AUGUST 8, 1966

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REPORT ON THE INDUCED POLARIZATION

AND RESISTIVITY SURVEY

ON THE

GIBBONS CREEK CLAIM GROUPS

HORSEFLY LAKE AREA, B.C.

FOR

HELICON EXPLORATIONS, LTD.

BY

G. HUNTER WARE

NAME AND LOCATION OF PROPERTY

GIBBONS CREEK CLAIM GROUPS GI A AND GI B

SOUTH EAST QUADRANT OF LAT. 52° N

LONG 121°W QUADRILATERAL

CARIBOO MINING DIVISION, B.C.

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INDUCED POLARIZATION AND
RESISTIVITY SURVEY
GIBBONS CREEK CLAIM GROUP

INTRODUCTION

Table 1 summarizes the induced polarization (I.P.) measurements taken on the Gibbons Creek property in late June and early July of 1966. The initial reconnaissance survey lines at 1st and 2nd separations (16 S and 20 S), were intended to test the I.P. responses of several relatively high geochemical zones, and also the response of the sulfide mineralization exposed in stripping and trenching along the base line between 16 S and 20 S. Only the latter showed significant response.

Subsequently, a north north-west trending series of small crone J'E.M. anomalies were noticed, coinciding with the I.P. response near baseline on 16 S and representing a possible extension, under alluvial cover, or the sulfide mineralization observed there. Accordingly, detailed I.P. measurements to 4th separation were taken in the vicinity of base line on lines 20 S through zero S (see Table 1) in order to test this inferred trend and, if possible, to determine the distribution of associated sulfide minerals. Significant I.P. responses were obtained on each line, as anticipated.

PRESENTATION OF DATA

All I.P. measurements taken thus far on the Gibbons Creek property were obtained using the Heinrichs Mark II I.P. sender and receiver. This instrumentation offers multifrequency selection- a high frequency of 3.0 and a low frequency of 0.05 cycles per second were utilized. All data were taken using the dipole-dipole electrode configuration, at two hundred foot electrode separations. In practice, five current electrodes were contacted from a central transmitter site, so that any of four current dipoles could be energized. The potential dipole was then moved progressively away from the transmitter, until all

TABLE 1

DATE BEGUN-COMPLETED	NO. CREW DAYS SPENT	CREW SIZE	LINE SURVEYED, AND REMARKS
JUNE 21-JUNE 30	6	3	20 S; 36 W - 8 W 16 S; 16 W - 14 E (ABOVE LINES WERE RECONNAISSANCE, AT 1st AND 2nd ELECTRODE SEPARATIONS)
JULY 3-JULY 22	14	3	20 S; 14 W - 12 E 16 S; 8 W - 16 E 12 S; 16 W - 8 E 8 S; 16 W - 0 4 S; 23 W - 7 E 0 S; 16 W - 8 E BASELINE; 8 S - 32 S (ABOVE LINES WERE AT 1st THROUGH 4th ELECTRODE SEPARATIONS.)

NOTE: A crew consists of ,

1. Supervisor - receiver operator
2. Transmitter operator
3. Potential dipole assistant

(4. Fourth crew member - in training)

desired separations had been measured with respect to each transmitter dipole. The current electrodes were numbered from one to five (see Figure 1). A particular measurement is located with respect to the property grid by specifying a) the transmitter site on the grid b) the direction to the receiver, c) the transmitter electrode pair used (1-2, 2-3, 3-4, or 4-5), and d) the separation (n). The portion of the property grid surveyed is shown in Figure 2.

The raw data measured in the field are the current (I, in amperes) transmitted across the current electrodes and the voltage (V, in milli-volts) which is produced across the potential electrodes (at both high and low frequencies). Copies of all field records are shown in Appendix I. These data are corrected for calibration drift, and are then used to compute the desired physical qualities 'apparent re-sistivity' (ρa) and 'apparent percent frequency effect' ((P.F.E.)a), according to the formulas

$$\rho_a = n(n+1)(n+2)\,\frac{l}{2}\,\frac{V}{I} \qquad \left[\frac{\text{OHM}\cdot\text{FT.}}{2\pi}\right]$$

$$(\text{P.F.E.})_a = \frac{V_{\text{LOW FREQ}} - V_{\text{HIGH FREQ}}}{V_{\text{HIGH FREQ}}}$$

l = DIPOLE LENGTH
n = SEPARATION

The derived quantity 'apparent metal factor' is also computed, by the formula

$$(\text{M.F.})_a = \frac{(\text{P.F.E.})_a}{\rho_a} \times 1000 \qquad \left[\frac{2\pi}{\text{OHM}\cdot\text{FT.}}\right]$$

The physical quantities 'apparent resistivity' and 'apparent percent frequency effect' and the derived quantity 'apparent metal factor' are presented in the standard pseudo-section format in Appendix II. The plotting convention is illustrated in each section.

Apparent resistivity measurements are generally repeatable to $\pm$ 5%. The apparent percent frequency effect measurements are accurate to $\pm$ 0.75 percent frequency effect units.

DATA INTERPRETATION

Overal I.P. experience on the Gibbons Creek property seems to indicate that the background P.F.E.)a of unmineralized diorite and volcanics are in the range 1.0 -3.0 percent. Resistivities vary from 150 to 1000 ohm. feet divided by 2 . Topographically high ground is relatively dry and hence rather consistently resistive. Marsh and other low wet ground are conductive.

The relatively high geochemical zones at 21-27 W and 0 -11 W on line 20 S and at 3-9 W on line 16 S show only background (P.F.E.)a and resistivity. They are apparently barren of significant sulfide mineralization where tested.

A roughly linear trend of I.P. responses was obtained on lines 20 S through zero,through the stripped mineralization between 16 S and 20 S and striking about 346° true. The P.F.E.)A exhibited by this trend varied from five to seven percent. For the Heinrichs equipment utilized in the survey, (P.F.E.)a values of 4 to 8 percent are usually regarded as marginally anomalous, and values higher than 8 percent are definitely anomalous. In this case, however, a better appreciation of the significance of the observed (P.F.E.)a values may be obtained by viewing them in the light of assays taken from the stripped and exposed mineralization.

In 'pseudo-section', the (P.F.E.)a anomalies take the 'inverted V' form characteristically obtained over a steeply dipping vein with shallow upper surface. Here 'shallow' means appreciably less than the 200' electrode spacing employed. This interpretation is in accordance with a probably alluvial cover of 20-40' (estimated) along the strike of the trend. Stripping just north of 16 S and just south of 20 S did not reach bedrock.

The (P.F.E.)a values in the arms of the inverted V anomaly have been taken as a measure of the polar-izability of the 200' electrode dipole at the apex of the V. Interpreting in this way, values of (P.F.E.)a have been assigned to each 200' section surveyed, and are plotted and contoured in plan in the I.P. interpretational plan map. In viewing these results, it should be kept in mind that a survey with 200' electrode spacings cannot define variations of width or polarizability over distances less than 200'. It essentially averages over this interval.

Accordingly, the I.P. plan map is intended as a measure of the polarizability of the upper 200' or so of ground in the vicinity of a steeply dipping sulfide zone of unknown depth extent. In this regard, the plan representation of line zero is misleading in that it suggests a thinning and lessening of intensity at that line. This is probably an adequate description near surface, however, (P.F.E.)s up to 6.0 percent or more are observed at high separations over some 900'. This line is incomplete, and has not established sufficient background, especially to the East, to permit complete interpretation. There is a suggestion, however, that the zone is deeper at this point.

CONCLUSIONS

The following conclusions are indicated by the I.P. data:

1. The geochemical highs were barren of polarizable material where tested on 16 S and 20 S.

2. A zone of polarizable bedrock exists as shown in the interpretative I.P. plan map. It exhibits, at the bedrock surface, a width of roughly two hundred feet and an established strike length of 2,000 feet (open at both ends). The depth extent is not known.

3. The zone yields an apparent percent frequency effect ranging between 5 and 7%. This may presumably be correlated with channel samples that averaged 0.21% copper over several hundred feet of leached and oxidized bedrock exposed in the stripping. Such an assay might be expected to improve somewhat with depth (that is in fresher rock).

4. The polarizable zone exhibits a relatively high apparent resistivity,

as viewed by the two hundred foot dipole bulk sampling measurement. This feature makes the computed metal factors misleading, in that it displaces the metal factor highs somewhat, away from the zones of highest (P.F.E.)s and towards barren conductors such as swamps or other wet ground.

5. Both width and intensity of (P.F.E.)s are variable along the strike. The best zone, between 4 S and 8 S, had essentially no geologic or geochemical expression at the surface. It should be remarked, of course, that the I.P. response is sensitive only to total sulfide content, and does not discriminate changes in the proportions of chalcopyrite, pyrite, and pyrrhotite.

6. It is perhaps significant that the I.P. zone follows the contact between the hornblende diorite intrusive and the Jurassic volcanics (pyroxene porphyry, basalt etc.). This suggests the intrusive border as a favourable mineralization environment. The intrusive has a mapped diameter of approximately one mile (according to G.S.C.), and appears somewhat larger in the aeromagnetic data. Its border zone is largely uninvestigated.

Respectfully submitted,

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I, Stanley H. Ward, Professor of Geophysical Engineering at the University of California, Berkeley and Consulting Geophysicist, hereby certify that I have consulted with Hunter Ware in the planning, conduct, and interpretation of a combined resistivity and induced polarization survey at the Gibbons Creek property of Taylor Helicon Explorations and hereby state that I agree with the interpretations and conclusions reached by Mr. Ware. This geophysical field work and interpretation is of the highest standard.

Dated: August 8, 1966

S. H. Ward
Consulting Geophysicist

APPENDIX 1

GIBBONS CREEK PROPERTY

INDUCED ELECTRICAL POLARIZATION

FIELD DATA

DIPOLE - DIPOLE ELECTRODE CONFIGURATION

TWO HUNDRED FOOT DIPOLE LENGTHS

LINE 16S [illegible]
GIBBONS CRK, 25 JUNE 1966 ①
TX AT 12W, RX TO EAST

n	TX	RX	I (AMP)	VAC (mV)	VDC (mV)	ρa [Ω'/2π]	(PFE)a (%) (UNCORR)
c	1-2		.4	37.9	37.1	1.05	+2.1
c	2-3		.4	38.0	37.1	1.05	+2.4
c	3-4		.4	37.9	36.8	1.05	+2.9
c	4-5		.4	37.9	36.8	1.05	+2.9
1	1-2		0.4	151.5	150	238	-1.0
2	1-2		"	64.0	63.3	403	-1.1
1	2-3		"	236.5	235.5	373	-0.4
2	2-3		"	72.0	71.15	454	-1.2
1	3-4		"	137	135.5	216	-1.1
2	3-4		"	32.5	31.7	205	-2.5
1	4-5		"	161	159	268	-1.2
2	4-5		"	42.2	42.0	266	-1.6

LINE 16S GIBBONS CRK. 25 JUNE 66 ②
TX AT 4W, RX TO EAST

n	TX	RX	I	VAC	VDC	ρa	(PFE)a (UNCORR)
c	1-2		0.4	37.8	36.8	1.06	+2.6
c	2-3		0.4	37.9	36.9	1.06	+2.6
c	3-4		"	38.5	37.5	1.04	+2.6
c	4-5		"	38.5	37.2	1.04	+3.4
1	1-2		0.4	341	337	588	-1.2
2	1-2		"	62.5	61.7	432	-1.3
1	2-3		"	159	156	272	-1.9
2	2-3		"	97.0	100	670	+3.0
1	3-4		"	326	337	562	+3.4
2	3-4		"	111	114	765	+2.7
1	4-5		"	481	497.5	830	+3.3
2	4-5		"	23.1	23.2	160	+0.4
c	1-2		0.4	34.5	33.5	1.16	+2.9
c	2-3		"	33.8	32.8	1.18	+3.0
c	3-4		"	35.0	33.9	1.14	+3.1
c	4-5		"	35.4	33.9	1.13	+4.3

LINE 16 S ; TX AT 12 W , RX TO EAST , FIRST - SECOND SEPARATIONS
TX AT 4 W

GIBBONS CREEK, 30 JUNE ①

LINE 16 TX AT 4E, RX TO EAST

r	TX	RX	I	VAC	VDC	ρ_a	(PFE)% (UNCORR)
c	1-2		0.4	37.9	39.0	1.05	-2.9
c	2-3		0.4	38.0	39.0	1.05	-2.6
c	3-4		"	38.0	39.0	1.05	-2.6
c	4-5		"	38.1	39.0	1.05	-2.4
1	1-2		0.4	181	195	286	+7.7
2	1-2		"	63.2	68.7	398	+8.7
1	2-3		"	166	174	262	+4.8
2	2-3		"	47	48.8	296	+3.8
1	3-4		"	116	123	183	+6.0
2	3-4		"	31.9	33.3	201	+4.4
1	4-5		"	292	307	470	+5.1
2	4-5		"	99	104	623	+5.0
c	1-2			37.8	38.8	1.06	-2.6
c	2-3			37.8	38.8	1.06	-2.6

LINE 16 S ; TX AT 4 E, RX TO EAST, FIRST - ~~[illegible]~~ SECOND SEPARATIONS

LINE 205, GIBBONS CREEK, ①
TX AT 32W, RX TO EAST

n	TX	RX	I	V_{AC}	V_{DC}	ρ_a	$(PFE)_a$ (UNCORR)
c	1-2		.3	28.5	27.8	1.05	+2.5
c	2-3		1.2	114.5	111.0	1.05	+3.1
c	2-3		.3	28.4	27.7	1.06	+2.5
c	3-4		.7	66.5	64.6	1.06	+3.0
c	4-5		.4	37.8	37.05	1.06	+2.0
1	1-2		.3	134	134	268	0
2	1-2		.3	54	54	454	0
1	2-3		1.2	508	506	319	-0.4
2	2-3		1.2	185	184	391	-0.5
1	3-4		.7	1100	1120	1000	+1.8
2	3-4		.7	263	266.5	955	+1.3
1	4-5		.4	404	407.5	642	+0.9
2	4-5		.4	107	109	6	+1.9

LINE 205, GIBBONS CREEK ②
TX AT 16W, RX TO EAST

n	TX	RX	I	V_{AC}	V_{DC}	ρ_a	$(PFE)_a$
c	1-2		.4	37.6	36.05	1.06	+4.1
c	2-3		.4	37.6	36.3	1.06	+3.5
c	3-4		.4	37.5	36.4	1.07	+2.9
c	4-5		1.2	112.5	109.5	1.07	+3.8
	1-2		.4	675	6552	171	-3.0
	1-2		.4	30.2	30.0	192	-0.6
	2-3		.4	107	106	172	-0.9
	2-3		.4	92.8	91.9	591	-1.0
	3-4		.4	353	351	566	-0.6
	3-4		.4	114	113	733	-1.0
	4-5		1.2	292	290	157	-0.7
c	3-4		.4	36.9	36.1	1.05	2.2
c	4-5		1.2	112.5	109.5	1.07	+3.8

LINE 20 S ; TX AT 32 W , RX TO EAST , FIRST - SECOND SEPARATIONS
TX AT 16 W ,

LINE 205, GIBBONS CREEK ①
TX AT 24 W RX TO EAST

n	TX	RX	I	VAC	VDC	ρa	(PFE)a (UNCORR)
c	3-4		.7	[illegible]	[illegible]	1.05	+3.[illegible]
c	4-5		.7	66.5	[illegible]	1.05	+3.8
1	3-4		[illegible]	[illegible]	5555	531	-0.8
2	3-4		[illegible]	254	255	915	+0.4
1	4-5		[illegible]	1030	1030	926	0
2	4-5		[illegible]	296	[illegible]	1070	-0.8

LINE 205, GIBBONS CREEK, ②
TX AT 24 W, RX TO EAST

n	TX	RX	I	VAC	VDC	ρa	(PFE)a (UNCORR)
c	1-2		.4	37.4	36.5	1.05	+2.4
c	2-3		.7	65.2	64.1	1.07	+1.7
1	1-2		.4	35.5	35.5	569	0
2	1-2		.4	149	150	900	+0.7
1	2-3		.7	629	630	576	+0.3
2	2-3		.7	159	159	584	0

LINE 20 5 ; TX AT 24 W , RX TO EAST , FIRST - SECOND SEPARATIONS

WAKE, HATCH, KOWALSKY ①

GIBBONS CRK. BASE LINE

TX. AT 12 S, 6 JULY 1966

I = (1 amp)

n	Tx-Rx	I	V_{AC}	V_{DC}	ρ_a	(PFE)
c	3-4		.098 v	.098 v	1.01	0
c	4-5		.098 v	.098 v	1.02	0
1	1-2	13.5	435	460	266	5.7
2	1-2	13.6	127	133	511	4.7
1	2-3	"	579	612	552	6.8
3	1-2	7.6	66.2	70.5	405	6.5
2	2-3	"	183	197	448	7.6
1	3-4	"	1120	1220	672	8.9
4	1-2	0.3	27.0	28.4	330	5.2
3	2-3	"	61.5	64.5	376	4.9
2	3-4	"	247	264	605	6.9
1	4-5	"	775	828	474	6.8
4	2-3	25.0	26.2	27.3	321	4.2
3	3-4		89.4	94.2	546	5.4
2	4-5		212	224	519	5.7

②

n	Tx	I	V_{AC}	V_{DC}	ρ_a	(PFE)
4	3-4	"	33.9	35.5	419	4.7
3	4-5		64.5	66.4	393	2.9
4	4-5		44.0	(lost current)	544	(540)
4	4-5	0.5	34.6	36.2	535	4.6
c	3-4	I = 1.0	97.2	97.5	1.00	
c	4-5	I = 0.8	76.2	76.4	1.05	

BASE LINE, TX AT 20 S

I = 0.8 (INITIALLY)

n	Tx	I		V_{AC}	V_{DC}	ρ_a	(PFE)
c	3-4	0.8		77.0	77.3	1.004	-.4
c	5-6			76.8	77.3	1.004	-.5
						USE 1.03	
1	1-2	8	20.3	850	905	657	+6.0
2	1-2	0.8	23.4	164	173	506	+5.0
1	2-3	"		291	302	225	+3.3
3	1-2	0.8	3.4	96.8	103	748	+4.9
2	2-3	"		135	139.5	417	+3.2
1	3-4	"		522	541	404	+3.1

BASE LINE ; TX AT 12 S, RX TO EAST, FIRST - FOURTH SEPARATIONS
TX AT 20 S, RX TO EAST,

n	TX	I	SP.	V_{AC}	V_{DC}	ρ_a	$(PFE)_a$
4	1-2	.8		24.4	25.6	377	+4.[illegible]
3	2-3	.8		27.7	28.2	214	1.3
2	3-4	.8		62.8	64.3	194	1.9
1	4-5	0.5		207	213	256	2.4
4	[illegible]-3	0.8		21.3	21.6	339	0.9
3	[illegible]-4	0.8		41.5	42.6	320	2.2
2	4-5	0.5		94.2	96.6	466	2.0
4	2-3	0.8		21.3	21.6	329	0.9
4	3-4	0.5	5.6	10.2	10.4	252	1.5
3	4-5	0.5		29.9	30.7	369	2.2
4	4-5						
C	3-4	0.5		49.0	49.2	1.02	-0.4
C	4-5	0.5		48.8	49.1	1.02	-0.3

BASE LINE; TX AT 20 S CONT'D

LINE 0, TX AT 4 W, RX TO W
20 JULY 1965

n	TX RX	SP	V_A	V_{DE}	ρ_a	PFE (uncorr)
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]	44.9	[illegible]	[illegible]
2			[illegible]	[illegible]	[illegible]	4.4
C	3 [illegible]		75.[illegible]	76.0	[illegible]	[illegible]
			75.8	76.0	1.05	-.13
1	[illegible]		514	540	[illegible]	4.6
2	1-2		166	174	328	6.3
1	2-3		970	1025	770	5.6
3	1-2		57.6	62.8	474	5.4
2	2-3		264	278	306	5.2
1	3-4		[illegible]4	681	673	4.1
C	4-5		75.4	75.5	1.06	-.10

②

n	TX	RX	SP	V_A	V_D	ρ_a	PFE (uncorr)
4	1-2			26.3	28.0	410	4.5
3	2-3			72.[illegible]	78.0	[illegible]	5.1
2	3-4			214	221	[illegible]	3.5
1	4-5			679	700	540	3.1
4	2-3			74.5	77.8	1187	4.4
3	3-4			146	152	1142	4.1
2	4-5			330	341	1050	3.3
4	3-4			89.8	92.5	1433	5.0
3	4-5			176	182.0	1400	5.4
C	3-4			75.3	75.3	1.06	
C	4-5			75.5	75.3	1.06	

LINE ZERO ; TX AT 4 W ,RX TO WEST, FIRST - FOURTH SEPARATIONS

LINE ON TX AT 4E, RX TO E ①
22 July 1966

n	TX	RX	SP	V_{AC}	V_{DC}	ρ_a	(PFE)% (UNCR)
c	3-4			75.4	75.3		+0.1
c	4-5			75.3	75.2		+0.1
1	1-2			377	394	301	4.5
1	1-2			377	400	301	6.1
C	3-4			75.0	75.9		-1.2
1	1-2			376	400	—	6.4
C	3-4			75.0	75.9		-1.2
2	1-2			62.7	66.0	199	5.3
1	2-3			207	217.5	164	5.1
3	1-2			52.3	55.5	414	6.1
2	2-3			126	134	400	6.4
1	3-4			518	547	411	5.6
c	4-5			74.4	76.0		-2.2

②

n	TX	RX	SP	V_{AC}	V_{DC}		PFE (UNCR)
4	1-2			20.3	22.0	328	8.4
3	2-3			36.3	39.0	293	7.4
2	3-4			98.2	105.5	304	7.4
1	4-5			192	203	155	5.7
c	4-5			74.3	75.6		-1.8
4	2-3			19.35	20.5	312	5.9
3	3-4			44.1	46.3	356	5.0
2	4-5			63.6	66.7	206	4.9
c	4-5			74.4	75.0		-0.8
4	3-4			21.5	22.8	347	6.1
3	4-5			27.2	28.8	219	5.9
4	4-5			10.9	11.5	176	5.5
C	3-4			74.5	75.0		-.6
C	4-5			74.3	75.1		-1.1

LINE ZERO NORTH ; TX AT 4 E , RX TO EAST , FIRST - FOURTH SEPARATIONS

15 JUNE, GIBBONS CREEK, LINE 45 (1)
TX AT 13W, RX TO WEST
(NAFE, HATCH, KOWALSKI (PFE UNCORR)

n	TX	RX	I	V_{NC}	V_{OC}	ρ_a	PFE
c	3-4	I=.8	.8	77.0	77.1	1.04	0
c	4-5	I=.4	.4	40.0	40.2	1.0	-0.5
1	1-2		.8	1010	1040	755	3.0
2	1-2		.8	405	421	1264	3.9
1	2-3		.8	1580	1655	1230	4.7
c	3-4		.8	76.5	77.7	1.025	-1.5
c	4-5		.4	39.7	40.4	1.01	-1.8
c	3-4		.8	76.5	77.7	1.045	-1.5
3	1-2		.8	228	237.0	1855	3.9
2	2-3		"	669	698.0	2100	4.3
1	3-4		"	2870	3020	2250	5.2
4	1-2		.8	67.1	69.0	1050	2.8
3	2-3		"	142	146	1112	2.8
2	3-4		.5	221.5	228.5	1110	3.2
1	4-5		.2	323	333	970	3.1

(2)

n	TX		I	V_{NC}	V_{OC}	ρ_a	PFE
4	2-3		.5	26.9	27.5	665	2.2
3	3-4		.4	43.8	44.8	657	2.3
1	4-5		.2	52.1	(ELECTRODES DRY, NO FURTHER RDG. POSSIBLE)	625	
c	3-4		5	48.4	49.1	1.03	1.4
c	3-4		.4	39.4	40.1	1.015	1.8
c	4-5		.2	21.0	21.5	.95	2.5
c	4-5		.2	21.0	21.1	.95	.5
2	9W-11W	5W-3W	.5	269	288		7.1

LINE 4 5; TX AT 13 W, RX TO WEST, FIRST - FOURTH SEPARATIONS

TX AT 15W, LINE 4S, RX WEST
13 JULY 66, WAKE, KOSZALSKI, HATCH.

n	TX	RX	SM	V_{AC} (mV)	V_{DC} (mV)	ρ_a	$(PFE)_a$
	I = (B)						
c	1-2			76.8	76.8	1.04	+.2
c	4-5			76.8	76.7		
1	1-2	5W-7W	+9	640	676	500	+5.6
2	1-2	7-9W	6.3	193	205.5	603	+6.7
1	2-3	7-9W		1160	1225	905	+5.8
c	3-4			76.7	76.6	1.04	
c	4-5			76.8	76.8		
3	1-2	9W-11W	+8.4	91.6	97.4	715	+6.3
2	2-3	"		35.9	37.7	accurate to low v[illegible]	+5.0
1	3-4			1370	1440	1070	+5.1
4	1-2	11-13W	17.1	47.6	50.8	751	+6.7
3	2-3	"		150.5	158.6	1184	+5.2
2	3-4			398	419	1240	+5.3
1	4-5			1370	1425	1070	+4.0
2	2-3	9W-11W	11.1	356	375	1110	+5.3
RX at W end ↑							
c	3-4			76.0	76.5	1.05	
c	4-5			76.0	77.0	1.05	

LINE 4S, TX AT 5W, RX E (across lake)
14 JULY 66, WAKE, KOWALSKY, ROGERS, HATCH

n	TX	RX	SP	V_{AC}	V_{DC}	ρ_a	PFE_a
2	1W-3W	3E-5E		101	106.5	[illegible]44	5.5
3	3W-6W	"		46.7	49.0	364	4.9
4	5W-7W	"	+25.5	23.4	24.2	364	3.4
3	1W-3W	5E-7E		28.3	29.7	221	4.9
4	3W-5W	"		16.75	17.4	252	3.9
c	3-4			76.7	77.2	1.04	-.65
c	4-5			76.8	77.3		
	(3-5W)				should have been 30;		
4	2-3	13-15W	+12.5	81.0	83.8	1250	+3.5
3	3-4	"		163	169.5	1223	+4.0
2	4-5	"		369	381	1152	+3.3
4	3-4	15W-17W		101	106	1575	4.5
3	4-5			199	206.5	1492	+2.7
4	4-5			128	133	2000	3.9
4	2-3			79.8	83.5	1250	4.6
3	3-4			163	170.5		4.6
2	4-5			367	382		4.1
c	3-4			75.6	76.0	1.06	-1.6
c	4-5			75.7	77.0		-1.7

LINE 4 S: TX AT 15 W, RX TO WEST, FIRST - FOURTH SEPARATIONS

LINE 85, TX AT 4W, RX WEST. | IN THE RAIN ①
GIBBONS COR, I 0.8

n	TX	RX	SP	V_{AC}	V_{DC}	ρ_a	PFE
c	3-4			75.[illegible]	76.4		-.1
c	4-5			75.5	76.4		+.1
							(LAKOFF)
1	1-2			653	738	537	8.0
c	3-4			75.9	76.5		-.8
c	4-5			76.0	76.4		-.5
2	1-2		+7.5	124	132		6.5
1	2-3			614	641.5		4.5
c	3-4			75.6	76.0		-.6
3	1-2			54.4	57.6		5.9
2	2-3			148.5	153.5		3.4
1	3-4			616	647		3.4
4	1-2			27.1	28.9		6.7
3	2-3			58.5	60.5		3.4
2	3-4			267.5	273		2.1
1	4-5			654	670		2.5
c	3-4			75.8	72.9		+4.0
c	4-5			75.8	73.0		+4.2

EXCESSIVE CALIBRATION DRIFT. LAST SEVEN RDGS MUST BE TAKEN AGAIN

LINE 85 TX AT 4W RX TO WEST, 17 JULY, 1966 ①
WANT, KOWALSKI, BOWERS, HATCH (LAKOFF)
GI

n	TX	RX	SP	V_{AC} (mV)	V_{DC} (mV)	ρ_a	$(PFE)_a$
c	3-4			76.7	76.5		+.3
c	4-5			76.7	76.4		+.4
2	1-2		+8.9	124.5	133.5	390	7.3
1	2-3			623	647	487	3.9
c	3-4			76.8	76.5		+.4
c	4-5			76.8	76.7		+.15
3	1-2			54.3	58.4	429	5.2
2	2-3			150	156	471	4.0
1	3-4			630	656	494	4.1
4	1-2			27.5	29.4	431	6.9
3	2-3			59.4	61.8	465	4.0
2	3-4			170	176	533	3.5
1	4-5			664	677	531	2.1
4	2-3			32.6	34.0	511	4.2
3	3-4			80.9	83.3	634	3.0
2	4-5			202.0	206.5	634	2.2
4	3-4			49.7	51.2	779	1.0
3	4-5			105	107	822	2.0
c	3-4			76.5	76.2		+.4
c	4-5			76.4	76.2		+.3

LINE 85 ; TX AT 4 W , RX TO WEST , FIRST - FOURTH SEPARATIONS

TX AT 4E ; RX TO EAST
GIBBONS LINE 12S 19 JULY (1) (UNCORR)

n	TX	RX	SP	VAC	VDC	ρa	PFE
c	3-4			73.4	76.6		-.3
c	4-5			76.4	76.6		-.3
1	1-2			46	148.5	4	1.7
2	1-2			75.6	77.4	238	2.4
1	2-3			269	276	211	2.6
c	3-4			76.4	76.4		0
3	1-2			18.65	19.25	146	4.3
2	2-3			35.5	36.5	112	3.0
1	3-4			283.5	296.5	222	4.6
2	2-3			35.4	36.4	-	3.0
4	1-2		16	13.8	14.25	217	5.5
3	2-3			21.4	22.0	168	2.8
2	3-4			87.5	90.1	275	3.6
1	4-5			54.1	56.35	425	4.2
1	4-5			514	549		6.8
4	2-3			10.35	10.55	163	1.9
3	3-4			29.9	30.7	234	3.0
2	4-5			142	147.5	44-	3.9

(2)

n	TX	RX	SP	VAC	VDC	ρa	PFE
4	3-4			26.0	26.65	412	2.5
3	4-5			111.0	115.5	376	4.1
4	4-5			27.7	28.51	439	2.9
c	3-4			76.0	75.7		+.4
c	4-5			75.8	75.5		+0.4

LINE 12 S ; TX AT 4 E , RX TO EAST , FIRST - FOURTH SEPARATIONS

GIBBONS CRK, LINE 25, TX AT 4W, RX TO W (1)

18 JULY

n	TX	I		V_{AC}	V_{DC}	ρ	(PFE) UNCORR
c	3-4	.5		47.5	48.3	1.05	-.6
				48.5	48.9		-.8
2	1-2			69.6	73.4	247	5.3
1	2-3			427	440	528	2.8
3	1-2		20	14.1	14.8	174	5.0
2	2-3			44.5	45.6	220	2.5
1	3-4			177	180.5	219	2.0
4	1-2			17.8	18.8	440	5.6
3	2-3			41.9	43.4	520	3.6
2	3-4			104	107	516	2.9
1	4-5			537	556	662	3.5
4	2-3			15.6	16.4	371	3.1
3	3-4			30.3	31.1	375	2.6
2	4-5			108	111	534	2.8
4	3-4			24.2	24.8	600	2.4
3	4-5			67.6	69.8	935	3.7
c	3-4	.5		48.4	48.8	1.03	-.8
c	4-5			48.1	48.6		-1.0

GIBBONS CRK

12 S, TX AT 4W, RX TO W (1)

17 JULY, 1966, WARD, KOWALSKI, BOWERS, HATCH

n	TX	RX	SP	V_{AC}	V_{DC}	ρ_a	(PFE) UNCORR
c	3-4			76.5	76.4	1.04	+.15
c	4-5			76.6	76.4		+.3
1	1-2		7 / 2.1	210	219	163	4.3
2	1-2			107.5	113	338	5.1
c	3-4			76.4	76.5	1.04	-0.1
c	4-5			76.0	76.2	1.06	-0.3
c	3-4	I=.6		57.0	57.4	1.06	-.7
c	4-5			57.4	57.3	1.04	
c	3-4	I=.4		38.8	39.1	1.04	-.8
c	4-5	"		38.9	39.1		-.5
2	1-2			55.6	59.0	347	6.1
1	2-3			341	353	531	3.5
c	3-4			38.6	38.9		-.8
c	4-5			38.6	38.9	1.04	-.8

LINE 12 S ; TX AT 4 W , RX TO WEST , FIRST - FOURTH SEPARATIONS

I = .4 A, RX AT STATION 4W ①

Tx/n	Vac	Vdc	S.P.	ρ_a	(P.F.E.)$_a$
3-4/c	.04	.04			
4-5/c	.0397	.04			
1-2/1	.352	.360	+.43	526	2.2
1-2/2	.0659	.0675	-.10	395	+2.4
2-3/1	.168	.173		260	+2.9
1-2/3	.0618	.0654		928	+5.5
2-3/2	.106	.113		635	+6.6
3-4/1	.359	.385		539	+6.8
1-2/4	.0312	.0326		936	+4.5
2-3/3	.0463	.0480		695	+3.7
3-4/2	.121	.127			+5.0
4-5/1	.523	.556		784	+6.3

LINE

②

	VAC	VDC		ρ_a	(PFE)$_a$
2-3/4	.00453	.00470		584	+3.1
3-4/3	.00960	.00990		144	+3.1
4-5/2	.0262	.0270		156	+3.0
3-4/4	.00680	.00695		204	+2.2
4-5/3	.0146	.0150		219	+2.7
4-5/4	.0076	.0077			+1.3
4-5/c	.0392	.0392			
3-4/c	.0392	.0392			

LINE 16 S; TX AT 4 W, RX TO EAST, FIRST - FOURTH SEPARATIONS

n	TX	RX	S.P.	V_{AC}	V_{DC}	ρ_a	(PFE)$_a$
	3-4	C		77.5	78.0	1.03	-0.6
	4-5	C		77.5	78.0	1.03	-0.6
1	1-2		+16	350	370	270	5.7
2	1-2		-16	124	132	383	6.5
1	2-3		-16	321	328	240	2.2
3	1-2		25.5	53.7	56.6	414	5.4
~~2~~	~~2-3~~			~~75.1~~	~~96.0~~		~~1.0~~
1	3-4		28.5	235	242	181	3.0
2	2-3			94.1	96.3	291	2.3
	NOTE, ABOVE RX. DIPOLE ≈ 210', NEXT DIPOLE ≈ 190'						
4	1-2		4.7	20.6	21.7	334	4.9
3	2-3		7.4	32.3	32.8	253	1.5
2	3-4		"	57.5	59.3	178	3.1
1	4-5		"	519	532	401	2.5
	ADJUST RX IN SLOPE AT 10E VOL.						0/o
4	2-3		11.6	23.1	23.7	366	2.6

n	TX	RX	SP	V_{AC}	V_{DC}	ρ_a	(PFE)$_a$
3	3-4		12.0	32.8	33.9	262	3.3
2	4-5			198	204	630	3.0
4	3-4		5.0	14.3	14.9	220	4.0
3	4-5			74.5	76.6	591	2.7
4	4-5						
6	3-4			76.5	77		-0.7
6	4-5			76.5	77		-0.7

LINE 16 S;TX AT 4 E,RX TO EAST,FIRST - FOURTH SEPARATIONS

TX AT ℄ RUNNING LINE 20S ①
I: 0.8
Vx
WESTWARD, 8 JULY 1966

n	TX	RX	SP	VAC (mV)	VDC (mV)	A	(PFE)
c	3-4			77.5	77.5		
c	4-5			77.5	77.5		
1	1-2	0-2W		565	600	439	5.6
2	1-2	2W-4W	6.4	173	182	550	5.2
1	2-3	2-4W		55.6	57.6	441	3.6
				"decimal wrong?"			
2½	1-2	3W-5W	619	92.8	~~73.5~~	485	0.8
1½	2-3	"		235	~~[illegible]~~	409	0.9
½	3-4	"		~~346~~	~~345~~		-0.3
3½	1-2	5-7W		37.6	37.4	432	4.8
2½	2-3			76.5	76.8	400	3.0
1½	3-4			181	184	315	1.7
½	4-5			844	861	209	2.0
4½	1-2	7-9W	1½	35.2	[illegible]	750	4.0
3½	2-3			64.7	63.5	744	2.8
2½	3-4			120.5	123	630	2.1
1½	4-5			344.9	359	609	2.6

②

			SP	VAC	VDC		
4	2-3	8-10W		30.4	31.2	484	2.6
3	3-4			52.0	52.6	415	1.3
2	4-5			128	131	407	2.3
				28.2	29±.5		
4	3-4	12-14	6.5	"	"	449	2.8
3	4-5			57.7	59	459	2.3
4	4-5	14		13.4	13.6	215	1.5
2½	1-2	3W-5W		92.5	96.5	482	4.3
1½	2-3	"		235	243	409	3.4
½	3-4	"		1085	1110	269	2.3
c	3-4			76.3	76.4		
c	4-5			76.3	76.4		

LINE 20 S; TX AT BASE LINE, RX TO WEST, FIRST - FOURTH SEPARATIONS

LINE 205, TX AT 8E, RX TO WEST
9 JULY, RIGG, KOWALSKY, WHITE, HATCH

n	TX	RX	SP	V_{AC} (mV)	V_{DC} (mV)	ρ_a	$(PFE)_a$
	I = 0.8 AMPS.						
c	3-4		?	75.6	74.9	1.06	+1.1
c	4-5			76.6	74.8	1.06	+1.1
1	1-2		+2.8	2195	254	198	3.1
2	1-2		+3.9	65.6	67	209	3.2
1	2-3			294	303	234	4.2
c	3-4			75.8	76.8	1.05	0
c	4-5			75.6	75.8	1.06	0
2	1-2		+11.4	65.6	65.7	209	0.2
1	2-3		+12.8	294	303	234	3.1
c	3-4			75.6	75.4	1.06	0
c	4-5			75.6	75.8	1.06	-.25
3	1-2		+11.0	29.3	30.0	233	2.4
2	2-3			76.6	78.5	244	2.5
1	3-4			192	197.5	153	2.9
c	4-5			75.6	75.8	1.06	+.25

n	TX	RX	SP	V_{AC}	V_{DC}		
4	1-2			16.5	17.2	262	4.2
3	2-3			37.0	38.4	294	5.6
2	3-4		+4.6	67.0	70.0	213	4.5
1	4-5			280	294.5	223	5.2
4	2-3	5-2W	-2.0	22.5	23.2	358	3.1
3	3-4			36.5	37.5	290	2.9
2	4-5			105	110	334	4.8
4	3-4	2-4W	+7.1	19.25	19.9	306	3.4
3	4-5			48.7	50.9	386	4.5
3½	4-5	3-5W		28.6	29.7	329	3.8
c	4-5			75.6	75.6	1.06	0
1	3-4	4E-2E	-12.7	191	196	152	2.6
2	2-3			76.0	78.2	242	2.9
2	1-2	6E-4E	-12.2	65.4	67.1	208	2.6
1	2-3			294	303.5	234	3.2
1	1-2	6E-8E	+55.4	247	252	196	2.0
c	3-4			75.6	75.6	1.06	0

LINE 20 S ; TX AT 8 E, RX TO WEST, FIRST – FOURTH SEPARATIONS

APPENDIX II

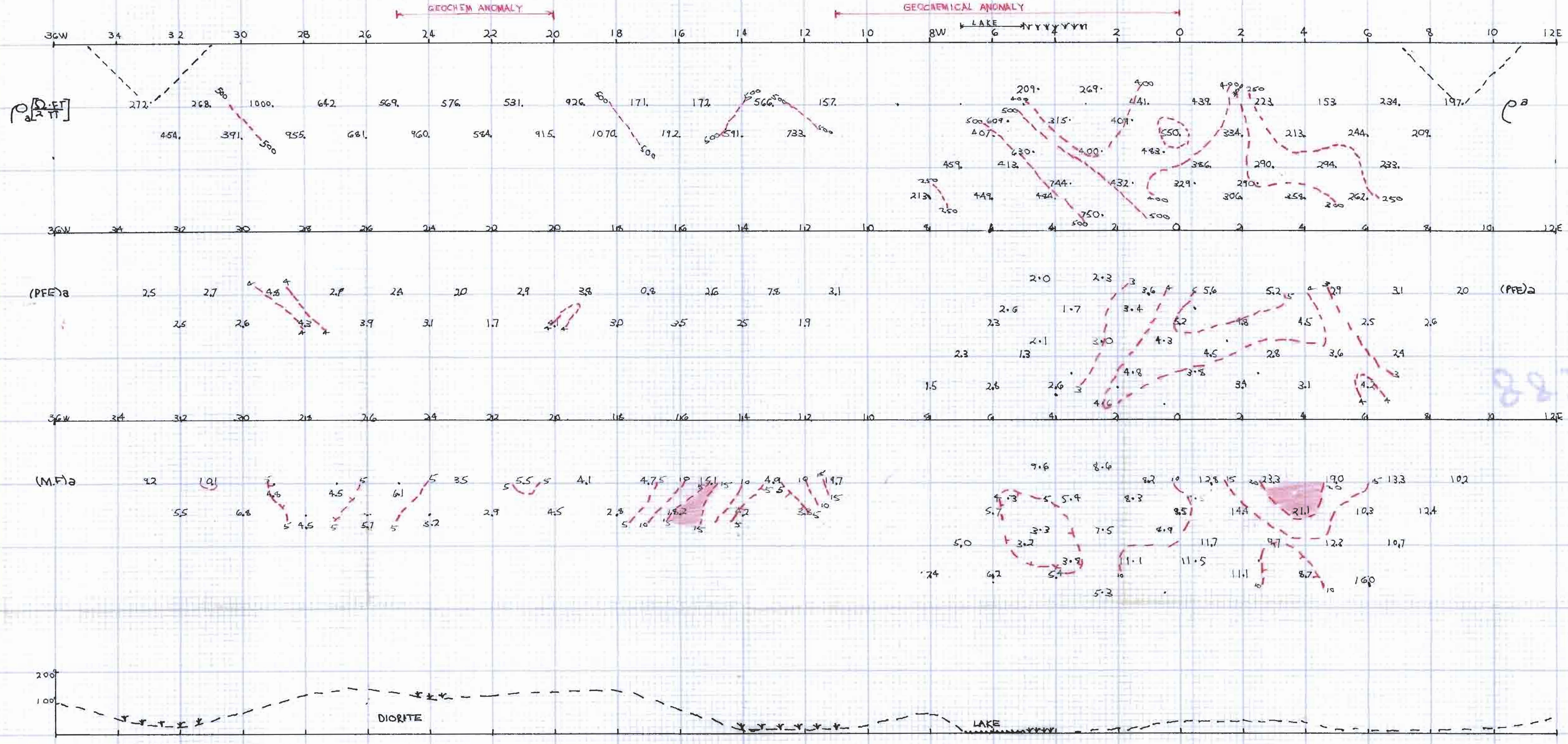
GIBBONS CREEK PROPERTY

INDUCED POLARIZATION AND

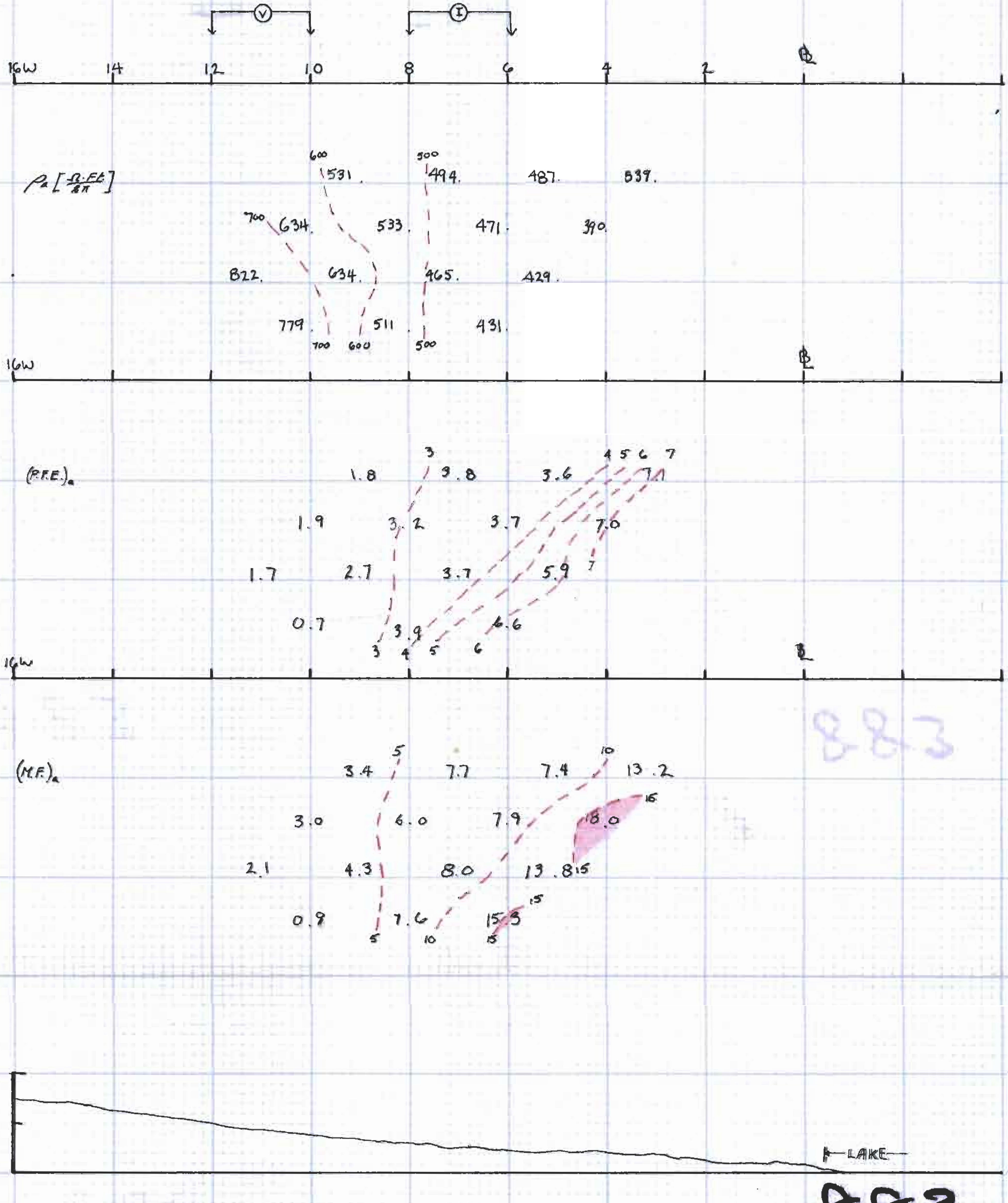
RESISTIVITY DATA PLOTTED

IN 'PSEUDO - SECTION'

GIBBONS CREEK- LINE 20S
HEINRICH'S I.P. EQUIPMENT

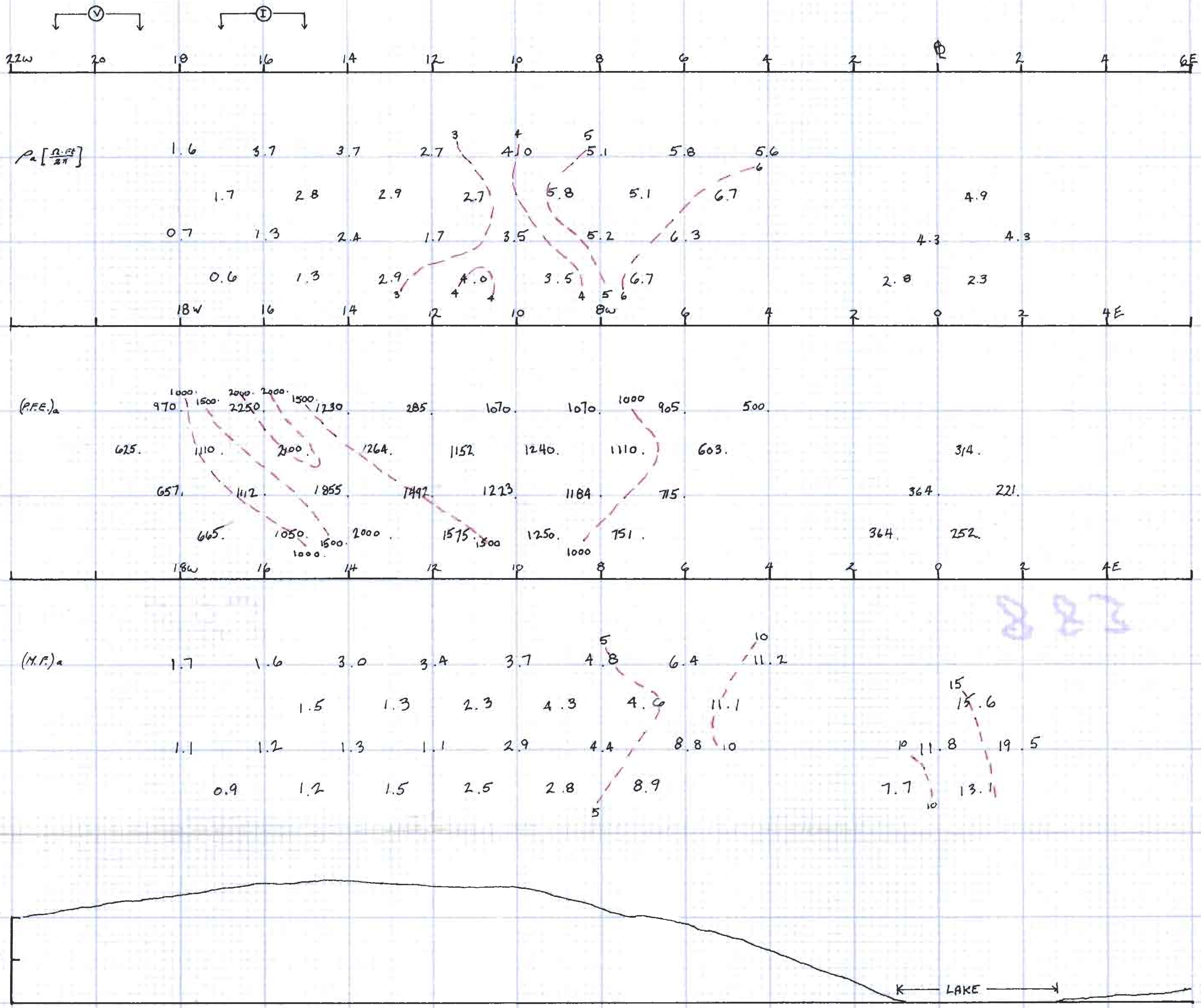


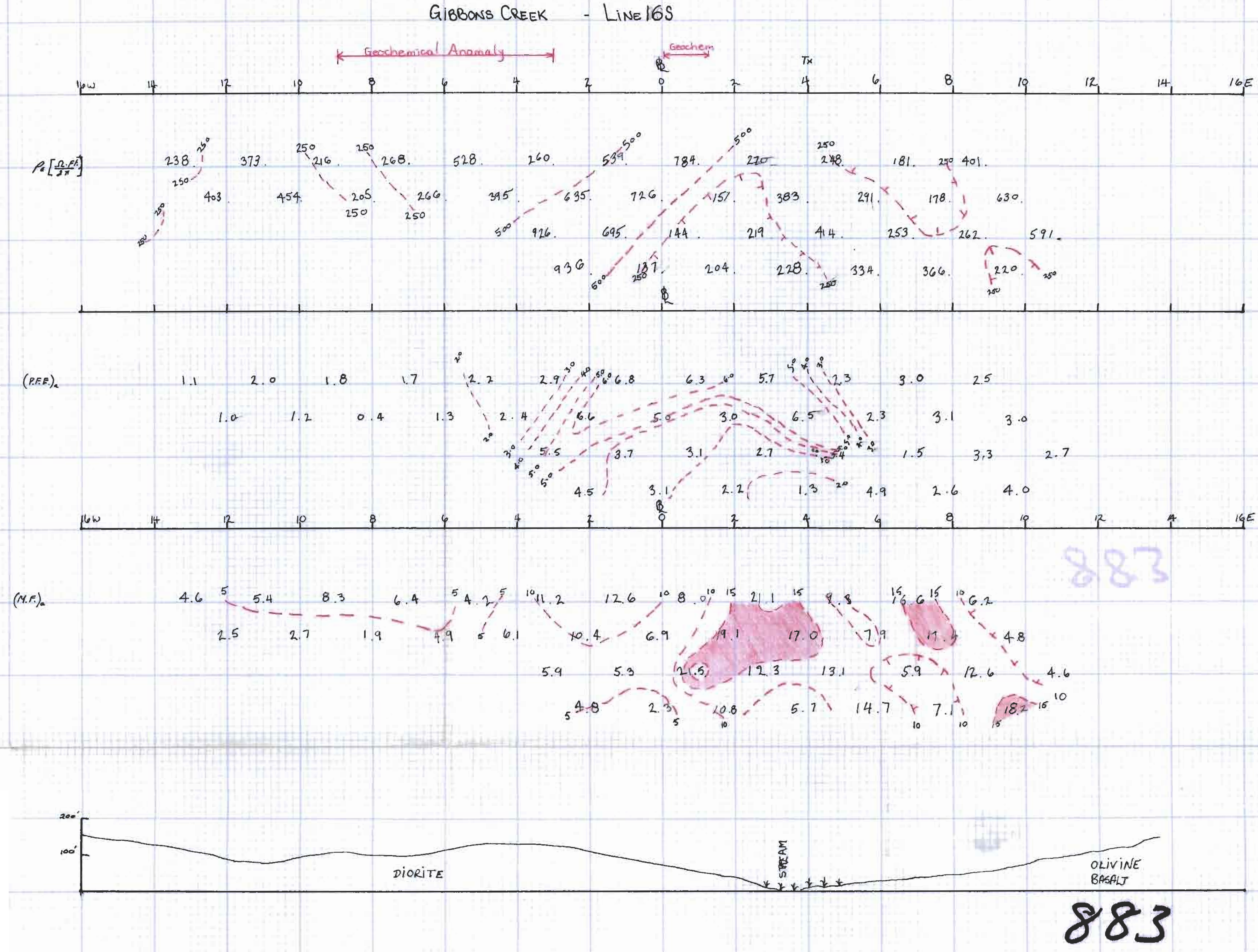
GIBBONS CREEK LINE 8S



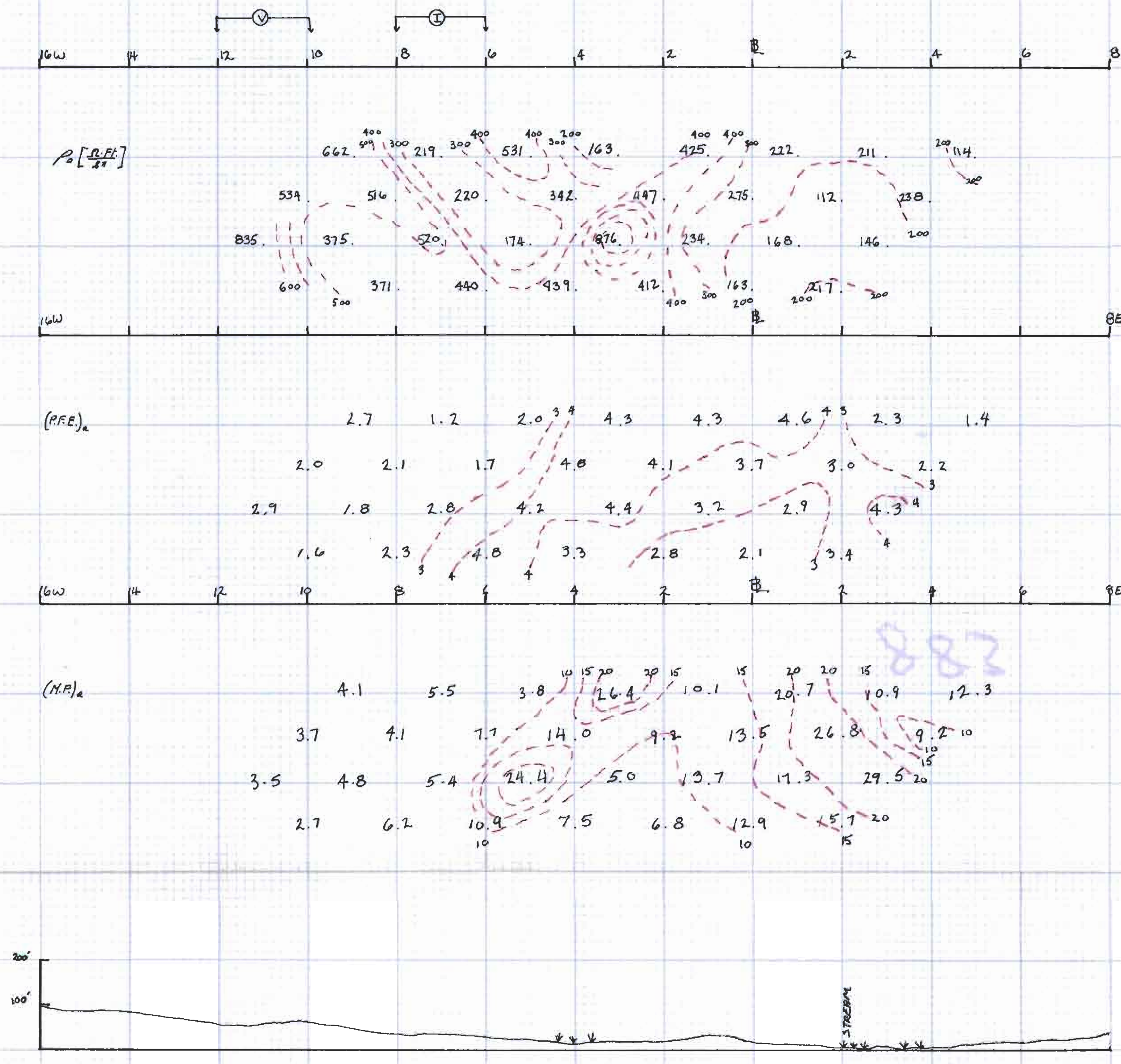
883

GIBBONS CREEK LINE 4S

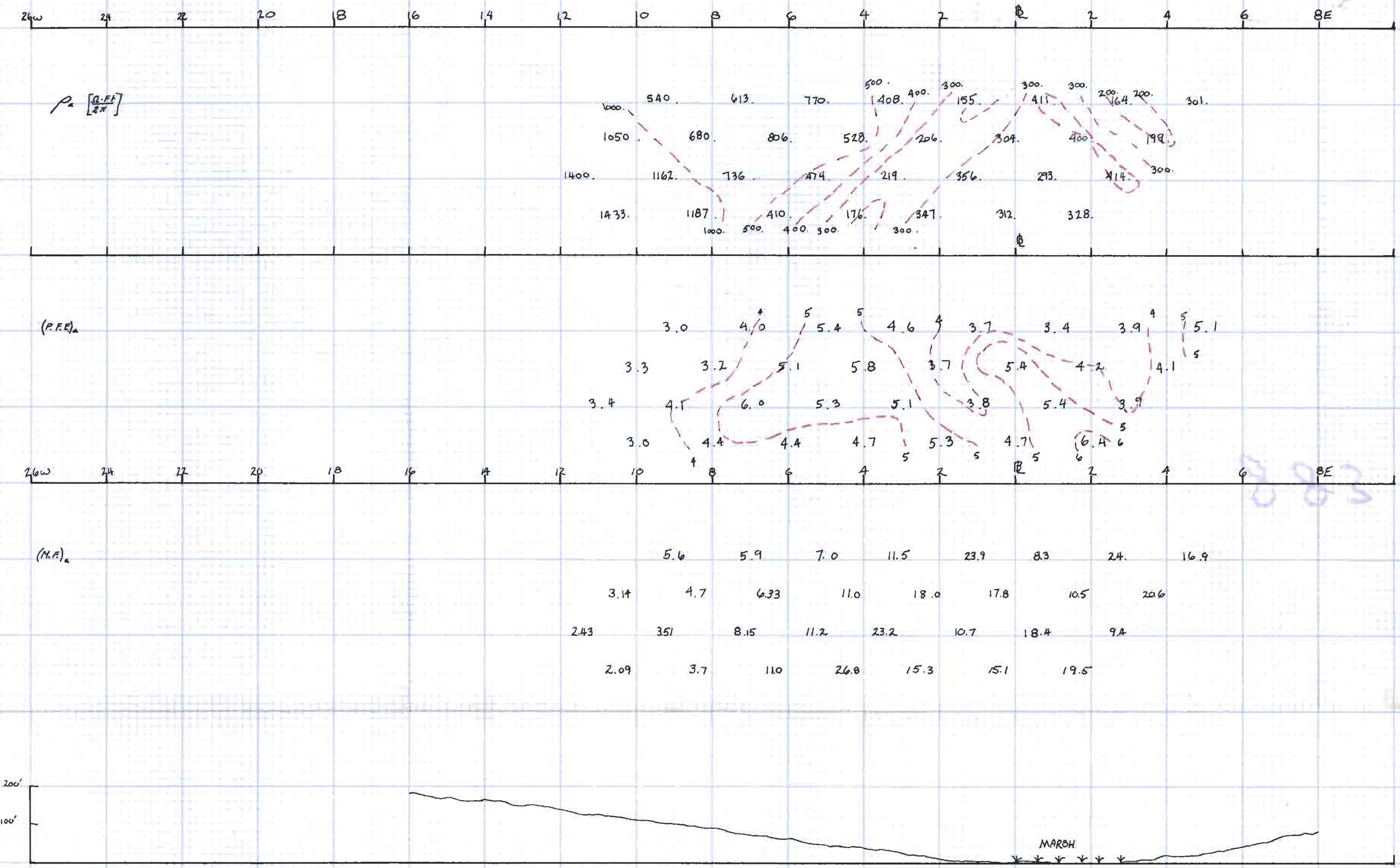



GIBBONS CREEK - LINE 16S
Geochemical Anomaly
Geochem
Tx
16W
16E
ρa [Ω·FT / 2π]
(P.F.E.)a
(M.F.)a
STREAM
DIORITE
OLIVINE BASALT
200'
100'
883

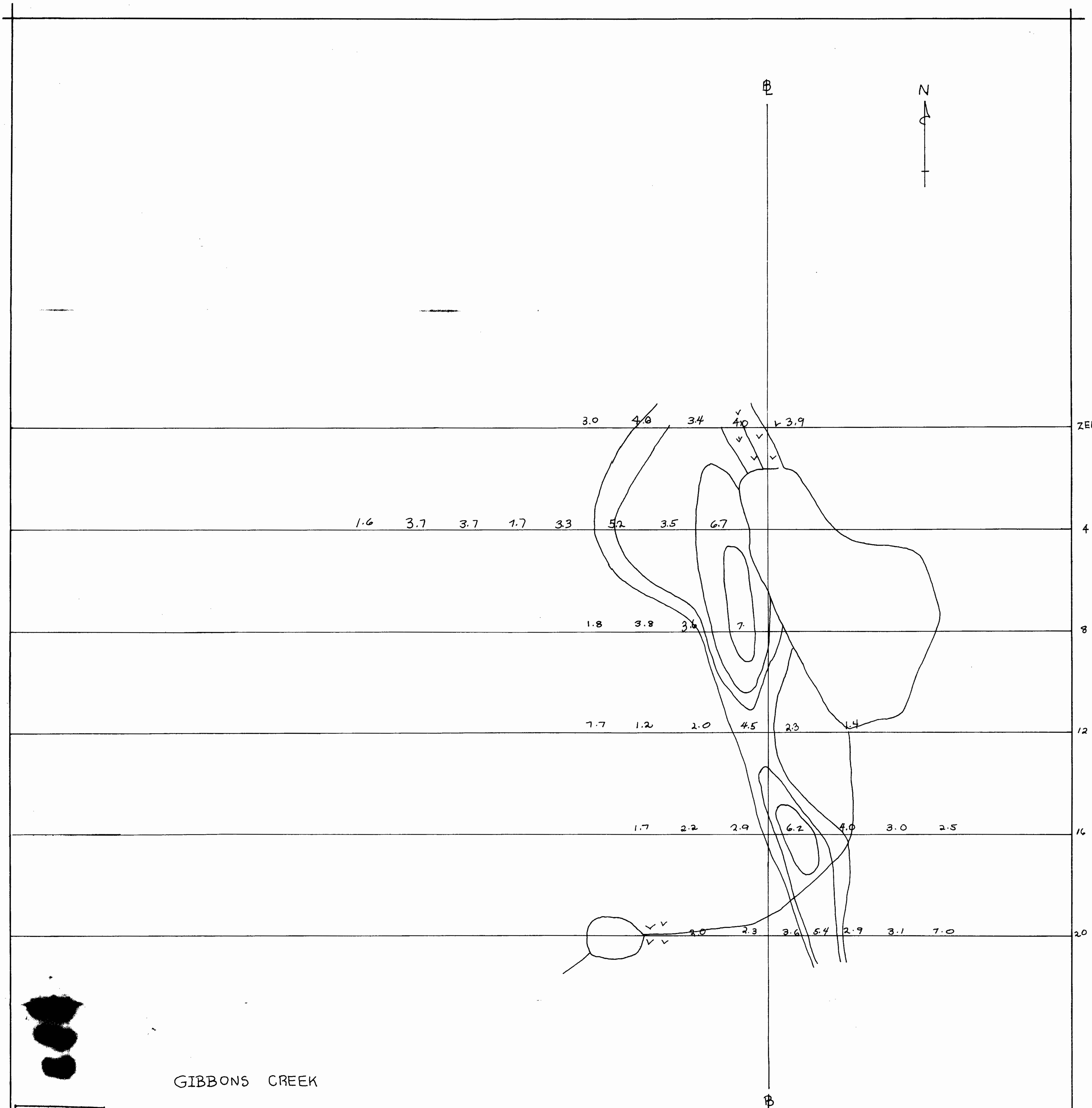
GIBBONS CREEK - LINE 12 S



GIBBONS CREEK - Line Zero



883



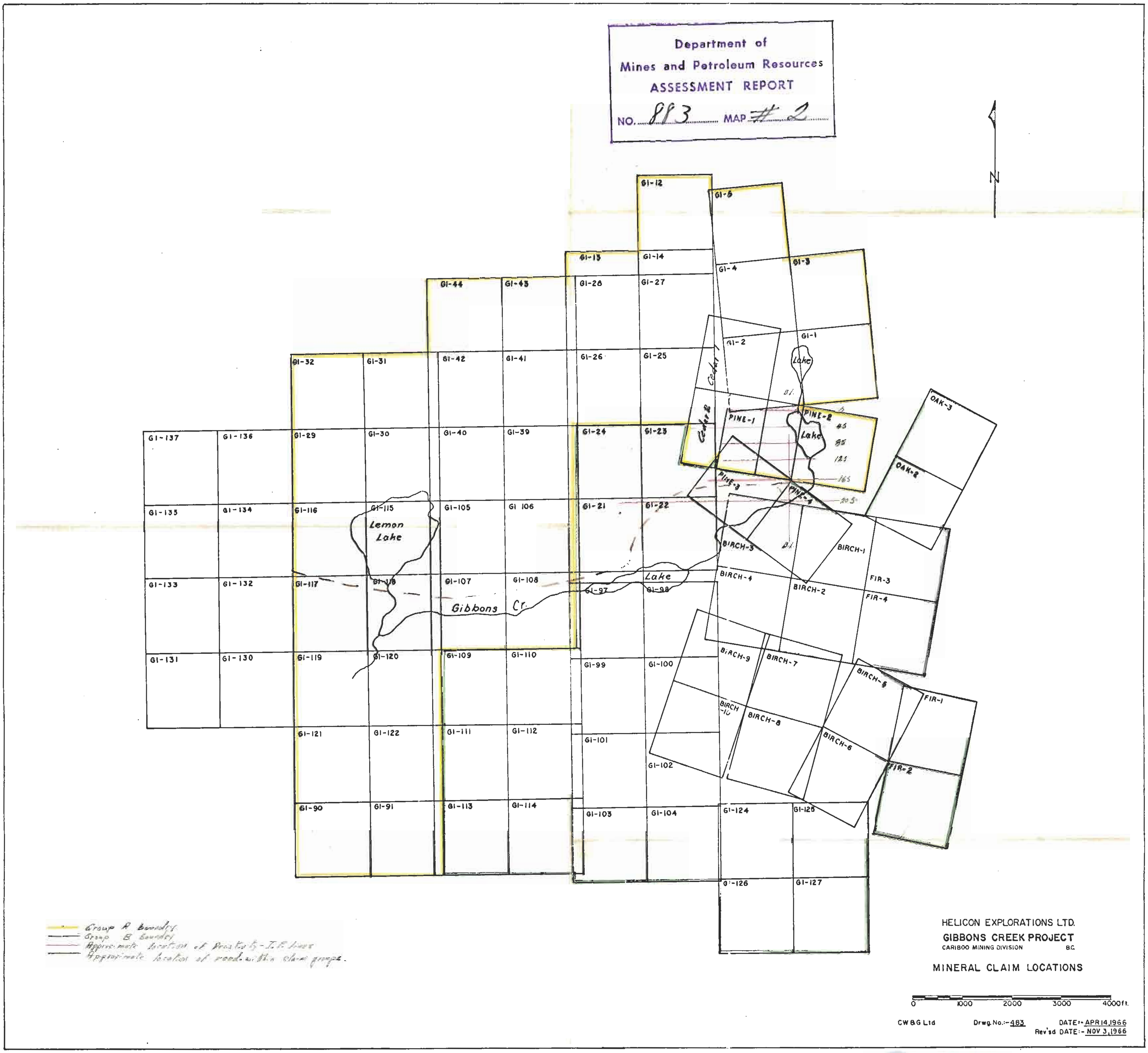
GIBBONS CREEK

INDUCED POLARIZATION
INTERPRETATIVE PLAN MAP

(CONTOURS ON (P.F.E.)a)

SCALE :- 1 INCH = 200 FEET

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 883 MAP # 1



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 883 MAP #2
N
GI-12
GI-5
GI-13
GI-14
GI-4
GI-3
GI-44
GI-43
GI-28
GI-27
GI-2
GI-1
Lake
GI-32
GI-31
GI-42
GI-41
GI-26
GI-25
Cedar 1
Cedar 2
PINE-1
PINE-2
Lake
OAK-3
GI-137
GI-136
GI-29
GI-30
GI-40
GI-39
GI-24
GI-23
OAK-2
PINE-3
PINE-4
GI-135
GI-134
GI-116
GI-115
Lemon Lake
GI-105
GI 106
GI-21
GI-22
BIRCH-3
BIRCH-1
GI-133
GI-132
GI-117
GI-118
GI-107
GI-108
Lake
BIRCH-4
BIRCH-2
FIR-3
FIR-4
Gibbons Cr.
GI-97
GI-98
GI-131
GI-130
GI-119
GI-120
GI-109
GI-110
GI-99
GI-100
BIRCH-9
BIRCH-7
BIRCH-5
FIR-1
BIRCH-10
BIRCH-8
BIRCH-6
GI-121
GI-122
GI-111
GI-112
GI-101
GI-102
FIR-2
GI-90
GI-91
GI-113
GI-114
GI-103
GI-104
GI-124
GI-125
GI-126
GI-127
Group A Boundary
Group B Boundary
Approximate location of Resistivity - I.P. lines
Approximate location of road within claim groups.
HELICON EXPLORATIONS LTD.
GIBBONS CREEK PROJECT
CARIBOO MINING DIVISION B.C.
MINERAL CLAIM LOCATIONS
0 1000 2000 3000 4000 ft.
CW&G Ltd
Drwg. No.:- 483
DATE:- APR 14, 1966
Rev'sd DATE:- NOV 3, 1966

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