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INDUCED POLARIZATION SURVEY
BUEHMAN CANYON AREA

PIMA COUNTY, ARIZONA

for

GUGGENHEIM EXPLORATION COMPANY

by

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

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Map Pocket (Total 3 maps)

Location & Interpretation Plan

Sectional Data Sheets

Line 1

Line 2

INTRODUCTION

At the request of Mr. McMillan of Guggenheim Exploration Company, New York City, New York, Heinrichs Geoexploration Company conducted and completed an Induced Polarization Survey in the Buehman Canyon Area, Pima County, Arizona, during the interim December 1 to 8, 1965.

Two induced polarization lines were run consisting of three spreads giving a total surface coverage of 16,000 feet, of which 11,000 feet is subsurface plotted data. Line 1 was run about N 60° E and intersects a point approximately 165 feet north of common Section Corner 13, 14, 23, 24 at Station 2340 NE, and Line 2 was run down Buehman Canyon with Electrode 1 at the southwest corner of the westerly most claim in the central claim block. Both lines were run on 500 foot dipole spacings. Line 1 consisted of two spreads of five electrodes each, while Line 2 was a single spread of six electrodes.

The selection of a 500 foot dipole separation was made to maximize ground coverage per unit time, and probability of locating economically sized sulfide bodies within about 700 feet of the surface.

The induced polarization measurements were made with the dual frequency technique on a dipole-dipole electrode configuration. The two frequencies used were 0.05 and 3.0 cycles per second.

The data are presented on sectional data sheets, one for each line, showing resistivity, percent frequency effect (PFE), and metallic conduction factor (MCF), contoured in section; and self potential (SP) in profile form. An induced polarization location and interpretation plan is also included.

Heinrichs personnel involved in the field work were John Langs, Geophysicist; Rex Montierth and David Jones, Technical Assistants. Interpretation, compilation and report were by the Geoex staff in Tucson, Arizona, under the supervision of Chris S. Ludwig, Senior Geophysicist.

CONCLUSIONS, RECOMMENDATIONS, AND INTERPRETATION

A zone of very weak polarization effects extend from 750 W to 2000 W on Line 2, Spread 1. This zone coincides with an 1800 gamma magnetic high on Dirk Den Baar's map, suggesting that the effects could be in part due to magnetite. A second, very weak, zone of polarization effects was located on Line 2, between 1000 E and 2000 W. Both zones are similar geophysically, show no apparent increase with depth, and are likely due to less than 1% sulfide by volume.

A near-surface, non-sulfide, conductive zone, which is probably small, occurs at about 250 feet northeast on Line 1. Also, on Line 1 an electrical contact is apparent at 500 SW. Although it is complicated by the conductive zone above and by a second minor electrical contact at about 1000 SW, this main contact is dipping steeply.

Resistivities to the east of 4500 E on Line 1 form a two layer case complicated by surface effects but indicating about 250 feet of alluvium having a resistivity near 40 ohm feet, overlying a bedrock with about 700 ohm feet resistivity.

Self potentials were within normal variations. One slight SP fluxuation at 1500 feet east on Line 2 may be due to artificial effects, however, it is still within common background limits.

It is recommended that no further induced polarization be done unless additional ideas, information, or geologic problems are presented.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

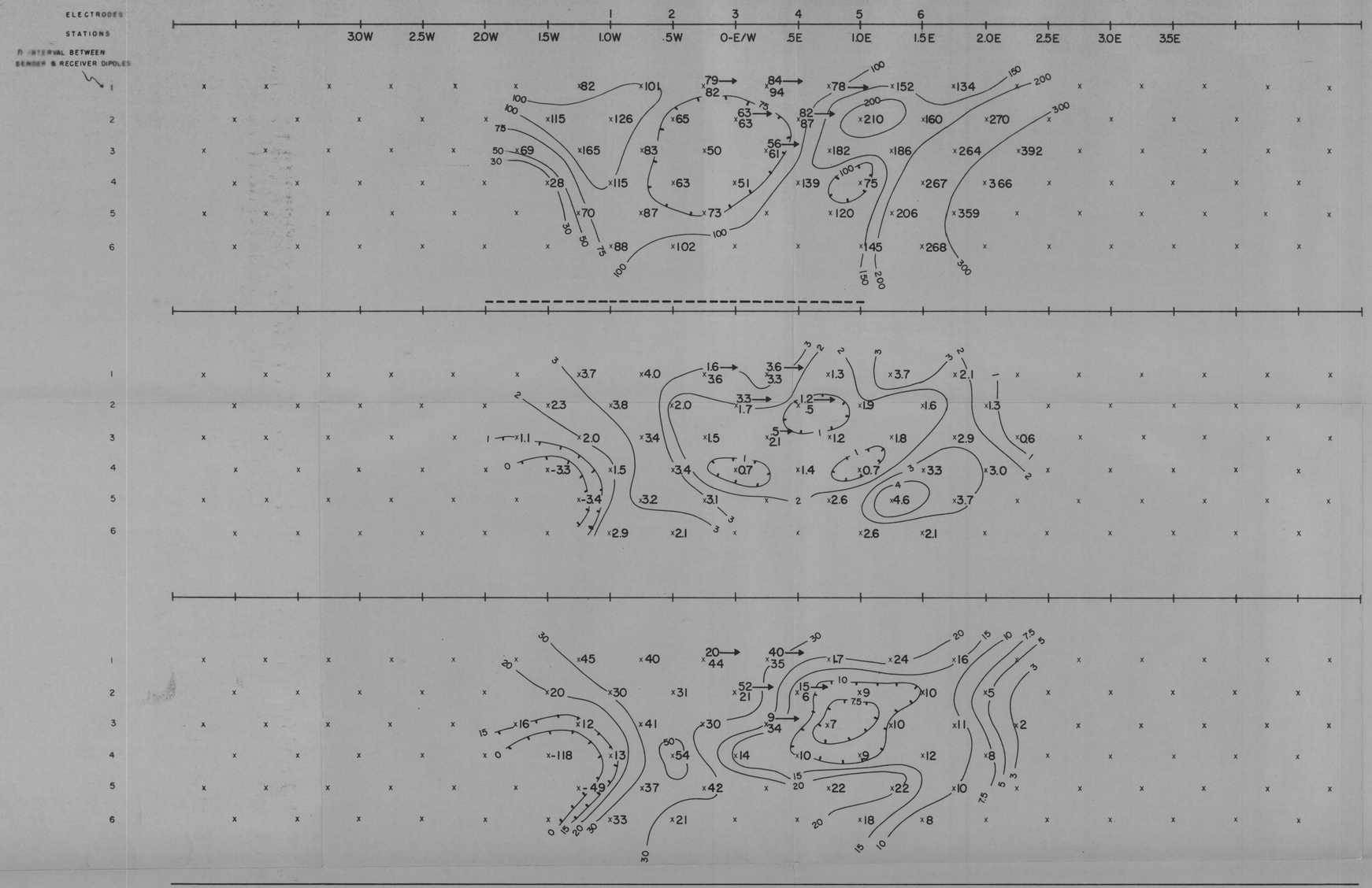
John W Langs

John W. Langs, Geophysicist

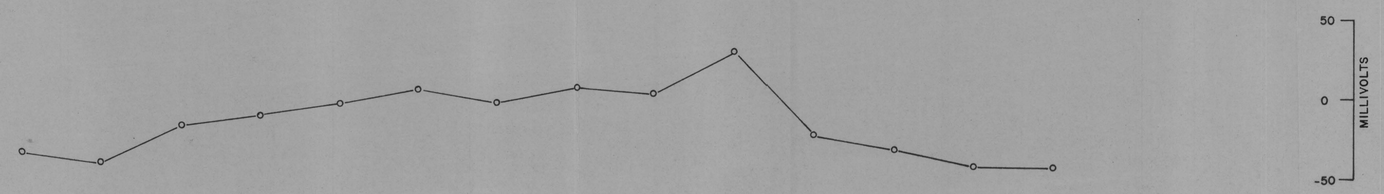
Chris S Ludwig

Chris S. Ludwig, Senior Geophysicist

December 10, 1965



SELF POTENTIAL



EXPLANATION

ELECTRODE ARRAY: 500' — n x 500' — 500'
SENDER DIPOLE — RECEIVER DIPOLE

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

LOOKING NORTH

GEO EX

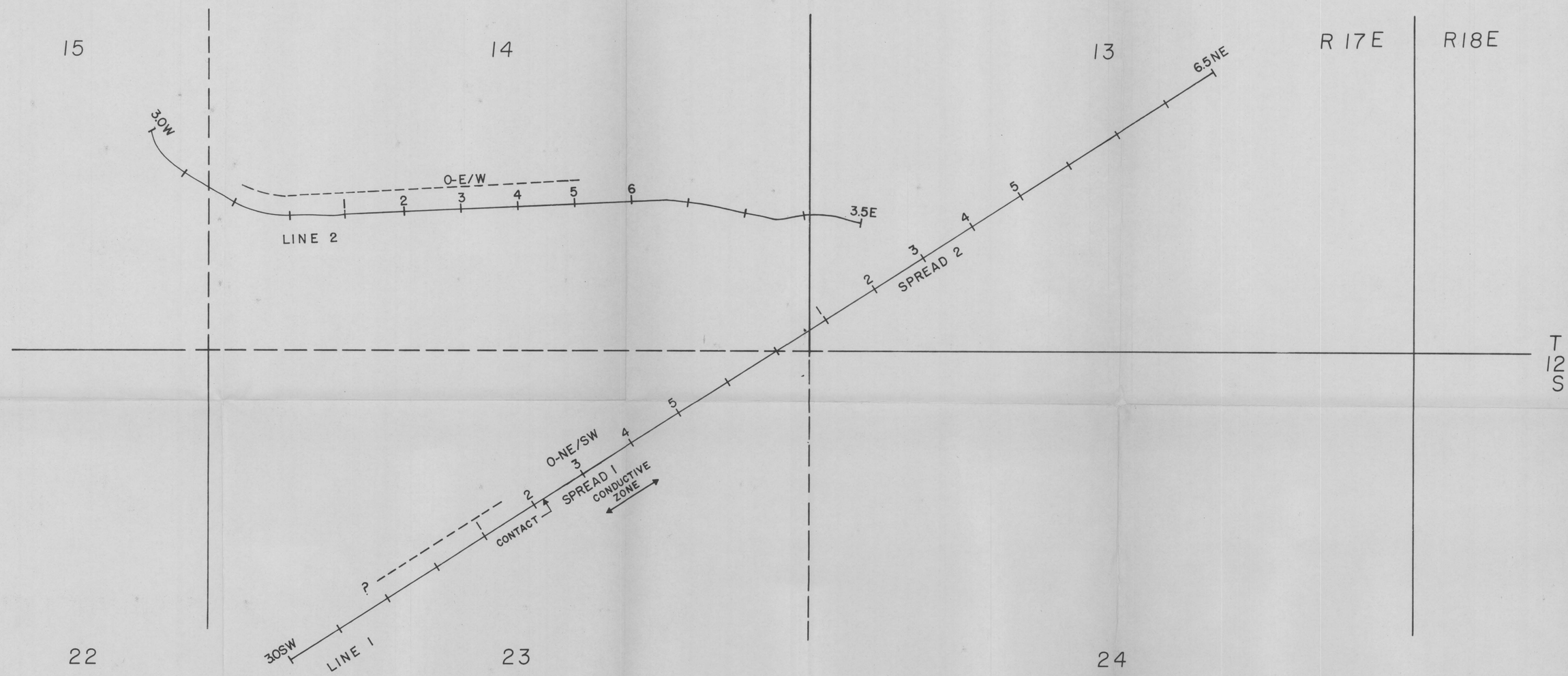
BUEHMAN CANYON AREA

SECTIONAL DATA SHEET
LINE NO. 2
INDUCED POLARIZATION TRAVERSE

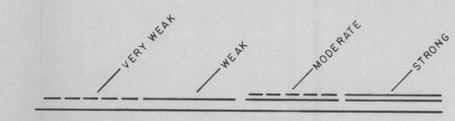
HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 500' DATE: DEC. 1965

FOR
DON T. McMILLAN
OF
GUGGENHEIM EXPLORATION CO.



RELATIVE ANOMALY STRENGTH



PIMA COUNTY, ARIZ.

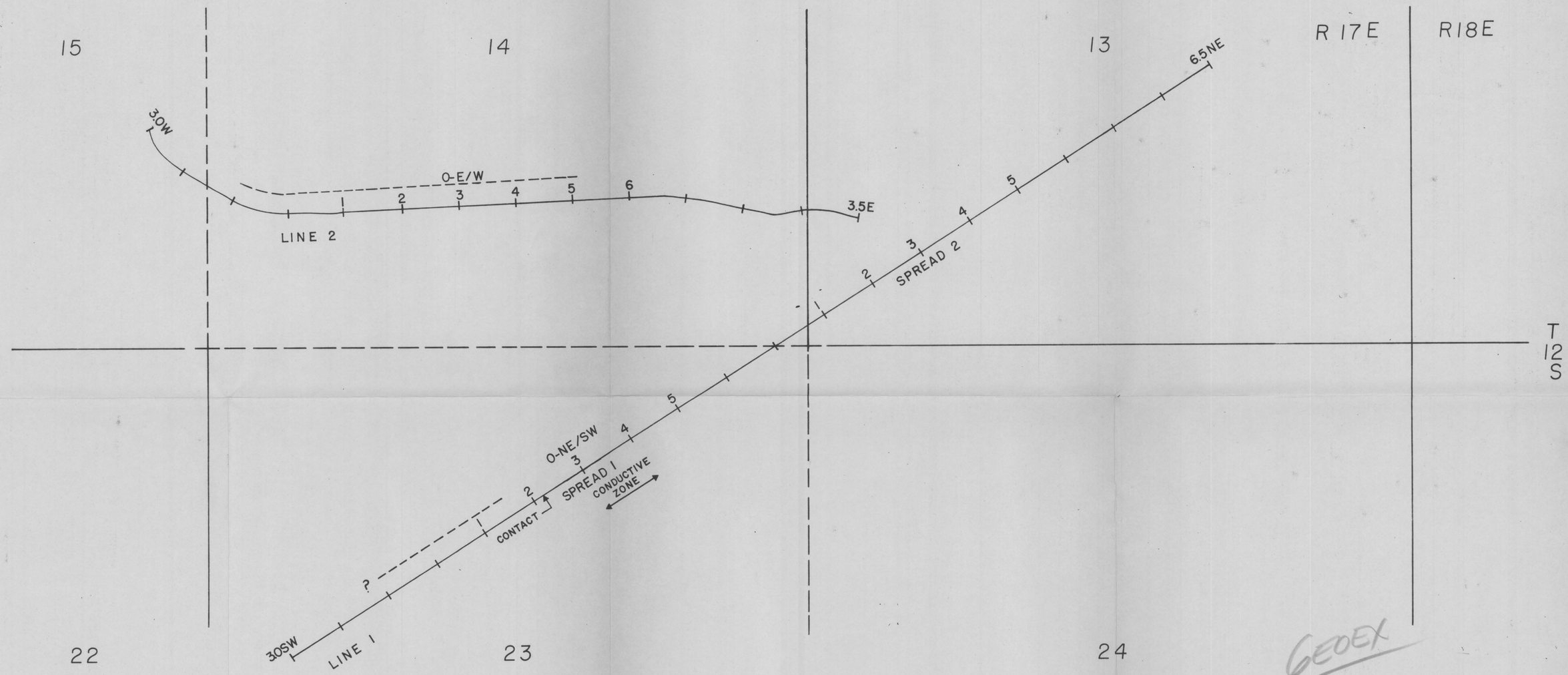
HEINRICHS GEOEXPLORATION CO.
GEOPHYSICAL ENGINEERS
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703

INDUCED POLARIZATION LOCATION
& INTERPRETATION PLAN

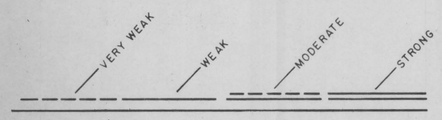
BUEHMAN CANYON AREA
FOR

DON T. McMILLAN
OF
GUGGENHEIM EXPLORATION CO.

Scale 1" = 600' | Date DEC. 1965



RELATIVE ANOMALY STRENGTH



PIMA COUNTY, ARIZ.

GEOEX

HEINRICHS GEOEXPLORATION CO.
GEOPHYSICAL ENGINEERS
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703

INDUCED POLARIZATION LOCATION
& INTERPRETATION PLAN

BUEHMAN CANYON AREA
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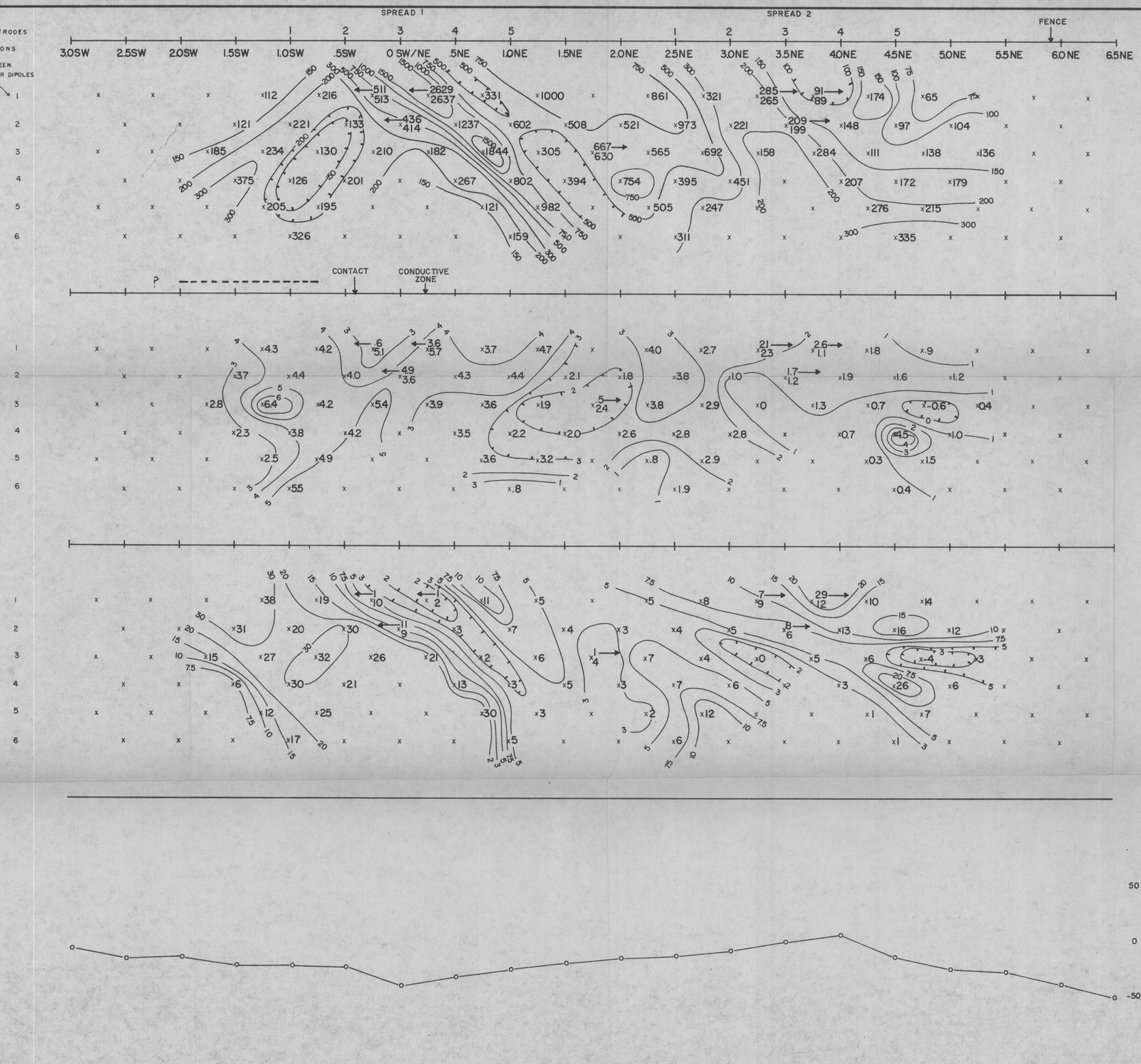
Scale 1" = 600' | Date DEC. 1965



EXPLANATION

ELECTRODE ARRAY: 500' — n × 500' — 500'
SENDER DIPOLE — RECEIVER DIPOLE

RELATIVE ANOMALY STRENGTH

VERY WEAK — WEAK — MODERATE — STRONG

LOOKING NW

GEOEX

BUEHMAN CANYON AREA

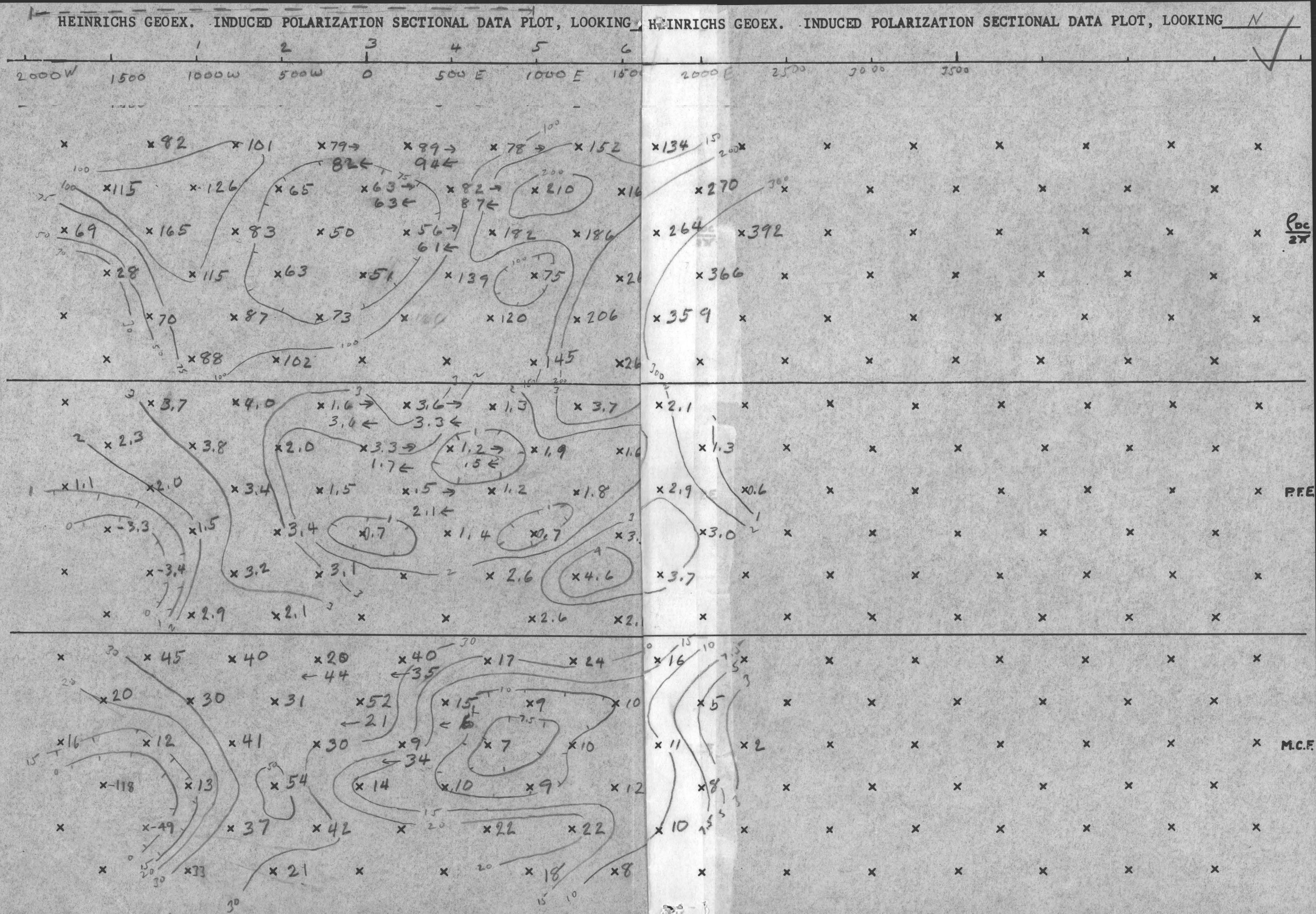
SECTIONAL DATA SHEET
LINE NO. 1
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 500' DATE: DEC. 1965

FOR
DON T. Mc MILLAN
OF
GUGGENHEIM EXPLORATION CO.

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING



AREA Beahman Wash LINE 2 a = 500 ' SCALE: 1" = 500' DATE: 12-65

LINE a = ' SCALE: DATE:

December 3, 1963

SCHEDULE FOR UNIVERSAL BASIC MINERAL EXPLORATION PROGRAM

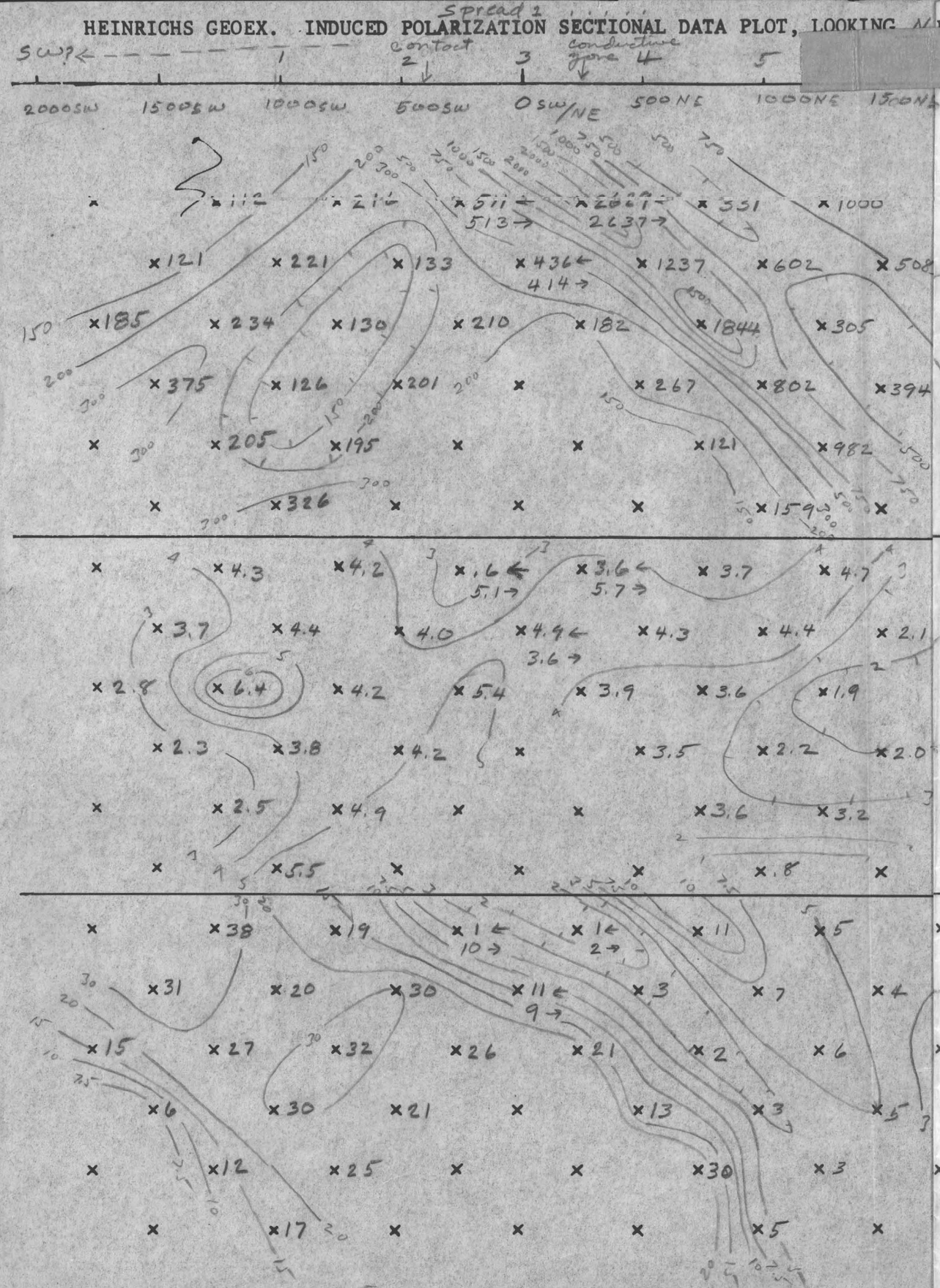
ITEM	COST	AREA
One month published data compilation and planning	$5,000.00	100,000 sq. mi.
Land control, options or concessions?		
One month air photo procurement	$25,000.00	10,000 sq. mi. (10%)
Three months initial preliminary photo geology interpretation	$15,000.00	5,000 sq. mi. (5%)
Three months preliminary aerial magnetics, scintillation and electromagnetics	$115,000.00	2,000 sq. mi. (2%)
Total: Eight months preliminary and air work	$160,000.00	
28 months ground geology, geophysics, geochem and/ or drilling and sampling at $20,000/ month	$560,000.00	100 sq. mi. (0.1%)
Total: 36 months at $20,000/ month	$720,000.00	
Plus 10% contingency factor	$72,000.00	
36 months - 3 years	$792,000.00	= $264,000/ yr. average

or $7.92 per initial square mile considered.

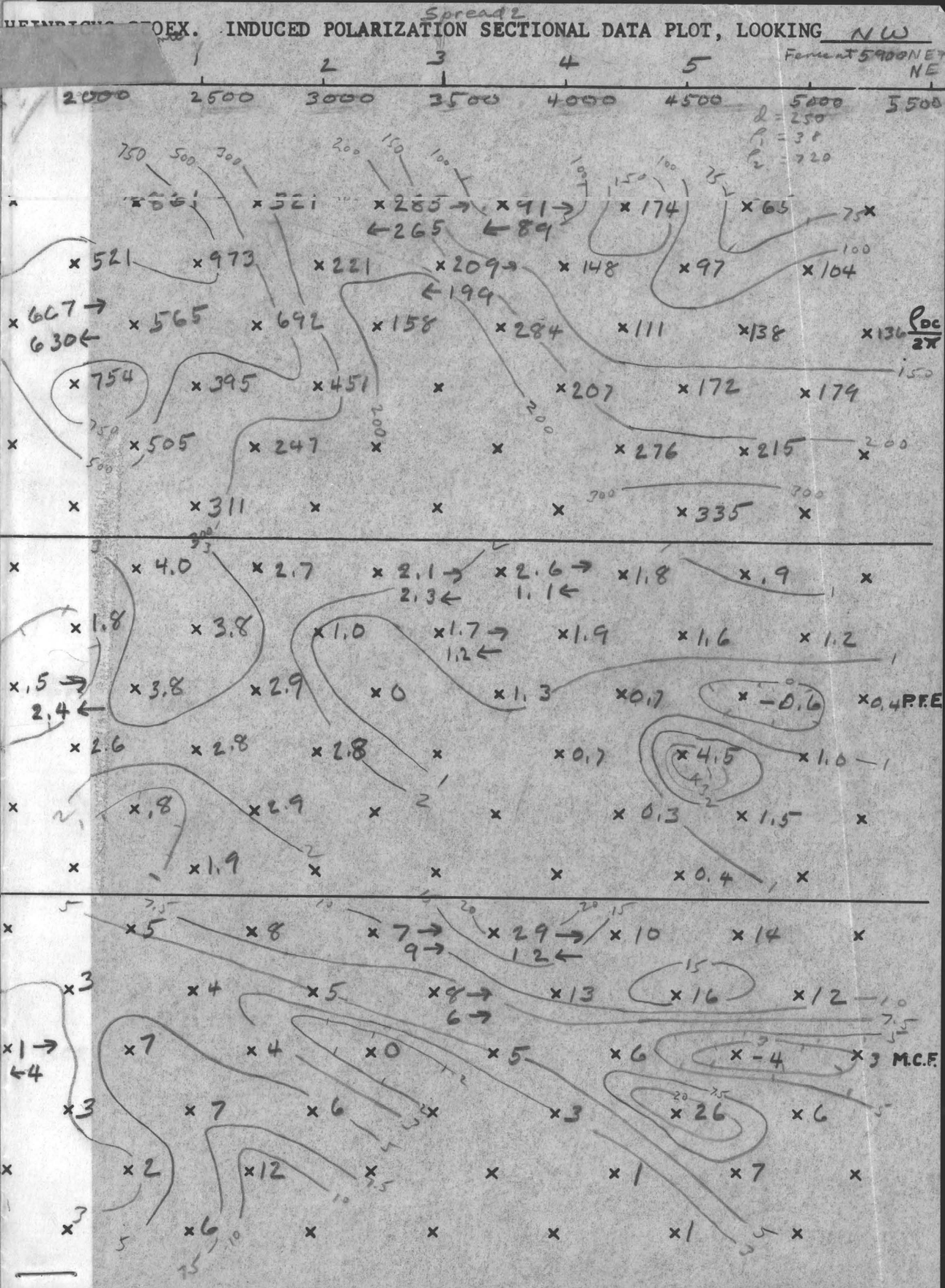
NOTE: Butte, Montana gross production value is somewhere between five and eight billion dollars from four to six square miles or approximately one billion dollars per square mile.
Common gross value for copper mines is $100,000,000.00 each and for copper districts it is five times this gross value for each.
These figures include the common by-products of gold, silver, lead, zinc, molybdenum, sulfur, iron, selenium, etc.

Walter E. Heinrichs, Jr.

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING N



HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING NW



AREA Buchman Area LINE 1 a = 500' SCALE: 1" = 500' DATE: Dec / 1965

LINE a = ' SCALE: DATE:

INDUCED POLARIZATION SENDER NOTES

Project: BUFFMAN CAN. Line: I NE½ Date: 12-1-65

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	0-5 NE	5-1 NE	→	1-1.5 NE	→		1.5-2 N.E.	→			2-2.5 N.E.	—
Time												
Range												
Current	1400	800	1400	800	800	1400	1000	800	800	1400	1000	800
Send	2-3	1-2	4-5	3-4	2-3	1-2		2-3				
Receive	→		2.5-3 NE		→			CAL				
Time												
Range												
Current	800	1400	1000	800	800	1400		500				

INDUCED POLARIZATION SENDER NOTES

Project: BUEHMAN CAN. Line: I SW 1/2 Date: 12-2-65

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	SW 0-.5	SW 5-1	→	SW 1-1.5	→		SW 1.5-2	→			SW 2-2.5	→
Time												
Range												
Current	1000	800	1000	800	800	1000	1600	800	800	1000	1600	800
Send	3-4	4-5	1-2	2-3	3-4	4-5		2-3 3-4				
Receive	→		SW 2.5-3	→				CAL				
Time												
Range												
Current	800	1000	1600	800	800	1600		800				

INDUCED POLARIZATION - RECEIVER NOTES

PAGE 1

Project: Buchman Canyon Line: 1, NE 1/2 N60E Int.Cal Date: 1 Dec 65 2250 Fence

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.	0-5NE	5-10NE	→	10-15NE	→	→	15-20NE	→	→	→	20-25NE	→
Time	1000	3000	300	300	300	30	3000	300	300	30	300	30
DC-1	55.9 561	1640 1650	113 112	206 207	193 193	20.6 19.0	780 780	92 94	115 115	14.6 14.9	99 99	19.0 19.0
DC-2	560 561	1640 1650	112 114	207 206	193 193	19.0 20.9	780 780	94 94	115 115	14.9 13.9	99 99	19.0 19.0
Σ	560 560.1					19.8 19.95				14.75 14.4		
DC-3	561 558		114.1 112			20.9 18.8		94 94		13.7 15.3		
Dc-4	[illegible]					18.8 21.1				15.3 13.8		
Σ	559.5					19.8 19.9				14.65 14.6		
DC-AV	559.8	1645	113	206.5	193	19.85	780	94	115	14.6	99	19.0
AC-1	533	1550	109	199	185	19.1	740	90	111	14.1	97	18.6
AC-2	532	1560	109	199	185	19.1	750	90	111	14.1	97	18.7
Σ	532.5	1555	109	199	185	19.1	745	90	111	14.1	97	18.65
S. P.	+11	+6		+3		+3	+2				+5	
AC-N	—											
	93	93		94			94				94	

192
1/39.9

INDUCED POLARIZATION - RECEIVER NOTES

PAGE _____

Project: Buchanan Canyon Line: 1 N E ½ Int.Cal Date: 1 Dec 65

								Rec 1	Rec 2			
Send	2-3	1-2	4-5	3-4	2-3	1-2		Cal	Cal			
Rec.	→	→	25-30 N	→	→	→		~~1-2~~ 2-3	2-3			
Time	~~200~~	10	100	30	30	10		1000				
DC-1	25.0 24.9	3.64 3.75	48.2 50.0	12.4 12.4 12.0 12.6	17.6 17.4 17.5				243 220			
DC-2	24.9 25.1	3.75 3.73 3.90 3.79	50.0 48.4	12.0 12.9 12.6 12.1	17.5 17.2			250 275	245 220			
Σ		3.695 3.72 3.825	48.4 49.8	12.35 12.2 12.4	17.35 17.35			263	231.5 232.5			
DC-3		3.90 3.73 3.60 3.70	49.1 49.2 49.1	12.6 12.4 12.1 12.1	17.2 17.6 17.6 17.8	3.02 3.22 } good			220 246			
Dc-4		3.60 3.50 3.95 3.63		12.1 12.7	17.6 17.8 17.4 17.7	3.22 2.98		250 275	246 220			
Σ		3.75 3.80 3.75		12.2 12.5 12.3 12.3	17.4 17.7 17.5 17.6	3.11 3.14 3.17		262	233 233			
DC-AV	25	3.76	49.15	12.29	17.5	3.105			232.5			
AC-1	24.5	3.62	48	12	17	3.09		27.4	238			
AC-2	24.4	3.64	48	12.1	16.9	3.07		26.8	238			
Σ	24.45	3.63	48	12.05	16.95	3.08		271	238			
S. P.			+7									
AC-N												
			94									

INDUCED POLARIZATION - RECEIVER NOTES

PAGE _____

Project: Buchman Canyon's Line: 1 SW ½ Int.Cal _____ Date: 10 Dec 65

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.	0-5 SW	5-10 SW	→	10-15 SW	→	→	15-20 SW	→	→	→	20-25	
Time	3000	1000	300	300	30	30	300	100	30	30	100	
DC-1	2050 2050	319 319	85 85	134 135	20.8 20.9	16.1 16.7 16.5 16.9	139 140	33.9 34.9	8.4 7.8 8.0 8.3	8.1 8.0 8.0 7.6	38.5 37.1	13.9 14.6
DC-2	2050 2050	319 319	85 85	135 135	20.9 20.4	16.5 ~~16.7~~ 16.8 15.5 16.8	140 139	34.8 33.9	8.0 8.3 7.6 8.0	8.0 8.1 7.9 7.5	37.1 38.7	14.6 14.0
Σ					20.7 20.65	16.3 16.6 16.0 16.4	13	3	8.2 8.05 7.8 8.15	8.05 7.8 7.95 7.8	37.8 37.9	
DC-3						15.5 ~~16.7~~ 16.8			7.6 8.5	7.9 7.6	38.7 36.8	14.0 14.7
Dc-4						16.8 15.8 16.7 16.0			8.5 7.8	7.6 7.9		
Σ						16.15 15.9 16.7 16.3			8.05 8.05	7.75 7.75	37.75	
DC-AV	2050	319	85	134.7	20.68	16.4	139.5	34.35	8.08	7.82	37.8	14.6
AC-1	1970	319	81	130	20	15.7	134	33.1	7.8	7.6	36.7	13.8
AC-2	1970	319	82	130	20	15.6	135	33.1	7.8	7.5	36.6	13.8
Σ	1970	319	81.5	130	20	15.65	134.5	33.1	7.8	7.55	36.65	13.8
S. P.	+18	+1		-1			+8				-2	
AC-N												
	94	94					94				94	

↑ electrode spacing off

$$\begin{array}{r} 532 \\ 14\overline{)747} \\ 70 \\ \hline 47 \\ 42 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 1 \\ 747 \\ \hline 70

INDUCED POLARIZATION - RECEIVER NOTES

PAGE _____

Project: Buchman Canyon Line: 1 SW½ Int.Cal _____ Date: 1 Dec 65

Send	3-4	4-5	1-2	2-3	3-4	4-5	Cal	Cal		Cal		
Rec.	→	→	25-30 SW	→	→	→	C	800		1000		
Time	10	10	30	30	10	10	2-3	3-4		3-4		290 260
DC-1	3.9 3.75 4.3 4.00	4.43 4.26	23.5 22.6	11.5 11.9	39.2 ~~3.63~~ 33.0 ~~3.98~~	4.48 4.40 4.5 4.65	4.18 4.62	86 85				
DC-2	4.3 4.00 3.6 3.78	4.26 4.35	22.6 23.5	11.9 11.5	37.5 3.62	4.5 4.65 4.5 4.60	4.6 4.4	85 86				
Σ	4.10 3.87 3.95 3.89											
DC-3	3.6 3.78 4.05 4.00	4.35 4.35			3.62 3.70	4.52 4.60 4.38 4.61	~~4.4~~ ~~4.46~~					
Dc-4	4.05 3.75				3.70 3.63	4.51 4.61 4.40 4.18	4.46					
Σ	3.83 3.89 3.90											
DC-AV	3.92	4.334	23.05	11.7	3.655	4.535		85.5				
AC-1	3.8	4.15	22.6	11.5	3.59	4.35		86.0		267		
AC-2	3.8	4.16	22.5	11.5	3.58	4.30		86.0		263		
Σ	3.8	4.155	22.55	11.5	3.585	4.325						
S. P.			+10									
AC-N												

Spacing 500'

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Buchman Canyon Line 1 NE ½ Field date 1 Dec 65 Data page_____ Comp. date 2 Dec. Comp by JWL

(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 NE	5-10 NE	→	10-15 NE	→	→	15-20	→	→	→	20-25	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	1.4	.8	1.4	.8	.8	1.4	1	.8	.8	1.4	1	.8
(E) Vdc (avg)	559.8	1645	113	206.5	193	19.85	780	94	115	14.6	99	19.0
(F) DCcal	.855	→	→	→	→	→	→	→	→	→	→	→
(G) Kn x 10^{-3}	1.5	1.5	6.0	1.5	6.0	15	1.5	6.0	15	30	6.0	15
(H) ρ dc=ExFxGx10^3/D	573	2637	414	331	1237	182	1000	602	1844	267	508	305
(I) Vac Σ	532.5	1555	109	199	185	19.1	745	90	111	14.1	97	18.65
(J) AC noise x 2	OK	→	→	→	→	→	→	→	→	→	→	→
(K) Vac(corr) = $\sqrt{I^2 - J^2}$	→	→	→	→	→	→	→	→	→	→	→	→
(L) AC-DC cal.	1	→	→	→	→	→	→	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1.051	1.057	1036	1037	1043	1039	1047	1044	1036	1035	1021	1019
(N) PFE=(M-1)(10^2)	5.1	5.7	3.6	3.7	4.3	3.9	4.7	4.4	3.6	3.5	2.1	1.9
(O) MCF=(M-1)(10^5)/H	10	2	9	11	3	21	5	7	2	13	4	6

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	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I	.8	1.4	1	.8	.8	1.4						
(E) Vdc (avg)	25	3.76	49.15	12.29	17.5	3.105						
(F) DCcal	→	→	→	→	→	→						
(G) Kn x 10^{-3}	30	52.5	15	30	52.5	84						
(H) ρ dc=ExFxGx10^3/D	802	121	630	394	982	159						
(I) Vac Σ	24.45	3.63	48	12.05	16.95	3.08						
(J) AC noise x 2	→	→	→	→	→	→						
(K) Vac (corr) = $\sqrt{I^2 - J^2}$	→	→	→	→	→	→						
(L) AC-DC cal.	→	→	→	→	→	→						
(M) ρdc/ρac =ExL/K	1022	1036	1024	1020	1032	1008						
(N) PFE=(M-1)(10^2)	2.2	3.6	2.4	2.0	3.2	.8						
(O) MCF=(M-1)(10^5)/H	3	30	4	5	3	5						

Spacing 500'

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Buchman Canyon Line 1 SW½ Field date 2 Dec 65 Data page_____ Comp. date 2 Dec . 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	0-5 SW	5-10 SW	→	10-15 SW	→	→	15-20 SW	→	→	→	20-25 SW	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	1,000	,800	1,000	,800	,800	1,000	1,600	,800	,800	1,000	1,600	,800
(E) Vdc (avg) (2)	2050	319	85	134.7	20.68	16.4	139.5	34.35	8.08	7.82	37.8	14.6
(F) DCcal	.855											
(G) Kn x 10^{-3}	1.5	1.5	6.0	1.5	6.0	15	1.5	6.0	15.0	30.0	6.0	15
(H) ρ dc=ExFxGx10^3/D	2629	511	436	216	133	210	112	221	130	201	121	234
(I) Vac Σ	1990	319	81.5	130	20	15.65	134.5	33.1	7.8	7.55	36.65	13.8
(J) AC noise x 2	OK											
(K) Vac(corr) $=\sqrt{I^2 - J^2}$	OK											
(L) AC-DC cal. (1)	1.00584											
(M) ρ dc/ρac=ExL/K	1.036	1.006	1049	1042	1040	1054	1043	1044	1.042	1.042	1.037	1.064
(N) PFE=(M-1)(10^2) (1)	3.6	.6	4.9	4.2	4.0	5.4	4.3	4.4	4.2	4.2	3.7	6.4
(O) MCF=(M-1)(10^5)/H	1	1	11	19	30	26	38	20	32	21	31	27

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	→	→	25-30 SW	→	→	→		3-4				
(C) n separation	4	5	3	4	5	6						
(D) I	,800	1,000	1,600	,800	,800	1,000		1000				
(E) Vdc (avg)	3.92	4.334	23.05	11.7	3.655	4.535		85.5				
(F) DCcal												
(G) Kn x 10^{-3}	30.0	52.5	15	30	52.5	84						
(H) ρ dc=ExFxGx10^3/D	126	195	185	375	205	326						
(I) Vac Σ	3.8	4.155	22.55	11.5	3.585	4.325		86.0				
(J) AC noise x 2												
(K) Vac (corr) $=\sqrt{I^2 - J^2}$												
(L) AC-DC cal.												
(M) ρdc/ρac =ExL/K	1038	1049	1028	1023	1025	1055						
(N) PFE=(M-1)(10^2)	3.8	4.9	2.8	2.3	2.5	5.5						
(O) MCF=(M-1)(10^5)/H	30	25	15	6	12	17						

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

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Project Buckman Canyon Line 1 spread 2 NE ½ Field date 2 Dec Data page_____ Comp. date 7 Dec. Comp by T.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 NE	5-10 NE	→	10-15 NE	→	→	15-20 NE	→	→	→	20-25 NE	→
(C) n separation	1	1	2	1	2	3	1	2	3	4	2	3
(D) I	2000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	378	120	70.4	230	48.9	37.7	85.6	32.2	14.8	13.7	34.4	18.3
(F) DCcal	1.006	→	→	→	→	→	→	→	→	→	→	→
(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	285	91	209	174	148	284	64.6	97	111	207	104	138
(I) Vac Σ	370	117	69.2	226	48	37.2	84.8	31.7	14.7	13.61	34	18.4
(J) AC noise x 2	OK	→	→	→	→	→	→	→	→	→	→	→
(K) Vac(corr) = $\sqrt{I^2 - J^2}$	→	→	→	→	→	→	→	→	→	→	→	→
(L) AC-DC cal.	1	→	→	→	→	→	→	→	→	→	→	→
(M) ρ dc/ρac=ExL/K	1021	1026	1017	1018	1019	1013	1009	1016	1007	1007	1012	.994
(N) PFE=(M-1)(10^2)	2.1	2.6	1.7	1.8	1.9	1.3	0.9	1.6	0.7	0.7	1.2	-.6
(O) MCF=(M-1)(10^5)/H	7	29	8	10	13	5	14	16	6	3	12	-4

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	→	→	20-25 NE	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I	→	→	→	→	→	→		1000				
(E) Vdc (avg)	11.4	10.45	18.07	11.88	8.13	7.92		99.4				
(F) DCcal	→	→	→	→	→	→						
(G) Kn x 10^{-3}	30	52.5	15	30	52.5	84						
(H) ρ dc=ExFxGx10^3/D	172	276	136	179	215	335						
(I) Vac Σ	10.90	10.42	18.0	11.76	8.01	7.89						
(J) AC noise x 2	→	→	→	→	→	→						
(K) Vac (corr) = $\sqrt{I^2 - J^2}$	→	→	→	→	→	→						
(L) AC-DC cal.	→	→	→	→	→	→						
(M) ρdc/ρac =ExL/K	1045	1003	1004	1010	1015	1004						
(N) PFE=(M-1)(10^2)	4.5	0.3	0.4	1.0	1.5	0.4						
(O) MCF=(M-1)(10^5)/H	26	1	3	6	7	1						

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

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Project Buchman Canyon Line 1 spread 2 SW ½ 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	1-2	2-3
(B) Receive		0-5 SW	5-10 SW	→	10-15 SW	→	→	15-20 SW	→	→	→	20-25 SW	→
(C) n separation	4	1	1	2	1	2	3	1	2	3	4	2	3
(D) I		2000	→	→	→	→	→	→	→	→	→	→	→
(E) Vdc (avg)	1	117.0	350	65.7	424	72.85	20.8	11.37	321	91.4	29.8	172	74.6
(F) DCcal	2	1010											
(G) Kn x 10^{-3}	3	1.5	1.5	6	1.5	6	15	1.5	6	15	30	6	15
(H) ρdc=ExFxGx10^3/D		89	265	199	321	221	158	861	973	692	451	521	565
(I) Vac Σ		115.7	342	64.9	413	72.1	20.8	1093	309	88.8	29	169	71.9
(J) AC noise x 2													
(K) Vac(corr) = $\sqrt{I^2 - J^2}$													
(L) AC-DC cal.		1	→	→	→	→	→	→	→	→	→	→	→
(M) ρdc/ρac=ExL/K		1011	1023	1012	1027	1010	1000	1040	1038	1029	1028	1018	1038
(N) PFE=(M-1)(10^2)		1.1	2.3	1.2	2.7	1.0	.0	4.0	3.8	2.9	2.8	1.8	3.8
(O) MCF=(M-1)(10^5)/H		12	9	6	8	5	0	5	4	4	6	3	7

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	→	→	25-30 SW	→	→	→						
(C) n separation	4	5	3	4	5	6						
(D) I	→	→	→	→	→	→		1000				
(E) Vdc (avg)	26.1	9.31	88.1	49.75	19.05	7.34						
(F) DCcal	1010	→	→	→	→	→						
(G) Kn x 10^{-3}	30	52.5	15	30	52.5	84						
(H) ρdc=ExFxGx10^3/D	395	247	667	754	505	311						
(I) Vac Σ	25.4	9.05	87.7	48.5	18.9	7.2						
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→	→						
(M) ρdc/ρac =ExL/K	1028	1029	1005	1026	1008	1019						
(N) PFE=(M-1)(10^2)	2.8	2.9	.5	2.6	.8	1.9						
(O) MCF=(M-1)(10^5)/H	7	12	1	3	2	6						

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Buchman Line: 2 SW½ Line 1 Spread Int.Cal _____ 1 Fense Date: 2/Dec/65

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.	0-5SW	5-10SW →		10-15SW →			15-20SW →				20-25SW →	
Time	100	300	100	300	100	30	1000	300	100	30	300	100
DC-1	59.0 58.0	175 175	33.0 32.7	212 212	36.1 36.7	10.3 10.6	56.8 56.9	161 160	46.2 44.8	14.5 15.5	86 86	36.8 37.5
DC-2	58.0 59.0	175 175	32.7 33.0	212 212	36.7 36.2	10.6 10.1	56.9 56.8	160 161	44.8 47.0	15.5 14.2	86 86	37.5 37.2
Σ	117.0 117.0	350 350	65.7 68.7		72.8 72.9	20.9 20.7	113.7 113.7	321 321	91.0 91.8	30.0 29.2	172 172	74.3 74.7
DC-3	59.0 58.0					10.2 10.5			47.0 44.5	14.2 15.4		37.2 37.7
Dc-4	117.0					10.5 10.4				15.4 14.5		
Σ						20.7 20.9			91.5	29.6 29.9		74.9
DC-AV	117.0	350	65.7	424	72.85	20.8	1137	321	91.4	29.8	172	74.6
AC-1	57.9	172	32.4	206	36	10.4	54.8	155	44.4	14.5	85	36
AC-2	57.8	170	32.5	207	36.1	10.4	54.5	154	44.4	14.5	84	35.9
Σ	115.7	342	64.9	413	72.1	20.8	1093	309	88.8	29.X	169	71.9
S. P.	-9.3	-2.2		-.4			-8				-8.5	
AC-N												
	44.4	44.4		44.4			44.2				44.4	

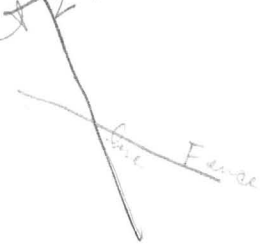
INDUCED POLARIZATION - RECEIVER NOTES

PAGE _____

Project: Buchman Canyon Line: 2 SW I Line 1 Spred Int.Cal _____ Date: 2 Dec

Send	3-4	4-5	1-2	2-3	3-4	4-5		Cal 300				
Rec.	→	→	25-30 SW	→	→	→		3-4				
Range Time	30	10	100	30	30	10		100				
DC-1	13.3 12.7	4.78 4.65 4.81 4.58	44.1 44.0	24.7 25.0	9.2 9.4	3.62 3.62 3.75 3.81		49.5 49.5				
DC-2	12.7 13.5	4.81 4.58 4.45 4.70	44.0 44.1	25.0 24.8	9.4 9.7	3.75 3.45		49.5 49.5				
Σ	26.0 26.2	9.59 9.23 9.26 9.28		49.7 49.8	19 19.1	7.37 7.43 7.20						
DC-3	13.5 12.6	4.45 4.70 4.70 4.62				3.45 3.81						
Dc-4		4.70 4.65				3.81 3.62						
Σ	26.1	9.15 9.32 9.35				7.26 7.43						
DC-AV	26.1	9.31	88.1	49.75	19.05	7.34		99.0				
AC-1	12.8	4.55	43.9	24.3	9.4	3.6		49.5				
AC-2	12.6	4.50	43.8	24.2	9.5	3.6		49.5				
Σ	25.4	9.05	87.7	48.5	18.9	7.2						
S. P.			-7.5									
AC-N												
			4.44									

Fence at 2400 NE spread 2



INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Buchman Canyon Line: 2 NE ½ Line 1 spread Int.Cal _____ Date: 3 Dec

Send	1-2	2-3	1-2	3-4	2-3	1-7	4-5	3-4	2-3	1-2	4-5	3-4
Rec.	0-5 NE	5-10 NE	→	10-15 NE	→	→	15-20 NE	→	→	→	20-25	
~~Time~~ R	300	100	100	300	30	30	100	30	30	10	30	30
DC-1	188 189	60 59.8	35.8 34.7	115 115	24.8 24.1	19.1 18.6	43.0 42.6	15.8 16.4	7.0 7.8	6.85 6.85	17.3 17.1	9.1 9.1
DC-2	189 190	59.8 60.2	34.7 33.7	115 115	24.1 24.9	18.6 19.1	42.6 43.0	16.4 15.8	7.8 7.0	6.85 6.85	17.1 17.3	9.1 9.2
Σ	377 379	119.8 120.0	70.5 70.4	230 230	48.9 49.0	37.7 37.7	85.6 85.6	32.2	14.8 14.8	13.70 13.70	34.4	
DC-3	190 188	60.2 60.0	35.7 34.6		24.9 24.0			32.2				9.2 9.1
Dc-4	188 190		34.6 35.7									
Σ	378 378	120.2	70.3 70.3									
DC-AV	378	120	70.4	230	48.9	37.7	85.6	32.2	14.8	13.70	34.4	18.3
AC-1	185	58.5	34.6	113	24	18.6	42.4	15.8	7.4	6.8	17	9.2
AC-2	185	58.5	34.6	113	24	18.6	42.4	15.9	7.3	6.81	17	9.2
Σ	370	117	69.2	226	48	37.2	84.8	31.7	14.7	13.61	34	18.4
S. P.	+6.3	-21.3		-12.4			-1.3				-11.6	
AC-N												
	44.4	←	44.4				44.8					

DC Noise .02

AC " "

INDUCED POLARIZATION - RECEIVER NOTES

PAGE _____

Project: Bowman Line: Line 1 spread 2 NE½ Int.Cal _____ Date: 3 Dec

Send	2-3	1-2	4-5	3-4	2-3	1-2		Cal	Cal			
Rec.			25-30					100				
Time	10	10	30	10	10	10		2-3	after			
DC-1	5.61 5.5 5.4 5.55	5.21 5.23	9.1 9.0	5.94 5.95 6.0 5.90	4.06 4.06	3.96 3.99		49.7 49.7	50.0 50.0			
DC-2	5.41 5.55 5.65 5.50	5.23 5.22	9.0 9.0	6.0 5.95 5.96 5.90	4.06 4.08	3.99 3.90		49.7 49.7				
Σ	11.2 11.5 11.6 11.5	10.44 10.45		11.90 11.85	8.12 8.14	7.95 7.89		99.4				
DC-3	5.65 5.45	5.22 5.23	9.0 9.1	5.96 5.90 6.0 5.99	4.08 4.04	3.90 4.0						
Dc-4	~~5.45~~					4.0 3.92						
Σ	11.10			11.89	8.12	7.90 7.92						
DC-AV	11.4	10.45	18.07	11.88	8.13	7.92						
AC-1	5.45	5.21	9.0	5.88	4.0	3.95		49.7	49.4			
AC-2	5.45	5.21	9.0	5.88	4.01	3.94		49.7				
Σ	10.90	10.42	18.0	11.76	8.01	7.89						
S. P.			-10.4									
AC-N			—									
			—									

INDUCED POLARIZATION SENDER NOTES

Project: BUEHMAN Line: I SPD II S1/2 Date: 12-2-65

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	3-3.5 NE	2.5-3	→	2-2.5 NE	→		1.5-2 NE	→		→	1-1.5 NE	—
Time												
Range												
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Send	3-4	4-5	1-2	2-3	3-4	4-5		3-4				
Receive	→	→	.5-1 NE	→		→		CAL				
Time												
Range		-										
Current	2000	2000	2000	2000	2000	2000		1000				

INDUCED POLARIZATION SENDER NOTES

project: BUEHMAN Line: I SPD II N½ Date: 12-3-65

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	NE 3.5-4	NE 4-4.5	→	NE 4.5-5	→	→	NE 5-5.5	→	→	→	NE 5.5-6	—
Time												
Range												
Current	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000

Send	2-3	1-2	4-5	3-4	2-3	1-2		2-3				
Receive	→	→	NE 6-6.5	→	→	→		CAL				
Time												
Range												
Current	2000	2000	2000	2000	2000	2000		1000				

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

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Project Buehman Canyon Line 3 E ½ Field date 6 Dec Data page_____ Comp. date 7 Dec. Comp by 6 Dec 65

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6	4-5
(B) Receive	0-5 E	5-10 E	→	10-15 E	→	→	15-20 E	→	→	→	20-25 E	→
(C) ~~n separation~~	100 [1]	100 [1]	30 [2]	100 [1]	30 [2]	10 [3]	100 [1]	30 [2]	30 [3]	10 [4]	100 [1]	30 [2]
(D) I	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1200	1400
(E) Vdc (avg)	72.96	83.0	14.56	72.8	19.03	5.225	141.5	48.8	16.9	6.44	106.7	37.2
(F) DCcal	1.004											
(G) Kn x 10^{-3}	1.5	1.5	6	1.5	6	15	1.5	6	15	30	1.5	6
(H) ρ dc=ExFxGx10^3/D	79	89	63	78	82	56	152	210	182	139	134	160
(I) Vac Σ	71.8	80.1	14.1	71.9	18.8	5.20	136.5	47.9	16.7	6.35	104.5	36.6
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	1											
(M) ρ dc/ρac=ExL/K	1.016	1.036	1.033	1.013	1.012	1.005	1.037	1.019	1.012	1.014	1.021	1.016
(N) PFE=(M-1)(10^2)	1.6	3.6	3.3	1.3	1.2	0.5	3.7	1.9	1.2	1.4	2.1	1.6
(O) MCF=(M-1)(10^5)/H	20	40	52	17	15	9	24	9	7	10	16	10

Project Buehman Canyon Line 3 E ½ Field date 6 Dec Data page_____ Comp. date_____ Comp by 6 Dec 65

(A) Send	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3
(B) Receive	→	→	→	25-30 E	→	→	→	→	30-35 E	→	→	→
(C) n separation	30 [3]	10 [4]	3 [5]	100 [1]	30 [3]	10 [4]	10 [5]	3 [6]	30 [3]	30 [4]	10 [5]	3 [6]
(D) I	1400	1400	1400	1200	1400	1400	1400	1400	1200	1400	1400	1400
(E) Vdc (avg)	17.3	3.5	3.18	53.7	24.5	12.4	5.46	2.40	31.2	17	9.54	4.45
(F) DCcal												
(G) Kn x 10^{-3}	15	30	52.5	6	15	30	52.5	84	15	30	52.5	84
(H) ρ dc=ExFxGx10^3/D	186	75	120	270	264	267	206	145	392	366	359	268
(I) Vac Σ	17.0	3.475	3.1	53.0	23.8	12.0	5.22	2.34	31.0	16.5	9.20	4.36
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	1											
(M) ρdc/ρac =ExL/K	1.018	1.007	1.026	1.013	1.029	1.037	1.046	1.026	1.006	1.030	1.037	1.021
(N) PFE=(M-1)(10^2)	1.8	0.7	2.6	1.3	2.9	3.3	4.6	2.6	0.6	3.0	3.7	2.1
(O) MCF=(M-1)(10^5)/H	10	9	22	5	11	12	22	18	2	8	10	8

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INDUCED POLARIZATION SURVEY COMPUTATION SHEET

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Project Buchman Canyon Line 3 E½ Field date 6 Dec Data page_____ Comp. date 7 Dec. Comp by JWL

(A) Send	1-2		Cal									
(B) Receive	→											
(C) ~~n separation~~	3'											
(D) I	1400		1000									
(E) Vdc (avg)	2.53		99.6									
(F) DCcal	1.004		1.004									
(G) Kn x 10^{-3}	126											
(H) ρ dc=ExFxGx10^3/D	229											
(I) Vac Σ	2.46											
(J) AC noise x 2												
(K) Vac(corr) $=\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	1											
(M) ρ dc/ρac=ExL/K	1.028											
(N) PFE=(M-1)(10^2)	2.8											
(O) MCF=(M-1)(10^5)/H	12											

Project Buchman Canyon Line 3 W½ Field date 6 Dec Data page_____ Comp. date 7 Dec Comp by JWL

(A) Send	Cal											
(B) Receive												
(C) n separation												
(D) I	1000											
(E) Vdc (avg)	98											
(F) DCcal	1020											
(G) Kn x 10^{-3}												
(H) ρ dc=ExFxGx10^3/D												
(I) Vac Σ	98											
(J) AC noise x 2												
(K) Vac (corr) $=\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	1											
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)												
(O) MCF=(M-1)(10^5)/H												

1 2 3 4 5 6

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Buchanan Canyon Line 3 w ½ Field date_____ Data page_____ Comp. date_____. Comp by_____

(A) Send	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6	1-2	2-3	3-4
(B) Receive	0-5 w →		5-10 w →			10-15 w →				15-20 w →		
(C) n separation	100 1	30 2	100 1	10 2	10 3	100 1	30 2	10 3	3 4	100 1	30 2	10 3
(D) I 4	1400	1200	1400	1400	1200	1400	1400	1400	1200	1400	1400	1400
(E) Vdc (avg) 1	86.05	17.0	74.6	14.4	4.82	92.1	15.0	4.65	2.015	75.0	28.87	7.60
(F) DCcal 2	1.020											
(G) Kn x 10^{-3} 3	1.5	6	1.5	6	15	1.5	6	15	30	1.5	6	15
(H) ρ dc=ExFxGx10^3/D	94	87	82	63	61	101	65	49.83	51	82	126	83
(I) Vac Σ	83.3	16.9	72.0	14.16	4.72	88.5	14.7	45.8	2.0	72.3	27.8	7.35
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	1											
(M) ρ dc/ρac=ExL/K	1.033	1.005	1.036	1.017	1.021	1.040	1.020	1.015	1.007	1.037	1.038	1.034
(N) PFE=(M-1)(10^2)	3.3	.5	3.6	1.7	2.1	4.0	2.0	1.5	.7	3.7	3.8	3.4
(O) MCF=(M-1)(10^5)/H	35	6	44	21	34	40	31	30	14	45	30	41

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
(B) Receive	→		20-25 w				→	25-30 w				→
(C) n separation	3 4	3 5	30 2	30 3	10 4	3 5	3 6	10 3	1 4	3 5	3 6	1 7
(D) I	1400	1200	1400	1400	1400	1400	1200	1400	1400	1400	1400	1200
(E) Vdc (avg)	2.874	1.64	26.4	15.1	5.25	2.27	1.43	6.32	1.29	1.835	1.44	.678
(F) DCcal												
(G) Kn x 10^{-3}	30	52.5	6	15	30	52.5	84	15	30	52.5	84	126
(H) ρ dc=ExFxGx10^3/D	63	73	115.4	165	115	86.8	102	69	28	70	88	72
(I) Vac Σ	2.78	1.59	25.8	14.8	5.17	2.20	1.40	6.25	1.32	1.88	1.40	.675
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	1											
(M) ρdc/ρac =ExL/K	1.034	1.031	1.023	1.020	1.015	1.032	1.021	1.011	.977	.976	1.029	1.004
(N) PFE=(M-1)(10^2)	3.4	3.1	2.3	2.0	1.5	3.2	2.1	1.1	-3.3	-3.4	2.9	.4
(O) MCF=(M-1)(10^5)/H	54	42	20	12	13	37	21	16	-118	-49	33	6

INDUCED POLARIZATION - RECEIVER NOTES

PAGE _____

Project: Buckman Canyon Line: 3 E ½ Int.Cal _____ Date: 6 Dec 65

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6	4-5
Rec.	0-5E	5-10E →		10-15E →			15-20E →				20-25E	
Time	100	100	30	100	30	10	100	30	30	10	100	30
DC-1	36.1 36.8	41.6 41.5	7.5 7.1	36.0 36.8	9.6 9.4	2.61 2.61	70.0 71.5	24.4 25.0 24.0 24.0	8.4 8.5	3.15 3.29	53.0 53.7	18.8 18.4
DC-2	36.8 36.0	41.5 41.4	7.1 7.5	36.8 36.0	9.4 9.6	2.61 2.62	71.5 70.0	24.0 24.0 25.0 24.8	8.5 8.4	3.29 3.15	53.7 53.0	18.4 18.8
Σ	72.9 72.8	83.1 82.9	14.6 14.6	72.8 72.8	19.0 19.0	5.22 5.23	141.5 141.5	48.4 49.0 49.0 48.8	16.9 16.9	6.44 6.44	106.7 106.7	37.2 37.2
DC-3	36.0 37.1	41.4 41.6	7.5 7.0		9.6 9.5		70.0 71.5	25.0 24.8 23.9 23.8				
Dc-4	37.1 36.0	41.6 41.4						23.9 23.8 25.0 25.0				
Σ	73.1 73.1	83.0 83.0	14.5		19.1		141.0	48.9 48.6 48.9 48.8				
DC-AV	72.96	83.0	14.56	72.8	19.03	5.225	141.5	48.8	16.9	6.44	106.7	37.2
AC-1	35.9	40	7.1	36.0	9.4	2.60	68.5	23.9	8.3	3.17	52.5	18.3
AC-2	35.9	40.1	7.0	35.9	9.4	2.60	68.0	24.0	8.4	3.18	52.0	18.3
Σ	71.8	80.1	14.1	71.9	18.8	5.20	136.5	47.9	16.7	6.35	104.5	36.6
S. P.	+8.2	-3		+28.5			-56.0				-8.9	
AC-N	.05		.02	.02			.02				.03	
	44.6	44.8		44.8			44.8					

28/3

INDUCED POLARIZATION - RECEIVER NOTES

PAGE _____

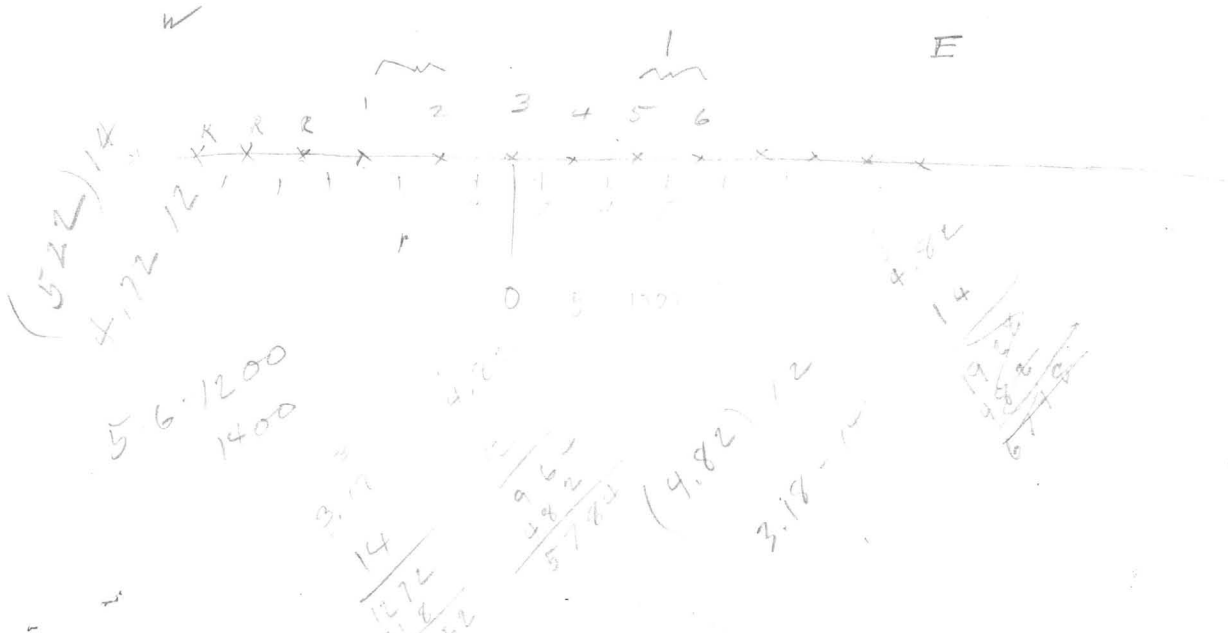
Project: Buchman Canyon Line: 3 E ½ Int.Cal _____ Date: 6 Oct.

Send	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3
Rec.			→	25-30E				→	30-35E			→
Time	30	10	3	100	30	10	10	3	30	30	10	3
DC-1	8.4 8.9	3.5 3.5	1.38 1.44 1.75 1.66	26.9 26.8	12.4 12.0 12.3 12.4	6.20 6.20	2.75 2.71	1.10 1.3	16.5 14.7	8.5 8.5	4.82 4.70	2.2 2.15 2.3 2.24
DC-2	8.9 8.4	3.5 3.48	1.75 1.66 1.38 1.54	26.8 26.9	12.3 12.3 12.0 12.4	6.20 6.20	2.71 2.75	1.30 1.10	14.7 16.5	8.5 8.5	4.70 4.81	2.3 2.24 2.1 2.26
Σ	17.3		3.13 ~~3.10~~ 3.13 3.20		24.7 24.4 24.3 24.7	12.4 12.6	5.46 5.46	2.40 2.40	31.2 31.2		9.52 9.31	4.5 4.39 4.4 4.5
DC-3		3.48 3.52	1.38 1.54 1.86 1.58		12.0 12.3 12.4 12.3		2.75 2.71	1.10 1.25			4.81 4.80	2.1 2.26 2.14 2.2
Dc-4			1.86 ~~1.8~~ 1.44		12.4 12.3 12.0 12.3			1.25 1.15			4.80 4.72	~~2.34~~ 2.2 ~~2.45~~ 2.2
Σ			3.24 3.12 ~~3.20~~		24.4 24.6 24.4 24.6		5.46	2.35 2.45			9.61 9.52	4.44 4.46 4.36
DC-AV	17.3	3.5	3.18	53.7	24.5	12.4	5.46	2.40	31.2	17	9.54	4.45
AC-1	8.5	3.47	1.55	26.5	11.8	6.0	2.61	1.16	15.5	8.3	4.60	2.16
AC-2	8.5	3.48	1.55	26.5	12.0	6.0	2.61	1.18	15.5	8.2	4.60	2.20
Σ	17.0	3.475	3.10	53.0	23.8	12.0	5.22	2.34	31.0	16.5	9.20	4.36
S. P.				-10.7					-.02			
AC-N				.03		slightly pos.			.03			
				44.8					44.8			

INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Bachman Camp Line: 3 E½ W½ Int.Cal _____ Date: 6 Dec

Send	1-2		Cal	Cal			Cal						
Rec.	→			2-3			3-4	2-3					
Time	3			100			100						
DC-1	1.26 1.95 1.24 1.09			49.8 49.8			49.0 49.0						
DC-2	1.24 1.09 1.35 1.44			49.8 49.8			49.0 49.0						
Σ	2.50 2.54 2.59 2.53			99.6 99.6			98.0						
DC-3	1.35 1.44 1.70 1.09												
Dc-4	1.10 1.09 1.45 1.44												
Σ	2.45 2.53 2.55 2.53												
DC-AV	2.53												
AC-1	1.21			49.8			49.0						
AC-2	1.24			49.8			49.0						
Σ	2.46			99.6			98.0						
S. P.													
AC-N	.03												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INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: Buchman Canyon Line: 3 W ½ Int.Cal _____ Date: 6 Dec

Send	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6	1-2	2-3	3-4
Rec.	0-5	→	5-10		→	10-15			→	15-20		→
Time	100	30	100	10	10	100	30	10	3	100	30	10
DC-1	43.3 43.0	8.00 9.00	36.6 37.0 37.3 37.5	7.2 7.2	2.4 2.4	4.58 46.3	7.6 7.4	2.40 2.25	1.04 .97	38.0 37.2	14.4 14.4	3.95 3.66
DC-2	43.0 42.7	9.00 8.00	37.3 37.7 37.5 37.8	7.2 7.2	2.4 2.45	46.3 45.8	7.4 7.6	2.25 2.40	.97 1.05	37.2 37.9	14.4 14.5	3.66 3.95
Σ	86.3 85.4 85.7 86.0		73.9 74.5 74.8 75.5	14.4 14.4	4.8 4.85	92.1 92.1		4.65 4.65	2.01 2.02	75.2 75.1	28.9 28.8	7.61 7.61
DC-3	42.7 43.2	9.00 8.00	37.5 37.8		2.45 2.35	2.40 2.22-2.25			1.05 .96	37.9 37.2	14.5 14.4	3.95 3.62
Dc-4	43.2 42.8		37.8 37.0		2.40	2.22 2.40				38.0 38.0 36.8		3.62 3.98
Σ	85.9 86.0 86.0		75.3 74.8		4.80	[illegible]			2.01	75.1 74.8	28.9	7.57 7.70
DC-AV	86.05	17.0	74.6	14.4	4.82	92.1	15.0	4.65	2.015	75.0	28.87	7.60
AC-1	41.6	8.5	36	7.08	2.35	44.2	7.4	2.3	1.0	36.3	13.8	3.65
AC-2	41.7	8.4	36.0	7.08	2.37	44.3	7.3	2.28	1.0	36.0	14.0	3.70
Σ	83.3	16.9	72.0	14.16	4.72	88.5	14.7	4.58	2.0	72.3	27.8	7.35
S. P.	+6.9		-9			-7				-5.8		
AC-N	.01		.02			.02						
	44.8		44.8			44.8						

$$K_n = \frac{na(a+1)(a+2)}{2}$$

1	2	3	4	5	6	7
1.5	6	15	30	52.5	84	126

2 | 105 / 2

52.5

2 | 168

84

2-3

1.24	1.28
1.34	1.35
1.32	1.27
1.32	1.24
1.23	
1.33	1.36
1.23	
1.01	1.30
	7.80

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INDUCED POLARIZATION - RECEIVER NOTES PAGE _____

Project: beckman canyon Line: 3 W't Int.Cal _____ Date: 6 Dec

Send	4-5	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4-5	5-6
Rec.	→	→	2025	→	→	→	→	25-30	→	→	→	→
Time	3	3	30	30	10	3	3	10	1	3	3	1
DC-1	1.36 1.49	.79 .76 .84 .90	13.4 13.0	7.6 7.5	2.80 2.45	1.25 1.0	.86 .85 .58 .58	3.2 3.2 3.1 3.2	.68 .57 .65 .66	.96 1.0 .80 .77	.69 .74	3.6 .26 .32 .46
DC-2	1.49 1.35	.84 .90 .77 .73	13.0 13.4	7.5 7.6	2.45 2.80	1.0 1.29	.58 1.43 .85	3.1 3.2 3.26 3.08	.65 .66 .58 .68	.80 .77 1.1 1.06	.74 .70	.32 .35 .38 .3
Σ	2.85 2.84	1.63 1.66 1.61 1.63			5.25 5.25	2.25 2.29	1.44 1.43	6.3 6.4 6.36 6.29	1.33 1.23 1.23	1.70 1.77 1.9 1.83	1.43 1.44	.68 .72 .70
DC-3	1.35 1.50	.77 .73 .86 .96			2.80 2.45	1.29 .97	.85 .59	3.26 3.08 3.05 3.20	.58 .68 .742 .66	.98 1.06 .84 .76	.70 .74	.38 .39 .26 .28
Dc-4		.86 .76				.97 1.30	.59 .85	3.05 3.20 3.2 3.15	.742 .66 .57 .58	.84 1.04 1.04 .85		.28 .36 .36 .38
Σ	2.85	1.63 1.69 1.68			5.25	2.26 2.27	1.44 1.44	6.30 6.29 6.25 6.35	1.12 1.34 1.22 1.24	1.82 1.82 1.88 1.89	1.44	.64 .67 .64 .74
DC-AV	2.847	1.64	26.4	15.1	5.25	2.27	1.43	6.32	1.29	1.835	1.44	.678
AC-1	1.38	.79	13.0	7.4	2.58	1.10	.7	3.12	.66	.94	.7	.335
AC-2	1.40	.80	12.8	7.4	2.59	1.10	.7	3.13	.66	.94	.7	.34
Σ	2.78	1.59	25.8	14.8	5.17	2.20	1.40	6.25	1.32	1.88	1.40	.675
S. P.			-22.5					+5.7				
AC-N			.02					.02				
			44.4					44.4				

INDUCED POLARIZATION SENDER NOTES

Project: BUCHMAN CAN. Line: III E1/2 Date: 12-6-65

Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2	5-6	4-5
Receive	0-.5 E	.5-1 E	→	1-1.5 E	→	→	1.5-2 E	→	→	→	2-2.5 E	—
Time												
Range												
Current	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1200	1400

Send	3-4	2-3	1-2	5-6	4-5	3-4	2-3	1-2	5-6	4-5	3-4	2-3
Receive	→	→	→	2.5-3 E	→	→	→	→	3-3.5 E	→	→	—
Time												
Range												
Current	1400	1400	1400	1200	1400	1400	1400	1400	1200	1400	1400	1400

INDUCED POLARIZATION SENDER NOTES

Project: BUEHMAN CAN Line: III E 1/2 Date: 12-6-65

Send	1-2		2-3		3-4							
Receive	→		CAL		CAL							
Time												
Range												
Current	1400		1000		1000							
Send												
Receive												
Time												
Range												
Current												

INDUCED POLARIZATION SENDER NOTES

project: BUEHMAN CAN Line: III W 1/2 Date: 12-6-65

Send	4-5	5-6	3-4	4-5	5-6	2-3	3-4	4-5	5-6	1-2	2-3	3-4
Receive	0-5 W	→	5-1 W	→	→	1-1.5 W	→	→	→	1.5-2 W	→	→
Time												
Range												
Current	1400	1200	1400	1400	1200	1400	1400	1400	1200	1400	1400	1400

Send	4-5	5-6	1-2	2-3	3-4	4-5	5-6	1-2	2-3	3-4	4 5	5-6
Receive	→	→	2-2.5 W	→	→	→	→	2.5-3 W	→	→	→	→
Time												
Range												
Current	1400	1200	1400	1400	1400	1400	1200	1400	1400	1400	1400	1200