212				
AC-1	2.1	1.5	4.18	1.85	1.33	1.01		105				
AC-2	2.08	1.51	4.16	1.85	1.33	1.01		105				
Σ	4.18	3.01	8.34	3.70	2.66	2.02		210				
S. P.			-3									
AC-N			105									
Pot.Res.			15K									

47

Location of line 4 with respect to claims.

electrode #3

come S 64° W from (WCE KP 9 / ECE KP 10) 192' to ~~electrode~~ #3 (180-200'?)



INDUCED POLARIZATION SENDER NOTES

Project: GUIJAS Line: LINE #4-750 S½ Date: 4-12-66

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Receive	0-750 5	750-1500 5	→ 5	15-2250	→	→	2250-3000	→	→	→	3000-3750	→
Time (Current)	1010	1010	1010	1010	1010	1010	6030	1010	1010	6030	1010	1010
Range	X2	X2	X2	X2	X2	X2	X2	X2	X2	X2	X2	X2
Current (Total)	2020	2020	2020	2020	2020	2020	1260	2020	2020	2020	1260	2020
Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal				
Receive	→	→	3750-4500	→	→	→		2-3				
Time (Current)	1010	1030	930	1010	1010	1010						
Range	X2	X2	X2	X2	X2	X2						
Current (Total)	2020	2060	1860	2020	2020	2020		2000				

IND ED PO RIZAT N - RECEIVER NOTES PA

. Project: Gulias Line: 4 N ½ Int.Cal Date: 18 April

Send	2-3	1-2	4-5	3-4	2-3	1-2						
Rec.			3760 46N					4-5				
~~Time~~ R	3	3	10	10	3	3						
DC-1	2.28 2.36 2.46 2.35	1.19 1.30 1.25 1.14	6.7 7.0 6.2 5.98	3.82 3.52	2.32.18 2.312.38	1.25 1.35 1.3 1.17		105 106				
DC-2	2.46 2.35 2.189.35	1.25 1.30	6.2 6.4 6.88 6.66	3.52 3.95	2.31 2.25	1.3 1.19 1.27 1.35		105 105				
Σ	4.74 4.604	2.44 2.44 2.55	12.98 12.98 13.09 13.08	7.34 7.47	4.634.56 4.66	2.552.52 2.572.52		211				
DC-3	2.18 2.155	1.30 1.14	6.886.66 6.086.30	3.95 3.46	2.25 2.33	1.27 1.22		210				
Dc-4		1.14 1.30	6.086.30 7.0 6.80	3.46 3.99	2.33 2.18	1.22 1.35						
Σ	4.734.71 4.70	2.44 2.44	12.94 12.96 13.08 13.10	7.41 7.45	4.58 4.51	2.49 2.57						
DC-AV	4.705	2.44	13.03	7.32	4.57	2.53		210.5				
AC-1	2.26	1.16	6.18	3.52	2.16	1.2		104				
AC-2	2.25	1.16	6.18	3.50	2.16	1.19		105				
Σ	4.51	2.32	12.36	7.02	4.32	2.39		209				
S. P.			+12									
AC-N			105									
Pot.Res.			5K									

$\frac{1300}{2020} = \frac{2}{61}$

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Guijas Line: 4N½ Int.Cal Date: 13April

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Rec.	0-750N	750-1500N	→	15-2250N	→	→	2250-3N			→	3-3750	→
~~Time~~ R	30	100	10	100	30	10	100	30	10	3	30	10
DC-1	18.9 19.3	29.9 29.3	6.92 7.17	31.0 29.9	8.0 8.1	2.96 3.06	28.6 29.9	8.8 7.6	3.58 3.64	1.74 1.60 1.66 1.75	9.4 9.5	4.33 4.28
DC-2	19.3 19.0	29.3 30.0	7.17 6.82	29.9 31.0	8.2 8.0	3.06 2.95	29.9 28.6	7.6 8.7	3.64 3.61	1.66 1.61	9.5 9.4	4.28 4.36
Σ	38.2 38.3	59.2 59.3	14.09 13.99		16.1 16.2	6.02 6.01	58.5 58.5	16.4 16.3	7.22 7.25	3.40 3.35 3.27		8.61 8.64
DC-3	19.0 19.1	30.0 29.3	6.82 7.21	31.0 29.9					3.61 3.59	1.61 1.76		4.36 4.20
Dc-4			7.21 6.78							1.76 1.60		
Σ	38.1	59.3	14.03 13.99						7.20	3.37 3.36		856
DC-AV	38.2	59.27	14.025	60.9	16.15	6.015	58.5	16.35	7.22	3.35	18.9	8.6033
AC-1	18.5	28.5	6.79	29.3	7.8	2.91	28	7.9	3.47	1.6	9.0	4.13
AC-2	18.5	28.5	6.78	29.5	7.8	2.92	28	7.9	3.48	1.61	9.0	4.13
Σ	37.0	56.0	13.57	58.8	15.6	5.83	56	15.8	6.95	3.21	18.0	8.26
S. P.	+2	+1		-5			-14				+1	
AC-N	.02	.03		.02			.02				.04	
Pot.Res.	7K	5K		3K			7K				3K	

47 47

1-2 / 2020

2-3 / 2.20

4-5 1300

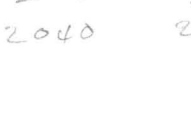
-34 2048

2-3 2040

1-2 2040

Line N10W°

3500 across prospect



x 2250

x 3000 N

(X Prospect with some disseminated and vein Sulfide

x 3750

INDUCED POLARIZATION SENDER NOTES

project: Guijas Line: Line #4 750 N.E Date: 4-13-66

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4 5	3-4
Receive	0-750	750-1500	→	1500-2250	→	→	2250-3000	→	→	→	3000-3250	→
Current Time	650	1020	650	1020	1020	650	1020	1020	1020	650	1020	1020
Range	X2	X2	X2	X2	X2	X2	X2	X2	X2	X2	X2	X2
total Current	1300	2040	1300	2040	2040	1300	2040	2040	2040	1300	2040	2040
Send	2-3	1-2	4-5	3-4	2-3	1-2		Col				
Receive	→	→	3250-4000	→	→	→		4-5				
Current Time	1020	650	1020	1020	1020	650						
Range	X2	X2	X2	X2	X1	X2						
total Current	2040	1300	2040	2040	2040	1300		2000				

16 March 66

Asseys for Kaiser

100
200
300 } 3 samples for Au Ag T + Cu

Las Guijas mtn. Area

100 = 1"-2" high grade QTz. + sulfide Taken from 15' QTz. Hematite stained vein at bottom of shaft of Token Mine.

200 Chip sample taken across same vein as (100) at same place

300. High grade from dump in area of Token mine adj shaft with minor drifts

J. L. DARLING CORP. TACOMA, WASH. U.S.A. No. 314
WATERPROOF

300 cont.

Vein maybe 2'-3' in width with undetermined amount of High grade in vein.

To: HAWLEY & HAWLEY
Tucson, Arizona

05531

From Heinrichs Geocx

Ident: 100 /

Date 16 March Sampler Langa

CLASS OF ANALYSIS

Special ☐ Standard ☒ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		
✓	✓		✓					

To: HAWLEY & HAWLEY
Tucson, Arizona

05531

From

Ident: /

Date Sampler

CLASS OF ANALYSIS (See price list)

Special ☐ Standard ☐ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		

From .....

.....

.....

To HAWLEY & HAWLEY

BOX 5934

TUCSON, ARIZ. 85705

To: HAWLEY & HAWLEY
Tucson, Arizona

05530

From Heinrich's Geocx

Ident: 200 / Kayser

Date 16 March Sampler LANGS

CLASS OF ANALYSIS

Special ☐ Standard ☒ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		
✓	✓		✓					

To: HAWLEY & HAWLEY
Tucson, Arizona

05530

From

Ident: /

Date Sampler

CLASS OF ANALYSIS (See price list)

Special ☐ Standard ☐ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		

From .....

.....

.....

To HAWLEY & HAWLEY

BOX 5934

TUCSON, ARIZ. 85705

To: HAWLEY & HAWLEY
Tucson, Arizona

05529

From Heinrich Geoex

Ident: 300 / Kayser

Date 16 March Sampler Langs

CLASS OF ANALYSIS

Special ☐ Standard ☒ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		
✓	✓		✓					

To: HAWLEY & HAWLEY
Tucson, Arizona

05529

From

Ident: /

Date Sampler

CLASS OF ANALYSIS (See price list)

Special ☐ Standard ☐ Control ☐ Umpire ☐

Au	Ag	Pb	Tot Cu	Ox Cu	Zn	MoS2		

From .....

.....

.....

To HAWLEY & HAWLEY

BOX 5934

TUCSON, ARIZ. 85705

22 Feb 66

Cotton #1

Santa Cruz Co.

T 21 S

R 12 E

Sec 7

First impression:

A complex igneous picture which roughly is a contact zone of silicified breccia trending E W with volcanics to the N and Igneous to the South

---

Second Impression:

A small granitic plug lying to the south of E-W trend of Prospect pithos breccia zones, dikes, alteration about its perimeter. The prospect appears on the northern contact of this zone in complex breccia.

LOOSE LEAF NO. 372
J. L. DARLING CORP.
WATERPROOF
Hold in the Rain

22 Feb 66
Page 2

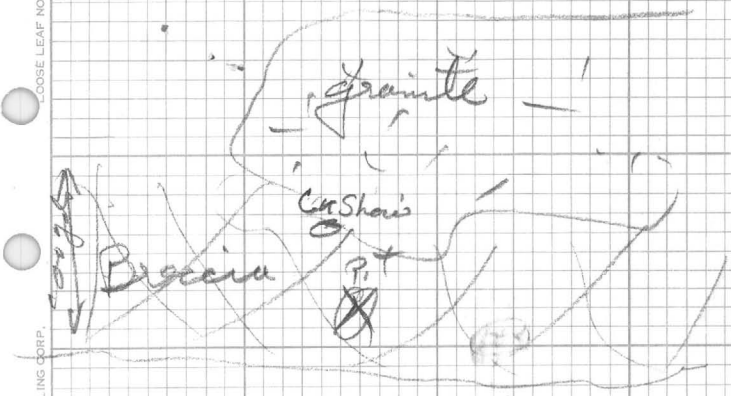
Much clay in pit above where Cu showed, May have served to Trap Cu bearing fluid, Probably associated with fault, probably less than 50 yds square of intense alteration associated with mineralization

mineralization appears to be on intersection both EW + NS zones of weakness Breccia extends EW adjacent granitic plug and volcanic contact. ~~Some granite appears within 20 yds of mineral show~~ Breccia was traced 200 yds both east and west. Breccia become nearly all volcanic in nature to East

LOOSE LEAF NO. 372
J. L. DARLING CORP.
WATERPROOF
Rite in the Rain

Map

Feb 22 66

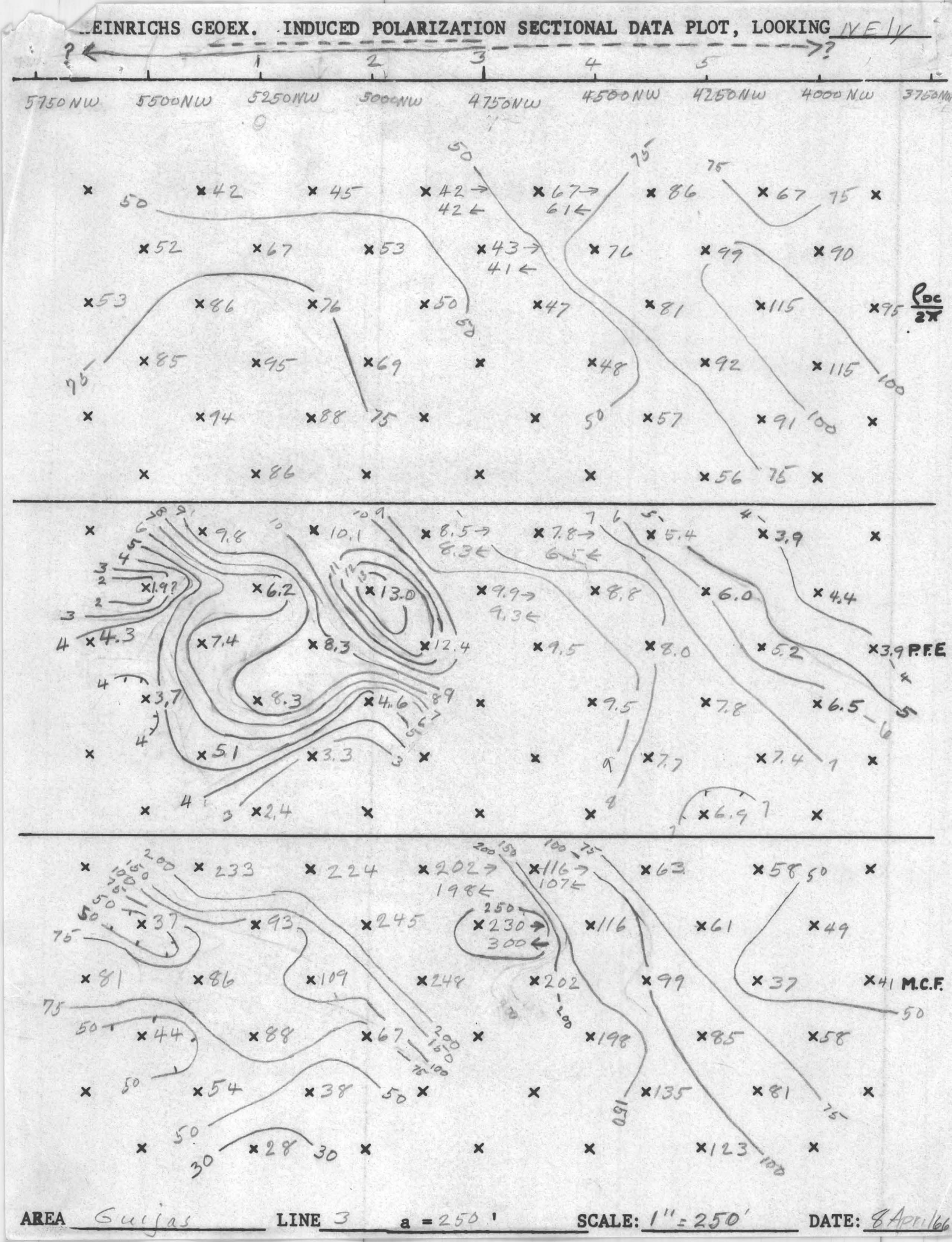


J. L. DARLING CORP. WATERPROOF LOOSE LEAF NO. 372

..EINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING NE/W

? 1 2 3 4 5 ?

5750NW 5500NW 5250NW 5000NW 4750NW 4500NW 4250NW 4000NW 3750NW



AREA Guijas LINE 3 a = 250' SCALE: 1" = 250' DATE: 8 April 66

INDUCED POLARIZATION SENDER NOTES

project: GUITAS Line: 3 E ½ Date: APRIL 8

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Receive	0-250	250-500	→	500-2750	→	→	750-1000	→	→	→	1000-1250	→
Time												
Range	1	1	2	2	1	2	2	1	2	2	2	2
Current	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
Send	2-3	1-2	4-5	3-4	2-3	1-2			3-4 CAL			
Receive	→	→	1250-1500	→	→	→						
Time												
Range	2	2	2	2	2	2			2			
Current	2.0	2.0	1.0	2.0	2.0	2.0			2.0			

INDUCED POLARIZATION SENDER NOTES

project: GUIJAS Line: 3 W 1/2 Date: APRIL

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Receive	0-250	250-500	→	500-750	→	→	750-1000	→	→	→	1000-1250	→
Time												
Range	2	2	2	2	2	2	2	2	2	2	2	1
Current	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	1.0	2.0	2.0
Send	3-4	4-5	1-2	2-3	3-4	4-5			2-3 CAL			
Receive	→	→	1250-1500	→	→	→						
Time												
Range	2	2	2	2	2	2			2			
Current	2.0	1.0	2.0	2.0	2.0	1.0			2.0			

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Guijas Line: 3 E ½ Int.Cal _____ Date: 8 April

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Rec.	0-250E	250-500E	→	500-750E	→	→	750-1000E	→	→	→	1000-1250	→
Time R	100	300	30	300	100	10	100	100	30	10	30	30
DC-1	61.2 59.	95 94	15.0 15.7	122 123	26 27.8	6,55 6,63	47.9 47.5	35.4 34.8	11.5 11.4	3.41 3.41	14.8 15.8 17.4 16.2	16.9 15.8
DC-2	59.1 61.5	94 95	15.7 15.0	123 122	27.8 26	6.63 6.6	47.5 47.9	34.8 35.4	11.4 11.5	3.41 3.41	17.4 16.2 14.6 15.8	15.8 16.9
Σ	120.2 120.5	189 189	30.7 30.7		53.8 53.8	13.18 13.23	95.4 95.4	70.2 70.2	22.9 22.9	6.82	32.2 32.0 32.0 32.0	32.7
DC-3	61.5 59.1	95 94	15.0 15.7			6.6 6.61					14.6 17.4	
Dc-4												
Σ	120.6	189				13.21					32.0	
DC-AV	120.4	189	30.7	245	53.8	13.207	95.4	70.2	22.9	6.82	32.04	32.7
AC-1	54.5	86	13.7	114	24.3	5.93	45.1	32.5	10.4	3.06	15	15.2
AC-2	54.4	86	13.7	114	24.2	5.91	45.0	32.5	10.4	3.05	15.1	15.3
Σ	108.9	172	27.4	229	48.5	11.84	90.1	65.0	20.8	6.11	36.1	30.5
S. P.	+3	+12		−7			−1				+12	
AC-N	.02	.03		.04			.03				.03	
Pot.Res.	17K	14K		9K			41K				7K	

47.5 HP P 47

2080
106.5

IND ED PO RIZAT N - RECEIVER NOTES PA E

Project: Guijas Line: 3 E ½ Int.Cal Date: 6 April

Send	2-3	1-2	4-5	3-4	2-3	1-2		Col					
Rec.	→	→	1250-1500	→	→	→		3-4					
Time	10	3	10	3	10	3		300					
DC-1	6.4 6.75	2.25 2.34	7.15 6.39	9.0 8.0	4.0 3.34	1.46 1.60 1.37 1.25		1.06 1.07					
DC-2	6.75 6.34	2.29 2.2	6.39 7.19	8.0 7.9	3.34 4.1	1.37 1.51		1.07 1.06					
Σ	13.15 13.09	4.64 4.54	13.54 13.58	16.0 15.9	7.34 7.44	2.83 2.85 2.88							
DC-3	6.34 6.80	2.2 2.43	7.19 6.36		4.1 3.25	1.51 1.30							
Dc-4			6.36 7.20		3.25 4.16	1.30 1.60							
Σ	13.14	4.63	13.55 13.56		7.35 7.41	2.81 2.90							
DC-AV	13.13	4.62	13.56	15.95	7.39	2.854		2.13					
AC-1	5.98	2.10	6.40	7.4	3.37	1.31							
AC-2	5.97	2.11	6.40	7.3	3.38	1.31		1.04					
Σ	11.95	4.25	12.8	14.7	6.75	2.62		1.05					
S. P.			+3					2.09					
AC-N			.04										
Pot.Res.			44										

~~AA~~ - Black Lime stone?

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Guijas ** Line: 3 W½ ** Int.Cal _____ Date: 8 April

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Rec.	0-250 W	250-500W	→	500-750 W	→	→	750-1000W	→	→	→	1-1250W	→
~~Time~~ R	100*	100	10	100	30	10	100	30	30	10	30	30
DC-1	43.2 43.9	6.15 6.13 5.90 5.85	7.05 7.40	63.2 64.7	19.5 18.1	3.46 3.58	60.0 59.3	24.4 23.3	10.5 11.2	2.6 2.3	18.5 18.1	12.0 12.3
DC-2	43.9 42.8	5.90 5.85 6.12 6.18	7.40 7.0	64.7 63.4	18.1 19.6	3.58 3.47	59.3 60.0	23.3 24.3	11.2 10.4	2.3 2.61	18.1 18.6	12.3 12.0
Σ	87.1 86.7	12.05 11.98 12.02 12.03	14.45 14.4	127.9 128.1	37.6 37.7	7.04 7.05	119.3 119.3	47.7 47.6	21.7 21.6		36.6 36.7	
DC-3	42.8 43.9	6.12 5.85	7.0 7.45						10.4 11.2			
Dc-4	43.9 43.0	5.85 6.13	7.45 7.0									
Σ	86.7 86.9	11.97 11.98	14.45 14.45						21.6			
DC-AV	86.85	12.007	14.44	128.0	37.65	7.045	119.3	47.65	21.63	4.905	36.65	24.3
AC-1	40	54.5	6.45	57.2	16.4	3.08	53.3	22	9.8	2.3	17.7	11.1
AC-2	40	54.3	6.48	56.9	16.3	3.07	53.3	22	9.8	2.3	17.6	11.1
Σ	80	108.8	12.96	114.1	32.7	6.15	106.6	44	19.6	4.6	35.3	22.2
S. P.	-3	0		+13			+4				-9	
AC-N	.03	.03		.04			.04				.04	
Pot.Res.	1K	3K		26K			27K				10K	

* different Pothole notice expected.

* HP

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Guijas Line: 3 W½ Int.Cal _____ Date: 8 April

Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal				
Rec.	→	→	1250-1500W	→	→	→		2-3				
Time	10	3	30	10	10	3		30				
DC-1	6.61 6.78	1.74 1.85	7.1 8.0	6.1 6.02	3.8 3.85	110 110		106 107				
DC-2	6.78 6.61	1.85 1.74	8.0 7.1	6.02 6.05	3.85 3.8	110 105		107 106				
Σ	13.39 13.39	3.59 3.59		12.12 12.07	7.65	220 215						
DC-3				6.07 6.02		105 115						
Dc-4				6.02 6.08								
Σ				12.07 12.10		220						
DC-AV	13.39	3.59	15.1	12.09	7.65	2.17		213				
AC-1	6.30	1.7	7.1	5.70	3.56	1.04		105				
AC-2	6.29	1.71	7.1	5.7	3.58	1.04		105				
Σ	12.59	3.41	14.2	11.4	7.14	2.04		210				
S. P.			+4									
AC-N			.05									
Pot.Res.			10K									

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Guijas Line 3E½ Field date_____ Data page_____ Comp. date 8 April. Comp by EApril

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	5-4
(B) Receive Out 4750NW	0-250	250-500	→	500-750	→	→	750-1000	→	→	→	1000-1250	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	2.	2	2	2	2	2	1	2	2	2	1	2
(E) Vdc (avg)	120.4	184	30.7	245	53.8	13.207	95.4	70.2	22.9	6.82	32.04	32.7
(F) DCcal	.939	.75	3.0	.75	3.0	7.5	.75	3.0	7.5	1.5	3.0	7.5
(G) Kn x 10^{-3}	.75	.75	3.0	.75	3.0	7.5	.75	3.0	7.5	1.5	3.0	7.5
(H) ρ dc=ExFxGx10^3/D	42	67	43	86	76	47	67	99	81	48	90	115
(I) Vac Σ	108.9	172	27.4	228	98.5	11.89	90.1	65.0	20.8	6.11	30.1	30.5
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.981	→	→									
(M) ρ dc/ρac=ExL/K	1.085	1.078	1.099	1.054	1.088	1.095	1.039	1.060	1.080	1.095	1.044	1.052
(N) PFE=(M-1)(10^2)	8.5	7.8	9.9	5.4	8.8	9.5	3.9	6.0	8.0	9.5	4.4	5.2
(O) MCF=(M-1)(10^5)/H	202	116	230	63	116	202	58	61	99	198	49	37

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	2-3	1-2	4-5	3-4	2-3	1-2			Col			
(B) Receive	→	→	1250-1500	→	→	→			3-4			
(C) n separation	4	5	3	4	5	6						
(D) I	2	2	1	2	2	2			2000			
(E) Vdc (avg)	13.13	4.62	13.56	15.95	7.39	2.854			213			
(F) DCcal	1.5								.939			
(G) Kn x 10^{-3}	1.5	26.25	7.5	15	26.25	42						
(H) ρ dc=ExFxGx10^3/D	92	57	95	112	91	56						
(I) Vac Σ	11.95	4.21	12.8	14.7	6.75	2.62			209			
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.981	→	→									
(M) ρdc/ρac =ExL/K	1.078	1.077	1.039	1.065	1.074	1.069						
(N) PFE=(M-1)(10^2)	7.8	7.7	3.9	6.5	7.4	6.9						
(O) MCF=(M-1)(10^5)/H	85	135	41	58	81	123						

106.5

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project_____ Line 3 W½ Field date_____ Data page_____ Comp. date_____. Comp by_____

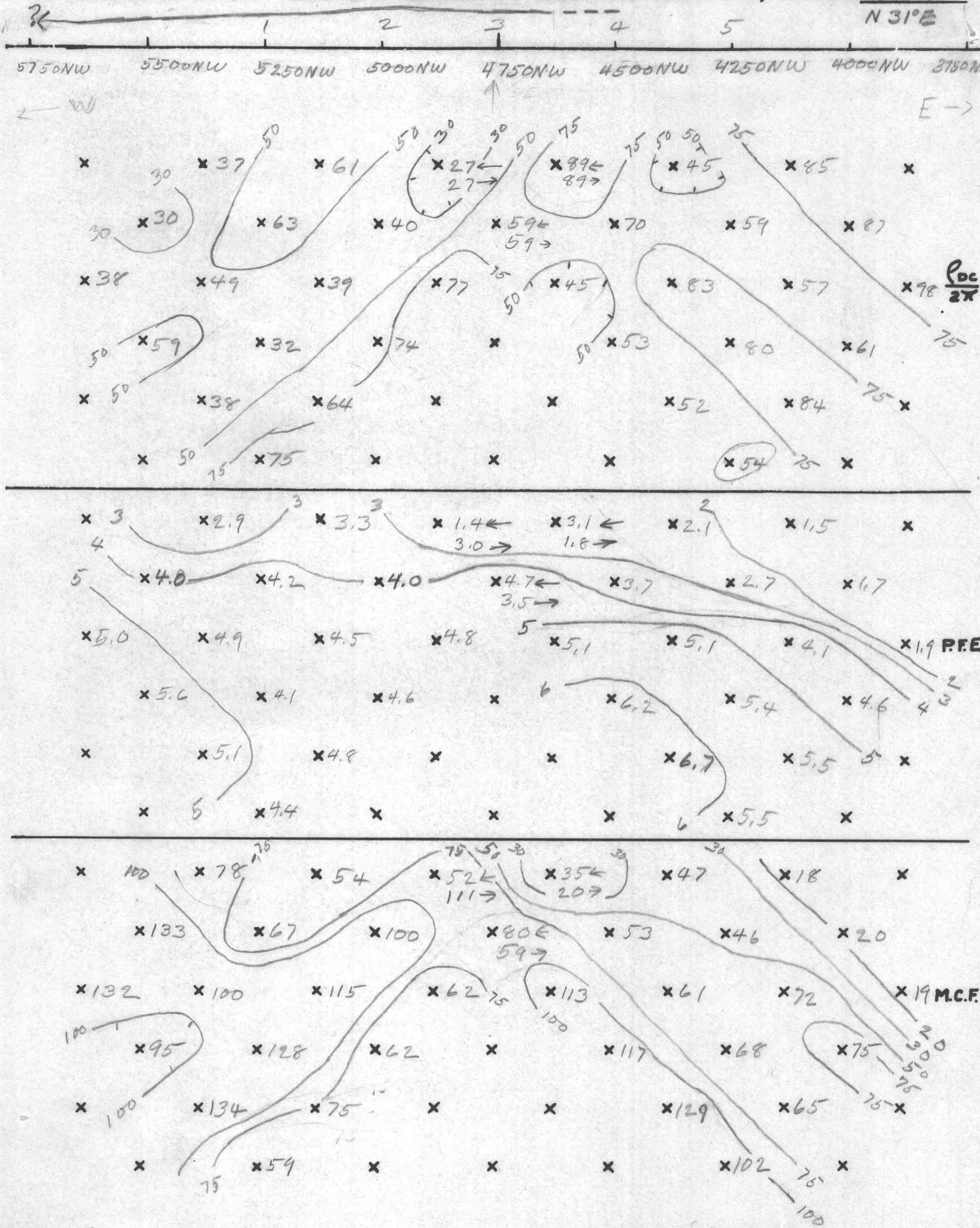
(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3 4	4-5		
(B) Receive	0-250	250-500	—	500-750	—	—	750-1000	—	—	—		
(C) n separation Dat 4750 N	1	1	2	1	2	3	1	2	3	4		
(D) I	1	2	1	2	2	1	2	2	2	1		
(E) Vdc (avg) (1)	86.85	120.07	14.44	128.0	37.65	7.045	119.3	47.65	21.63	4.905		
(F) DCcal	939	→	→	→	→	→	→	→	→	→		
(G) Kn x 10^{-3} (2)	.75	.75	3.0	.75	3.0	2.5	.75	3.0	7.5	15		
(H) ρ dc=ExFxGx10^3/D ans	61	42.	41	45.	53.	50	42	67	76	69		
(I) Vac Σ	80	108.8	12.96	119.1	32.7	6.15	1.066	44	19.6	4.6		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.981	→	→	→	→	→	→	→	→	→		
(M) ρ dc/ρac=ExL/K	1.065	1.083	1.093	1.101	1.130	1.124	1.098	1.062	1.083	1.046		
(N) PFE=(M-1)(10^2)	6.5	8.3	9.3	10.1	13.0	12.4	9.8	6.2	8.3	4.6		
(O) MCF=(M-1)(10^5)/H	107	198	300	224	245	248	233	93	109	67		

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

										Cal		
(A) Send	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5				
(B) Receive	1000-1250	—	—	—	1250-1500	—	—	—				
(C) n separation	2	3	4	5	3	4	5	6				
(D) I	2	2	2	1	2	2	2	1				
(E) Vdc (avg)	36.65	24.3	13.39	3.59	15.1	12.05	7.65	2.17		213		
(F) DCcal	→	→	→	→	→	→	→	→				
(G) Kn x 10^{-3}	3.0	7.5	1.5	26.25	7.5	1.5	26.25	42.				
(H) ρ dc=ExFxGx10^3/D	52	86	94	88	53	85	94	86				
(I) Vac Σ	35.3	22.2	12.59	3.91	14.2	11.4	7.14	2.08				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.981	→	→	→	→	→	→	→				
(M) ρdc/ρac =ExL/K	1.019	1.074	1.083	1.033	1.043	1.037	1.051	1.024				
(N) PFE=(M-1)(10^2)	1.9	7.4	8.3	3.3	4.3	3.7	5.1	2.4				
(O) MCF=(M-1)(10^5)/H	37	86	88	38	81	44	54	28				

$$\frac{(dcAv)(Km)(Dc\,cal)(1000)}{I}$$

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING NE IV
N 31°E



AREA Guijas LINE 2 a = 250' SCALE: 250'=1" DATE: 9 April

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Quijas Line 2 E ½ Field date 7 April Data page_____ Comp. date 9 April . Comp by_____

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
(B) Receive out 4750 NW	0-250E	250-5E	→	5-750E	→	→	750-1000E	→	→	→	1000-1250	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	2	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	76.3	252	41.9	128.35	49.35	12.67	241	41.65	23.45	7.56	61.9	16.15
(F) DCcal	.9389	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	.75	.75	3	.75	3	7.5	.75	3	7.5	15	3	7.5
(H) ρ dc=ExFxGx10^3/D	27	89	54	45	70	45	85	59	83	53	87	57
(I) Vac Σ	73	244	39.9	12.4	46.9	11.88	234	40	22	7.02	60	15.3
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.9859	→	→	→	→	→	→	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1030	1018	1035	1021	1037	1051	1015	1027	1051	1062	1017	1041
(N) PFE=(M-1)(10^2)	3.0	1.8	3.5	2.1	3.7	5.1	1.5	2.7	5.1	6.2	1.7	4.1
(O) MCF=(M-1)(10^5)/H	111	20	59	47	53	113	18	46	61	117	20	72

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	2-3	1-2	4-5	3-4	2-3	1-2		Cal				
(B) Receive	→	→	12.5-15E	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I	→	→	→	→	→	→						
(E) Vdc (avg)	11.37	4.22	27.9	8.703	6.793	2.74		2.13				
(F) DCcal	→	→	→	→	→	→						
(G) Kn x 10^{-3}	15	26.25	7.5	15	26.25	42						
(H) ρ dc=ExFxGx10^3/D	80	52	98	61	84	54						
(I) Vac Σ	10.64	3.90	27	8.2	6.35	2.56		2.10				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→	→						
(M) ρdc/ρac =ExL/K	1054	1067	1019	1046	1055	1055						
(N) PFE=(M-1)(10^2)	5.4	6.7	1.9	4.6	5.5	5.5						
(O) MCF=(M-1)(10^5)/H	68	129	19	75	65	102						

$\frac{2000}{1065}$

$\frac{1000}{1060}\ \frac{I}{(V)(1.0)}$

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Guijas Line 2 W½ Field date 7April Data page_____ Comp. date 9April. Comp by_____

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
(B) Receive Oct 4750N W	0-250W	250-500W	→	500-750W	→	→	750-1000W			→	1000-1250	
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	2											
(E) Vdc (avg)	253	77.66	41.96	174	28.47	22	105.65	44.4	11.025	10.57	21.3	14.04
(F) DCcal	.9389											
(G) Kn x 10^{-3}	.75	.75	3.0	.75	3.0	7.5	.75	3.0	7.5	15	3.0	7.5
(H) ρ dc=ExFxGx10^3/D	89	27	59	61	40	77	37	63	39	74	30	49
(I) Vac Σ	242	75.5	39.5	166	27	20.7	101.2	42	10.4	9.96	20.2	13.2
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.9859											
(M) ρ dc/ρac=ExL/K	1031	1014	1047	1033	1040	1048	1029	1042	1045	1046	1040	1049
(N) PFE=(M-1)(10^2)	3.1	1.4	4.7	3.3	4.0	4.8	2.9	4.2	4.5	4.6	4.0	4.9
(O) MCF=(M-1)(10^5)/H	35	52	80	54	100	62	78	67	115	62	133	100

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal.				
(B) Receive	→	→	1250-1500	→	→	→		2-3				
(C) n separation	4	5	3	4	5	6						
(D) I	→	→	→	→	→	→						
(E) Vdc (avg)	4.53	5.21	10.91	8.356	3.05	3.80		213				
(F) DCcal	→	→	→	→	→	→						
(G) Kn x 10^{-3}	15	26.25	7.5	15	26.25	42						
(H) ρ dc=ExFxGx10^3/D	32	64	38	59	38	75						
(I) Vac Σ	4.29	4.90	10.24	7.80	2.86	3.54						
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→	→						
(M) ρdc/ρac =ExL/K	1041	1048	1050	1056	1051	1044						
(N) PFE=(M-1)(10^2)	4.1	4.8	5.0	5.6	5.1	4.4						
(O) MCF=(M-1)(10^5)/H	128	75	132	95	134	59						

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Quijas Line: 2 E ½ Int.Cal Date:

Send	2-3	1-2	4-5	3-4	2-3	1-2			Cal			
Rec.	→	→	1250-1500	→	→	→			34			
~~Time~~ R	10	3	30	10	10	3			300			
DC-1	5.5 5.8	2.1 2.1	13.6 14.7	4.6 4.15	3.31 3.5	1.3 1.45			107 106			
DC-2	5.8 5.65	2.1 2.15	14.3 13.6	4.15 4.5	3.5 3.26	1.45 1.25			106 107			
Σ	11.30 11.45	4.2 4.25		8.75 8.65	6.81 6.76	2.75 2.70						
DC-3	5.65 5.7	2.15 2.05		4.5 4.21	3.26 3.55	1.25 1.55			107 106			
Dc-4	5.7 5.7					1.55 1.22						
Σ	11.35 11.4	4.2		8.71	6.81	2.80 2.77						
DC-AV	11.37	4.22	27.9	8.703	6.793	2.74			213			
AC-1	5.3	1.96	13.5	4.1	3.17	1.28			105			
AC-2	5.32	1.95	13.5	4.1	3.18	1.28			105			
Σ	10.64	3.90	27.0	8.2	6.35	2.56			210			
S. P.			+7									
AC-N			.05									
Pot.Res.			20K									

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Guijas Line: 2 spread IEs Int.Cal _____ Date: April

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Rec.	0-250E	250-5E	→	5-7.50E		→	7.50-10.00			→	10.00-12.5	
Time R	100	300	30	100	30	10	300	30	30	10	100	30
DC-1	38.2 38.1	126 126	21 20.9	63.1 65.2	25.6 23.8	6.25 6.4	121 120	22.2 19.4	11.9 11.6	3.65 3.41 3.99 4.6	31 31	8.4 7.7
DC-2	38.1 38.2	126 126	20.9 21	65.2 63.2	23.8 25.6	6.4 6.3	120 121	19.4 22.3	11.6 11.8	3.99 3.51	31 30.9	7.7 8.5
Σ	76.3 76.3	252 252	41.9 41.9	128.3 128.4	49.4 49.4	12.65 12.70	241 241	41.6 41.7	23.5 23.4	7.64 7.60		16.1 16.2
DC-3						6.3 6.35				3.51 4.05		
Dc-4										4.05 3.41		
Σ						12.65				7.56 7.46		
DC-AV	76.3	252	41.9	128.35	49.35	12.67	241	41.65	23.45	7.56	61.9	16.15
AC-1	36.5	122	20	62	23.5	59.3	167	20	11	3.51	30	7.10
AC-2	36.5	122	19.9	62	23.4	5.95	117	20	11	3.51	30	7.7
Σ	73.0	244	39.9	124	46.9	11.88	234	40	22	7.02	60	15.3
S. P.	+4	+18		-13			+24				+5	
AC-N	.04	.05		.04		.04	.04				.05	
Pot.Res.	5K	30K		10K			10K				30K	

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Gujas Line: 2 W ½ Int.Cal Date: April

Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal					
Rec.	→	→	1250-1500	→	→	→		2-3					
Time	3	10	10	10	3	3		300					
DC-1	2.2 2.33	2.66 2.66 2.50 2.50	5.36 5.15 5.60 5.80	4.38 4.33 4.0 4.01	1.48 1.59	1.9 1.88		106 107					
DC-2	2.33 2.2	2.50 2.76	5.60 5.23	4.0 4.31	1.59 1.46	1.88 1.92		107 106					
Σ	4.53	5.16 5.18 5.26	10.96 10.98 10.83	8.38 8.34 8.31	3.07 3.05	3.78 3.80		213 213					
DC-3	2.2 2.33	2.76 2.50	5.23 5.71	4.31 4.0	1.46 1.57	1.92 1.90		106 107					
Dc-4		2.50 2.68	5.71 5.15	4.0 4.33	1.57 1.48	1.90 1.90							
Σ		5.26 5.14	10.74 10.86	8.31 8.33	3.03 3.05	3.80 3.80		213					
DC-AV	4.53	5.21	10.91	8.356	3.05	3.80		213					
AC-1	2.15	2.45	5.12	3.90	1.43	1.79		105					
AC-2	2.14	2.45	5.12	3.90	1.43	1.80		105					
Σ	4.29	4.90	10.24	7.80	2.86	3.59		210					
S. P.			-8										
AC-N			.05										
Pot.Res.			5K										

47.5

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Quijas Line: Liner W ½ Int.Cal _____ Date: April

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Rec.	0-250W	250-5W	→	5-750	→	→	750-1W	→	→	→	1-250	→
Time	300	100	30	300	30	30	100	30	10	10	30	10
DC-1	12.6 12.7	38.7 38.9	21.4 20.5	88 86	15.6 12.9	10.5 11.5	52.8 53.8	22.4 22.0	5.42 5.61	5.19 5.38	10.7 10.6	7.5 6.58
DC-2	12.7 12.6	38.9 38.7	20.5 21.5	86 88	14.8 13.7	11.5 10.5	53.8 51.9	22.0 22.4	5.61 5.41	5.38 5.19	10.6 10.7	6.58 7.5
Σ	25.3 25.3	77.6 77.6	41.9 42	174 174	28.5 28.5	22 22	105.6 105.7	44.4 44.4	11.03 11.03	10.57 10.57		14.08 14.08
DC-3	12.6 12.7	38.7 39.0	21.5 20.5		13.7 14.7							7.5 6.42
Dc-4												6.42 7.62
Σ	25.3	77.7	42.0		28.4							13.92 14.04
DC-AV	25.3	77.66	41.96	174	28.47	22	105.65	44.4	11.025	10.57	21.3	14.04
AC-1	12.1	37.3	19.8	83	13.5	10.4	50.6	21	5.2	4.98	10.1	6.6
AC-2	12.1	37.2	19.7	83	13.5	10.3	50.6	21	5.2	4.98	10.1	6.6
Σ	24.2	75.5	39.5	166	27.0	20.7	101.2	42	10.4	9.96	20.2	13.2
S. P.	+7	-5		+4			-4			+16		
AC-N	.05	.05		.05			.05			.05		
Pot.Res.	3K	3K		4K			4K			8K		

47 47.5 47.5

INDUCED POLARIZATION SENDER NOTES

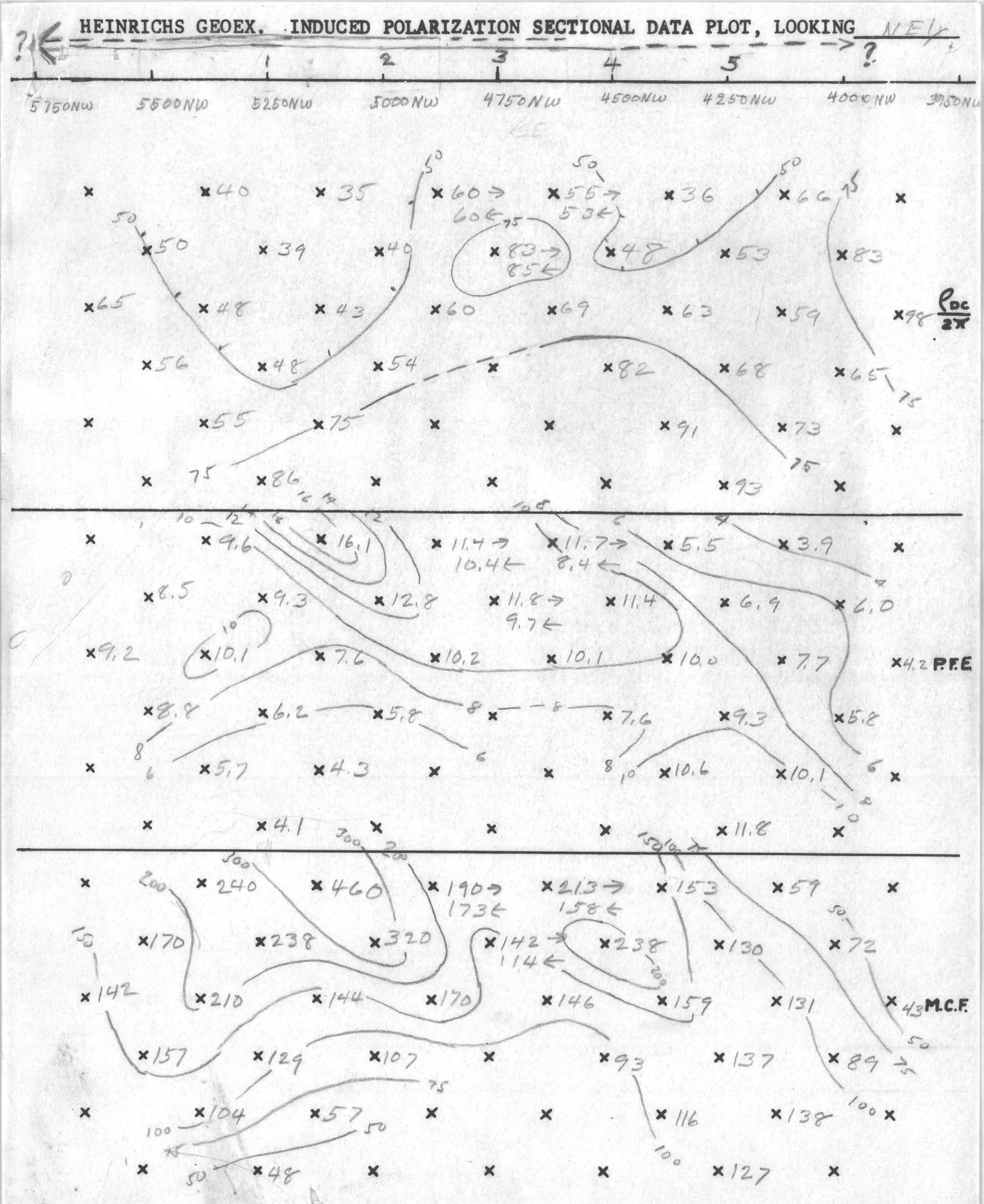
project: Guijas Line: 2 E 1/2 Date: April 7

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Receive	0-250	250-500	→	500-750	→	→	750-1000	→	→	→	1000-1250	→
Time	~	~	~	~	~	~	~	~	~	~	~	~
Range	2	2	2	2	2	2	2	2	2	2	2	2
Current	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Send	2-3	1-2	4-5	3-4	2-3	1-2			Cal			
Receive	→	→	1250-1500	→	→	→			Send 3-4			
Time	~	~	~	~	~	~	~	~	~	~	~	~
Range	2	2	2	2	2	2						
Current	2.0	2.0	2.0	2.0	2.0	2.0						

INDUCED POLARIZATION SENDER NOTES

project: Guijas Line: Line 2 W ½ Date: April 7

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Receive	0-250W	250-500	→	5-750W	→	→	750-1000	→	→	→	1000-1250	→
Time	~	~	~	~	~	~	~	~	~	~	~	~
Range	2	2	2	2	1	1	2	2	2	2	2	2
Current	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Send	3-4	4-5	1-2	2-3	3-4	4-5			Cal			
Receive	→	→	1250-15	→	→	→			scale 2-3 1000			
Time	~	~	~	~	~	~	~	~	~	~	~	~
Range	2	2	2	2	2	2						
Current	2.0	2.0	2.0	2.0	2.0	2.0						



AREA Guijas LINE 1C a = 25' SCALE: 1" = 250' DATE: 8/April/64

a=250

INDUCED POLARIZATION SENDER NOTES

project: Las Garias Line: E½ Line 1 Spread C Date: 4/6/16

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	2-1	4-5	3-4
Receive	0-250	250-500	—	500-750	—	—	750-1000	—	—	—	1000-1250	—
Time												
Range	x10	—	—	—	—	—	—	—	—	—	—	—
Current	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Send	2-3	2-1	4-5	3-4	2-3	1-2		CAL				
Receive	—	—	1250 1500	—	—	—						
Time												
Range	—	—	—	—	—	—		x10				
Current	2.5	2.5	2.5	2.5	2.5	2.5		2.0				

INDUCED POLARIZATION SENDER NOTES

a= 250

Project: Las Guajas Line: W½ Line 1 spread 6 Date: 4/6/66

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Receive	0-250	250 500	250 500	500-750	500-750	500-750	750-1000	→	→	→	1000-1250	→
Time												
Range	x10	→										→
Current	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.0	2.5	2.5
Send	3-4	4-5	1-2	2-3	3-4	4-5		Oal 2-3				
Receive	1000 1250	1250 1000	1250 1500	→				500-250				
Time												
Range	x10							x10				
Current	2.5	2.5	2.5	2.5	2.5	2.5		1000				

INDUCED POLARIZATION - RECEIVER NOTES PAGE

Project: Gujarat Line: 1C Int.Cal Date: 6 April

Send	2-0	1-2	4-5	3-4	2-3	1-2			Cal				
Rec.	→	→	12.5-15						3-4				
~~Time~~ R	10	10	30	10	10	10			300				
DC-1	6.42 5.6	4.58 4.62	17.6 16.8	5.45 5.58	3.85 3.52	3.15 2.75			96 93	107 103			
DC-2	5.6 6.39	4.62 4.58	16.8 18.0	5.58 5.45	3.52 3.85	2.75 3.15			96 93	103 103			
Σ	12.02 11.99	9.20 8.20	34.4 34.8	11.53 11.53	7.37 7.37	5.90 5.90			93				
DC-3	6,39 5.65		18.0 16.8			3.15 2.72				103 103			
Dc-4			16.8 18.1										
Σ	12.03		34.8 34.9			5.87							
DC-AV	12.01	9.20	34.7	11.53	7.37	5.89			213				
AC-1	5.46	4.19	16.5	5.4	3.31	2.67			95	104			
AC-2	5.5	4.15	16.5	5.4	3.32	2.65			96	101			
Σ	10.98	8.24	33.0	10.8	6.63	5.92			211				
S. P.			+9										
AC-N			.04										
Pot.Res.			13K										

47

4

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: guyon Line: Line 1C Int.Cal _____ Date: _____

Send	1-2	2-3	1-3	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Rec.	0-250	250-5	→	5-7.5		→	7.5-10				10.12.5	
Time	300	300	100	100	30	30	300	30	30	30	100	30
DC-1	107 107	97 98	36.2 37.5	63.8 63.9	21.4 21.0	12.0 12.5	116 119	24.7 22.3	12.0 10.4 10.5 11.5	8.0 6.6	35.7 37.9	11.5 9.6
DC-2	107 107	98 97	37.5 36.2	63.9 63.8	21.0 21.4	12.5 11.9	119 116	22.3 24.5	10.5 11.5 11.1 10.5	6.6 7.8	37.9 35.5	9.6 11.4
Σ	114 114	195 195	73.7 73.7	127.7 127.7	42.4 41.4	24.5 23.9	235 235	47.8 46.8	22.5 22.4 21.6 22.0	14.6 14.4	73.6 73.4	21.1 21.0
DC-3	107 106	98 99	36.2 37.5					24.5 22.3	11.1 11.4	7.8 6.8	35.5 38.0	11.4 9.7
Dc-4								22.3 24.5	11.4 10.9	6.8 7.8		
Σ	113	195						46.8 46.8	22.5 22.3	14.6 14.6	73.5	21.3
DC-AV	213.6	195	73.7	127.7	42.4	24.45	235	46.85	22.2	14.55	73.5	21.1
AC-1	95	86	32.6	59.9	18.8	11.0	112	21.8	10.1	6.7	34.2	9.7
AC-2	95	87	32.7	60.0	18.9	11.0	112	21.7	9.9	6.7	34.5	9.7
Σ	190	173	65.3	119.9	37.7	22	224	43.5	20.	13.4	68.7	19.4
S. P.	-14	-3		+7			+10				-10	
AC-N	.04	.05		.05			.05				.05	
Pot.Res.	5K	10K		6K			8K				7K	

Trouble calibrating on Two Lamps.

A=250 (

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Guijas Line: Line 1 Spread Int.Cal _____ Date: 6 April

W4

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Rec.	0-250W	250-5	→	5-750		→	750-1000			→	1-1250	
Time R	300	300	100	100	30	30	100	30	30	10	30	30
DC-1	95 95 94 95	109 105	40 35.3	61.9 61.7	17.6 17.8	10.7 19.5	71.3 70.1	17.6 17.2	7.5 7.7	4.8 4.75	22.0 21.0	8.9 8.1
DC-2	94 95 95 94	105 109	35.3 40.0	61.7 61.9	17.8 17.6	10.5 10.6	70.1 71.8	17.2 17.7	7.7 7.5	4.75 4.81	21.0 23.8	8.1 8.9
Σ	189 190 189 189	214 214	75.3 75.3	123.3 123.3	35.4 35.4	21.2	141.4 141.9	34.8 34.9	15.2	9.55 9.56	45.0 44.8	17 17
DC-3	95 95 94 95	109 105	40.0 35.3	61.9 61.7		10.6 10.5	71.8 70.0	17.7 17.1	7.5 7.7	4.81 4.76	21.0 23.5	8.7 8.1
Dc-4							70.0 71.5					
Σ	189 190	214	75.3	123.3	-	21.1 21.1	141.8 141.5	34.8		9.57	44.5	
DC-AV	189.3	214	75.3	123.3	35.4	21.13	141.65	34.86	15.2	9.56	44.8	17
AC-1	86	96	34	52.6	15.5	9.5	64	15.8	7	4.48	20.6	7.6
AC-2	87	96	34	52.6	15.6	9.5	64	15.8	7	4.47	20.3	7.7
Σ	173	192	68	105.2	31.1	19.0	128	31.6	14	8.95	40.9	15.3
S. P.	-15	-2		+12			+7				+14	
AC-N	.02	.03		.04			.03				.03	
Pot.Res.	3K	6K		4K			7K				20K	

wt cal 471 P P HP49 P P

2
3

INDUCED POLARIZATION - RECEIVER NOTES

PAGE _____

Project: Gaigas Line: Line 1 Spread C W ½ Int.Cal _____ Date: 6 April

Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal				
Rec.	→	→	1250-1500 W	→	→	→		23				
~~Time~~ R	10	10	30	10	10	10		300				
DC-1	4.06 4.40	3.91 4.0 3.66 3.50	12.1 11.0	4.98 5.02	2.8 2.81	2.75 2.71		106 107				
DC-2	4.40 4.06	3.66 3.50 3.92 4.03	11.0 12.3	5.02 4.95	2.81 2.8	2.71 2.76		107 106				
Σ	8.46 8.46	7.57 7.5 7.58 7.53	23.1 23.3	10.0 9.97	5.61 5.61	5.46 5.47						
DC-3		3.92 3.60	12.3 11.1	4.95 5.0				106 107				
Dc-4		3.60 4.0	11.1 12.0									
Σ		7.52 7.6	23.4 23.1	9.95				0				
DC-AV	8.46	7.55	23.25	9.97	5.61	5.465		213				
AC-1	3.95	3.58	10.5	4.65	2.62	2.60		105				
AC-2	3.94	3.59	10.6	4.60	2.61	2.60		106				
Σ	7.89	7.07	21.1	9.08	5.26	5.20		211				
S. P.			-1									
AC-N			.03									
Pot.Res.			12K									

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Las Cuijas Line 1C W½ Field date 4/6/16 Data page_____ Comp. date 9/8/16. Comp by_____

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5		
(B) Receive Out 4750 NW	0-250	250-500	—	500-750	—		750-1000	—	—	—		
(C) n separation	1	1	2	1	2	3	1	2	3	4		
(D) I	2.5	—	—	—	—	—	—	—	—	—		
(E) Vdc (avg)	189.3	21.4	75.3	123.3	35.4	21.13	141.65	34.86	15.2	9.56		
(F) DCcal	.939	—	—	—	—	—	—	—	—	—		
(G) Kn x 10^{-3}	.75	.75	3.0	.75	3.0	7.5	.75	3.0	7.5	15		
(H) ρ dc=ExFxGx10^3/D	53	60	85	35	40	60	40	39	43	54		
(I) Vac Σ	173	192	68	105.2	31.1	19.0	128	31.6	14	8.95		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.990	—	—	—	—	—	—	—	—	—		
(M) ρ dc/ρac=ExL/K	1.084	1.104	1.097	1.161	1.128	1.102	1096	1.093	1.076	1.038		
(N) PFE=(M-1)(10^2)	8.4	10.4	9.7	16.1	12.8	10.2	9.6	9.3	7.6	5.8		
(O) MCF=(M-1)(10^5)/H	158	173	114	460	320	170	240	238	177	107		

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		Cal		
(B) Receive	1000-1250	—	—	—	1250-1500	—	—	—				
(C) n separation	2	3	4	5	3	4	5	6				
(D) I	2.5	—	—	—	—	—	—	—				
(E) Vdc (avg)	44.8	17	8.96	7.55	23.25	9.97	5.61	5.465				
(F) DCcal	.939	—	—	—	—	—	—	—				
(G) Kn x 10^{-3}	3.0	7.5	15	26.25	7.5	15	26.25	42				
(H) ρ dc=ExFxGx10^3/D	50	48	48	75	65	56	55	86				
(I) Vac Σ	40.9	15.3	7.89	7.17	21.1	9.08	5.26	5.20				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.990	—	—	—	—	—	—	—				
(M) ρdc/ρac =ExL/K	1.085	1.101	1.062	1.043	1.092	1.088	1.057	1.041				
(N) PFE=(M-1)(10^2)	8.5	10.1	6.2	4.3	9.2	8.8	5.7	4.1				
(O) MCF=(M-1)(10^5)/H	170	210	129	57	142	157	104	48				

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Guigas Line Line Spread E ½ Field date 6 April Data page_____ Comp. date 8 April Comp by_____

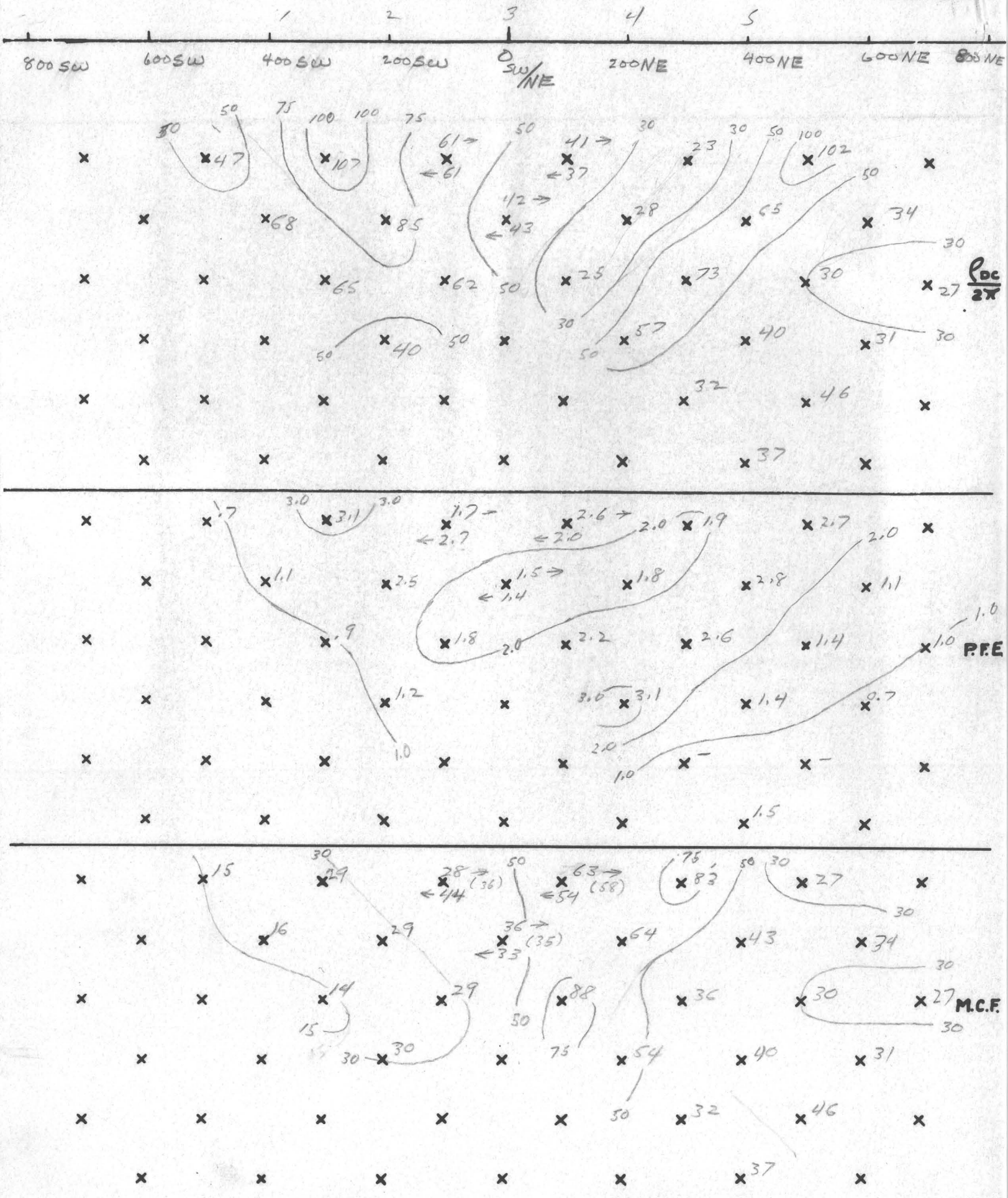
(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-3	3-4	2-3	1-2	4-3	3-4
(B) Receive oat 4750 NW	0-250	250-500	→	500-75	→	→	750-1000	→	→	→	1000-12.5	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	2.5											
(E) Vdc (avg) ①	213.6	195	73.7	127.7	42.4	24.45	23.5	46.85	22.2	14.55	73.5	21.1
(F) DCcal	.939											
(G) Kn x 10^{-3} ②	.75	.75	3.0	.75	3.0	7.5	.75	3.0	7.5	15	3.0	7.5
(H) ρ dc=ExFxGx10^3/D ANS	60	55	83.	36.	48.	69	66.	53.	63	82	83.	59.
(I) Vac Σ	190	173	65.3	119.9	37.7	22.0	22.4	43.5	20.0	13.4	68.7	19.4
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.990											
(M) ρ dc/ρac=ExL/K	1.114	1.117	1118	1.055	1.114	1.101	1.039	1.069	1100	1.076	1.060	1.077
(N) PFE=(M-1)(10^2)	11.4	11.7	11.8	5.5	11.4	10.1	3.9	6.9	10.0	7.6	6.0	7.7
(O) MCF=(M-1)(10^5)/H	190	213	142	153	238	146	59	130	159	93	72	131

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	2-3	1-2	4-5	3-4	2-3	1-2		Cal				
(B) Receive	→	→	12.5-15	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I												
(E) Vdc (avg)	12.01	9.20	34.7	11.53	7.37	5.89		2130				
(F) DCcal												
(G) Kn x 10^{-3}	15	26.25	7.5	15	26.25	42						
(H) ρ dc=ExFxGx10^3/D	68.	91.	98	65	73	93.						
(I) Vac Σ	10.98	8.24	33.0	10.8	6.63	5.22						
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.990											
(M) ρdc/ρac =ExL/K	1.093	1.106	1.042	1.058	1.101	1.118						
(N) PFE=(M-1)(10^2)	9.3	10.6	4.2	5.8	10.1	11.8						
(O) MCF=(M-1)(10^5)/H	137	116	43	89	138	127						

NW
Line
500
250
500
2
3
4
5

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING N25°W



AREA Tumacacori LINE 2 a = 200' SCALE: 1" = 200' DATE: 4/25/66

INDUCED POLARIZATION - RECEIVER NOTES PAGE 1

Project: TUMACACORI KAYSER Line: K2-NE Int.Cal .93 Date: 4/21/66

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-1	2-3	1-2		CAL
Rec.	0-2	2-4	→	4-6	→	→	6-8	→	→	→		(
Time	.3	.3	.1	.1	.03	.01	1.0	.1	.03	.03		
DC-1	147 148	97 100	25.3 24.8	56.5 56.7	16.4 16.8	6.02 6.10	248 243	41.0 37.5	18.0 17.3	6.0 6.0		145
DC-2	147 148	98 99	25.0 25.2	56.4 56.8	16.3 16.9	6.00 6.12	246 246	39.2 39.4	17.4 17.8	6.1 5.9		145 145
Σ												
DC-3	147 148	99 98	25.4 24.8	56.5 56.8	16.4 16.9	6.10 6.98	244 247	39.4 39.3	17.2 17.9	6.0 6.0		
Dc-4			25.5 24.7	56.7 56.7	16.4 16.9	6.14 5.97	245 247	39.2 39.2	18.0 17.3			
Σ						(6.05			17.3			
DC-AV						6.03)			17.9			
AC-1	142	94	24.2	54.4	16.0	5.80	235	37.5	16.8	~~6.16~~		~~1.42~~
AC-2	142	94	24.2	54.4	16.0	5.80	234	37.4	16.8	5.7		1.42
Σ										5.7	.	1.42
S. P.	+2.9	-9.2		-7.8			+15.5					
AC-N	.06	.02		.02								
Res.												

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: KAYSER Line: K2-N5 Int.Cal Date: 4/21/66

Send	4-5	5-21	2-3	1-2	4-5	3-4	2-3	1-2				
Rec.	8-10	→	→	→	10-12	→	→	→				
Time	.03	.03	.01	.01	.03	.01	.01	.003				
DC-1	20.5 20.4	6.4 8.2	5.25 4.45	2.00 2.40	6.5 6.6	3.45 3.12	2.75 2.62	1.52 1.36				
DC-2	20.8 20.2	6.8 7.6	4.98 4.75	2.17 2.25	6.5 6.8	3.15 3.35	2.62 2.78	1.48 1.22				
Σ												
DC-3	21.2 19.9	7.4 7.1	4.85 4.80	2.18 2.02	6.5 6.7	3.15 3.45	2.70 2.68	1.42 1.52				
Dc-4	20.5 20.5	7.3 7.2	4.82 4.85	2.00 2.22	6.4 6.8	3.28 3.30	2.70 2.72	1.52 1.30				
Σ		(7.1	4.90			3.40	2.82	(1.36)				
DC-AV		7.4)	4.78			3.18	2.60	1.45)				
AC-1	19.9	7.0	4.67	2.15	+6.4	3.18	2.65	1.36				
AC-2	19.8	7.0	4.68	2.15	6.4	3.20	2.65	1.36				
Σ												
S. P.	-2.7				+12.4							
AC-N	.01				.06							
Res.												

INDUCED POLARIZATION - RECEIVER NOTES PAGE 1

Project: KAYSER Line: K2-SW Int.Cal Date: 4/21/66

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5		
Rec.	0-2	2-4	→	4-6	→	→	6-8	→	→	→		
Time	.3	.3	.1	1.0	.1	.03	.3	.1	.03	.01		
DC-1	89 88	148 147	26.5 26.3	258 259	51.8 51.2	12.7 13.4	98 98	34.7 35.8	13.8 13.2	4.28 4.07		
DC-2	89 88	148 148	26.4 26.0	259 259	52.0 51.0	13.0 13.2	98 97	35.2 35.3	13.5 13.5	4.18 4.18		
Σ												
DC-3	89 89	148 147	26.0 26.2	259 259	51.8 51.0	13.3 12.9	98 97	35.3 35.3	13.5 13.6	4.15 4.20		
Dc-4	89 88	148 148	26.2 26.0		51.6 51.4			35.0 35.4	13.5 13.6	4.25 4.10		
Σ												
DC-AV												
AC-1	85	141	25.2	246	49.2	12.6	95	34.2	13.1	4.04		
AC-2	85	141	25.2	246	49.2	12.6	95	34.2	13.1	4.05		
Σ									1.1	1.1		
S. P.	-1.1	-11.1		+2.8			-9.9					
AC-N	.04	.02		.02			.04					
.Res.												

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: KAYSER Line: K2-SW Int.Cal Date: 4/21/66

Send	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5				
Rec.	8-10	→	→	→	10-12	→	→	→				
Time	.1	.05										
DC-1	22.2 22.0	13.6 14.5										
DC-2	23.0 22.0	15.4 14.2										
Σ												
DC-3	21.8 23.2											
Dc-4	21.5 22.5											
Σ												
DC-AV	28.0	18.4										
AC-1	28.2											
AC-2												
Σ												
S. P.	+199											
AC-N	.04											
t.Res.												

INDUCED POLARIZATION SENDER NOTES

project: KAYSEK Line: K2 SW Date:

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Receive	0-200	200-400	→	400-600	→	→	600-800	→	→	→	800-1000	→
Current Time	700 x 2	700 x 2	700 x 2	700 x 2	700 x 2	610 x 2	600 x 2	600 x 2	600 x 2	630 x 2	610 x 2	620 x 2
Range												
Total Current	1400	1400	1400	1400	1400	1220	1200	1200	1200	1260	1220	1240
Send	3-4	4-5	1-2	2-3	3-4	4-5						
Receive	→	→	1000-1200	→	→	→						
Current Time												
Range												
Total Current												

INDUCED POLARIZATION SENDER NOTES

project: KAYSER Line: KANE Date: _____

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4	
Receive	0-200	200-400	→	400-600	→	→	600-700	→	→	→	800-1000	→	
Current Time	700 ½	700 ½	700 ½	700 ½	700 ½	700 ½	700 ½	700 ½	700 ½	610 ½	700 ½	710 ½	
Range													
Total Current	1400	1400	1400	1400	1400	1400	1400	1400	1400	1220	1400	1420	
Send	2-3	1-2	4-5	3-4	2-3	1-2		Cal. 1.4					
Receive	→	→	1600-1200	→	→	→							
Current Time	700 ½	700 ½	700 ½	610 ½	600 ½	610 ½							
Range													
Total Current	1400	1400	1400	1220	1200	1220							

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project TUMACACORI KAYSER Line K2-NE Field date 4/21/66 Data page_____ Comp. date_____. Comp by JMC

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2		
(B) Receive	0-2	2-4	→	4-6	→	→	6-8	→	→	→		
(C) n separation	1	1	2	1	2	3	1	2	3	4		
(D) I	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.22		
(E) Vdc (avg)	147.5	98.5	25.08	56.65	16.62	6.05	245.8	39.3	17.6	6.0		
(F) DCcal	.9655	→	→	→	→	→	→	→	→	→		
(G) Kn x 10^{-3}	.6	.6	2.4	1.6	2.4	6.0	.6	2.4	6.0	12.0		
(H) ρdc=ExFxGx10^3/D	61	41	42	23	28	25	102	65	73	57		
(I) Vac Σ	142	94	24.2	54.4	16.0	5.80	234.5	37.45	16.8	5.7		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.9793	→	→	→	→	→	→	→	→	→		
(M) ρ dc/ρac=ExL/K	1.017	1.026	1.015	1.019	1.018	1.022	1.027	1.028	1.026	1.031		
(N) PFE=(M-1)(10^2)	1.7	2.6	1.5	1.9	1.8	2.2	2.7	2.8	2.6	3.1		
(O) MCF=(M-1)(10^5)/H	28	63	36	83	64	88	27	43	36	54		
	+2.9	-9.2		-2.8			+15.5					

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL		
(B) Receive	8-10	→	→	→	10-12	→	→	→		1.40		
(C) n separation	2	3	4	5	3	4	5	6				
(D) I	1.4	1.42	1.4	1.4	1.4	1.22	1.20	1.22				
(E) Vdc (avg)	20.5	7.25	4.84	2.18	6.6	3.28	2.70	1.41		1.45		
(F) DCcal	.9655	→	→	→	→	→	→	→				
(G) Kn x 10^{-3}	2.4	6.0	12.0	21.0	6.0	12.0	21.0	33.6				
(H) ρ dc=ExFxGx10^3/D	34	30	40	32	27	31	46	37				
(I) Vac Σ	19.85	7.0	4.675	2.15	6.4	3.19	2.65	1.36		1.42		
(J) AC noise x 2	—											
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.9793	→	→	→	→	→	→	→				
(M) ρdc/ρac =ExL/K	1.011	1.014	1.014	—	1.010	1.007	—	1.015				
(N) PFE=(M-1)(10^2)	1.1	1.4	1.4	—	1.0	0.7	—	1.5				
(O) MCF=(M-1)(10^5)/H	32	47	35	—	37	23		41				
	-2.7				+12.4							

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

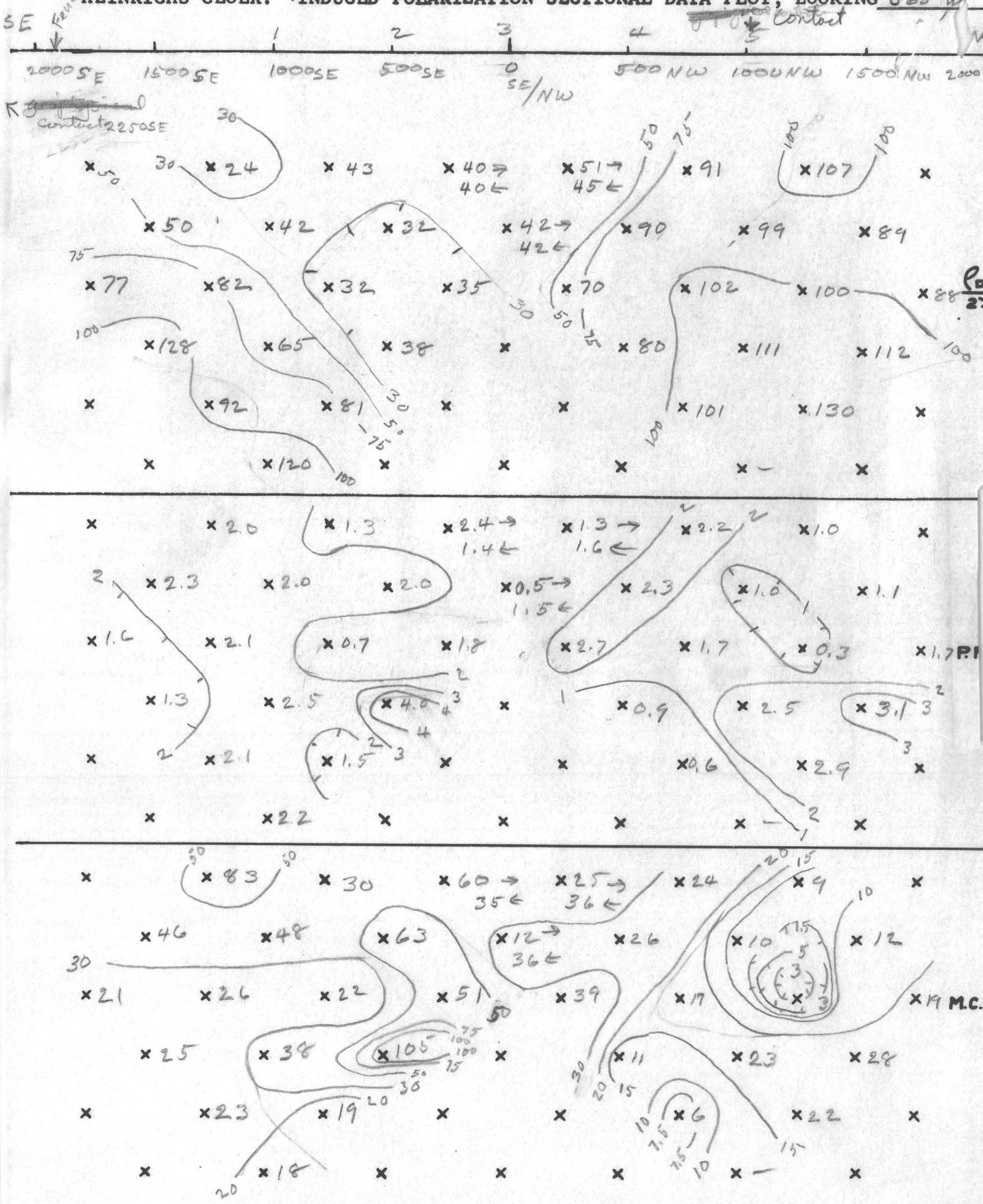
Project KAYSER Line K2-SW Field date 4/21/66 Data page 1 Comp. date_____. Comp by_____

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5		
(B) Receive	0-2	2-4	→	4-6	→	→	6-8	→	→	→		
(C) n separation	1	1	2	1	2	3	1	2	3	4		
(D) I	1.4	1.4	1.4	1.4	1.4	1.22	1.20	1.20	1.20	1.20		
(E) Vdc (avg)	88.5	147.8	26.1	259	51.5	13.1	97.7	35.3	13.5	4.18		
(F) DCcal	.9655	→	→	→	→	→	→	→	→	→		
(G) Kn x 10^{-3}	.6	.6	2.4	.6	2.4	6.0	.6	2.4	6.0	12.0		
(H) ρdc=ExFxGx10^3/D	37	61	43	107	85	62	47	68	65	40		
(I) Vac Σ	85	141	25.2	246	49.2	12.6	95	34.2	13.1	4.045		
(J) AC noise x 2	→	→	→	→	→	→	→	→	→	→		
(K) Vac(corr) =$\sqrt{I^2 - J^2}$	→	→	→	→	→	→	→	→	→	→		
(L) AC-DC cal.	.9793	→	→	→	→	→	→	→	→	→		
(M) ρ dc/ρac=ExL/K	1.020	1.027	1.014	1.031	1.025	1.018	1.007	1.011	1.009	1.012		
(N) PFE=(M-1)(10^2)	2.0	2.7	1.4	3.1	2.5	1.8	.7	1.1	.9	1.2		
(O) MCF=(M-1)(10^5)/H	54	44	33	29	29	29	15	16	14	30		
	-1.1	-11.1		+2.8			-9.9					

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.												
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)												
(O) MCF=(M-1)(10^5)/H												

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING S 65° W



AREA Tumacacori LINE 1 a = 500' SCALE: 1" = 500' DATE: 4/21/

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page _____

Project Kayser Tumacacori Line Line 1, SE ± Field date 4/20/66 Data page 4/21/66 Comp. date 4/22/66 Comp by S W I

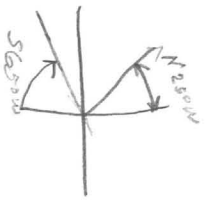
(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
(B) Receive	@-500SE	500-1000	→	1000-1500SE	→	→	15-2000SE	→	→	→	2000-2500	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	1000	1400	1000	1400	1400	1000	1400	1400	1400	1040?	1400	1400
(E) Vdc (avg)	30.9	38.55	7.2	41.2	7.7	2.41	22.7	10.1	3.01	1.30	11.9	7.81
(F) DCcal	.980	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	1.5	1.5	6	1.5	6	15	1.5	6	15	30	6	15
(H) ρ dc=ExFxGx10^3/D (2)	45	40	42	43	32	35	24	42	32	38	50	82
(I) Vac Σ	29.8	37.25	6.95	39.85	7.4	2.32	21.8	9.7	2.93	1.225	11.4	7.5
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.980	→	→	→	→	→	→	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1.016	1.014	1.015	1.013	1.020	1.018	1.020	1.020	1.007	1.040	1.023	1.021
(N) PFE=(M-1)(10^2) 1x1000	1.6	1.4	1.5	1.3	2.0	1.8	2.0	2.0	0.7	4.0	2.3	2.1
(O) MCF=(M-1)(10^5)/H Ams	36	35	36	30	63	51	93	48	22	165	46	26

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

(A) Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal				
(B) Receive	→	→	2500-3000	→	→	→		→				
(C) n separation	4	5	3	4	5	6						
(D) I	1400	1000	1400	1400	1400	1000		1500				
(E) Vdc (avg) x	3.08	1.58	7.36	6.09	2.50	1.46		1530				
(F) DCcal	→	→	→	→	→	→		→				
(G) Kn x 10^{-3}	30	52.5	15	30	52.5	84						
(H) ρ dc=ExFxGx10^3/D	65	81	77	128	92	120						
(I) Vac Σ x	2.945	1.525	7.1	5.79	2.40	1.4		150				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→	→		.980				
(M) ρdc/ρac =ExL/K	1.023	1.015	1.016	1.031	1.021	1.022						
(N) PFE=(M-1)(10^2)	2.5	1.5	1.6	3.1	2.1	2.3						
(O) MCF=(M-1)(10^5)/H	28	19	21	25	23	18						

$$\frac{(Km)(DcAv)(Dccal)\ 1000}{Current}$$

$$\frac{(Km)(DcAv)\ (.980)(1000)}{1,400}$$



INDUCED POLARIZATION SENDER NOTES

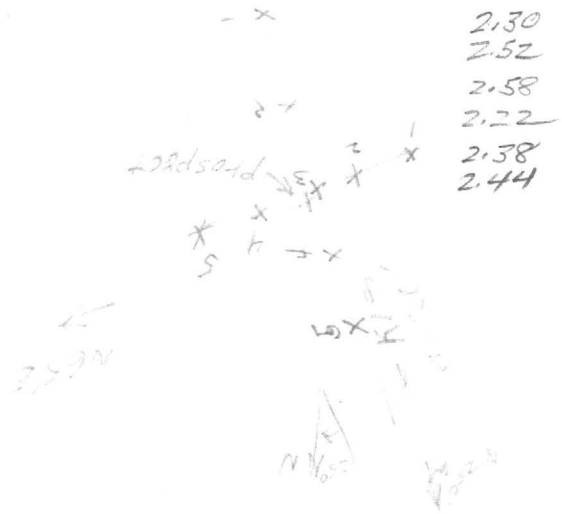
project: KAYSER Line: KI-SE Date: 4-20-66

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Receive	0-500	500-1000	→	1000-1500	→	→	1500-2000	→	→	→	2000-2500	→
Current ~~Time~~	500 x 2	700 x 2	500 x 2	700 x 2	700 x 2	500 x 2	700 x 2	700 x 2	700 x 2	520 x 2	700 x 2	700 x 2
Range												
TOTAL Current	1000	1400	1000	1400	1400	1000	1400	1400	1400	?1000 1040	1400	1400
Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal				
Receive	→	→	2500-3000	→	→	→		1½ AMP				
Current ~~Time~~	700 x 2	500 x 2	700 x 2	700 x 2	700 x 2	500 x 2						
Range												
TOTAL Current	1400	1000	1400	1400	1400	1000						

INDUCED POLARIZATION - RECEIVER NOTES PAGE 1

Project: KAYSER Line: K1 - 5E Int.Cal .92 Date: 4/20/66

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5			CAL
Rec.	0-5	5-10	→	10-15	→	→	15-20	→	→	→			
Time	.1	.1	.03	.1	.03	.01	.1	.03	.01	.003			
DC-1	30.8 30.8	38.2 38.8	7.3 7.0	41.7 40.7	7.8 7.6	2.30 2.48	22.7 22.7	10.6 9.8	3.0 3.18	1.25 1.34	153 153		
DC-2	30.5 31.3	38.7 38.4	7.3 7.1	41.5 40.8	7.8 7.5	2.[illegible] 2.39	22.6 22.8	10.2 10.3	3.03 3.10	1.23 1.36			
Σ	61.6 61.8							20.4 20.5					100
DC-3	31.3 30.6	39.0 38.2	7.3 7.1	41.8 40.7	7.7 7.7	2.38 2.44	22.7 22.7	10.1 10.3	3.15 3.02	1.19 1.42			100
Dc-4	30.6 31.3	39.0 38.1	7.2 7.2	41.2 41.2	7.5 7.9	2.40 2.46		10.5 9.9	3.00 3.17	1.32 1.25			
Σ	61.9 61.9				7.6	2.42 2.38		20.4	3.0 3.18	1.26 1.35			
DC-AV	30.9	38.55	7.2	41.2	7.7	2.41	22.7	10.1	3.01	1.30	153		
AC-1	29.8	37.2	6.9	39.9	7.4	2.32	21.8	9.7	2.93	1.23	150		149
AC-2	29.8	37.3	7.0	39.8	7.4	2.32	21.8	9.7	2.93	1.22	150		149
Σ	29.8	37.25	6.95	39.85	7.4	2.32	21.8	9.7	2.93	1.225	150		99
S. P.	+2.1	-3.5		+0.7			-2.5						
AC-N	.08	.02		.02			.02						
Res.													



2.30
2.52
2.58
2.22
2.38
2.44

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: Kayser Line: K1-SE Int.Cal Date: 4/20/66

Send	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5				
Rec.	30-25	→	→	→	25-20	→	→	→				
Time	.03	.03	.01	.003	.03	.01	.01	.003				
DC-1	12.2 11.7	7.9 7.8	2.90 3.27	1.70 1.62	7.8 7.0	6.40 5.60	2.40 2.50	1.54 1.38				
DC-2	11.7 12.0	7.7 7.9	3.00 3.15	1.58 1.67	7.3 7.5	6.20 5.78	2.20 2.82	1.58 1.26				
Σ								2.92				
DC-3	12.0 11.8	8.2 7.4	3.07 3.07	1.60 1.52	7.2 7.5	6.20 5.82	2.40 2.62	1.52 1.42				
Dc-4	11.8 12.0	7.8 7.8	3.02 3.15	1.58 1.52	7.1 7.5	6.22 5.78	2.82 2.25	1.75 1.20				
Σ	12.2		3.05	1.49	7.3	5.85	2.60	1.56				
DC-AV	11.9	7.81	3.08	1.58	7.36	6.09	2.50	1.46				
AC-1	11.4	7.5	2.94	1.53	7.1	5.80	2.40	1.40				
AC-2	11.4	7.5	2.95	1.52	7.1	5.78	2.40	1.40				
Σ	11.4	7.5	2.945	1.525	7.1	5.79	2.40	1.40				
S. P.	+0.9				+5.3							
AC-N	.02				.04							
t.Res.												

2.48
2.45

1.56
1.67

1.55
1.64

1.63
1.63

INDUCED POLARIZATION SENDER NOTES

project: KAYSER Line: K2 N W Date: 4-20-66

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Receive	0-500	500-1000	→	1000-1500	→	→	1500-2000	→	→	→	2000-2500	→
Current Time	700 x 2	700 x 2	700 x 2	700 x 2	700 x 2	700 x 2	500 x 2	700 x 2	700 x 2	700 x 2	500 x 2	700 x 2
Range												
TOTAL Current	1400	1400	1400	1400	1400	1400	1000	1400	1400	1400	1000	1400

Send	2-3	1-2	4-5	3-4	2-3	1-2		cal 1 AMP				
Receive	→	→	2500-3000	→	→	→						
Current Time	700 x 2	700 x 2	500 x 2	700 x 2	700 x 2	700 x 2						
Range												
TOTAL Current	1400	1400	1000	1400	1400	1400						

INDUCED POLARIZATION - RECEIVER NOTES PAGE 1

Project: Kayser Line: K1-NW Int.Cal .92 Date: 4/20/66

Send	4-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL
Rec.	C-6	5-10	→	10-15	→	→	15-20	→	→	→		
Time	.1	.1	.03	.3	.1	.03	.3	.1	.03	.01		
DC-1	37.5 38.7	47.8 48.2	9.7 10.0	86 85	20.0 22.7	6.6 6.6	100 101	23.2 24.7	9.6 9.5	3.72 3.82		101 101
DC-2	37.5 38.7	48.0 47.8	9.4 10.2	86 85	20.5 22.0	6.5 6.6	102 100	23.5 23.2	9.9 9.3	4.02 3.52		101 101
Σ												
DC-3	38.1 38.2	47.2 48.6	9.8 9.8	85 86	21.5 20.8	6.7 6.5	102 100	23.3 23.5	9.6 9.6	3.90 3.70		
Dc-4	38.3 38.0	48.0 47.8	9.6 9.8		20.1 22.0	6.6 6.6	101 101	23.4 23.4	10.0 9.2	3.70 3.80		
Σ			9.7		20.8				9.6	3.80		
DC-AV	38.13	47.925	9.79	85.5	21.2	6.6	101	23.4	9.6	3.77		
AC-1	36.5	46.4	9.6	82	20.3	6.3	98.0	22.7	9.3	3.67		99
AC-2	36.5	46.3	9.5	82	20.3	6.3	98	22.7	9.2	3.65		99
Σ	36.5	46.35	9.55	82	20.3	6.3	98	22.7	9.25	3.66		
S. P.	+3.2	-9.8		+2.9		+5.6						
AC-N	.08	.06		.03		.06						
.Res.												

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: KAYSER Line: K1-NW Int.Cal _____ Date: 4/20/66

Send	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2				
Rec.	20.25	→	→	→	25-30	→	→	→				
Time	.03	.03	.01	.01	.03	.01	.01	.003				
DC-1	21.7 20.0	9.0 9.9	5.00 5.50	2.80 2.78	8.0 8.6	5.10 5.40	3.78 3.38					
DC-2	20.5 21.5	9.8 9.0	5.05 5.40	2.52 2.83	8.5 8.1	5.40 5.23	3.58 3.60					
Σ								TOO MUCH DRIFT				
DC-3	20.2 21.4	9.7 9.4	5.40 4.95	2.83 2.70	8.1 8.4	5.19 5.38	3.63 3.48					
Dc-4	20.3 21.4	9.7 9.0	5.28 5.30	2.50 2.85	8.5 8.0	5.40 5.18	3.20 3.90					
Σ	20.6 21.3	9.5 9.4	5.20 5.18		8.4 8.4	5.42 5.28	4.40 3.25					
DC-AV	20.9	9.42	5.23	2.73	8.3	5.3	3.59					
AC-1	20.2	9.2	5.00	2.65	8.0	5.03	3.42	1.9				
AC-2	20.3	9.2	5.00	2.67	8.0	5.05	3.42	1.9				
Σ	20.25	9.2	5.0	2.66	8.0	5.04	3.42	1.9				
S. P.	+13.7				-1.9							
AC-N	.04				.06							
.Res.												

8.7	2.78	5.95
7.8	2.80	4.62
8.3	3.02	5.32
8.3	3.10	4.98
	3.05	5.70
	2.42	4.70
	2.75	5.25
	2.95	5.20
		5.00
		5.58

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page ____

Project Tumacori Kayser Line Line 1 NW½ Field date 4/20/66 Data page ____ Comp. date 4/21/66 Comp by J.W.L

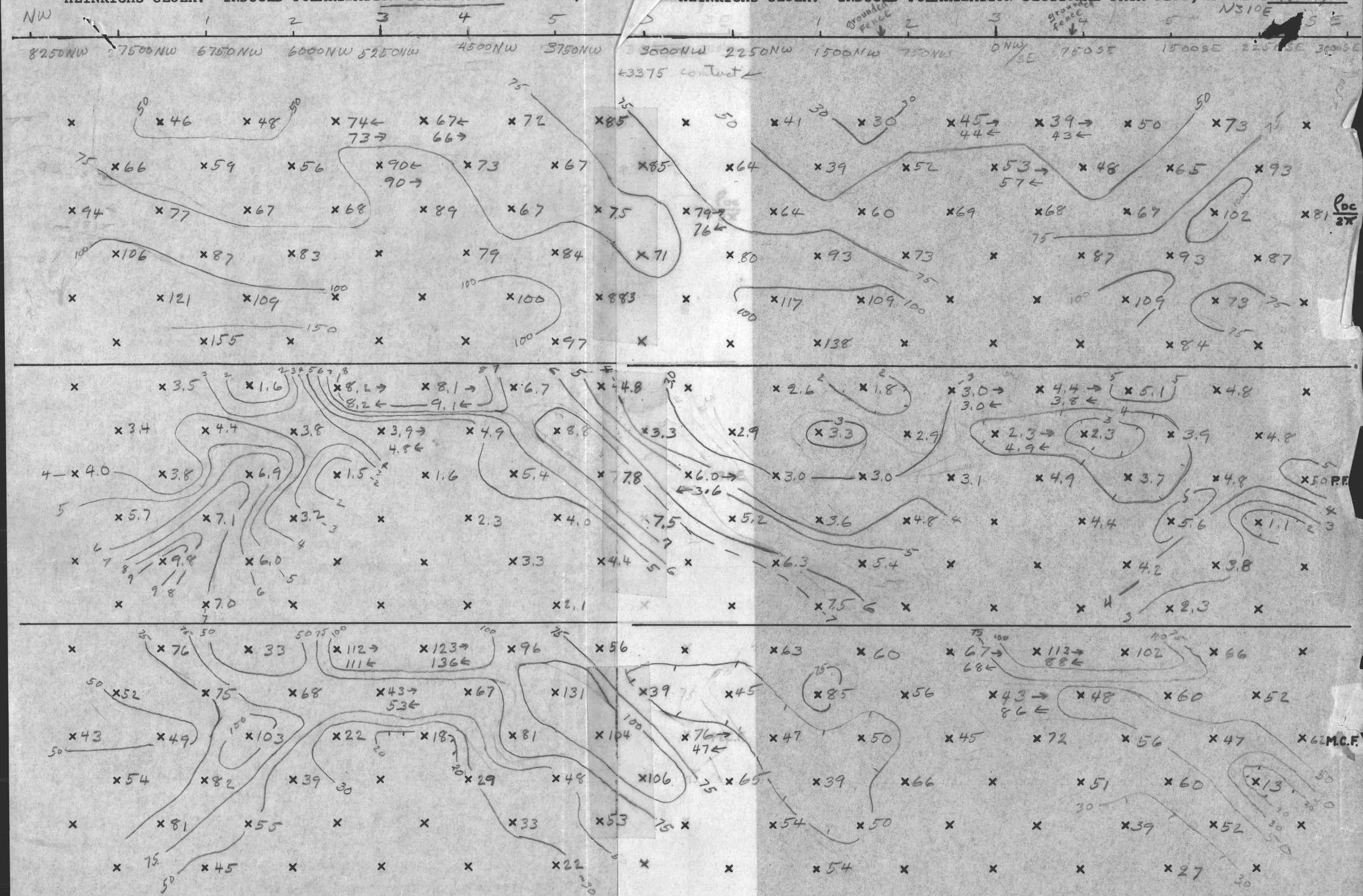
(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
(B) Receive	0-5 NW	5-10 NW	→	1000-1500 NW	→	→	15-20 NW	→	→	→	20-25	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	1400	1400	1400	1400	1400	1400	1000	1400	1400	1400	1000	1400
(E) Vdc (avg) (1)	38.13	47.925	9.79	85.5	21.2	6.6	101	23.4	9.6	3.77	20.9	9.42
(F) DCcal	.990											
(G) Kn x 10^{-3}	1.5	1.5	6	1.5	6	15	1.5	6	15	30	6	15
(H) ρ dc=ExFxGx10^3/D	40	51	42	91	90	70	107	99	102	80	89	100
(I) Vac Σ (2)	36.5	46.35	9.55	82	20.3	6.3	98	22.7	9.25	3.66	20.25	9.2
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.980											
(M) ρ dc/ρac=ExL/K Ans	1.024	1.013	1.005	1.022	1.023	1.027	1.010	1.010	1.017	1.009	1.011	1.003
(N) PFE=(M-1)(10^2)	2.4	1.3	0.5	2.2	2.3	2.7	1.0	1.0	1.7	0.9	1.1	0.3
(O) MCF=(M-1)(10^5)/H	60	25	12	24	26	34	9	10	17	11	12	3

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

(A) Send	2-3	1-2	4-5	3-4	2-3	1-2		cal				
(B) Receive	→	→	25-30 NW	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I	1400	1400	1000	1400	1400	1400		1000	1000			
(E) Vdc (avg) V	5.23	2.73	8.3	5.3	3.54	—		101	202			
(F) DCcal	→	→	→	→	→	→		1.0	.5			
(G) Kn x 10^{-3}	30	52.5	15	30	52.5	84						
(H) ρ dc=ExFxGx10^3/D	111	101	88	112	130							
(I) Vac Σ x	5.0	2.66	8.0	5.04	3.42	1.9		99	198			
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.												
(M) ρdc/ρac =ExL/K	1.025	1.006	1.017	1.031	1.029							
(N) PFE=(M-1)(10^2)	2.5	0.6	1.7	3.1	2.9							
(O) MCF=(M-1)(10^5)/H	23	6	19	28	22							

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKIN

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING NE1y



AREA Guijas LINE 1B a = 750 ' SCALE: 1" = 750'

AREA Guijas LINE 1A a = 750 ' SCALE: 1" = 750' DATE: 21 Mar

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page _____

Project Kayser Line 1 W ½ Field date 22 Mar Data page _____ Comp. date 23 Mar. Comp by J W L

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
(B) Receive	0-7.5E	7.5-15E	→	15-22.5E	→	→	22.5-3E			→	3-3750E	
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	2	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	77.1	78.57	25.53	53.27	23.27	12.39	74.17	17.73	10.81	6.51	28.57	11.55
(F) DCcal	.495	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	2.25	2.25	9	2.25	9	22.5	2.25	9	22.5	45	9	22.5
(H) ρ dc=ExFxGx10^3/D	43	44	57	30	52	69	41	39	60	73	64	64
(I) Vac Σ	73.5	75.5	24.1	51.8	22.4	11.9	71.6	17.0	10.39	6.15	27.5	11.10
(J) AC noise x 2	→	→	→	→	→	→	→	→	→	→	→	→
(K) Vac(corr) = $\sqrt{I^2 - J^2}$	→	→	→	→	→	→	→	→	→	→	→	→
(L) AC-DC cal.	.990	→	→	→	→	→	→	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1.038	1.030	1.049	1.018	1.029	1.031	1.026	1.033	1.030	1.048	1.029	1.030
(N) PFE=(M-1)(10^2)	3.8	3.0	4.9	1.8	2.9	3.1	2.6	3.3	3.0	4.8	2.9	3.0
(O) MCF=(M-1)(10^5)/H	88	68	86	60	56	45	63	85	50	66	45	47

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

(A) Send	3-4	4-5	1-2	2-3	3-4	4-5		cal				
(B) Receive	→	→	3750-45E	→	→	→		2-3				
(C) n separation	4	5	3	4	5	6						
(D) I	→	→	→	→	→	→		1000				
(E) Vdc (avg)	8.37	5.587	14.30	7.09	6.003	4.42						
(F) DCcal	→	→	→	→	→	→		202				
(G) Kn x 10^{-3}	45	78.75	22.5	45	78.75	126.0						
(H) ρ dc=ExFxGx10^3/D	93	109	79	80	117.0	138						
(I) Vac Σ	8	5.25	13.36	6.67	5.59	4.07		200				
(J) AC noise x 2	→	→	→	→	→	→						
(K) Vac (corr) = $\sqrt{I^2 - J^2}$	→	→	→	→	→	→						
(L) AC-DC cal.	→	→	→	→	→	→						
(M) ρdc/ρac =ExL/K	1.036	1.054	1.060	1.052	1.063	1.075						
(N) PFE=(M-1)(10^2)	3.6	5.4	6.0	5.2	6.3	7.5						
(O) MCF=(M-1)(10^5)/H	39	50	76	65	54	54						

.495049

$$\frac{(\text{km})(\text{dcAv})\ (\text{dcCal})(10^3)}{2}$$

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Kayser Line 1 E½ Field date 21 Mar Data page_____ Comp. date 21 Mar. Comp by JWL

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-3	3-4	2-3	1-2	4-5	3-4
(B) Receive	0-750E	750-1500	→	1500-2250	→	→	2250-3	→	→	→	3-3750E	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	2	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	79.6	69.3	23.57	88.5	21.5	12.07	129.6	29.1	11.9	7.8	41.5	18.3
(F) DCcal	.4975	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	2.25	2.25	9	2.25	9	22.5	2.25	9	22.5	45	9	22.5
(H) ρdc=ExFxGx10^3/D	45	39	53	50	48	68	73	65	67	87	93	102
(I) Vac Σ	76.1	65.4	22.7	83.3	20.7	11.33	121.8	27.6	11.30	7.36	39.0	17.2
(J) AC noise x 2	→	→	→	→	→	→	→	→	→	→	→	→
(K) Vac(corr) =$\sqrt{I^2 - J^2}$	→	→	→	→	→	→	→	→	→	→	→	→
(L) AC-DC cal.	.985	→	→	→	→	→	→	→	→	→	→	→
(M) ρdc/ρac=ExL/K	1030	1044	1023	1051	1023	1049	1048	1039	1037	1044	1048	1048
(N) PFE=(M-1)(10^2)	3.0	4.4	2.3	5.1	2.9	4.9	4.8	3.9	3.7	4.4	4.8	4.8
(O) MCF=(M-1)(10^5)/H	67	113	43	102	48	72	66	60	56	51	52	47
Coupling corrected.	2.0	3.4	'	4.1								

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	2-3	1-2	4-3	3-4	2-3	1-2			Cal			
(B) Receive	→	→	3750-4500E	→	→	→			3-4			
(C) n separation	4	5	3	4	5	6						
(D) I	→	→	→	→	→	→			1000			
(E) Vdc (avg)	8.3	5.65	14.5	7.8	3.72	2.67			201			
(F) DCcal	→	→	→	→	→	→			.4975			
(G) Kn x 10^{-3}	45	78.75	22.5	45	78.75	126.0						
(H) ρdc=ExFxGx10^3/D	93	109	81	87	73	84						
(I) Vac Σ	7.74	5.34	13.6	7.6	3.53	2.57			198			
(J) AC noise x 2	→	→	→	→	→	→			→			
(K) Vac (corr) =$\sqrt{I^2 - J^2}$	→	→	→	→	→	→			→			
(L) AC-DC cal.	→	→	→	→	→	→			.985			
(M) ρdc/ρac =ExL/K	1056	1042	1050	1011	1038	1023						
(N) PFE=(M-1)(10^2)	5.6	4.2	5.0	1.1	3.8	2.3						
(O) MCF=(M-1)(10^5)/H	60	39	62	13	52	27						

$$\frac{(D_c A_U)(1000)(.49751)(}{2000}$$

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Gujas Line: 1 E ½ Int.Cal _____ Date: 21 Mar

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Rec.	0-7.5E	7.5-15 →		15-22.5	→		22.5-3	→	→	→	3-37.5	→
~~Time~~ R	100	100	30	100	30	10	100	30	10	10	30	30
DC-1	40.0 39.5 39.7 40.0	32.5 35.5 37.0 34.0	11.9 11.7	43.3 45.7	10.7 10.0 10.6	5.8 6.35 6.0 5.75	64.6 65.3 65.8 63.3	15.3 14.7 13.5 14.6	5.95 5.8 6.15 6.25	3.8 3.9 3.84 4.15	21 20.2 20.7 21.0	9.1 9.4 9.0 9.0
DC-2	39.7 40.0 40.0 39.6	35.5 34.0 34.2 35.2	11.7 11.9	45.7 43.0	10.6 11.1	6.0 6.15	65.8 63.5 64.2 66.0	13.5 14.6 15.7 14.4	6.15 6.25 5.58 5.5	3.8 4.15 3.93 3.95	20.8 21.0 20.2 20.0	9.0 9.0 9.8 9.0
Σ	79.7 79.5 79.7 79.6	69.5 69.5 69.7 69.2	23.6 23.6	88.9 88.7	21.3 21.7	11.8 12.10 11.95	130.4 129 130.0 129.5	28.8 29.3 29.2 29.0	12.10 12.05 11.73 11.75	7.6 8.05 7.7 8.10	41.7 41.2 41 41.0	18.1 18.4 18.8 18.9
DC-3	4.0 39.5	34.2 35.2 34.1 33.8	12.0 11.5	43.0 46.0	11.1 10.4	6.15 5.8	64.2 65.8	17.4 14.6	5.8 6.2 5.7 6.0	3.8 3.95 3.95 3.90	20 20.0 21.2 21.8	9.9 9.0 8.9 9.4
Dc-4		34.1 33.8 35.5 36.0			10.4 11.0	5.8 6.35		14.6 14.5	5.9 6.0 6.2 5.8	3.95 3.9 3.85	21.8 20.4	8.9 9.4 9.4 9.0
Σ	79.5	68.3 69.0 69.6 69.8	23.5	89.0	21.6 21.4	11.95 12.15	130.0	29.0 29.1	11.7 12.2 12.1 11.9	7.75 7.95 7.7 0	41.6 41.8 42.2	18.7 18.4 18.3 18.4
DC-AV	79.6	69.3	23.57	88.9	21.5	12.07	129.6	29.1	11.9	7.8	41.5	18.3
AC-1	38.1	32.8	11.4	41.5	10.4	5.68	61	13.8	5.65	3.7	19.5	8.6
AC-2	38.0	32.6	11.3	41.8	10.3	5.65	60.8	13.8	5.65	3.66	19.5	8.6
Σ	76.1	65.4	22.7	43.3	20.7	11.33	121.8	27.6	11.30	7.36	39.0	17.9
S. P.	-10	+31		-1			-3					
AC-N	—	.1		.06			.05					
Pot.Res.		5K		5K			5K					

int Cal. 91 93

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Guijas Kayser Line: 1 E ± Int.Cal _____ Date: 2 Mar 66

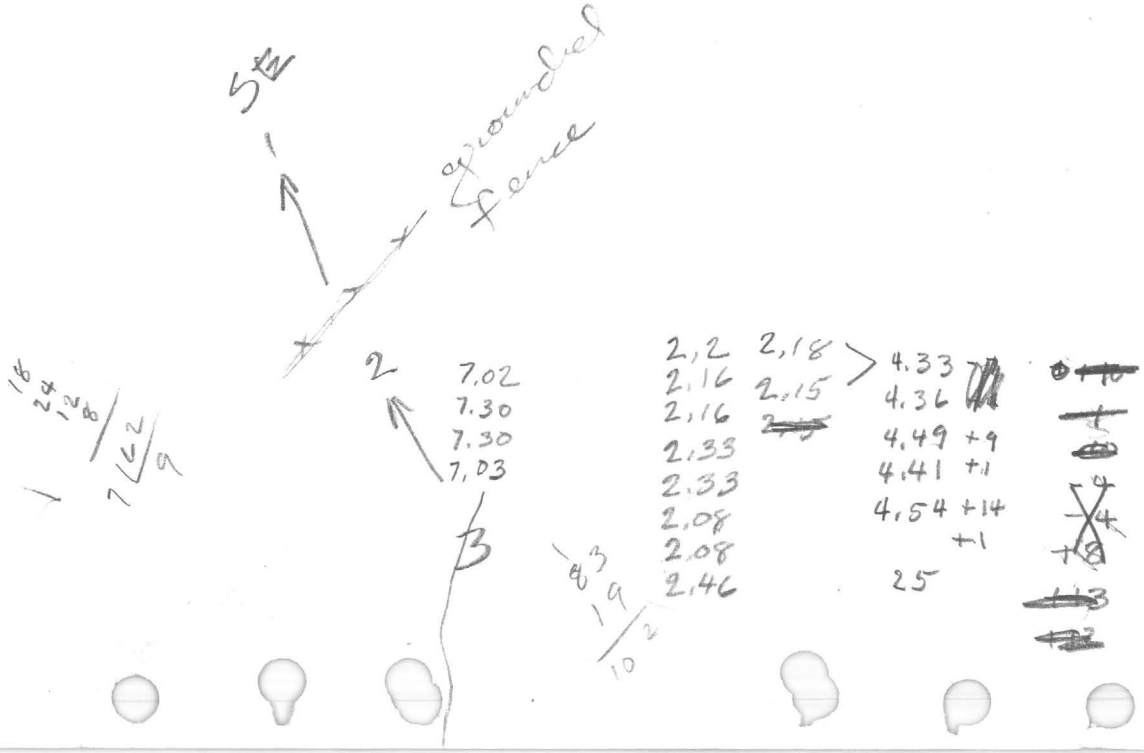
4.82	Send	2-3	1-2	4-5	3-4	2-3	1-2		Cal				
3.4	Rec.	→	→	37.5-45	→	→	→ E		3-4				
3.4	~~Time~~ R	10	10	30	10	3	3		300				
4.6	DC-1	3.6 5.0 5.2 4.1	3.0 1.2 4 2.6 3.3	7.4 7.4 7.1 7.0	4.3 0 3.7 3.6 0 4.13	1.85 1.78 1.85 1.90	1.38 1.35 1.30 1.27		100 101				
4.6													
3.9	DC-2	5.2 4.1 3.1 3.6	2.6 3.3 3.2 2.4	7.4 7.1	3.98 4.13 3.92 3.61	1.85 1.90 1.85 1.85	1.30 1.27 1.36 1.42		100 101				
3.9	Σ	8.8 9.1 8.3 7.7	5.61 5.7 5.8 5.7		7.9 7.83 7.90 7.74	3.70 3.68 3.70 3.75	2.66 2.62 2.66 2.69						
4.2	DC-3	3.1 3.6 5.0 4.95	3.2 2.4 2.4 3.3	7.1 7.4	3.92 4.0 4.1 3.95	1.85 1.85 1.95 1.85	1.36 1.32		100 101				
4.4													
3.2	Dc-4	3.1 4.95 4.82 3.1	2.15 3.3 3.52 2.15		4.1 3.95 3.7 3.42	1.95 1.85 1.78 1.85	1.32 1.35						
3.2	Σ	8.1 8.55 7.92 8.05	5.6 5.7 5.67 5.45		7.95 7.87	3.80 3.70 3.73 3.70	2.66 2.67						
5.1													
5.1	DC-AV	8.3	5.65	14.5	7.8	3.72	2.67		201				
3.0	AC-1	3.86	2.67	6.8	3.8	1.76	1.29		99				
	AC-2	3.88	2.67	6.8	3.8	1.77	1.28		99				
	Σ	7.74	5.34	13.6	7.6	3.53	2.57		198				
	S. P.	←	-4	-8									
	AC-N		.03	.05									
	Pot.Res.												

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Guijas Line: 1 W/9 Int.Cal _____ Date: 22 Mar 66

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Rec.	0-7.5W	7.5-15	→	15-22.5	→	→	22.5-3	→	→	→	3-37.5	→
Time R	100	100	30	100	30	10	100	30	10	10	30	10
DC-1	38.8 38.3	38.5 40	12.6 13.0	26.2 27.1	11.5 11.7	6.27 6.21 6.15 6.20	36.1 38	9.1 8.6	5.58 5.7 5.17 5.08	3.38 3.03 3.08 3.44	14.1 14.4	5.7 5.7 5.79 5.8
DC-2	38.3 38.6	40 38.2	13.0 12.5	27.1 26.1	11.7 11.5	6.15 6.19 6.37 6.21	38 36	8.7 9.0	5.17 5.64	3.08 3.44 3.57 3.04	14.4 14.2	5.79 5.8
Σ	77.1 76.9	78.5 78.7	25.6 25.5	53.3 53.2	23.2 23.2	12.42 12.41 12.57 12.48	74.1 74	17.7 17.2	10.75 10.78 10.81	6.46 6.47 6.58 6.48	28.5 28.6	11.49 11.50
DC-3	38.6 38.6	38.5 40	12.5 13.0	26.1 27.2	11.5 11.8	6.37 5.83	36 38.1	9.0 8.8	5.64 5.18	3.5 3.04 3.03 3.48	14.2 14.4	5.8 5.8
Dc-4						5.85			5.18 5.7	3.0 3.48 3.56 3.0		5.8 5.8
Σ	77.2	78.5	25.5	53.3	23.3	12.20			10.82 10.88	6.53 6.52 6.56 6.48	28.4	11.6 11.6
DC-AV	77.1	78.57	25.53	53.27	23.27	12.39	74.17	17.73	10.81	6.51	28.57	11.55
AC-1	36.8	37.8	12.0	25.9	11.2	5.95	35.8	8.5	5.2	3.08	13.7	5.55
AC-2	36.7	37.7	12.1	25.9	11.2	5.95	35.8	8.5	5.19	3.07	13.8	5.55
Σ	73.5	75.5	24.1	51.8	22.4	11.90	71.6	17.0	10.39	6.15	29.5	11.10
S. P.	+3	+2		+4			-4				-5	
AC-N	.02	.05		.02			102				.02	
Pot.Res.	5K	5K		10K			12K				12K	

93 93


5W
grounded fence
2
7.02
7.30
7.30
7.03
B
2,2
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4.33
4.36
4.49 +9
4.41 +1
4.54 +14
+1
25

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: guijas Kuyro Line: 1 W½ Int.Cal _____ Date: 21 Mar 66

Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal				
Rec.	→	→	37545	→	→	→ W		2-3				
~~Time~~ R	10	10	10	10	10	3						
DC-1	4.22 4.15	2.81 2.77	7.3 7.2 6.9 7.1	3.6 3.70 3.41 3.38	3.02 3.0 2.81 2.98	2.22 2.15 2.20 2.35		101 101				
DC-2	4.15 4.22	2.77 2.82	6.9 7.10 6.38 7.10	3.41 3.72	2.81 2.98 3.36 3.02	2.20 2.35 2.1 2.04		101 101				
Σ		5.58 5.59	14.2 14.3 14.28 14.2	7.01 7.08 7.13	5.83 5.98 6.19 6.0	4.4 4.5 4.3 4.39		202 202				
DC-3	4.22 4.15	2.82 2.77	~~7.38~~ 7.10 ~~7.08~~ 7.3	3.72 3.40	~~3.34~~ 3.02 ~~3.28~~ 3.0	2.1 2.04 2.43 2.32		100				
Dc-4			7.08 7.3 7.2 7.02	3.40 3.70	3.0 3.0 3.0 3.0	2.32 2.16 2.16 2.2						
Σ			~~14.46~~ 14.4 14.28 14.32	7.12 7.10	~~6.94~~ 6.62 6.00 6.00	4.53 4.36 4.48 4.36		202				
DC-AV	8.37	5.587	14.30	7.09	6.003	4.42		202				
AC-1	4.0	2.63	6.68	3.35	2.8	2.04		100				
AC-2	4.0	2.62	6.68	3.32	2.79	2.03		100				
Σ	8	5.25	13.36	6.67	5.59	4.07		200				
S. P.			-9									
AC-N			.02									
Pot.Res.			5K									

INDUCED POLARIZATION - RECEIVER NOTES PAGE 1

Project: Guijas Kayser Line: 1 Spread BW½ To west Int.Cal _____ Date: 25 March

Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
Rec.	0-750 W	750-15 W	→	15-2250 W	→	→	2250-3	→	→	→	3-3750 W	→
~~Time~~ R	100	100	30	100	30	10	100	30	10	10	30	10
DC-1	59 60.8 60.6 58.7	68.0 67.2 66.0 66.5	19.5 19.5 21.0 21.0	46.2 43.5 39.5 42.5	13.1 12.1	6.18 6.05 5.95 6.03	40.2 41.5 41.6 41.3	13.4 13.0	5.73 6.6 6.39 5.22	3.88 3.50 3.60 3.96	15.0 15.8 13.9 13.8	6.95 6.61 6.98 7.2
DC-2	60.6 58.7 58.7 61.1	66.0 66.5 67.5 67.3	21.0 21.0 19.3 19.5	42.1 43.8	12.0 13.2	5.95 6.03 5.92 6.2	41.6 41.4 41.0 41.3	13.0 13.4	6.39 5.22 5.69 7.0	3.60 3.96 3.92 3.40	13.9 13.8 14.6 15.9	6.98 7.2 6.78 6.58
Σ	119.6 119.5 119.3 119.8	134.0 133.7 133.5 133.8	40.5 40.5 40.3 40.5	85.7 86 85.9	25.2 25.2	12.13 12.08 11.87	81.8 82.8 82.6 82.7	26.4 26.4	12.12 11.82 12.08 12.22	7.48 7.46 7.52 7.36	29.4 29.6 29.7	13.93 13.81 13.76 13.78
DC-3	58.7 61.1 60.8 58.4	67.5 67.3 66.2 66.5	19.3 19.5 21.3 21.1	43.8 42.5	13.2 11.9	~~5.40~~ 6.2 6.0	41.0 41.2	13.4 12.9	5.69 5.80 6.66 6.32	3.92 3.40 3.50 4.18	14.4 15.9 13.9 13.5	6.78 7.02
Dc-4	61.0 58.4 58.3 61.0	66.2 66.5 67.2 66.2	21.3 21.1 19.5 19.5	42.5 43.5		6.19 6.0 6.05 6.2	41.2 41.5		5.86 6.32 6.18 5.78	7.92 7.58	13.9 15.8	7.02 6.61
Σ	119.5 119.5 119.3 119.4	133.7 133.8 133.4 132.7	40.6 40.6 40.8 40.6	86.3 89	25.1	12.24 12.8 12.2	82.2 82.7	26.3	12.29 12.12 12.04 12.10	-	29.7 29.4	13.80 13.63
DC-AV	119.5	133.6	40.55	85.8	25.17	12.14	82.6	26.37	12.10	7.47	29.56	13.81
AC-1	54.2	61.2	19.1	41.8	12	5.92	39.5	12.5	5.6	3.58	14.1	6.59
AC-2	54.2	61.0	19.2	41.8	12.0	5.92	39.5	12.5	5.60	3.58	14.2	6.60
Σ	108.4	122.2	38.3	83.6	24	11.84	79.0	25	11.20	7.16	28.3	13.18
S. P.	-5	-7		+5			-6					
AC-N	.04	.04		.04			.03					
Pot.Res.	7K	12K	12K	22K			55K				48K	

a' Polarized

3-4

5.9	6.3	6.8 < 3,4 3,4	3,6 2,3	
6.3	6.2	4.8 < 3,4 1,4	2,3 3,9	
5,8	5,8	6.7 < 3,1 3,6	3,9 1,9	
6,5	6,3	6,2 < 3,6 2,6	2,9 3,4	
5,6	6,0	6,2 < 2,6 3,6	3,4 2,6	
5,8		6,2 < 3,6 2,6		
7,0		6,2 < 2,6 3,6		
7,4				

4-5

2,52	2,60	> 5,37	4,95
2,85	2,35		
2,85	2,35	> 4,89	4,85
2,04	2,50		
2,04	2,20	> 4,94	4,48
2,90	2,28		
2,90	2,28	> 5,80	4,83
2,35	2,55		
2,35	2,55	> 4,7	4,85
2,60	2,30		
	~~2,80~~	4,95	5,3
		5,20	4,85
		4,92	~~4,58~~
		4,85	5,08
		~~4,95~~	

INDUCED POLARIZATION - RECEIVER NOTES PAGE 2

Project: guijas Line: 1 Spread B To west Int.Cal _____ Date: 25 May 66

Send	3-4	4-5	1-2	2-3	3-4	4-5			Cal			
Rec.	→	→	3750-45K	→	→	→			2-3			
~~Time~~ R	10	10	30	10	10	3						
DC-1	3.4 3.2 4.39 4.75	2.8 2.66 2.75 2.71	8.5 8.4 9.1 8.5	4.78 4.39 4.8 5.4	2.61 3.2 3.0 2.18	2.7 2.50 2.6 2.18			101 101 101 101			
DC-2	4.39 3.58 3.5 4.3	2.7 2.71 3.02 3.02	9.1 8.5 6.8 8.4	4.8 5.4 4.75 4.1	3.0 2.18 2.8 4.7	2.6 2.18 2.25 2.90			101 101 101 [illegible]			
Σ	7.79 7.95 7.89 7.88	5.55 5.37 5.72 5.73	17.6 16.9 15.9 16.9	9.58 9.79 9.55 9.5	5.61 5.38 5.8 6.88	5.3 4.68 4.85 5.08						
DC-3	3.5 4.3 4.28 3.4	3.02 2.75 2.66 2.80	8.4 8.5	4.8 4.7 4.39 4.95	2.8 3.0 3.1 2.8	2.90 2.30 2.30 2.55			101 102			
Dc-4	4.28 3.4 3.2 4.3	2.75 2.75		4.52 4.95 5.0 4.52	3.1 3.1 3.2 3.4	2.40 2.55 2.52 2.40						
Σ	7.78 7.7 7.48 7.7	5.68 5.55 5.50	16.9	9.19 9.65 9.52	5.9 5.8 6.3 6.5	5.20 4.85 4.92 4.95						
DC-AV	7.77	5.58	16.8	9.54	6.2	4.97						
AC-1	3.58	2.61	8.0	4.48	2.79	2.3			100			
AC-2	3.6	2.60	8.0	4.46	2.80	2.3						
Σ	7.18	5.21	16.0	8.94	5.59	4.6						
S. P.		-13				-8						
AC-N		.04				.04						
Pot.Res.		48K	26K			26K						

7.7
8.9
8.9
7.1
7.1
9.1
9.1
7.3

INDUCED POLARIZATION - RECEIVER NOTES PAGE 3

Project: Gurjas Kayser Line: 1 Spread BE½ 8 Towest Int.Cal _____ Date: 25 Mar

Sample of Shale (Block)

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
Rec.	0-750E	750-15E →		15-22E →			22.5-3E	→			3-375E	
~~Time~~ R	100	100	30	100	30	30	300	30	10	10	30	10
DC-1	66.1 66.1 66.8 66.1	59.5 59.9 59.9 59.9	20.1 19.9 20.6 20.7	59.5 70.0 62 61.1	17.0 16.2 16.4 16.4	8.0 7.8 8.2 9.0	78 74	15.4 17.2 14.6 12.9	6.55 6.82 5.25 6.55	3.60 3.42 3.46 3.70	19.1 19.6 19.3 18.6	7.38 6.35 6.0 7.42
DC-2	66.8 66.1 65.9 65.8	59.9 59.9 59.5 59.8	20.6 19.9	62 61.1 70.0 70.0	16.4 16.4 15.7 16.5	8.2 9.0 8.2 6.9	74 80	14.6 16.0	5.25 6.15 6.82 5.90	3.46 3.70 3.71 3.42	19.3 18.6 19.4 18.6	6.0 7.42 7.65 6.21
Σ	132.9 132.2 132.7 131.9	120.4 120.8 120.4 120.7	40.7 40.6 40.5	131.1 131.1	32.6 32.9	16.2 16.8 16.4 15.9	15.2 15.4	30.0 30.1 30.6	11.80 12.37 12.07 12.05	7.06 7.12 7.17 7.12	38.4 38.2 38.7 37.2	13.38 13.77 13.65 13.62
DC-3	65.9 65.8 66.0 66.2	59.5 59.8 60.0 60.1	19.9 20.7	70.0 70.0 62 60.0	15.7 16.5 16.5 16.6	8.2 6.9 6.9 9.1	80 72	16.0 14.0	6.0 5.90 6.0 6.4	3.71 3.29	19.4 18.6 19.0 19.5	7.11 6.21 6.9 7.6
Dc-4	66.0 66.2 66.1 66.0	60.0 60.1 59.7 59.1	20.7 19.9	62 60.0 70.0 70.5	16.5 16.6 16.2 16.6	6.9 9.1 7.8 7.7		14.0 17.2	6.0 5.82	3.29 3.75	19.0 19.5 19.6 19.0	6.9 7.6 6.35 5.8
Σ	131.9 132.2 132.1 132.2	119.5 120 119.7 119.2	40.6 40.6			15.1 16.0 14.7 16.8	15.2	30 31.2	12.0 12.30 11.82	7.00 7.04	38.4 38.1 38.6 38.5	14.01 13.81 13.2 13.4
DC-AV	132.25	119.1	40.6	130	32.78	15.99	15.27	30.38	12.06	7.09	38.26	13.6
AC-1	60.2	54.2	19.2	59.9	15.4	7.7	72	13.8	5.65	3.41	18.2	6.22
AC-2	60.2	54.3	19.3	59.9	15.4	7.8	72	13.7	5.62	3.42	18.3	6.21
Σ	120.4	108.5	38.5	119.8	30.8	15.5	144	27.5	11.27	6.83	36.5	12.43
S. P.	-5	+2		-5			+10				-18	
AC-N	.02	.03		.02			.04				.04	
Pot.Res.	20K ohm	8K		6K			6K				3K	
	92			92							91	

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Guijas Kayser Line: 1 spread Otw E ½ Int.Cal _____ Date: 25 Mar 66

Send	2-3	1-2	4-5	3-4	2-3	1-2			Cal			
Rec.	→	→	3250-45 E	→	→	→			3-4			
~~Time~~ R	10	10	30	10	3	3						
DC-1	4.21 3.9 3.58 3.85	2.6 2.81 2.59 2.35	7.2 6.4	3.1 3.10 3.39 3.45	2.26 2.3 2.0 1.95	1.55 1.4 1.55 1.65			101 101 102 102			
DC-2	3.58 3.85 4.1 3.58	2.59 2.35 2.66 2.80	6.4 7.3	3.39 3.45 3.08 2.99	2.0 2.25	1.5.5 1.65 1.5.0 1.56			101 101 102 102			
Σ	7.79 7.75 7.68 7.43	5.19 5.16 5.25 5.15	13.6 13.7	6.49 6.55 6.47 6.44	4.26 4.25 4.25	3.01 3.09 3.05 3.21						
DC-3	4.1 3.58 3.33 4.06	2.66 2.80 2.25 2.39	7.3 6.4	3.08 2.99 3.32 3.5	2.25 2.0	1.5.0 1.56 1.6.5 1.61			101 101 102 102			
Dc-4	3.33 4.06 3.9 3.53	2.25 2.39 2.95 2.95		3.32 3.5 3.10 2.8	2.0 2.3	1.6.5 1.61 1.4.4 1.49						
Σ	7.43 7.64 7.23 7.59	4.91 5.19 5.20 5.34	13.7	6.40 6.49 6.42 6.3	4.25 4.3	3.15 3.17 3.09 3.10						
DC-AV	7.57	5.17	13.67	6.44	4.26	3.11			203			
AC-1	3.59	2.46	6.5	2.95	2.0	1.51			100			
AC-2	3.60	2.47	6.5	2.95	2.02	1.51			100			
Σ	7.19	4.93	13.0	5.90	4.02	3.00			200			
S. P.			-8									
AC-N		.04	.05									
Pot.Res.			3K									

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page _____

Project Guijas Kayser Line 1 spread B W½ To west Field date 25 Mar Data page _____ Comp. date 26 Mar. Comp by T. W. L

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5	1-2	2-3
(B) Receive Out 5250 NW	0-750W	750-1500W	→	1500-2250W	→	→	2250-3000W	→	→	→	3000-3750W	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	2 A	—	—	—	—	—	—	—	—	—	—	—
(E) Vdc (avg) ①	119.5	133.6	40.55	85.8	25.17	12.14	82.6	26.37	12.10	7.47	29.56	13.813
(F) DCcal	.49504	—	—	—	—	—	—	—	—	—	—	→
(G) Kn x 10^{-3} ②	2.25	2.25	9.0	2.25	9.0	22.5	2.25	9.0	22.5	45	9.0	22.5
(H) ρ dc=ExFxGx10^3/D Ano	67	74	90	48	56	68	46	59	67	83	66	77
(I) Vac Σ	108.4	122.2	38.3	83.6	24	11.84	79	25	11.2	7.16	28.3	13.18
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.99009											
(M) ρ dc/ρac=ExL/K	1091	1082	1048	1016	1038	1013	1035	1044	1069	1032	1034	1038
(N) PFE=(M-1)(10^2)	9.1	8.2	4.8	1.6	3.8	1.5	3.5	4.4	6.9	3.2	3.4	3.8
(O) MCF=(M-1)(10^5)/H	136	111	53	33	68	22	76	75	103	39	52	49

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

(A) Send	3-4	4-5	1-2	2-3	3-4	4-5			Cal			
(B) Receive	→	→	3750W-4500W	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I	—	—	—	—	—	—			1000			
(E) Vdc (avg)	7.77	5.58	16.8	9.54	6.2	4.97			202			
(F) DCcal	—	—	—	—	—	—			.49504			
(G) Kn x 10^{-3}	45	78.75	22.5	45	78.75	126						
(H) ρ dc=ExFxGx10^3/D	87	109	94	106	121	155						
(I) Vac Σ	7.18	5.21	16.0	8.94	5.59	4.6			900			
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.												
(M) ρdc/ρac =ExL/K	1071	1060	1048	1057	1098	1070						
(N) PFE=(M-1)(10^2)	7.1	6.0	4.0	5.7	9.8	7.0						
(O) MCF=(M-1)(10^5)/H	82	55	43	54	81	45						

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page _____

Project Guijas Kayser Line 1 spread 0 E ½ to west Field date 25 Mar Data page _____ Comp. date 26 Mar. Comp by A. WL

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	4-5	3-4
(B) Receive 0 at 5250 NW	0-750E	750-1500E	→	1500-2250E	→	→	2250-3000E	→	→	→	3000-3750E	→
(C) n separation	1	1	2	1	2	3	1	2	2	4	2	3
(D) I	2 A											
(E) Vdc (avg)	132.25	119.1	40.6	130	32.78	15.99	15.27	30.38	12.06	2.09	38.26	13.6
(F) DCcal	.49261											
(G) Kn x 10^{-3}	2.25	2.25	9.0	2.25	9.0	22.5	2.25	9.0	22.5	45	9.0	22.5
(H) ρ dc=ExFxGx10^3/D	73	66	90	72	73	89	85	67	67	79	85	75
(I) Vac Σ	120.4	108.5	38.5	119.8	30.8	15.5	14.4	27.5	11.27	6.83	36.5	12.43
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.9852											
(M) ρ dc/ρac=ExL/K	1082	1081	1039	1069	1049	1016	1048	1088	1054	1023	1033	1078
(N) PFE=(M-1)(10^2)	8.2	8.1	3.9	6.9	4.9	1.6	4.8	8.8	5.4	2.3	3.3	7.8
(O) MCF=(M-1)(10^5)/H	112	123	43	96	67	18	56	131	81	29	39	104

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

(A) Send	2-3	1-2	4-5	3-4	2-3	1-2		Cal				
(B) Receive	→	→	3750-4500E	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I								1000				
(E) Vdc (avg)	7.57	5.17	13.67	6.44	4.26	3.11		203				
(F) DCcal												
(G) Kn x 10^{-3}	45	28.75	22.5	45	28.75	12.6						
(H) ρ dc=ExFxGx10^3/D	84	100	76	71	83	97						
(I) Vac Σ	7.19	4.93	13.0	6.9	4.02	3.00		200				
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.9852											
(M) ρdc/ρac =ExL/K	1046	1033	1036	1075	1044	1021						
(N) PFE=(M-1)(10^2)	4.0	3.3	3.6	7.5	4.4	2.1						
(O) MCF=(M-1)(10^5)/H	48	33	47	106	53	22						

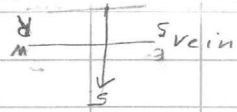
EM Notes March 4 Page 1

Vein STikes approx EW Traverse #10

S to E R to West

Traverse to South #1

250' spread between S & R



notes

Sta	Low	High	Gain L	Gain H	
0	0	0			first readings
25'S	0	0			
50'S	0	+2			
75'	+2	+2			
100'	+2	+6	#5K	HLK	fuzzy
125'	+4	+6	"	"	fuzzy
150'	+2	+3			
175'	+2	+2	10A		Tunnel entrance Northern prospec
200'	+0	+2			
225'S	+0	+2			
250'	+0	+0			
275'	+0	+0			
300'	+0	+0			
325	+0	+1			
350	+0	+0			
375	+0	+2			
400'	+0	+0			

J. L. DARLING CORP. TACOMA, WASH. U.S.A. NO. 314
Rite in the Rain WATERPROOF

Combination #1 Page 2

Sta	Low	High	
425's	+0	+1	
450's	+0	+0	
475's	+3	+3	
500's	+0	+0	
525's	+0	+3	
550's	+2	+2	at second prospect 10B
575's	+4	+4	
600's	+0	+0	
625's	+0	+0	
650'	+2	0	
675'	+0	+0	
700'	+0	+1	
725'	+0	+1	

This Traverse was run on E side of both prospects

High was heard on Hi of 5 gain

Low was on Hi of 1 gain

Traverse #2 4 March

Page 3

EM - Notes

going N

Sender on West end

Receiver on East

Run on West Side of 10A-B

Sta	Low	high	Location Pts & Comments
0'	+0	+0	
25'N	+0	+0	
50'N	-1	+0	
75'N	-4	-5	questionable reading
75'N	-2	-3 *	Second Reading as Check
75'N	-1	-3	3rd Reading OK
75'N	-2	-3	4th Reading
100'N	-0	-2	opposite Pros 10B (West) adjacent end of dumps.
125'N	-2	-2	" " " " some disseminated PY in dumps.
150'	-2	-3	
175'	0	-2	
275'	-2	-2	skip 100'

Continued on next page

* Reading Fuzzy by 3°

K. L. CARLSON CO. No. 3
TACOMA, WASH. U.S.A.
Rite in the Rain
WATERPROOF

continuing # 2 4 March

Same Traverse as P. 3 page 4

going N

Sta	Low	high	Comment + Location
375'	+2	+2	first (+) readings on Traverse
400'	+2	+1	2nd " " " "
425'	+2	+4	
450'	+3	+3	Zone slightly fuzzy
475'	0	-3	High Slightly fuzzy Bit of specularite in Prospect pit Very small pit less than 3' on side
500' N	0	0	
525	+2	+2	
575'	0	0	skip 50'
600'	-1	-3	Sadj small pit with QTZ
625'	0	-3	dike striking N S.

3 readings across QTZ dike
near Fence dike strikes
roughly N S

0	0	0	roughly 0 on all
25'	0	0	reading R to S
50'	0	0	Traverse going E

Continuation of Traverse # 2
over pit which is
apparently Western extention
of 10 A

Sta	Low	high	Comment & Location
-100'S	-2	-1	-100' from pit apparently
-75'S	-3	0	west of 10A
-50'S	0	0	
-25'S	0	0	
0 S/N	-1	0	Pit down (W) Strike 10A
+25'N	0	+1	
+50'N	0	0	
+75'N	0	0	
+100'N	0	0	

Traverse # 3
over prospect # 11
running N 25'S Tations 200' Spacing
S to W - Reversed to E
Vein @ Tr 2 + Slight Cu Oxide
Strike Roughly E W Dip 45° N

Over

4 March

Traverse #3 cont

Prospect #11

Sta	Low	High	Comment
-100'S	0	0	
-75'S	+1	+1	
-50'S	0	0	
-25'S	-1	0	
0'S/N	-1	0	
25'N	0	+1	
50'N	0	-1	
75'N	-1	0	
100'N	-0	0	

7 March

Prospect #12
QTZ Vein Probably Gold
Sign in Stock Aug 12, 1960
Owner J. Arthur Zappia
505 E 29th ST
Tucson, Arizona Ma 37944
No Visible megnive
Sulfide noticed.
Some disseminated pyrite

Traverse #1
Going South
S to East
R to west
25' stations
200' spacing.

Starting 100' N of Road intersection with vein going along Road

Sta	Low	high	Comment
-100N	0	0	Sheep mull
-75'N	0	0	
-50'N	0	0	
-25'N	0	+1	
0 N/S	0	0	vein

J. L. DARLING CORP. TACOMA, WASH. USA No. 314
WATERPROOF

Continued ~~St~~ ?

7 March

Sta	Low	high
25 S	-1	-1
50 S	+3	+3
75 S	0	0
100 S	0	0

Prospect #13

Strikes Roughly EW

Pyrite vein in QTZ

up on hill on prospect above road 100 yds

S to East

Reverse to West

Traverse To North (A)

Spacing 300'

Water in Trench along vein

3'+ of water - Enough pit

to make Acid out of H_2O

Sta	Low	high	
-200 S	0	+2	
-175 S	+3	0	
150 S	+5	+3	
125 S	-13	-10	4° Null Fuyo
100 S	-7	-8	4° " "
75 S	+2	+2	

#13 cont 7 March

Sta	Low	high	Comment
50S	-1	0	
25S	-2	-3	
0	-1	-1	(vein to south on Top of hill)
25N	-3	-2	
50N	-2	-3	vein to N Top of hill
75N	+2	+3	
100N	-2	0	
150N	0	0	
175N	0	0	
200N	-1	0	

Exact duplicate of above Traverse To check anomaly at 125-75S However starting at 250's (B)

Sta	Low	high	Comment
-250S	-2	-1	receivers 35° Lower than sender on Slope
-225S	-1	0	
-200	-8	-5	Fuzzy zone Low for 4-5°
-			
-175	+5	+6	
-150	0	0	
-125	-5	-7	

J. L. DAY CORP. TACOMA, WASH. U.S.A. 314 WATERPROOF

Sta	Low	high	
-100S	-2	-3	
-75'S	-1	-1	
-50S	-5	-5	
-25S	-5	5'	
0	-5	-6	Still short of Vein
+25	-5	-3	" " " "
+50	-3	-3	" " " "
+75'N	6	6	Vein - ON 1st
100N	0	0	Traverse
"			
25'N 1st Traverse			

Comment

Spacing on 2nd Traverse Turned out to be 100' longer than on 1st Traverse

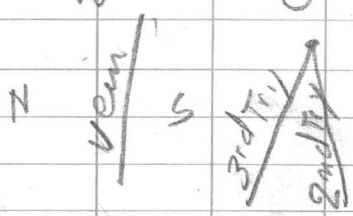
End of Traverse Both men Standing at same height after 2nd reading S & R Can not see each other

(C)

3rd Try at Same Traverse
Prospect #13
Starting at vein and working South

Station	Low	High	
0 N/S	+1	+2	at vein going S
25 S	+1	0	
50 S	+1	+1	
75'S	+1	+2	
100'S	+7	+5	high Fuzzy to 7°
125'S	+7	+7	
150'S	+8	+7	
175'S	+2	+3	
200'	-2	-1	
225	-2	0	
250	0	+1	

different ∠s by 150'



J. L. DARLING CORP. TACOMA, WASH. USA No. 314
Rite in the Rain WATERPROOF

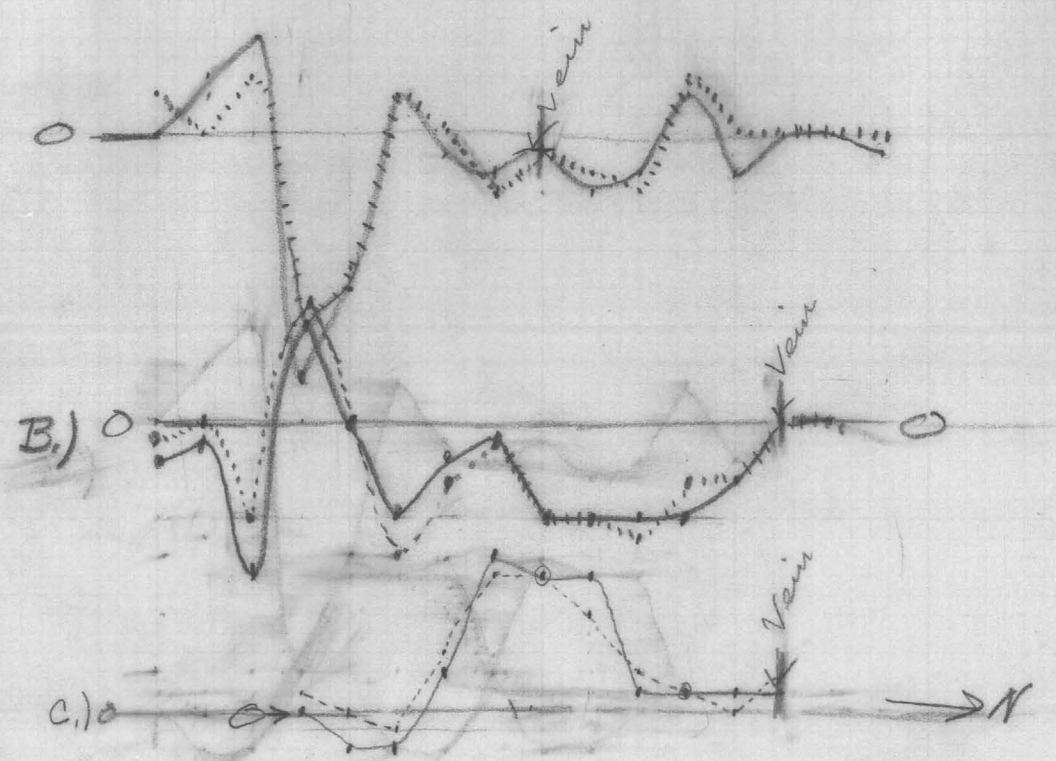
OK

Prospect #13
Strikes Roughly E W
Pyrite Vein in Quartz
S to East
Recline to West
~~Traverse to North~~
Spacing 300'

(~~Notes~~ (3 Traverses were made in order to try to substantiate anomaly - Because of rough Topography, Stations will ~~need to be arranged before accurate work can be done~~

→ N

13 A.)



3 Traverses were made to try to substantiate ~~This anomaly~~ Because of rough Topography

Traverse over prospect #11 → N

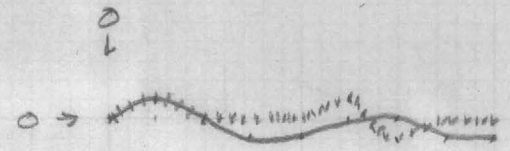
~~Going North~~

~~25' Stations~~

200' Spacing

Sender to West

Receiver to East



Quartz Vein Strike Roughly EW

~~Dip [illegible]~~

~~Horizontal 1" = 100'~~

~~Vertical 10° = 1"~~

Traverse over prospect #12 → S

going South

200' Spacing

~~25' Stations~~

Sender to East

Receiver to West

~~Horizontal 1" = 100'~~

~~Vertical 10° = 1"~~

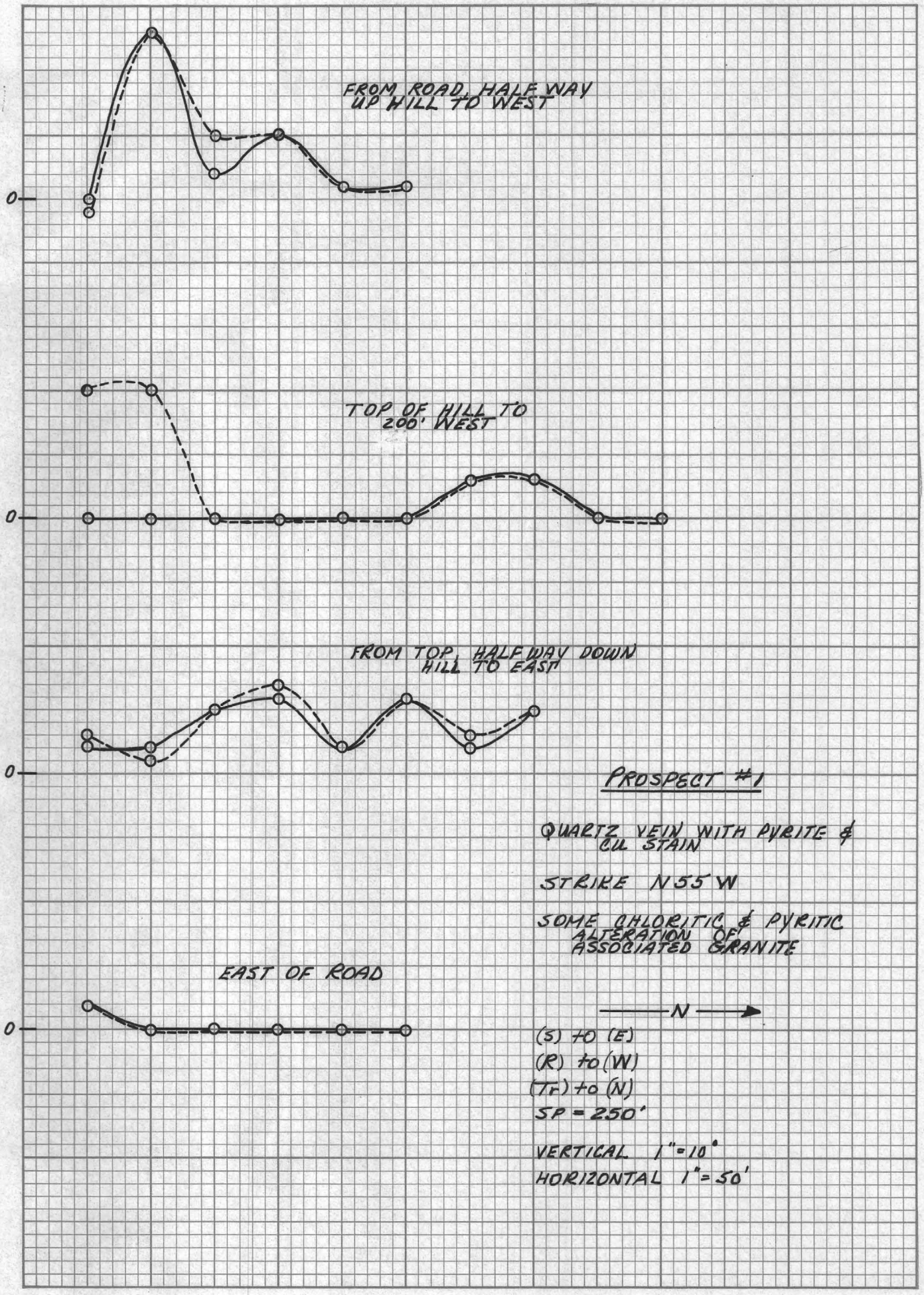
(Sign on Shack indicates owner to be J. Auther Zappia)

EXPLANATION

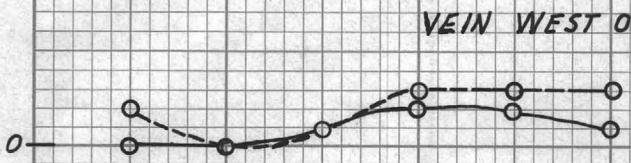
SENDER = (S)
RECEIVER = (R)
TRAVERSE = (Tr)
COMPASS DIRECTION = (N), (E), (So), (W)
SPACING = SP = DISTANCE BETWEEN (S) & (R)

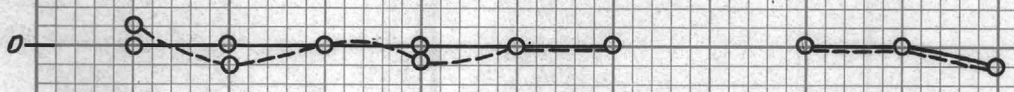
HIGH FREQUENCY – – – – –
LOW FREQUENCY ————————

K&E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES
KEUFFEL & ESSER CO.
MADE IN U.S.A.



KE 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.





PROSPECT #2

(S) TO (E)
(R) TO (W)
(TR) TO (N)
SP = 200'
SMALL QUARTZ VEIN
STRIKE N 60 W

N

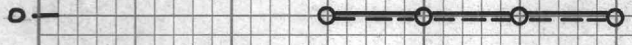
VERTICAL 1" = 10'
HORIZONTAL 1" = 50'

K&E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.

PROSPECT #3

ALTERED ZONE ON ROAD
NEAR FOUNDATION OF OLD SCHOOL HOUSE

PROSPECT #4



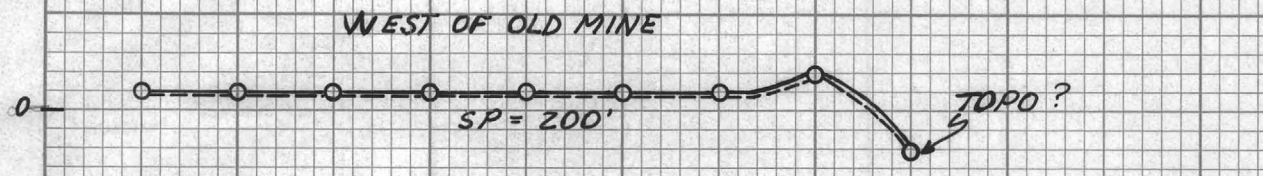
MINE EAST OF OLD SCHOOL HOUSE FOUNDATION

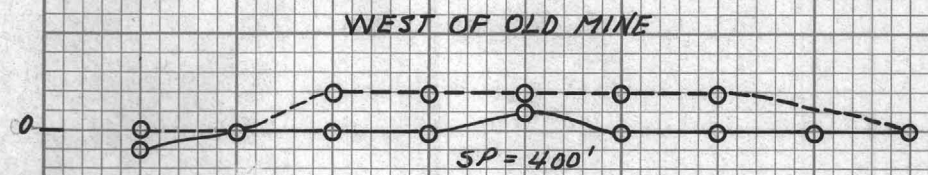
(S) TO E
(R) TO W
(JR) TO N
(SP) = 200'
STRIKE N 60° W

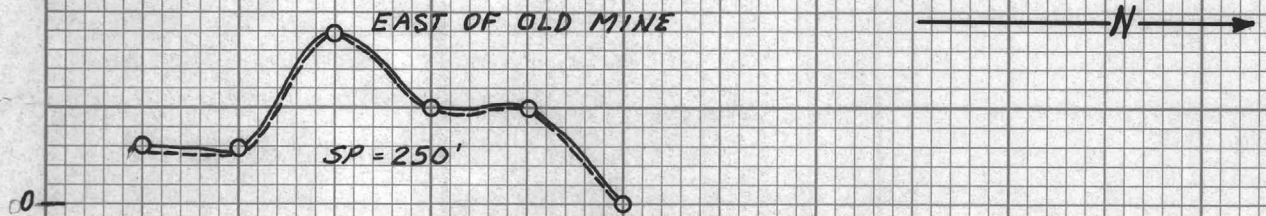
VERTICAL 1" = 10'
HORIZONTAL 1" =

N

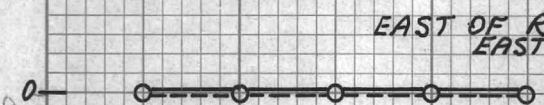
K&E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.







POSITIVE CORRELATION
POSSIBLE INCREASED VALUE
TO EAST OF SHAFT



RECEIVER IN WASH

PROSPECT #6 (OLD MINE)

(S) TO (E)
(R) TO (W)
(Tr) TO (N)

SULFIDE QUARTZ VEIN
SHOWING MUCH Cu STAIN

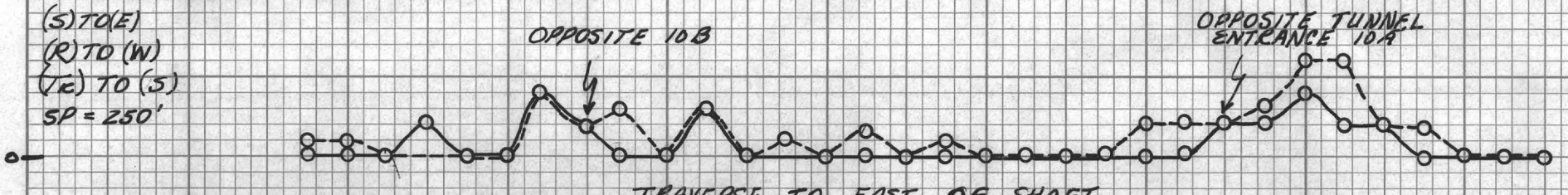
VERTICAL 1" = 10'
HORIZONTAL 1" = 50'

K+E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES
MADE IN U.S.A.
KEUFFEL & ESSER CO.

K+E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.

PROSPECT 10A,B

TRAVERSE #1
(S) TO (E)
(R) TO (W)
(TR) TO (S)
SP = 250'

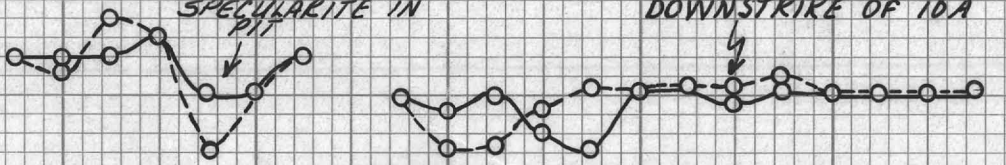


TRAVERSE TO EAST OF SHAFT

N

TRAVERSE #2
OPPOSITE 10B

=



TRAVERSE TO WEST OF SHAFT

(S) TO (W)
(R) TO (E)
(TR) TO (N)
SP = 250'

VERTICAL SCALE 1" = 10'
HORIZONTAL SCALE 1" = 100'

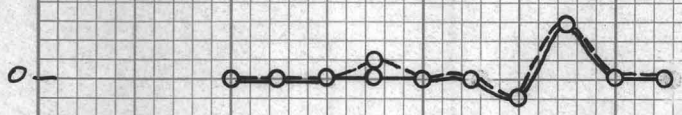
TRAVERSE OVER PROSPECT #11

(S) TO (W)
(R) TO (E)
SP = 200'

QUARTZ VEIN STRIKING ROUGHLY E-W

N

TRAVERSE OVER PROSPECT #12



(SIGN ON SHACK INDICATES OWNER TO BE J. AURTHER ZAPPIA)

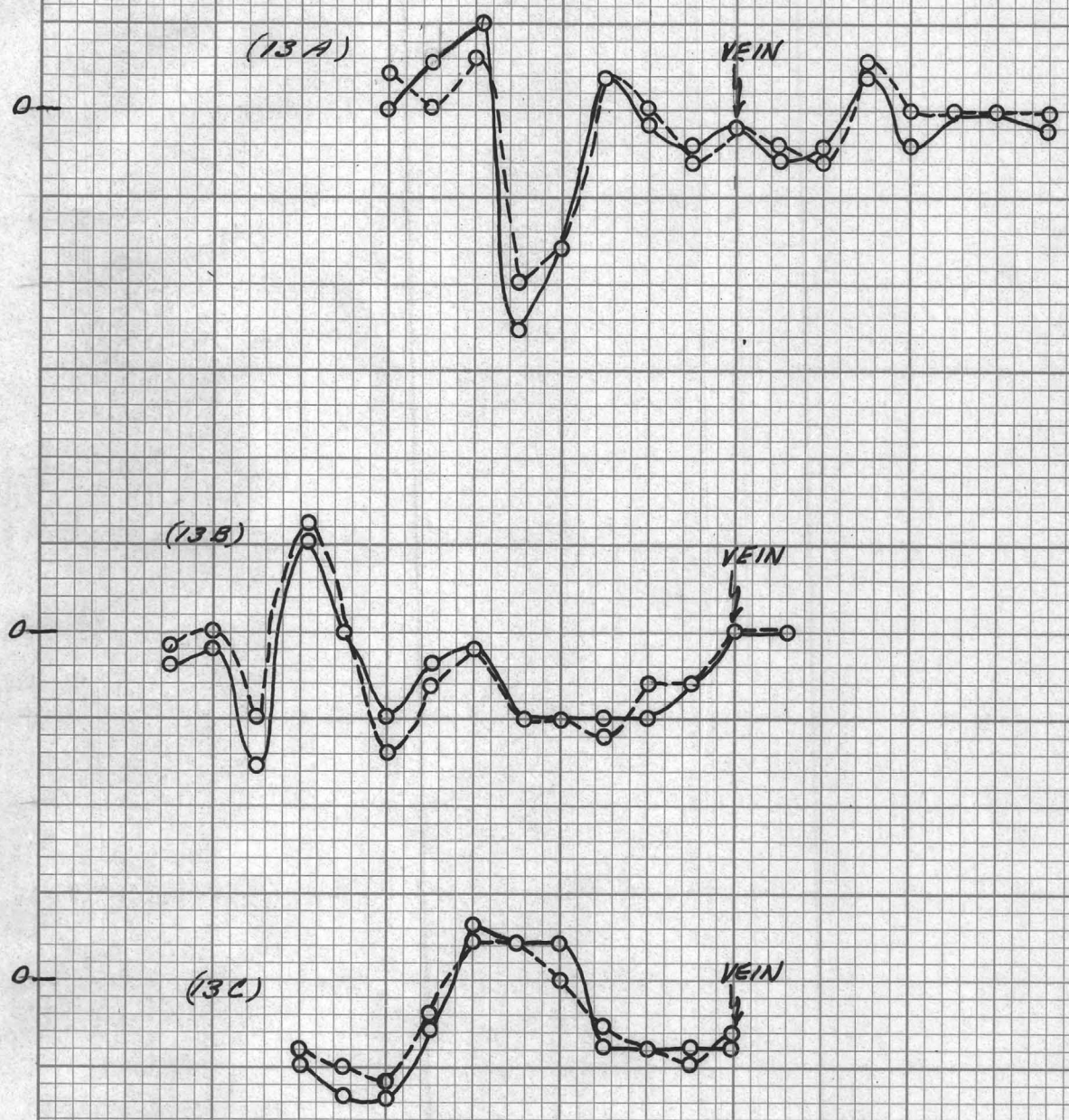
(S) TO (E)
(R) TO (W)
SP = 200'

N

VERTICAL SCALE 1" = 10'
HORIZONTAL SCALE 1" = 100'

K&E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES
MADE IN U.S.A.
KEUFFEL & ESSER CO.

PROSPECT 13



BECAUSE OF ROUGH TOPOGRAPHY (3 TRAVERSES WERE MADE IN ORDER TO TRY TO SUBSTANTIATE THIS ANOMALY.

(S) TO (E)
(R) TO (W)
SP = 300'
STRIKES ROUGHLY E-W
PYRITE VEIN IN QUARTZ

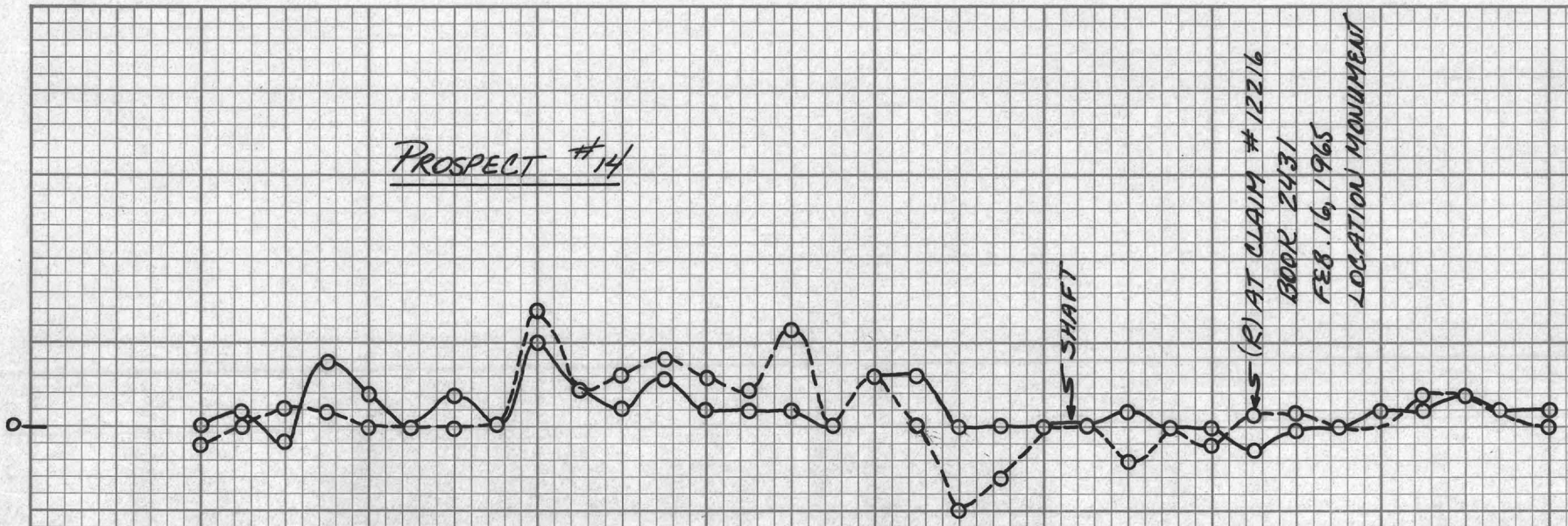
N

VERTICAL SCALE 1" = 10'
HORIZONTAL SCALE 1" = 100'

K&E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES
MADE IN U.S.A.
KEUFFEL & ESSER CO.

K+E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.

PROSPECT #14



TOPO: SENDER 40' LOWER THAN RECEIVER

(TR) TO (SE)
(S) TO (SW)
(R) TO (NE)
(SP) = 250'

VEIN STRIKES N45E
HEMATITIC STAIN & QUARTZ

VERTICAL SCALE 1" = 10'
HORIZONTAL SCALE 1" = 100'

K+E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES MADE IN U.S.A.
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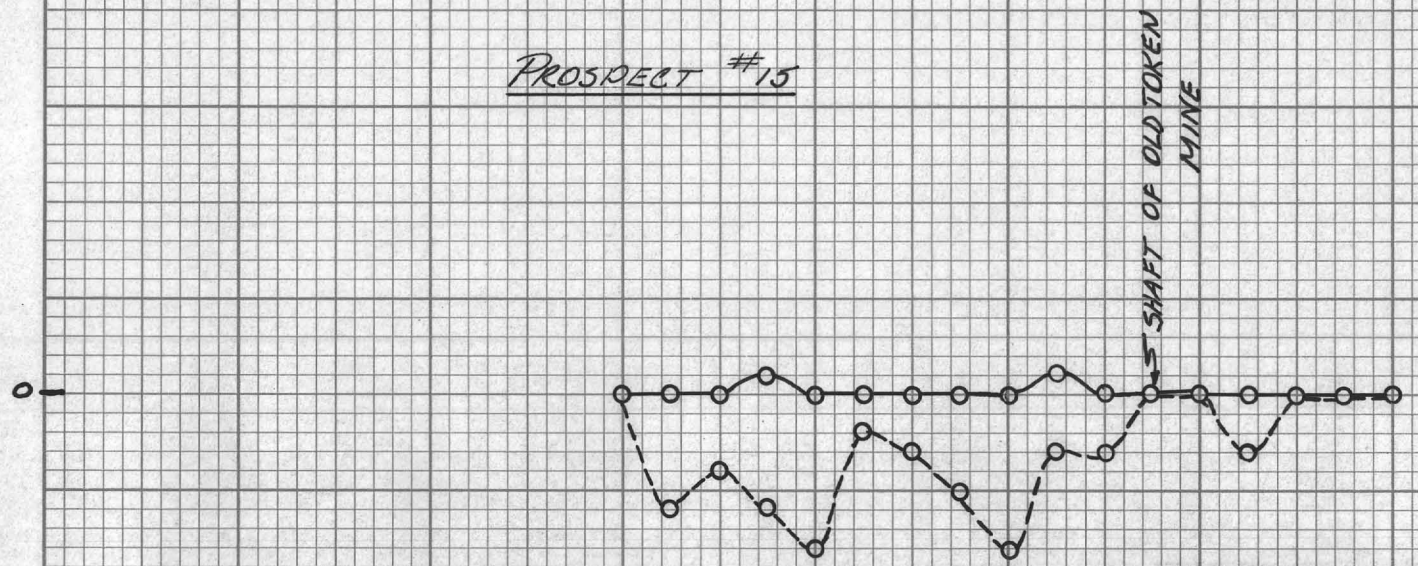
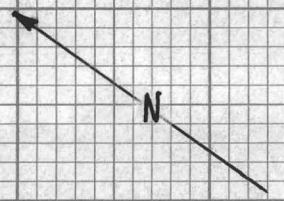
PROSPECT #15



SHAFT OF OLD TOKEN MINE
(APPROX 125' DUE SOUTH OF HUT)

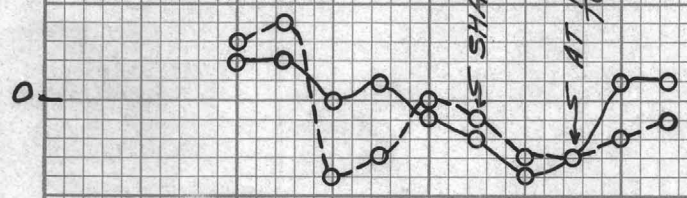
(S) TO (NE)
(R) TO (SW)
(TR) TO (SE)
SP = 250'

VERTICAL SCALE 1" = 10'
HORIZONTAL SCALE 1" = 100'



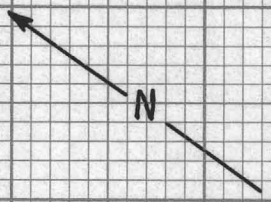
PROSPECT #16 A, B

STRIKE S 78° E



#16A
HEMATITIC STAIN + SOME QUARTZ
2'-2½' (SHAFT WITH TWO SMALL DRIFTS)

(S) TO (SE)
(R) TO (NW)
(TR) TO (NE)
SP) = 300'



#16B TRAVERSE So. OF 16A

THIS LINE WAS AN ATTEMPT TO LOOK AT PROJECTED INTERSECTION OF VEIN AT PROSPECT 16A & WITH VEIN AT PROSPECT 15.

(S) TO NE
(R) TO SW
(TR) TO SE
SP = 200'
STEEP TOPO: SENDER 60' ABOVE RECEIVER

VERTICAL SCALE 1" = 10'
HORIZONTAL SCALE 1" = 100'

K&E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.

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Area Visited in Tumacacori Mountains

T 21S, R 12E, Section 7

Roughly 2500' S 12° 30' W of common corner sections 5, 6, 7, 8, T 21S, R 12E.

Common corner 7, 8, 17, 18; T 21S, R12E was located in the field.

A Copper oxide mineralization occurred in an altered breccia in sporatic zones varying up to several inches in width. The total mineralized rock was probably less than 1% by volume in a pit roughly 5' square. A second pit of approximately the same total volume and roughly 10' to the north showed similar mineralization. Some breccia directly associated with mineralization was altered to Kaolin. A few other very small stringers of Kaolin were noted in these pits.

These pits were in an area of altered volcanics and breccias having approximately 50 yards square of irregular shape ~~area to the N, E, and S of the pits~~.

~~This altered area~~ was adjacent a small outcrop of granite lying several feet to the N and W of the two pits, granite outcrops. Hydrothermal solution along the Granite, Volcanic contact probably caused this alteration and mineralization.

A granitic plug having a 100+ yards width and at least a half mile of E-W to NW-SE strike ~~was~~ noted 100 yds south and downhill from the prospect. Brecciation of different

This altered area lay at the intersection of what appeared to be two "zones of weakness"
Breccia trending E W
Volcanic Dikes - Standed zone N-S -
The N-South zone is inconclusive as of yet but should be noted ~~when~~ If further geology is noted.

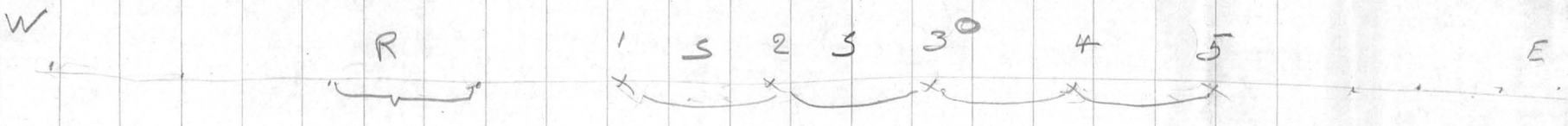
Types were noted in the volcanics extending along the northern periphery of this plug. Some of the Volcanic Rock types noted were Andesite, Andesite phorphery, rhyolite and what appeared to be tuff. The breccia zone appeared a couple hundred yds wide and was traced roughly 2000 yds E and three hundred yds west of pit. To the east the breccia become almost entirely volcanics and extended beyond the surface exposure of granite to the east. To the west the breccia became more and more silicified. Several narrow zones of predominantly quartz breccia were noted to the east. Most fractured rock in the area showed some surface coating of drusy quartz.

Recommendation.

1. QTz breccia be Asseyed for Au -
2. As only 3 hrs were spent on location doing geology - 1 additional day of geology is recommended to follow the contact between the granite and volcanics to check for additional mineralization. This is further warranted because of the total amount of breccia noted in this area of complex igneous and volcanic activity.
3. A detailed geochem 50 stations - 100' between lines. grid for Cu, Zn over the altered zone near the mineralization and over nearby granite migmatite mineralized exteriors,

4. A reconnaissance grid along breccia zone and over granite plug would also be carried out by geological dog recommend 200' stations with 300' separate 3 lines roughly covering granite and Breccia strike length. One line over granite one line approx on contact and one line over Breccia would be useful.

5. although no I.P. is recommended on only two minor ammeral shows, it should not be ruled out till after further geochemical and geological data are compiled. The


W
R
1
S
2
S
3
4
5
E