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**CANEX AERIAL EXPLORATION LTD.**

DIVISION OF CANADIAN EXPLORATION LIMITED

700 BARRARD BUILDING

VANCOUVER 5, B. C. CANADA

**GEOPHYSICAL REPORT**

**INDUCED POLARIZATION AND RESISTIVITY SURVEY**

**FOR KEL-GLEN MINES LTD. (N.P.L.)**

**HIGHLAND VALLEY; 90° 32', 121° 07'**

**CLAIMS DIA 1-5, DIA 7-10, PEARL 1-10, PEARL Fr.#1,**

**T.E.Fr#1-2, VERA 1-19, VERA 20Fr, VERA 21-23**

**R. W. CAMBON, B.A.Sc., P. Eng.**

**SEPTEMBER AND OCTOBER, 1968**

**BREAKDOWN OF EXPENDITURES**  
**ON KKL-GLEN MINES LTD. (N.P.L.)**

**INDUCED POLARIZATION SURVEY**

I.P. Equipment rental and 2 operators wages 23 days @ \$200/day	\$ 4,600.00
Days worked by operators 23 x 2 = 46 man days	
Days worked by helpers	
B. McIntosh           16	
P. Beaudoin           3	
G. Hart               20	
J. Garnett            2	
Total Man Days           48	
Helpers' wages @ \$25/day = 48 x \$25.00	1,200.00
Camp cost for helpers and operators \$8.00/day/man = 94 x \$8.00	752.00
Compensation, administration, supervision \$5.00/day/man = 94 x \$5.00	470.00
<b>TOTAL COSTS OF I.P. SURVEY</b>	<b>\$ 7,022.00</b>

Declared before me at the City  
of Vancouver, in the  
Province of British Columbia, this 21<sup>st</sup>  
day of November, 1968, A.D.

R. W. Cannon, P. Eng.  
R. W. Cannon, P. Eng.

J. Paul Sub-mining Recorder  
A Commissioner of the Province of British Columbia or  
Province of British Columbia

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I.P. Sections	Appendix
Base Map of I.P. Grid	In Pocket

## THE METHOD OF FIELD OPERATION

In the field procedure, measurements on the surface were made in a way that allows the effects of lateral changes in the properties of the ground to be separated from the effects of vertical changes in the properties of the ground. Current was applied to the ground at two points (X) feet apart. The potentials were measured at two other points (X) feet apart, in line with the current electrodes. The distance between the nearest current and potential electrodes was an integer number (N) times the basic distance (X).

The measurements were made along surveyed lines, with a constant distance (NX) between the nearest current and potential electrodes. Measurements were taken with values of N = 1, 2 and 3 for X = 300'.

In plotting the results, the values of the apparent resistivity, percent frequency effect and the apparent metal factor measured for each set of electrode positions were plotted at the intersection of grid lines, one from the center point of the current electrodes and the other from the center point of the potential electrodes. The resistivity values were plotted above the line and the percent frequency effect and metal factors below. The lateral displacement of a given value is determined by the location along the survey line of the center point between the current and potential electrodes. The distance of the value from the line is determined by the distance (NX) between the current and potential electrodes when the measurement was made. The separation between sender and receiver electrodes is only one factor which determines the depth to which the ground is being sampled in any particular measurement. The plotted results were contoured using a logarithmic contour interval 1, 1.5, 2, 3, 5, 7.5, and 10.

REPORT ON THE INDUCED POLARIZATION  
AND RESISTIVITY SURVEY  
HIGHLAND VALLEY AREA, B. C.  
KEL-GLEN MINES LIMITED (N.P.L.)

INTRODUCTION

An extensive induced polarization and resistivity survey was carried out on the Kel-Glen property in the Highland Valley area of British Columbia during the months of September and October, 1968.

This survey covered approximately 45 claims and fractions along 20.3 miles of cut lines. The lines had been cut east-west on 800 foot intervals with stations marked every 100 feet.

The Induced Polarization survey was carried out using McPhar frequency effect equipment (Model P654) employing frequencies of 0.31 and 5.0 cycles per second.

LOCATION AND ACCESS

The property is located 15 miles southeast of Ashcroft and can be reached by 18 miles of paved road from Ashcroft. The claims are centered around the Owen's ranch and are traversed in the middle by the road to Bethlehem Copper.

PROPERTY

The property consists of 45 claims recorded as follows:

<u>CLAIM NAME</u>	<u>TAG NO.</u>	<u>RECORD NO.</u>	<u>EXPIRY DATE</u>
Dia 1-2	836329/30		Sept. 21/69
3-4	836332/33		"
5	836338		"
7	836335	66067/75	"
8	836334		"
9	836337		"
10	836336		"
Pearl 1-10	836319/28	66076/85	"
Pearl Fr#1	836331	66086	"

<u>CLAIM NAME</u>	<u>TAG NO.</u>	<u>RECORD NO.</u>	<u>EXPIRY DATE</u>
Te Fr#1	712644	66767	Oct. 27/69
Te Fr#2	712643	66768	"
Vera 1-2	479249/50	67304/23	Nov. 30/69
3-17	479251/65		Nov. 30/68
18	479267		"
19	479266		"
20Fr	479269		"
21-23	88875/53	69094/96	May 17/69

#### PREVIOUS WORK

The previous work consisted of cutting E-W lines with stations chained in at 100 foot intervals. These lines were spaced 800 feet apart. Limited geophysics consisting of an E.M.-16 survey was carried out along with a minor geochem survey.

#### PRESENTATION OF RESULTS

The induced polarization and resistivity results are shown on the enclosed data plots in the manner described in the notes preceding this report. All lines were run using an electrode spread of 300 feet and dipole separations of N = 1, 2, and 3.

#### DISCUSSION OF RESULTS

A series of 24 traverses of varying length were run in the survey area. No anomalies were detected on the claim groups. Some minor variations in resistivity and frequency effect were found to occur on the property. These were caused largely by variation in overburden depth and by ground water content of the overburden.

CONCLUSIONS AND RECOMMENDATIONS

It was concluded that no significant anomalies were detected in the survey area. I recommend that no further work be carried out on the property.

*R. W. Cannon, P. Eng.*  
R. W. Cannon, P. Eng.

RWC/slp/680836

QUALIFICATIONS

1. I, Richard W. Cannon, am a graduate of the University of B. C. (1966) with a degree in Geological Engineering (Geophysics Option).
2. I have worked continuously in mining exploration since graduation.
3. I am currently registered as a professional engineer in the Province of British Columbia.

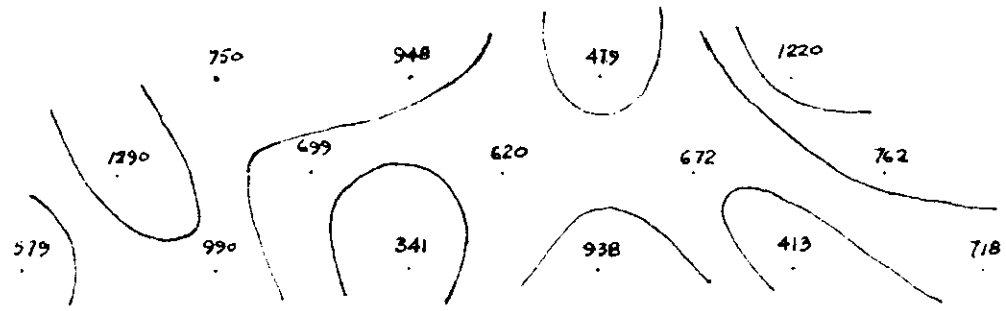
*R. W. Cannon, P. Eng.*  
R. W. Cannon, P. Eng.



N=3

N=2

N=1



$\rho_a/2\pi$

169 W 166 W 163 W 160 W 157 W 154 W 151 W 148 W 145 W

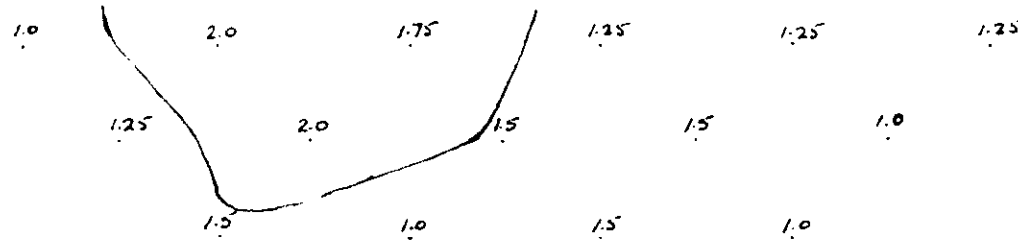
KEL-GLEN MINES LTD.

LINE 32+00 S

N=1

N=2

N=3



DIPOLE-DIPOLE CONFIGURATION

P.F.E. FREQUENCIES 0.31+5.0 cps.

X = 300'

169 W 166 W 163 W 160 W 157 W 154 W 151 W 148 W 145 W

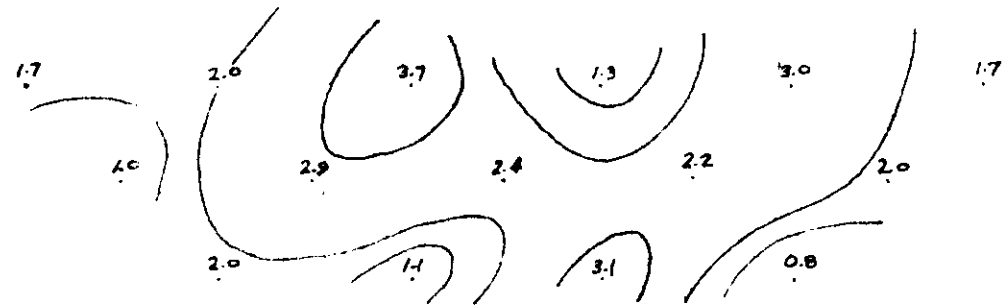
CANEX AERIAL EXPLORATION LTD.

DRAWN BY J. THORNTON DATE: OCT. 1968

N=1

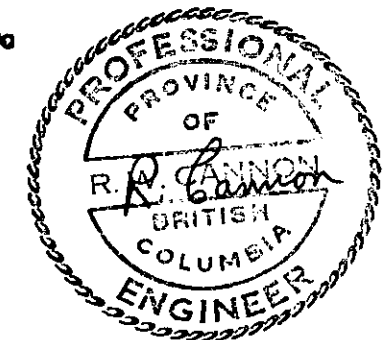
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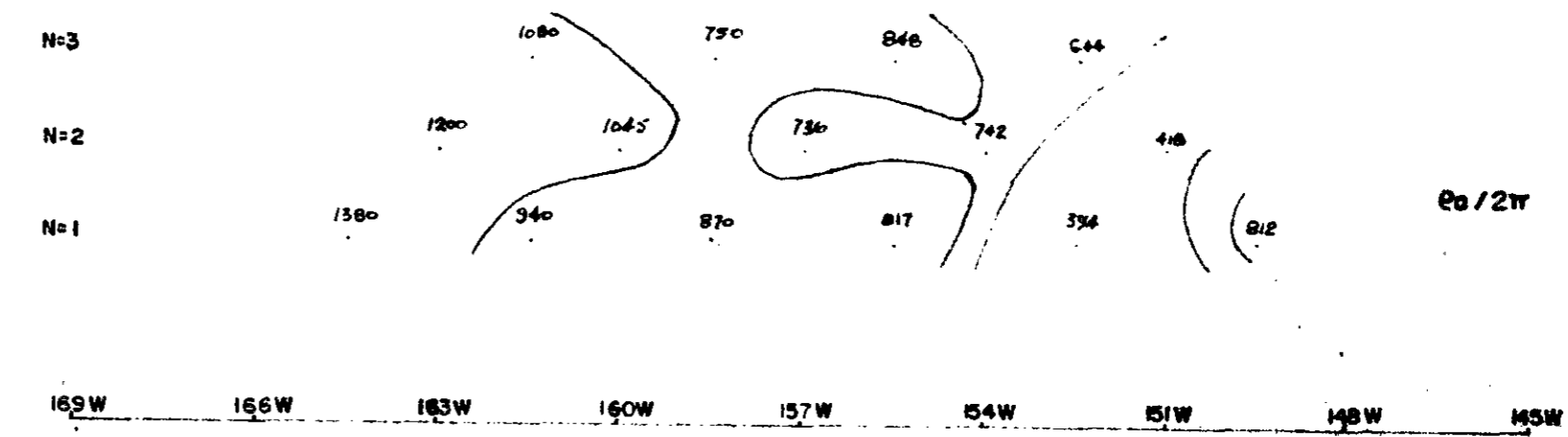
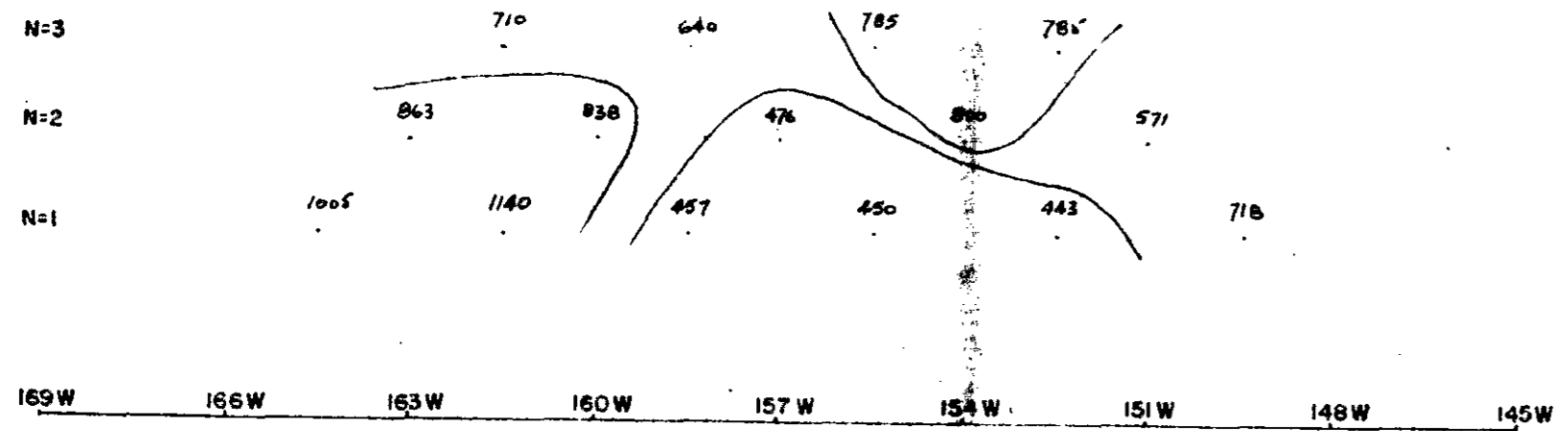
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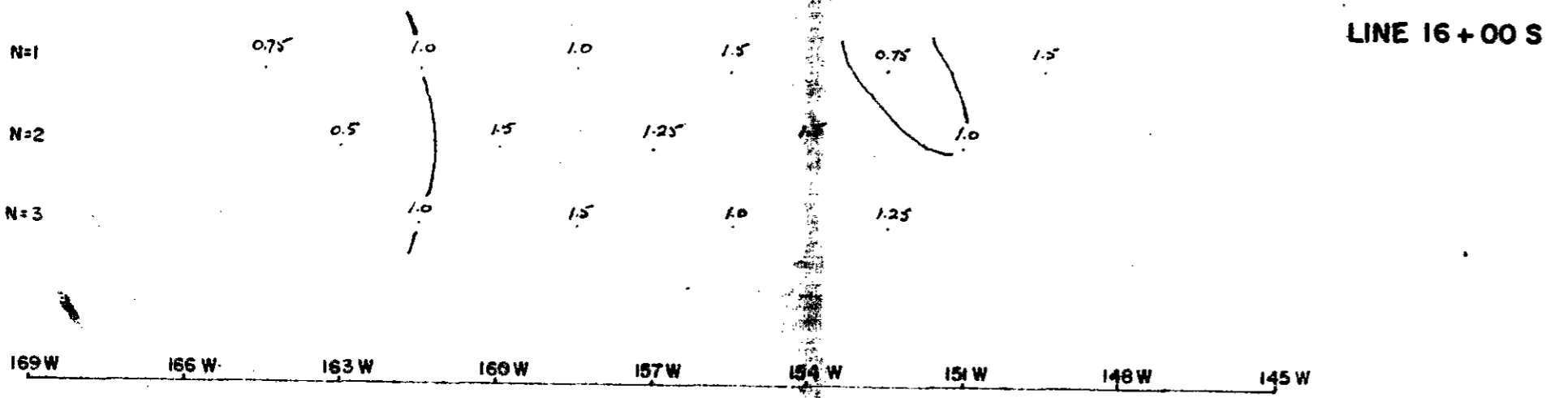
1710 LOG 01

(M.F.)

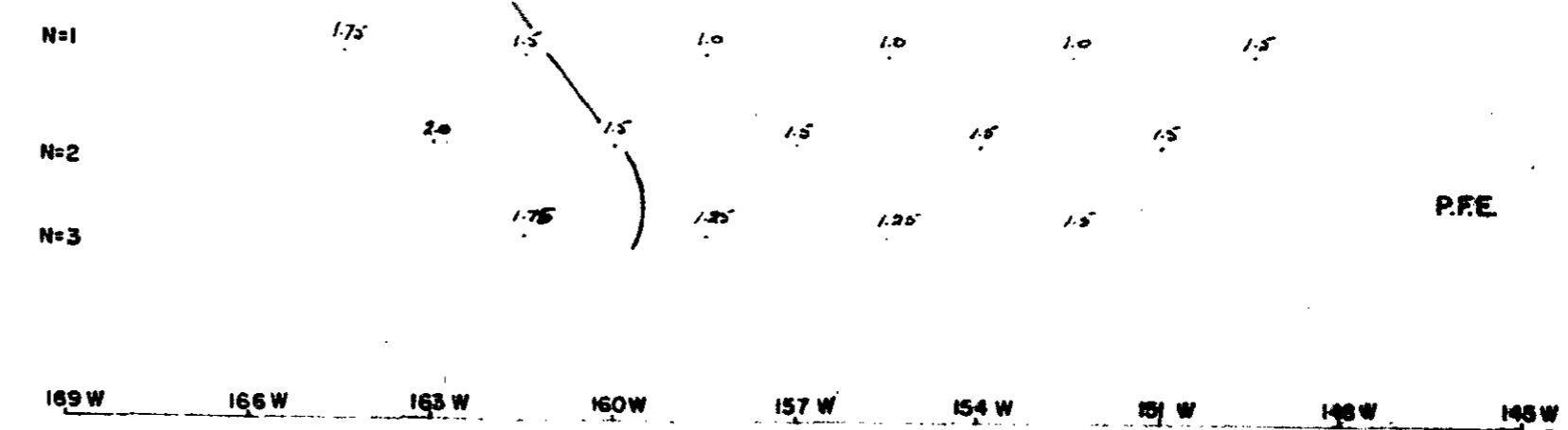




KEL-GLEN MINES LTD.



LINE 24 + 00 S

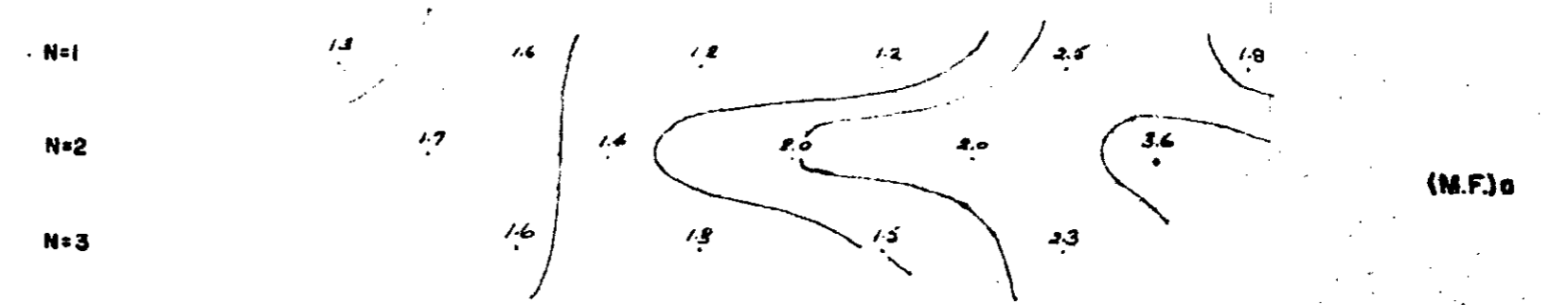
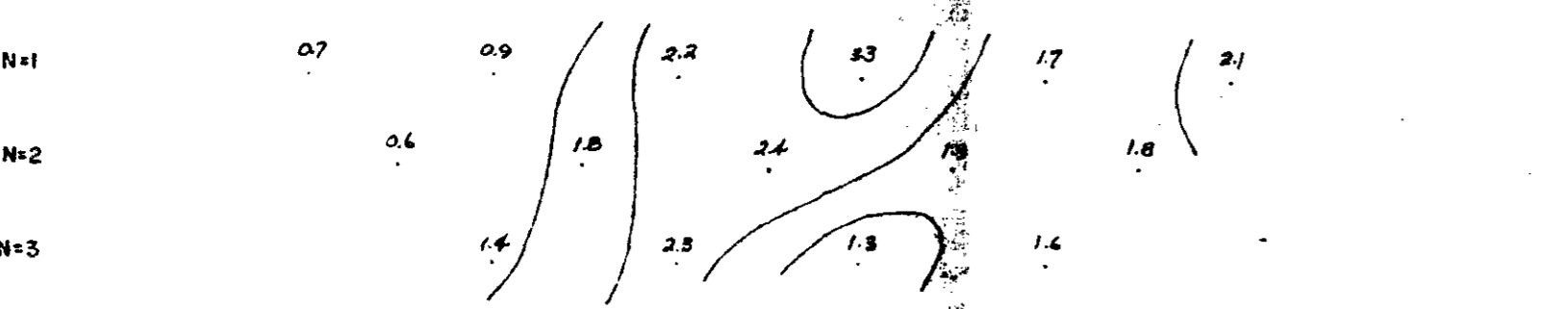


DIPOLE-DIPOLE CONFIGURATION

P.F.E.

FREQUENCIES 0.31 + 5.0 cps.

X = 300'



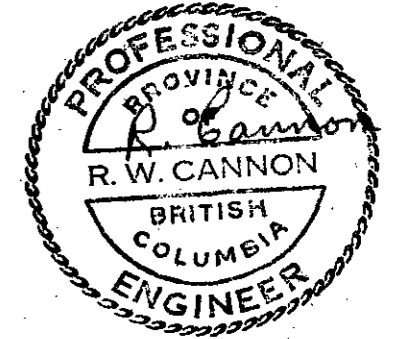
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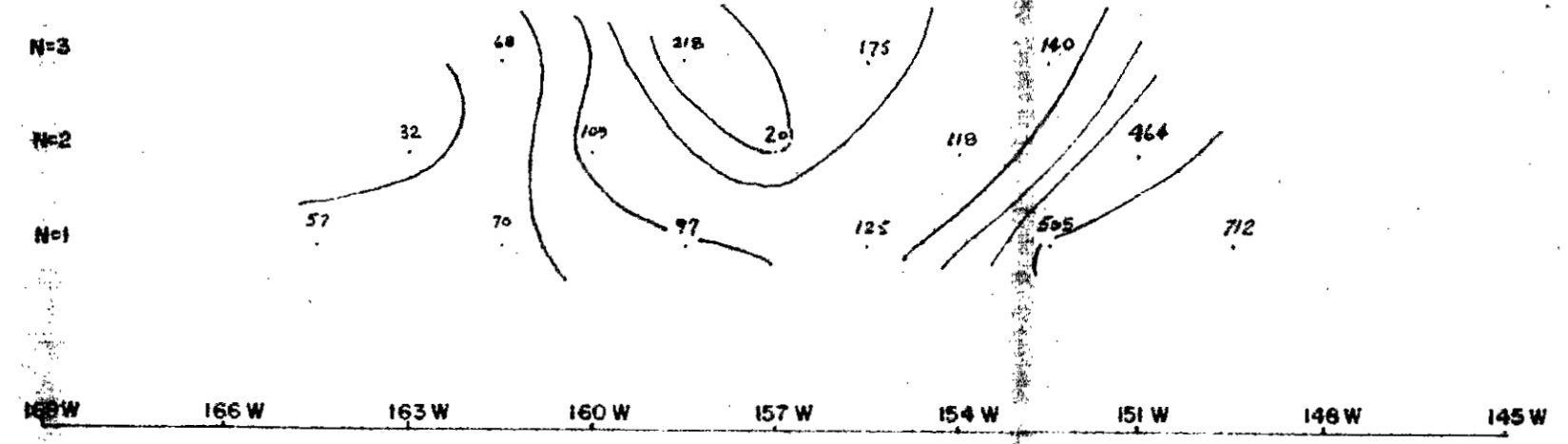
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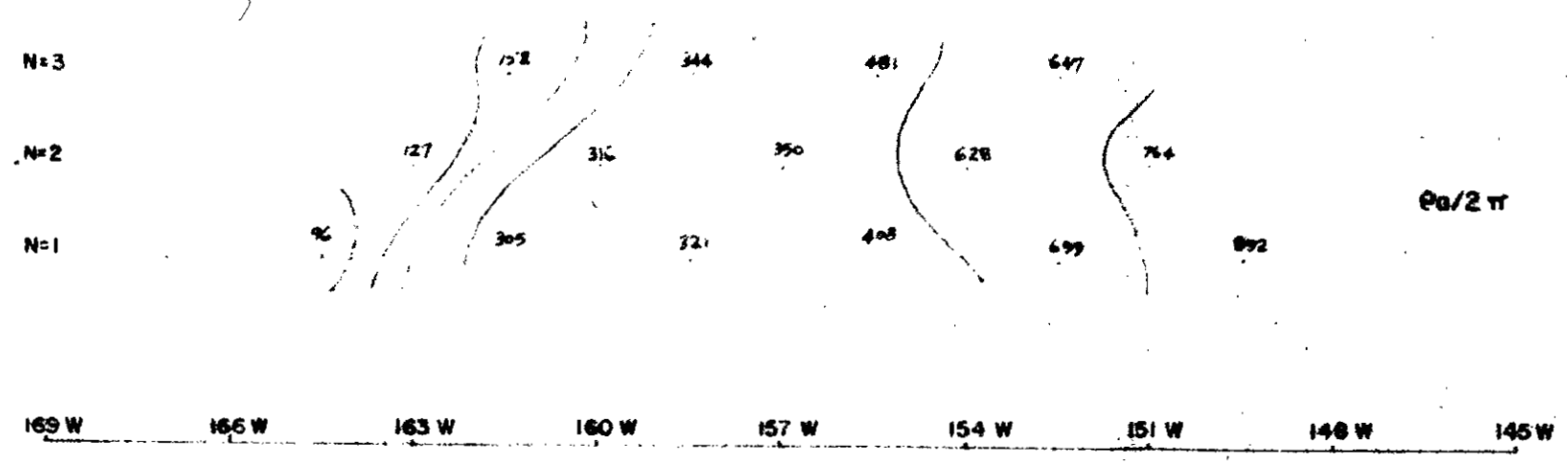
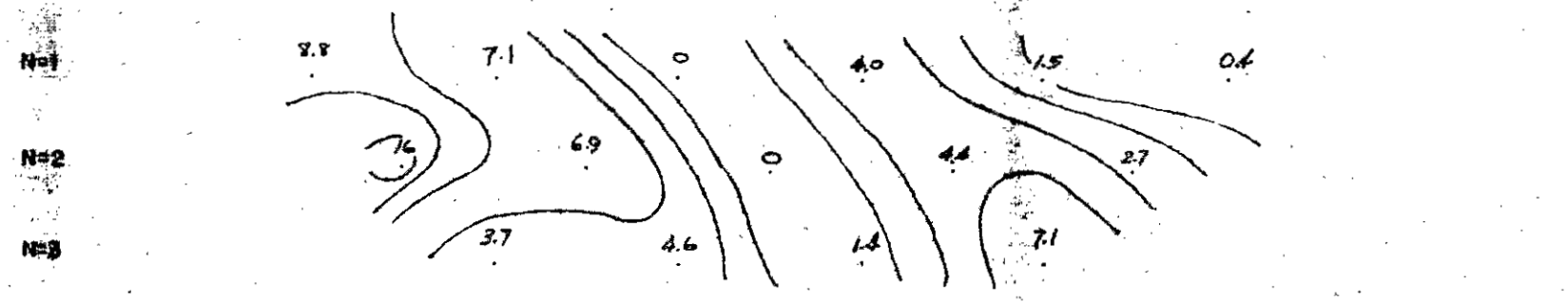
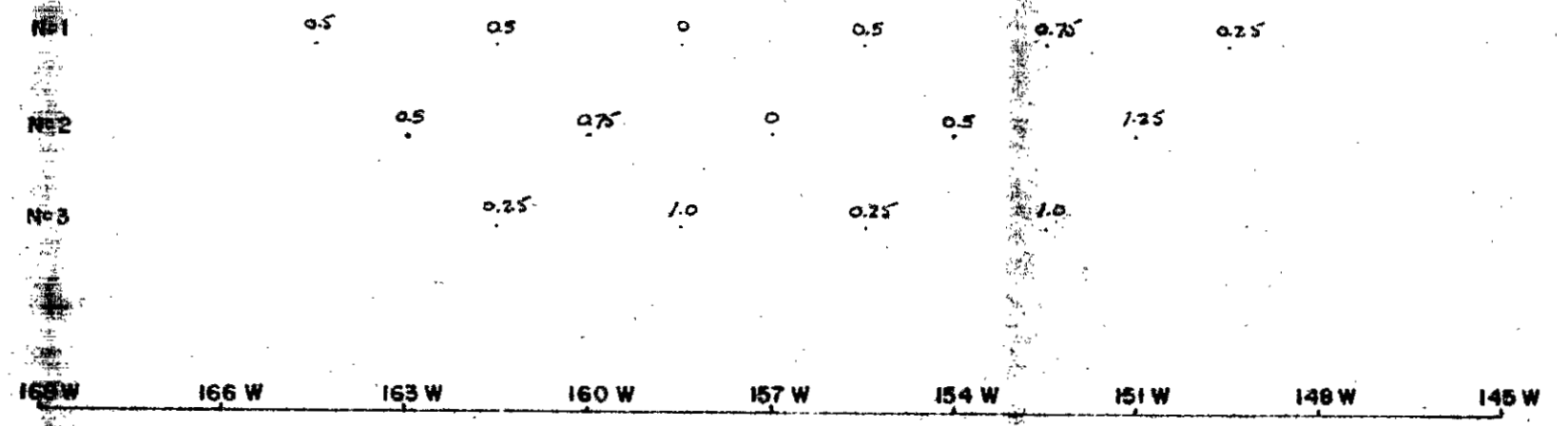
LOG 02

(M.F.)



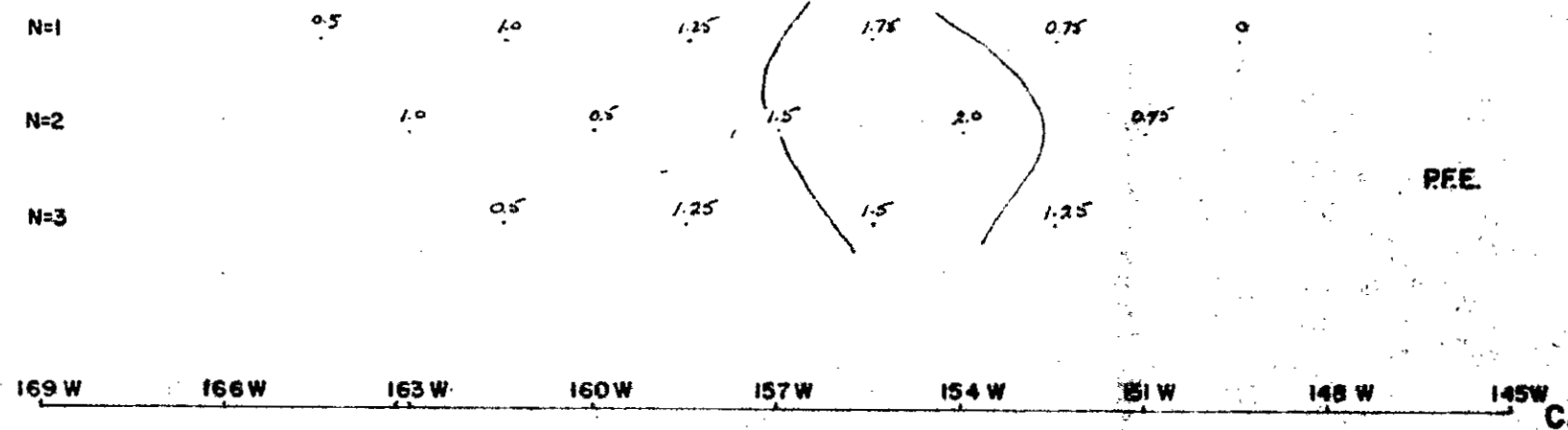


LINE 0+00



KEL-GLEN MINES LTD.

LINE 8+00 S



DIPOLE-DIPOLE CONFIGURATION

P.F.E.

FREQUENCIES 0.31 + 5.0 cps.

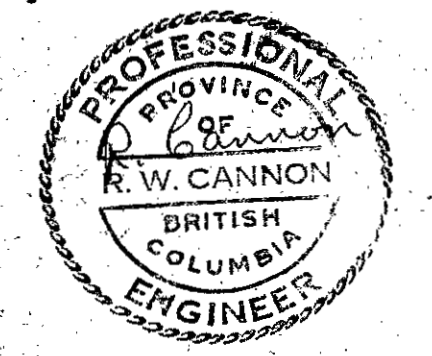
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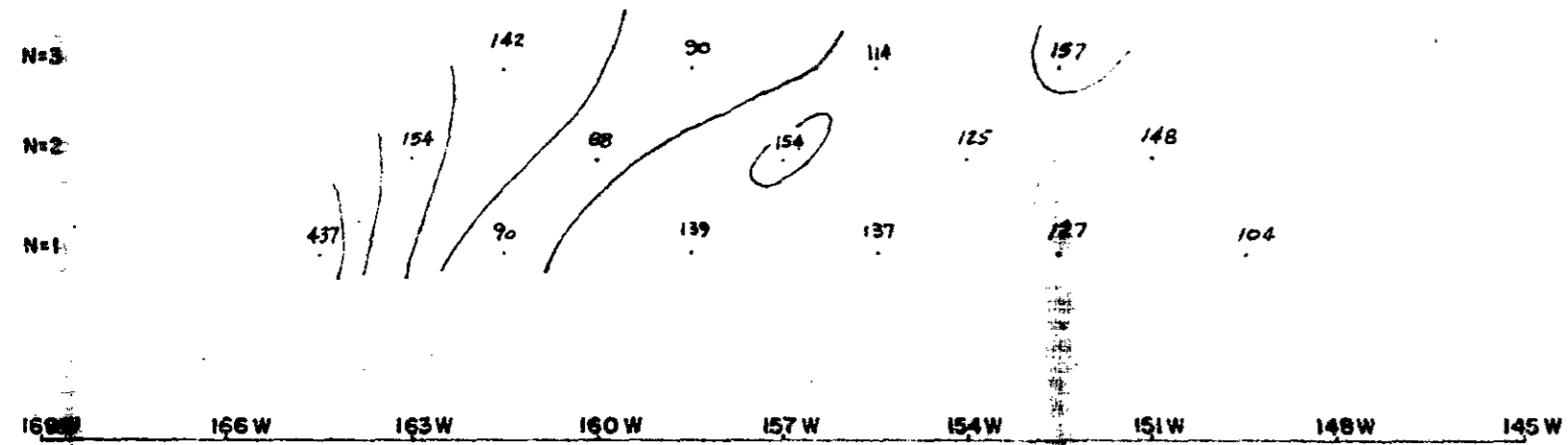
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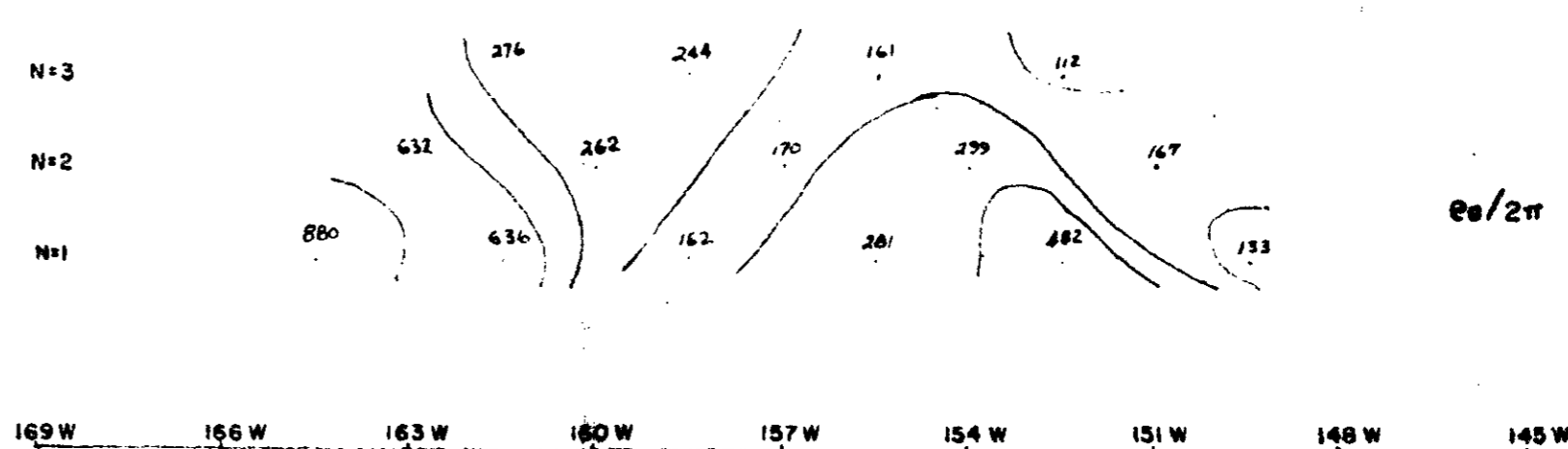
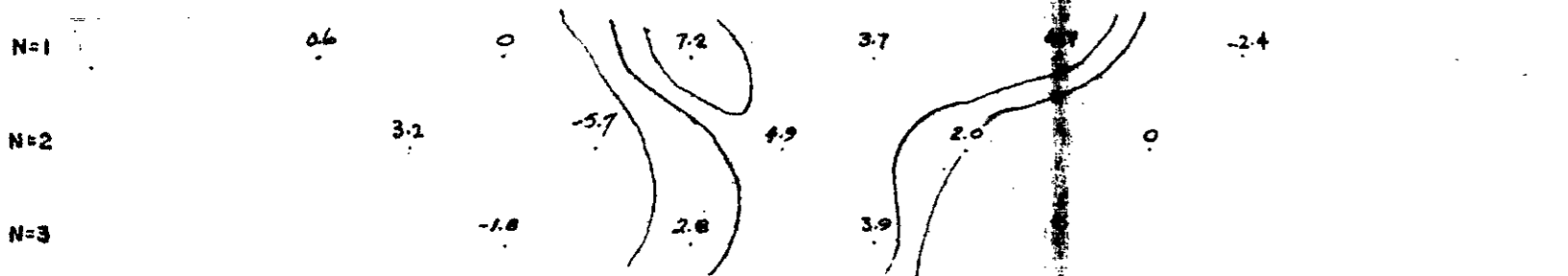
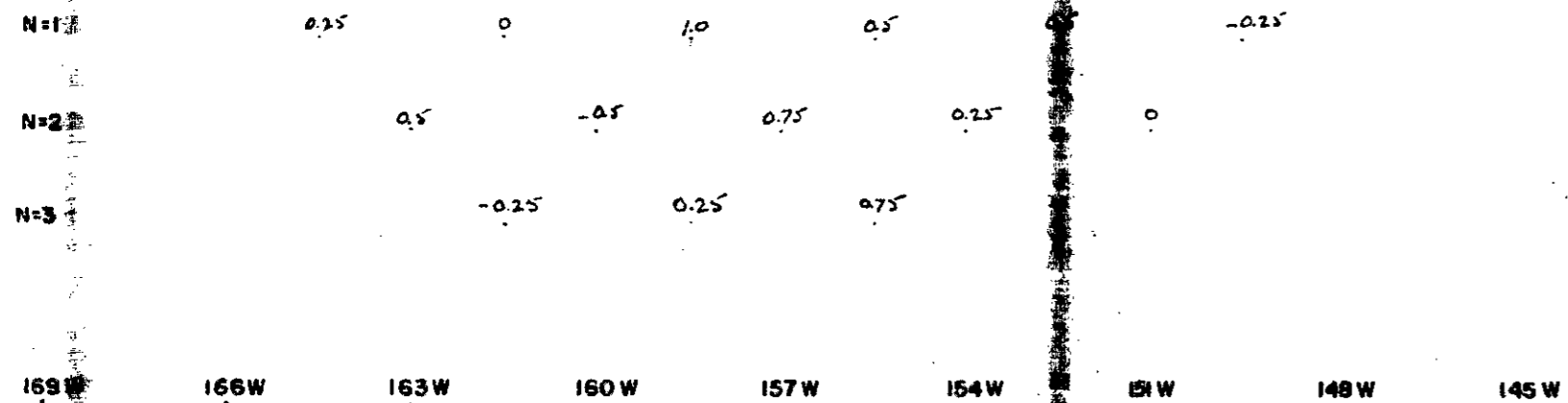
1710 LOG 03

(M.F.)



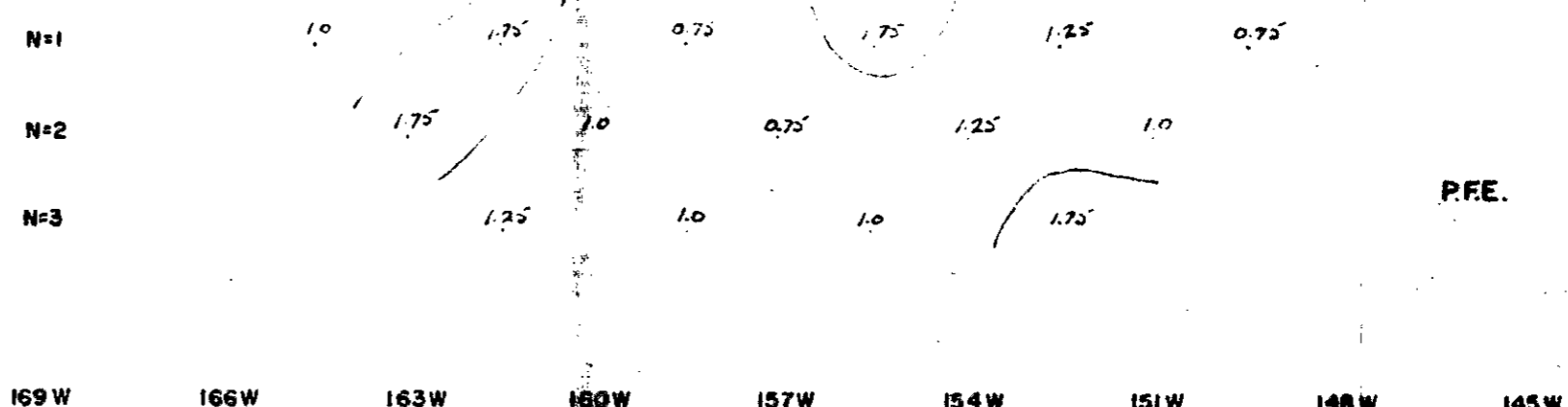


LINE 8+00 N



KEL-GLEN MINES LTD.

LINE 16+00 N

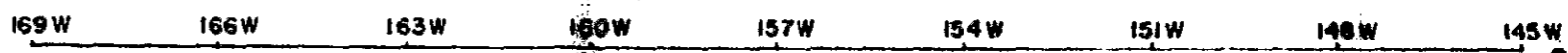


DIPOLE-DIPOLE CONFIGURATION

P.F.E.

FREQUENCIES 0.31+ 5.0 cps.

X = 300'



CANEX AERIAL EXPLORATION LTD.

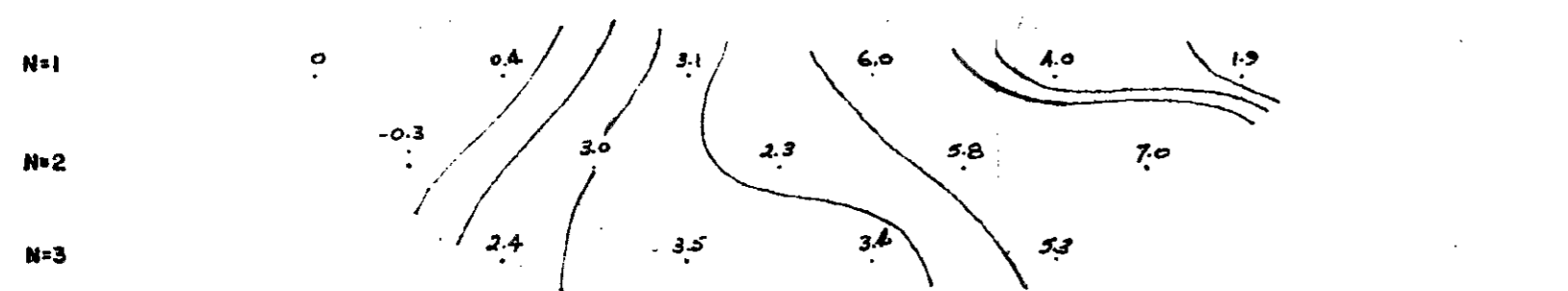
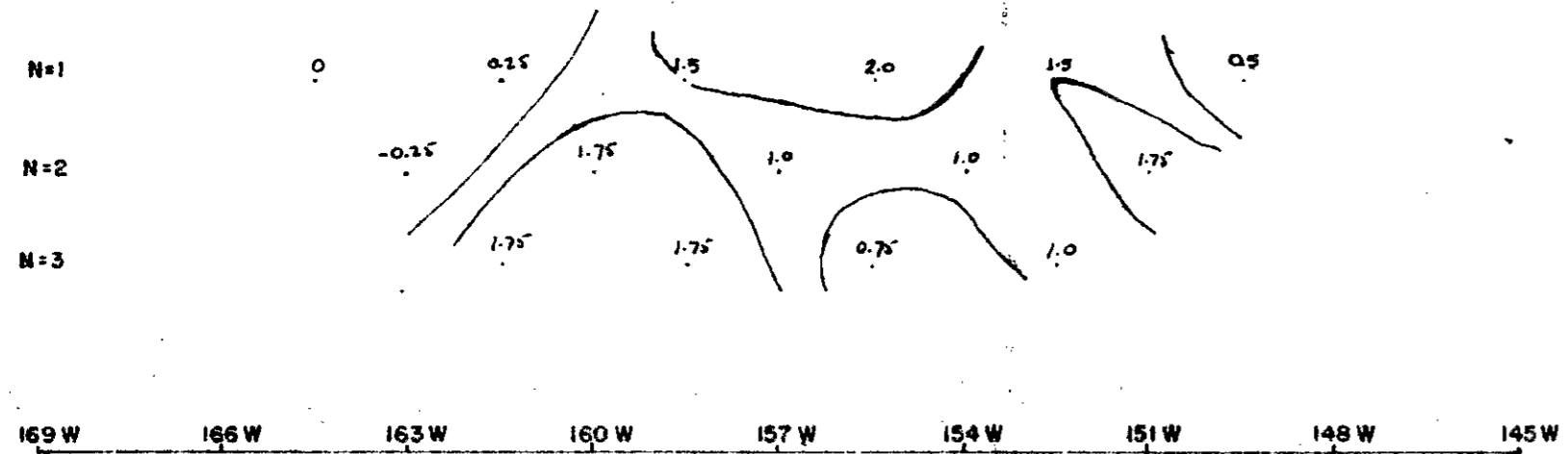
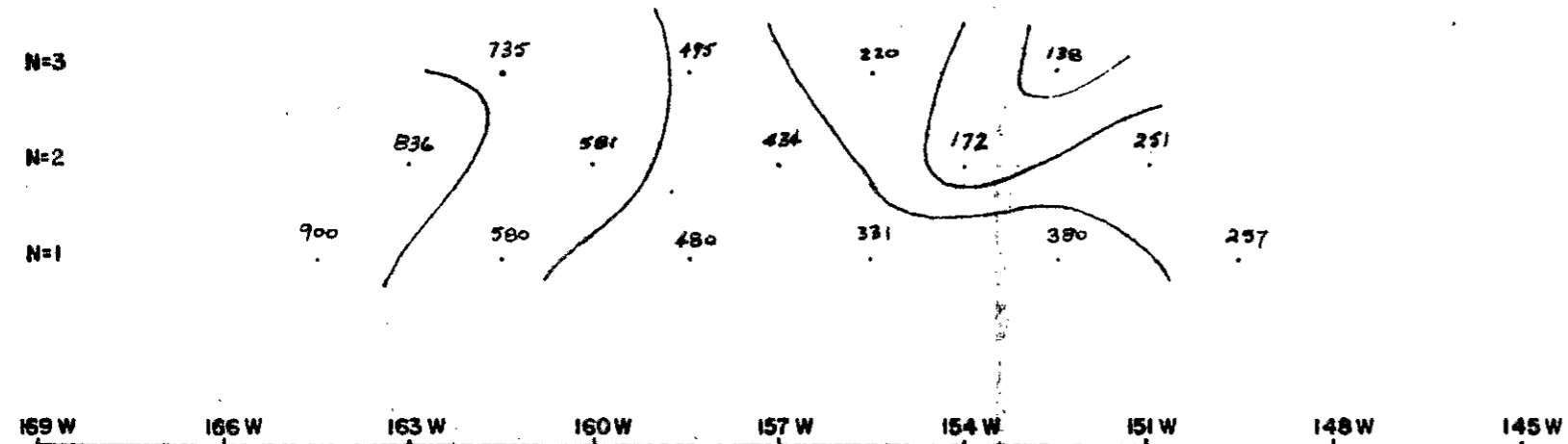
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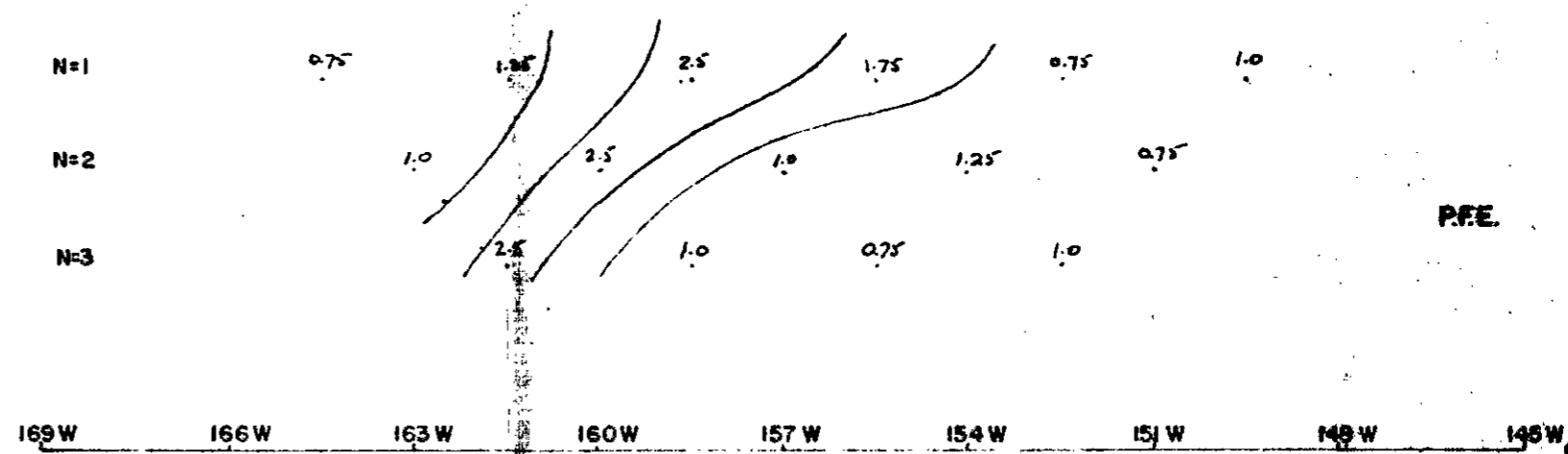
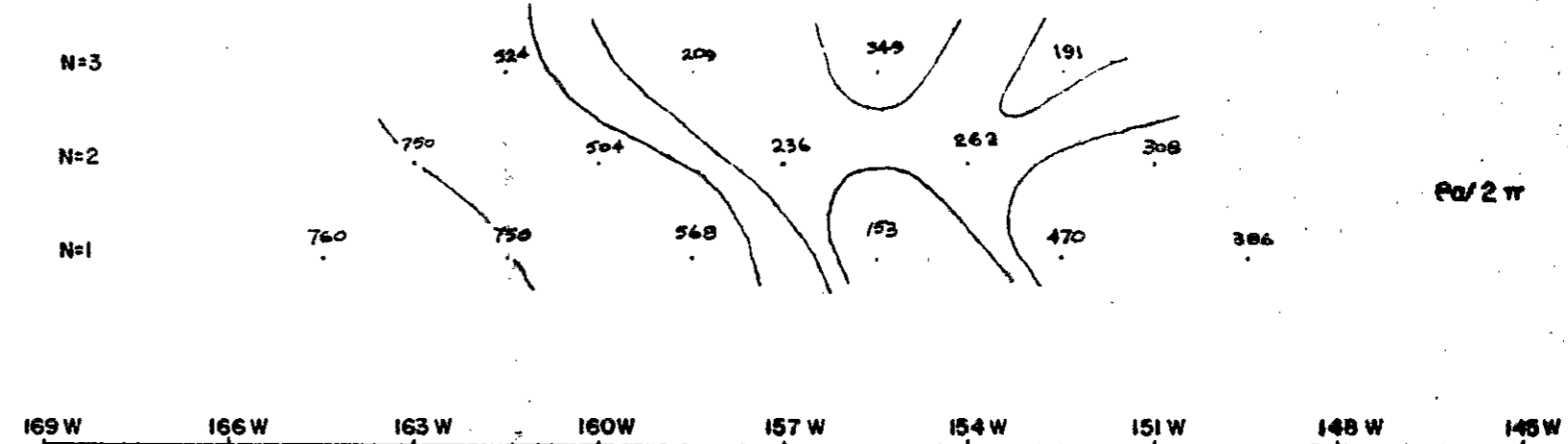
LOG 04

(M.F.)





LINE 32+00 N



KEL-GLEN MINES LTD.

LINE 24+00 N

DIPOLE-DIPOLE CONFIGURATION

P.F.E.

FREQUENCIES 0.31+5.0 cps.

X = 300'

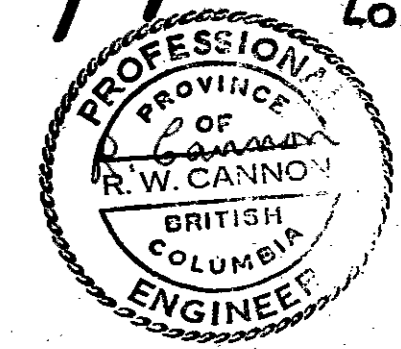
CANEX AERIAL EXPLORATION LTD.

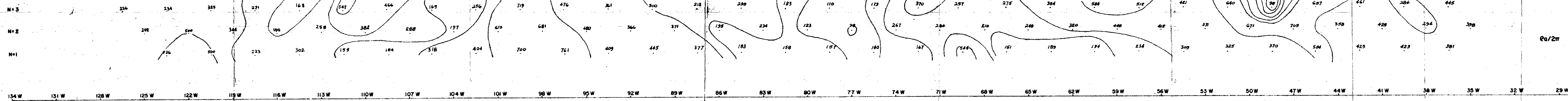
DRAWN BY J. THORNTON DATE: OCT. 1968

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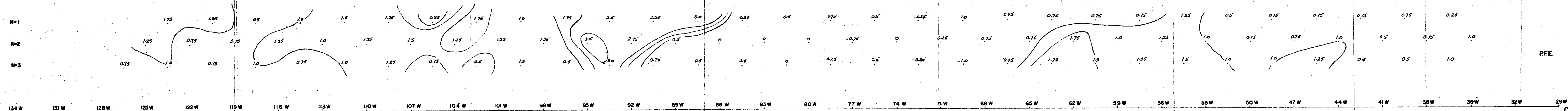
LOG 05

(M.F.)

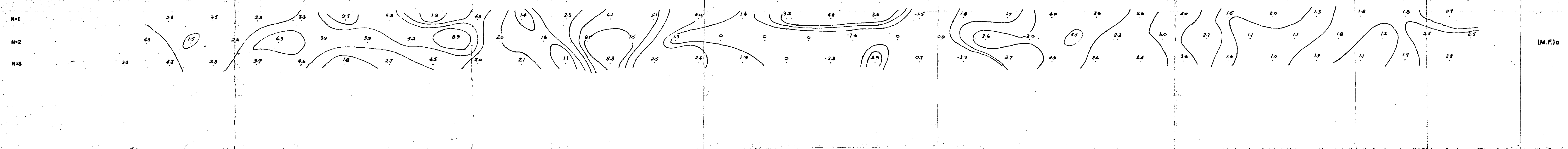




KEL-GLEN MINES LTD.

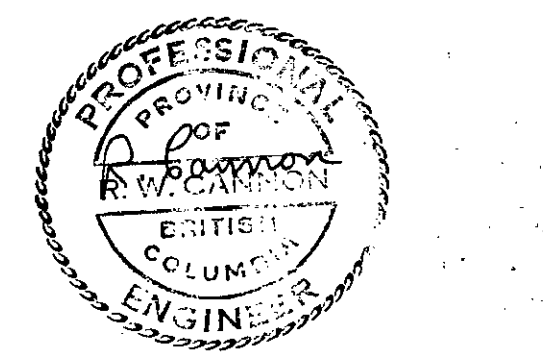


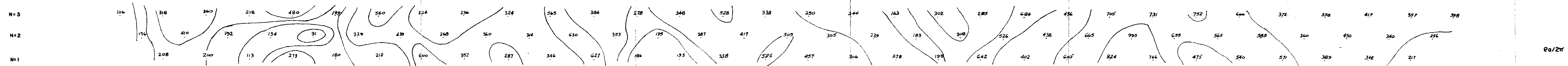
LINE 40+00 N  
 DIPOLE-DIPOLE CONFIGURATION  
 P.F.E. FREQUENCIES 0.31 + 5.0 cps.  
 X = 300'



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1710 LOG 06

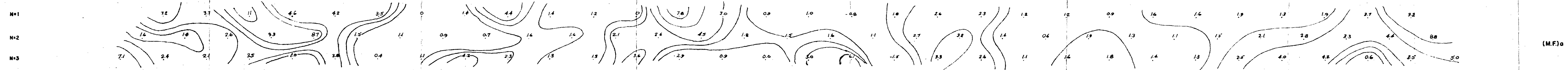




134 W 131 W 128 W 125 W 122 W 119 W 116 W 113 W 110 W 107 W 104 W 101 W 98 W 95 W 92 W 89 W 86 W 83 W 80 W 77 W 74 W 71 W 68 W 65 W 62 W 59 W 56 W 53 W 50 W 47 W 44 W 41 W 38 W 35 W 32 W 29 W 26 W

N=1			1.5	0.75	1.25	1.25	0.75	0.75	0.0	0.5	1.25	0.5	0.75	0.0	1.5	1.0	0.0	0.5	-0.25	0.5	0.5	1.5	0.5	1.0	1.0	1.25	0.75	1.0	0.75	0.75	1.25	2.0	
N=2			0.15	0.75	0.5	1.25	0.75	0.5	0.5	0.25	0.25	0.5	1.0	0.75	0.5	1.75	0.75	0.75	0.5	0.25	0.5	1.0	0.75	0.25	1.25	1.25	0.75	1.0	1.25	1.0	1.5	1.5	2.25
N=3			0.75	0.75	0.75	0.75	0.5	0.25	0.25	1.0	0.75	0.75	0.5	1.0	-1.0	0.5	0.0	0.75	1.5	-0.25	1.0	0.75	0.75	0.75	1.25	1.0	1.0	1.5	1.5	1.5	0.25	1.25	2.0

134 W 131 W 128 W 125 W 122 W 119 W 116 W 113 W 110 W 107 W 104 W 101 W 98 W 95 W 92 W 89 W 86 W 83 W 80 W 77 W 74 W 71 W 68 W 65 W 62 W 59 W 56 W 53 W 50 W 47 W 44 W 41 W 38 W 35 W 32 W 29 W 26 W



KEL-GLEN MINES LTD.

LINE 48+00 N

DIPOLE-DIPOLE CONFIGURATION

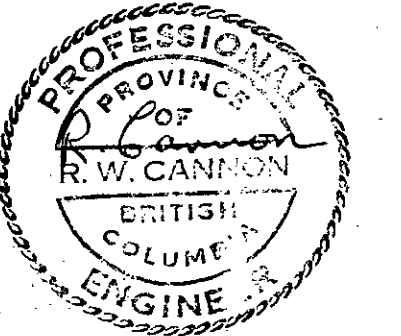
FREQUENCIES 0.31+5.0 cps.

X = 300'

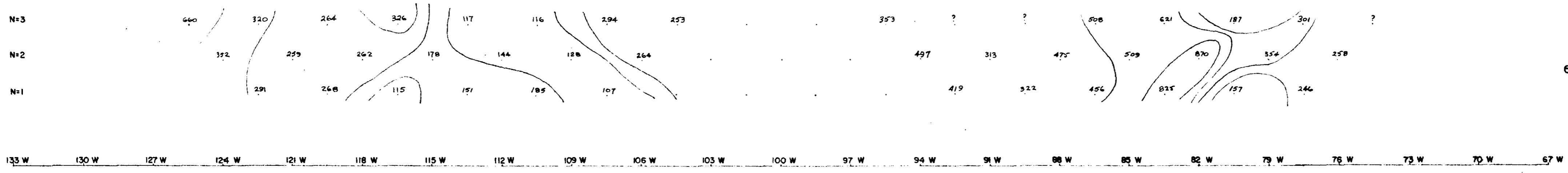
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1710 LOG 07

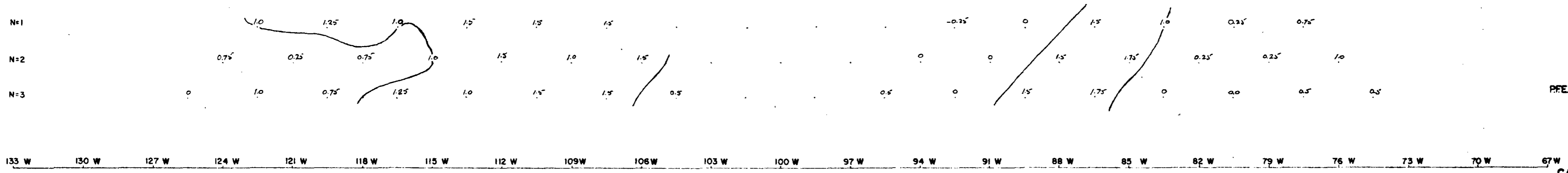


LOG 07  
1710



Co/2T

KEL-GLEN MINES LTD.



LINE 56+00 N

DIPOLE-DIPOLE CONFIGURATION  
 PFE FREQUENCIES 0.31+5.0 cps.

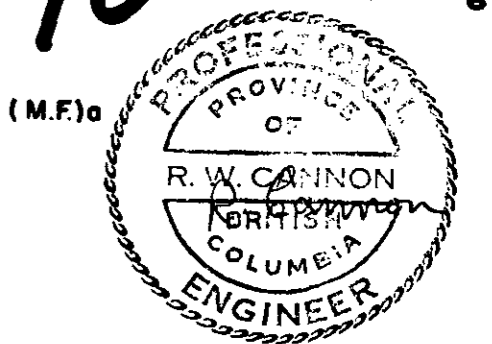
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CANEX AERIAL EXPLORATION LTD.

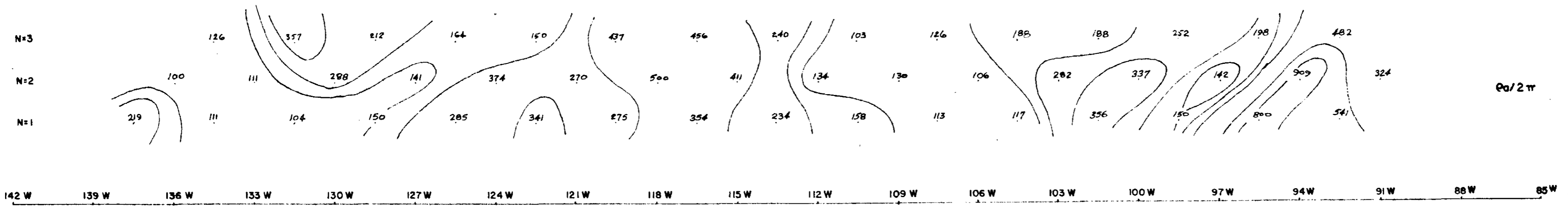
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1710 LOG 08







$\rho_a/2\pi$

KEL-GLEN MINES LTD.

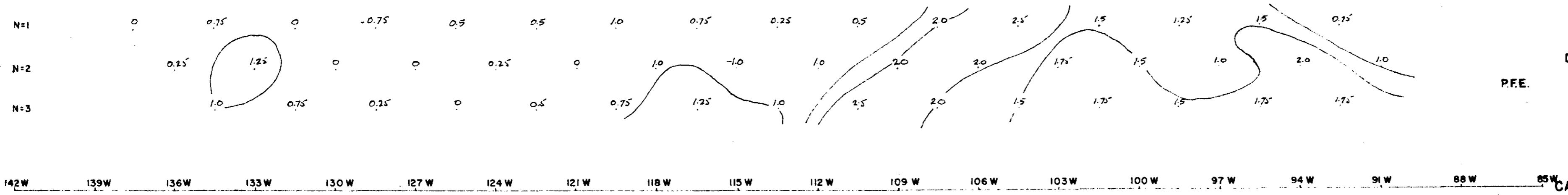
LINE 64+00 N

DIPOLE-DIPOLE CONFIGURATION

P.F.E.

FREQUENCIES 0.31+5.0 cps.

X = 300'

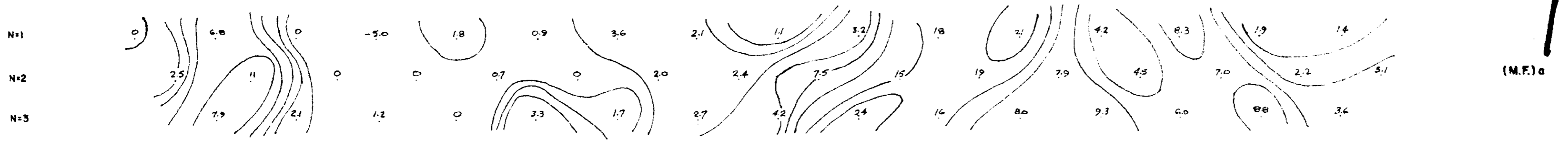


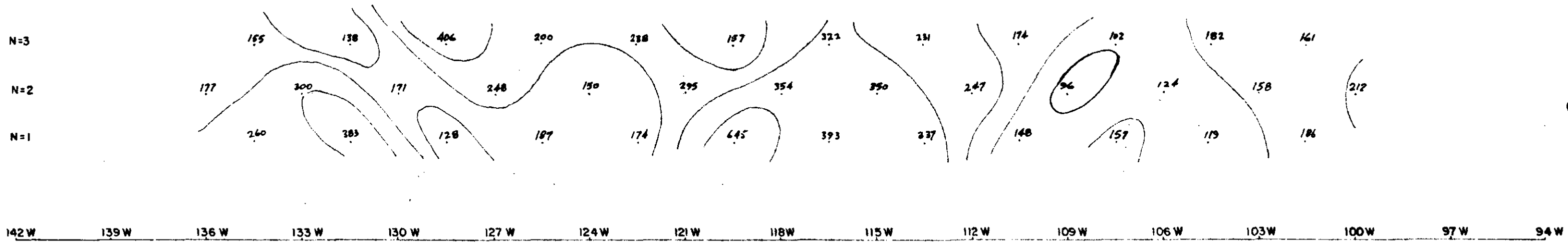
CANEX AERIAL EXPLORATION LTD.

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1710 LOG 09

(M.F.)<sup>a</sup>





$E_0/2\pi$

142 W 139 W 136 W 133 W 130 W 127 W 124 W 121 W 118 W 115 W 112 W 109 W 106 W 103 W 100 W 97 W 94 W

KEL-GLEN MINES LTD.

Coordinate	N=1	N=2	N=3
142 W			
139 W	0.75	0.75	0.75
136 W	0.75	0.5	0.25
133 W	0.25	0.5	1.0
130 W	0.5	0.25	0.5
127 W	0.75	0.5	0.5
124 W	1.0	0.75	0.75
121 W	0.5	0.5	1.0
118 W	0.75	1.5	0.5
115 W	1.0	1.25	1.0
112 W	1.0	0	0.5
109 W	-2.25	0.25	0.25
106 W	0.25	0.25	0.5
103 W			
100 W			
97 W			
94 W			

LINE 72+00 N

DIPOLE - DIPOLE CONFIGURATION

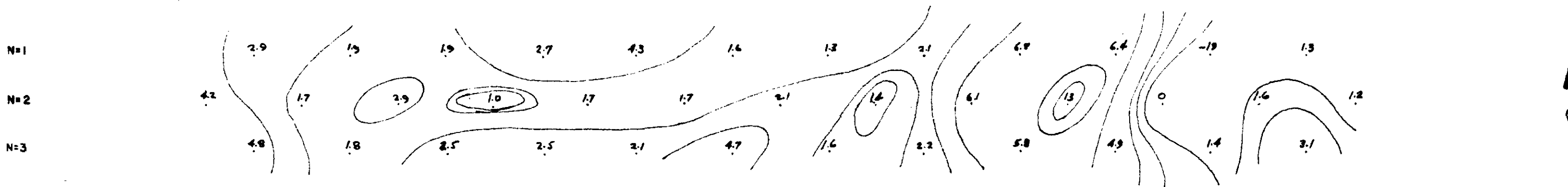
PFE FREQUENCIES 0.31+5.0 cps.

X = 300'

142 W 139 W 136 W 133 W 130 W 127 W 124 W 121 W 118 W 115 W 112 W 109 W 106 W 103 W 100 W 97 W 94 W

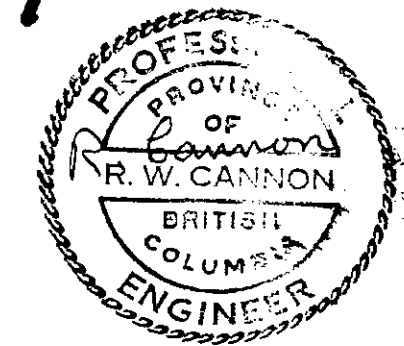
CANEX AERIAL EXPLORATION LTD.

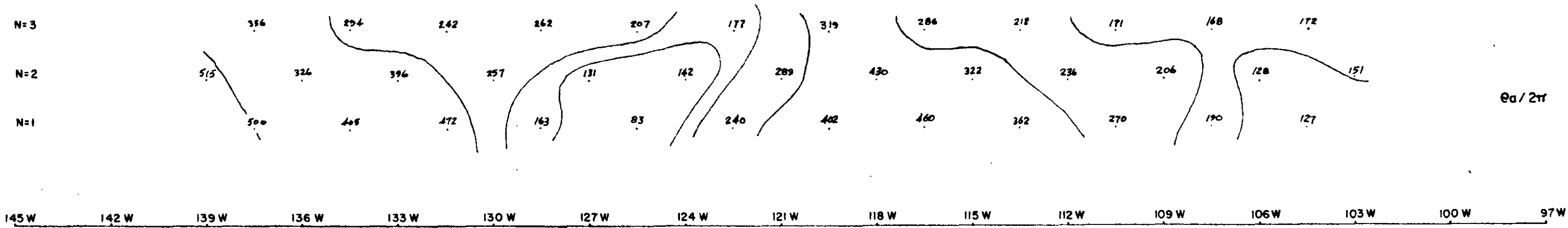
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1710 LOG 10

(M.F.)

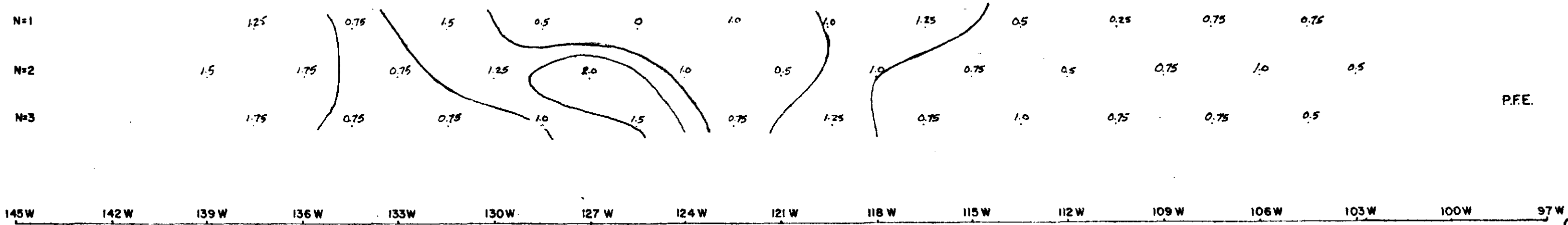




$\Theta_d / 2\pi$

KEL-GLEN MINES LTD.

LINE 80+00 N



DIPOLE-DIPOLE CONFIGURATION

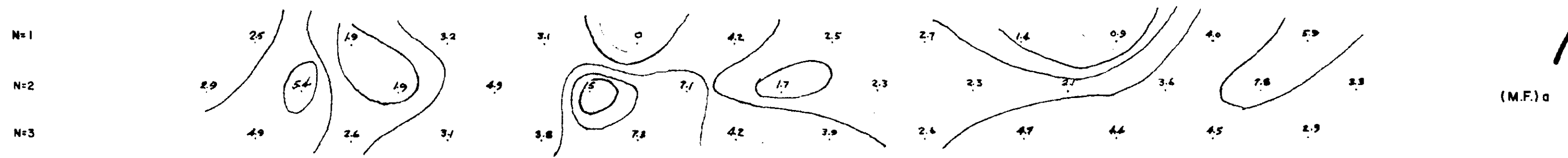
P.F.E.

FREQUENCIES 0.31 + 5.0 cps.

X = 300'

CANEX AERIAL EXPLORATION LTD.

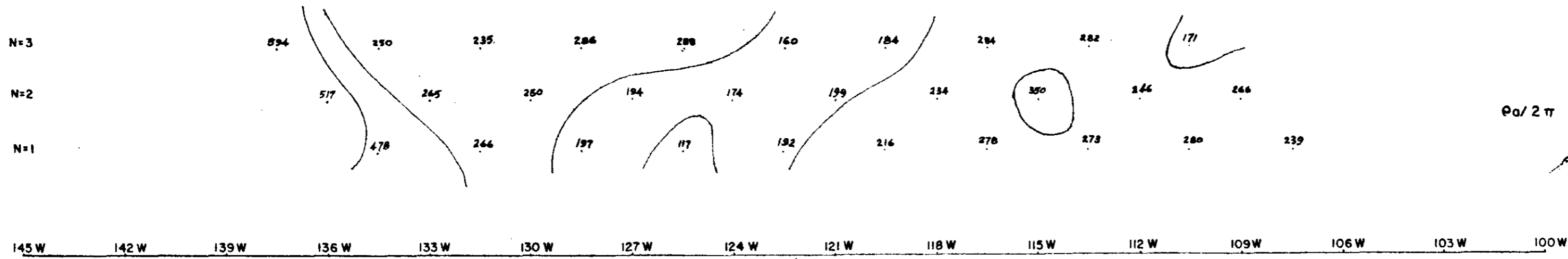
DRAWN BY J. THORNTON DATE: OCT. 1968



(M.F.)<sub>a</sub>

1710 LOG 11





KEL-GLEN MINES LTD.

LINE 88+00 N

N=1	0.5	0.75	0.25	0.25	0.5	0.5	1.0	0.75	1.0	0.75
N=2	0.75	0.25	0.6	0	0.6	0.75	0.25	0.5	0.75	0.75
N=3	1.0	0.5	0	0.25	0.75	0.5	0.5	0.25	0.75	1.0

DIPOLE-DIPOLE CONFIGURATION

P.F.E.

FREQUENCIES 0.31+5.0 cps.

X = 300'



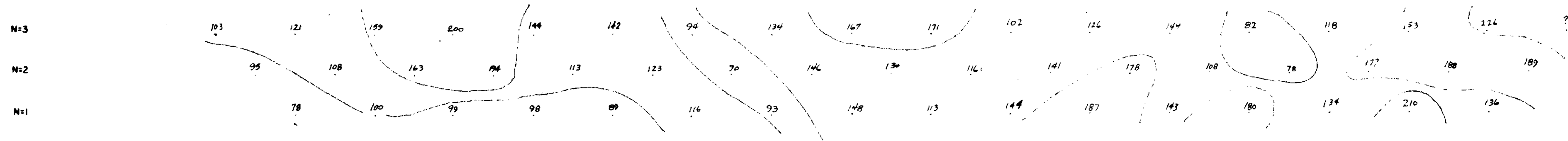
CANEX AERIAL EXPLORATION LTD.

DRAWN BY J. THORNTON DATE: OCT. 1968

1710 LOG 12

(M.F.)a





Eq/2π

129 W 126 W 123 W 120 W 117 W 114 W 111 W 108 W 105 W 102 W 99 W 96 W 93 W 90 W 87 W 84 W 81 W 78 W 75 W 72 W 69 W 66 W

KEL-GLEN MINES LTD.

LINE 104+00 N

N=1		1.0	1.25	1.0	1.0	1.25	0.75	0.5	0.5	1.0	1.25	1.0	1.25	1.75	0.5	0.25	0.25	
N=2		1.0	0.75	1.0	1.0	1.0	0.75	0.5	0.5	1.0	0.5	1.25	1.0	0.75	0	1.0	0.25	
N=3		0.75	0.75	0.75	1.25	1.25	1.25	0.5	0.75	0.5	0.75	0	0.75	1.0	1.25	0	0.5	1.25

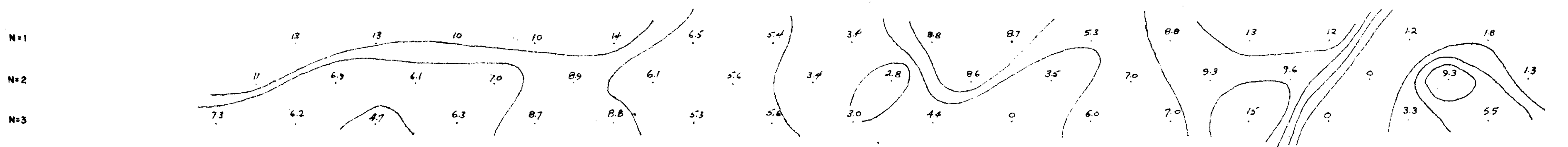
DIPOLE-DIPOLE CONFIGURATION

PFE. FREQUENCIES 0.31 + 5.0 cps.

X = 300'

129 W 126 W 123 W 120 W 117 W 114 W 111 W 108 W 105 W 102 W 99 W 96 W 93 W 90 W 87 W 84 W 81 W 78 W 75 W 72 W 69 W

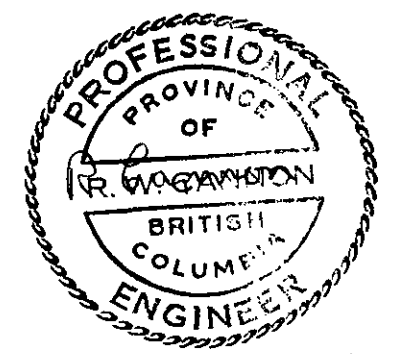
CANEX AERIAL EXPLORATION LTD.

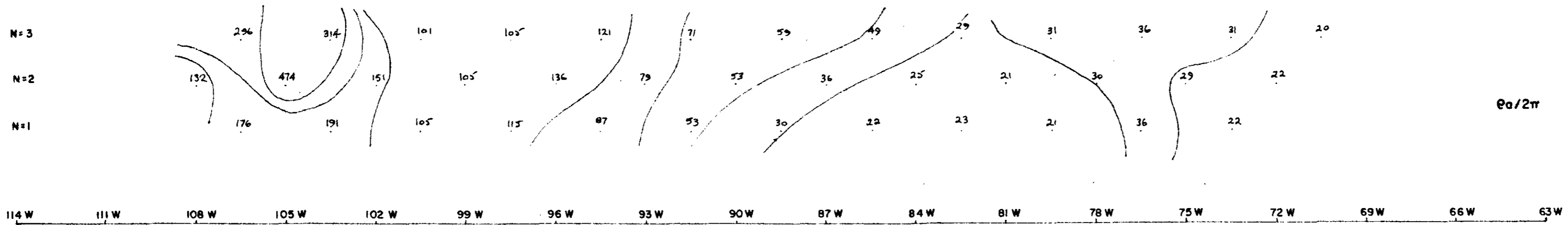


DRAWN BY J. THORNTON DATE: OCT. 1968

1710 LOG 13

(M.F.)a





$\rho_a / 2\pi$

KEL-GLEN MINES LTD.

LINE 112+00 N

N=1		0.75	-0.25	0.5	1.75	-0.25	0.75	1.25	-0.25	-0.75	1.0	0.5	0.5	
N=2		0.5	1.0	0.75	1.0	0.5	0.5	1.0	0.25	0	1.25	0.25	-0.25	0.75
N=3		-0.25	1.0	1.25	1.0	0.5	0.5	1.0	0	0	1.25	0.25	0	0.5

DIPOLE-DIPOLE CONFIGURATION

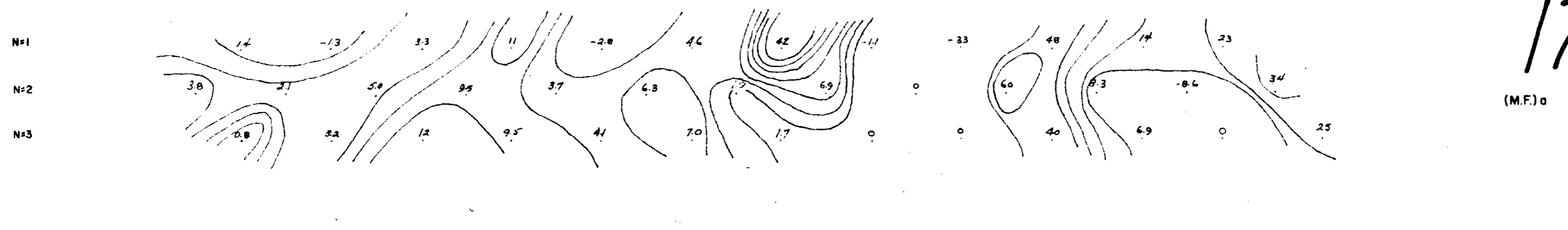
P.F.E.

FREQUENCIES 0.31+ 5.0 cps.

X = 300'

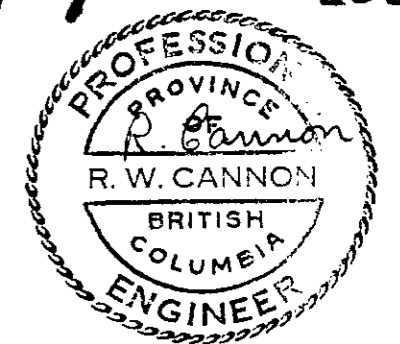
CANEX AERIAL EXPLORATION LTD.

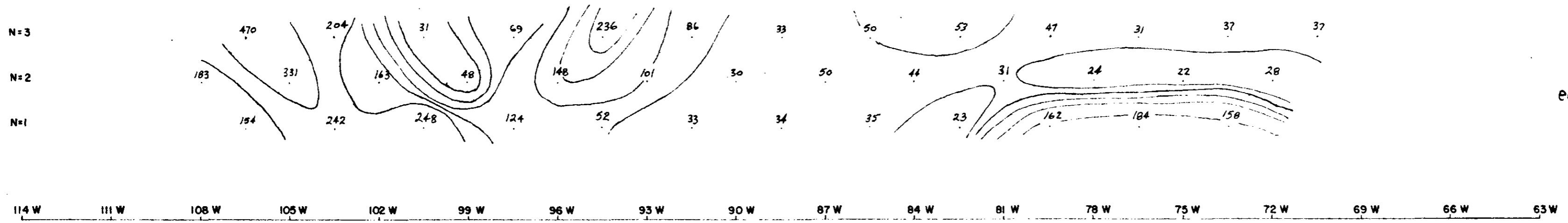
DRAWN BY J. THORNTON DATE: OCT. 1968



1710 LOG 14

(M.F.) a





$\rho_a/2\pi$

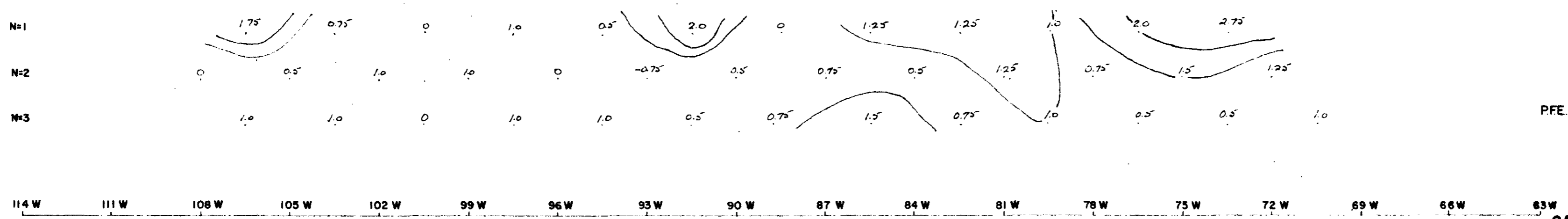
KEL-GLEN MINES LTD.

LINE 120+00 N

DIPOLE-DIPOLE CONFIGURATION

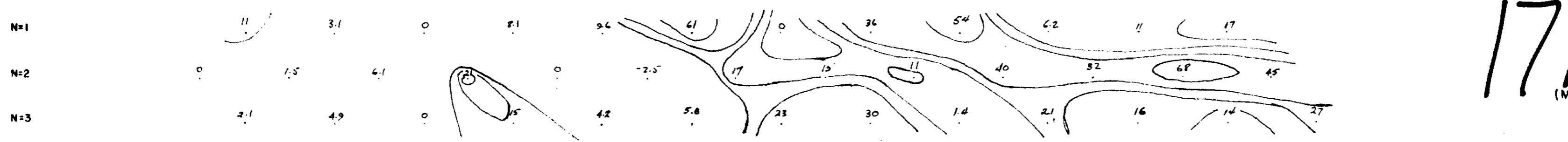
P.F.E. FREQUENCIES 0.31+5.0 cps.

X = 300'

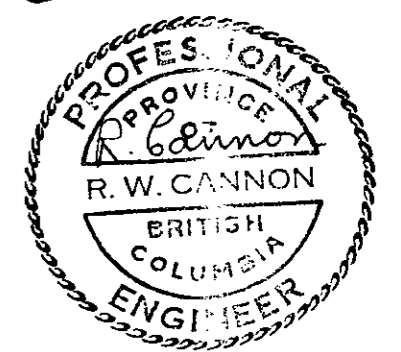


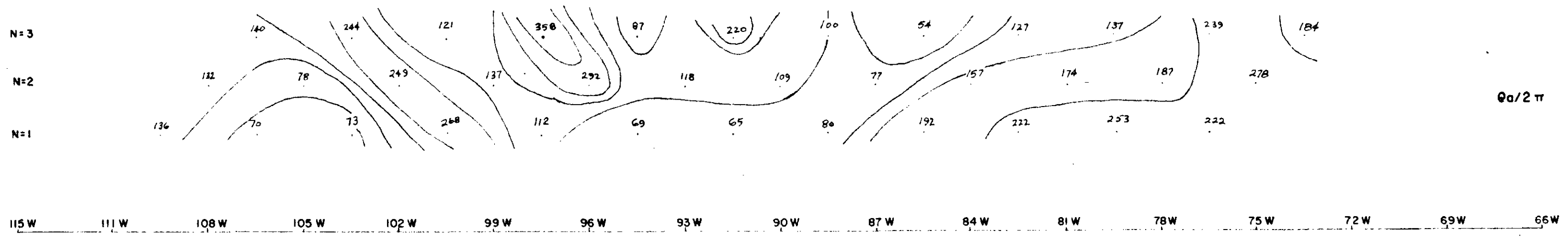
CANEX AERIAL EXPLORATION LTD.

DRAWN BY J. THORNTON DATE OCT. 1968



1710 LOG 15  
(M.F.)





KEL-GLEN MINES LTD.

LINE 128+00 N

N=1		1.0	0.75	1.25	1.0	0.25	0.75	0.5	0.75	0.5	0.25	1.0	1.0				
N=2		0.5	1.5	1.0	0.25	1.0	1.0	0.5	0	0.75	0.75	0.75	0.5				
N=3			1.5	0.5	0.5	0.75	0.75	1.0	0.25	0.25	0	0.75	1.0	0.25			
	115 W	111 W	108 W	105 W	102 W	99 W	96 W	93 W	90 W	87 W	84 W	81 W	78 W	75 W	72 W	69 W	66 W

DIPOLE-DIPOLE CONFIGURATION

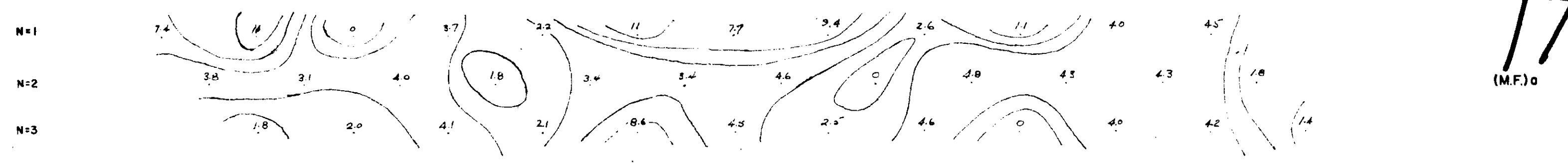
P.F.E.

FREQUENCIES 0.31+5.0 cps.

X = 300'

CANEX AERIAL EXPLORATION LTD.

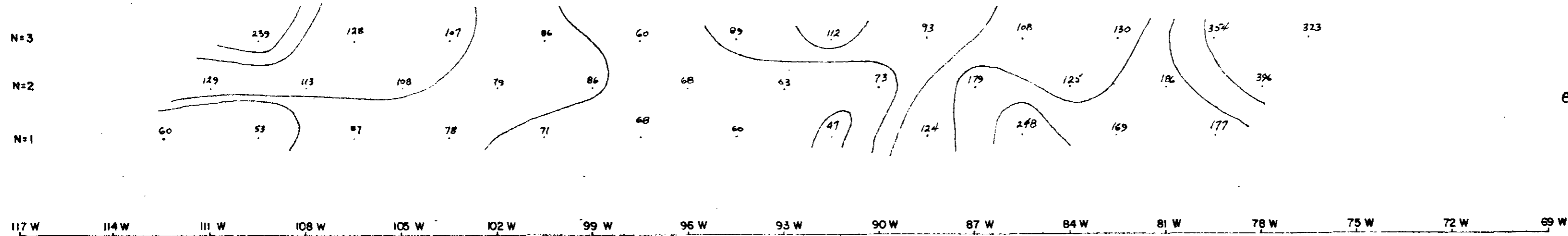
DRAWN BY J. THORNTON DATE: OCT. 1968



1710 LOG 16  
(M.F.) 0







Ea/2π

KEL-GLEN MINES LTD.

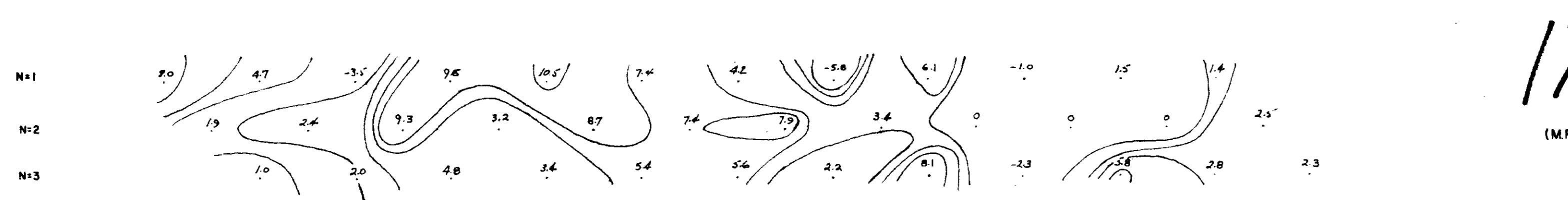
LINE 136+00 N

	117 W	114 W	111 W	108 W	105 W	102 W	99 W	96 W	93 W	90 W	87 W	84 W	81 W	78 W	75 W	72 W	69 W
N=1		0.5	0.25	-0.25	0.75	0.75	0.5	0.25	-0.25	1.0	-0.25	0.25	0.25				
N=2		0.25	0.25	1.0	0.25	0.75	0.5	0.5	0.25	0	0	0	0	1.0			
N=3		0.25	0.25	0.5	0.25	0.5	0.5	0.5	0.25	1.0	0.25	0.75	1.0	0.75			

DIPOLE-DIPOLE CONFIGURATION  
P.F.E. FREQUENCIES 0.31+5.0 cps.

X = 300'

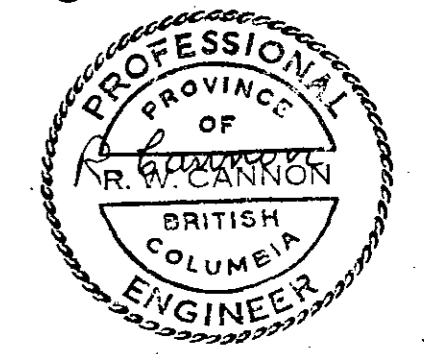
CANEX AERIAL EXPLORATION LTD.

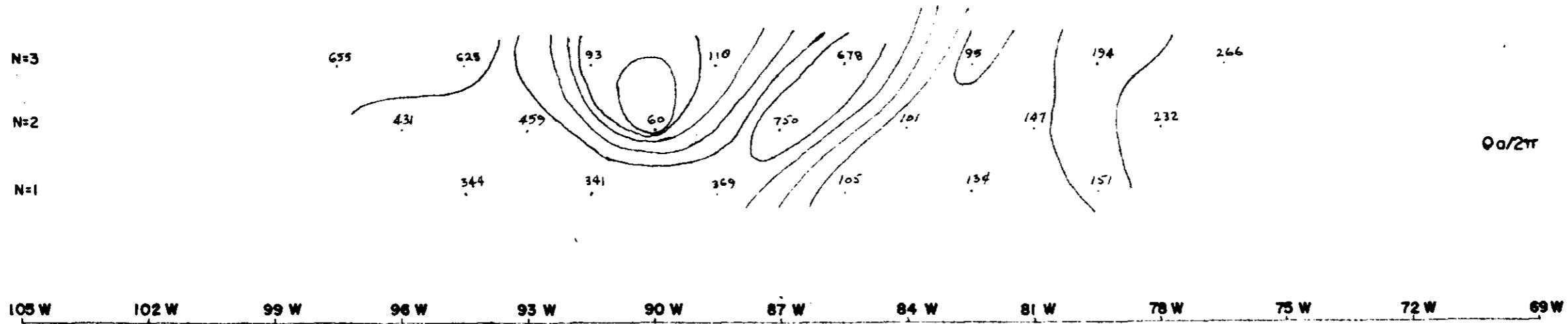


DRAWN BY J. THORNTON DATE: OCT. 1968

1710 LOG 17

(M.F.)a





0a/2π

KEL-GLEN MINES LTD.

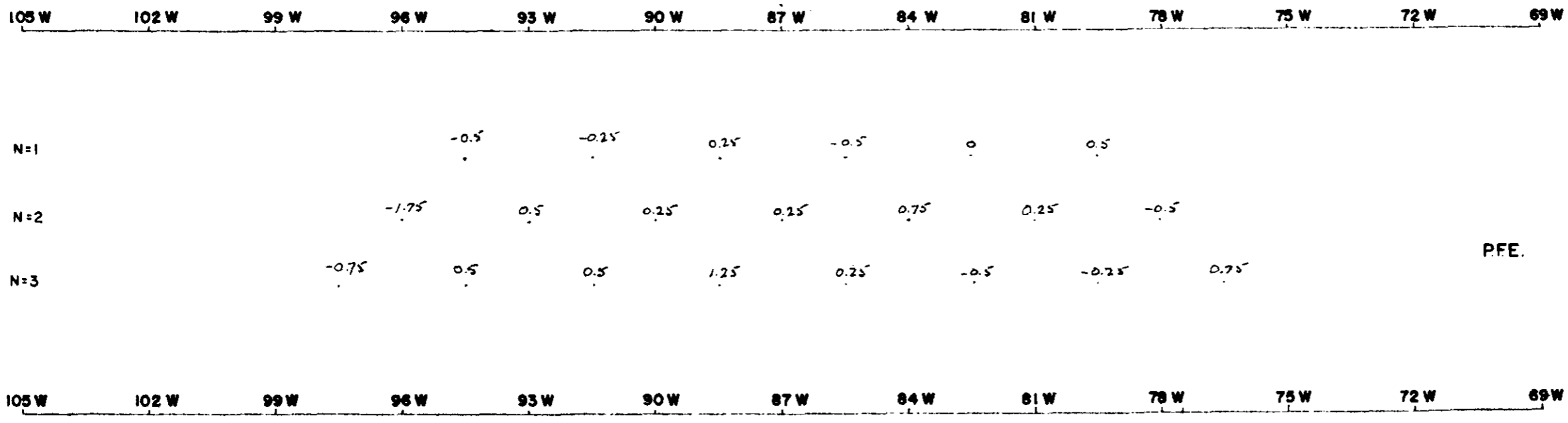
LINE 144+00N

DIPOLE-DIPOLE CONFIGURATION

P.F.E.

FREQUENCIES 0.31+ 5.0 cps.

X = 300'



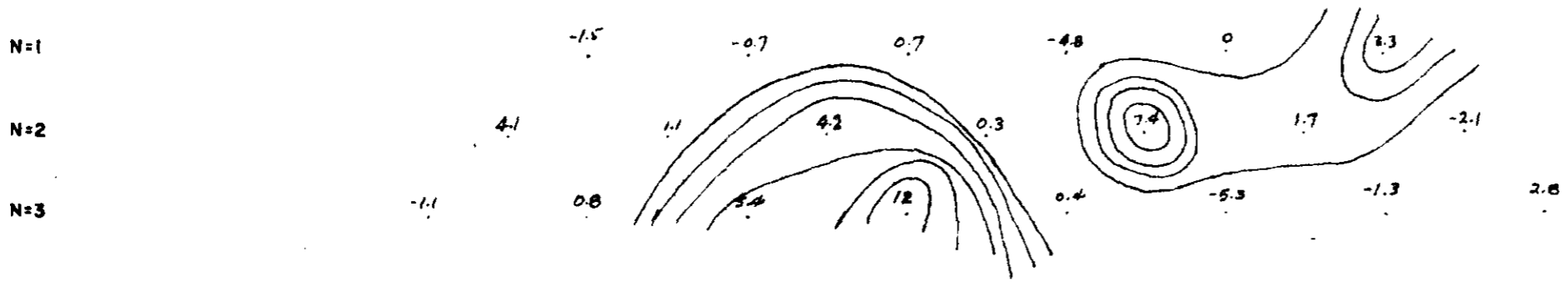
CANEX AERIAL EXPLORATION LTD.

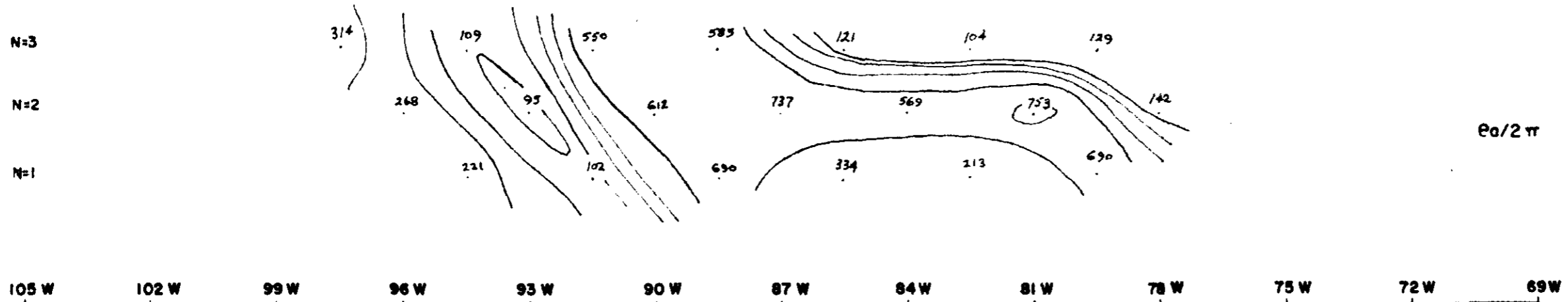
DRAWN BY J. THORNTON DATE: OCT. 1968

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LOG 18

(M.F.)a





$\rho_0/2\pi$

KEL-GLEN MINES LTD.

LINE 152+00 N

N=1		0.75	0.25	0.5	0.25	0.75	1.0		
N=2		0.75	0.5	1.0	1.25	1.0	0.75	1.25	
N=3		0.75	1.0	0.5	0.5	1.0	1.25	0.75	

105 W 102 W 99 W 96 W 93 W 90 W 87 W 84 W 81 W 78 W 75 W 72 W 69 W

DIPOLE-DIPOLE CONFIGURATION

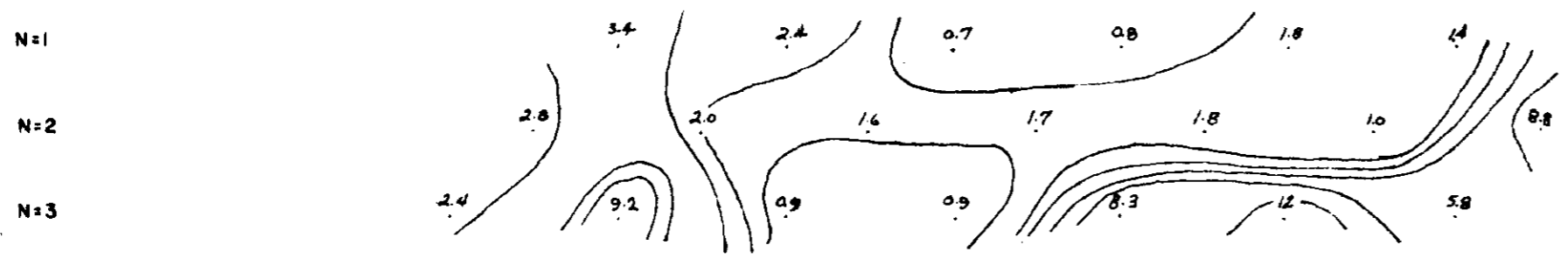
P.F.E.

FREQUENCIES 0.31 + 5.0 cps.

X = 300'

CANEX AERIAL EXPLORATION LTD.

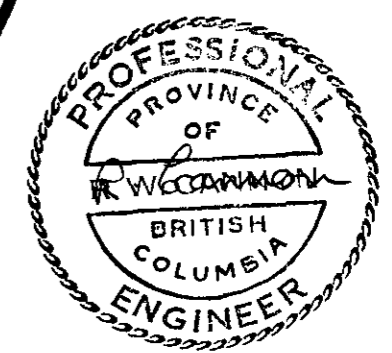
DRAWN BY J. THORNTON DATE: OCT. 1968

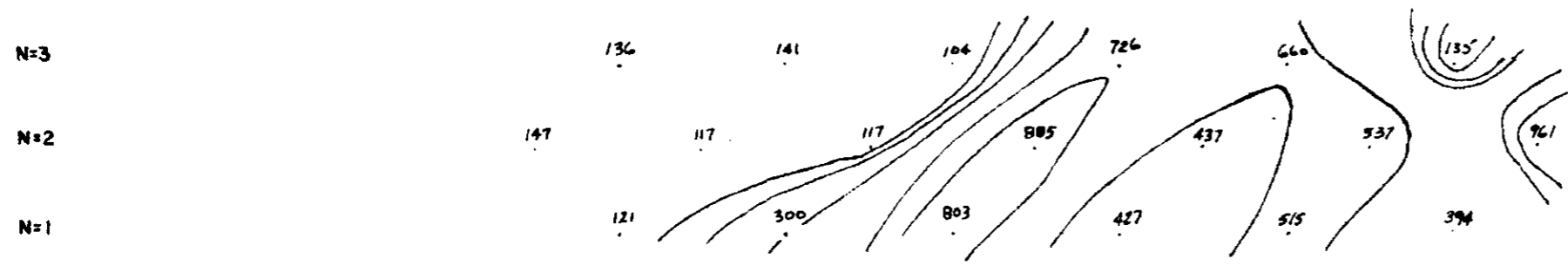


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(M.F.) a

LOG 19





105 W 102 W 99 W 96 W 93 W 90 W 87 W 84 W 81 W 78 W 75 W 72 W 69 W

KEL-GLEN MINES LTD.

LINE 160+00 N

N=1	-0.5	-0.25	0.75	0.25	-0.75	0		
N=2	0.25	-0.25	0	1.0	0	0.5	0	
N=3	-1.0	0.75	-0.25	0.25	0.5	0.5		

DIPOLE-DIPOLE CONFIGURATION  
 P.F.E. FREQUENCIES 0.31 + 5.0 cps.  
 X = 300'

105 W 102 W 99 W 96 W 93 W 90 W 87 W 84 W 81 W 78 W 75 W 72 W 69 W

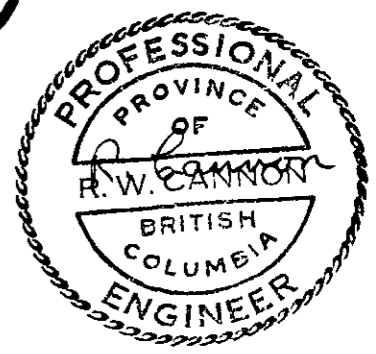
CANEX AERIAL EXPLORATION LTD.

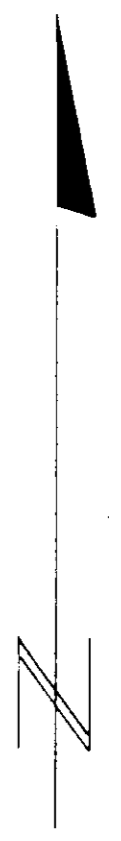
DRAWN BY J. THORNTON DATE: OCT. 1968

N=1	-4.1	-0.8	0.9	0.6	-1.5	0	
N=2	4.7	-2.1	0	1.2	0.8	0.9	0
N=3	-7.3	5.3	-2.4	0.3	0	3.7	

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(M.F.)  
 LOG 20



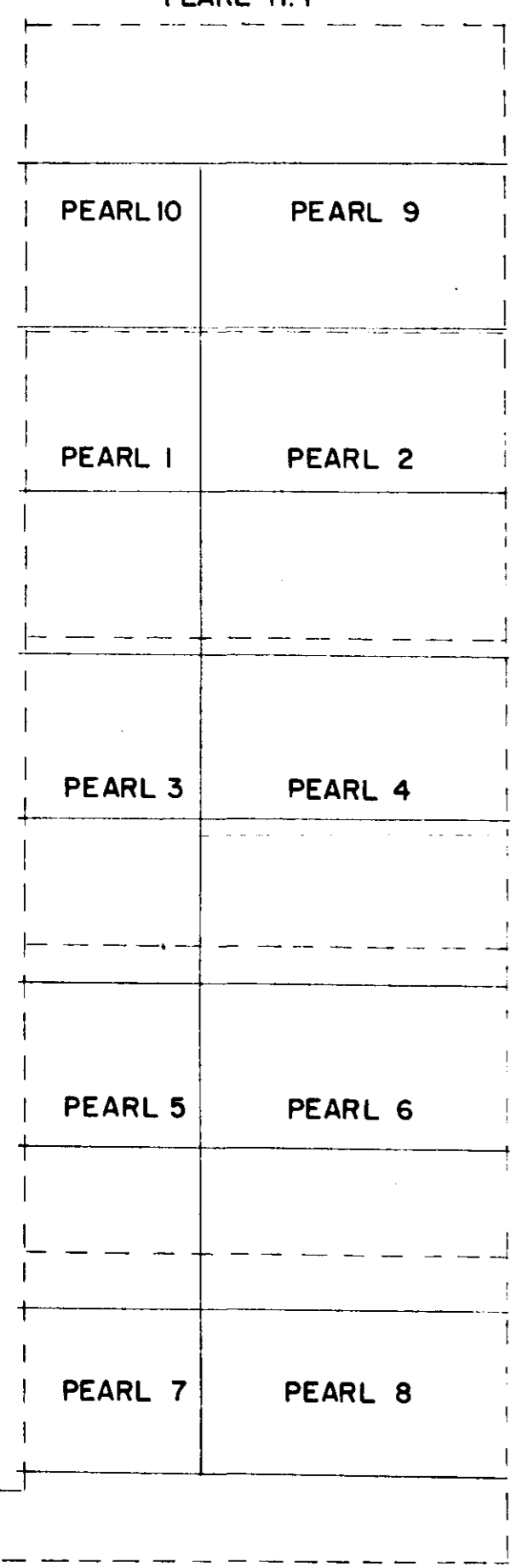


160+00 W

130+00 W

100+00 W

PEARL Fr. 1



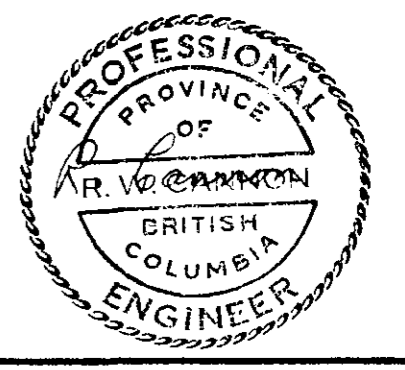
32+00 N  
24+00 N  
16+00 N  
8+00 N  
0+00  
8+00 S  
16+00 S  
24+00 S  
32+00 S

LEGEND

CLAIM BOUNDARIES - - - - -  
TRAVERSE LINES - - - - -

1710

MAP 01



DRAWN R.W.C.	SCALE 1" = 800'	CANEX AERIAL EXPLORATION LIMITED	I.P. GRID
TRACED	DATE OCT. 1968	KEL-GLEN MINES LIMITED	FILE No.
APPROVED			