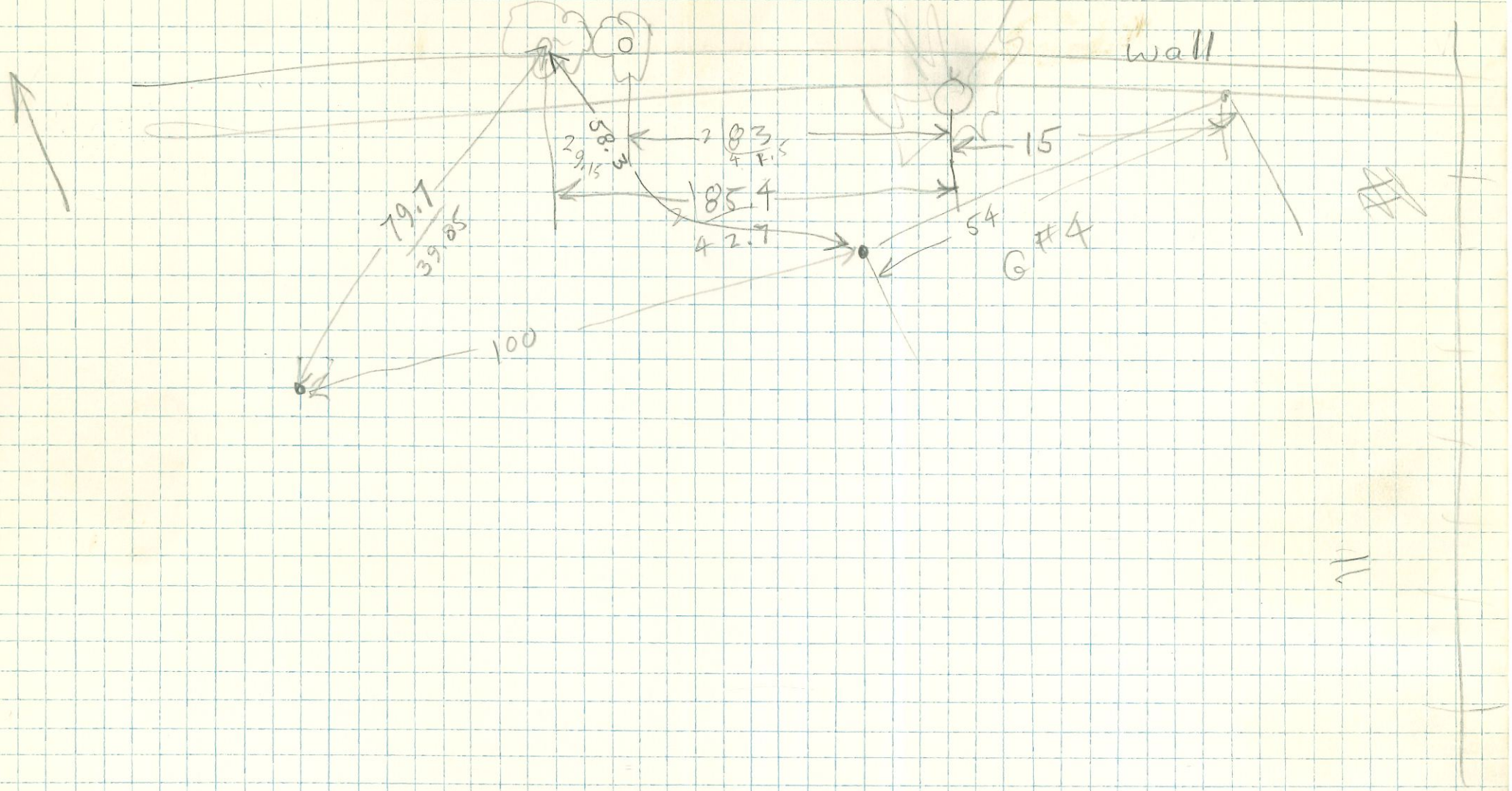
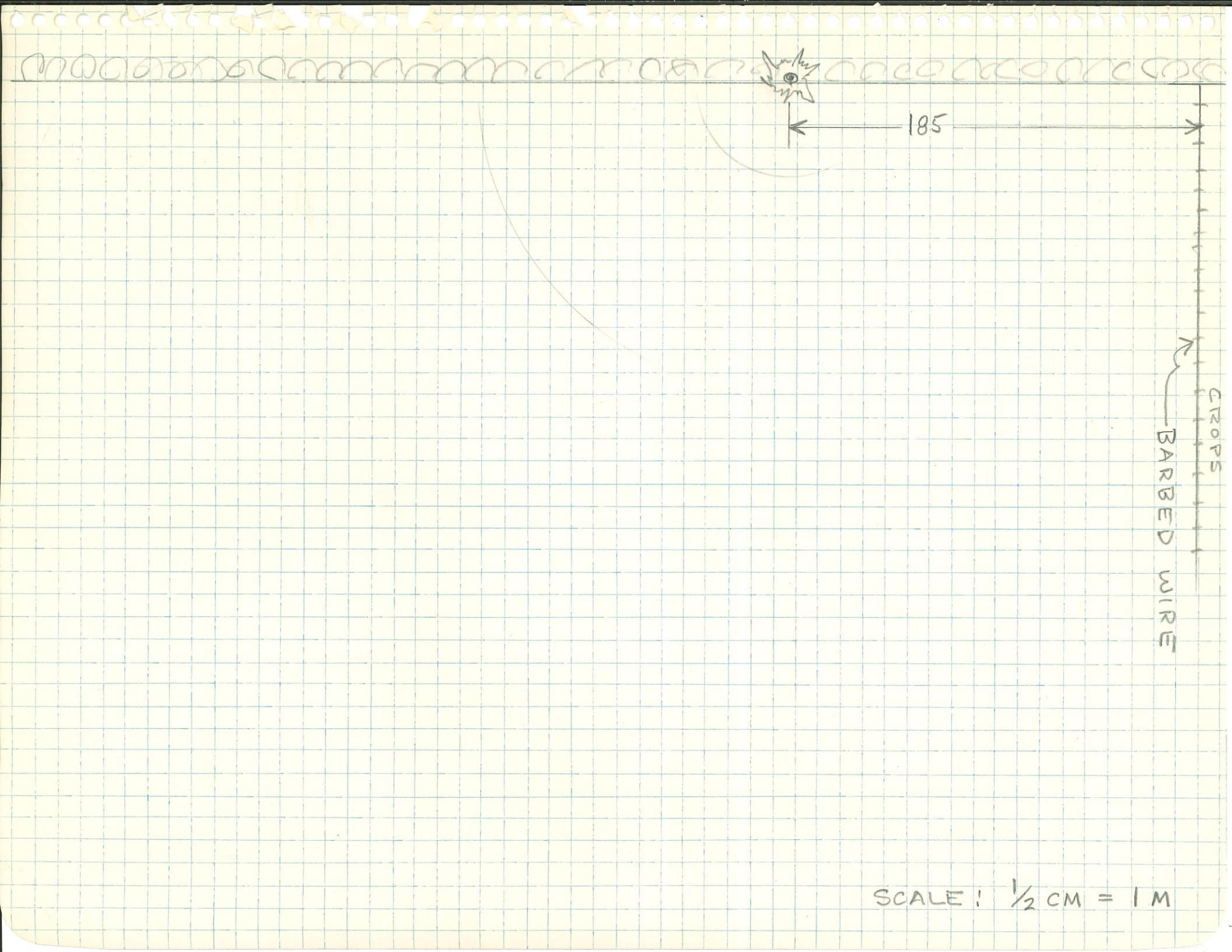
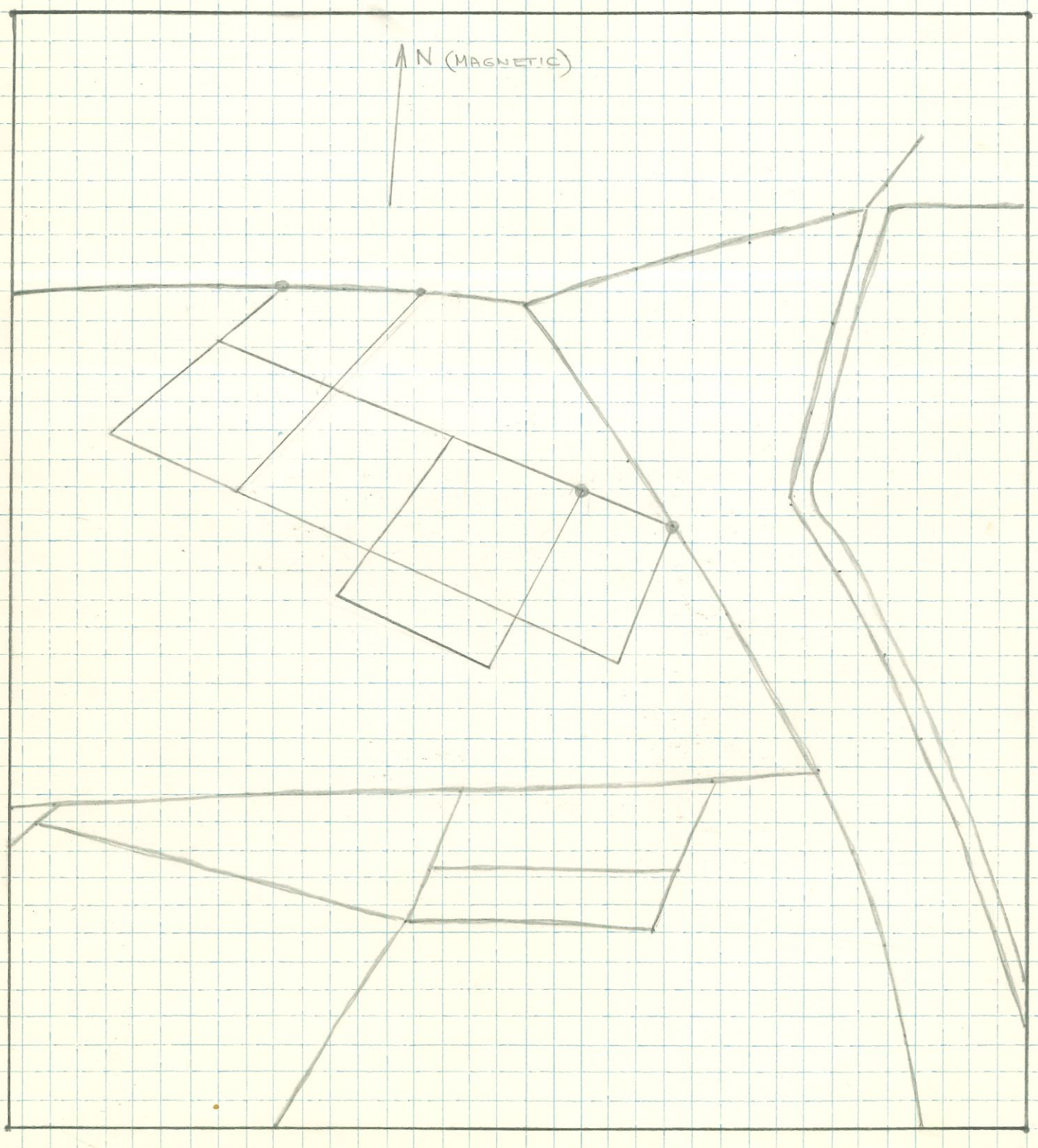
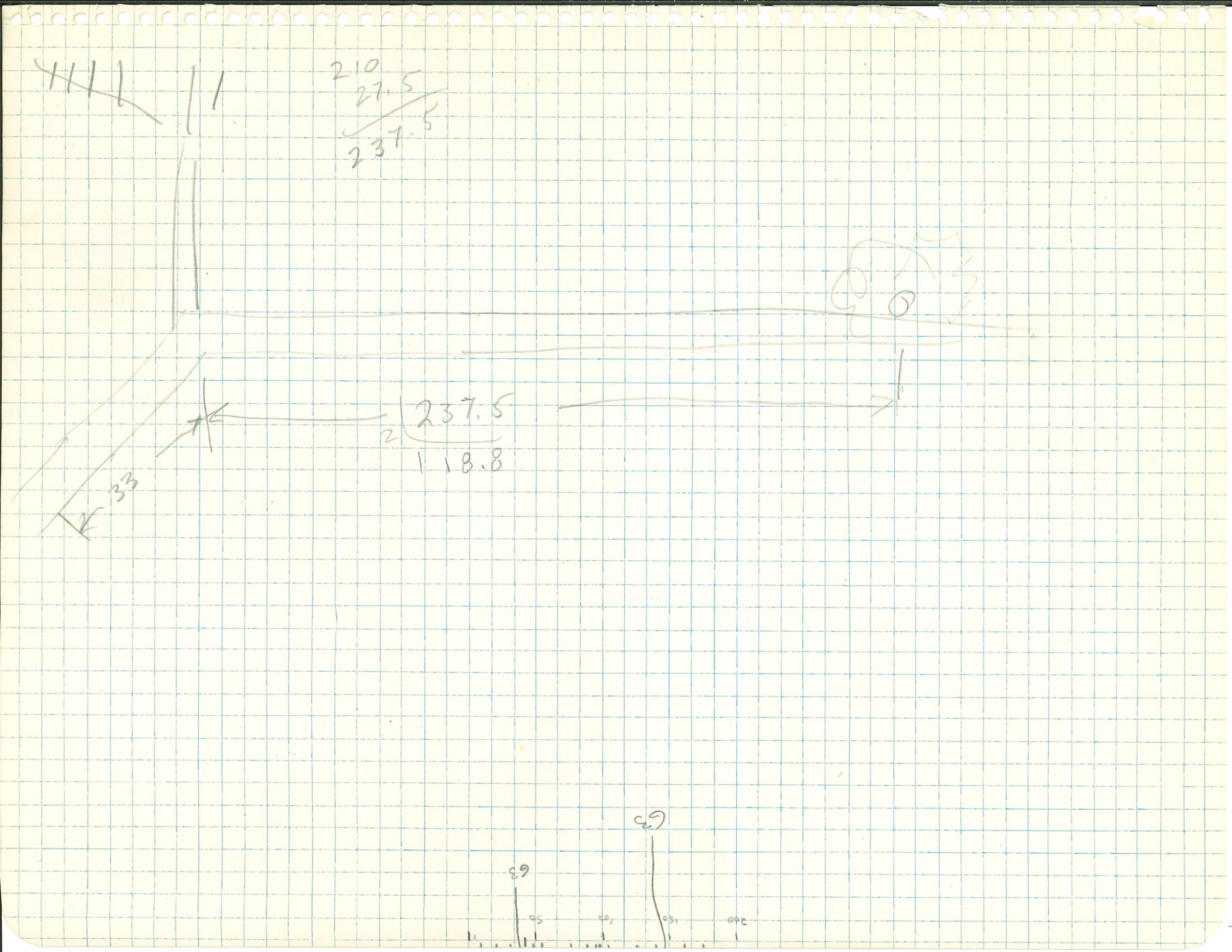
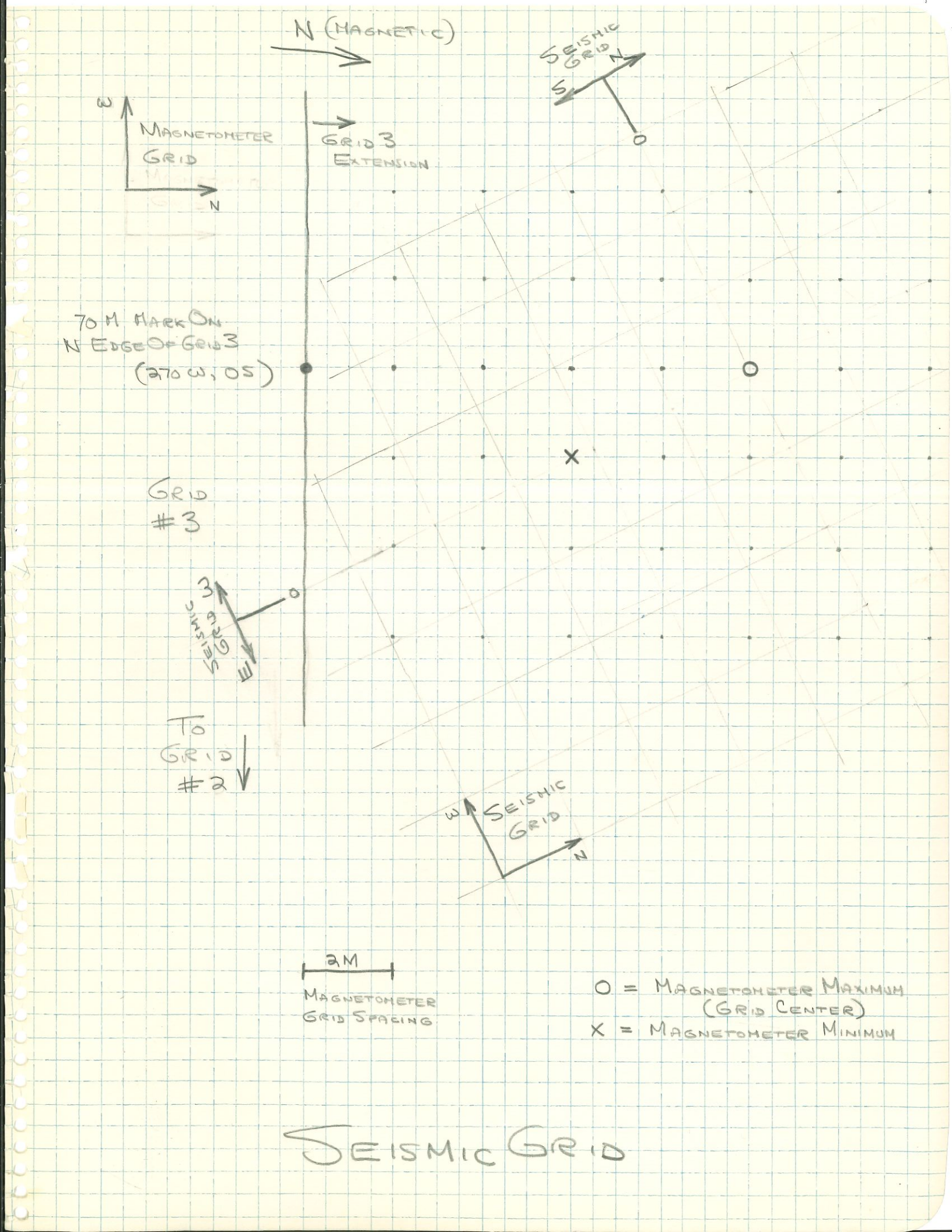

wall
58.3
29.15
183
4 7.5
15
185.4
42.7
19.1
39.85
54
100


185
CROPS
BARBED WIRE
SCALE: ½ CM = 1 M

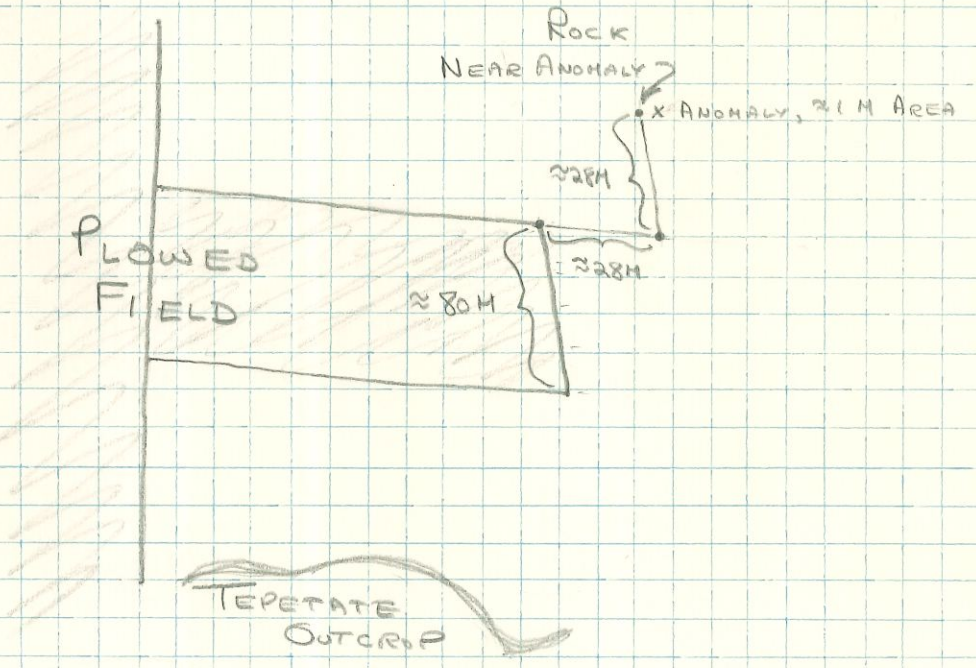

N (MAGNETIC)


210
27.5
237.5
237.5
118.8
33



SEISMIC GRID

19 JAN 70 FLUXGATE SURVEY

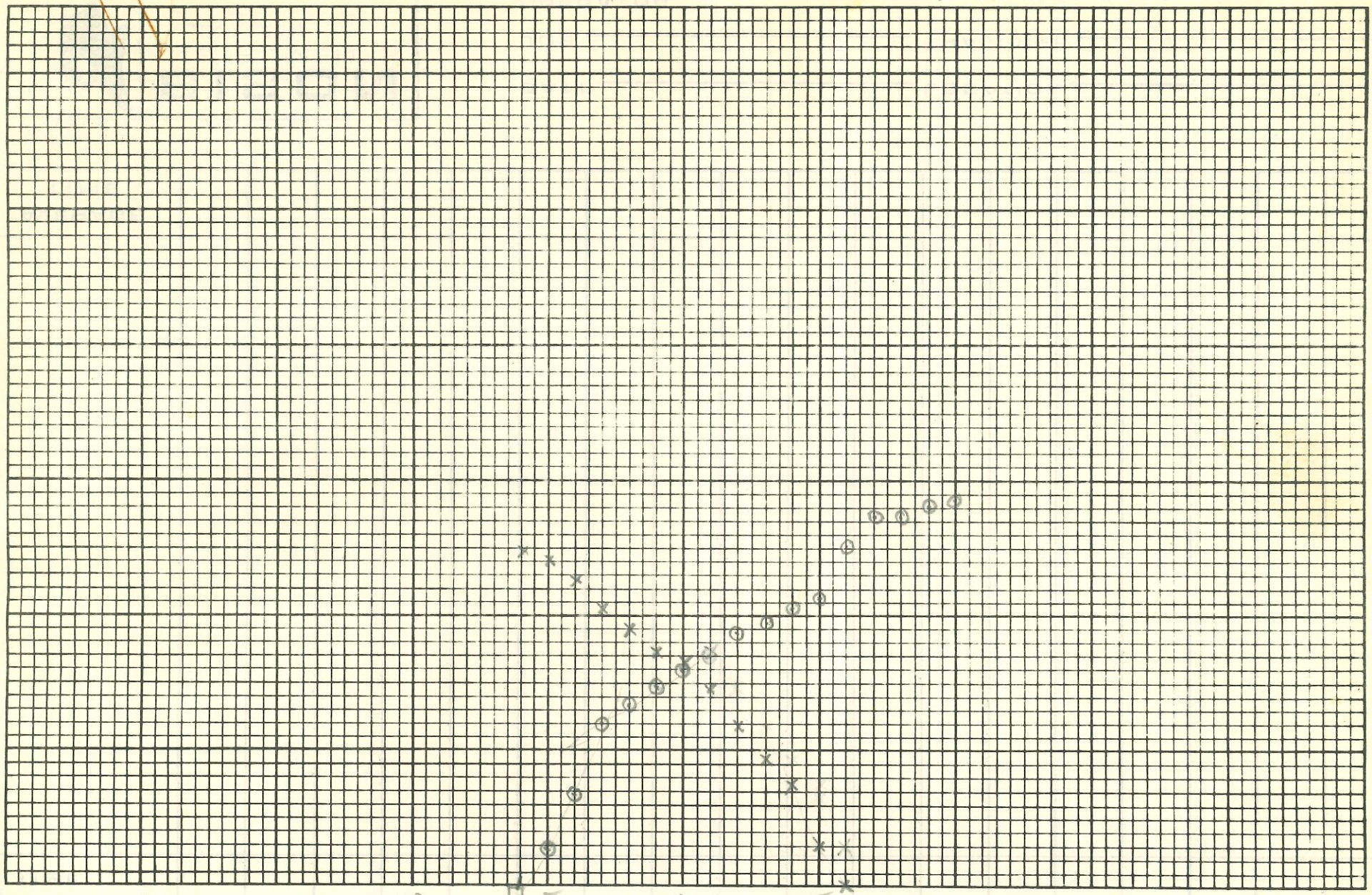


Line A G#1 1/23/71

⊙ S → N

× N → S

Over Anomaly of 62 to 64 M
line of G#1



BISON
INSTRUMENTS
3401-48TH AVENUE NORTH
MINNEAPOLIS, MINNESOTA 55429, USA
CABLE: GEOPRO/TEL. (612) 588-9471

DATE _____ LOCATION _____

JOB _____ TRAVERSE _____

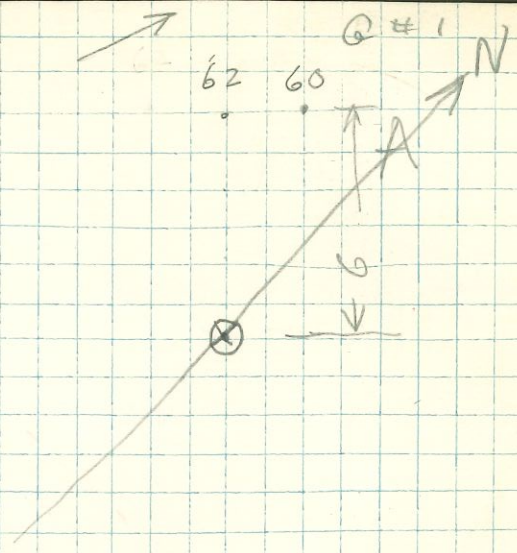
OPERATOR _____

Geophone Line A

6 M S			
6			
5	1	7.9	
4	2	9.8	6.8
3	3	12.0	
2	4	13.3	
1S	5	14.8	
0	6	15.8	
1N	7	17.0	
2	8	18.9	28.9 34.2
3	+	19.5	26.7 34.6
4	+	20.6	
5	+	22.4	
6	+	25.1	25.2
7	+	27.1	
8	+	27.1	
9	+	28.0	
10	+	28.5	

Line A Reversed
Geophone at 6 M N

24.6
24.0
22.4
20.5
19.0
17.2
16.4
14.6
11.8
9.2
6.4
3.0



Repeat at 4 m intervals with 1 tape measure
N → S

S → N

Geophone	Hammer	ms
6S	2S	12.8
5S	1S	13.2
4S	0	12.3
3S	1N	11.7, 13.1; 11.7, 13.4
2S	2N	11.9
1S	3N	11.7
0	4N	11.7
1N	5N	12.3
2N	6N	12.2, 13.9
3N	7N	12.3
4N	8N	12.4
5N	9N	12.4
6N	10N	12.6

	Geo	Ham	ms
	16	12	12.5
	15	11	12.4
	14	10	12.0
	13	9	11.8
	12	8	11.8
	11	7	12.6
Ctr →	10	6	11.5
	9	5	12.0
	8	4	11.8
	7	3	13.0
	6	2	12.4
	5	1	11.8
	4	0	12.7

$V_1 = \frac{5}{13.2} = 379$, $V_2 = 1100$ $\sqrt{} = .7$ $D_1 = 1.4M$

⊙ N → S
X S → N

(2)

1100
379
721
1479
20.4
11.3
9.1

S → N

M 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 1 2 4 6 8 10

TIME (MILLISECONDS)

0 10 20 30 40

M 6 N 5 4 3 2 1 0 1 2 3 4 6 8 10 12 14 16 18 20

DISTANCE

N → S

Geophone moved from M 10 N to M 6 N

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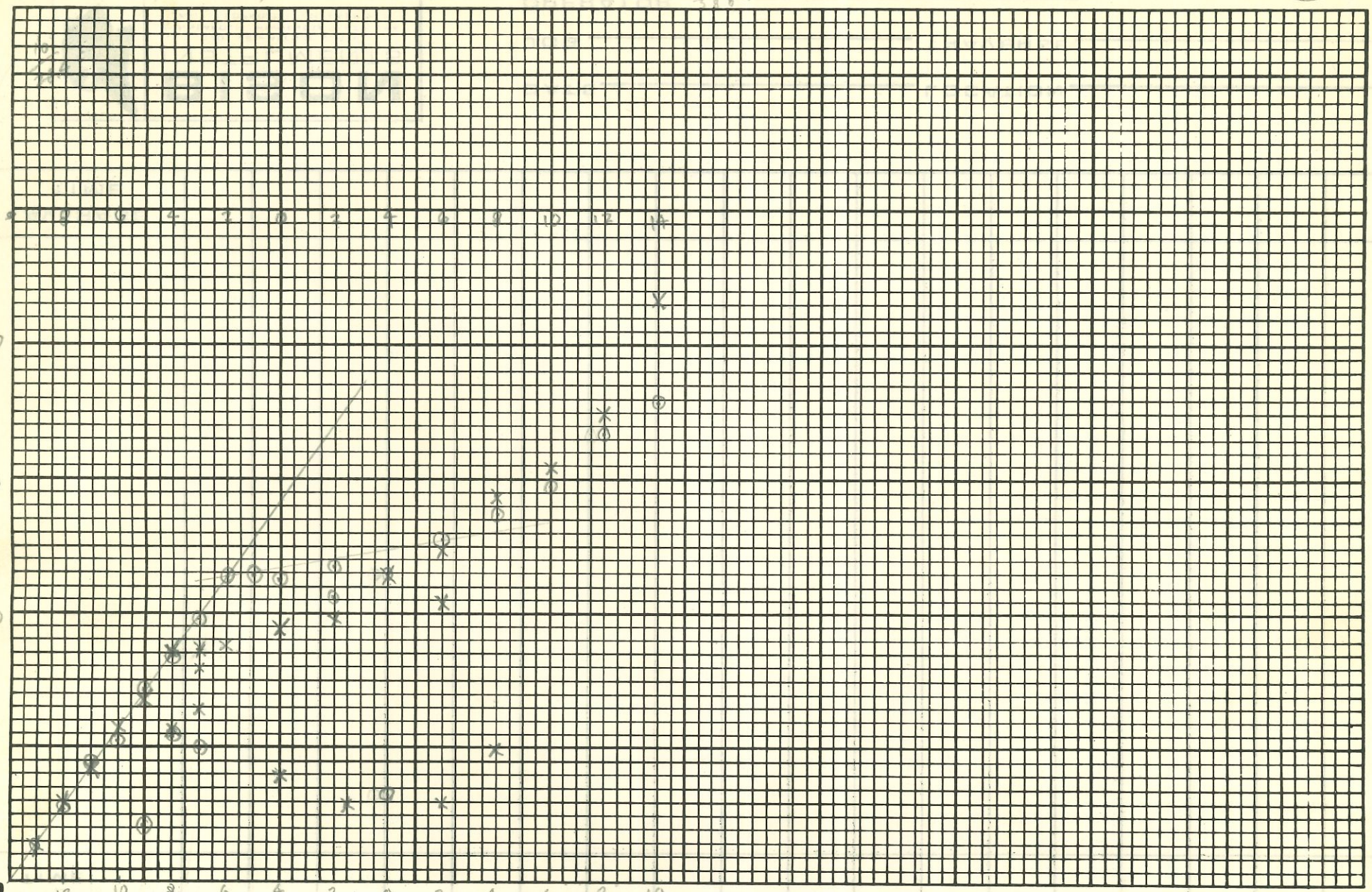
DATE 11/18/71 LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR W. H. Mayne

S → 10 Line 3, 4m E of lines 1 & 2 $V_2 = 4270$ $V_1 = 352$ $\sigma = .85$ $\rho = .92$ $D = 3.7$ (3)



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DATE 1/18/71 LOCATION Line 3

JOB ____ TRAVERSE ____

OPERATOR ____

● Geophone at M14S

× " at M10S

BISON
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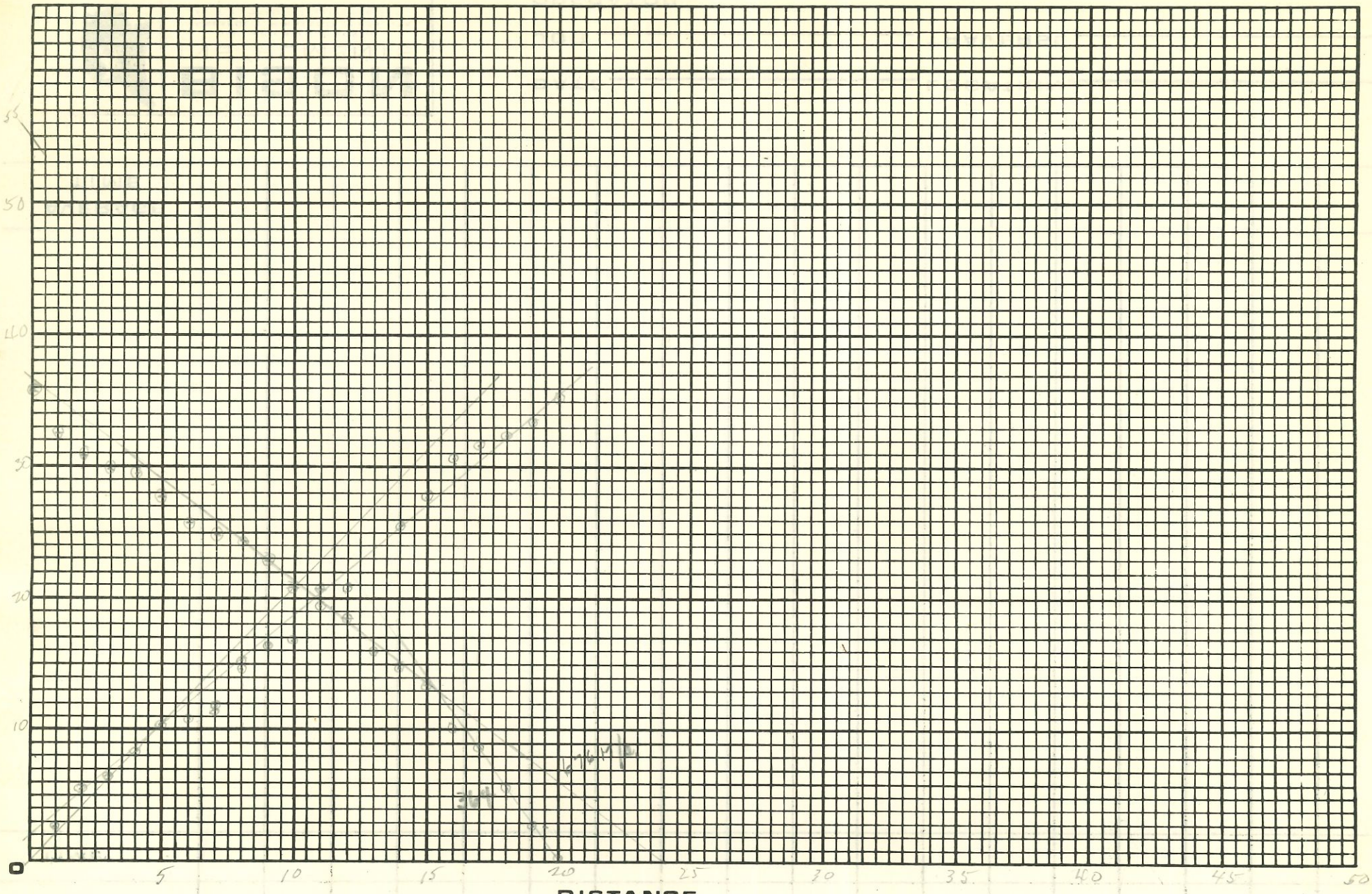
DATE _____ LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR _____



BISON
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DATE _____ LOCATION _____

JOB _____ TRAVERSE _____

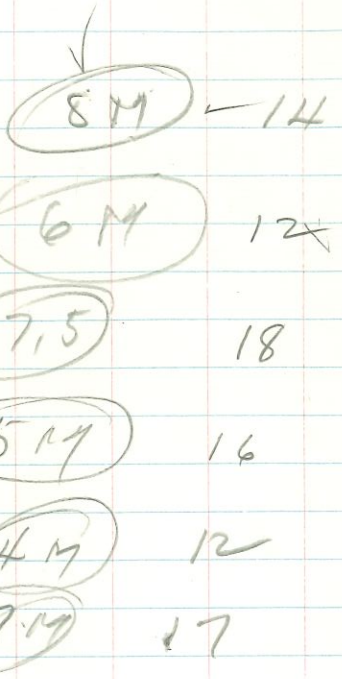
OPERATOR _____

1/18/00

(3)

Traverse line
ground HM E.

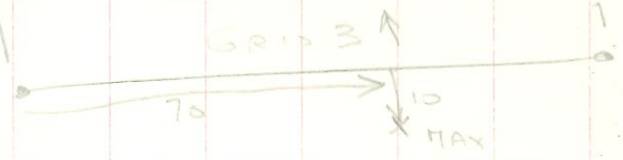
Geophone on	13	2.69		
Station 14 S	12	5.6		
	11	8.75		
	10	10.3		
	9	14.3	4.0	
	8	16.9	10.9	
	7	19.7	9.9	
	6	22.8		
	5	22.9		
	4	22.4		
	2	21.2	23.4	
	0	22.9	7.4	
	2	25.6		
	4	27.4		
	6	29.4		
	8	33.4		
	10	35.8		
Geophone at				
Station 10 S	14	43.2		
	12	34.9		
	10	30.7		
28.8 13.4	8	28.9	9.8	
	6	24.8	2.09	5.4
	4	22.8		
	2	19.4	5.9	
	0	18.9	7.9	
	2	17.3		
	3	17.2	12.8	15.9
	4	17.2	11.4	
	5	13.9		
	6	11.4		
	7	8.6		
	8	5.9		
	9	2.70		
	...			



1/18/70

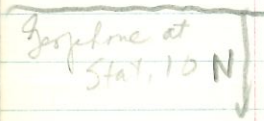
(1)

LINE THROUGH ANOMALY

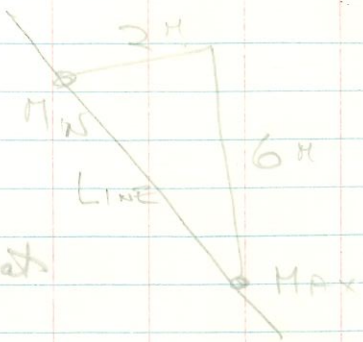


SENSOR DIST E FROM MAX AT +10,70

10 S	9	2.78						
	8	5.18						
	7	8.40 8.23	8.7					
	6	9.5 7.03	11.3					
	5	14.3 14.7	6.1	8.6	14.5	10.7	14.1	
	4	10.5 15.1	5.1	6.7	10.1	14.1	(14.3 10.1 Repeat)	
	3	13.6	10.3	14.9				
	2	16.3	10.1					
(2)	1	16.3	14.9	11.9 ✓				
	1	16.7	10.5					
	0	16.7	11.1					
	2	17.4	6.9	14.3				
	4	19.4	13.5	10.4				
	6	22.2	12.8					
	8	25.4	19.9	12.3				
	10	30.4	22.3					
	14	44.	24.3					



	9	2.7						
	8	5.8						
	7	7.6						
	6	9.7	4.9					
	5	12.1	4.7					
	4	14.1	6.0					
	3	16.4	10.6					
	2	17.4	8.4					
	1	7.8	16.4					
	0	18.9	9.3					
	2	21.3	12.3					
	4	21.4	10.4					
	6	24.4						
	8	26.9	7.0	9.7				
	10	30.4	11.7					
	14	37.8						
	12	34.9	12.9					



1/18/70

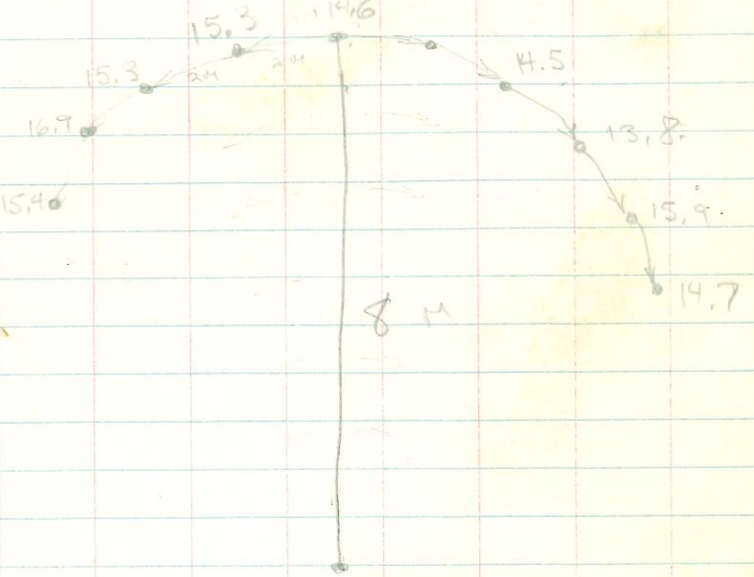
(2)

Geophone Moved to MGN	Tape No.	ms		
6 N	5 N	2.1		
	4	5.75		
	3	8.30		
	2	10.3		
	1	11.3	(3.3)	
	0	11.6	(3.9)	12.5
	1S	14	(5.7)	
	2	15,5	(12.5)	
	3	14.9	(13.9)	
	4	15.1	15.5	14.4
	6	14.2	18.1	15.9
	8	21.4		
	10	23.4		
	12	27.0		
	14	30.4	~~26.9~~	~~15.8~~
	16	34.4		
	18	37.8		
14 S	13	2.59		
	12	2.88	6.5	
	11	4.69	2.4	9.0
	10	2.06	3.0	11.7
	9	3.82	14.3	
	8	3.35	17.0	5.4
	7	13.9		
	6	8.0	21.00	
	5	22.0		
	4	12.3		
	2	7.3	25.00	
	0	7.0		
	2	8.4	25.8	
	4	26.9	14.7	
?	6	31.3		
?	8	34.4		
	10	37.9		

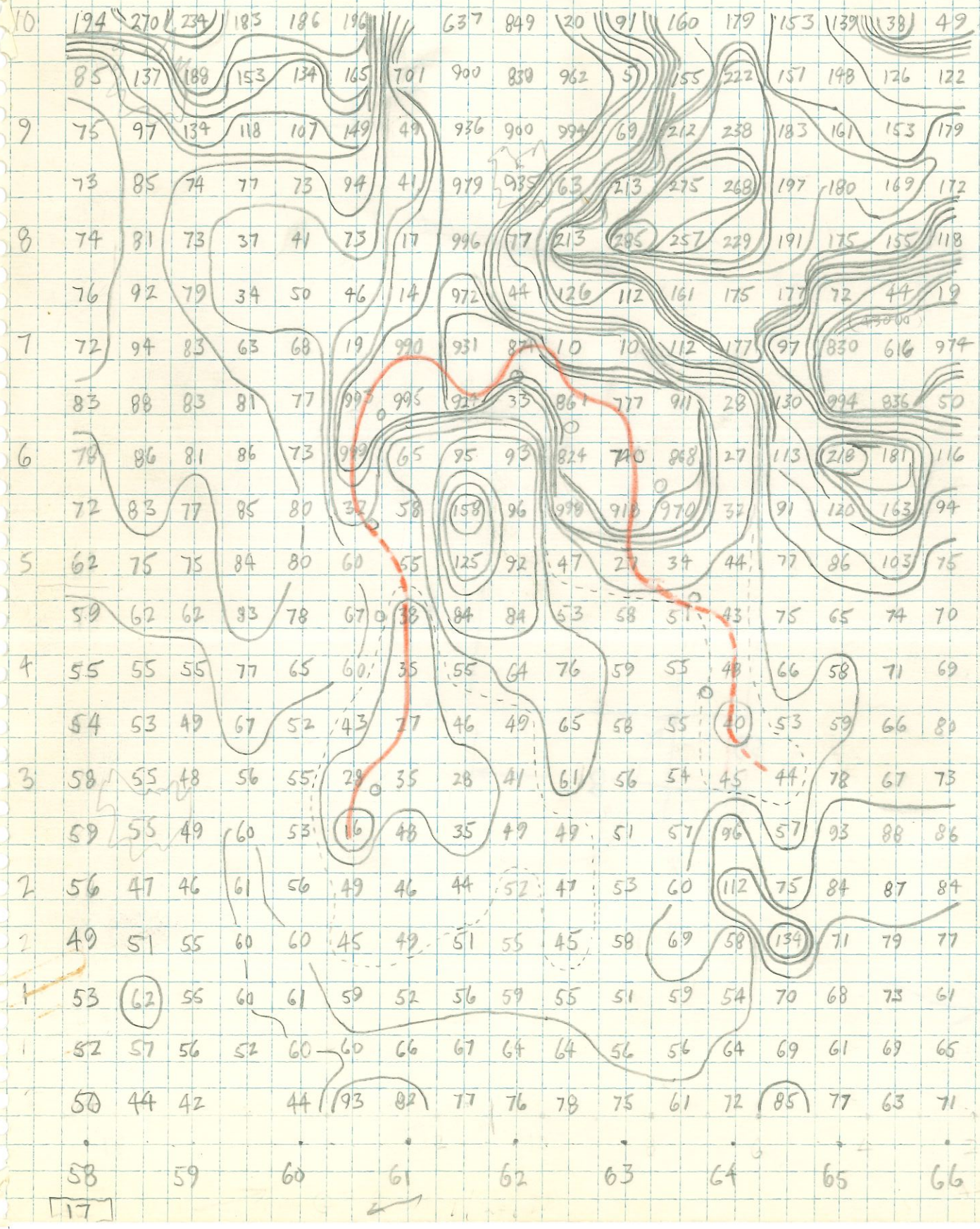
1/16/70

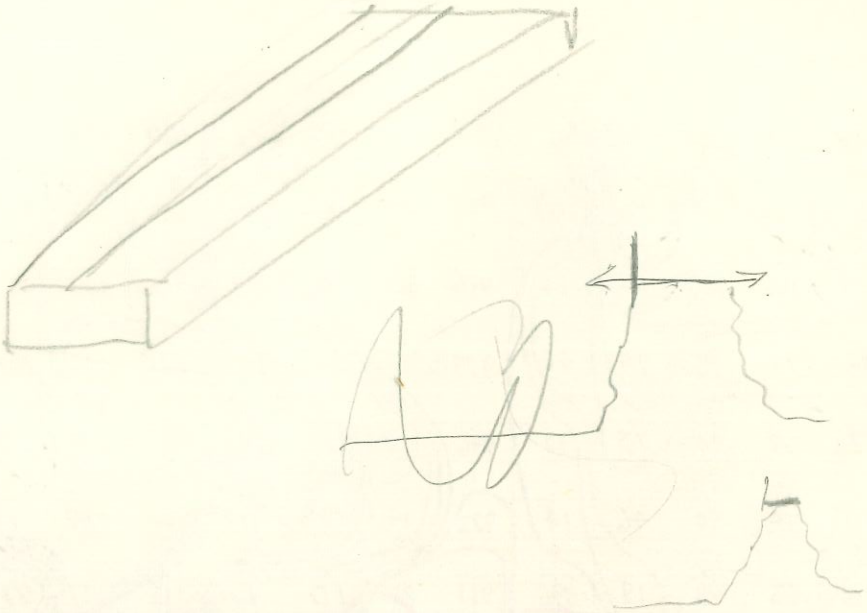
(Meters) Distance	1st Line 20 ms	1st Line 50 ms	X	○	Dist = Δ + 4 ⊙
1	2.7		2.9		10.5
2	5.5		5.7		11.9
3	6.3		8.9		11.9
4	8.3		10.0		13.3
5	10.3		13.4	Start	14.4
6	10.9	10.9	14.8	2.3	16.8
7	11.5		15.9	4.3	17.9
8	15.1	13.9	18.4	6.4	18.9
9	16.3	15.9	20.8	8.4	21.4
10	Hole -9.5	16.5	20.9	9.3	23.0
11		-11.6	22.9	11.8	24.9
12		20.9 -16.6	24.3	12.9	27.3
13		-20.9	24.9	15.4	27.8
14		25.7	25.8	16.9	30.9
15		27.9	27.8	19.4	32.9
16		30.8	29.4		
17		30.7 31.5	29.9		
18		32.2	30.9		
19		33.4	32.4		
20		35.2	35.9		
X_c			6M		
V_2			685		
V_1			392		
ΔV			293		
ΣV			1077		
D			1.5M		

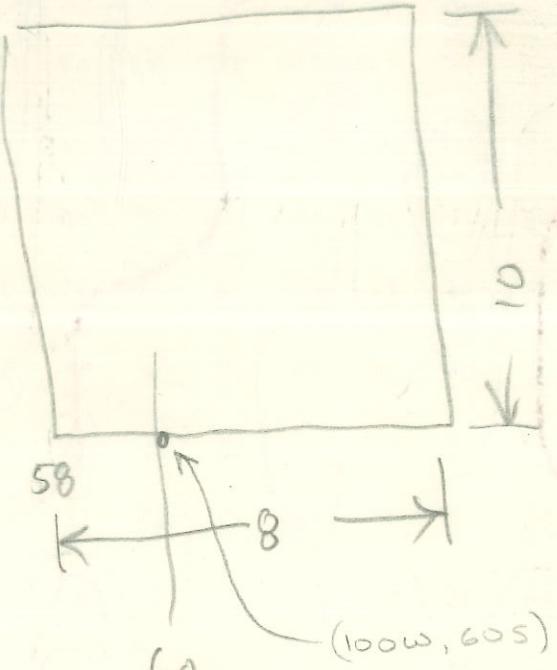
19	34.3 35				
21	37.0				
23	40.3 41				
25	44.4	57	88.8	89	
27	45.3 47	59	88.0 91		
29	49.6	61	91.5		
31	52.7 53	63	95.5 95		
33	56.7	65	99.0		
35	59.8 59,61	67	102.0 97		
37	61.1	69	102.0		
39	63.0	71	103 106.7 102		
41	64.6	73	103		
43	67.8 67	75	105 106		
45	70.8	77	107		
47	72.6	79	109 109		
49	76.6	81	109		
51	79.7 81	83	109 119		
53	82.8	85	127		
55	84.6 85	87	130 131		



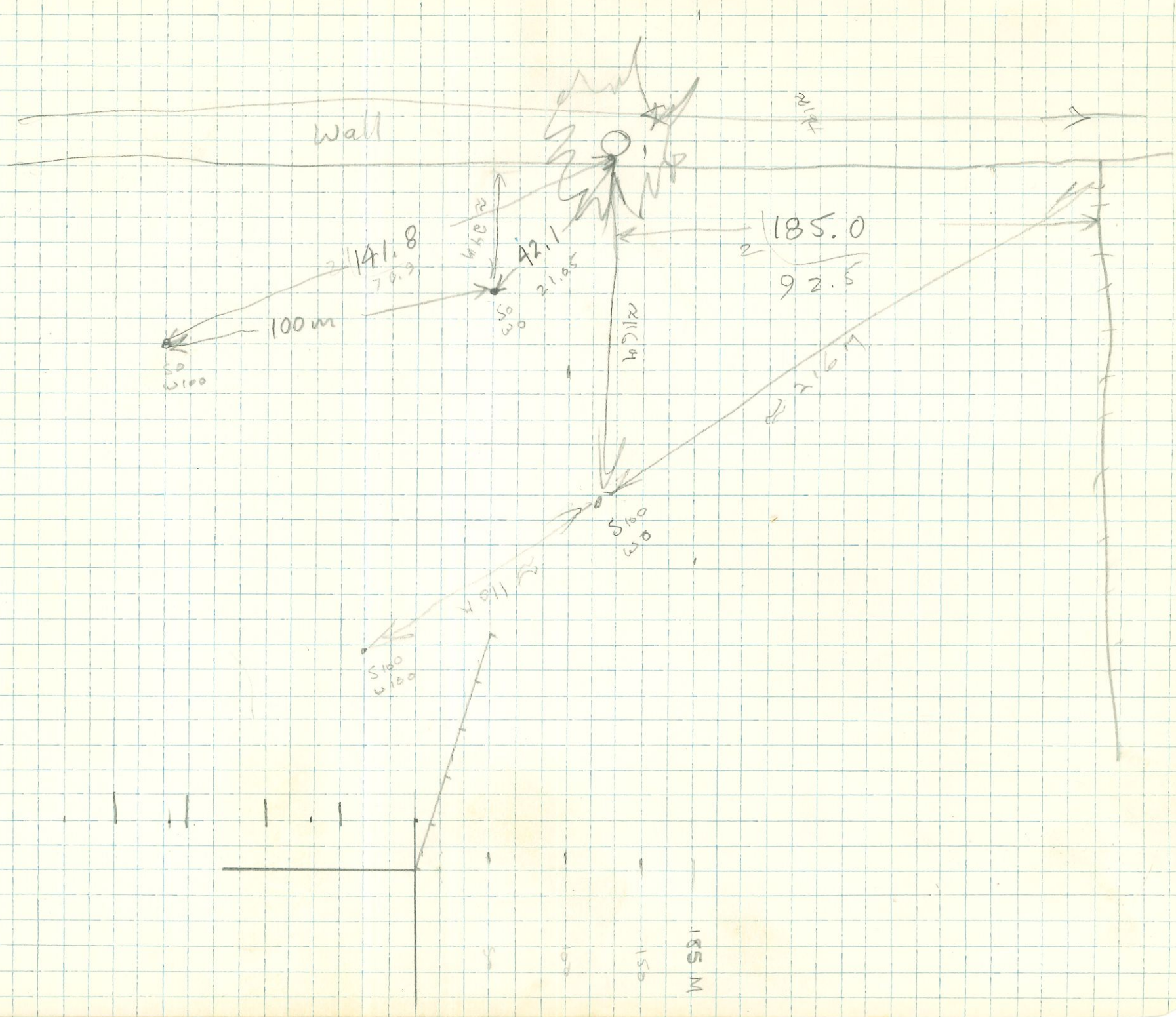
Sensor Ht = 60 cm







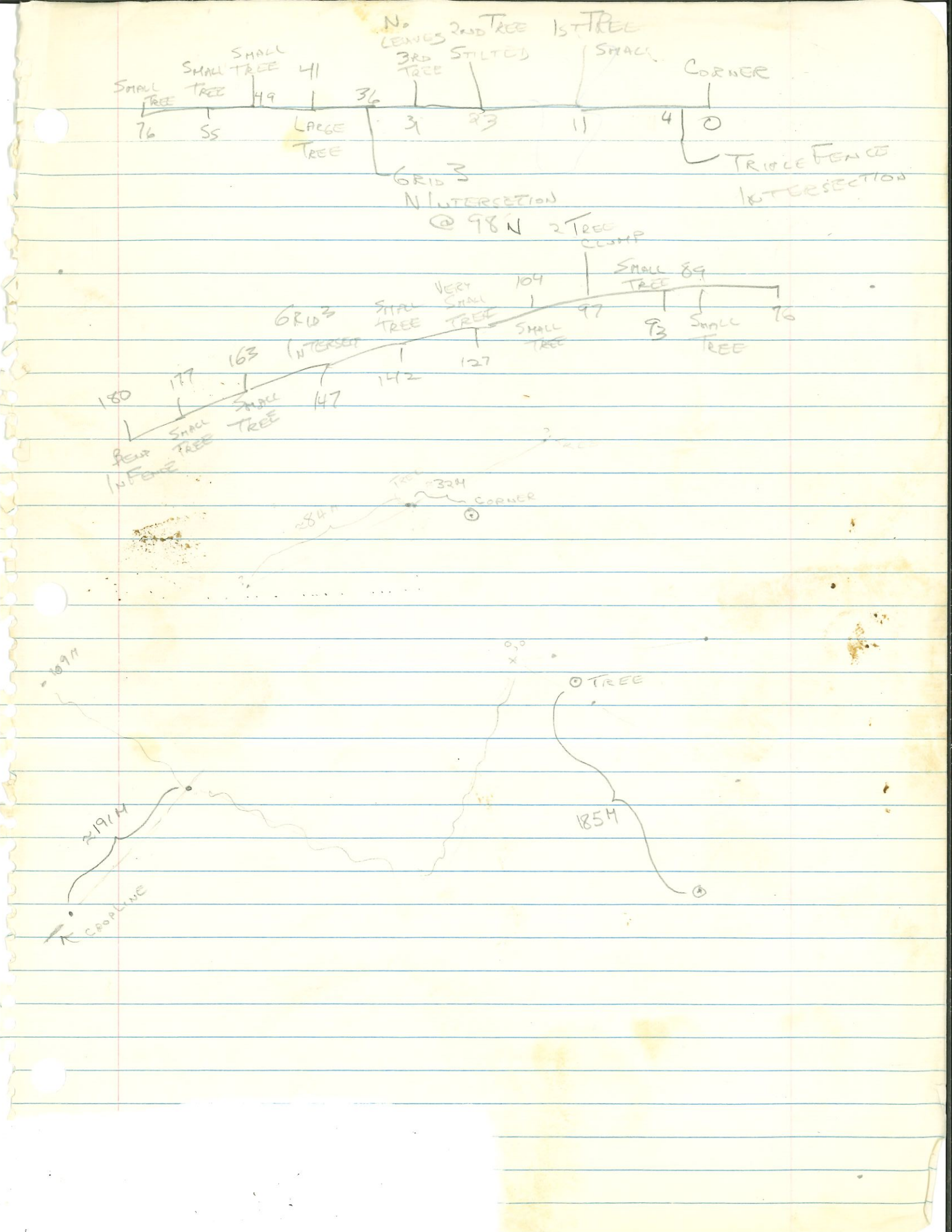
G# 1

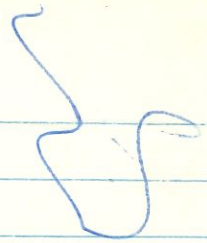


120
21.8
141.8

1111

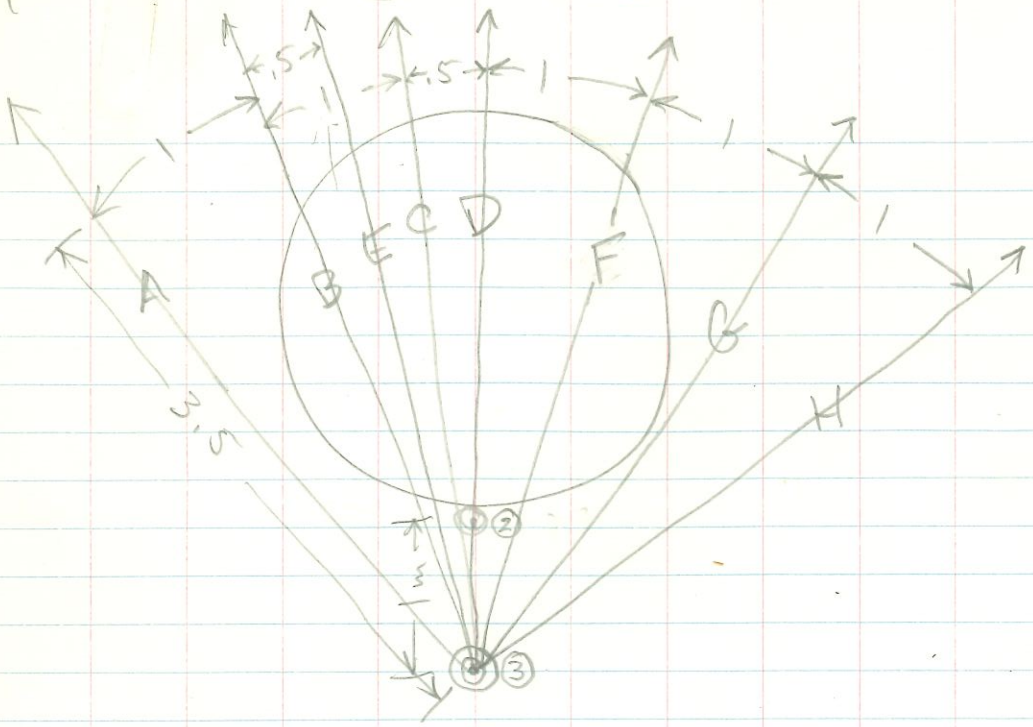
1111


No Leaves
2nd Tree
1st Tree
Small Tree
3rd Tree
Stilted
Small
Corner
Small Tree
Small Tree
Small Tree
41
49
36
76
55
Large Tree
31
23
11
4
0
Triple Fence Intersection
Grid 3
N/Intersection
@ 98 N
2 Tree Clump
Small 84 Tree
Very Small Tree
104
Small Tree
97
93
Small Tree
76
Grid 3
Intersect
Small Tree
163
177
180
147
142
127
Small Tree
Small Tree
Fence
324
Corner
284
109
0,0
Tree
191
185
Creekline



11/20/71 Tomb ② (Fig. BB) Fig. 15

3

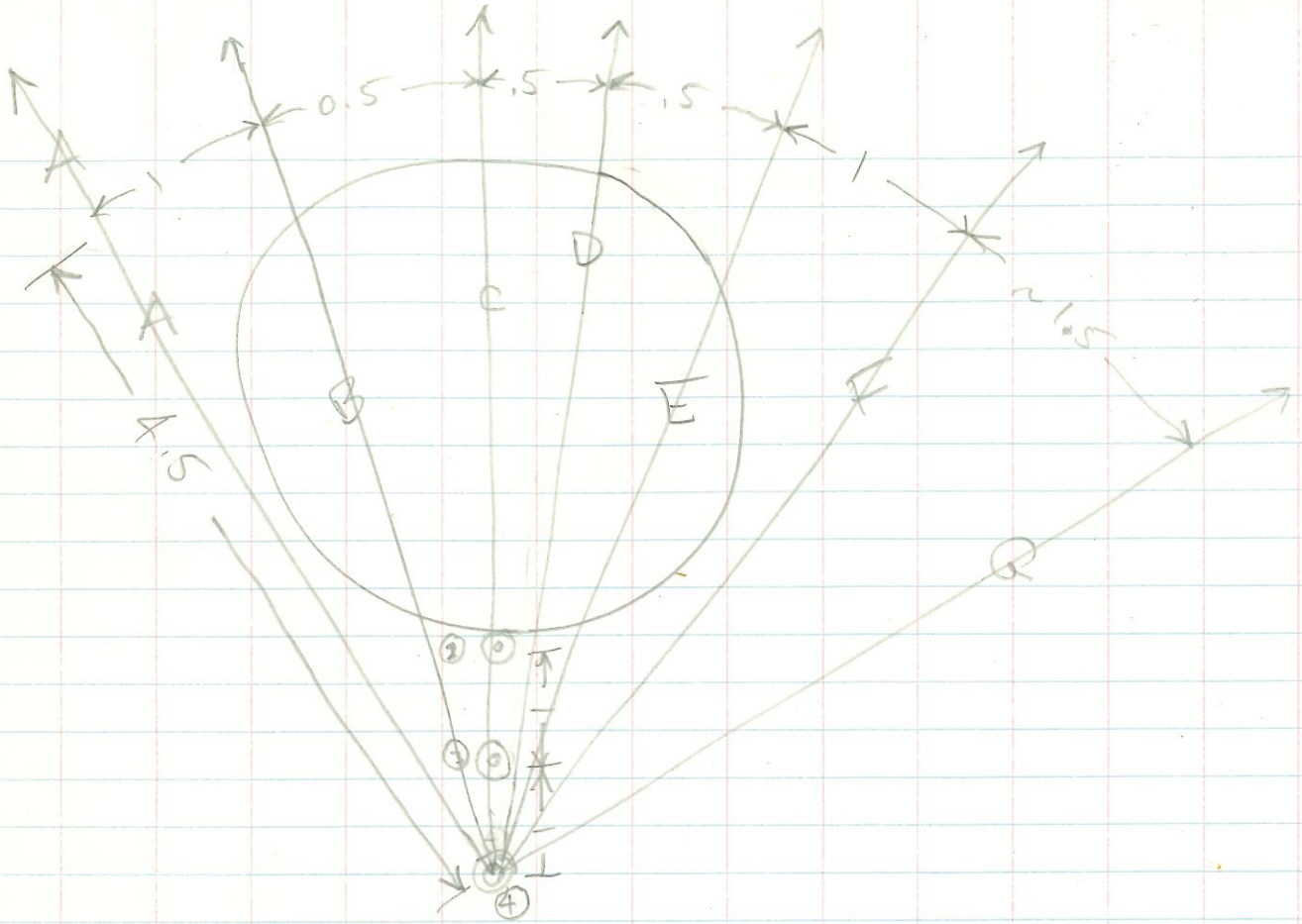


Lines ms

Meters		A	B	C	D	E	F	G	H	Gain
3.5		7.5	8.1	8.5	7.9	8.1	7.3	7.3	6.5	6
2.5		6.7								
3.5	R_1			8.7	7.7		7.7			6
3.5	R_2	7.1		8.0						8

1/20/71 Tomb (2)

(4)

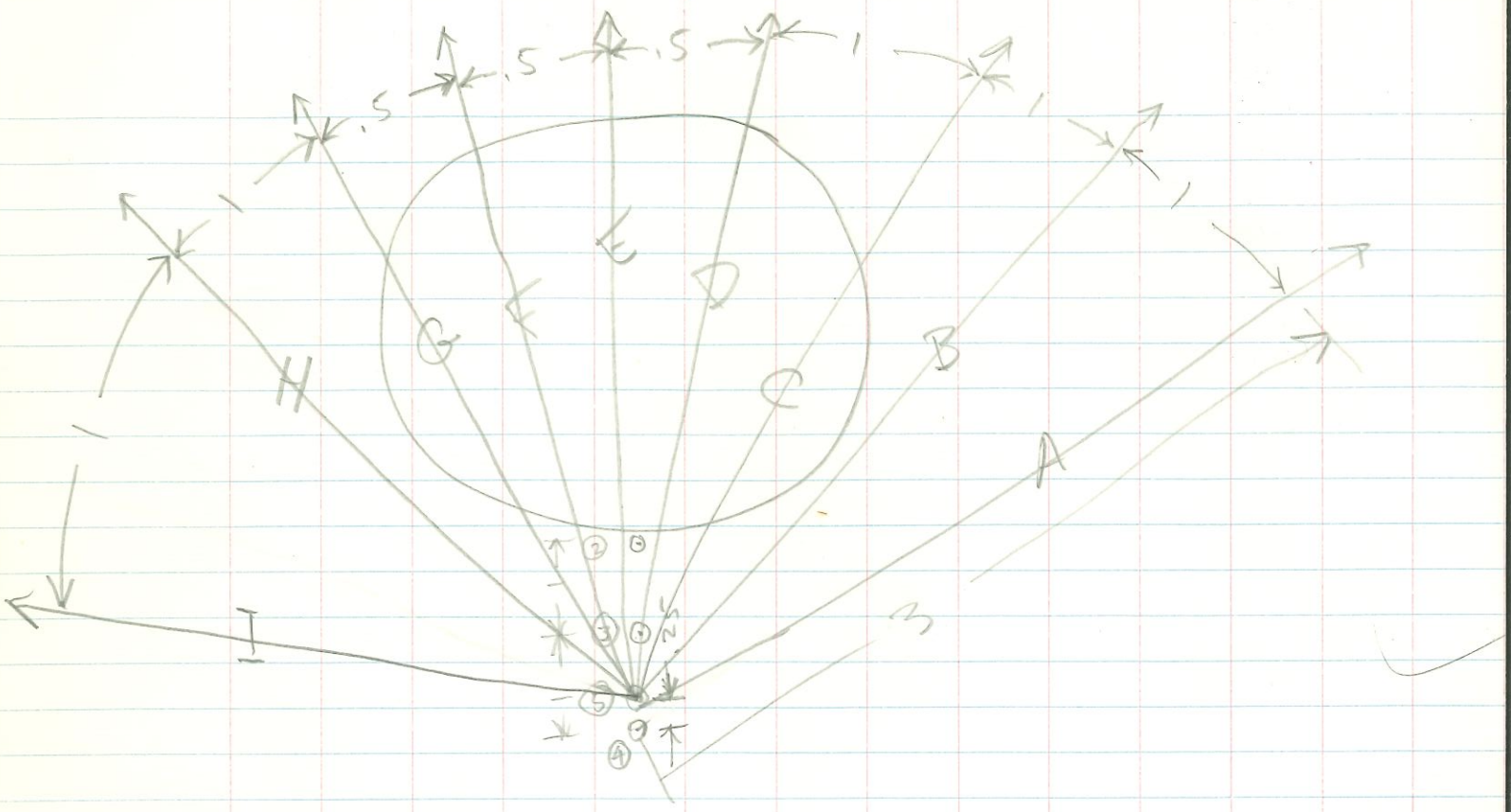


Lines MS

Meters	A	B	C	D	E	F	G	Gain
4.5	8.9	9.1	9.7	9.1	8.7	8.7	8.5	6

1/20/71 Tombs (2)

(5)



Meters	A	B	C	D	E	F	G	H	I	Gain
3	6.7	6.9	6.8	7.7	8.3	7.3	7.1	6.7	6.1	6

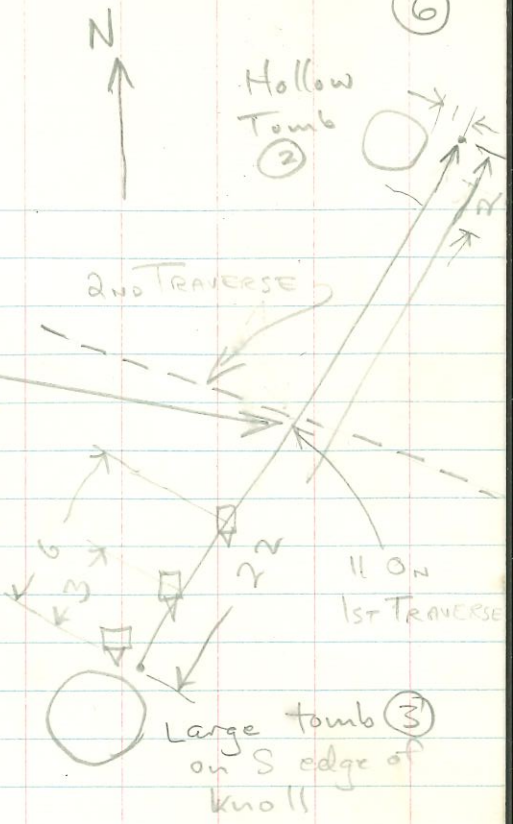
1/20/71

Gain ← 6–8 → 8 or > 8

Meters	ms	ms R			
1	2.7				
2	5.3				
3	7.7	8.2			
4	10.7	5.5	11.1		
5	5.8	5.7	8.5	13.4	13.9
6	14.6	7.5			
7	17.1				
8	18.3				

	9
	3.2
	5.1

≈ 22W
≈ 48S
On Gr. #1



Geophone at 3 m	
4	
5	
6	8.5
0	8.5

Geophone	at 6 m
3	9.5
2	10.9
1	13.5
7	2.7
8	4.7
9	8.1
10	10.5
11	12.3
12	14.5
13	13.3 16.3
14	17.1
15	18.4
16	20.4

Along line bet. tombs at 6-m intervals

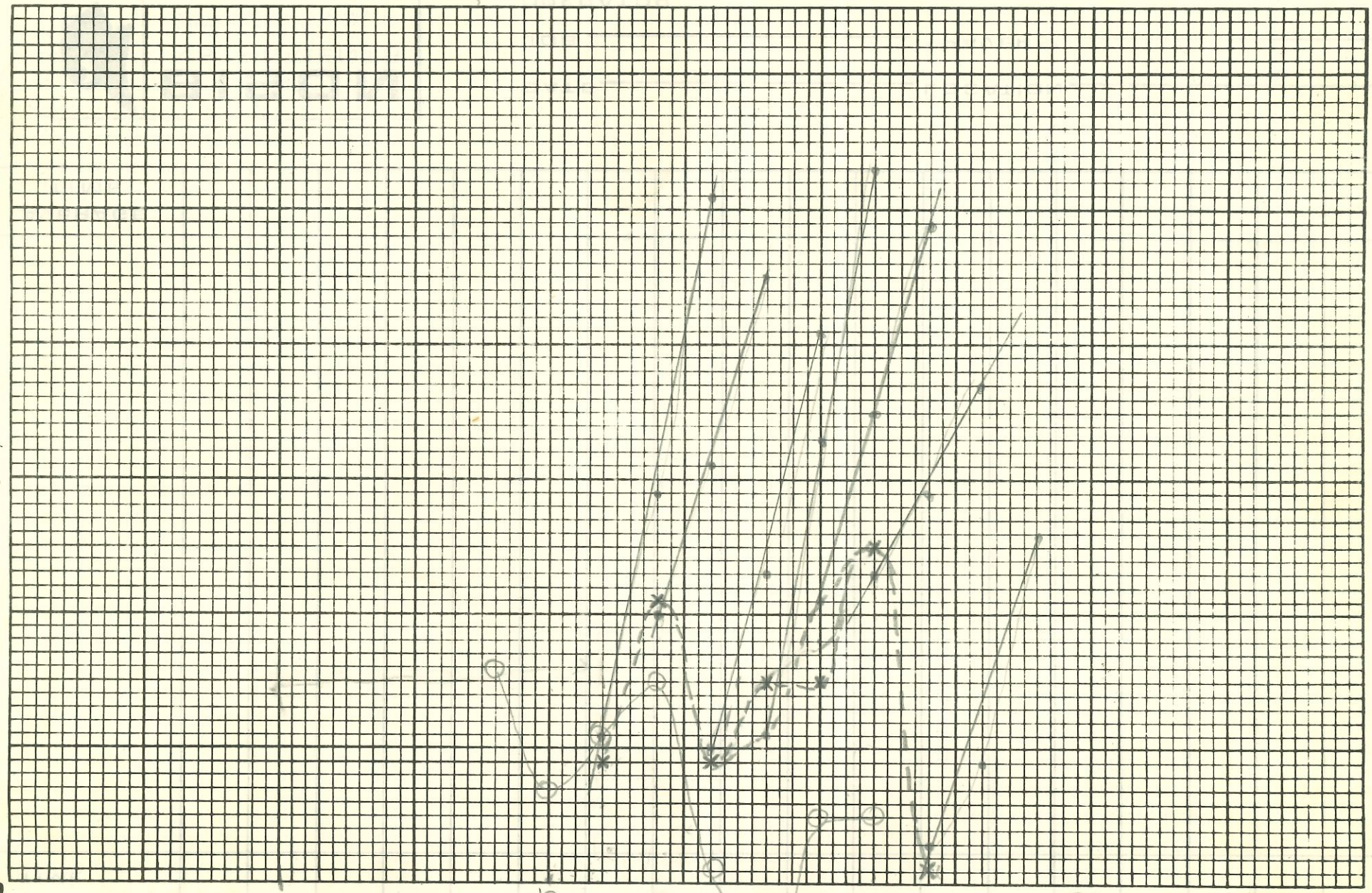
Geophone	Sledge	ms
0	6	15.5
1	7	15.3
2	8	15.2
3	9	14.3
4	10	14.1
→ 5	11	13.9
6	12	15.1
7	13	13.9
8	14	14.5
9	15	14.5
10	16	15.5
→ 11	17	13.1
12	18	12.3
13	19	11.7
14	20	11.3
15	21	11.5
16	22	12.2

Geophone	Sledge	ms	2nd Traverse
	11	14.1	14.1
5	12	15.9	
	13	18.1	
	12	15.0	14.5
6	13	16.1	
	14	17.5	
	13	14.0	13.1
7	14	15.3	
	15	17.1	
	14	14.1	12.5
8	15	16.3	
	16	18.3	
	15	15.1	13.5
9	16	16.5	
	17	17.9	
	16	15.3	13.5
10	17	15.9	
	18	16.7	
	17	13.3	
11	18	13.9	
	19	15.6	
4	10		13.7
3	9		M.6

20 JAN 70

* = 1ST TRAVERSE ; O = 2ND TRAVERSE

BETWEEN TOMBS



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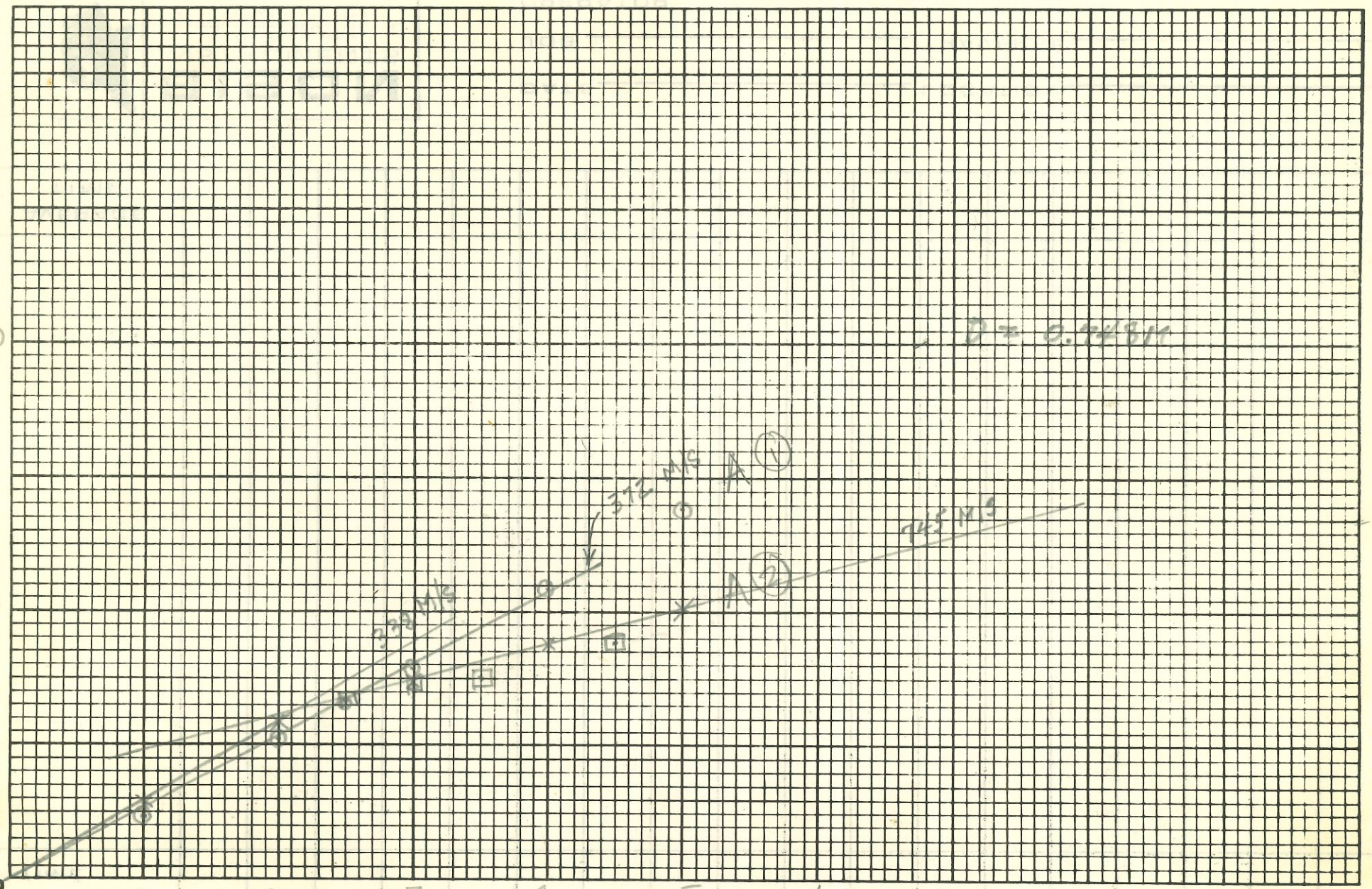
CABLE: GEOPRO/TEL. (612) 588-9471

DATE 11 LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR _____



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Expt. (6) - Line from Tomb (3) to Tomb (2)

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JOB _____ TRAVERSE _____

OPERATOR _____

DISTANCE																		
GAIN																		
TIME																		
AVERAGE TIME																		

$V_1 = 376 + 372$ M/sec

$V_2 = 735 + 745$ M/sec

$X_c = 6.25 + 2.6$ M

$D = 1.77 + 0.748$ M

$\cos i = \frac{D}{S}$ $\quad S = \frac{D}{\cos\theta}$

$\tan\theta = \frac{X_s}{D}$ $\quad X_s = D\tan\theta$

374
740

$\sin i' = \frac{374}{740} = .505$

$\cos i' = .864$

$\tan = .585$

1111
735
376
359
1119
745
372
373

$\sqrt{\frac{359}{1111}} = \sqrt{.323} = .568$

$\sqrt{\frac{373}{1117}} = \sqrt{.334} = .578$

$S_1 = \frac{1.77}{.864} = 2.05$

$X_{s_1} = 1.77 \times .585 = 1.03$

$t_1 = \frac{4.10}{374} + \frac{6 - 2.06}{740} = 10.95 + \frac{3.94}{740} = 10.95 + 5.32 = 16.27$

$S_2 = \frac{0.748}{.864} = .865$

$X_{s_2} = 0.748 \times .585 = 0.437$

$\frac{5.126}{740} = .693$

$t_1' = 10.95 + \frac{2.94}{740} + \frac{1.00}{374}$

$= 10.95 + 3.93 + 2.68$

$= 17.61$

$\Delta t_1 = 1.34$ ms

$t_2' = 4.6 + \frac{4.126}{740} + \frac{1.0}{374}$

$t_2' = 4.6 + 5.57 + 2.68 = 12.86$

$\Delta t_2 = 1.33$ ms

$T_2 = \frac{1.739}{374} + \frac{6}{740} = 11.53$

11.53

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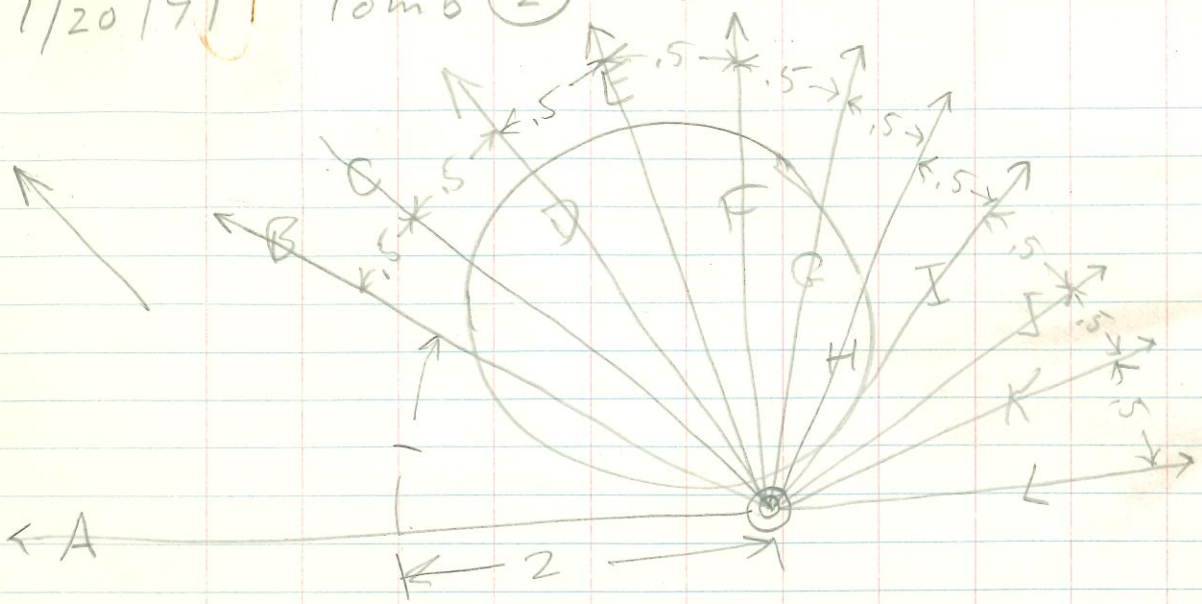
DATE _____ LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR _____

(Fig. AA) Fig. 14

1/20/71 Tomb (2) Dia. 1.5 m, 10 m deep, hollow

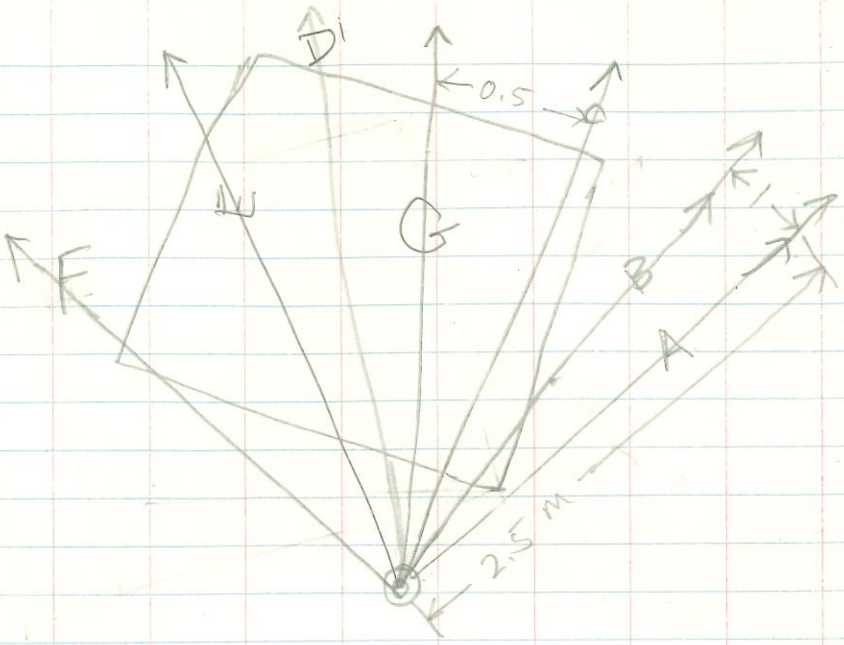


Lines

Meters	A	B	C	D	E	F	G	H	I	J	K	L
1	2.7											
2	5.7	5.5	5.5	5.7	5.5	5.1	5.1	5.1	4.6	4.7	4.7	4.3
3	7.3											
4	8.7											
5	10.1											

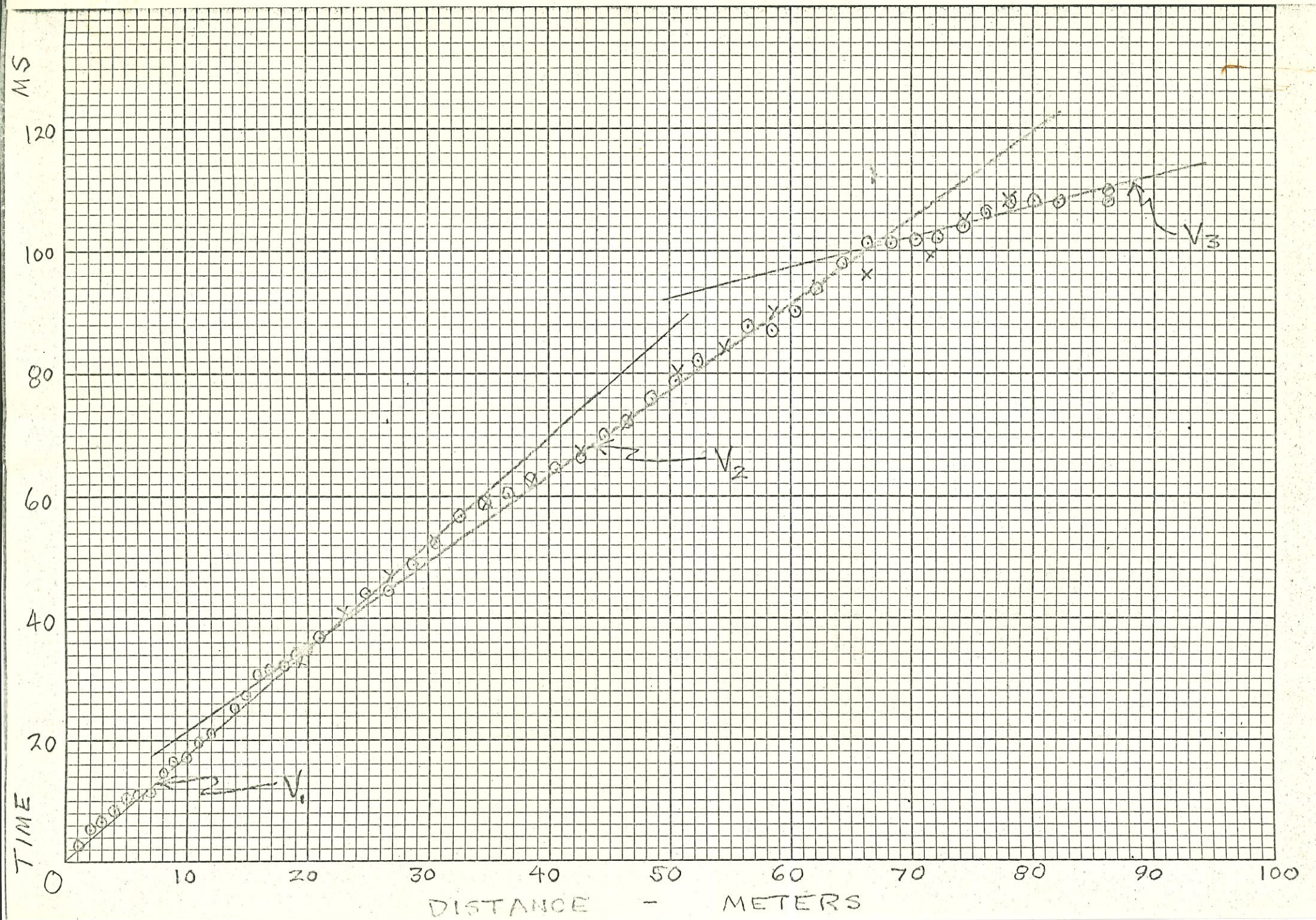
(1)

Jan 20, 1970 Shaft 2-3 m deep behind lunch spot



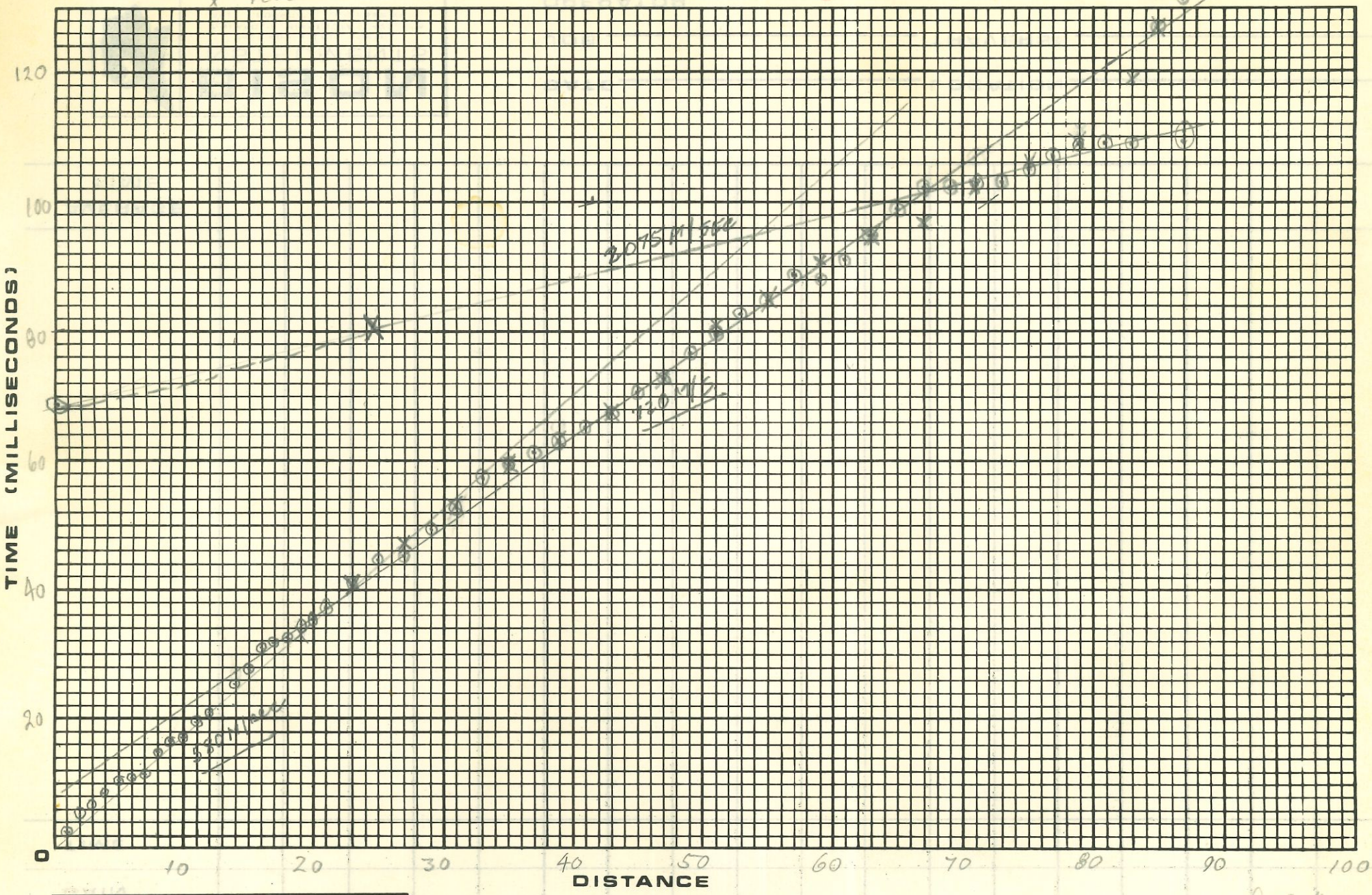
← ms →

Meters	Line A	B	C	D	E	F	G/½
1	2.3						
2	5.1						
3	7.9						
4	10.9						
5	13.9						
2.5	6.5	6.5	6.7	6.9	6.9	6.9	6.7


MS
120
100
80
60
40
20
0
TIME
10
20
30
40
50
60
70
80
90
100
DISTANCE - METERS
V1
V2
V3

⊙ forward
× reverse

(Fig. A) Fig. 13



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DATE 1/16/71 LOCATION 100-m line of G # 1

JOB _____ TRAVERSE _____

OPERATOR _____

N

Line over exposed topstate E of Grid #3 & N of Grid #2

KEEP

BISON INSTRUMENTS
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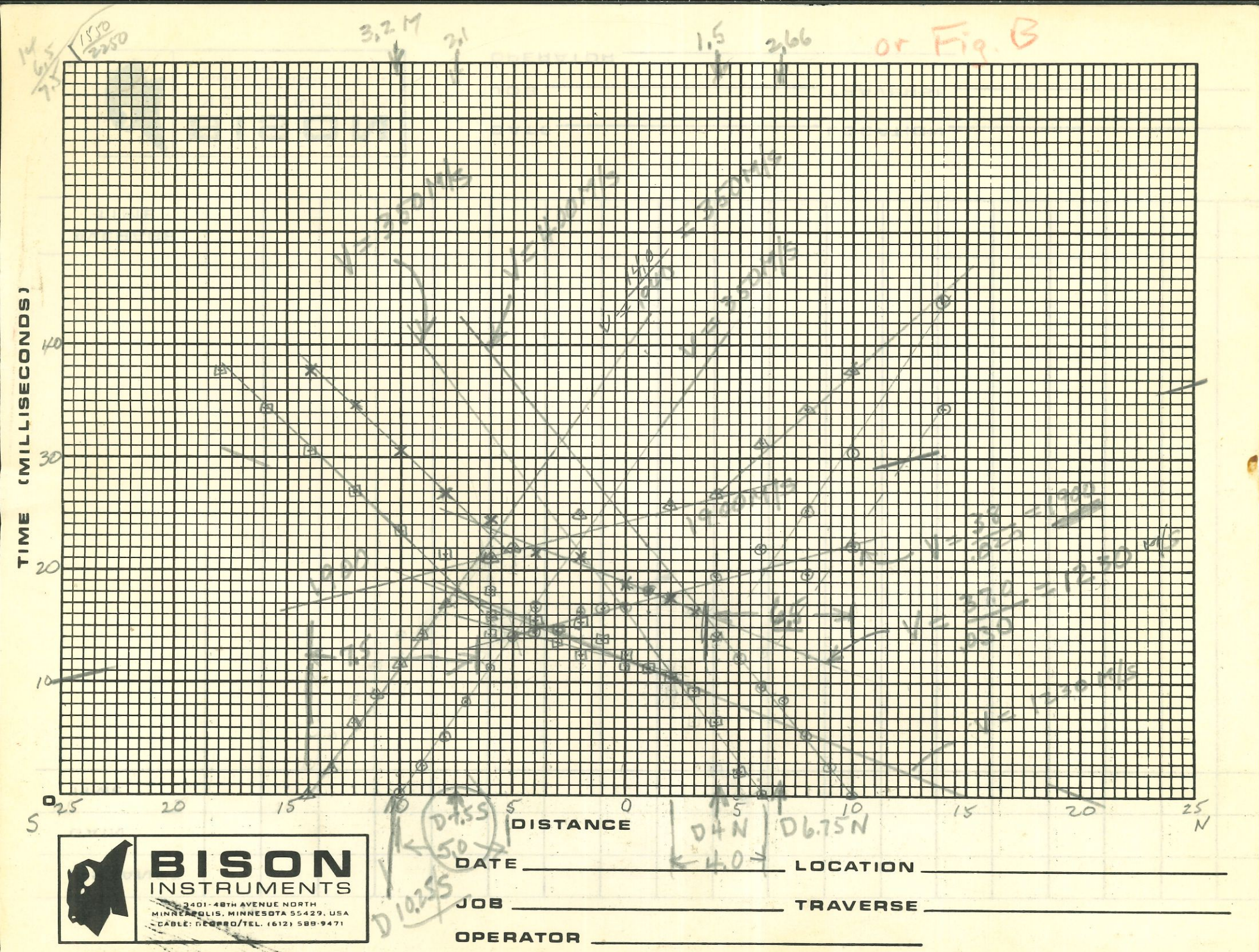
DATE 1/19/71 LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR _____


TIME (MILLISECONDS)
0
10
20
30
40
25
20
15
10
5
0
5
10
15
20
25
S
N
DISTANCE
BISON
INSTRUMENTS
3401-48TH AVENUE NORTH
MINNEAPOLIS, MINNESOTA 55429, USA
CABLE: GEOPRO/TEL. (612) 588-9471
DATE
LOCATION
JOB
TRAVERSE
OPERATOR

⊙ forward , S → N
X reverse , N → S

Fig. 16 (Fig. B) (to be replotted) See alternate (1)

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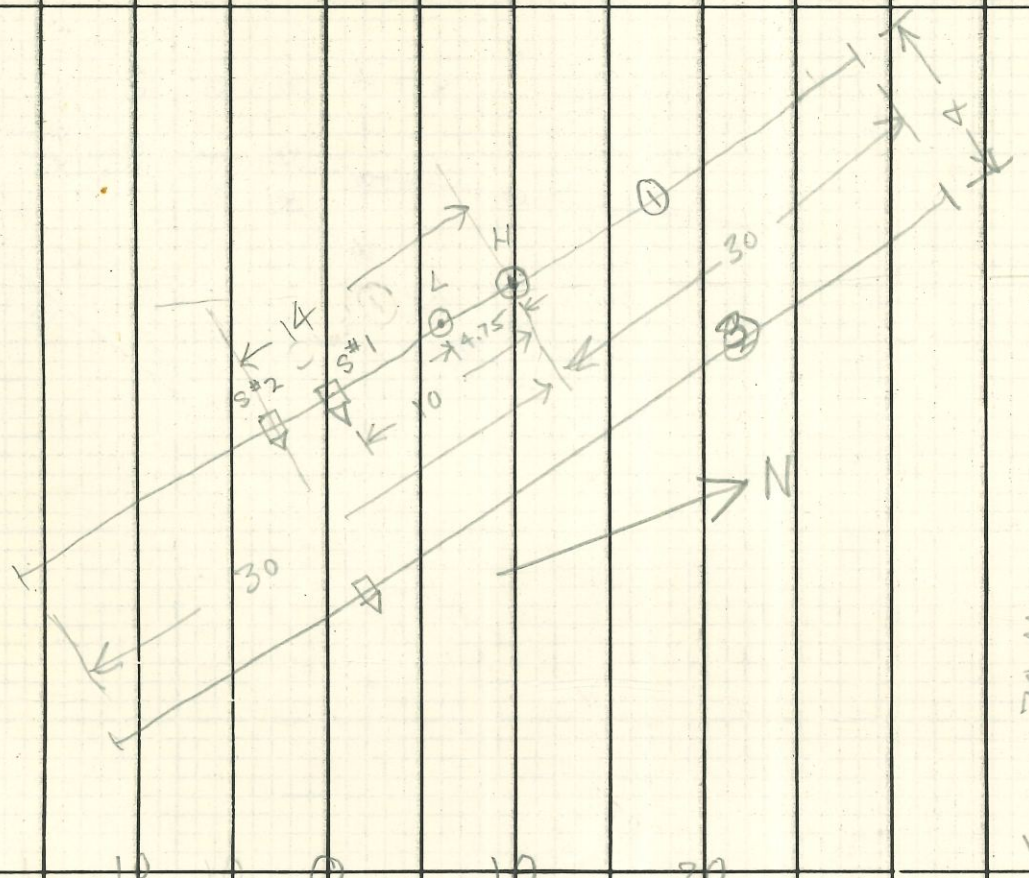
DATE 1/18/71 LOCATION ~70 m of +10-M line of G#3 - centered over large magnetic anomaly

JOB _____ TRAVERSE _____

OPERATOR W. H. Mayne

(over)

DISTANCE																			
GAIN																			
TIME																			
AVERAGE TIME																			



BASE LINES

BISON INSTRUMENTS
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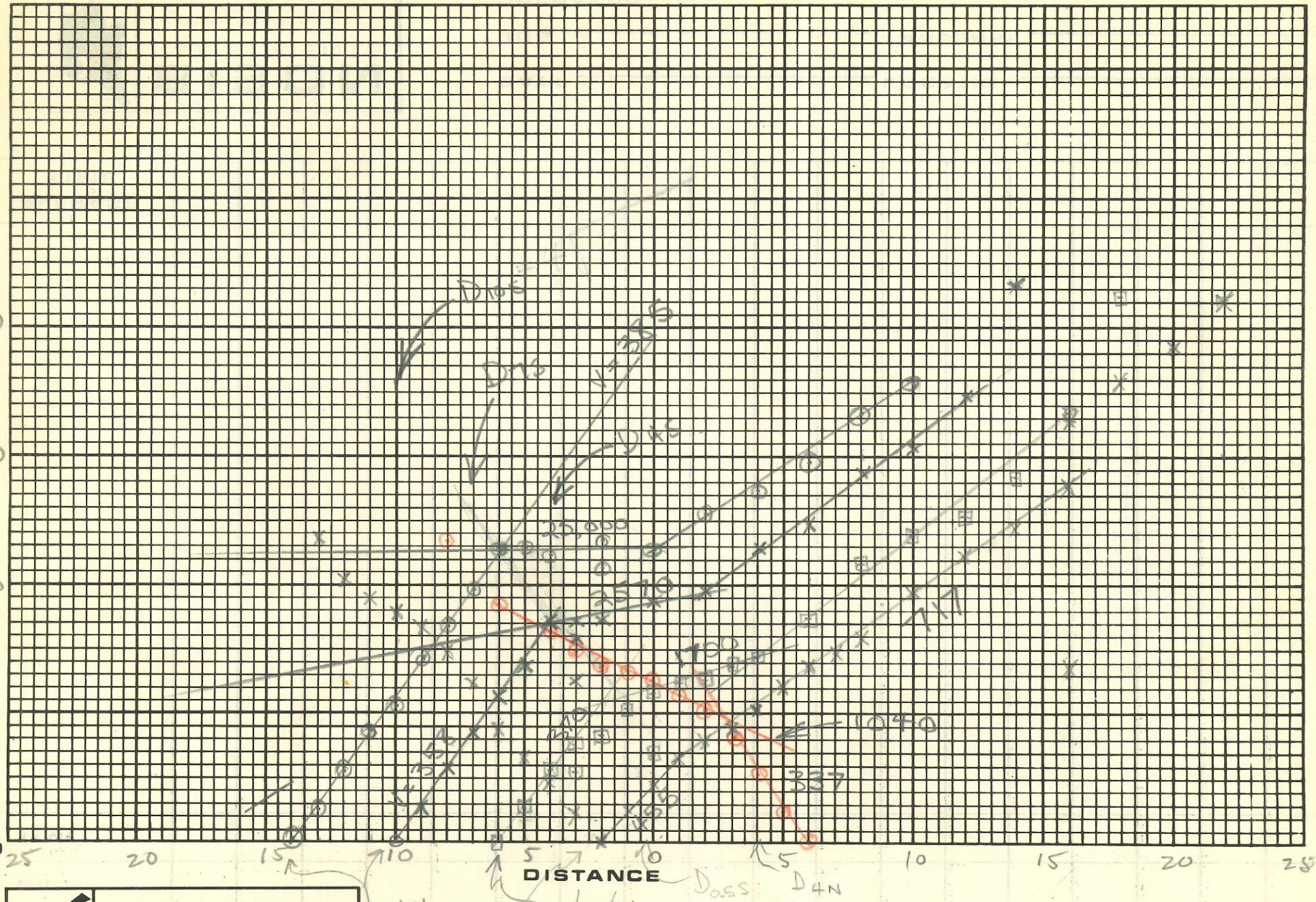
DATE _____ LOCATION G#3

JOB _____ TRAVERSE _____

OPERATOR _____

4 M-E



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DATE 1/19/71 LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR _____

DISTANCE																			
GAIN																			
TIME																			
AVERAGE TIME																			

$D_{10S} = 4\sqrt{\frac{25{,}000 - 385}{25{,}385}} = \sqrt{\frac{24.6}{25.4}}\ 4$

$= 3.94\ M$

$D_{7S} = 3\sqrt{\frac{2210}{2920}} = 2.6\ M$

$D_{4S} = 2\sqrt{\frac{1330}{2070}} = 1.6\ M$

$D_{0.5S} = 1.5\sqrt{\frac{360}{170}}\ \sqrt{\frac{2070}{2360}} = 0.7\ M$

$D_{4N} = 1.75\sqrt{\frac{700}{1380}} = 1.3\ M$

BISON
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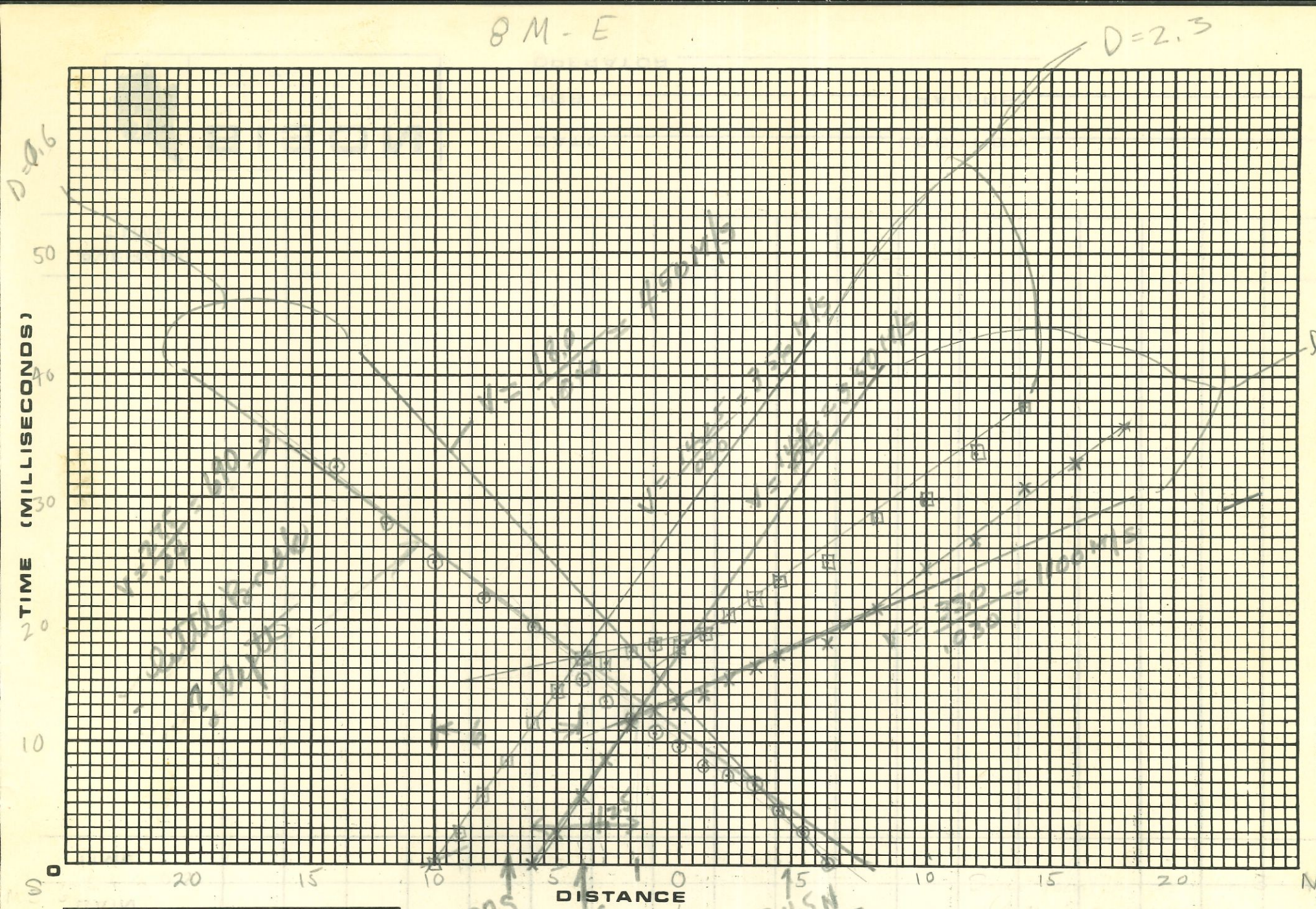
DATE _____ LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR _____

8M-E



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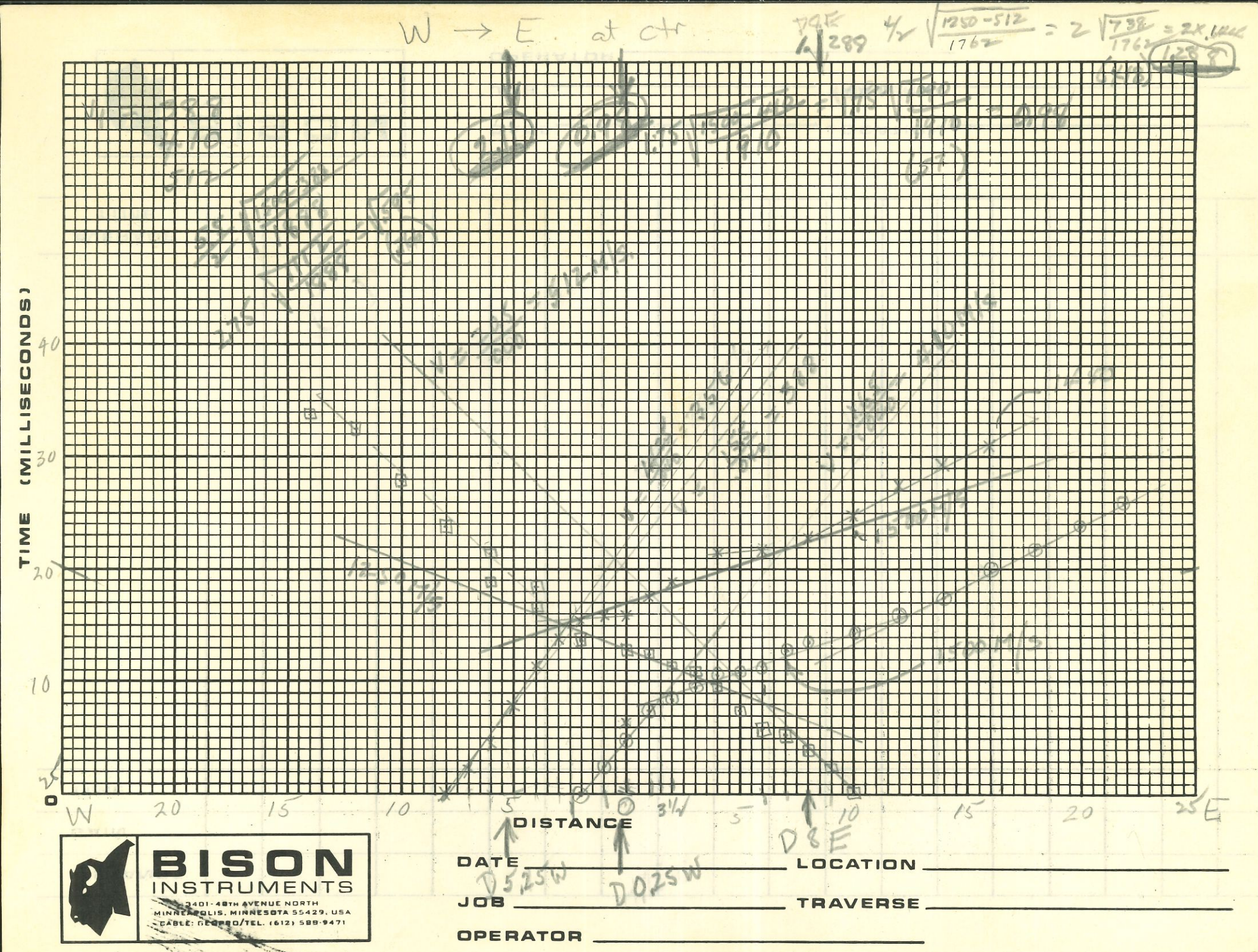
DATE 1/19/71 LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR W. H. Mayne



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DATE _____ LOCATION _____

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OPERATOR _____

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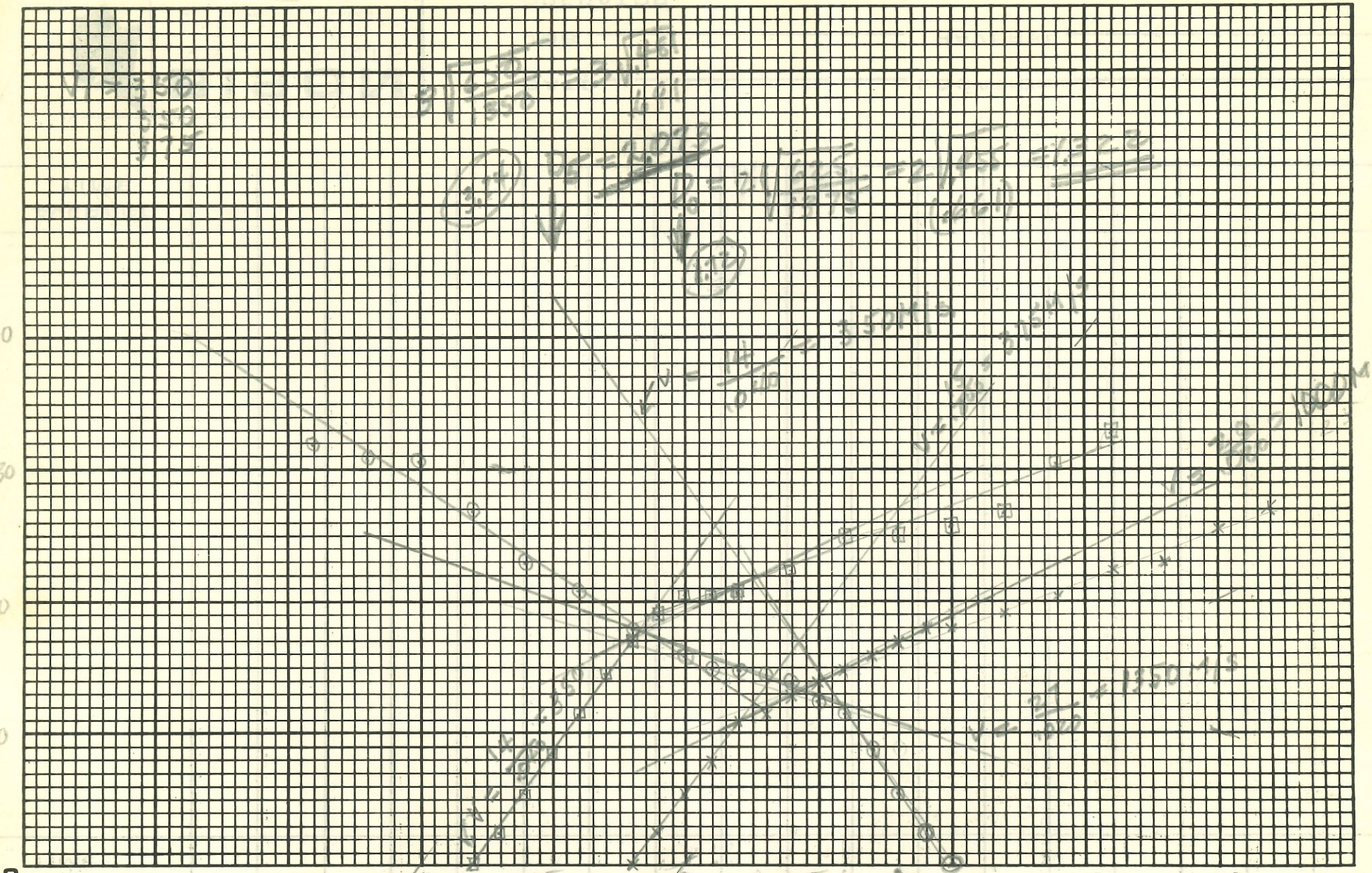
DATE 1/19/71 LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR W.H. Mayne

W → E, 4 MS



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DATE 1/19/71 LOCATION

JOB TRAVERSE

OPERATOR

(1) 1/19/71

Geophone N
~~Station~~
6M South

5	2.88		
4	5.68		
3	7.69	5.49	
2	8.2		
1	10.3		
0	11.7	6.9	
1	12.3		
2	12.7		
3	13.9		
4	14.5		
6	17.4		
8	21.9		
10	23.9		
12	25.3		
14	28.4		
16	33.4		
18	42.4		
22	42.2		
20	38.4		
18	35.8		
16	27.8	33.0	13.4
14	24.4		
12	22.2		
10	19.4		
8	15.9		
7	14.9		
6	13.8		
5	12.1		
4	10.1		
3	8.9		
2	7.9		
1	6.5		
0	4.5		
1	2.3		
3	2.17		
4	4.6		
5	7.49		
6	9.9		

Geophone 2M
South

Geophone 6M
North
1st reading 5M
North

7	12.3
8	14.9
9	16.5
10	17.9
11	18.9
12	20.4
14	23.4
5	2.6
4	.53
3	8.1
2	10.1
1	11.5
0	12.7
1	13.3
2	13.9
3	14.9
4	16.5
6	18.4
8	23.4

1/19/71

(2)

Line moved to 8M East.

Geophone at 6M North on new line

5	2.7
4	4.5
3	5.7
2	7.3
1	8.1
0	9.7
1	10.7
2	11.9
3	13.3
4	15.3
6	19.4
8	21.9
10	24.9
12	27.9
14	32.4

Vs

Geophone 6M South on new line

5	2.6
4	5.5
3	8.5
2	11.3
1	12.5
0	13.1
1	13.9
2	15.1
3	16.1
4	17.1
6	18.1
8	21.0
10	24.3
12	26.5
14	30.9
16	32.9
18	35.9

Vp

Geophone 10M South

14	31.4
12	33.8
10	29.9
8	28.4
6	24.9
4	23.3
3	21.9
2	20.4
1	18.9
0	17.9
1	18.3
2	17.4
3	16.3
4	16.9
5	14.4
6	11.4
7	8.4
8	5.7
9	2.7
-	

(3) 1/19/71

Line 4M

west of sig. line.	5	2.7
	4	5.7
Geophone 6M	3	8.7
South; 1st	2	11.5
reading at	1	14.3
5M.	0	15.5
	1	16.9
	2	17.9
	3	19.4
	4	20.3
	6	22.4
	8	27.3
	10	30.4
	12	35.9
	14	36.9
	16	40.2
	18	42.4

Geophone at	5	2.8
6M North	4	5.9
	3	8.4
	2	10.4
1st reading	1	13.9
	0	16.3
5M North	1	17.4
	2	19.3
	3	21.4
	4	21.4
	6	23.9
	8	26.0
	10	30.8
	12	30.4
	14	36.4
	16	39.4
	18	40.8

Geophone	1	2.4
at 2M	0	4.9
↓	1	7.9
South	2	10.4
↑	3	13.4
	4	15.9
	5	16.9
	6	18.9
	7	22.4
	8	23.9
	10	29.4
	12	35.4
	14	35.4
	16	41.4
	18	42.4

19 JAN 70

GEOPHONE	IMPACT LOCATION	AMP (MM)	
2W	1W	2.4	
	0	4.9	
	1E	7.4	
	2	8.4	
	3	9.4	
	4	10.6	
	5	10.9	
	6	11.3	
	7	12.9	
	8	13.4	
	10	14.3	
	12	15.9	
	14	17.4	
	16	19.9	
	18	21.9	
	20	23.9	
	22	25.8	
8W	16E	30.9	
	14	29.4	
	12	27.4	
	10	24.9	
	8	22.8	
	6	21.8	
	4	21.4	
	2	18.9	
	1	17.4	
	0	15.9	(6.4, EARLY RINGING)
	1W	15.9	
	2	15.4	
	3	13.9	
	4	11.4	
	5	7.9	
	6	4.5	
	7	2.3	

GEOPHONE	IMPACT	AMP	
10E	9E	2.4	
	8	3.9	
	7	5.3	
	6	5.9	
	5	7.4	
	4	9.4	
	3	10.9	
	2	11.4	
	1	12.4	
	0	12.9	
	2W	14.9	
	4	18.4	(16.4)
	6	21.4	(18.9)
	8	23.9	
	10	27.9	
	12	32.4	
	14	33.8	

EW LINE, 4 M S

10E	9E	2.4	
	7	8.9	
	6	11.4	
	8	5.4	
	5	12.4	
	4	13.9	
	3	14.3	
	2	14.8	
	1	14.9	
	0	15.9	
	2W	17.9	
	4	20.8	
	6	22.9	
	8	26.9	
	10	30.4	
	12	30.9	
	14	31.9	

19 JAN 70

GEOPHONE	INFANTRY	ADJ
2W	1W	2.4
	0	5.4
	1E	7.9
	2	10.9
	3	11.4
	4	12.9
	5	13.9
	6	14.9
	7	15.9
	8	16.9
	10	17.9
	12	18.9
	14	20.4
	16	22.4
	18	22.9
	20	25.4
	22	27.0
8W	7W	2.4
	6	5.4
	5	8.4
	4	11.4
	3	14.4
	2	16.9
	1	18.9
	0	20.4
	1E	20.4
	2	20.9
	4	22.4
	6	24.9
	8	24.9
	10	25.8
	12	26.9
	14	30.4
	16	32.9

EW LINE
4MS

$V_1 = 580$ M/sec

$V_2 = 720$ M/sec $\quad X_{c_1} = 22$ M

$V_3 = 2075$ M/sec $\quad X_{c_2} = 67$ M

$\sin i_1 = \frac{580}{780} = .742 \qquad \tan i_1 = 1.1$

$\sin i_2 = \frac{780}{2075} = .376 \qquad \tan i_2 = .405$

$Z_1 = \frac{22}{2}\sqrt{\frac{140}{1300}} = 11\sqrt{.108} = 11 \times .329 = \underline{3.62\text{ M}}$

$Z_2 = \frac{1}{2}\left(.064 - \frac{7.24}{580 \times 2075}\sqrt{2075^2 - 580^2}\right)\frac{2075 \times 720}{\sqrt{2075^2 - 780^2}}$

$2075^2 = 4300000 \qquad 4300000$

$580^2 = 336{,}000$

$3964000 \qquad 780^2 = 610{,}000$

$\sqrt{} = 1{,}990 \qquad \sqrt{3690000} = 1920$

$Z_2 = \frac{1}{2}(.064 - .012)(779)$

$Z_2 = .026(779) = \underline{20.2\text{ M.}} \qquad D_2 = \underline{23.82\text{ M}}$

$X_{R_1} = 2 \times 3.62 \times 1.1 = \underline{7.95\text{ M}}$

$X_{R_2} = 2 \times 20.2 \times .405 = \underline{16.4\text{ M}}$ (max offset $\underline{24.35}$)

$T_{R_0} = \frac{7.24}{580} + \frac{40.4}{720} = .0125 + .0561 = .0686$

REFLECTION 19 JAN 70

5 SENSORS @ 7 Ω (20 cm SPACING)

SOURCE	ms DELAYS	P-P
13 E	61.1, 37.9, 53.3	44.0 53.3 = 9.3 ms
15 E	42.1, 56.0, 64.3, 72.6	
13 E	34.1, 44.2, 53.2, 60.8, 67.0	
11 E	31.2, 40.6, 46.8, 56.5, 63.5, 71.5	
10.5+11.5	32.1, 40.7, 47.7, 56.9, 64.8, 72.1	
12.5 + 13.5	33.7, 43.0, 53.0, 59.0, 66.7,	
14.5+ 15.5	36.6, 41.5, 47.1, 55.2, 63.2, 73.0	
14	35.9, 43.3, 52.8, 60.2, 68.2, 75.4, 83.4	

SENSOR 0 → ON BARE TEPETATE

OVER TEPETATE (N OF GRID +2)

SOURCE	DELAY
1	0.41
2	2.69, 2.61, 2.77
3	5.57, 4.78
4	7.36
5	8.49
7	10.9
9	13.7
11	15.9
13	18.1
15	19.8

W → E 4 MS Reflection Expt. with 5 geophones 20 cm apart

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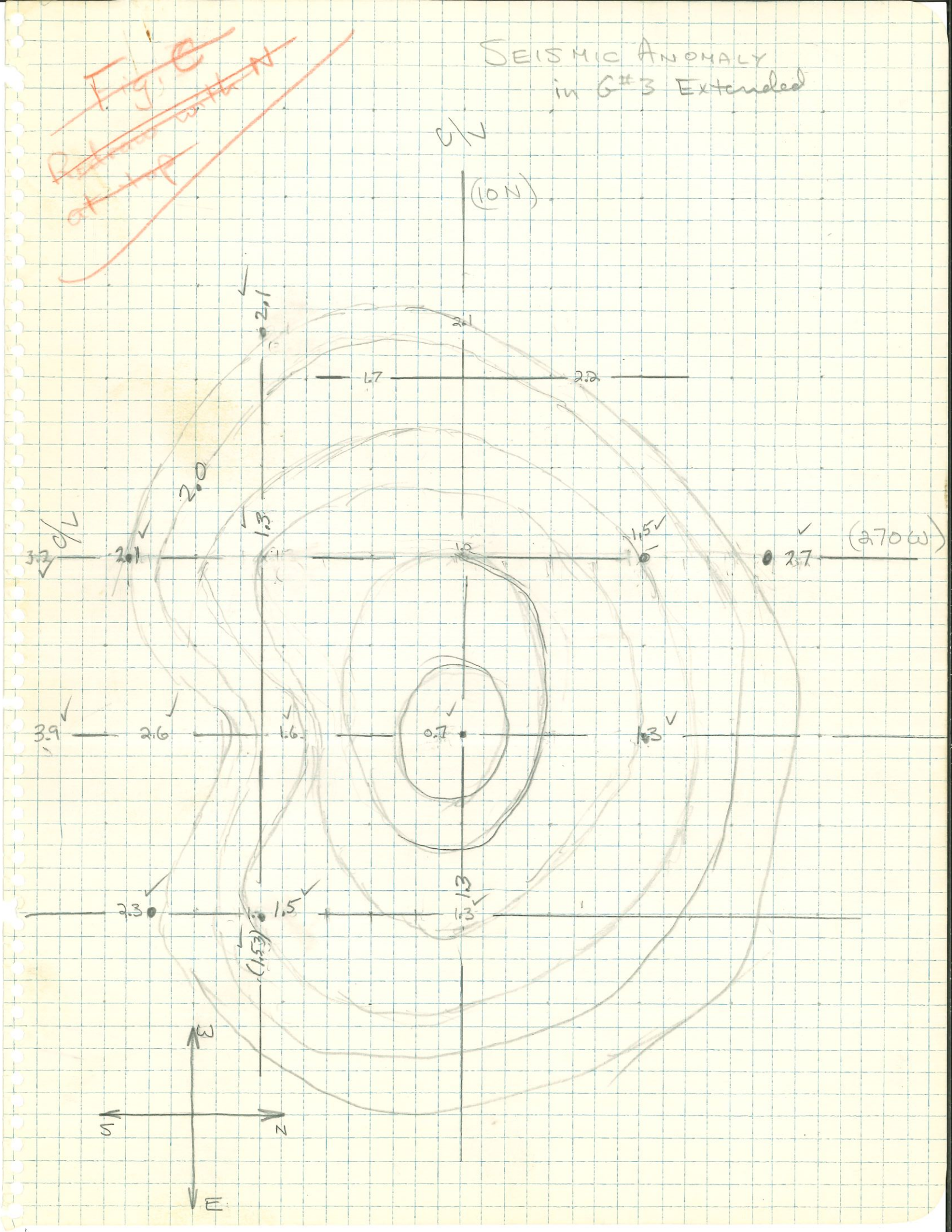
DATE 1/19/71 LOCATION X = Summed both sides, ±0.5 M

JOB _____ TRAVERSE _____

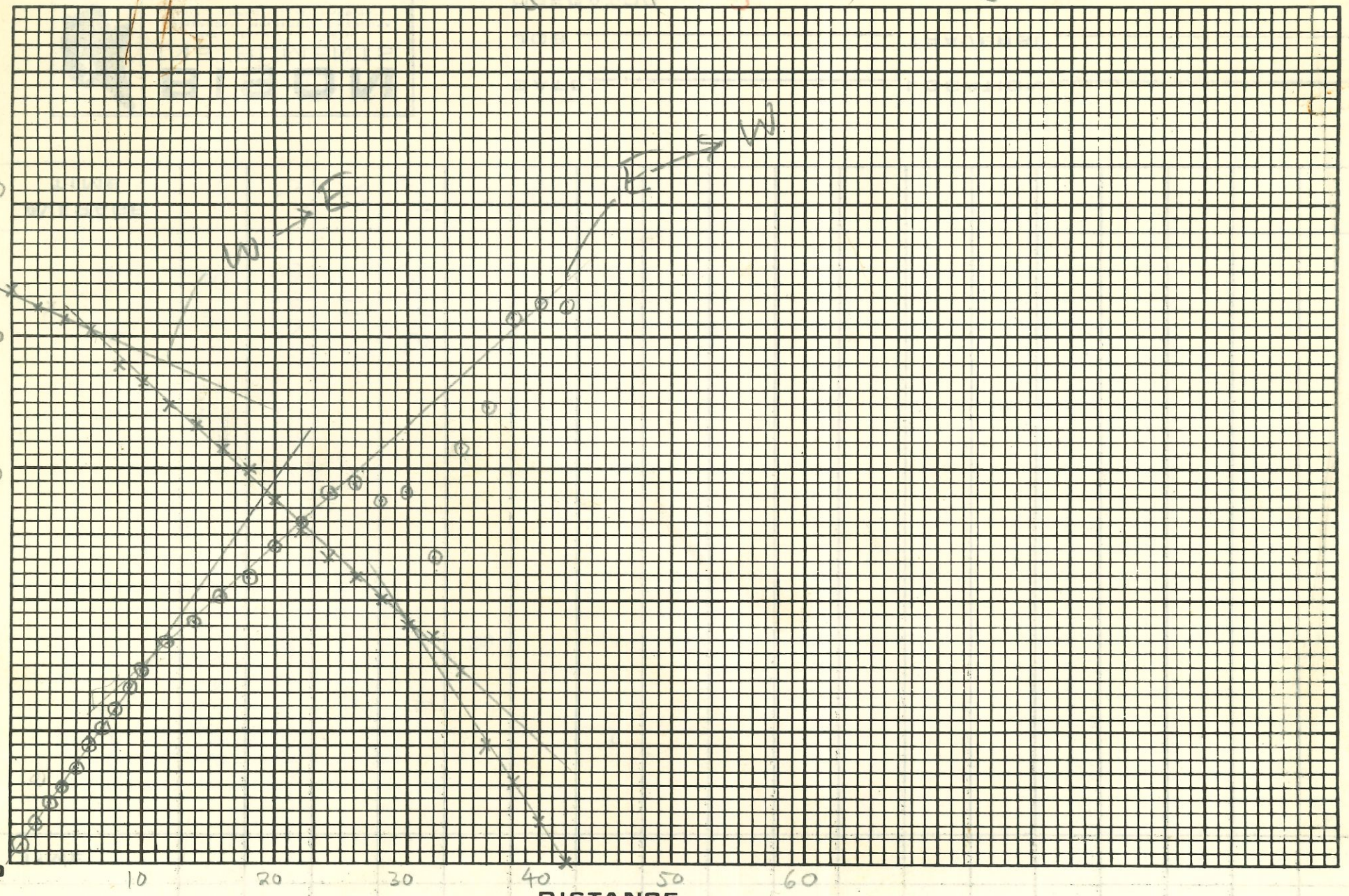
OPERATOR _____

Fig. C
Replaces with N

SEISMIC ANOMALY
in G#3 Extended



Molcajete (Fig. D) Fig. 22



BISON INSTRUMENTS
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DATE 1/25/71 LOCATION MOLCAJETE

Line along barbed wire fence between maguey & corn

JOB _____ TRAVERSE _____

OPERATOR EKR

over for Depth calcs.

BISON INSTRUMENTS
3401-48TH AVENUE NORTH
MINNEAPOLIS, MINNESOTA 55429, USA
CABLE: GEOPRO/TEL: (612) 588-9471

DATE _____ LOCATION _____

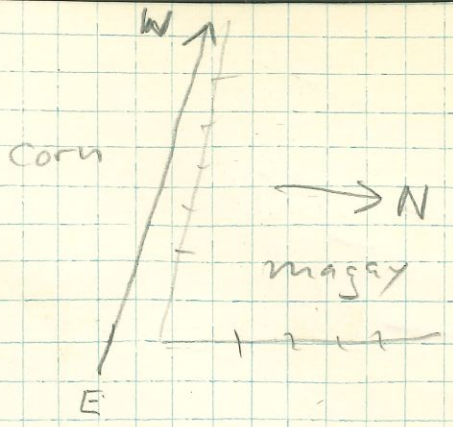
JOB _____ TRAVERSE _____

OPERATOR _____

AVERAGE TIME	E → W	W → E	TIME	GAIN	DISTANCE
V_1	345 m/s	326 m/s			
V_2	660 m/s	550 m/s			
X_C	11 m	12.6 m			
$V_2 - V_1$	315	224			
$V_2 + V_1$	1005	876			
$\sqrt{\frac{V_2 - V_1}{V_2 + V_1}}$	.31	.256			
D	3.1 m	3.2 m			

Moloajete 1/25/71

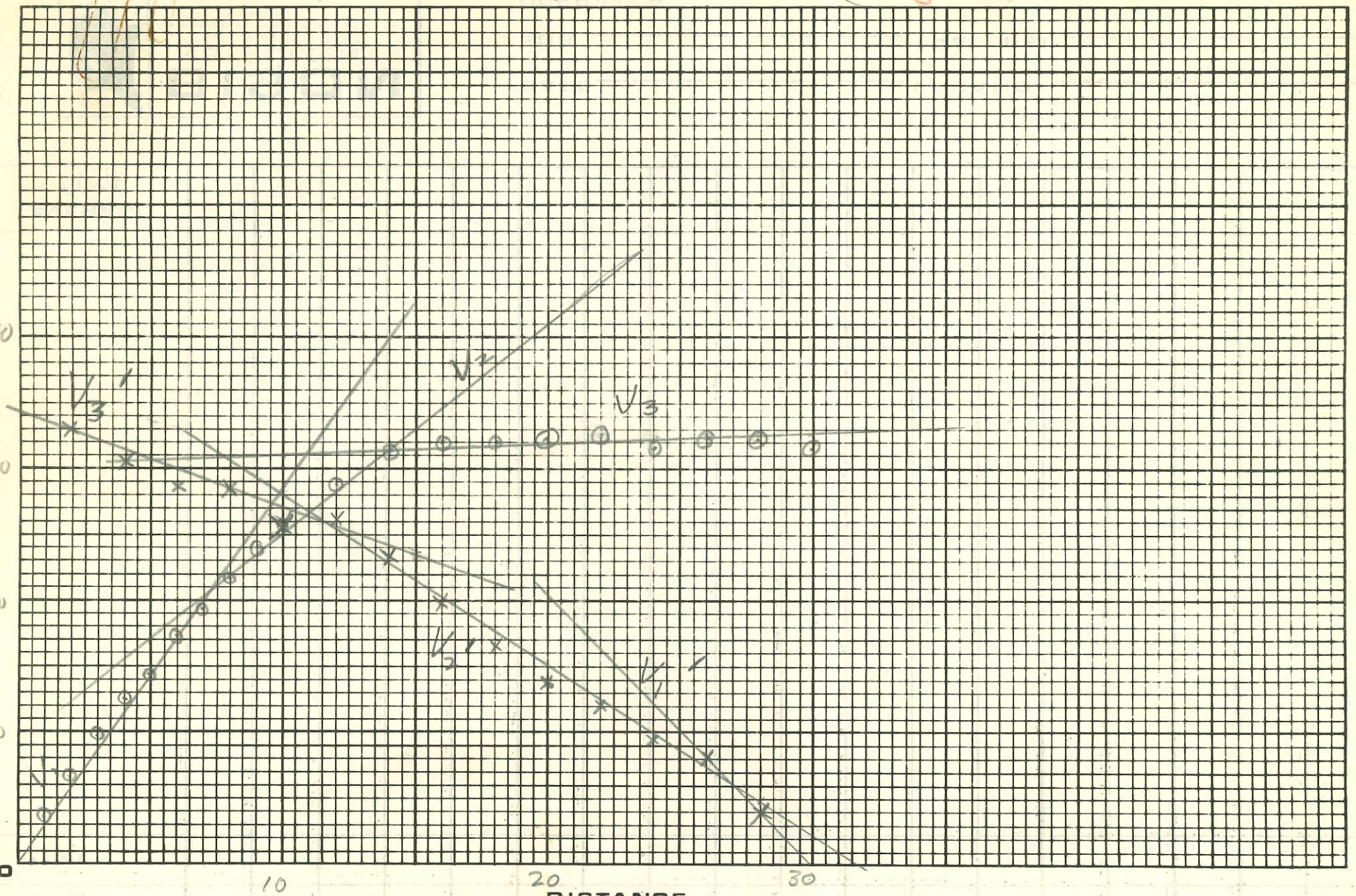
M Sec	E→W ms	W→E
0		87.6
1	3.04	
2	6.04	84.5
3	9.2	
4	11.8	82.2
5	14.6	
6	18.0 , 22.1	80.8
7	20.1 , 24.9	
8	23.4 , 27.0	75.1
9	26.3 , 29.0	
10	25.2 ? , 29.5	73.2
12	33.5	69.8
14	36.5	66.3
16	40.3	62.8
18	43.7	59.8
20	48.0	55.1
22	51.9	51.4
24	56.1	46.7
26	57.5	43.3
28	54.3 , 55.0	40.2
30	58.1	36.5
32	46.0 , 46.1	34.6
34	63.2 , 72.8	29.4
36	69.8	18.1
38	83.0	12.5
40	85.8	6.4
42	85.4	0
44		↑



Las Cuevas

⊙ N → S
× S → N

(Fig. E) Fig. 25



BISON INSTRUMENTS
3401-48TH AVENUE NORTH
MINNEAPOLIS, MINNESOTA 55429, USA
CABLE: GEOPRO/TEL. (612) 588-9471

DATE 1/26/71 LOCATION LAS CUEVAS

JOB _____ TRAVERSE _____

OPERATOR _____

BISON INSTRUMENTS
3401-48TH AVENUE NORTH
MINNEAPOLIS, MINNESOTA 55429, U.S.A.
CABLE: GEOPRO/TEL: (612) 588-9471

DATE _____ LOCATION _____

JOB _____ TRAVERSE _____

OPERATOR _____

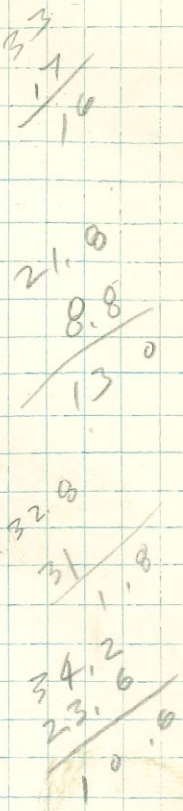
AVERAGE TIME	N→S	S→N		TIME	GAIN	DISTANCE
V_1	347	489	m/s			
V_2	627	770	m/s			
V_3	11,100	1418	m/s			

1/26/71

Seismic Line Las Cuevas

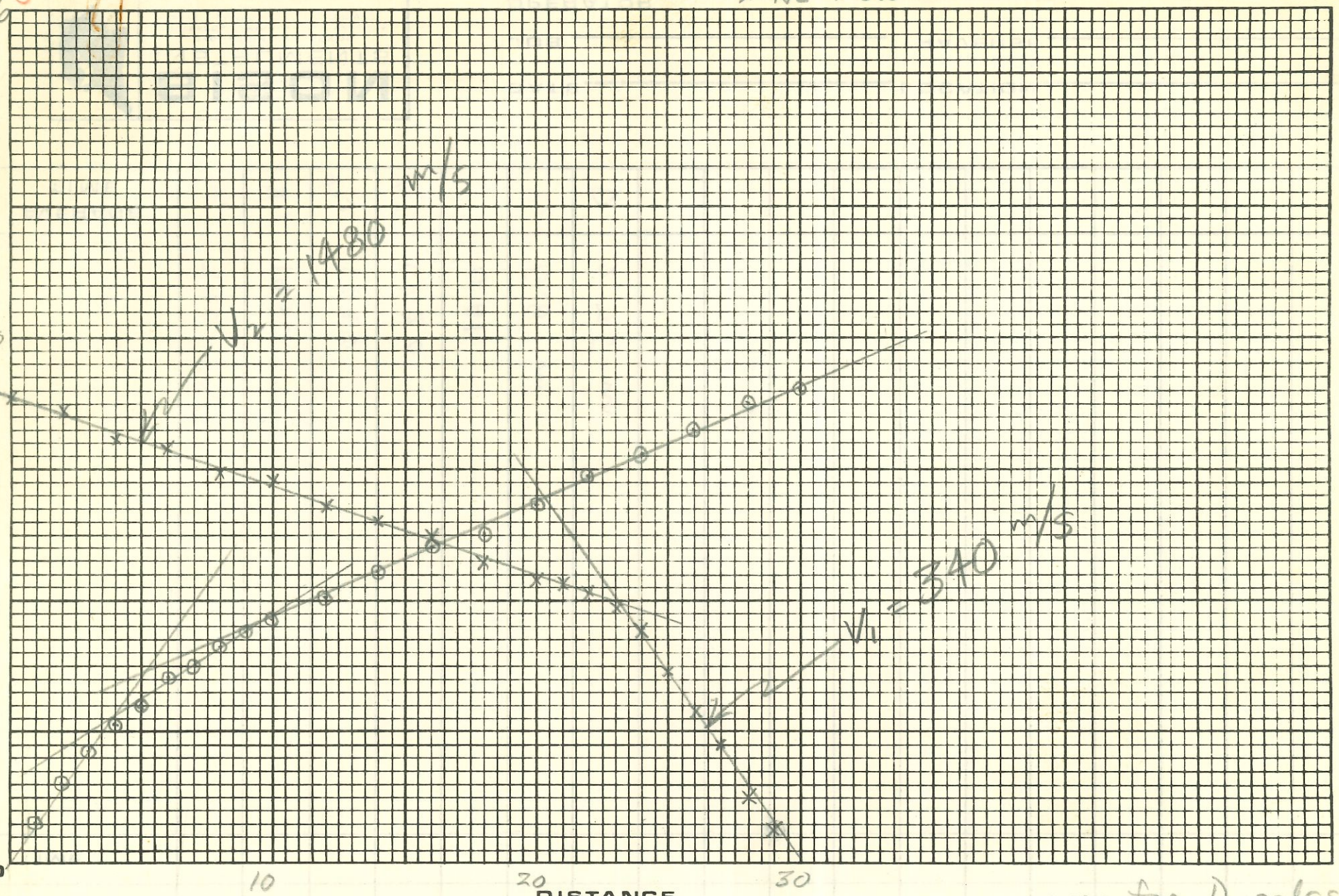
Along road from Tree, south

M	ms		Reversed
0	Geophone		
1	3.6		
2	6.6		33.0
3	9.8		
4	~~2.1~~	12.5	30.5
5	15.3		
6	17.4		28.5
7	19.4		
8	21.9		28.2
9	24.0		
10	25.8		26.8
12	28.9		26.1
14	31.1		23.3
16	32.0		19.8
18	32.0		16.6
20	32.5		13.7
22	32.6		12.0
24	31.5		9.5
26	32.2		~~11.1~~ 8.0
28	32.6		→ ~~8.8~~ 5.9
30	31.6		



(Fig. F)

EL TRIGO 1/27/71 ⊙ SW → NE × NE → SW (NEAR SAN PEDRO)



over for D calcs.

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OPERATOR _____

DISTANCE																			
GAIN																			
TIME																			
NE → SW	340 m/s	1480 m/s	1140	1820	0.81	6.8 m	2.75 m		no repetate										
AVERAGE TIME	V_1	V_2	$V_2 - V_1$	$V_2 + V_1$	$\sqrt{}$	X_c	D												

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OPERATOR _____

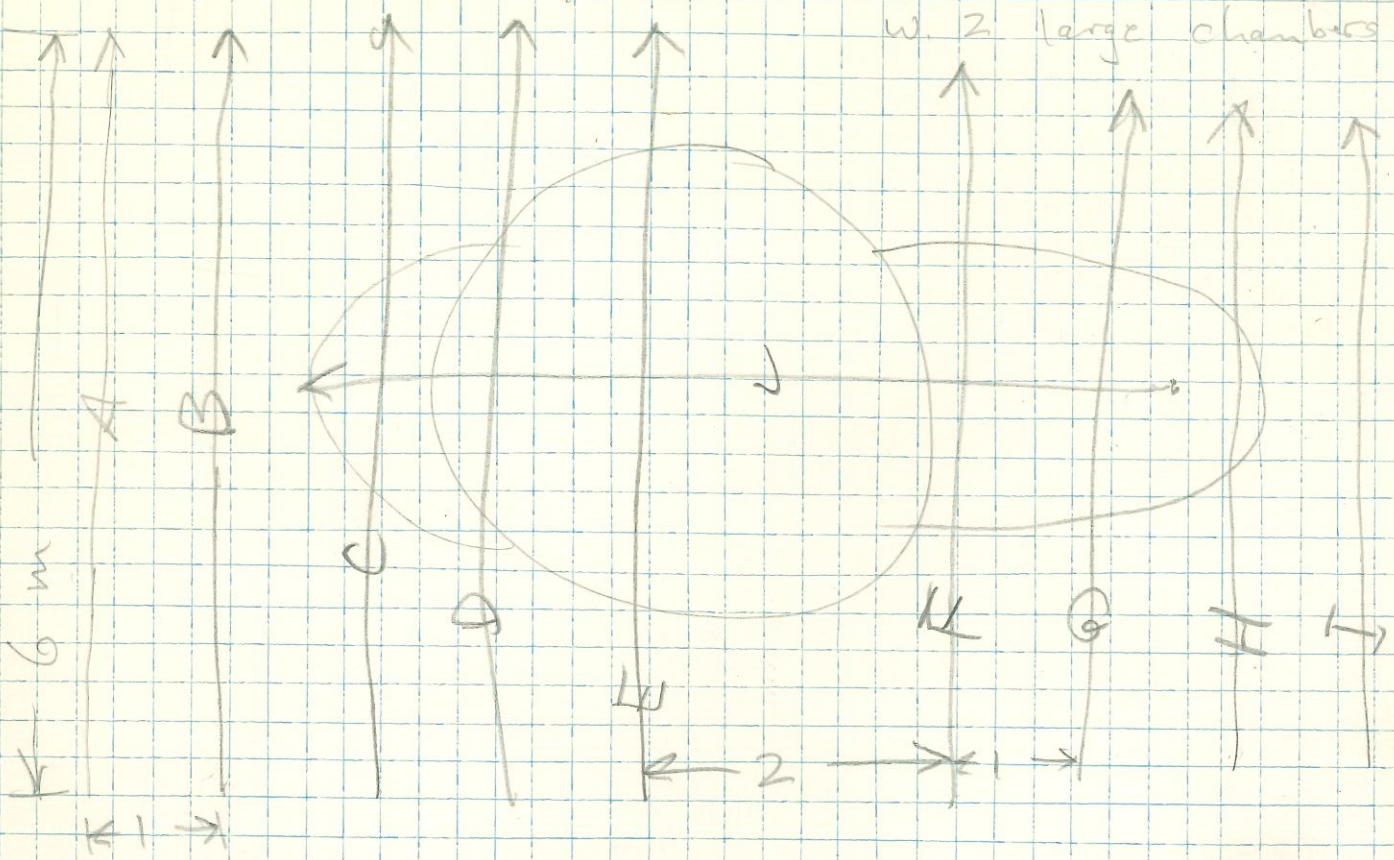
1/27/71 Seismic Line El Tejo, near San Pedro

El Trigo

Along dirt track

M	SW → NE ms	NE → SW
0	geophone	
1	3.0	2.5
2	6.0	6.1
3	8.6	9.0
4	10.5	11.5
5	12.0	14.5
6	14.1	17.6
7	15.0	19.5
8	16.5	20.6
9	17.5	21.1
10	18.6	21.6
12	20.1	23.0
14	22.1	25.0
16	24.0	26.0
18	25.0	27.1
20	27.1	29.1
22	29.5	29.7
24	31.0	31.6
26	33.0	32.1
28	35.1	34.5
30	36.1	35.6

Santa Gertrudis 7/1/71 Tomb ② ≈ 3 m in dia.
w. 2 large chambers

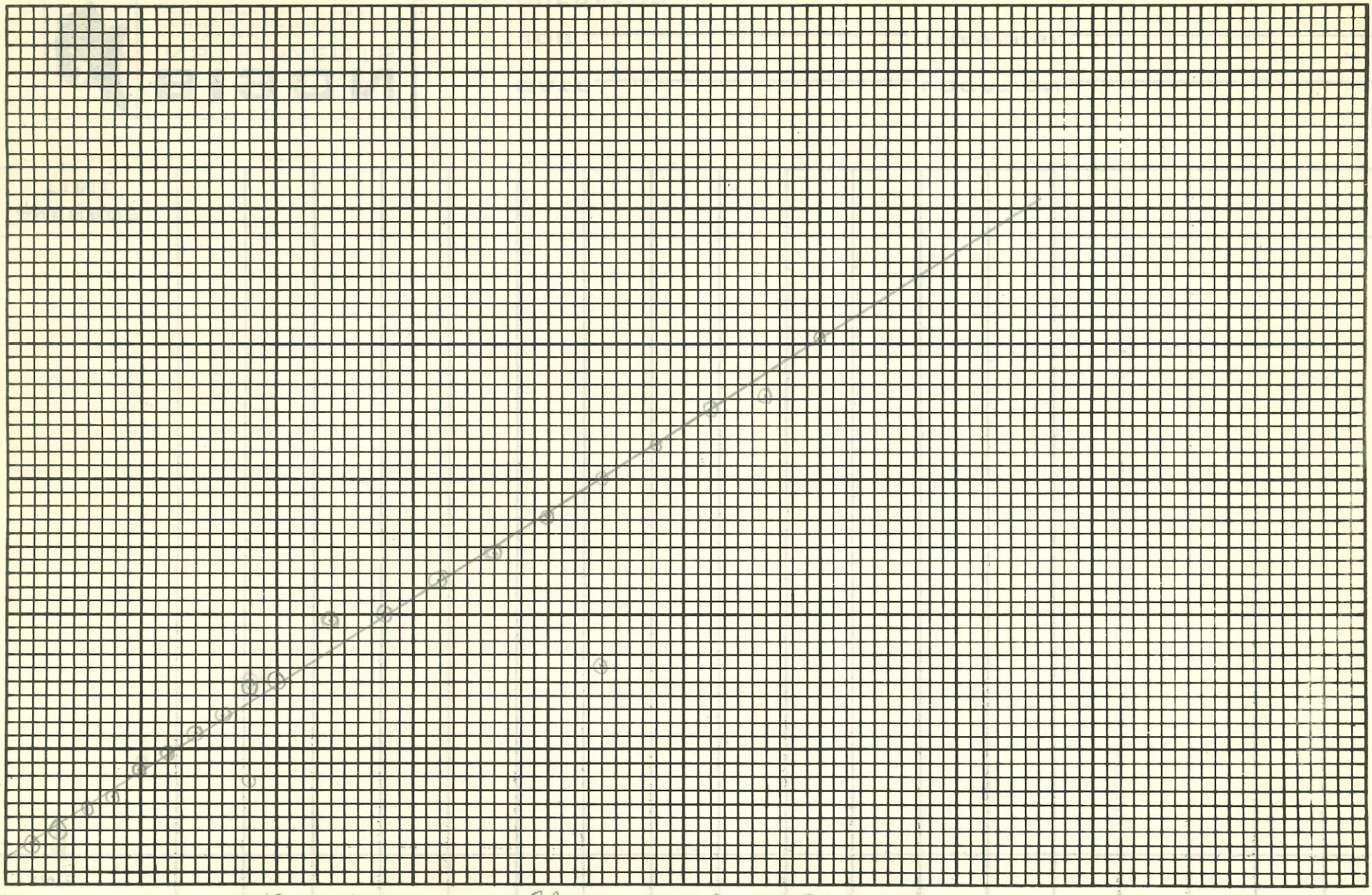


Line	ms
A	10.4
B	9.8
C	11.4
D	12.4
E	13.8
F	11.0
G	9.6
H	10.4
I	10.6
J	14.2

Fig. G

Fig 28

Test Line $V_1 = 780$ m/sec



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CABLE: GEOPRO/TEL. (612) 588-9471

DATE 2/1/71 LOCATION Santa Gertrudis

JOB _____ TRAVERSE _____

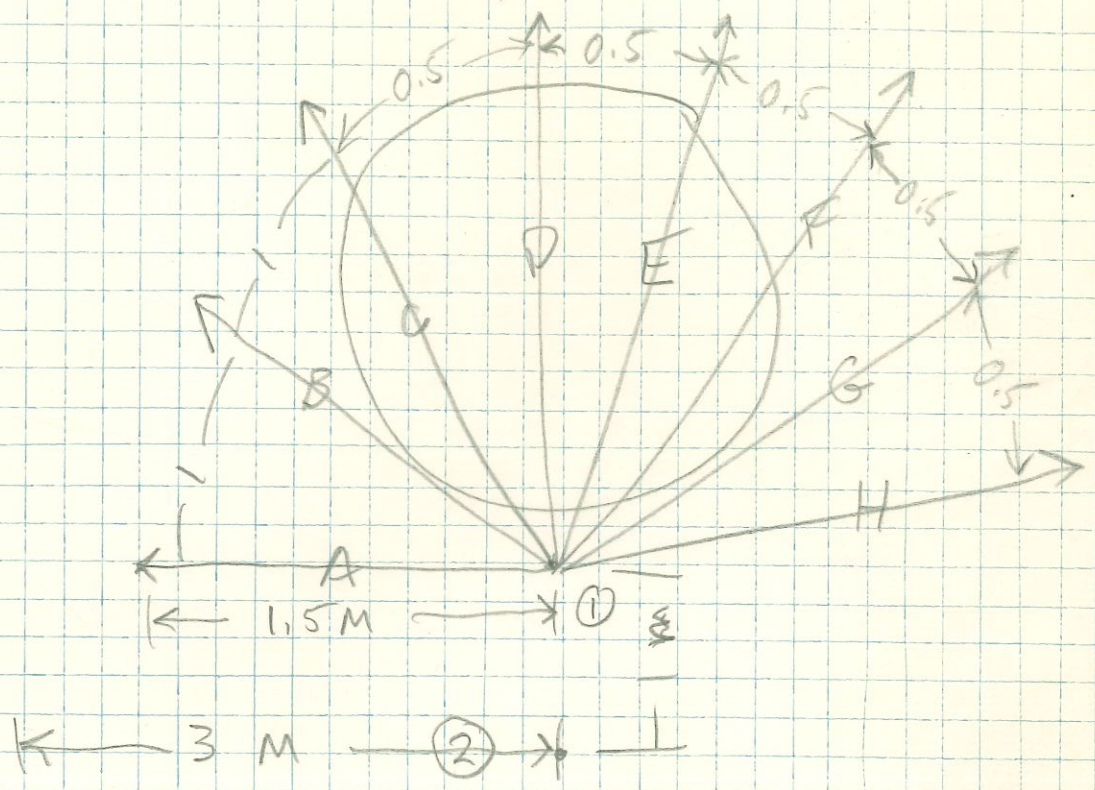
OPERATOR _____

SANTA GERTRUDIS 2/1/71

Test Line

M	ms
1	3.0
2	4.0
3	5.6
4	6.5
5	8.6
6	9.6
7	11.1
8	12.5
9	14.6
10	15.1
12	19.6
14	20.0
16	22.6
18	24.5
20	27.2
22 (16.1)	30.1
24	32.6
26	35.1
28	36.1
30	40.3

Tomb ① in India



	Line ① ms	Line ②
A	2.8, 4.4	7.8
B	4.8	7.4
C	4.6	6.6
D	4.4	7.0
E	4.0	6.8
F	3.4	6.8
G	3.6	6.8
H	4.0	7.2

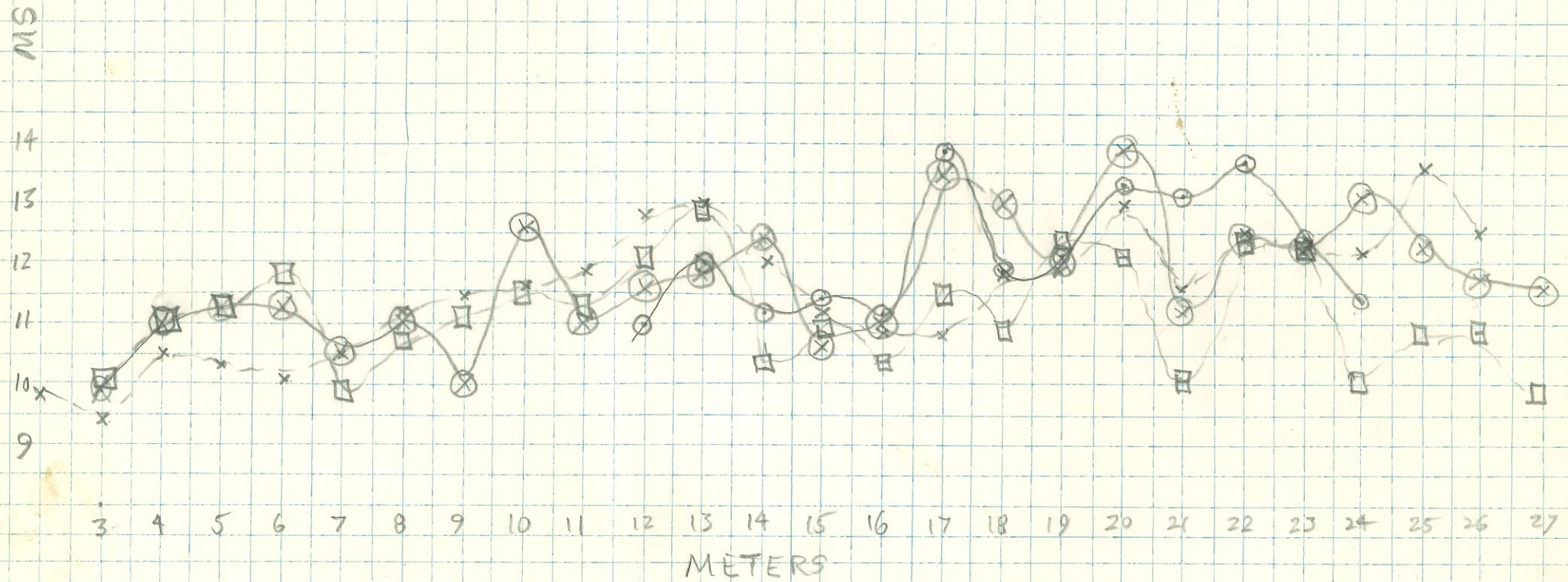
2/3/71

⊗ = line 9

x = line 10

⊗ = line 11

□ = line 12



Santa Gertrudis 2/1/71

Search for Tomb at 6-meter intervals

Geo	Hammer	① ms	② ms	
0	6	10.8	10.8	
3	9	11.2	11.4	
6	12	11.8	10.2	
9	15	11.8	10.4	
12	18	11.2	10.2	
15	21	12.6	10.4	
18	24	12.2	11.1	very shallow pit at 24 m
21	27	12.8	11.8	tomb at 26 m
24	30	10.6	12.0	

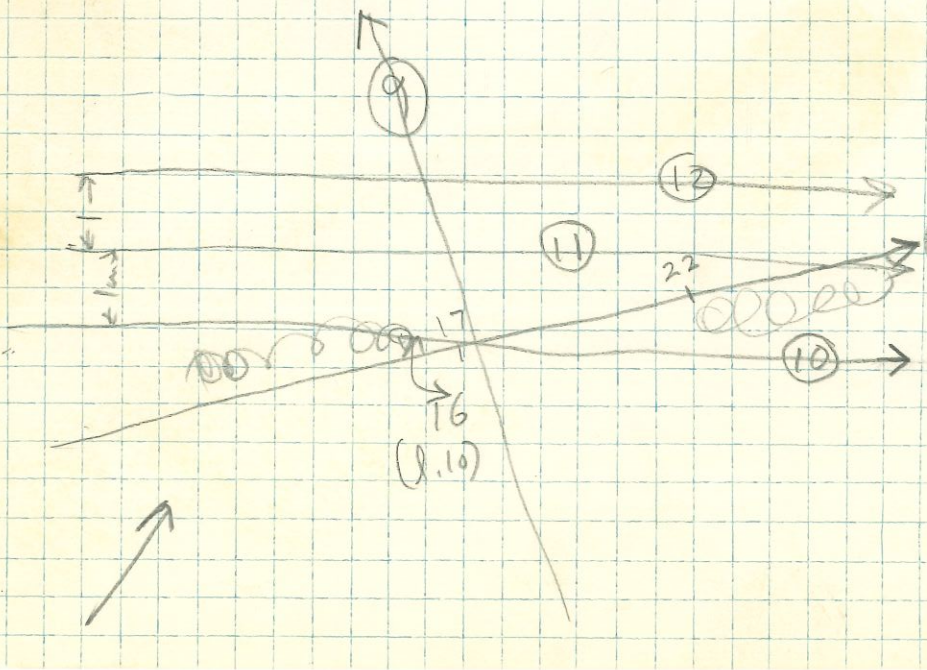
		③		④	⑤		⑥ 1 ③		⑦
0									
0	6	9.2		8.8	8.8		8.9		9.8
3	9	10.0		8.2	8.6		7.8		9.2
6	12	9.8		8.8	9.5	nada	7.6		9.0
9	15	9.0		8.6	7.8		8.0		8.8
12	18	9.8		9.1	8.2		9.0	tomb at 18 m	8.2
15	21	9.4		8.2	8.0		9.6	" "	8.3
18	24	8.8	exposed tepetate	8.6	7.6		9.6		8.6
21	27	12.4	tomb at 26 m, (refilled)	8.8	8.0		9.4		8.9
24	30	10.5		8.2	8.4		8.6		8.2

2/3/71

		⑧	⑨ − ⑧	⑩ 11 ⑨	⑪ 8 ⑨	⑫ 11 ⑩
0	6	9.7	8.8			
3	9	9.6	8.6			
6	12	11.0	9.6			
9	15	11.6	9.8 ←	10.0	8.9	9.6
12	18	11.0	9.4 ←			
15	21	11.0	8.4			
18	24	13.5	8.4			
21	27	11.4 -	8.6			
24	30	10.4	8.6			

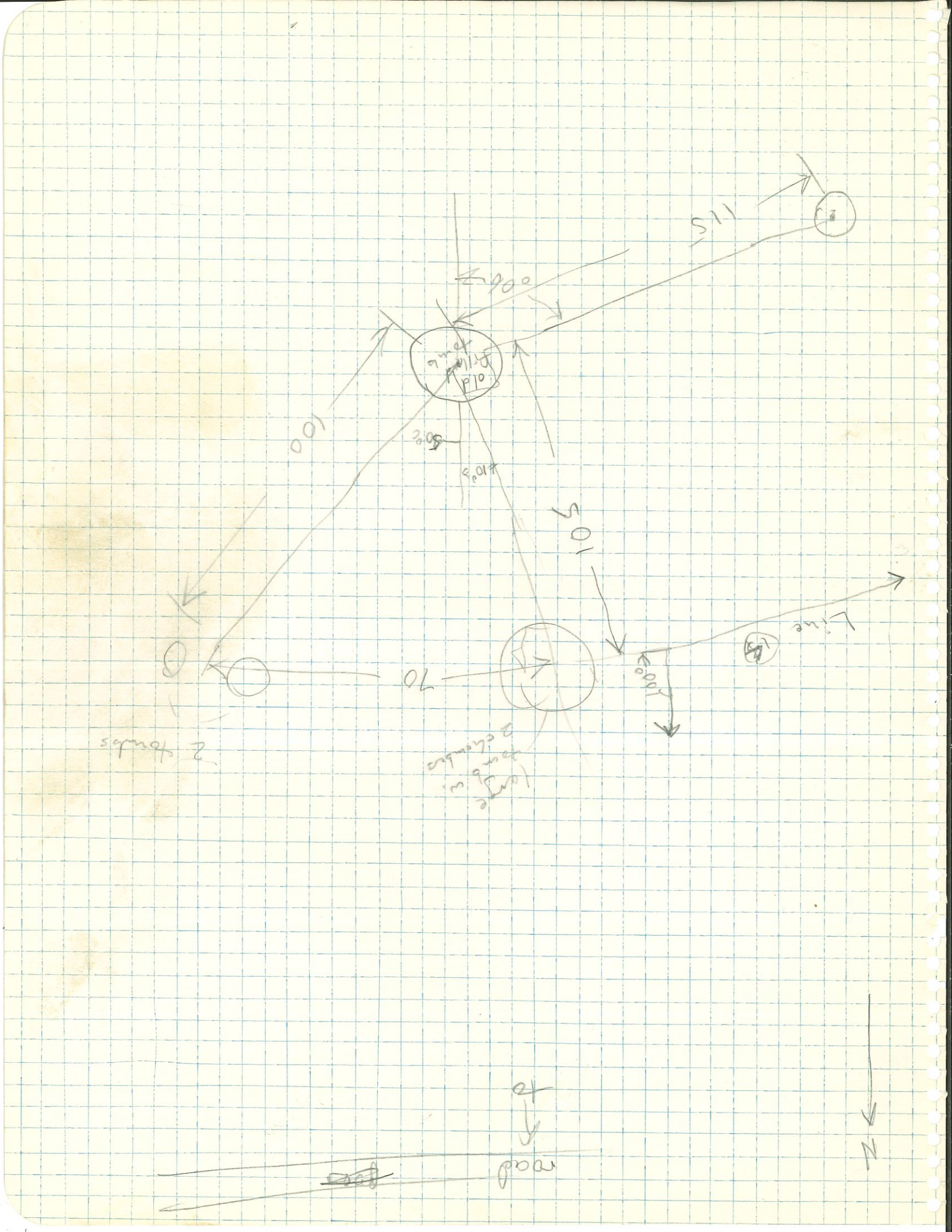
Line ⑧ in 1 m jumps

			⑩	
9	15	11.0	9-15	11.8
10	16	12.0	10-16	-12.8
11	17	11.2	11 17	13.0
12	18	11.4	12 18	12.9
13	19	11.2	13 19	11.2
14	20	13.8	14 20	10.8
15	21	11.8	15 21	10.8
16	22	12.2	16 22	11.8
17	23	13.3 -	17 23	11.8
18	24	13.2	18 24	-13.0
19	25	13.7 -	19 25	11.6
20	26	12.4	20 26	12.5
21	27	11.4	21 27	12.3
			22 28	12.2
0	6	9.8	23 29	13.6
1	7	9.4	24 30	12.5
2	8	-10.5		
3	9	10.3		
4	10	10.1		
5	11	10.5		
6	12	11.2		
7	13	11.4		
8	14	11.6		



(11) 2/3/71 (12) Line (3) ⊥ (12) N 15 m S

		(11)	(12)	(13)
0	6	9.8	10.1	10.1
1	7	11.0	11.2	10.5
2	8	11.2	11.3	10.2
3	9	11.2	11.8	10.1
4	10	10.5	10.9	10.1
5	11	11.0	10.7	- 10.6
6	12	10.0	11.1	11.1
7	13	12.6	11.4	11.4
8	14	11.0	10.8	10.8
9	15	11.6	12.1	11.0
10	16	11.8	12.9	10.4
11	17	12.4	10.3	10.6
12	18	10.6	10.9	10.8
13	19	11.0	- 10.3	10.9
14	20	13.5	11.6	10.3
15	21	13.0	10.8	9.6
16	22	12.0	12.4	9.4
17	23	13.9	- 12.1	9.3
18	24	11.2	- 10.1	9.8
19	25	- 12.4	- 12.4	9.8
20	26	12.2	12.3	10.2
21	27	13.2	10.0	10.6
22	28	12.2	10.8	9.9
23	29	11.2	- 10.8	10.4
24	30	11.1	9.4	10.2



Line 14 2/3/71

0	6	11.8
3	9	11.4
6	12	12.0
9	15	10.6
12	18	10.8
15	21	12.2
18	24	13.4
21	27	13.0
24	30	12.6
27	33	11.4
30	36	12.6
33	39	7.1
36	42	12.6
39	45	12.2
42	48	13.6
45	52	12.8
48	55	13.4
52	58	12.4
55	61	13.5
58	64	11.6
61	67	9.9
64	70	8.1
67	73	9.6
70	76	9.1
73	79	9.0
76	82	8.2
79	85	10.4
82	88	9.7
85	91	9.8
91	94	8.6

Blank

26 46
47
47

45
43
46
45
38

42

46
43
54
47
45
34 32

w. Mark

2647

#1
brown

above

2632
43
46
43

under

41
43
42

44
47

red soil

top

51
55
53

under

34
42
43
45
46

top

36
34
31
32

48
48
~46

Samples
from
Mexico
tested
2/28/68

Stone

killed
percession

top

610 652
613 ??
613

under

34
32
42
48

48
43
47

kg	stance
45	—
47	—
47