

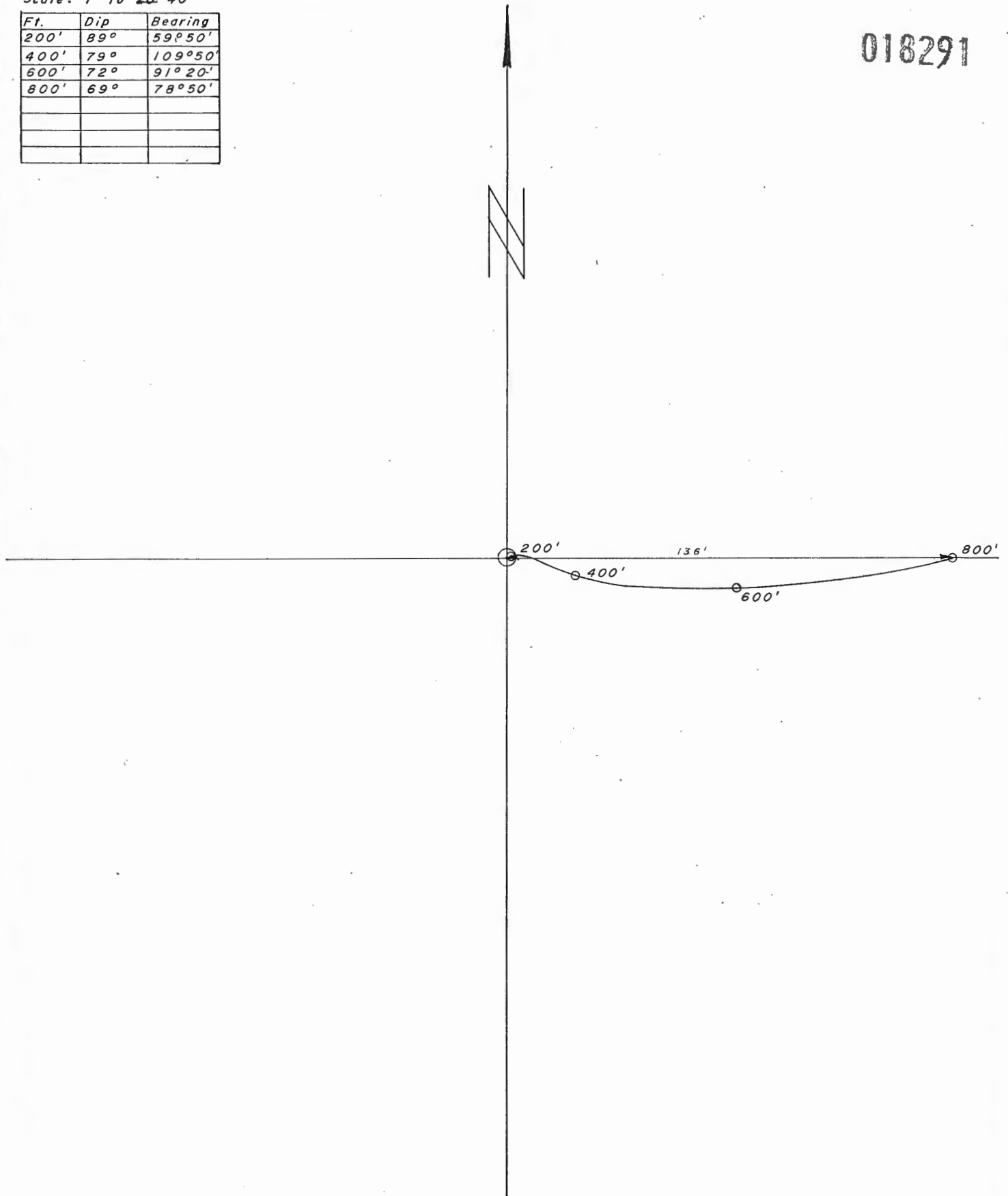
A-90 (74 W. 8 N)

Scale: 1" to 40'

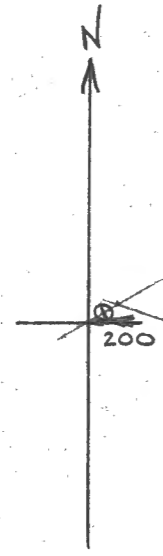
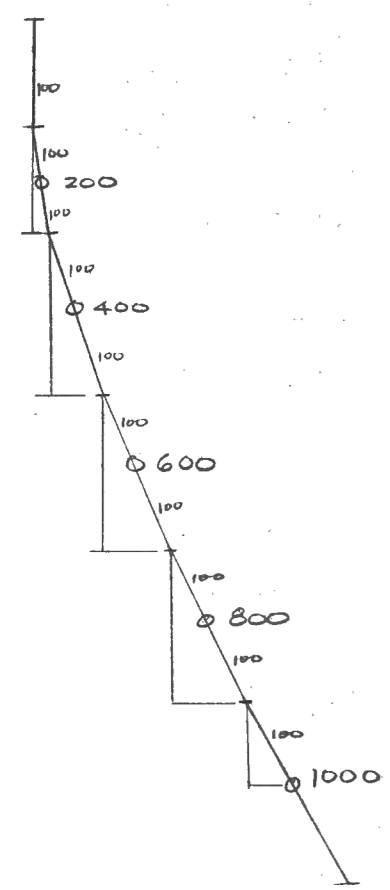
Ft.	Dip	Bearing
200'	89°	59°50'
400'	79°	109°50'
600'	72°	91°20'
800'	69°	78°50'

D.D.H. DEVIATION

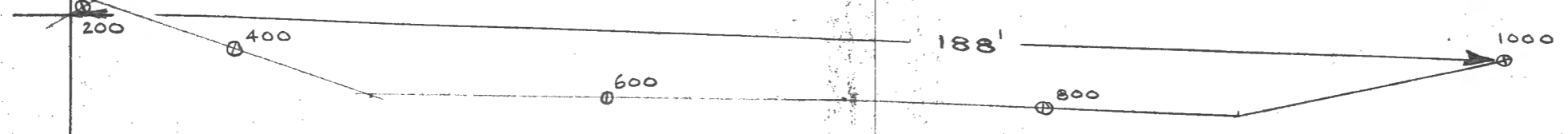
018291



Az	Dip	Cos	Dist	HD	SIN	VD
59.36	89	.0174	200	3.5	1.000	200.0
109.36	79	.1908	200	38.2	.9816	196.3
161.18	72	.3090	200	61.8	.9511	190.2
212.36	75	.2588	200	51.7	.9659	193.2
263.36	69	.3584	100	35.8	.9336	93.4
						100.0
						<u>973.1</u>



Scale: 1" = 20'



Scale: 1" = 20'

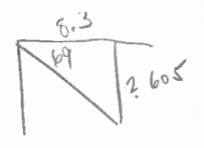
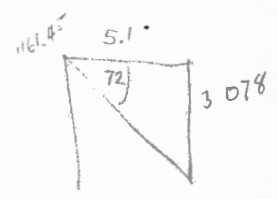
A-90

FT.	Dip	Bearing	INTERVAL	COS	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	1		
			30.48							1312.72	30.48
60.96	89°	59° 50'	60.96	.0175		1.07	.99985		.48	1282.24	30.48
121.92	79°	109° "	60.96	.1908		11.63	.98163		60.95	1221.29	91.44
182.88	72°	91° 20'	60.96	.3090		18.84	.95106		59.84	1161.45	152.40
243.84	69°	78° 50'	60.96	.3584		21.85	.93358		57.98	1103.47	213.36
									56.91	1046.56	274.32
											316.38

Checked A 1 10
NOV 16/76

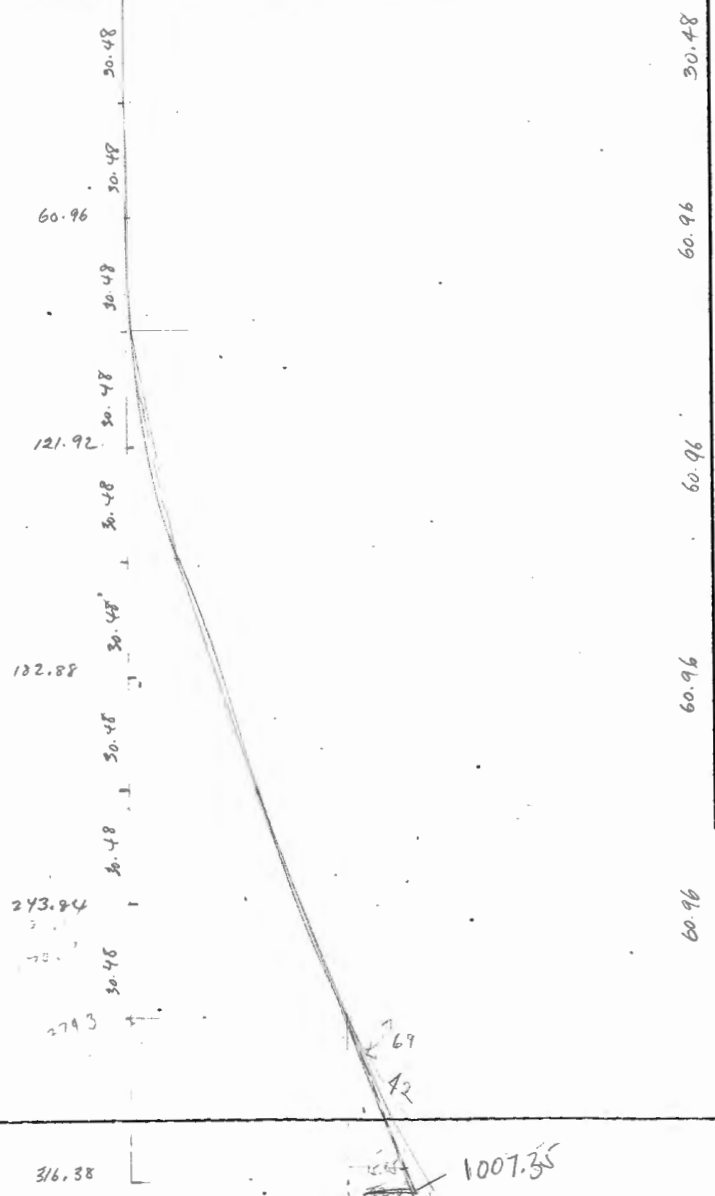
10,874.36
7,692.18

74W / 8N



316.
274.
42.04

$$SI \quad b = \frac{x}{4}$$

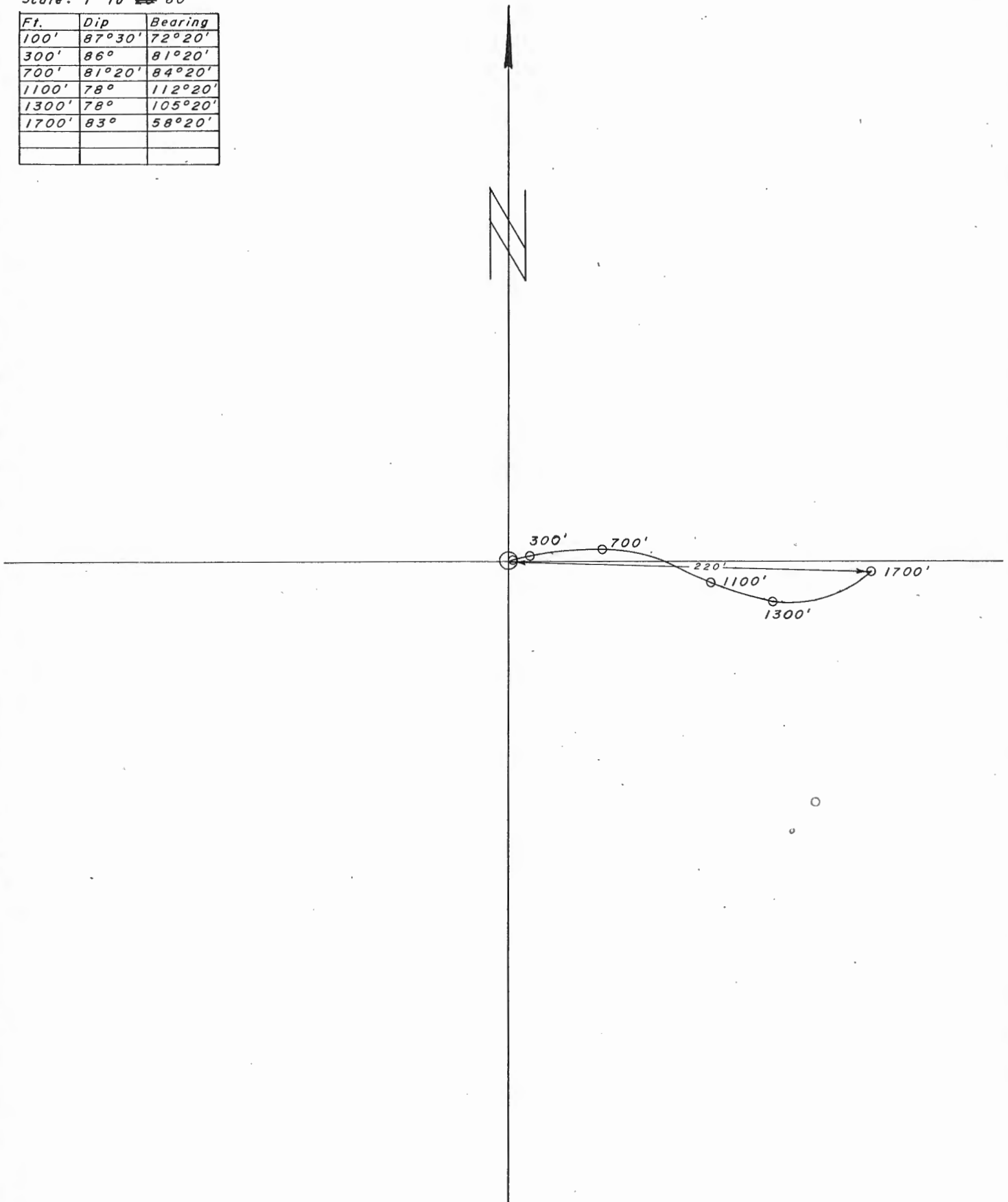


A-91 (112W. 10N)

D.D.H. DEVIATION

Scale: 1" to 80'

Ft.	Dip	Bearing
100'	87°30'	72°20'
300'	86°	81°20'
700'	81°20'	84°20'
1100'	78°	112°20'
1300'	78°	105°20'
1700'	83°	58°20'



J.P.

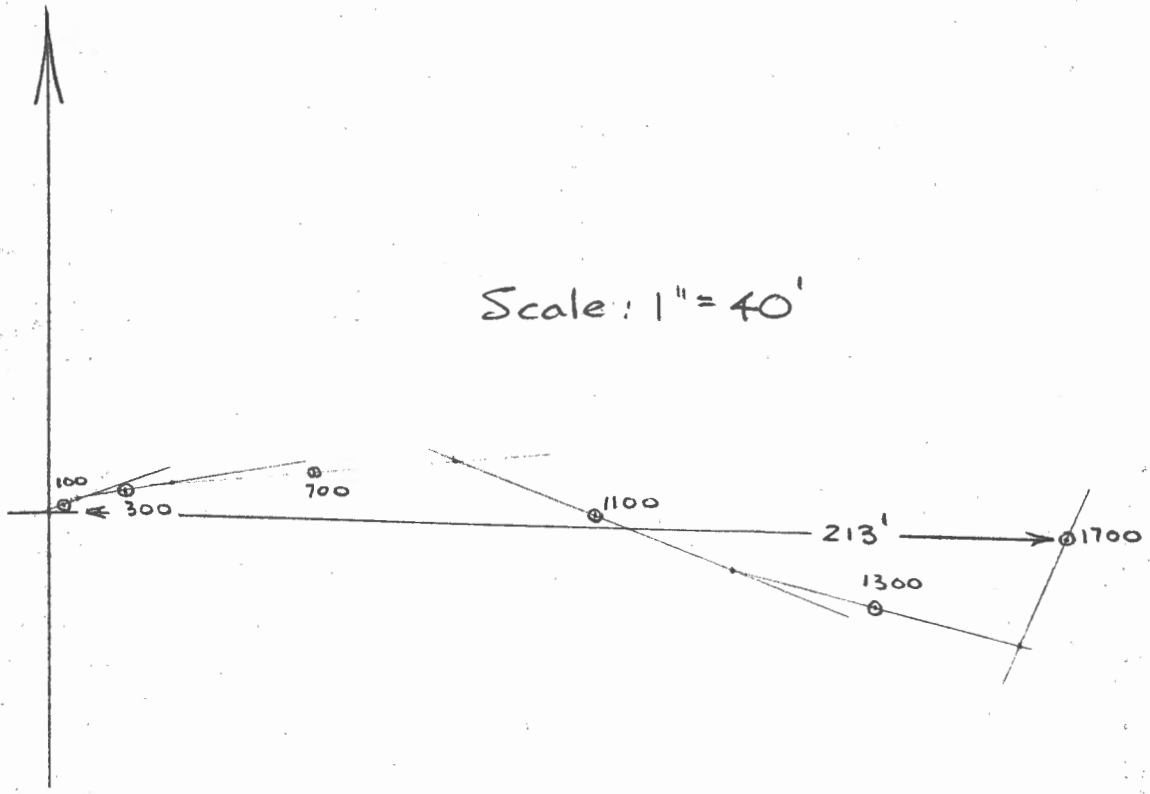
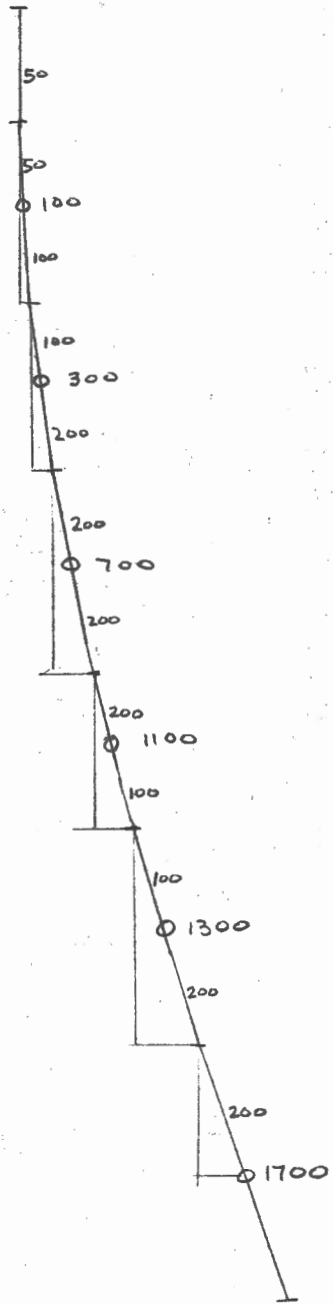
A-91

Dip & Bearing Survey
Sperry - Sub Inst.

DATE: ...
JOB NO.:

Sketch
Section
Not to
Scale

Az	Dip	Cos	DIST	HD	SIN	VD
71°20'	87°35'	.0422	150	6.3	.9991	150
81°20'	86°	.0698	300	20.9	.9976	299
86°20'	81°20'	.1507	400	60.0	.9886	395
112°20'	78°	.2079	300	62.4	.9781	293
105°20'	78°02'	.2079	300	62.4	.9783	293
57°20'	83°	.1219	200	24.4	.9925	198
						50



A-91

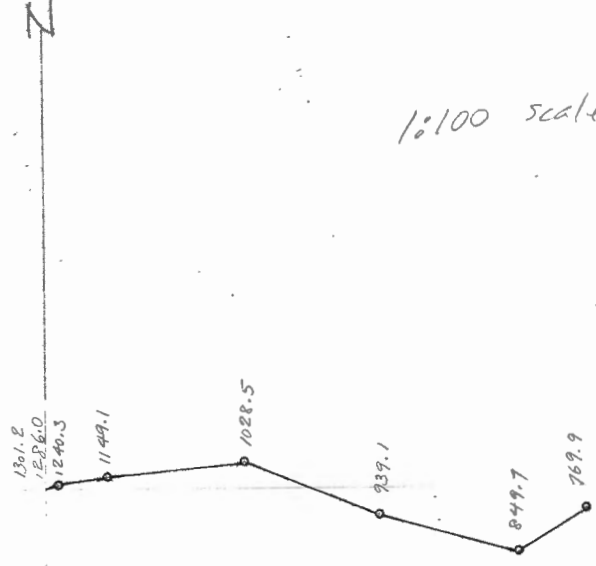
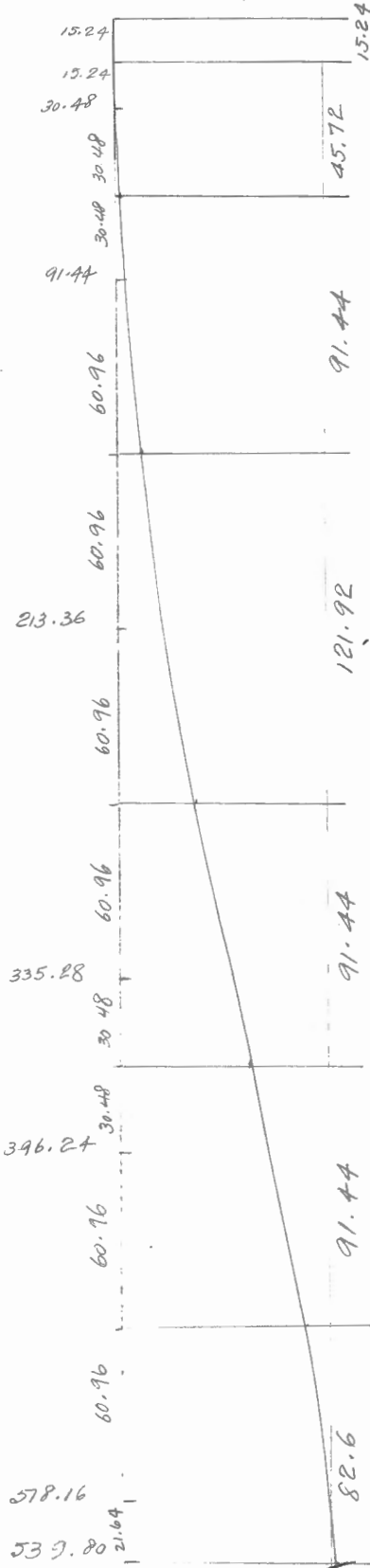
LENGTH	BEARING	INTERVAL	COS	DIST METRES	DIP	SIN	VERT. DIST METRES	ELEVATION	LENGTH
		15.24					15.24	1201.23	15.24
30.48	72° 20'	45.72	.0436	1.99	87° 30'	.99905	45.68	1240.31	60.96
91.44	81° "	91.44	.0698	6.38	86°	.99756	91.22	1149.07	152.4
213.36	84° "	121.92	.1507	18.37	81° 20'	.98858	120.53	1028.56	274.32
335.28	112° "	91.44	.2079	19.01	78°	.97815	89.44	939.12	365.76
396.24	105° "	91.44	.2079	19.01	78°	.97815	89.44	849.68	457.2
518.16	58° "	82.60	.1219	10.07	83°	.96593	79.78	769.90	539.8

539.80

1:25

11 720.80 N.
6899.62 E

1:100 scale.

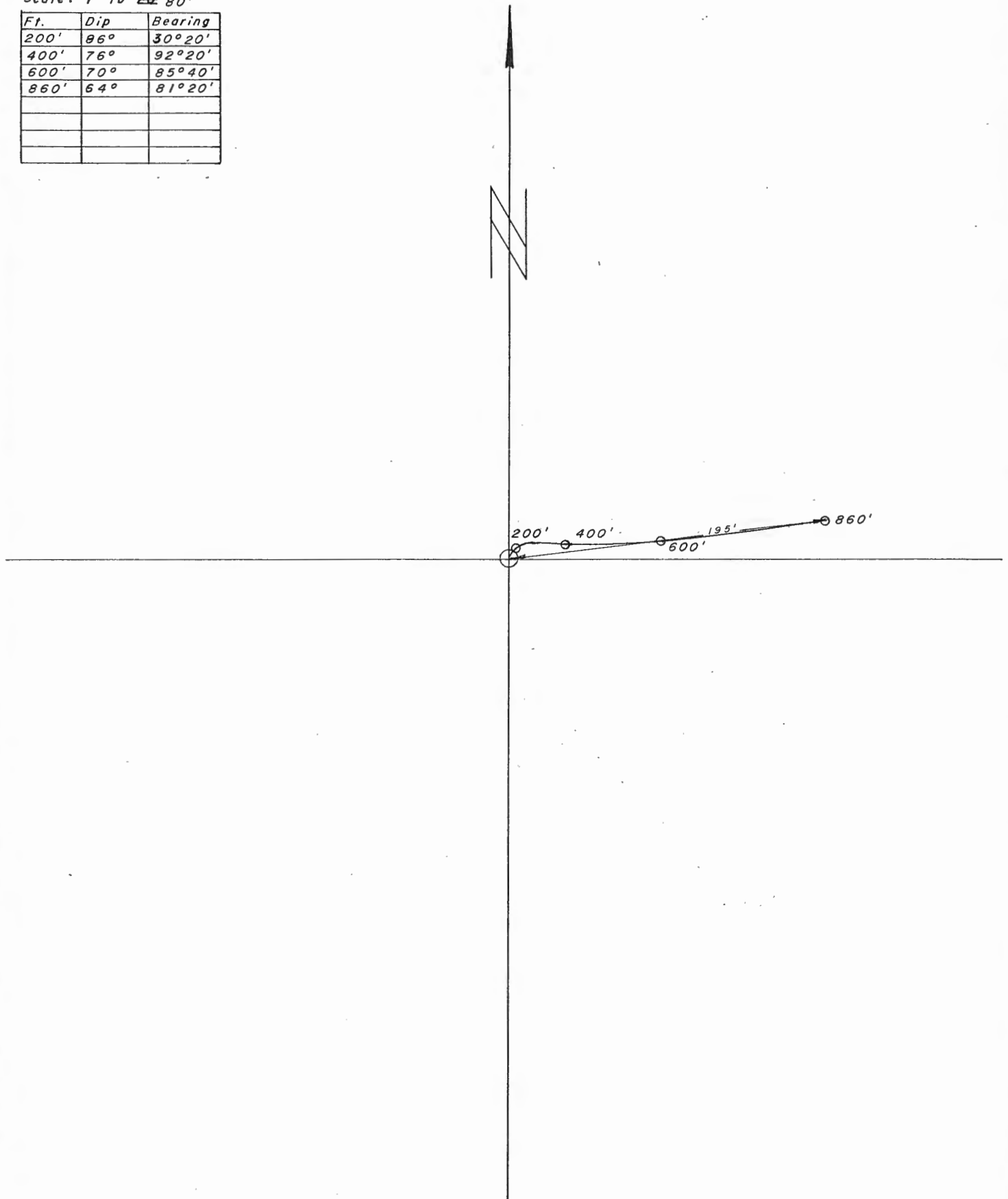


A-92 (74W. 10N)

D.D.H. DEVIATION

Scale: 1" to ~~200~~ 80'

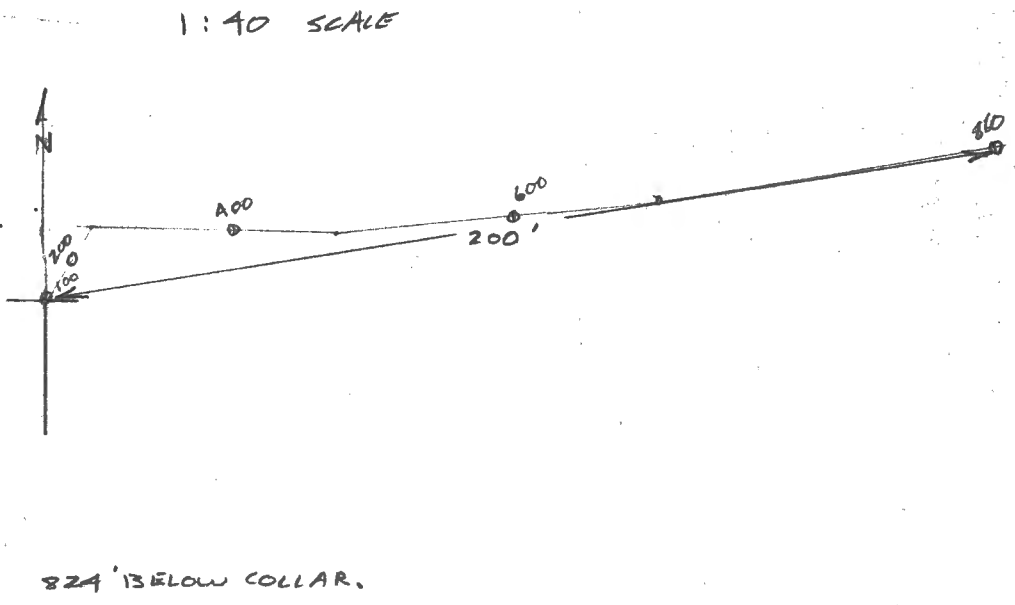
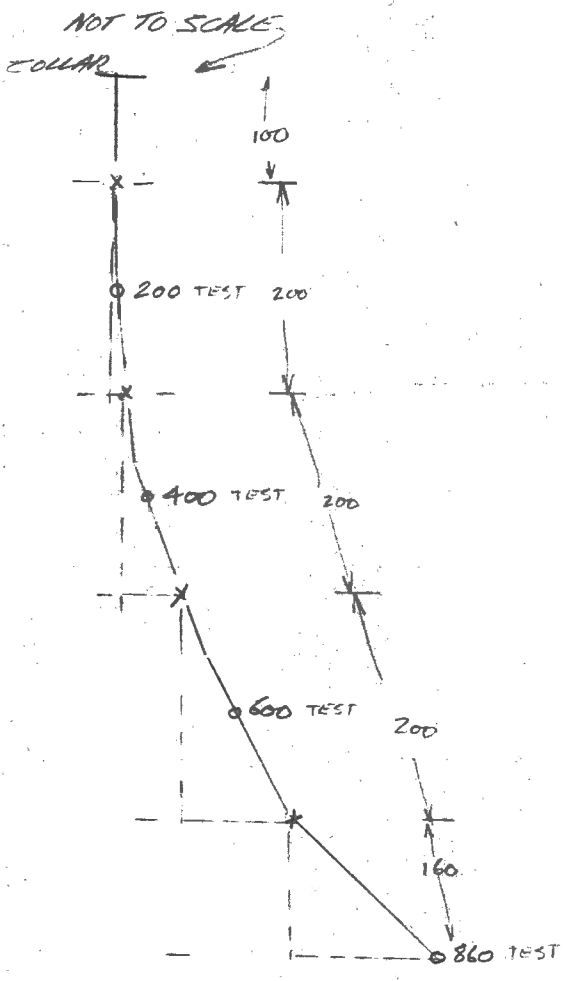
Ft.	Dip	Bearing
200'	86°	30°20'
400'	76°	92°20'
600'	70°	85°40'
860'	64°	81°20'



Aug. 4.

A-92
 DIP AND BEARING SURVEY
 SPERRY-SUN INSTRUMENT.

AZ.	DIP	COS	DIST.	H.D.	SIN.	V.D.
0	90°	0	100	0	1.00	100
30° 20'	85° 30'	.087	200	17.4	.997	199.4
92° 20'	75° 30'	.259	200	51.8	.966	193.2
85° 20'	70°	.342	200	68.4	.939	187.8
81° 20'	64° 30'	.438	160	70.08	.899	143.8
			LENGTH	860'		

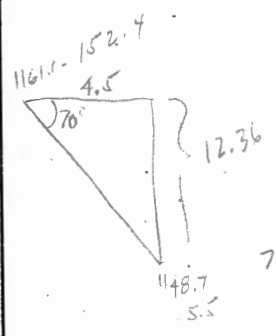


Fl.	Dip	Bearing	INTERVAL	COS	HOR. DIST.		SIN.	VERT. DIST.	ELEV.	LENGTH OF DDH
					FT	M				
60.96	86°	30° 20'	30.48	.0698		4.26	.99756	20.48	1311.54	30.48
121.92	76°	92° "	60.96	.2419		14.75	.97030	60.81	1220.25	91.44
182.88	70°	85° 40'	70.11	.3420		23.98	.93969	59.15	1161.10	152.40
262.13	64°	81° 20'	66.15	.4384		29.00	.89879	65.88	1095.72	222.51
								59.45	1035.77	288.66
										288.65

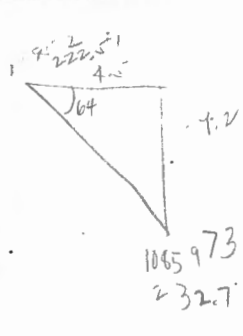
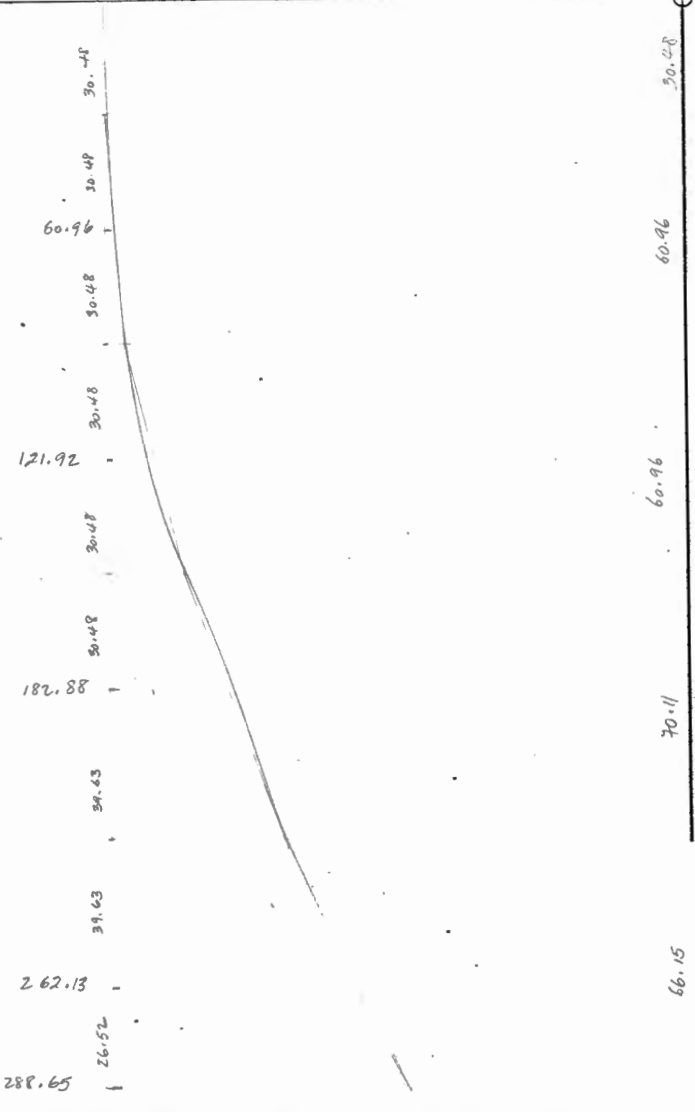
Ch...



10,916.45
7,734.46
74W/10N



Tan : 2.747



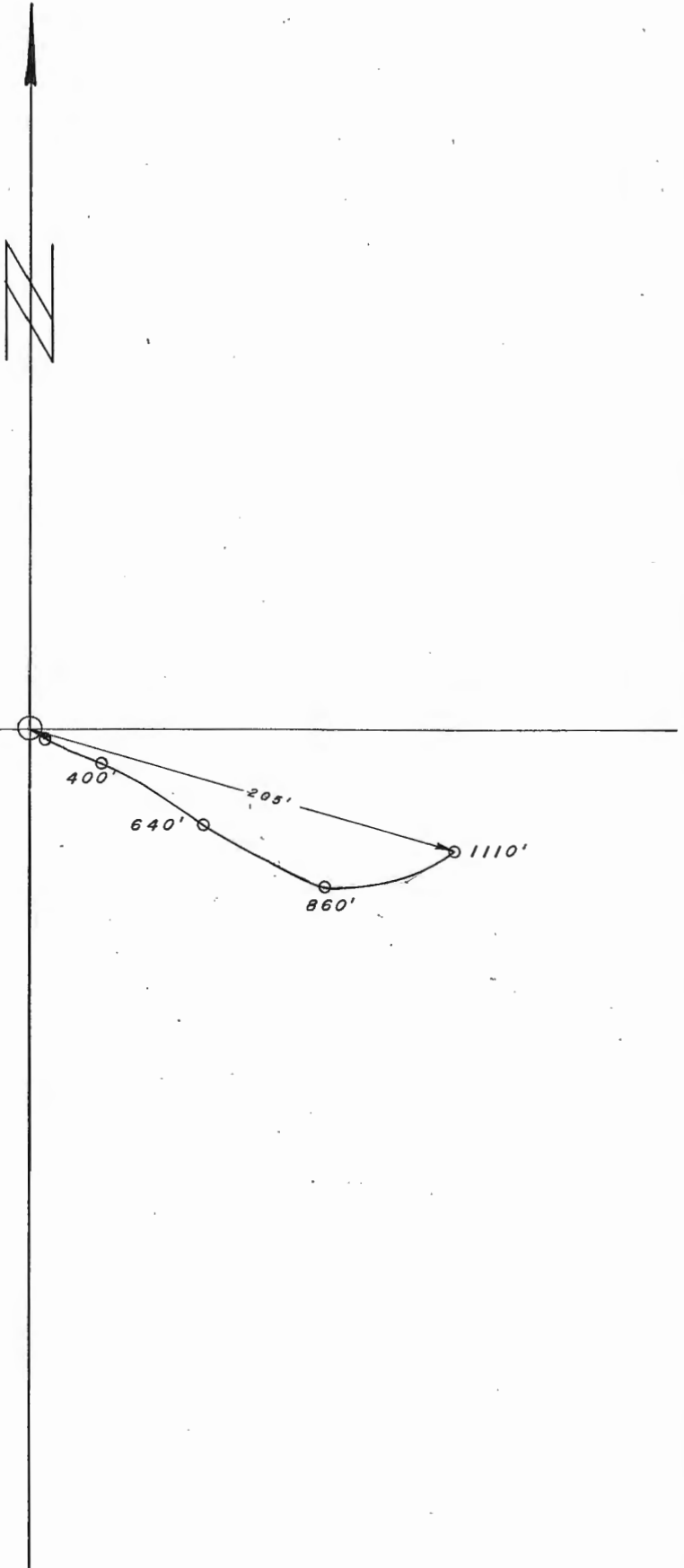
Tan : 2.050

A-93 (82W. 10N.)

D.D.H. DEVIATION

Scale: 1" to 20' 80'

Ft.	Dip	Bearing
200'	85°	118°20'
400'	79°	111°20'
640'	74°	123°20'
860'	72°30'	115°20'
1110'	78°	57°48'



J.M.

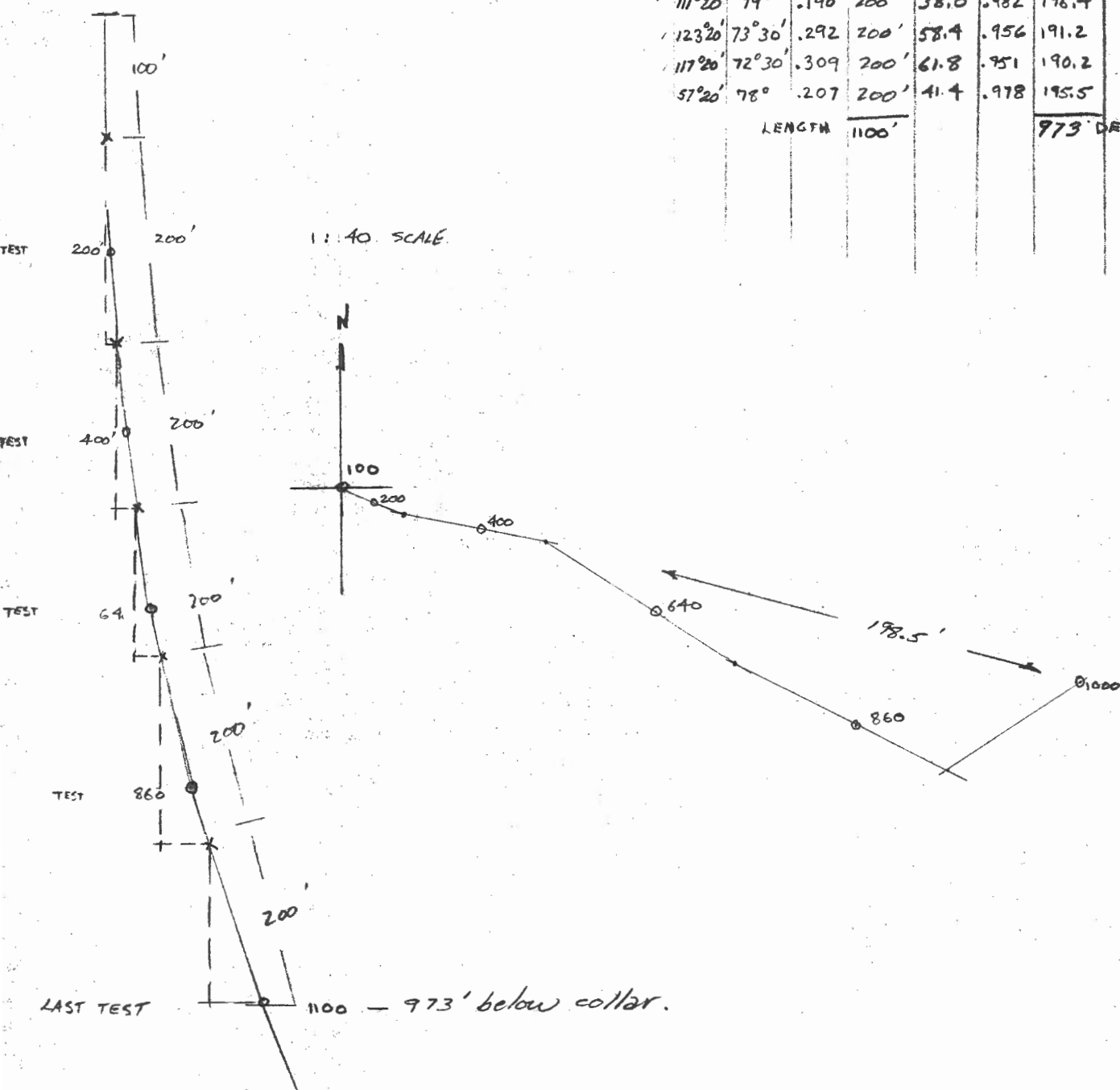
A-93

DIP AND BEARING SURVEY

Sperry-Sun Inst.

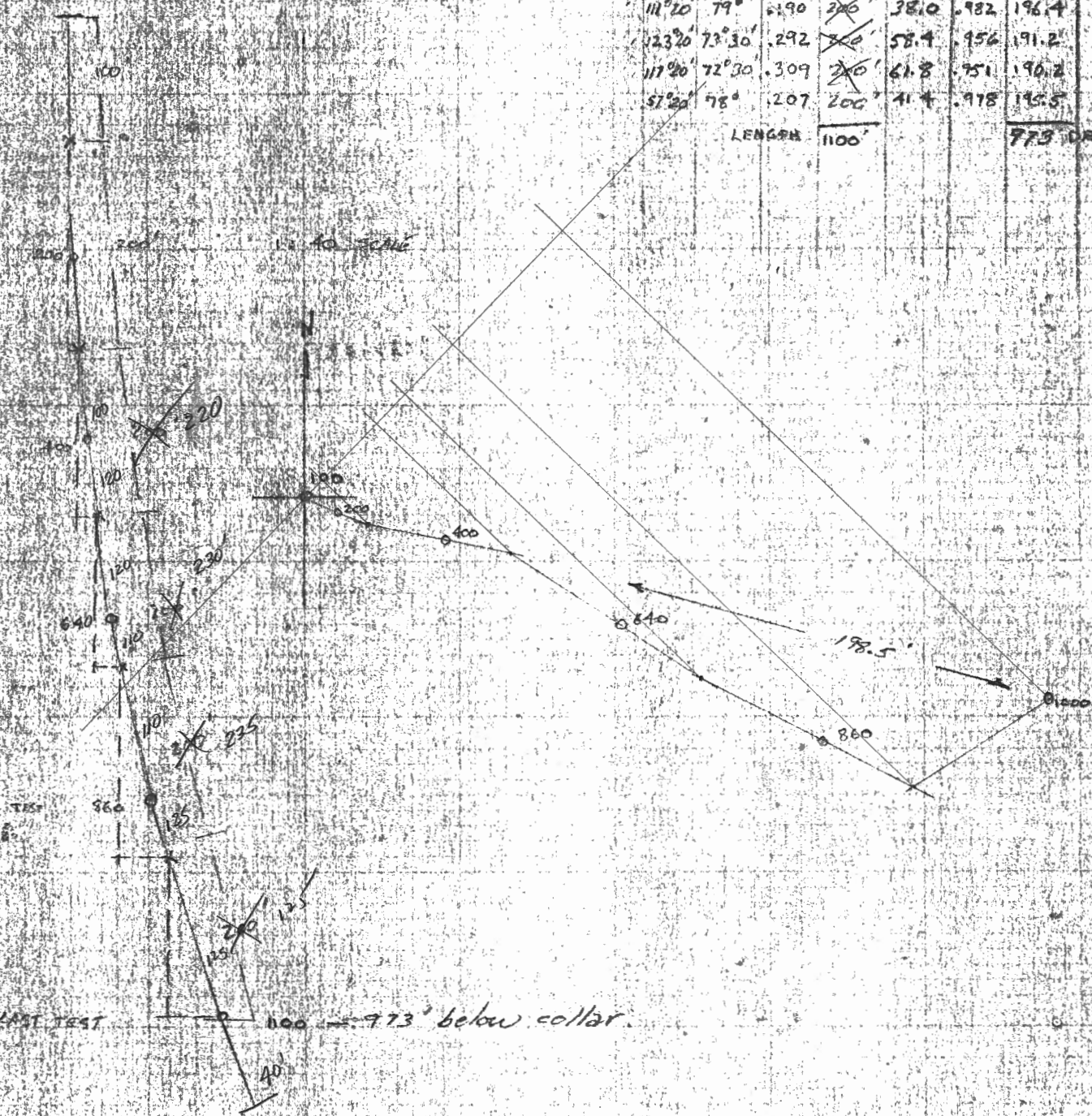
NOT TO SCALE

AZ	DIP	COS.	DIST.	H.D.	SIN	V.D.	
0	90	0	100	0	1.00	100	
114°20'	85°	.087	200'	17.4	.999	199.8	
111°20'	79°	.190	200'	38.0	.982	196.4	
123°20'	73°30'	.292	200'	58.4	.956	191.2	
117°20'	72°30'	.309	200'	61.8	.951	190.2	
57°20'	78°	.207	200'	41.4	.978	195.5	
LENGTH						1100'	973' DEPTH



NOT TO SCALE

Az	DIP	COS	DIST.	H.D.	SIN	V.D.
114°20'	85°	.087	200'	17.4	.999	199.8
111°20'	79°	.190	300'	38.0	.982	196.4
123°20'	73°30'	.292	300'	58.4	.956	191.2
117°20'	72°30'	.309	300'	61.8	.951	190.2
57°20'	78°	.207	200'	41.4	.978	195.5
			LENGTH	1100'	773' DEPTH	



Not Correct
 J.C.
 August 1966

A.93

D. D. H. Deviation

Scale: 1" to 20'

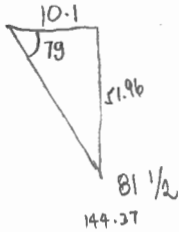
Fl.	Dip	Bearing	HOR. DIST.				VERT. DIST.		ELEV.	LENGTH OF DDH
			INTERVAL	COS.	FT	M	FT	M		
			100					1313.38		
200	85°	118°20	200 300	.0872 ✓	17.44	5.32	.99619	199.24	30.48 ✓	
400	79°	110°20	220 520	.1908 ✓	41.98	12.80	.98163 ✓	215.96	60.73 ✓	
640	74°	123°20	230 750	.2766 ✓	63.39	19.32	.96126 ✓	221.09	65.82 ✓	
860	72°30	115°20	235 985	.2009 ✓	40.66	21.54	.95372 ✓	224.12	67.39 ✓	
110	78°	57°48	125 1110	.2079 ✓	25.99	7.92	.97815 ✓	122.27	37.21 ✓	
			164.93		34.29	10.45		161.53	49.17 ✓	
								971.48	350.52	



1149.95'
39.95

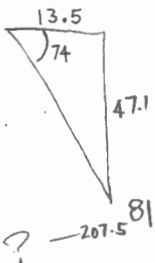
2 5
3 2
5 7

1222.2
91.44



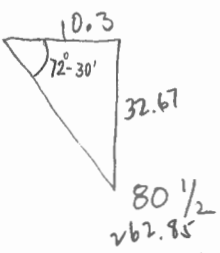
Cos: .1906
Tan: 5.145

1156.3
158.5

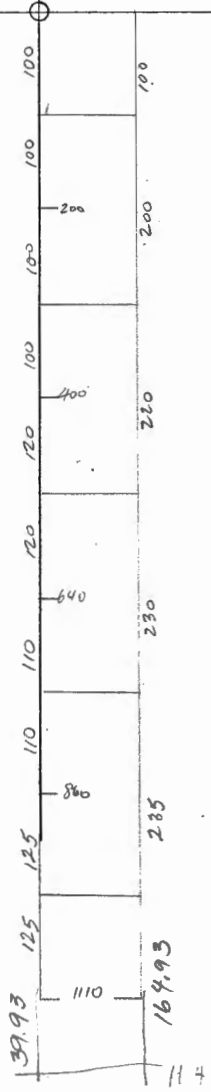


Cos: .2756
Tan: 3.487

1088.9
226.6



Cos: .3007
Tan: 3.172

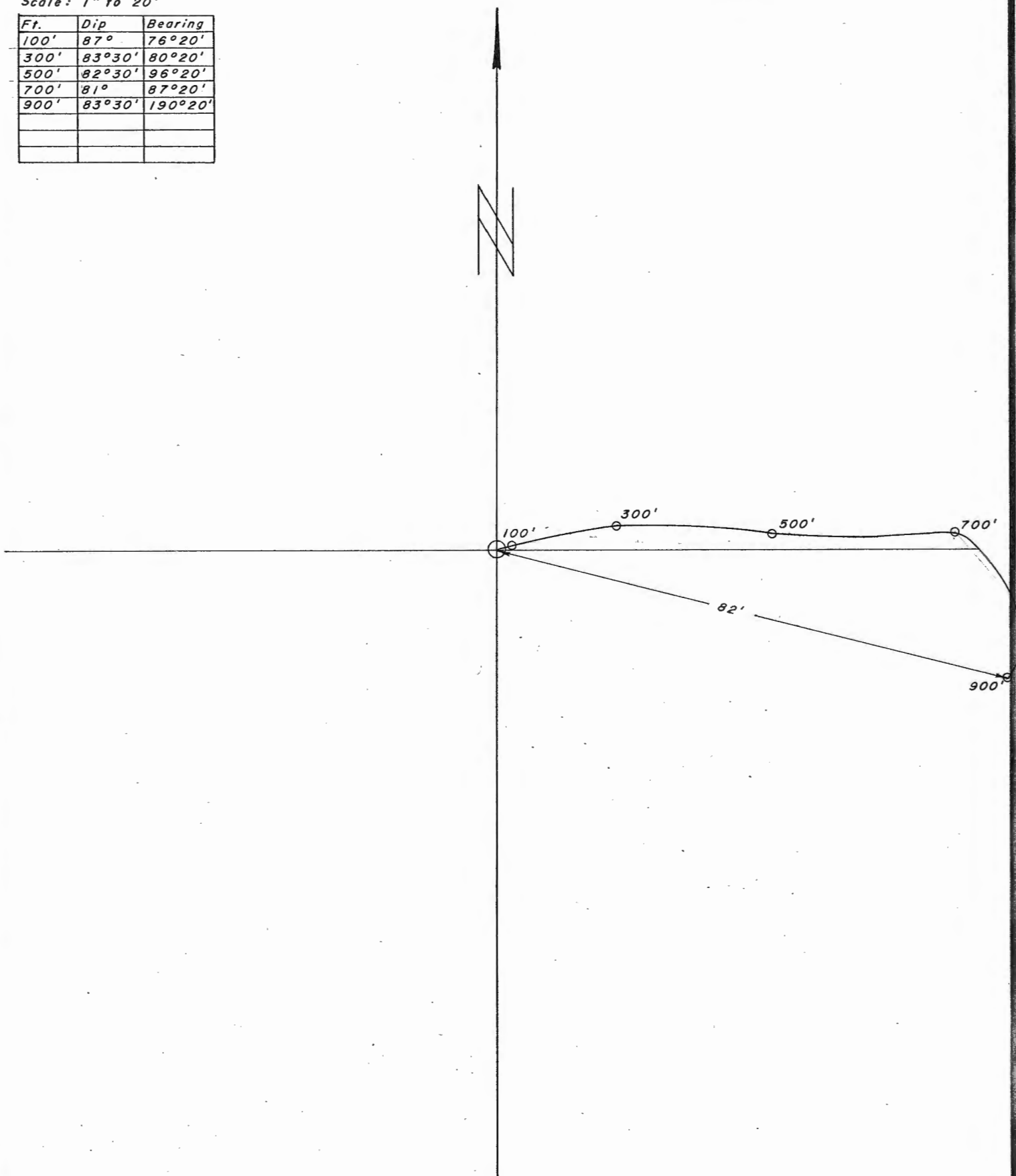


A-94 (108W. 16N.)

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
100'	87°	76°20'
300'	83°30'	80°20'
500'	82°30'	96°20'
700'	81°	87°20'
900'	83°30'	190°20'



JKC.

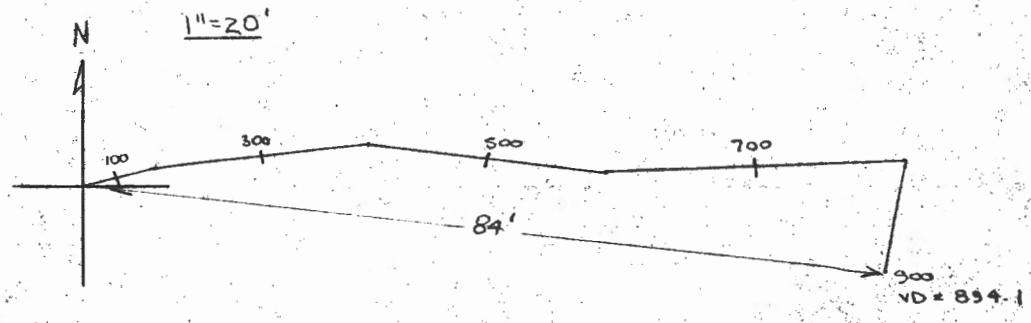
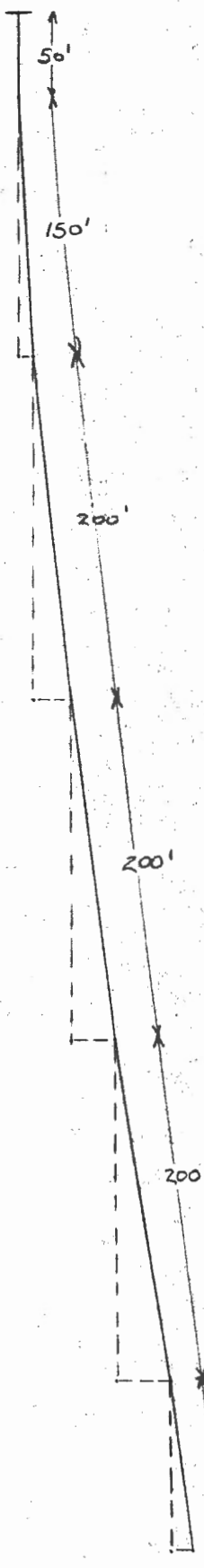
A-94

DIP + BRG TESTS
(Sperry Sun)

SECTION
1" = 100'

A ₂	DIP	COS	D	HD	SIN	V.P.
0	90	0	50	0	1.00	50.0
76.3	87	.052	150	7.8	.999	150.0
80.3	83.6	.111	200	22.2	.999	198.8
96.3	82.8	.125	200	25.0	.992	198.4
87.3	81°	.156	200	31.2	.988	197.6
190.3	83.2	.118	100	11.8	.993	99.3
				900'		894.1

PLAN
1" = 20'



900
VD = 894.1

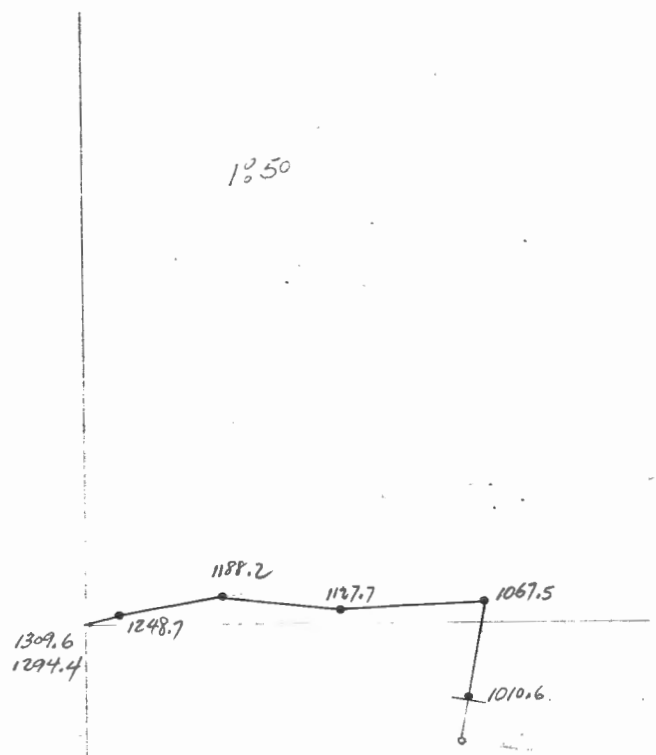
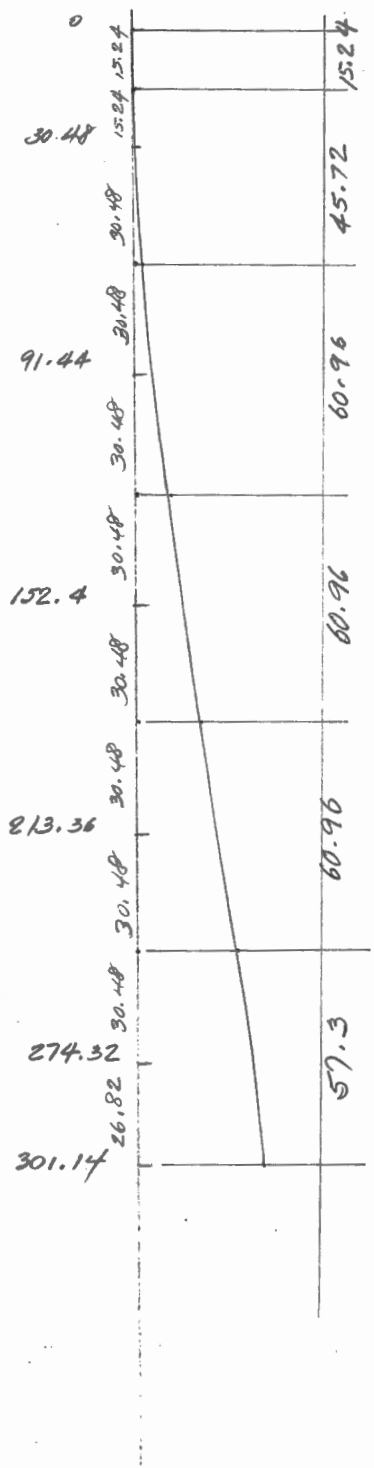
A-94

LENGTH	BEARING	INTERVAL	HORIZ. DIST		DIP	VERT. DIST		ELEVATION	LENGTH
			COS	METRES		SIN	METRES		
		15.24						1311.62	
30.48	76° 20'	45.72	.0523	2.39	87°	.99863	45.66	1248.7	15.24
91.44	80° 20'	60.96	-.1132	6.90	83° 30'	.99357	60.57	1188.2	60.96
152.4	96° 20'	60.96	-.1305	7.95	82° 30'	.99144	60.44	1127.7	121.92
213.36	87° 20'	60.96	-.1564	9.53	81°	.98769	60.21	1067.5	182.88
274.32	190° 20'	57.30	-.1132	6.48	83° 30'	.99357	56.93	1010.6	243.84
									301.14

(299.05) (299.03)
check. check

1:20

11770.72 N
7111.62 E



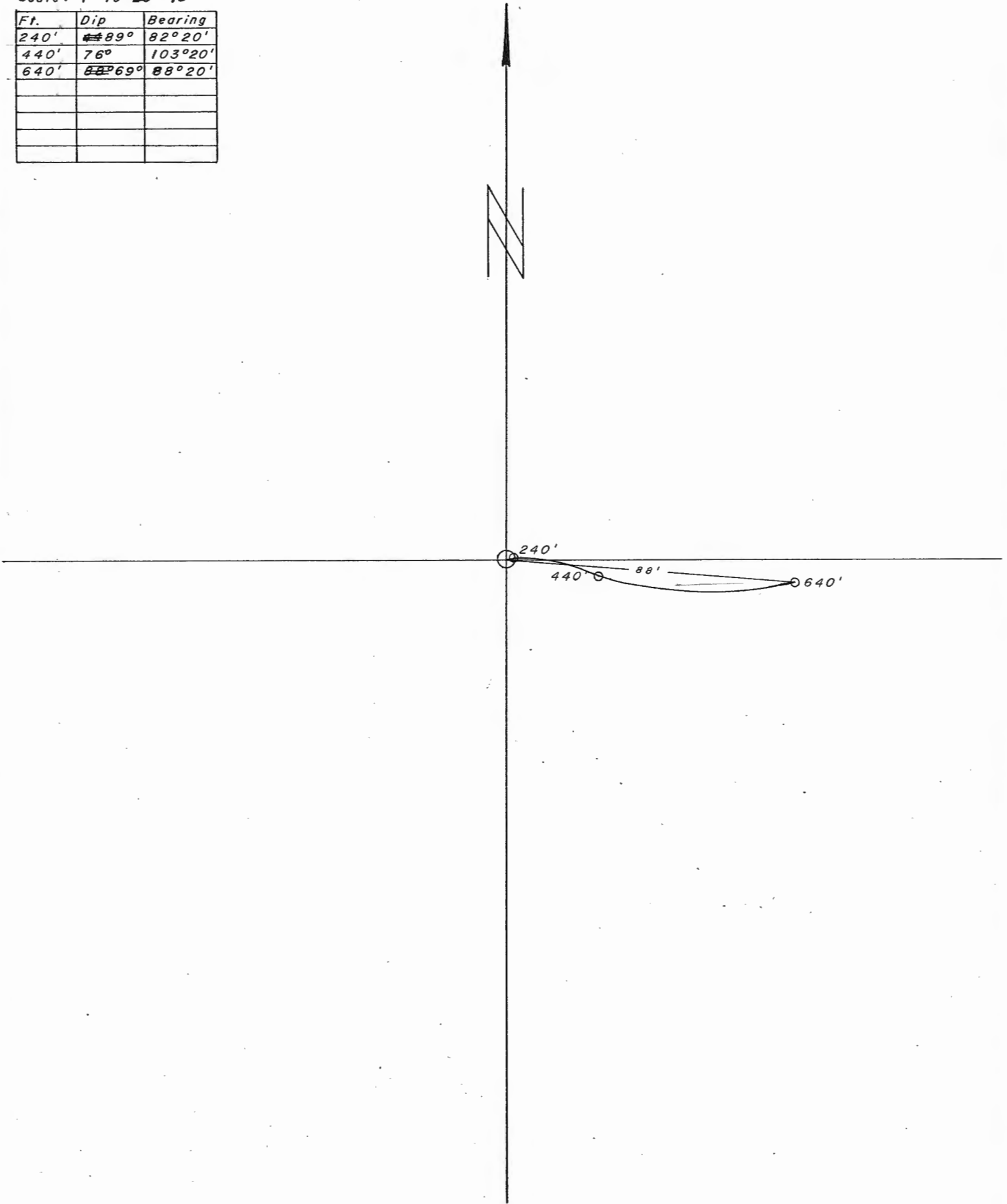
1:50

A-95 (72W. 8N.)

D.D.H. DEVIATION

Scale: 1" to ~~20'~~ 40'

Ft.	Dip	Bearing
240'	89°	82° 20'
440'	76°	103° 20'
640'	88° 69°	88° 20'



J.M. DATE Aug 5/15

A-95 (700') (213")

DIP AND BEARING SURVEY

by SPERRY-SUN

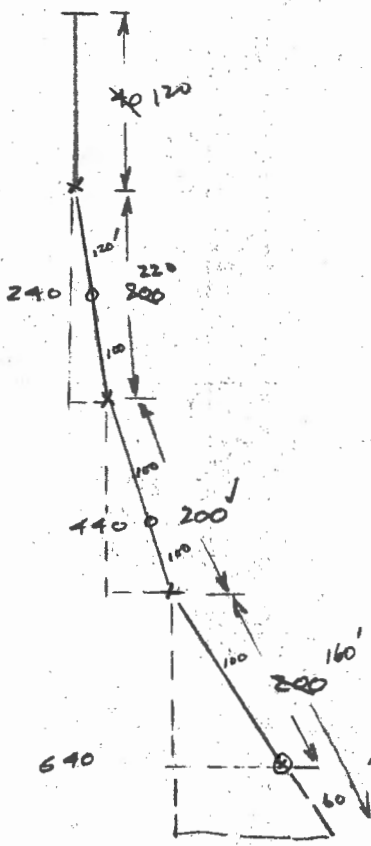
GRUMP

AZ	DIP	COS	DIST.	H.D.	SIN	V.D.
0	90°	0	40120	0	1.00	40120
82°20'	89°	.017	200220	3.4	.999	19918
103°20'	76°	.242	200	48.4	.970	194.0
88°20'	88°	.035	200	7	.999	197.2

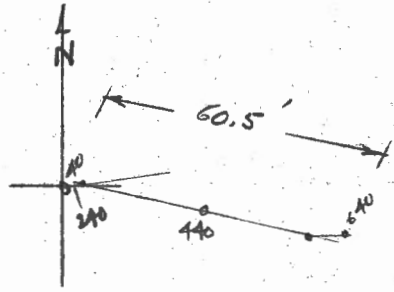
LENGTH 640'

DEPTH 633.0

NO SCALE



SCALE 1:40



Use Vane. office copy P.H's. stand.
for plotting
Nov. 16/16
JG

A.95 (213.4' = 700')

Van. Filr.

D.D.H. Deviation by P.H.

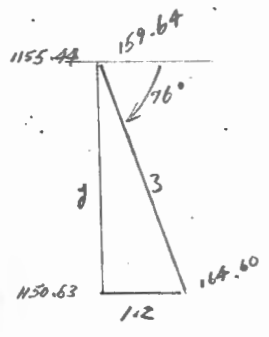
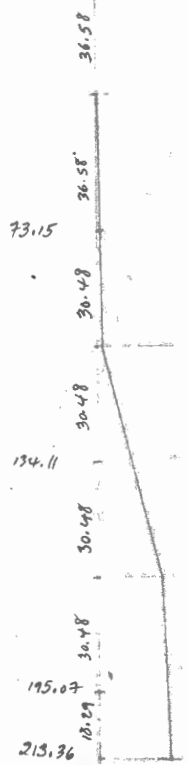
Scale: 1" = 20'

St.	Dip	Bearing	INTERVAL	HOR. DIST.		SIN.	FT	DIST. M	ELEV.	LENGTH OF DDH
				FT	M					
			36.58 ✓					36.58 ✓	1276.83 ✓	36.58 ✓
73.15	89° ✓	82° 20' ✓	67.06 ✓	.0175 ✓		1.17 ✓	.99985 ✓	67.05 ✓	1209.78 ✓	103.64 ✓
134.11	76° ✓	103° 20' ✓	60.96 ✓	.2419 ✓		14.75 ✓	.97030 ✓	59.15 ✓	1150.63 ✓	164.60 ✓
195.07	88° ✓	88° 20' ✓	48.77 ✓	.0349 ✓		1.70 ✓	.99939 ✓	48.74 ✓	1101.89 ✓	213.37 ✓ - END
										213.36 ✓



10,828.04
7,735.68

72W/8N



$$y = 1.2(4.01) = 4.81$$

$$z = \frac{1.2}{.2419} = 4.96$$

OK
Checked by J. Chan
Nov. 16/76

A-96

NO TESTS.

D.D.H. Deviation

Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	COS.	COS HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
	90°		24.54	2	0	0	1	24.54	1303.59		24.54
19.07	80°	106°	51.97	1.81	.0349	1.81	.99939	51.94	1227.11		76.50
103.94	86°	105°	54.86	5.83	.0698	3.83	.99156	54.73	1172.38		131.37
			20.12	2		2.00		20.2	1152.18		151.49
											151.49

N

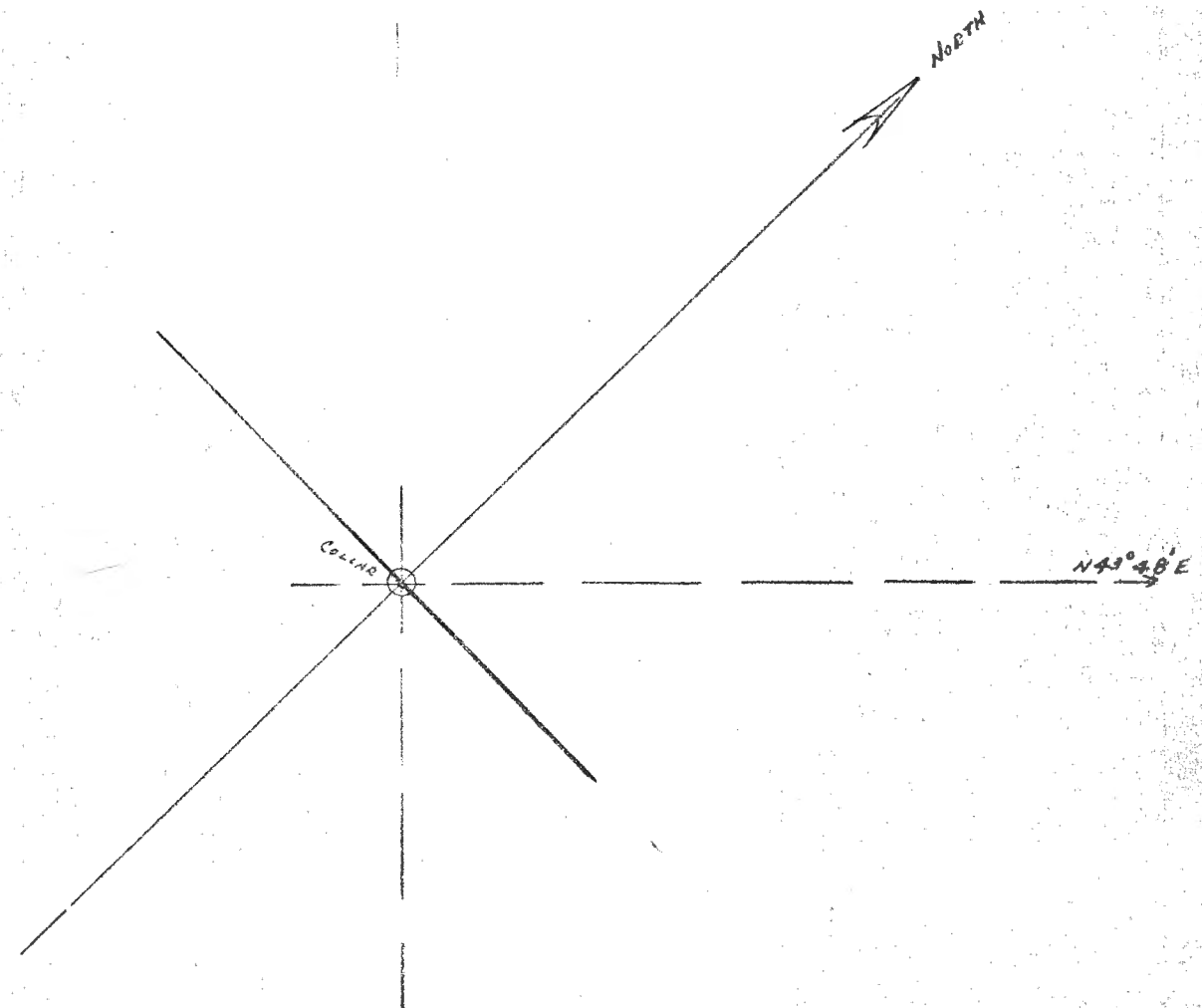
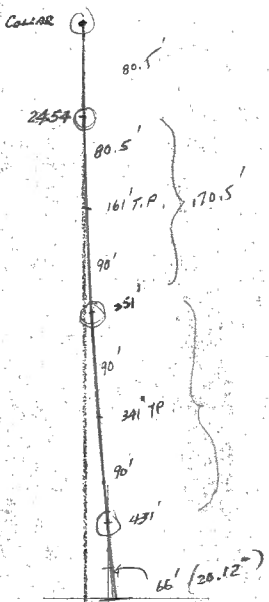
10, 744.83
7, 737.63
70W/6N.

BY: _____ DATE: _____ TITLE: **DIP & BEARING SURVEY - HOLE # A-96** (151.5' depth)
 SHEET NO. _____ OF _____
 CHECKED BY: _____ DATE: _____
 USE AV, A70 & A52 by J.L.H. Nov 5/02

TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP.	HORIZ. DIST.	SINE DIP.	VERT. DIST.	ELEV.
COLLAR										1303.59
A45'				-90°	80.5 = 24.54	0	0	1	-24.54	1279.05
161' = 49.07	/	/	106°	-88°	170.5 = 51.97	.0349	1.81	.99939	-51.94	1227.11
341' = 103.94	/	/	105°	-86°	100 = 54.86	.0698	3.83	.99756	-54.73	1172.38
441' = 151.5					66 = 20.12		2		-20.2	1152.18
TOTAL VERT. DIST.										

$\frac{150}{180} = \frac{90}{180}$
 $\frac{80.5}{170.5} = \frac{49.7}{156}$



NOTE: Use same data for A133 J.L.H.

SECTION SCALE:

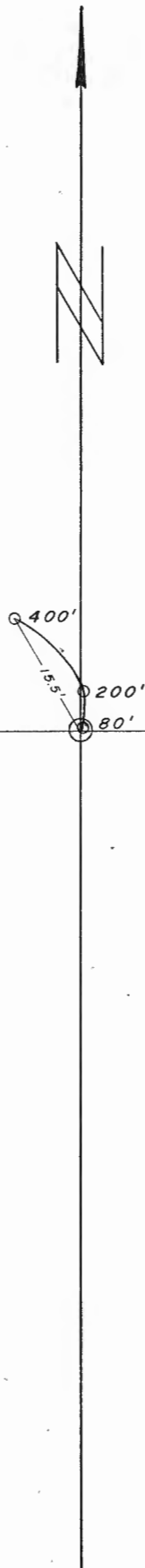
PLAN SCALE:

A-98 (128W. 14N.)

D.D.H. DEVIATION

Scale: 1" to 20'

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
80'	89°	0°20'
200'	87°	1°20'
400'	86°	3°03'



J.M.

Aug. 5

A-98

DIP AND BEARING SURVEY by SPERRY-SUN

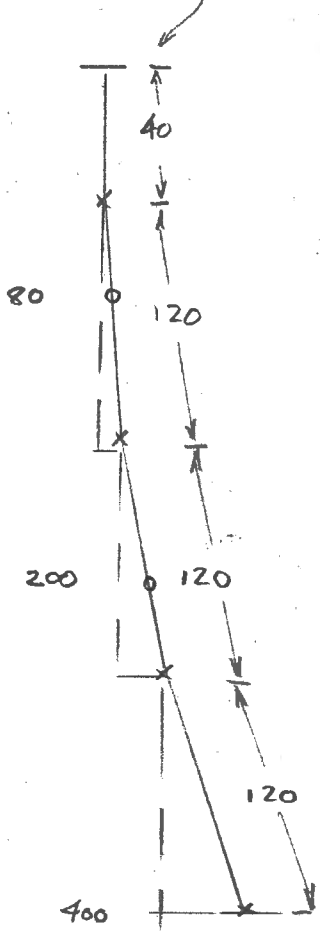
BRUM.

AZ	DIP	COS	DIST.	H.D.	SIN.	V.D.
0	90	0	40	0	1.00	40
00°20'	89	.017	120	2.04	.999	119.9
1°20'	87	.052	120	6.24	.998	119.7
303°	86	.069	120	8.28	.997	119.6

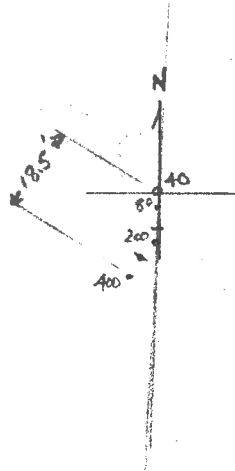
LENGTH 400

DEPTH 399.2

NOT TO SCALE



SCALE 1:40

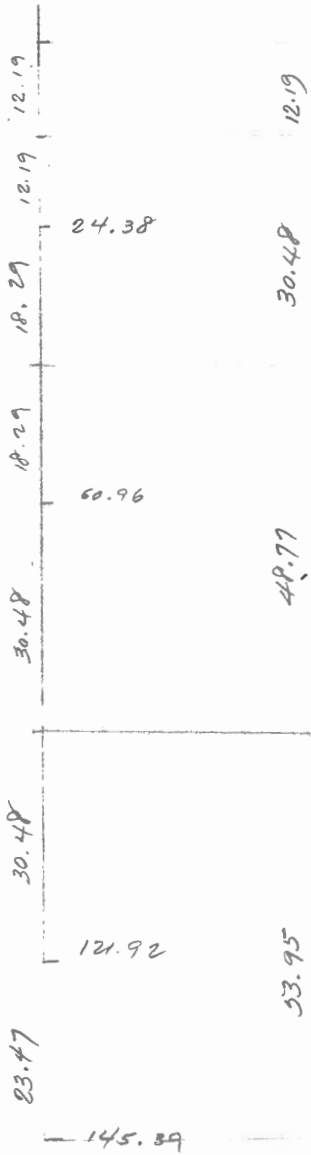


399.2' FROM COLLAR.

A. 98

LENGTH	BEARING	INTERVAL	HOR		VERT. DI		ELEVATION	LENGTH
			COS	SIN	DI	MEIKES		
		12.19					1316.20	
24.38	0° 20'	30.48	.0175	0.53	89°	.99985	12.19	12.19
60.96	1° 20'	48.77	.0523	2.55	87°	.99863	30.47	42.67
121.92	3° 03'	53.95	.0699	3.77	86°	.99756	48.70	91.44
							53.82	145.39

145.39

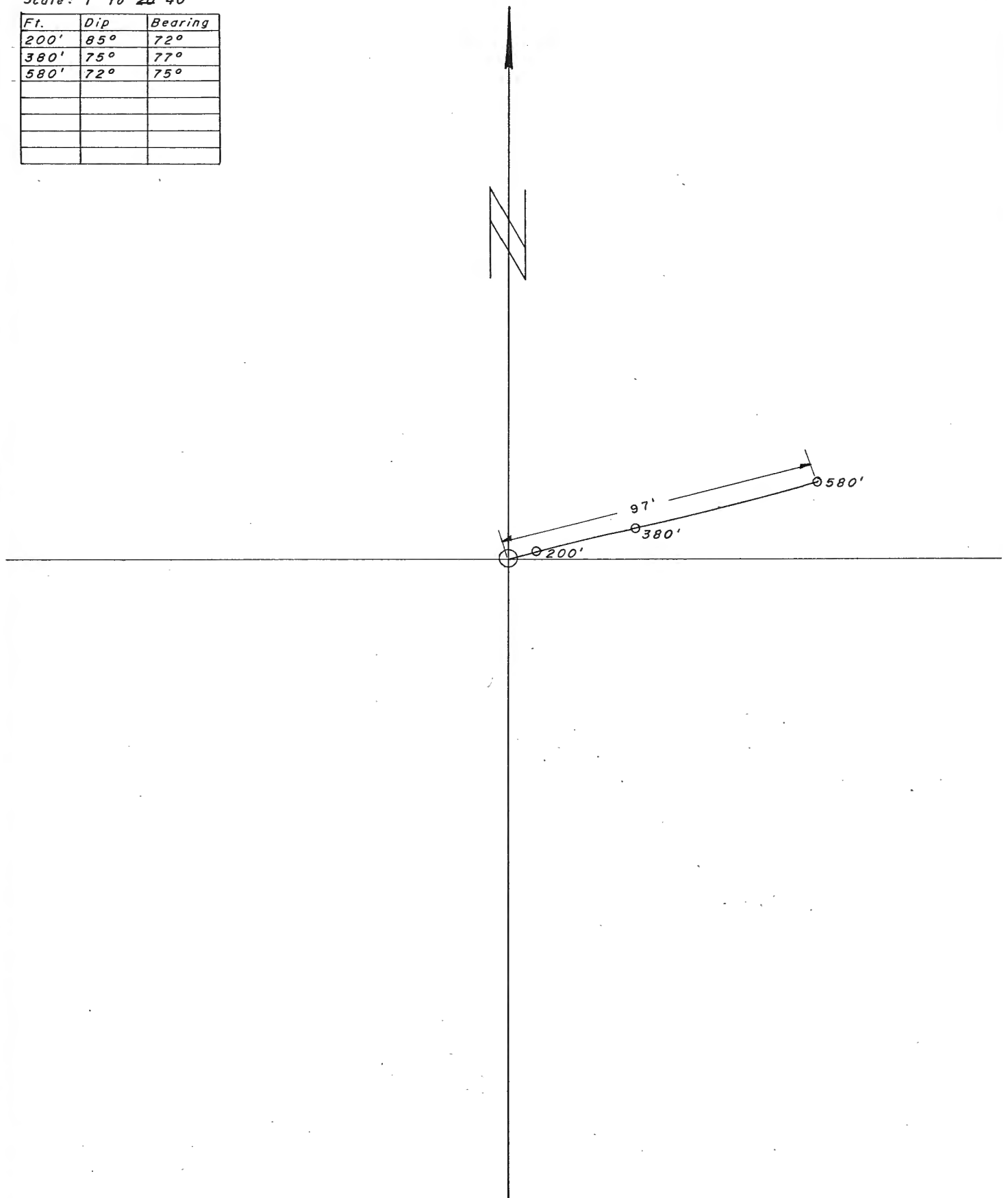


A-99 (66W. 6N.)

D.D.H. DEVIATION

Scale: 1" to 20' 40'

Ft.	Dip	Bearing
200'	85°	72°
380'	75°	77°
580'	72°	75°



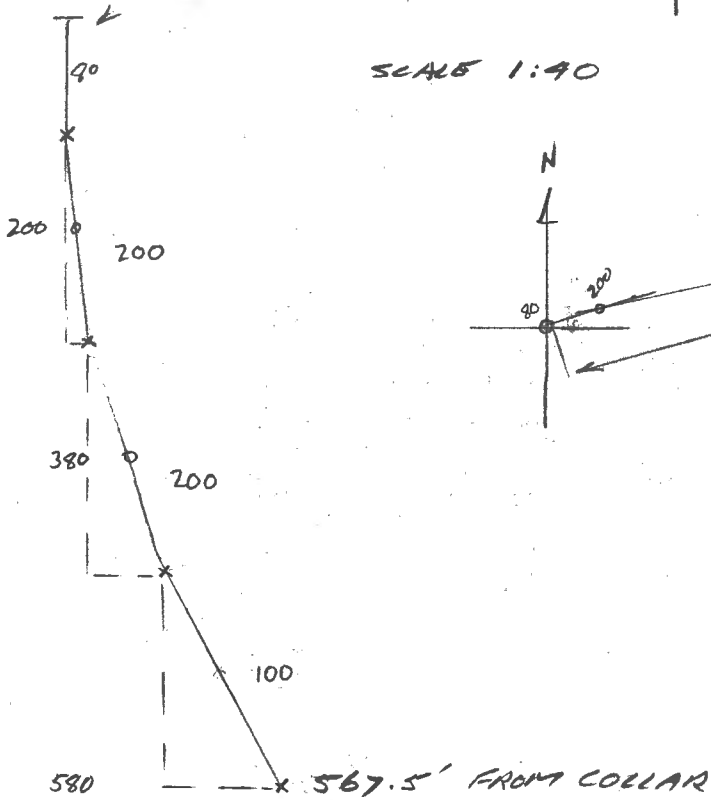
J.M.

A-99 Aug 5 DIP AND BEARING SURVEY by SPERRY-SUN

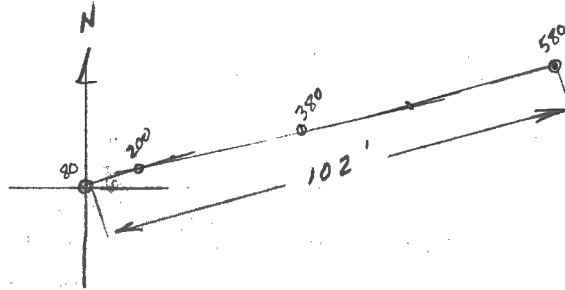
GRUM

AZ.	DIP	COS.	DIST.	H.D.	SIN.	V.D.
0	90°	0	80	0	1.00	80
72°20'	85°	.087	200	17.4	.996	199.2
77°20'	75°	.259	200	51.8	.966	193.2
75°20'	72°	.309	100	30.9	.951	95.1

NOT TO SCALE



SCALE 1:40



LENGTH 580

DEPTH

567.5

BY J.M. DATE 1/95
 CHECKED BY DATE

PROJECT A-99
 DIP AND BEARING SURVEY
 BY SPERRY-SUN

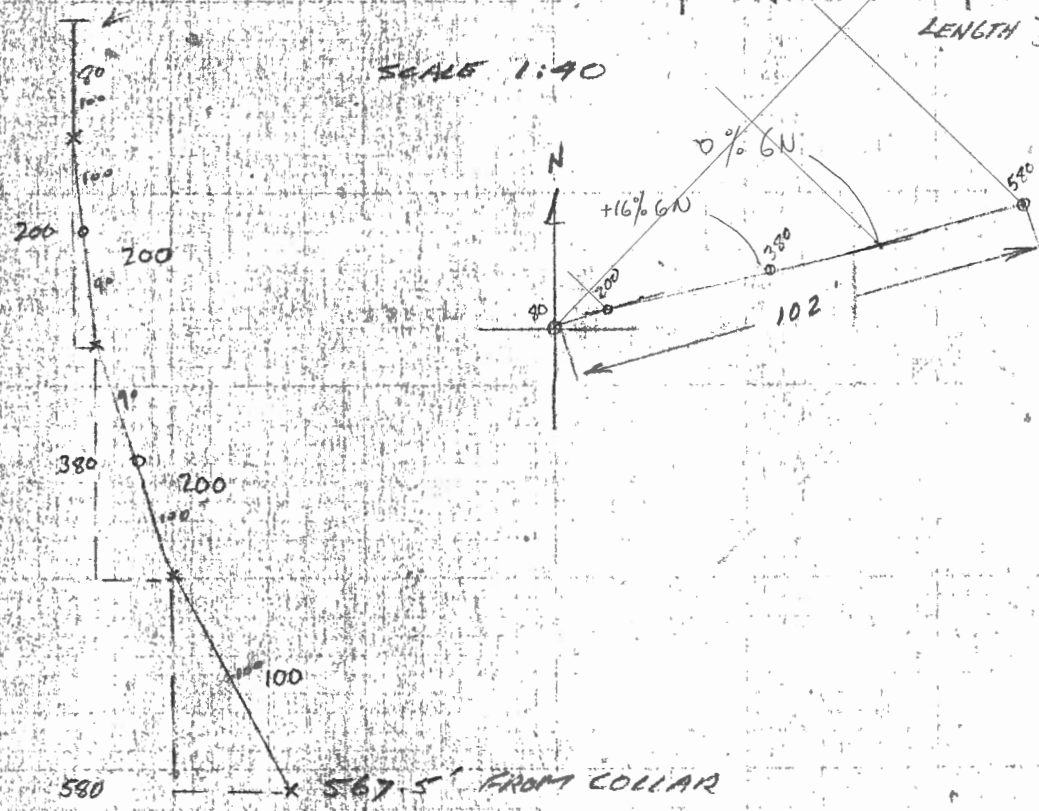
SHEET NO. OF
 JOB NO. GRUM

AZ.	DIP	COS.	DIST.	H.D.	SIN.	VD.
0	90°	0	80 100	0	1.00	80
72°20'	85°	.087	200 190	17.4	.996	199.2
77°20'	75°	.259	200 190	51.8	.966	193.2
75°20'	72°	.309	100 100	30.9	.957	95.7

LENGTH 580 DEPTH 567.5

NOT TO SCALE.

SCALE 1:40



Collar
 1296.41
 1181.1

 115.3

1296.41
 1152

 144

J.H. June 11

A-99

Sperry-Sun D+B.

T.P.	AZ	DIP	DIST	SINE	V.D.	COS	H.D.
C	-	90°	100	1.	100.0 ^{30.5}	0	0
200	72°20'	85°	190	.99619	189.3 ^{80.2}	.08716	16.6 ^{7.1}
380	78°20'	75°	190	.96593	183.5 ^{44.1}	.25882	49.2 ^{15.2}
580	75°20'	72°	<u>100</u>	.95106	<u>95.1</u> ^{7.1}	.30902	<u>30.9</u> ¹⁴
			580		567.9		96.7

PLAN 1:25



A 99

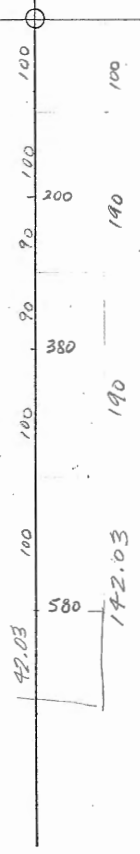
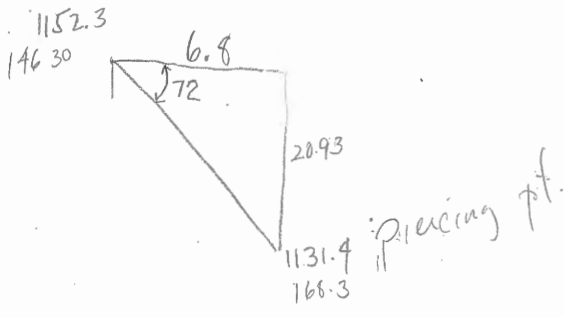
D. D. H. Deviation

Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
	90°		100							1296.41	
200	85°	72°	190	0.0872	16.57	5.05	.99619	189.28	30.48	1265.13	30.48
380	75°	77°	190	.2588	49.17	15.0	.96593	183.5	57.69	1208.24	88.39
580	72°	75°	142.03	.3090	43.88	13.37	.95106	135.17	55.9	1152.3	146.30
									41.2	1111.14	189.59
											189.59



10,657.97
 7,821.61
 66W/6N
 12.81



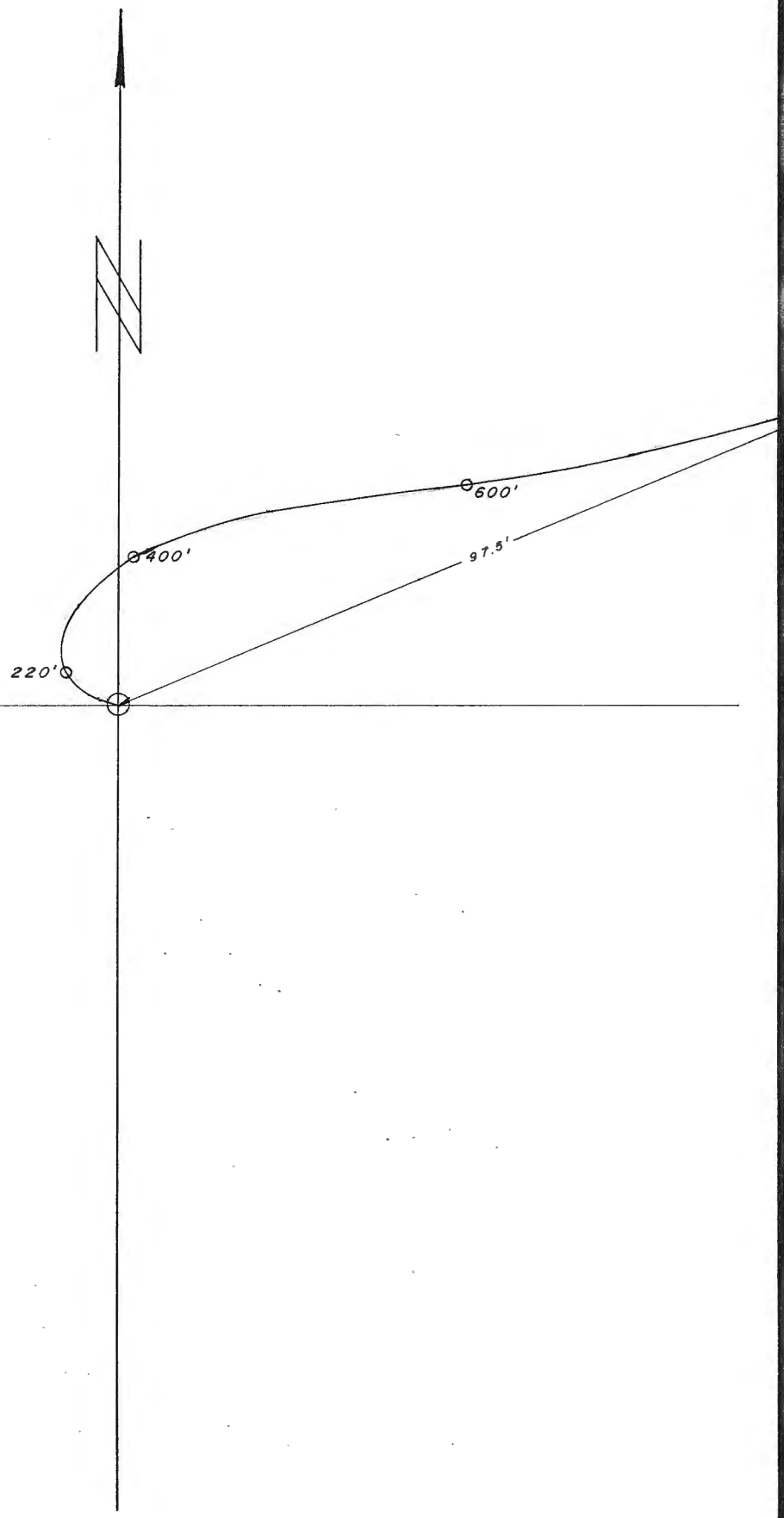
Wave

A-100 (70W. 8N.)

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
220'	86°	303°
400'	83°	58°
600'	73°	81°
8760'	71°	76°



JM Aug. 10

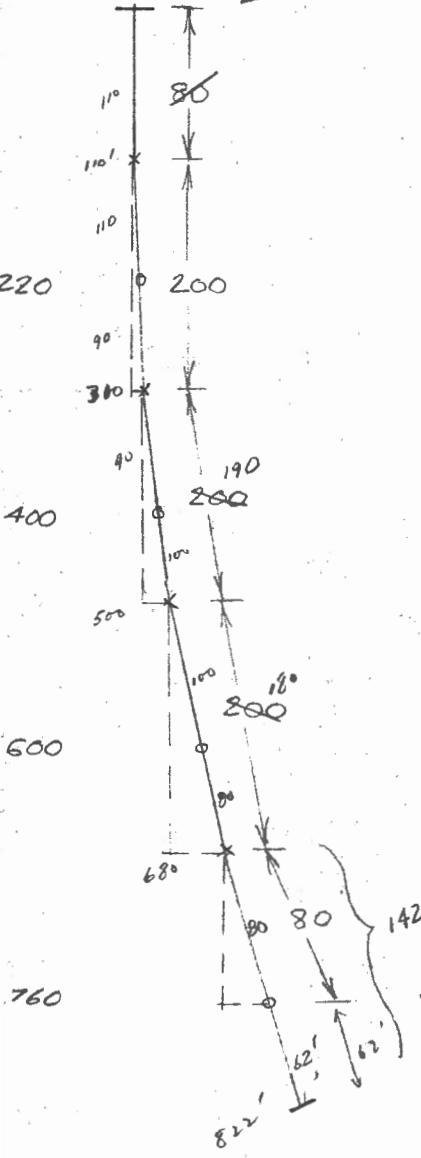
A-100 (8.250.5")

DIP AND BEARING SURVEY BY SPERRY-SUN.

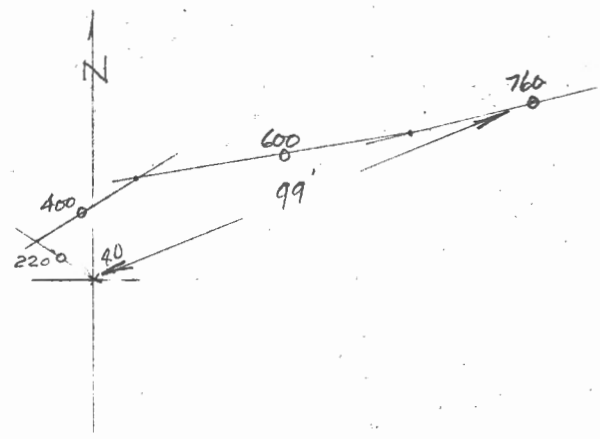
GRUNT.

AZ.	DIP.	COS.	DIST.	H.D.	SIN.	V.D.
0	90°	0	86.10	0	1.00	86.10
30.3°	86°	.697	200	13.94	.997	199.7
58°20'	83°	.122	200	24.7	.992	198.7
81°20'	73°	.292	300	58.4	.956	287.2
76°20'	71°	.325	80	26.0	.945	75.6
			<u>760</u>			<u>744.6</u>

NOT TO SCALE



SCALE 1:40



see other sheets for
 continuation
 JG
 Nov/72

#.100

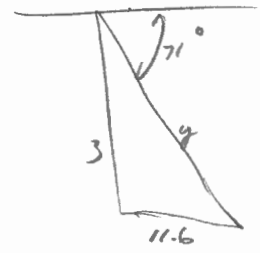
Scale: 1" = 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VEKI. DIST.		ELEV. ✓	LENGTH OF DDH
					FT	M		FT	M		
	90°		110							1309.23	
220 ✓	86° ✓	305° ✓	200 ✓	.0698 ✓	13.96 ✓	4.26 ✓	.9976 ✓	199.52 ✓	33.53 ✓	1275.70 ✓	33.53 ✓
400 ✓	83° ✓	58° ✓	190 ✓	.1219 ✓	23.16 ✓	7.06 ✓	.9925 ✓	188.575 ✓	60.81 ✓	1214.89 ✓	94.49 ✓
600 ✓	73° ✓	81° ✓	180 ✓	.2924 ✓	52.63 ✓	16.04 ✓	.9563 ✓	172.134 ✓	57.48 ✓	1157.41 ✓	152.40 ✓
760 ✓	71° ✓	76° ✓	142.01 ✓	.2419 ✓	34.35 ✓	10.47 ✓	.9703 ✓	137.74 ✓	42.00 ✓	1104.94 ✓	207.26 ✓
			182.01 ✓	.3256 ✓	46.24 ✓	14.09 ✓	.94552 ✓	134.26 ✓	40.92 ✓	1064.02 ✓	250.55 ✓ END

250.55 END



10, 788.73
 7, 780.35
 70W/8N
 18.90



$$y = \frac{11.6}{.3256} = 35.63$$

$$\frac{35.63}{207.26} = 242.89$$

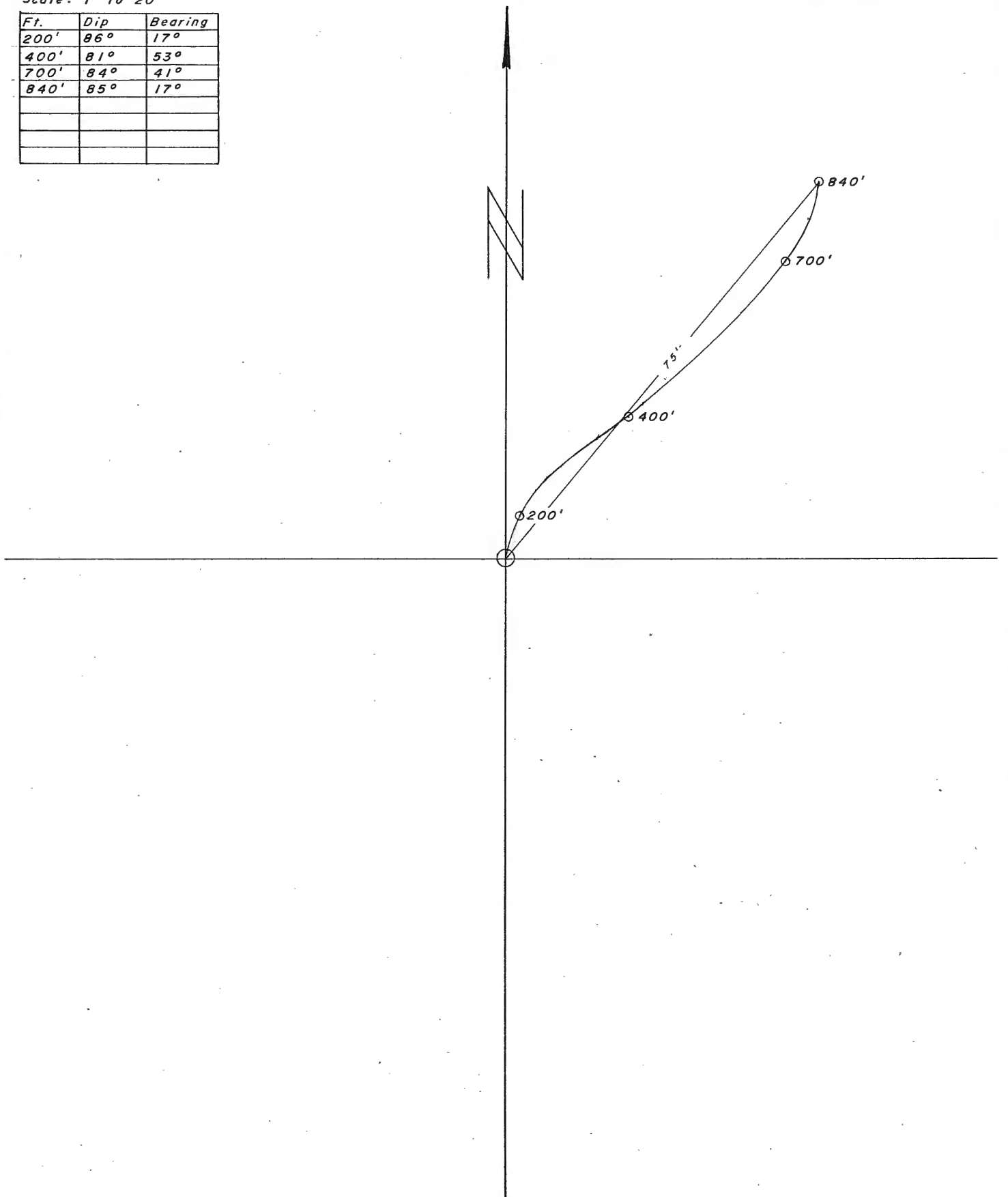
$$3 = \frac{11.6}{.3256} = 33.69$$

A-101 (124 W. 14 N.)

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
200'	86°	17°
400'	81°	53°
700'	84°	41°
840'	85°	17°



J.M.

Aug 65

A-101 DIP AND BEARING SURVEY by SPERRY-SUN.

GRUM.

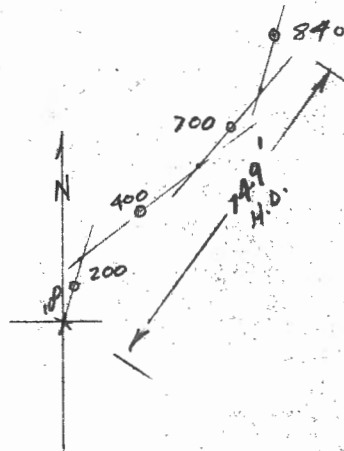
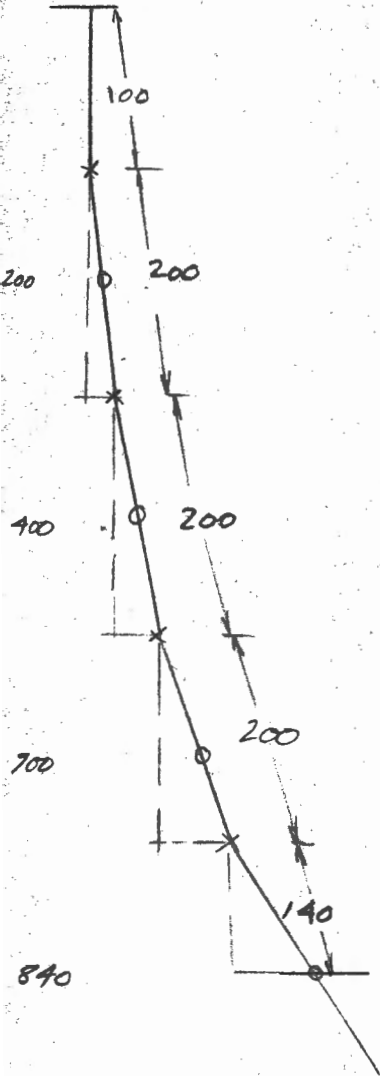
AZ	DIP	LOG	DEPT	H.D.	SIN.	V.A.
0	0°		0	0	1.000	100
17°20'	86°	.497	200	13.6	.797	199.4
53°30'	81°	.156	200	31.2	.987	197.4
41°26'	84°	.104	200	20.8	.974	198.8
17°20'	85°	.087	140	12.2	.976	139.9

LENGTH 840'

DEPTH 835.0

NOT TO SCALE

SCALE 1:40



DEPTH FROM COLLAR - 835.0'

A-101

Hor

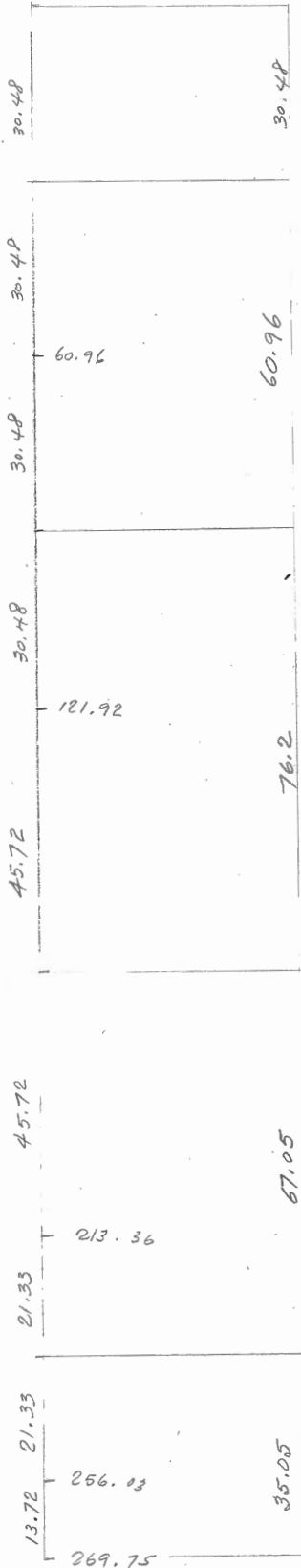
1st

VERT. D

ELEVATION

LENGTH

LENGTH	BEARING	INTERVAL	COS	METRES	DIP	SIN	METRES	ELEVATION	LENGTH
		30.48					30.48	1314.99	
60.96	17°	60.96	.0699	4.26	86°	.99756	60.81	1284.51	30.48
121.92	53°	76.80	.1564	11.92	81°	.98769	75.26	1223.70	91.44
213.36	41°	67.05	.1045	7.01	84°	.99452	66.68	1148.44	167.64
256.03	17°	35.05	.0872	3.05	85°	.99619	34.42	1081.76	234.69
								1047.34	269.74

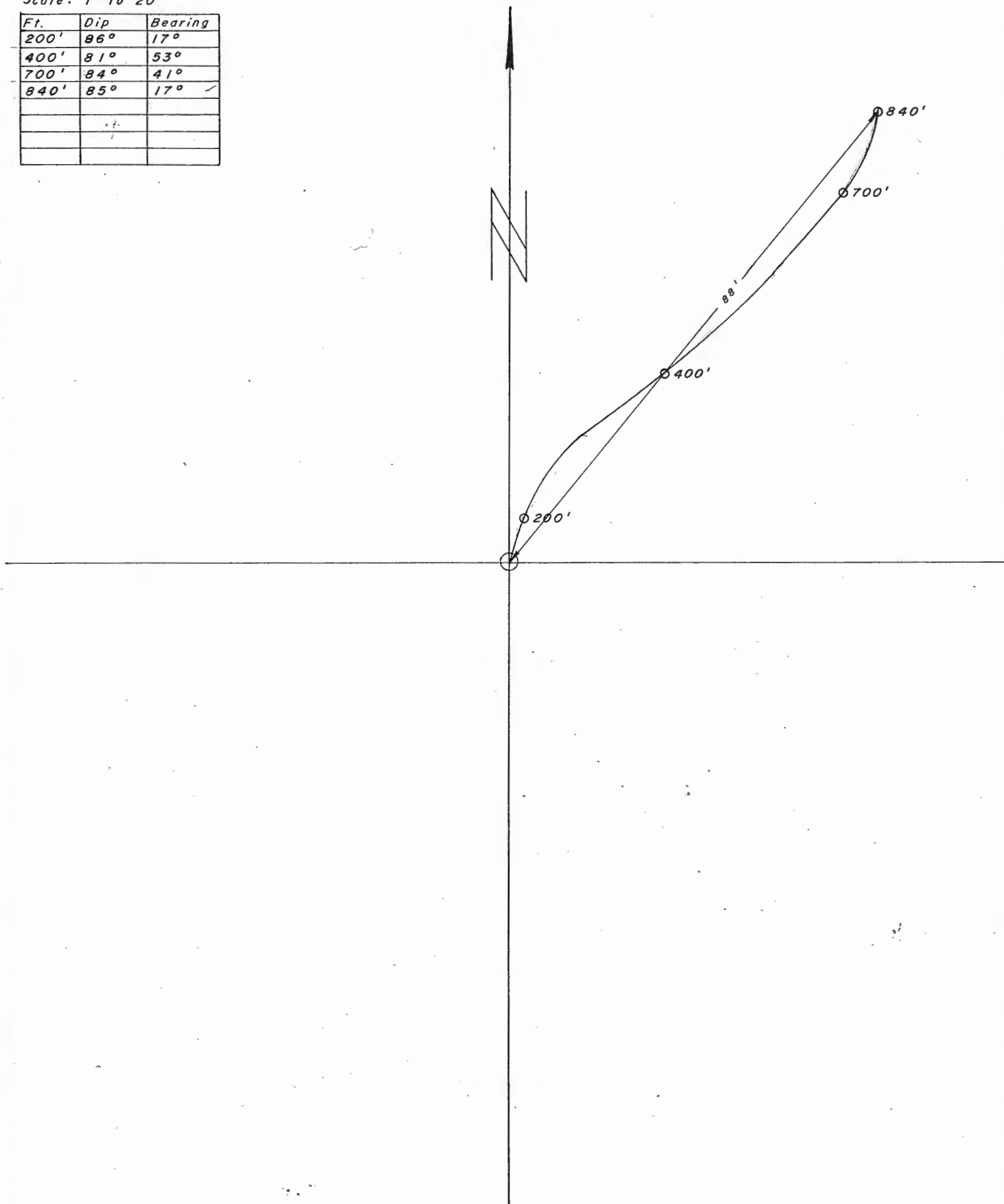


A-101 124W. 14N.

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
200'	86°	17°
400'	81°	53°
700'	84°	41°
840'	85°	17°

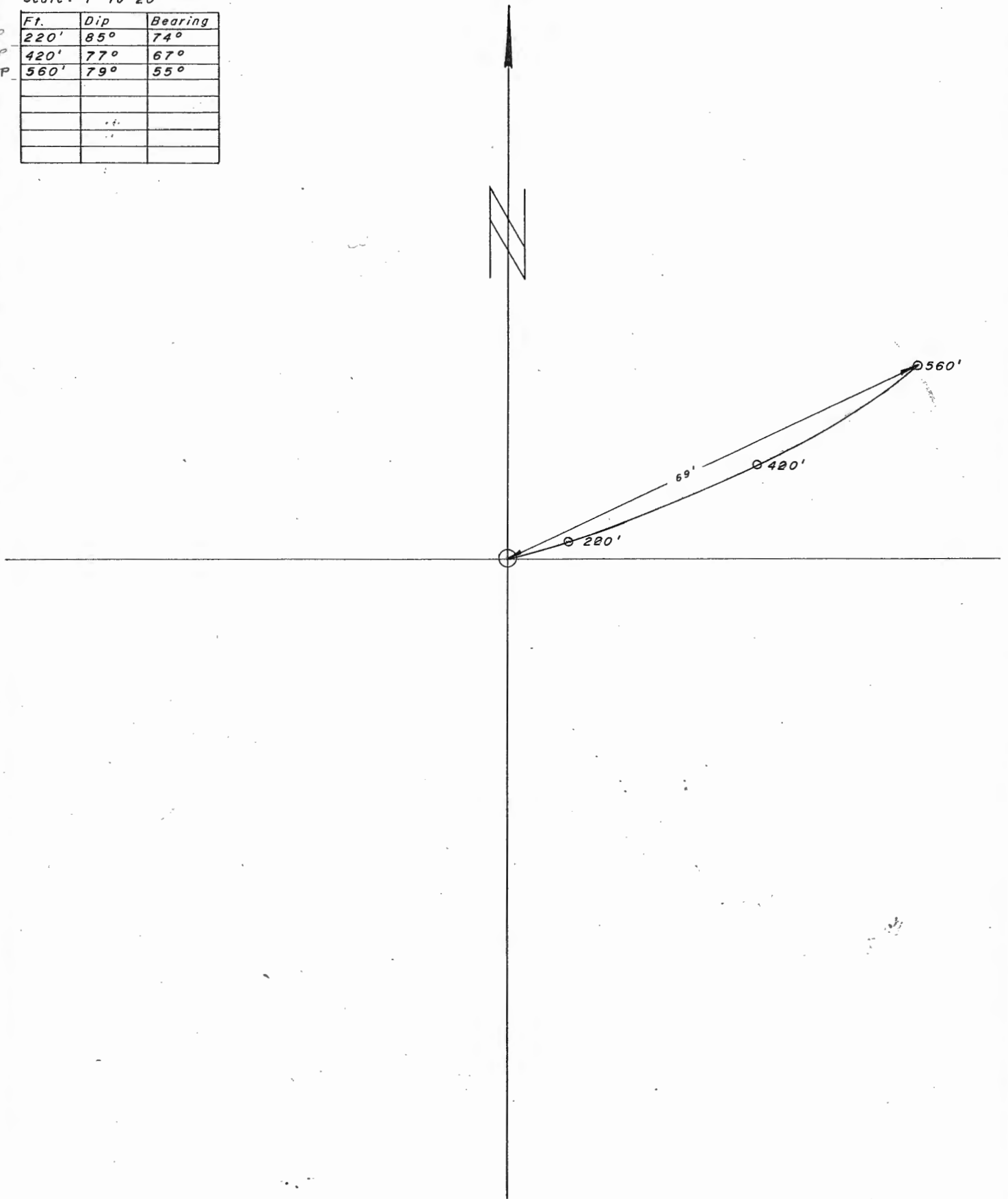


4-102 62 W. 6 N

D.D.H. DEVIATION.

Scale: 1" to 20'

	Ft.	Dip	Bearing
TP	220'	85°	74°
TP	420'	77°	67°
TP	560'	79°	55°

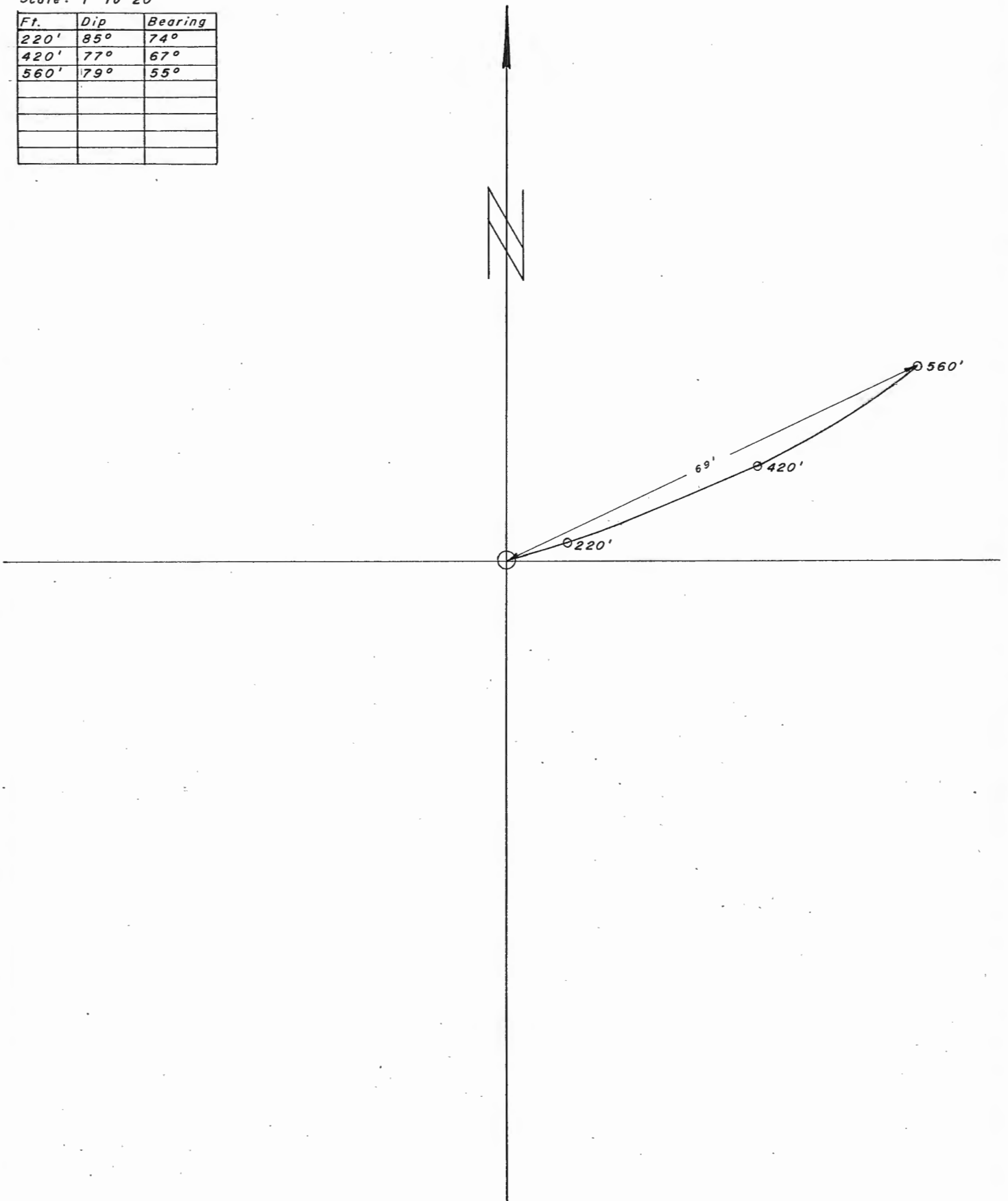


A-102 (62W. 6N)

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
220'	85°	74°
420'	77°	67°
560'	79°	55°



J.M.

Aug. 5

A-102 DIP AND BEARING SURVEY by SPERRY - SUN

GRUM

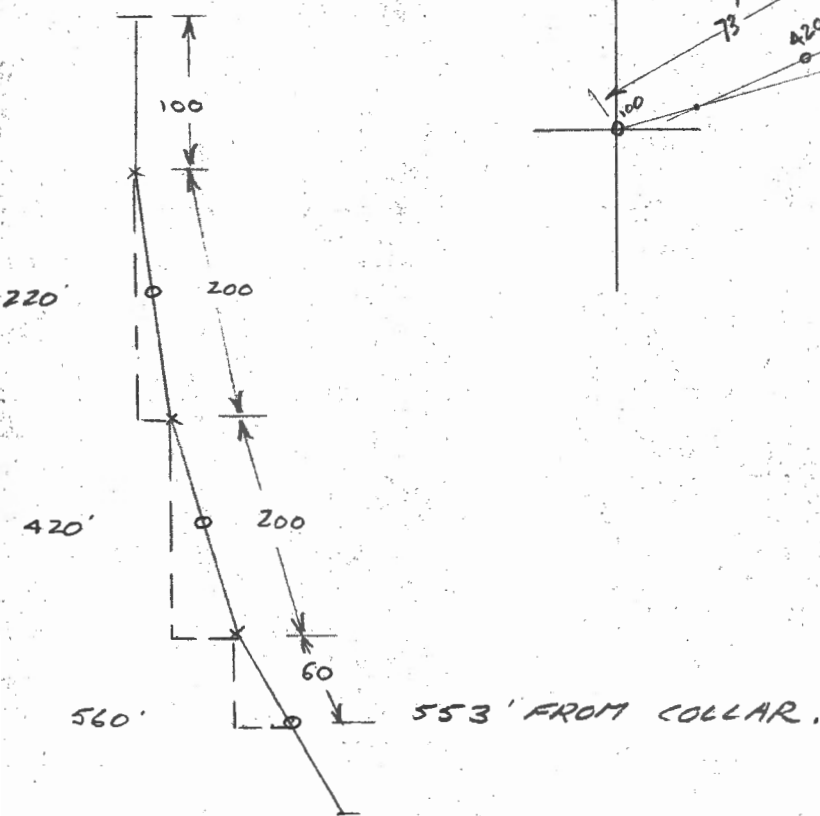
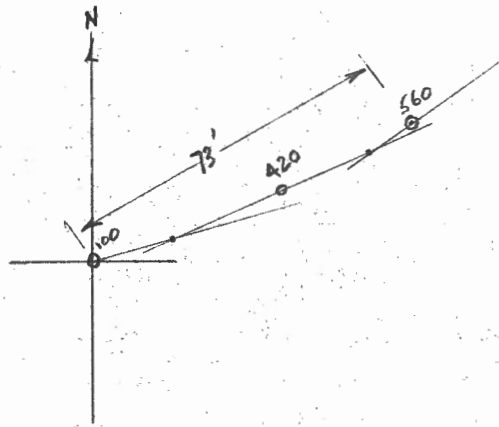
AZ.	DIP	COS.	DIST.	H.D.	SIN	V.D.
0	90°	0	100	0	1.00	100
74°20'	85°	.087	200	17.4	.996	199.2
67°20'	77°	.225	200	45	.974	194.8
55°20'	79°	.191	60	11.5	.981	58.86

LENGTH 560

DEPTH 553

SCALE 1:40

SKETCH NOT TO SCALE



A. 102

Scale: 1" = 20'

HOR. DIST.

VL

DIST

ELEV.

Ft.	Dip	Bearing	INTERVAL		COS.	HOR. DIST.		SIN.	FT	VL	DIST		ELEV.	LENGTH OF DDH
						M					M			
	90°		110				0				23.53	1256.39	33.53	
220	85°	74°	210	320	.0842	18.31	5.58	.99619	209.20		63.76	1192.63	97.54	
420	77°	67°	170	490	.2250	38.25	11.66	.97437	169.64		50.49	1142.14	149.35	
560	79° 30'	55°	70	560	.1822	12.75	3.89	.98325	68.83		20.98	1121.16	170.69	
662			172.662			31.34	9.55		169.12		51.55	1090.59		

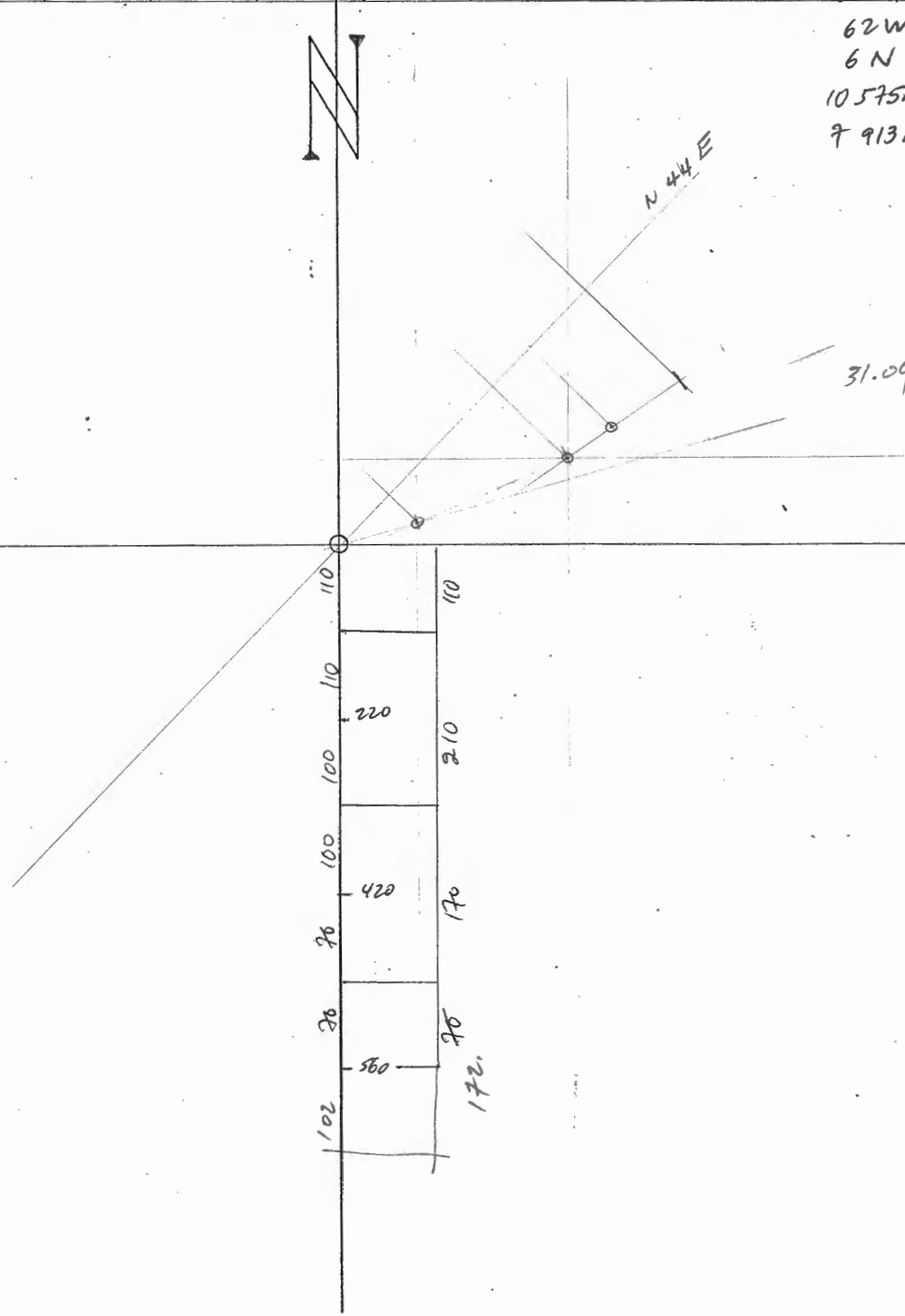
201.78
62W
6N
10575.30
7913.47

201.78

31.09



N 44 E

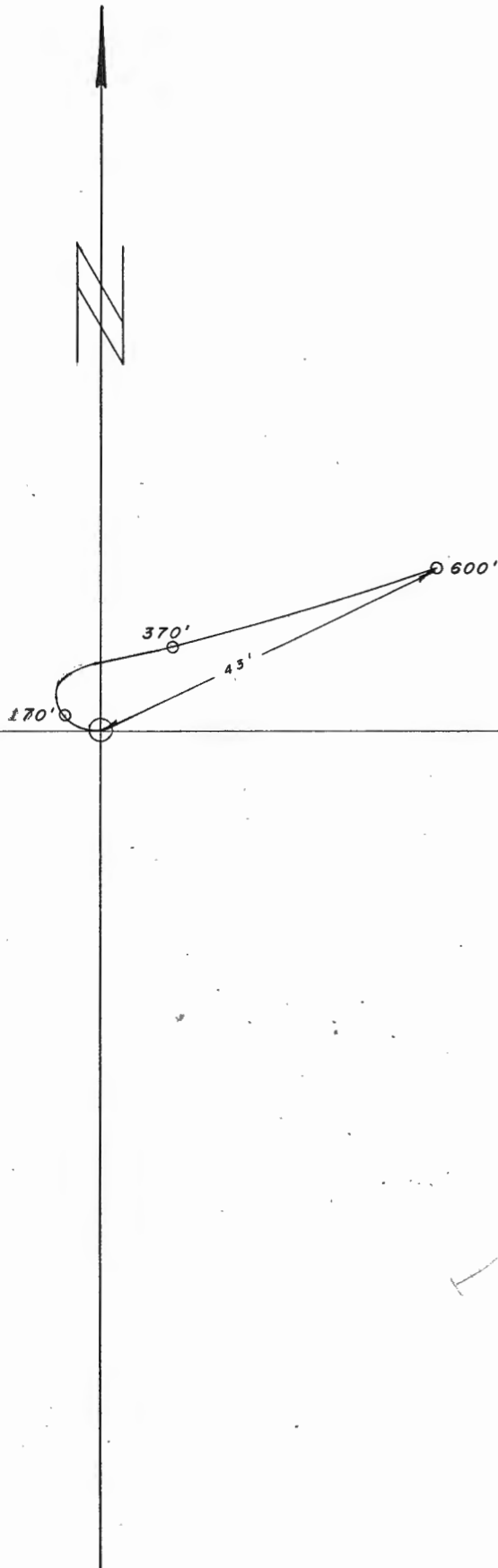


A-103 02 W, 4 N,

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
170'	87°	292°
370'	83°	77°
600'	81°	72°



J.M.

DATE Aug 10

A-103

DIP AND BEARING SURVEY by SPERRY - SUN.

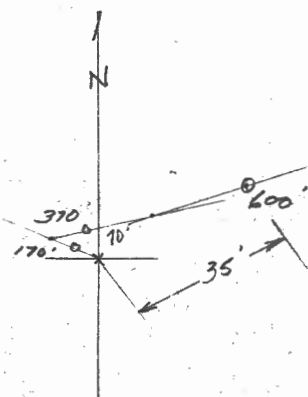
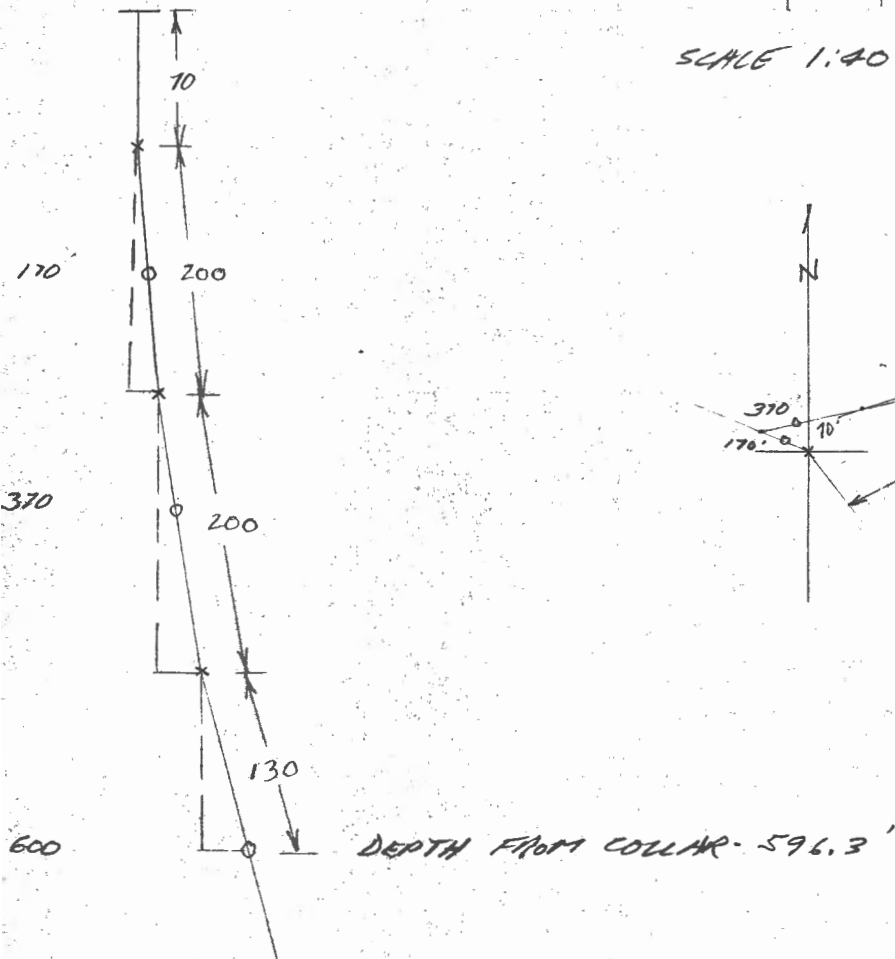
NO. 10. DE 104 100.

GRUM.

AZ	DIP	COS	DIST	H.D.	SIN	V.D.
0°	90°	0	70	0	1.00	70
292°20'	87°	.052	200	10.4	.998	199.6
77°20'	83°	.122	200	22.4	.992	198.4
72°20'	81°	.156	130	20.28	.987	128.3
			<u>600</u>			<u>596.3</u>

SCALE 1:40

NOT TO SCALE



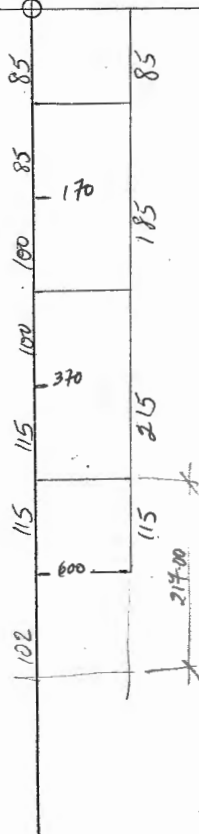
A. 103

D. D. H. Deviation

Scale: 1" = 20'

St. #	Dip	Bearing	INTERVAL		COS.	HOR. DIST.		SIN.	VE. DIST		ELEV.	LENGTH OF DDH
			FT	M		FT	M					
	40°		85						25.91	1288.27	25.91	
170	87°	292°	185	270	.0523	9.68	2.95	.99863	184.45	56.31	1206.05	82.30
370	83°	77°	215	485	.1219	26.21	7.99	.99255	213.40	65.04	1141.01	147.83
600	81°	72°	115	600	.1564	17.99	5.48	.98769	112.58	34.62	406.39	182.88
202			217	302	.1564	33.94	10.34	.98769	214.33	65.03	1075.68	

213.97
62 W
4 N
10 532.37
7 870.14

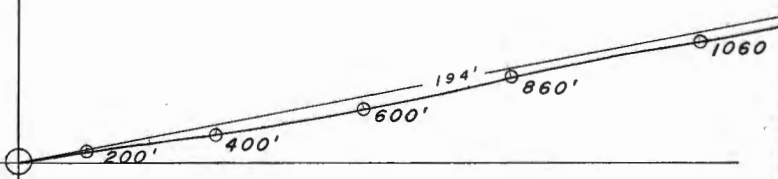


A-104 (84W. 8N.)

D.D.H. DEVIATION

Scale: 1" to 200' 40"

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
200'	82°	144°
400'	82°	117°
600'	80°	131°
860'	77°	142°
1060'	80°	152°
1300'	76°	145°

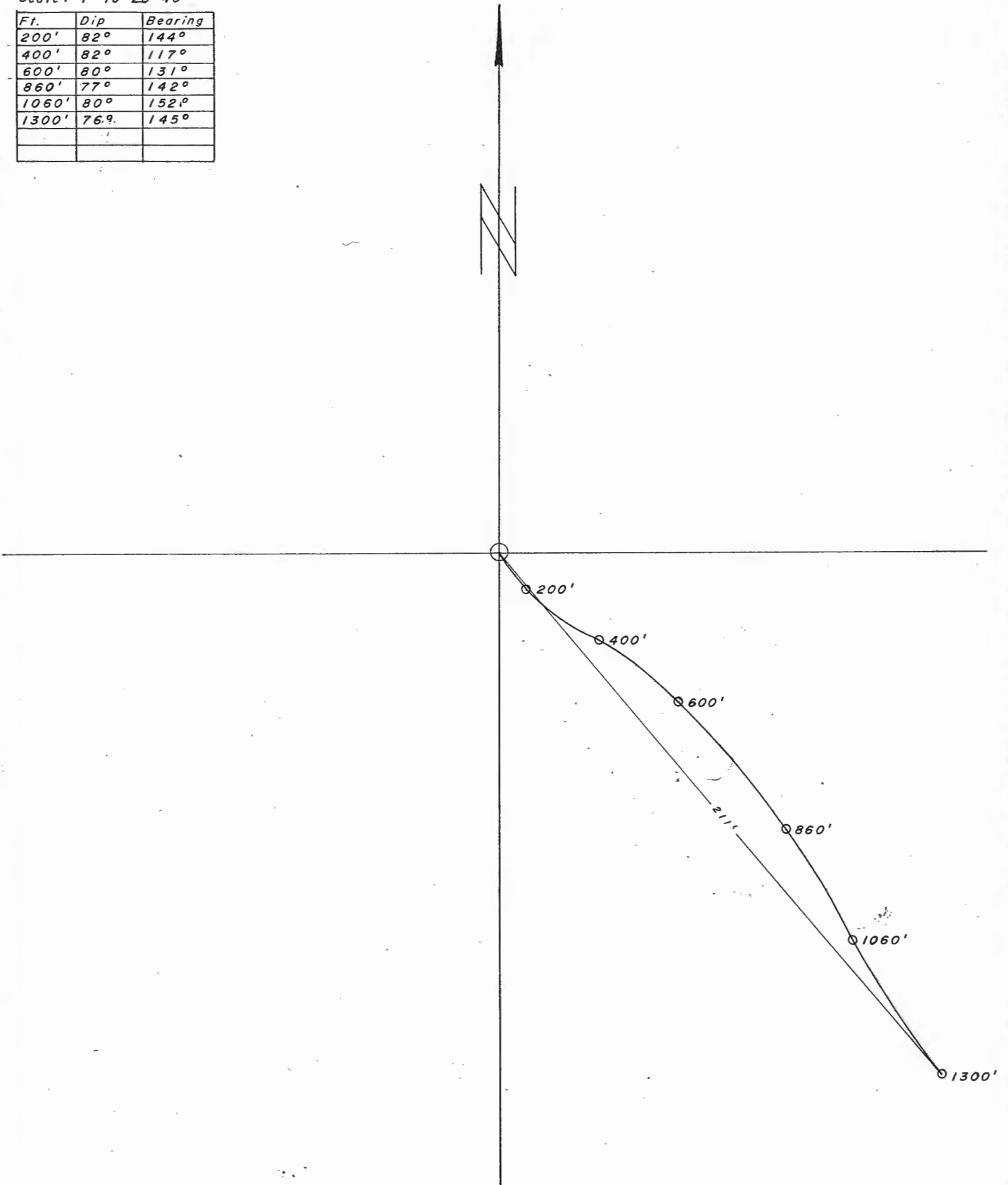


A-104 84W. 8N.

D.D.H. DEVIATION

Scale: 1" to 40'

Ft.	Dip	Bearing
200'	82°	144°
400'	82°	117°
600'	80°	131°
860'	77°	142°
1060'	80°	152°
1300'	76.9°	145°



J.M.

DATE

Aug 23

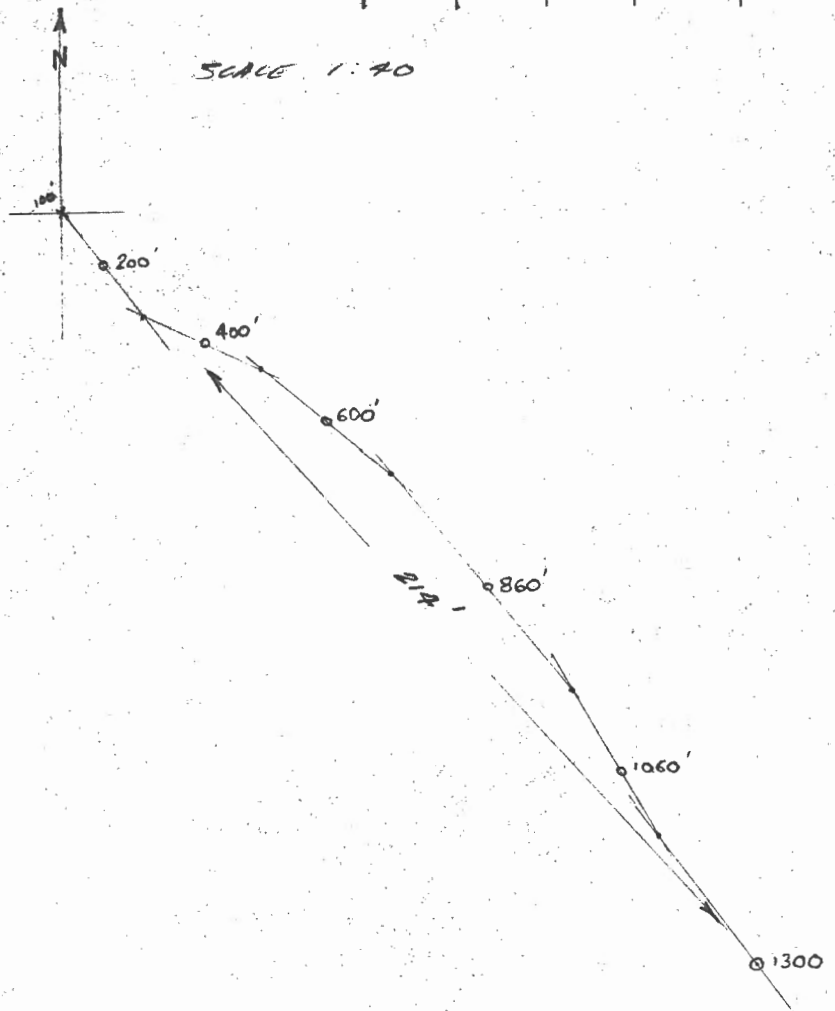
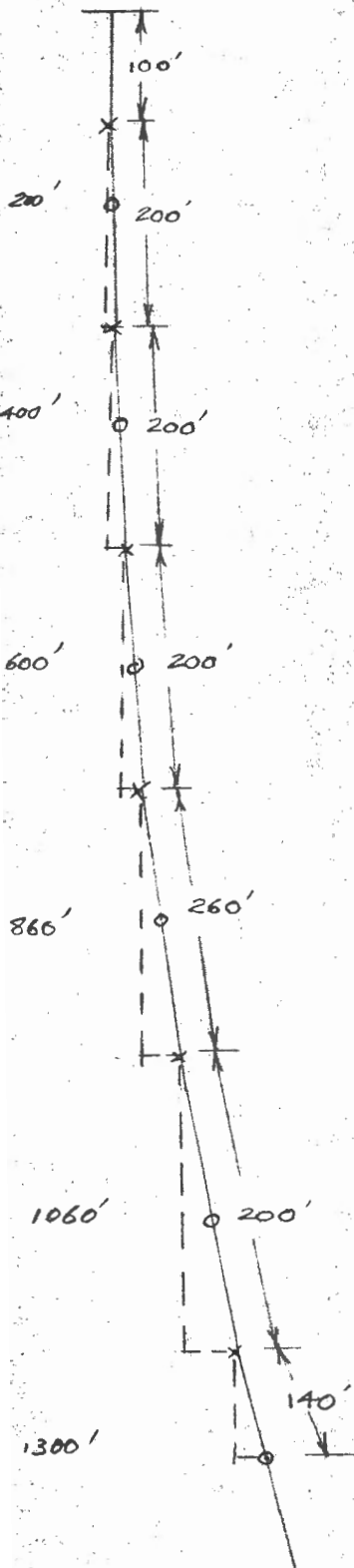
A-104 DIP AND BEARING SURVEY by SPERRY-SUN

SHEET NO.

GRUM

AZ.	DIP	COS.	DIST.	H.D.	SIN.	V.D.
0	90	0	100	0	1.00	100
144°20'	82°30'	.139	200	27.8	.990	198
117°20'	82°30'	.139	200	27.8	.990	198
131°20'	80°30'	.174	200	34.8	.985	197
142°20'	77°	.225	260	58.5	.974	253.2
152°20'	80°	.174	200	34.8	.985	197
145°20'	76°	.242	140	33.9	.970	135.8
			<u>1300'</u>			<u>1279'</u>

NOT TO SCALE



DEPTH FROM COLLAR - 1279'

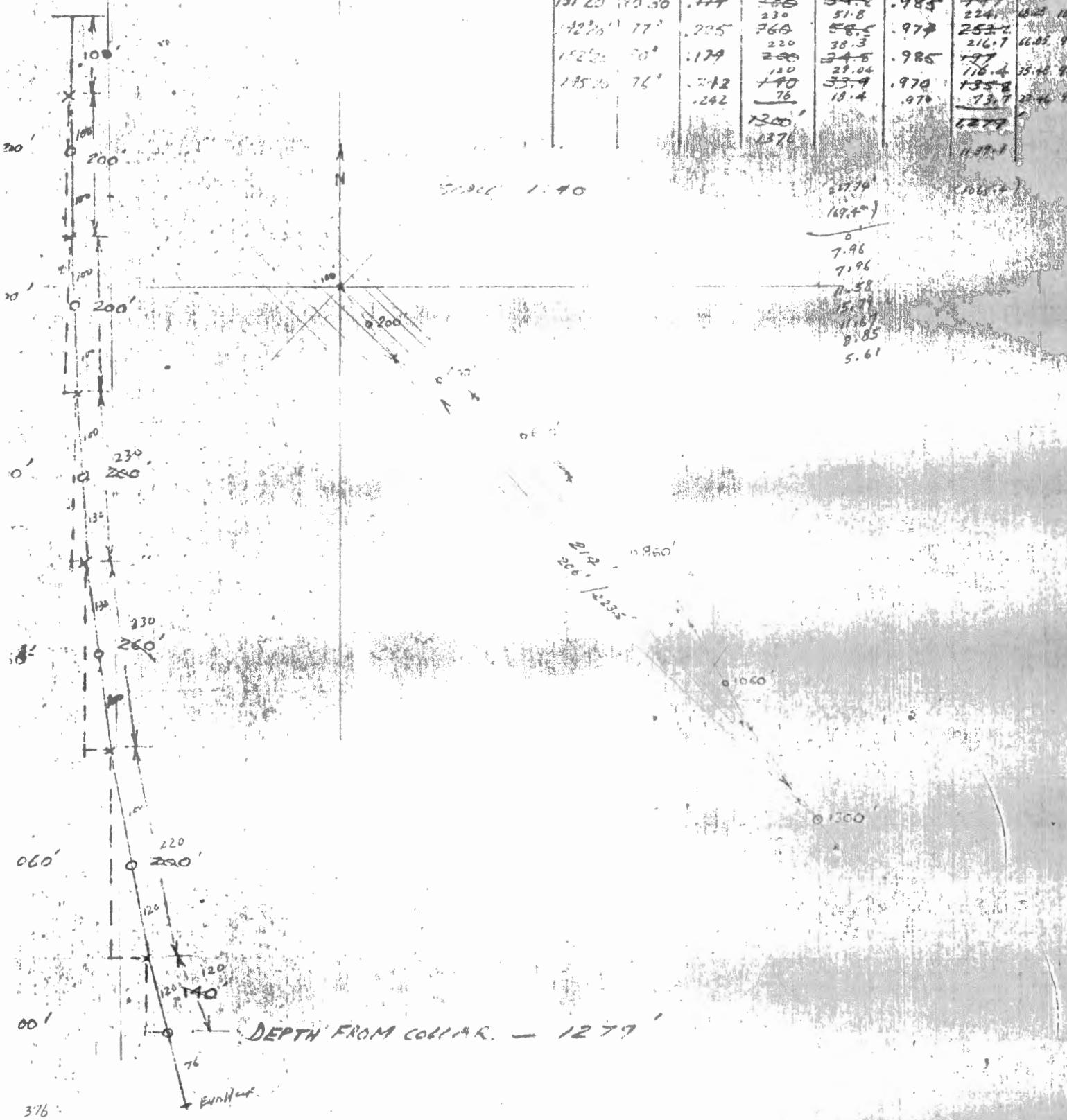
BY J.M. DATE Aug 2
 CHKD BY _____ DATE _____

SUBJECT W. AND P. SURVEY
W. AND P. SURVEY

SHEET NO. _____ OF _____
 JOB NO. 6.111

ANGLE	ANGLE	CO	NS	N.D.	SIN	V.D.	ELEV
0	10	.1365	100	0	1.00	100	30.48 122
144°20'	92°30'	.739	200	26.1	.990	199	63.5 122
117°20'	82°30'	.1365	200	26.1	.990	199	63.5 116
131°20'	70°30'	.174	230	38	.985	224	63.5 109
142°10'	77'	.205	260	51.8	.977	252.7	63.5 131
152°20'	70°	.174	200	58.5	.985	216.7	66.05 96.5
185°20'	76°	.242	190	220	.970	176.4	35.46 92.5
			76	150	.970	135.8	22.46 90.5
			1200	18.4		73.7	
			1376			1277	

NOT TO SCALE



25774
 (169.4°)
 0
 7.96
 7.96
 71.58
 5.79
 11.67
 8.85
 5.61

A-104

checked BTP

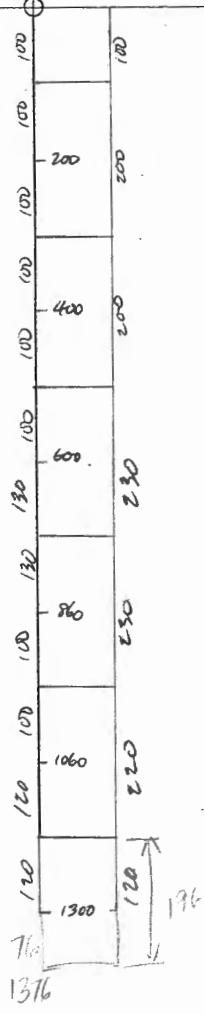
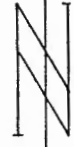
D. D. H. Deviation

Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	HOR. DIST.		SIN.	V. DIST		ELEV.	LENGTH OF DDH
				COS.	FT		M	FT		
			100						1320.17	30.48
200	82° 30'	144° 20'	200	.1305	26.1	7.96	.99144	198.29	60.44	1229.25
400	82° 30'	117° "	200	.1305	26.1	7.96	.99144	198.29	60.44	1168.81
600	80° 30'	131° "	230	.1650	37.95	11.57	.98629	226.85	69.14	1099.67
860	77°	142° "	230	.2250	51.75	15.77	.97437	224.11	68.31	1031.36
1060	80°	152° "	220	.1736	38.19	11.64	.98481	216.66	66.24	965.32
1300	76°	145° "	200	.2419	29.05	8.85	.97030	190.2	58	907.3
1376			196		47.4	14.45				

499.40
 120.3 END HAZ.

84 W
 8400 M.
 11.082.33 N
 7473.48 E

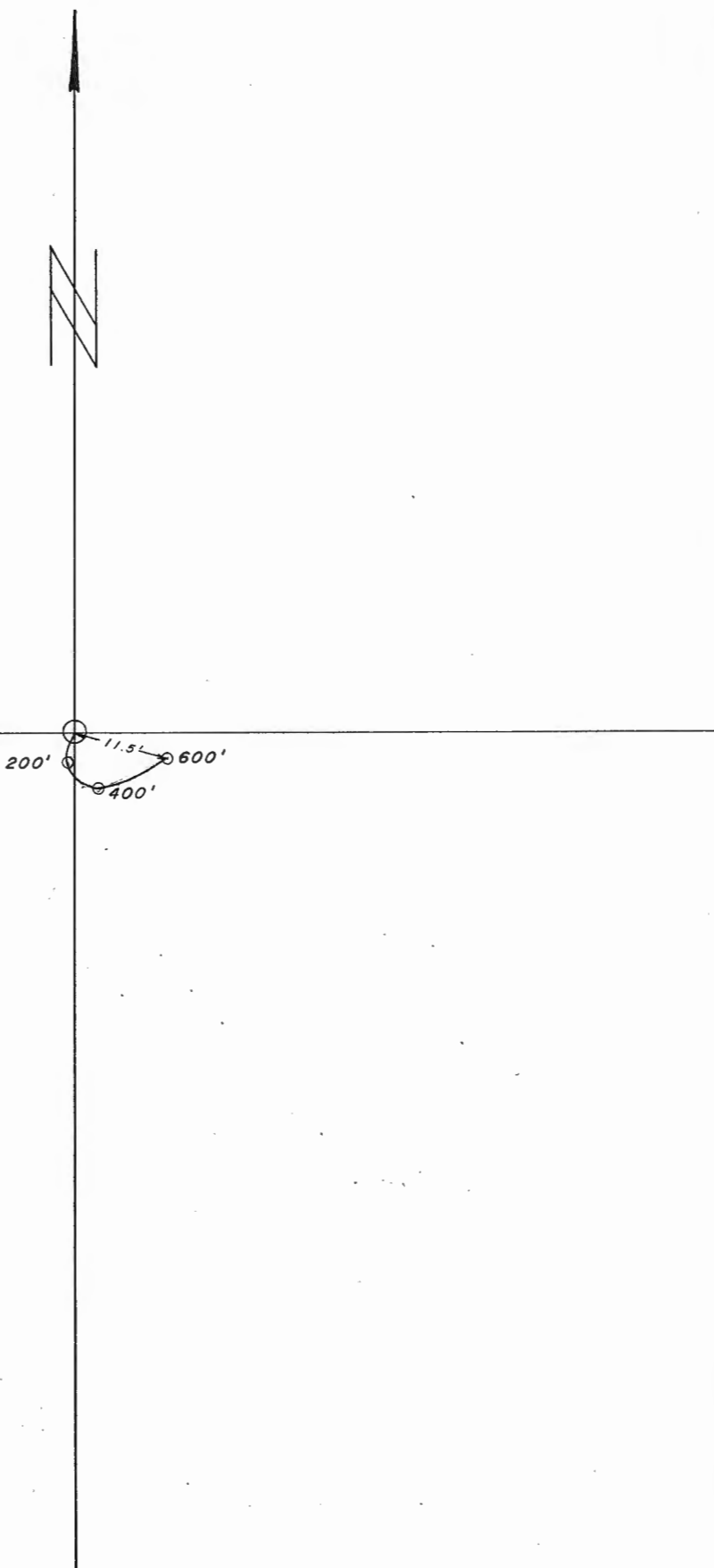


A-105 (62W. 4S.)

D.D.H. DEVIATION

Scale: 1" to 20'

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
200'	88°	192°
400'	89°	97°
600'	86°	65°

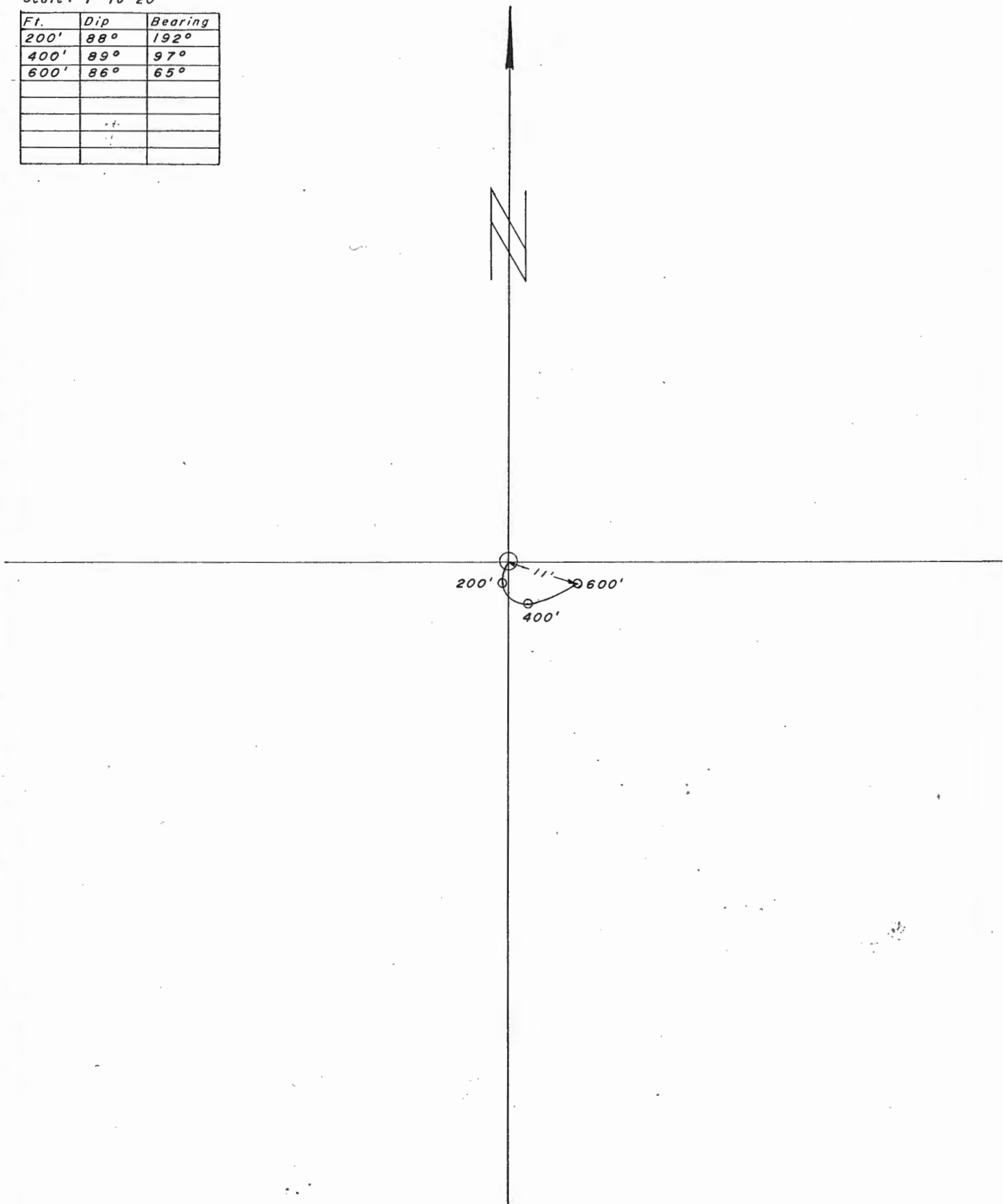


A-105 62W. 4S.

D.D.H. DEVIATION

Scale: 1" to 20'

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
200'	88°	192°
400'	89°	97°
600'	86°	65°



BY J.M. DATE Aug 23

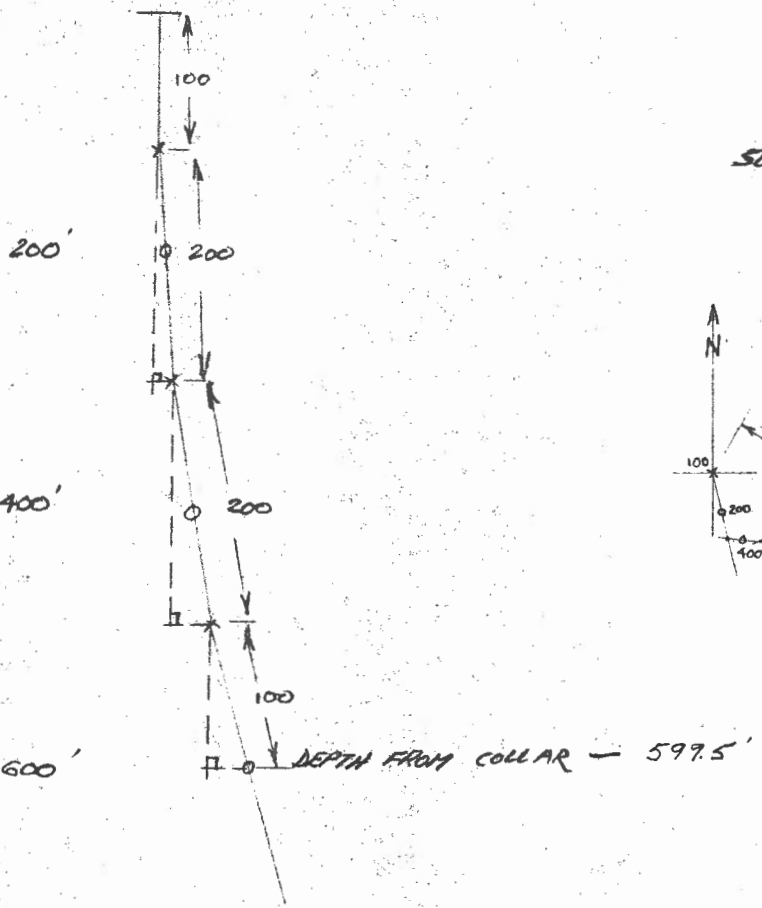
A-105

DIP AND BEARING SURVEY
by TROPARI

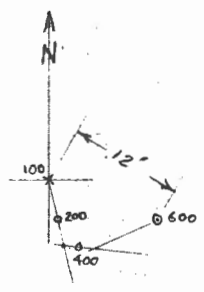
JOB NO. GRUM.

AZ	DIP	COS	DIST.	H.A.	SIN	V.D.
0	90	0	100	0	1.00	100
192°26'	88°	.035	200	7	-.999	199.8
97°26'	89°	.017	200	3.4	1.00	200
65°20'	86°	.070	100	7	-.997	99.7
			<u>600</u>			<u>599.5</u>

NOT TO SCALE



SCALE 1:20



DEPTH FROM COLLAR - 599.5'

A-105

HOR. DIST.

VERT. DIST.

ELEVATION

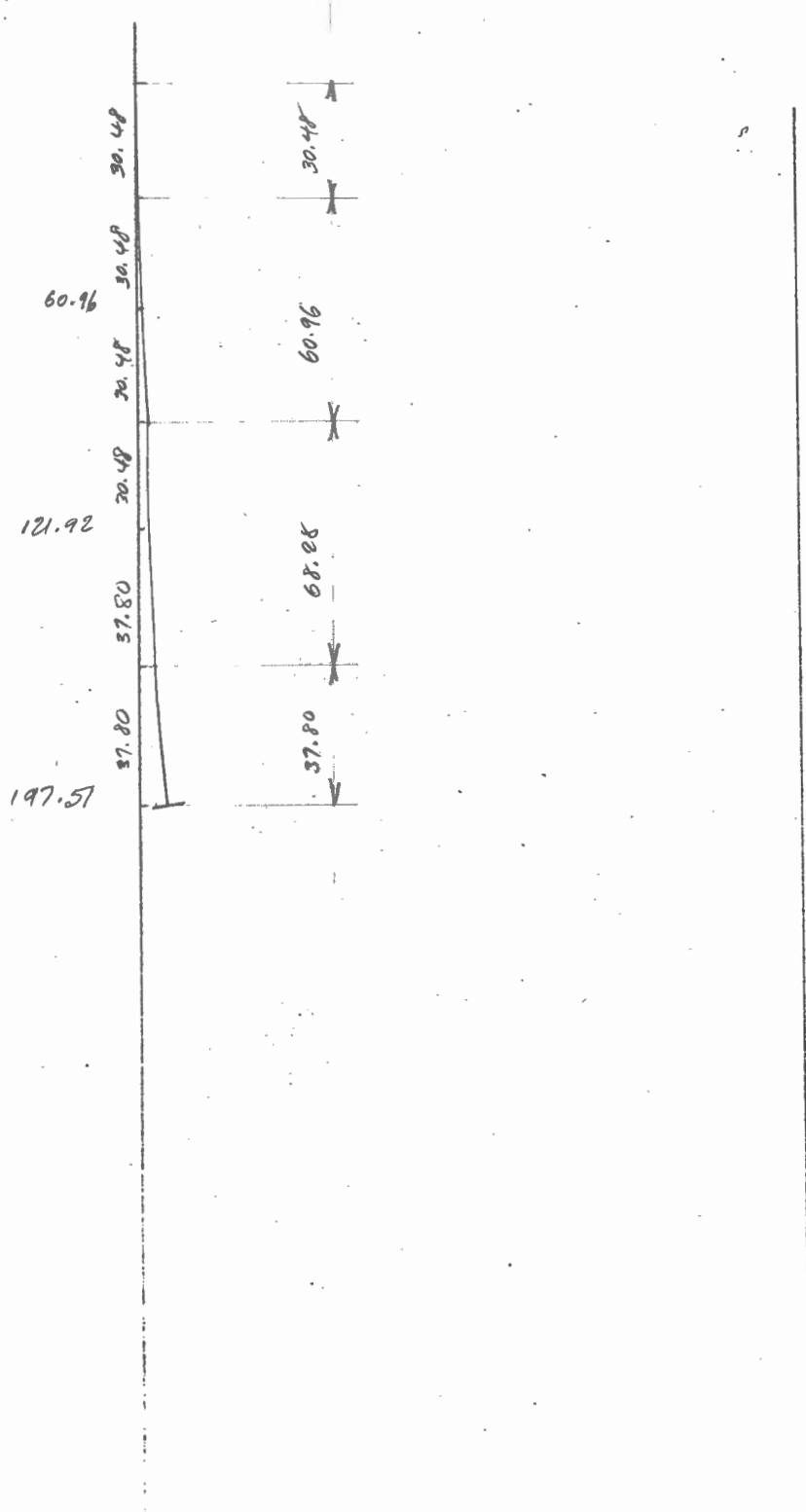
LENGTH

LENGTH	DIP	BEARING	INTERVAL	S	METRES	SIN	N	ES	ELEVATION	LENGTH
			30.48						1273.74	
60.96	88	192	60.96	.0349	2.13	.99939	30.48		1243.26	30.48
121.92	89	97	68.28	.0175	1.19	.99985	60.92		1182.34	91.44
197.51	86	65	37.80	.0698	2.64	.99756	68.27		1114.07	159.72
							37.71		1076.36	197.52

Hole in X-SECT 62.W

SHEET S-E

AS

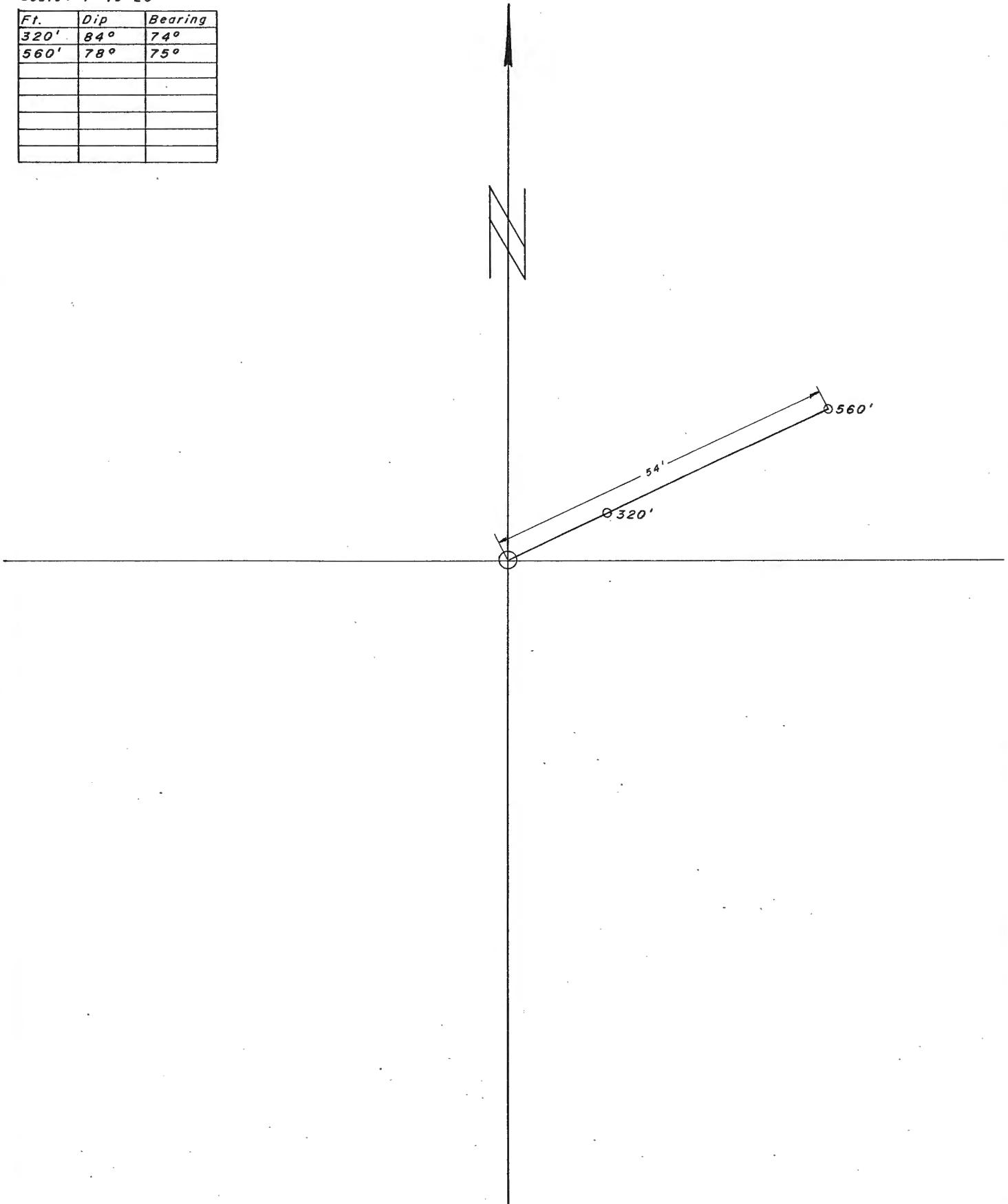


A-106 (68W. 8N.)

D.D.H. DEVIATION

Scale: 1" to 20'

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
320'	84°	74°
560'	78°	75°



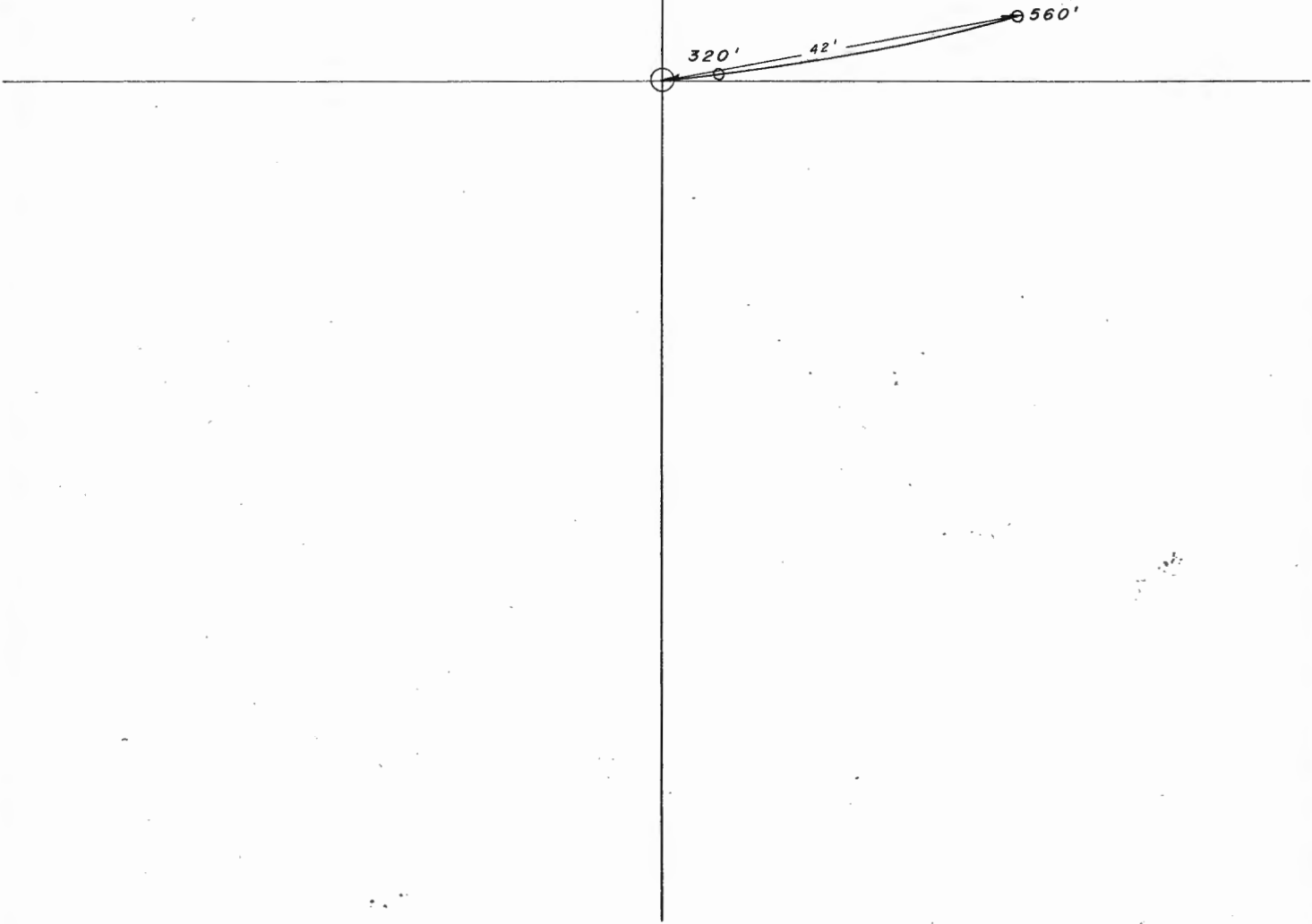
Checked ✓

A-106 68W. 8N

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
200'	90°	0°
320'	84°	74°
560'	78°	75°



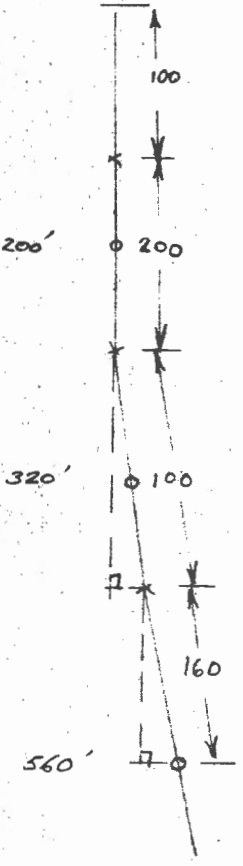
J.M. DATE Aug. 23
 CITY BY DATE

A-106
 DIP AND BEARING SURVEY
 by SPERRY-SUN

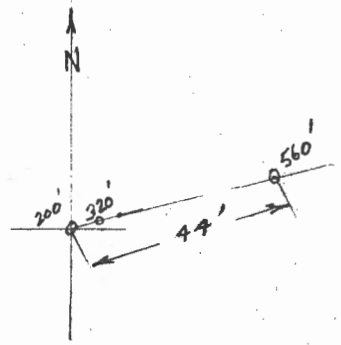
SPART N: O
 103 N: GRUM.

AZ.	DIP	COS.	DIST.	H.D.	SIN.	V.D.
0°	90°	0	100	0	1.00	100
0	90°	0	200	0	1.00	200
74°20'	84°	.104	100	10.4	.994	99.4
75°20'	78°	.208	160	33.3	.978	156.5
			<u>560'</u>			<u>555.9</u>

NOT TO SCALE



SCALE 1:40



DEPTH FROM COLLAR - 555.9.

A106

MAY 23

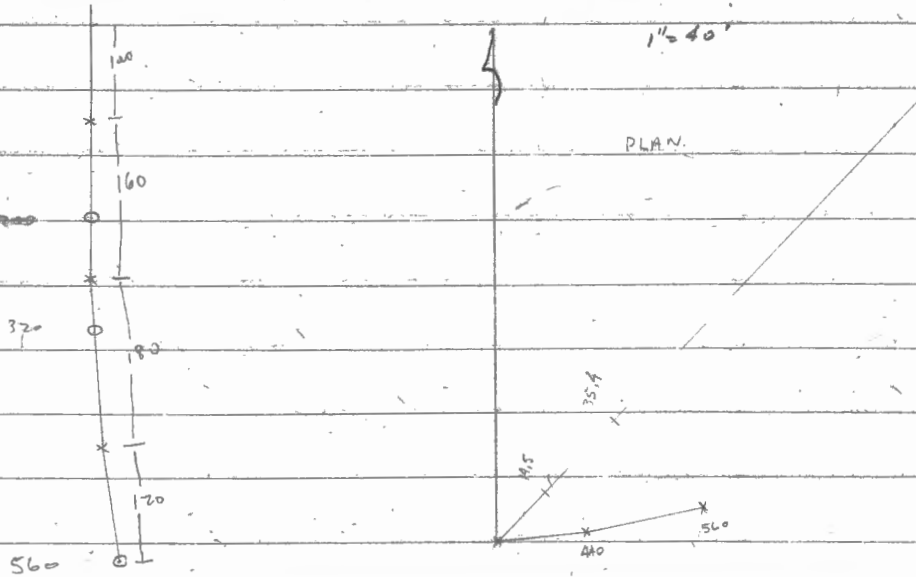
D+B

Sperry Sun

JH.

T.P.	AZ	DIP	DIST	COS	H.D.	SIN	V.D.
L	0	90	100	0	0	1	100
200	0	90	160	0	0	1	260
320	74°21'	84°	180	.10453	18.82	.99452	179.01
560	75°20'	78	120	.20791	24.95	.97815	117.38

560

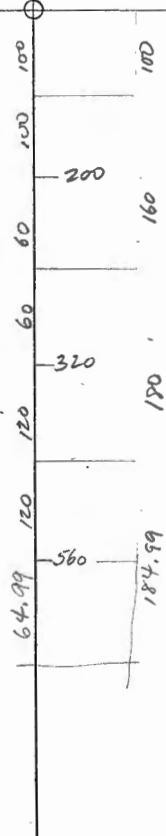


Scale: 1" to 20'

Fl.	Dip	Bearing	HOR. DIST.				VERT. DIST.			ELEV.	LENGTH OF DDH
			INTERVAL	COS.	FT	M	FT	M	1303.61		
	90°		100 ✓						30.48	1273.13	30.48
200	90°	0°	160 ²⁶⁰ ✓	0	0	0	0	0	48.48	1224.36	79.25
320	84°	74° ✓	180 ⁴⁴⁰ ✓	.1045 ✓	18.81 ✓	5.73	.99452 ✓	179.01 ✓	54.56	1169.80	134.11
560	78° ✓	75° ✓	184.99 ✓	.2079 ✓	38.46	11.72	.97815 ✓	180.95	55.15	1174.65	190.50
											190.50



10,741.58
7,820.74
68W/8N.



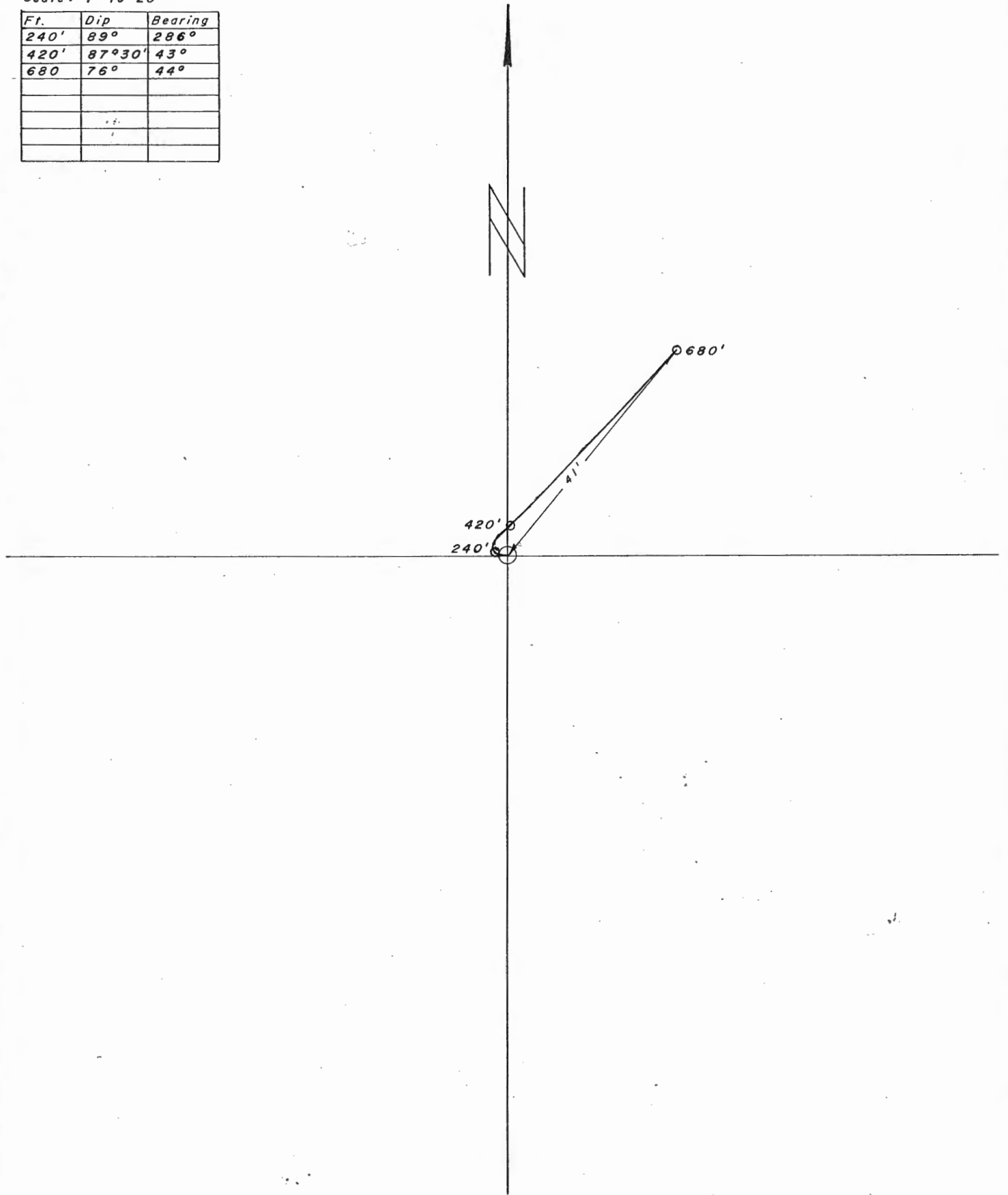
19.81

A-107 62W. 2N.

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
240'	89°	286°
420'	87°30'	43°
680'	76°	44°



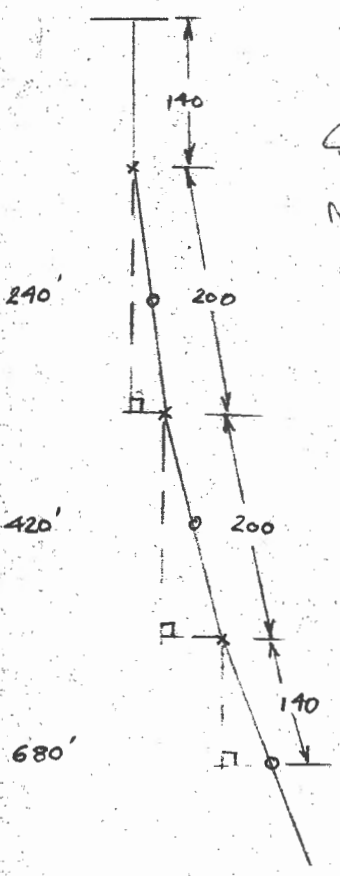
BY J.M. DATE Aug. 23
 DRAWN BY DATE

SUBJECT A-107
DIP AND BEARING SURVEY
 by STARRY-SUN

SHEET NO. 6
 JOB NO. GRUM.

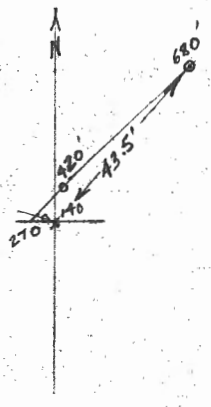
MP	MP	COS	DIST	H.D.	SIN	V.D.
0°	90°	0	140	0	1.00	140
286°20'	89°	.017	200	3.4	1.00	200
43°20'	87°36'	.052	200	10.4	.998	199.6
44°20'	76°	.242	140	33.9	.970	135.8
			<u>680</u>			<u>675.4</u>

NOT TO SCALE



Spacing
not correct

SCALE 1:40



DEPTH FROM COLLAR - 675.4'

Collar 1286.46
 ZN 1199.5
 87.0 = 285.4

A-107

D. D. H. Deviation

Scale 1" to 20'

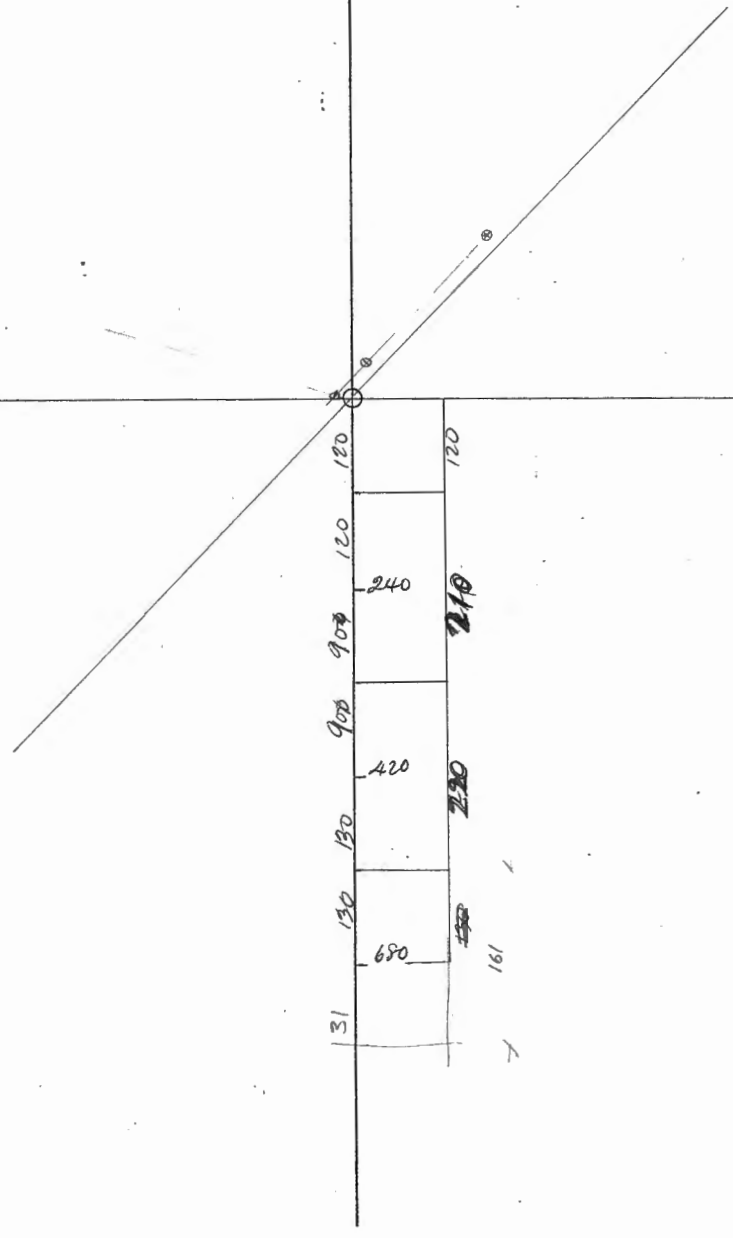
HOR. DIST.

Fl.	Dip	Bearing	INTERVAL		COS.	FT		SIN.	V		ELEV.	LENGTH OF DDH
							M			M		
	90°		120						36.58	1286.46		36.58
240	89°	286°	210	330	.0175	3.68	1.12	.99985	209.97	64.00	1185.88	100.58
420	87° 30'	43°	220	550	.0436	9.59	2.92	.99905	219.79	66.99	1118.89	167.64
680	76°	44°	130	680	.2419	31.45	9.59	.97030	126.14	38.45	1080.44	207.26
711			161		.2419	38.95	11.87	.97030	156.22	47.62	1071.27	
												216.71



62 W
2 N
10487.32
7828.25

9.45
31 ft

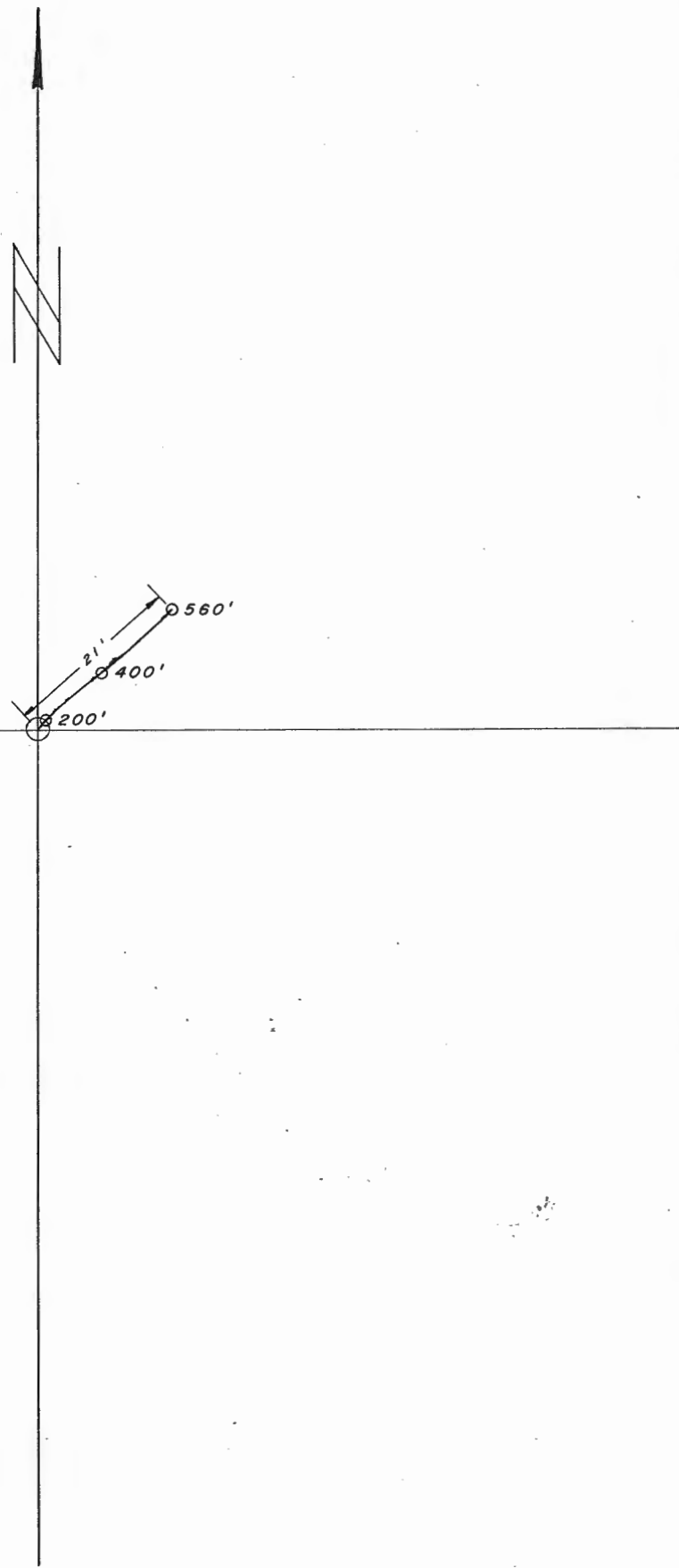


A-108 58W. 4S.

D.D.H. DEVIATION

Scale: 1" to 20'

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
200'	89°	39°
400'	86°	50°
560'	86°	47°30'

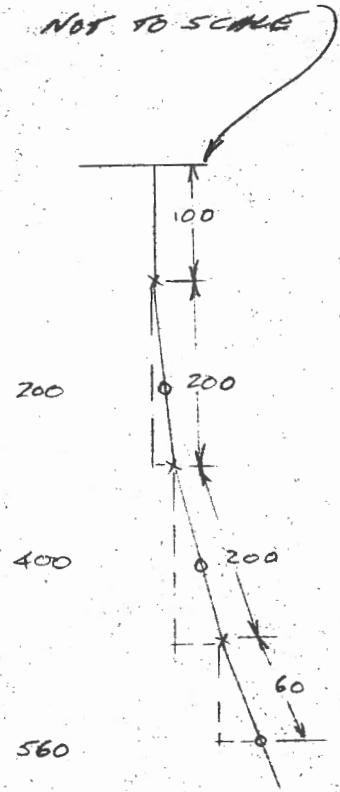


J.M. DATE Sept 10
 DRAWN BY DATE

A-108
 DIP AND BEARING SURVEY
 by TROPARI

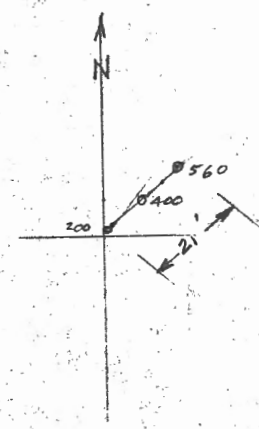
SHEET NO. OF
 RUN NO. GRUM

NOT TO SCALE



AZ.	DIP	COS	DIST.	H.D.	SIN	V.D.
0	90°	0	100	0	1.00	100
59°	89°	.012	200	2.4	1.00	200
50°	86°	.069	200	13.8	.997	199.4
47°	86°	.069	60	4.1	.997	59.8
			<u>560</u>			<u>559.2</u>

SCALE: 1-10



DEPTH AT COLLAR — 559.2

A-108

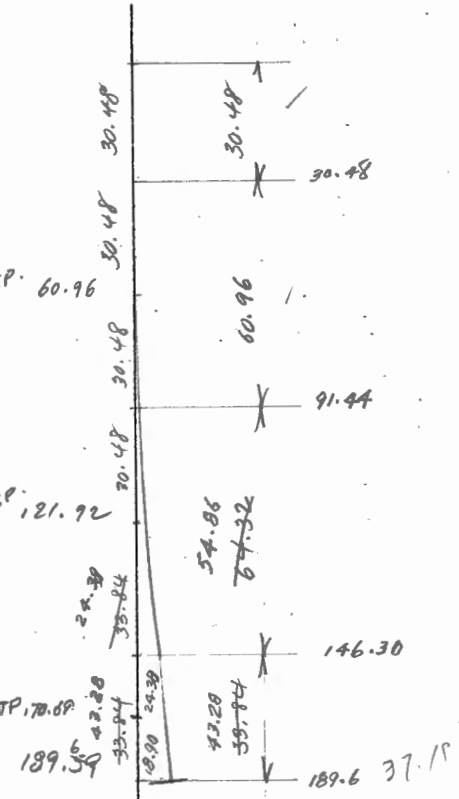
HOR. DIST.

VERT. DIST.

ELEVATION

LENGTH

LENGTH	DIP	BEARING	INTERVAL	SIN	METRES	SIN	REF	ELEVATION	LENGTH
			30.48					1270.02	
60.96	89	39	60.96	.0175	1.07	.99985	60.95	1239.54	30.48
121.92	86	50	76.32	.0698	4.49 3.83	.99756	64.16 54.23	1178.59	91.44
189.59	86	47.30	133.84	.0698	8.96 3.02	.99756	33.76	1114.43	155.76 146.30
			43.28				43.17	1080.68	189.60
			54.86					1123.86	



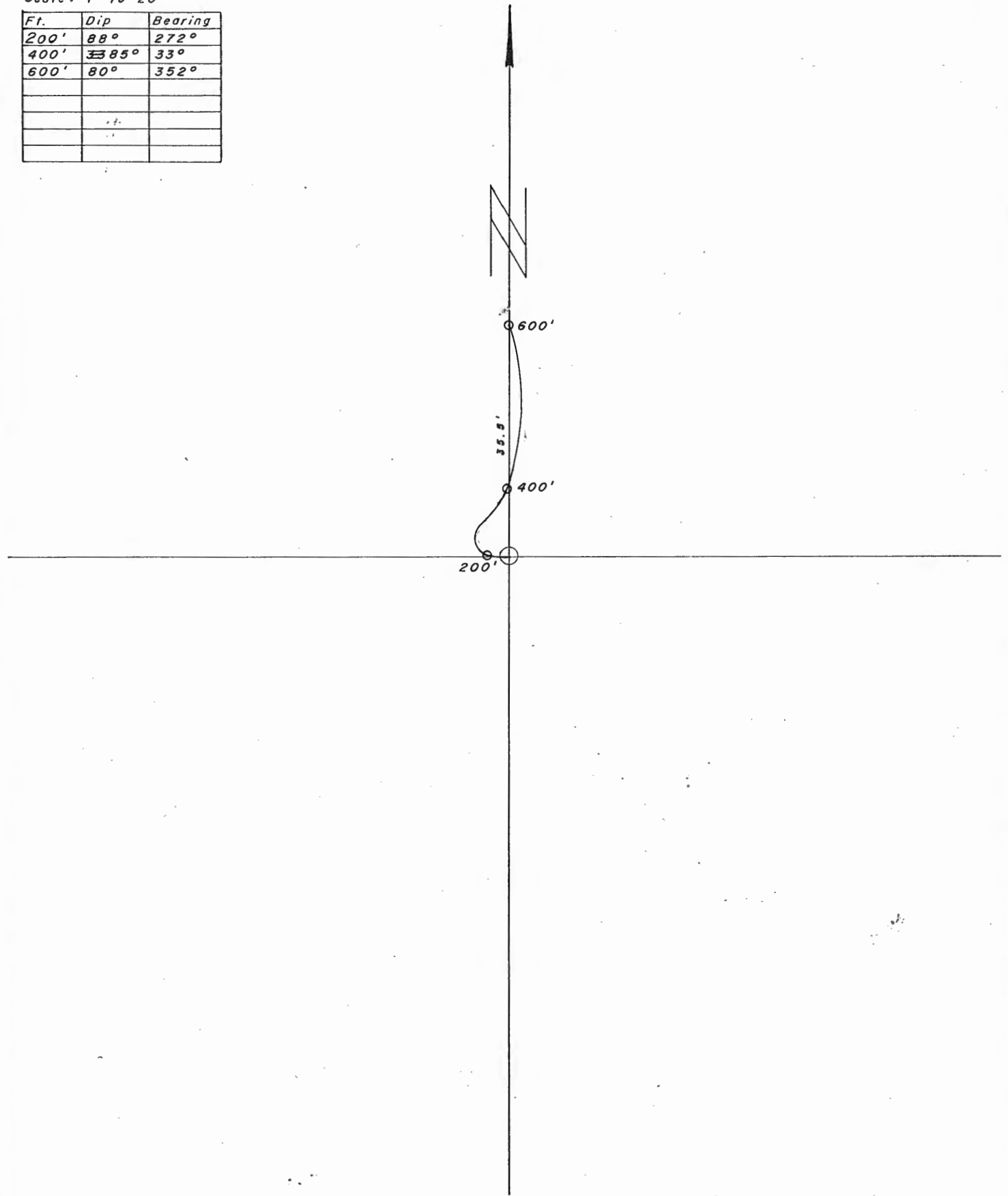
checked by *gl*
 April 22/76

A-109 (66W. 8N.)

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
200'	88°	272°
400'	85°	33°
600'	80°	352°



BY J.M.

DATE ~~Aug. 23~~

SUBJECT A-109

SHEET NO. OF

DRAWN BY DATE

DIP AND BEARING SURVEY

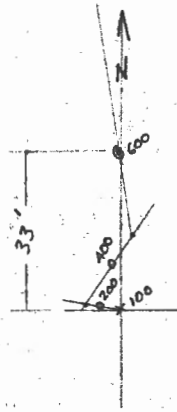
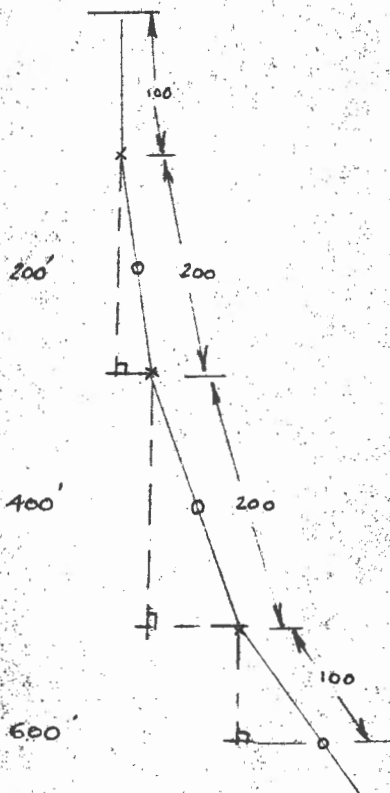
LOG NO. G.P.M.7

By SPERRY-SUN

NOT TO SCALE

AZ	DIP	COS	AST.	H.D.	S.M.	V.D.
0°	90°	0	100	0	1.00	100
272°26'	88°	.035	200	7	.999	199.2
33°20'	85°	.087	200	17.4	.996	199.2
352°26'	80°	.174	100	17.4	.985	98.5
			<u>600</u>			<u>597.5</u>

SCALE 1:40



DEPTH FROM COLLAR - 597.5

109

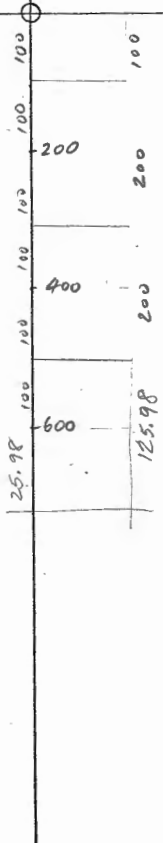
D. D. H. Deviation

Scale: 1" to 20'

Fl.	Dip	Bearing	HOR. DIST.				VERT. DIST.		ELEV.	LENGTH OF DDH
			INTERVAL	COS.	FT	M	FT	M		
	90°		100					1300.10		
200	88°	272°	200	.0349	6.98	2.13	199.88	1269.62	30.98	
400	85°	33°	200	.0872	17.44	5.32	199.24	1208.40	91.44	
600	80°	352°	25.98	.1726	4.48	1.37	184.07	1147.97	152.40	
								1110.15	190.80	
									190.80m	



7.92
 10,701.75
 7,863.64
 66 W / 8N
 625.9'

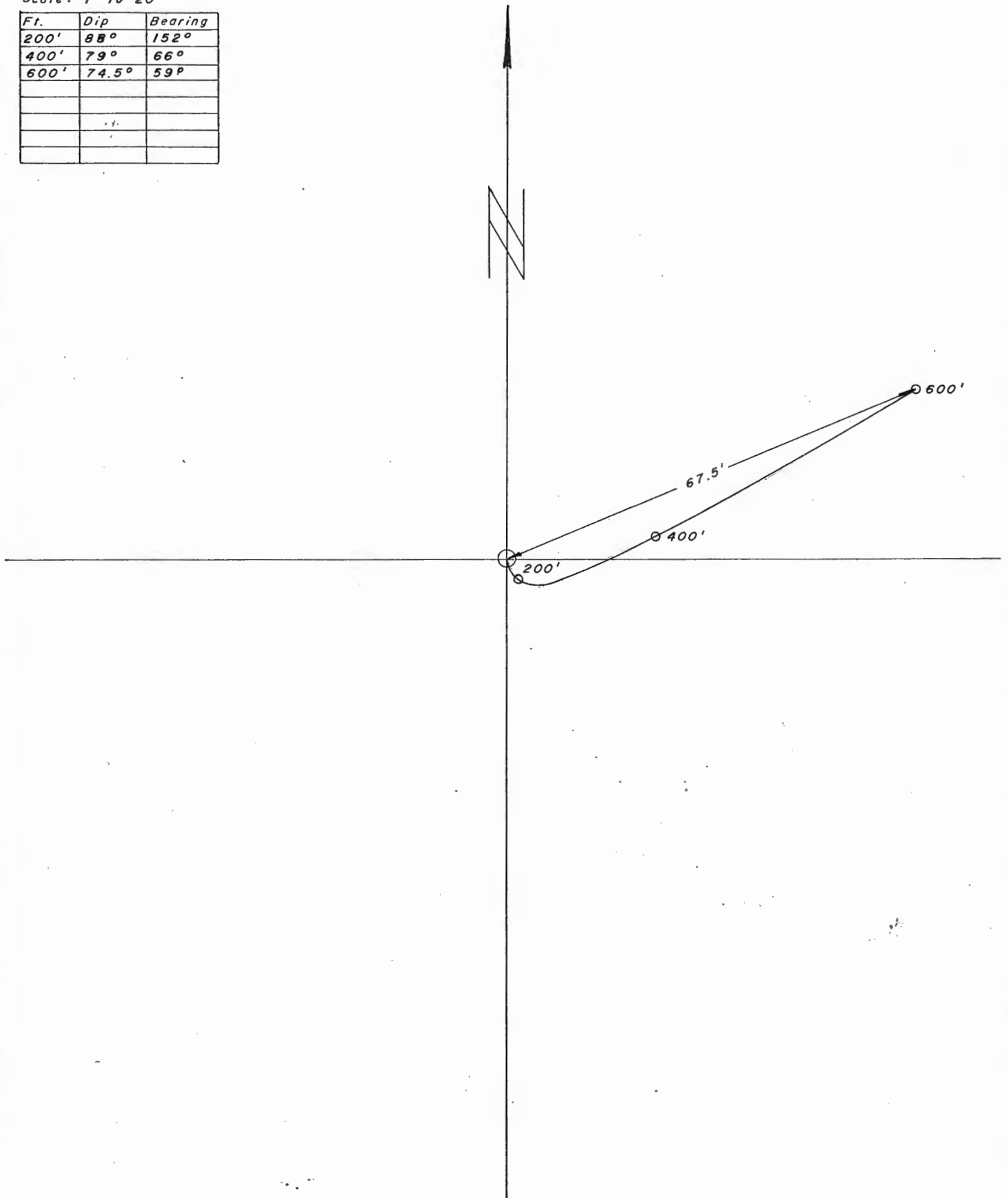


A-110 (60W. 2S.)

D.D.H. DEVIATION

Scale: 1" to 20'

Ft.	Dip	Bearing
200'	88°	152°
400'	79°	66°
600'	74.5°	59°



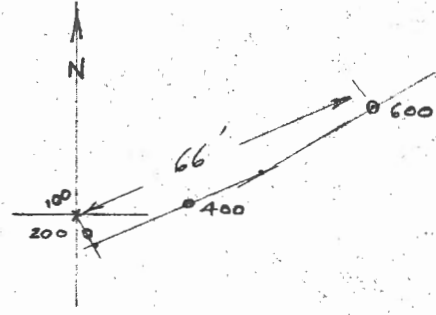
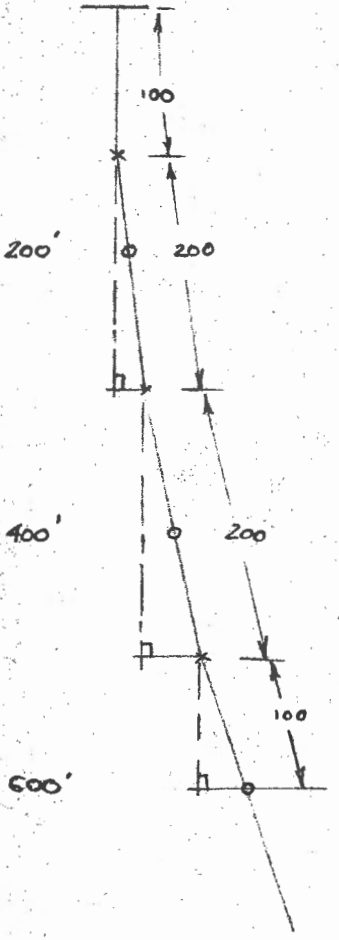
J.M. DATE Aug 23

A 110
DIP AND BEARING SURVEY
by SPERRY - SUN GRUM.

AL.	DIP	COS.	DIST.	H.D.	SIN.	V.D.
0°	90°	0	100	0	1.00	100
152°20'	88°	.035	200	7	.999	199.8
66°20'	79°	.191	200	38.2	.982	196.4
59°20'	74°36'	.276	100	27.6	.961	96.1
			600			592.3

NOT TO SCALE

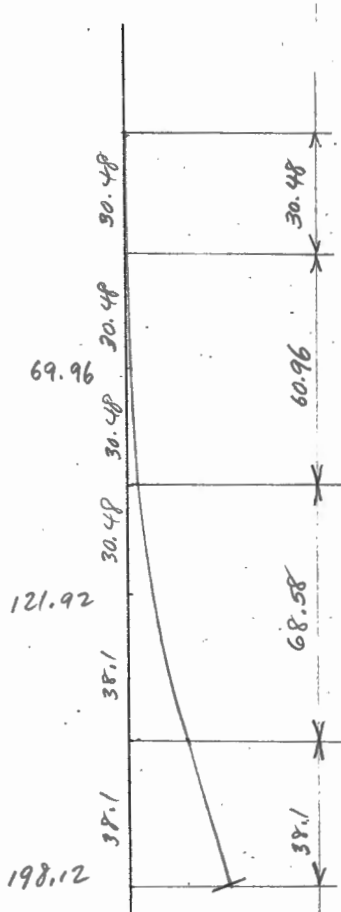
SCALE 1:40



DEPTH FROM COLLAR - 592.3'

A-110

LENGTH.	DIP	BEARING	INTERVAL	HOR. DIST.		VERT. DIST.		ELEVATION	LENGTH
				S	METRES	SIN	1		
			30.48					1273.38	
60.96	88	152	60.96	.0349 ✓	2.13	.99939 ✓	30.48	1242.9	30.48
121.92	79	66	68.58	.1908 ✓	13.09	.98163 ✓	60.92	1181.98	91.44
198.12	74.5°	59	38.1	.2672 ✓	10.18	.96363 ✓	67.32	1114.66	168.02
							36.71	1077.95	198.12

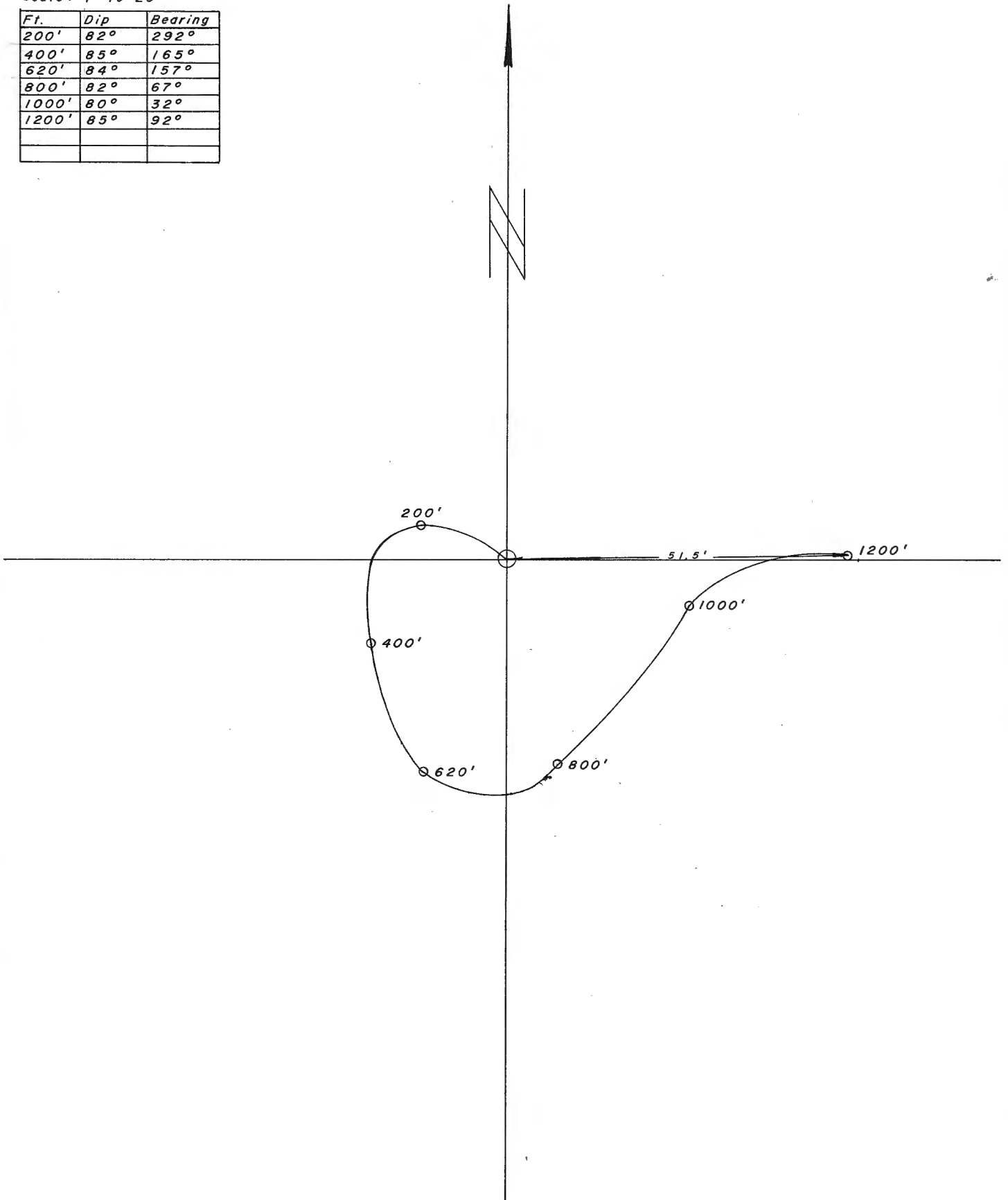


A-111 (66W. 2N.)

D.D.H. DEVIATION

Scale: 1" to 20'

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
200'	82°	292°
400'	85°	165°
620'	84°	157°
800'	82°	67°
1000'	80°	32°
1200'	85°	92°



BY V.M. DATE Sept. 10

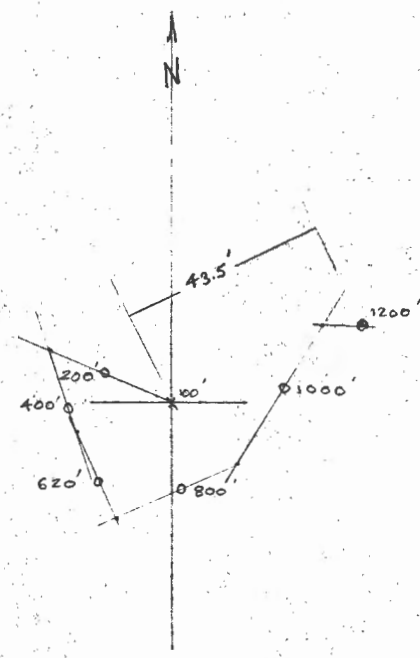
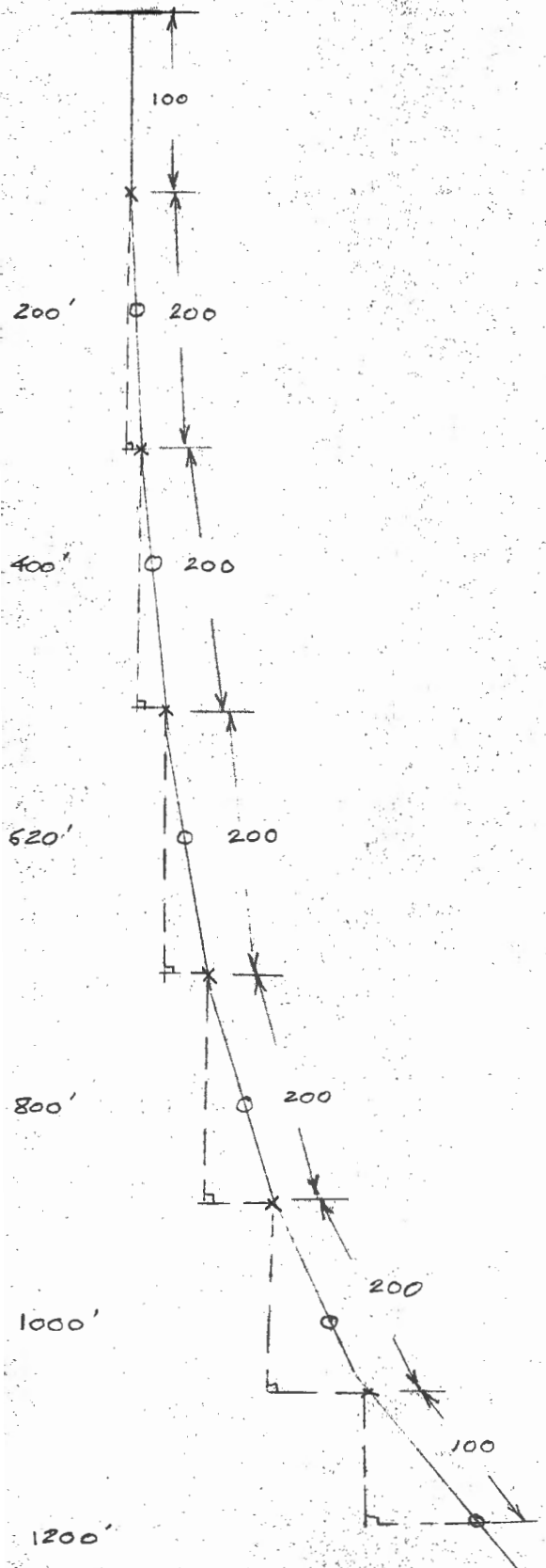
A-III
DIP AND BEARING SURVEY
By SPERRY-SUN

SHEET NO. 1 OF 1
 JOB NO. GRUM

NOT TO SCALE

AZ	DP	CS	DEF	HA	SN	VA
0	90°	0	100	0	1.00	100
272°	82°	.139	200	27.8	.990	198
162°	85°	.087	200	17.4	.996	199.2
157°	84°	.104	200	20.8	.994	198.8
67°	82°	.139	200	27.8	.990	198
32°	80°	.173	200	34.6	.985	197
92°	85°	.087	100	8.7	.996	99.6
			1200			1190.6

SCALE: 1-10



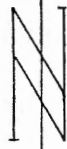
Collar 1326.2
 2N Dr. 1083
 243 = 797

DEPTH FROM COLLAR — 1190.6

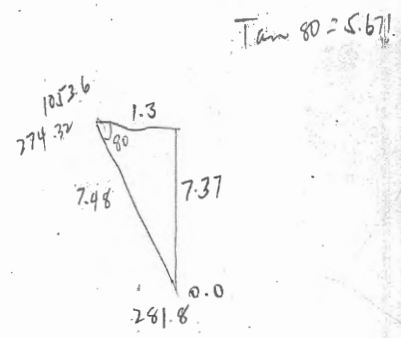
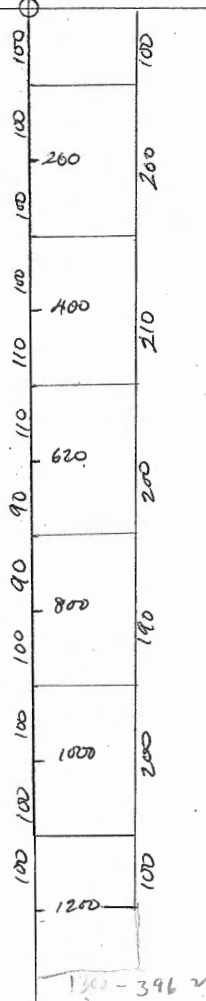
A-111

Scale: 1" to 20'

Ft.	Dip	Bearing	INTERVAL		COS.	HOR. DIST.		SIN.	VERT. DIST		ELEV.	LENGTH OF DDH
						FT	M		FT	M		
	90°		100								1326.20	
200	82°	292°	200	300	.1392	27.84	8.49	.99027	198.05	30.48 ✓	1295.72	30.48
400	85°	165°	210	510	.0872	18.31	5.58	.99619	209.20	63.76 ✓	1235.35	91.44
620	84°	157°	200	710	.1045	20.9	6.37	.99452	198.90	60.62 ✓	1110.94	216.41
800	82°	67°	190	900	.1392	26.45	8.06	.99027	188.15	57.35 ✓	1053.62	274.32
1000	80°	32°	200	1100	.1736	34.72	10.58	.98481	196.96	60.03 ✓	993.59	335.28
1200	85°	92°	100	1200	.0872	8.72	2.66	.99619	99.62	30.36 ✓	963.23	365.76
1293			93							58.49	935.1	394.11



86 W
2 N
10 992.84
7 304.09

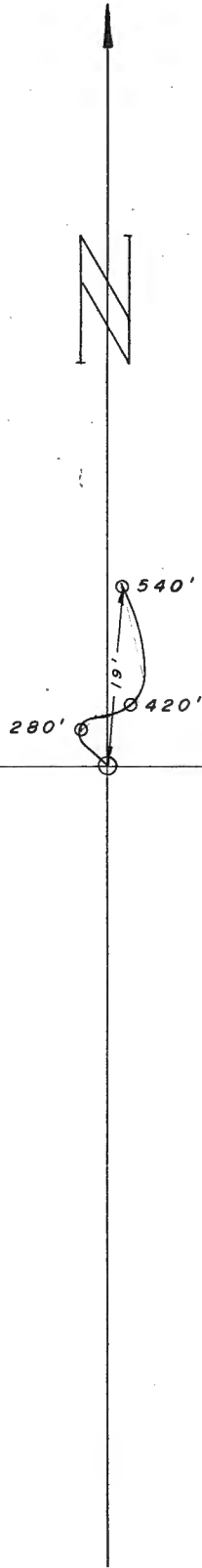


A=112 (64W. 8N.)

D. D. H. Deviation

Scale: 1" to 20'

Ft.	Dip	Bearing
280'	88°	322°
420'	69° 87°	69°
540'	80°	347°

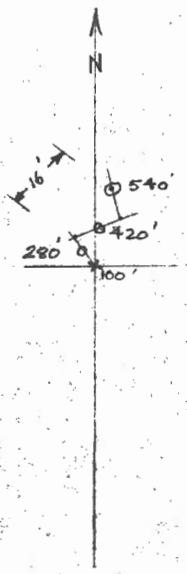
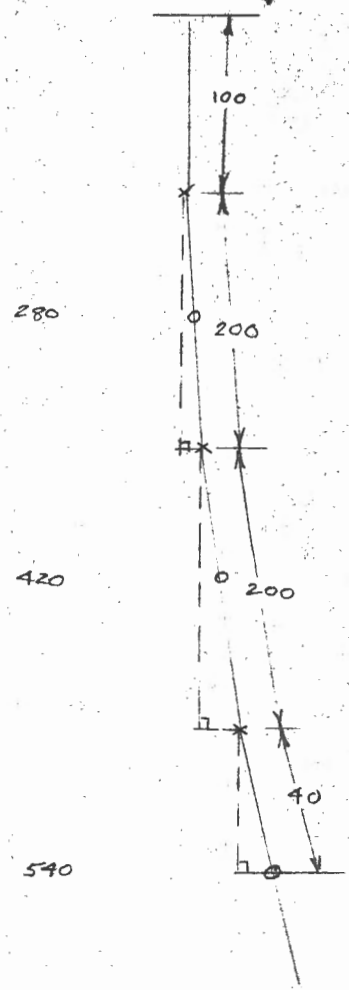


V.M.T. DATE SEP 10 SUBJECT A-112 DRAWING NO. 6210 OF GRUM
 DRAWN BY _____ DATE _____ DIP AND BEARING SURVEY
 BY SPERRY-SUN

NOT TO SCALE

AZ.	DIP.	COS.	JUST.	H.D.	SIN.	(D.)
0	90°	0	100	0	1.00	100
322	88°	.035	200	7	.999	199.8
69	87°	.052	200	10.4	.998	199.6
347	80°	.174	40	6.96	.985	39.4
			<u>540'</u>			<u>538.8</u>

SCALE. 1-40



DEPTH FROM COLLAR - 538.8'

A: 112

OK *[Signature]* Nov 12/76

D. D. H. Deviation

Scale: 1" = 20'

HOR. DIST.

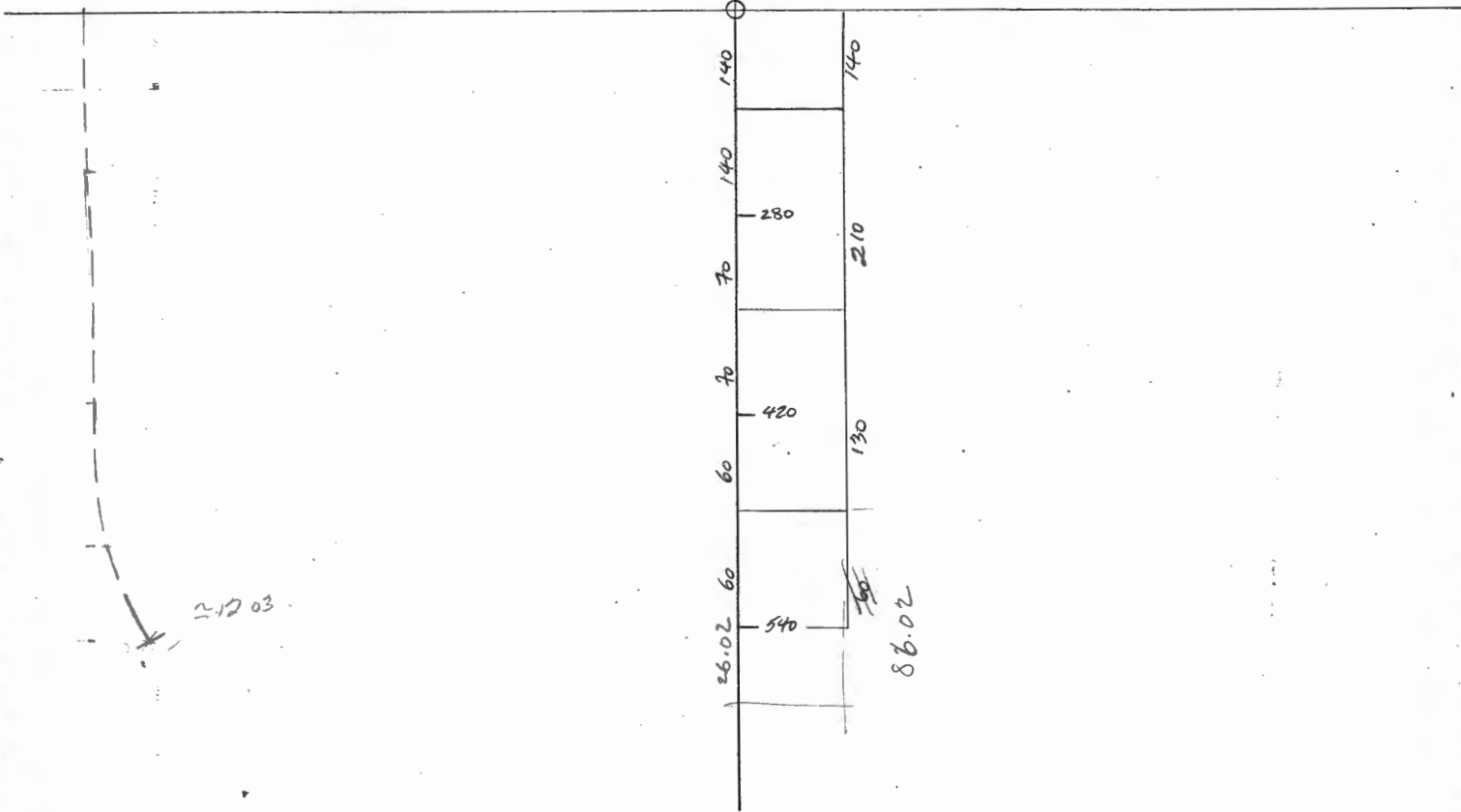
VERT. DIST.

ELEV.

Fl.	Dip	Bearing	INTERVAL	COS.	FT	M	SIN.	FT	M	ELEV.	LENGTH OF DDH
	90°		140						42.67	1247.80	42.67
280	88°	322°	210 350	.0349	7.33	2.23	.99939	209.87	63.97	1255.13	106.68
420	87°	69°	130 480	.0523	6.80	2.07	.99863	129.82	39.57	1191.16	146.30
540	80°	347°	60 540	.1736	10.42	3.18	.98481	59.09	18.01	1133.58	164.59
566.02	"	"	86.02	"	14.93	4.55	"	54.71	25.82	1125.77	172.52
											172.52



10,660.63
7,912.97

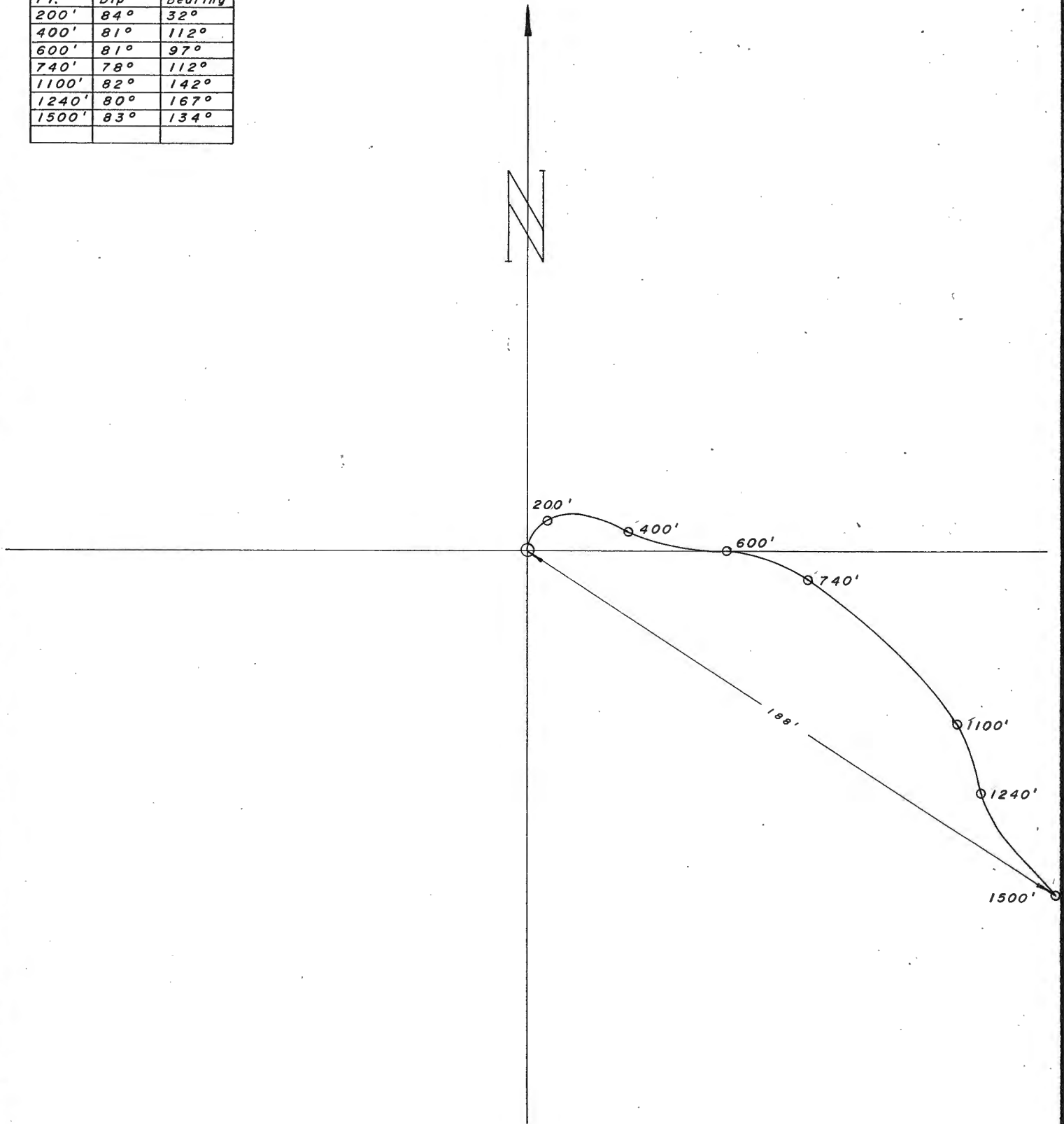


A-113 (86W, 4N.)

D. D. H. Deviation

Scale: 1" to 20' 40"

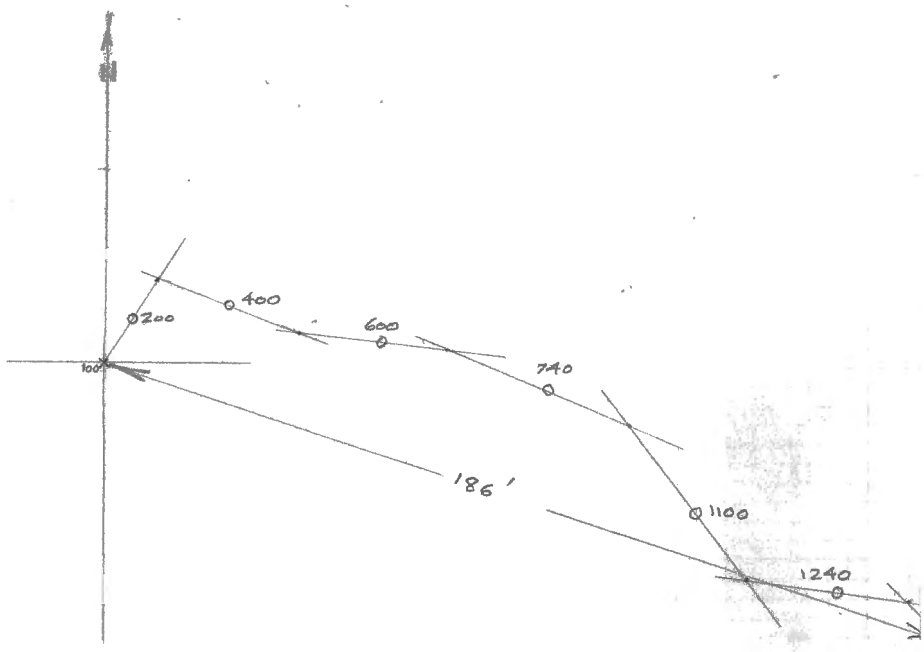
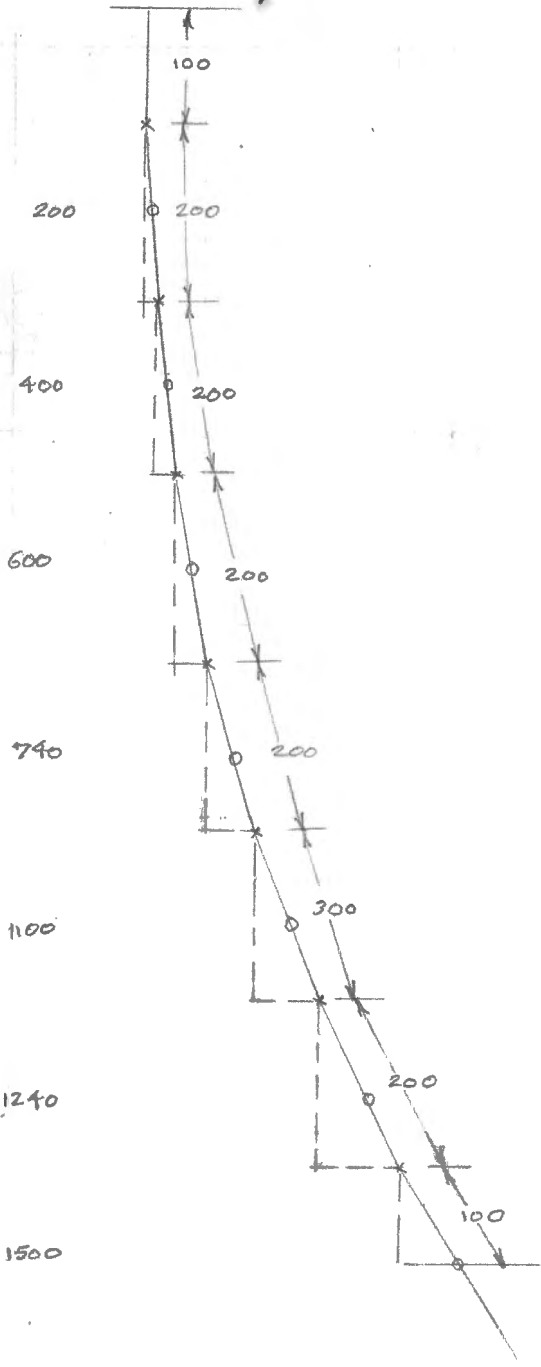
Ft.	Dip	Bearing
200'	84°	32°
400'	81°	112°
600'	81°	97°
740'	78°	112°
1100'	82°	142°
1240'	80°	167°
1500'	83°	134°



NOT TO SCALE

AZ.	DIP.	COS.	DIST.	H.D.	SIN.	V.D.
0	90°	0	100	0	1.00	100
32°	84°	.104	200	20.8	.994	198.8
112°	81°	-.156	200	31.2	-.988	197.6
97°	81°	-.156	200	31.2	-.988	197.6
112°	78°	.208	200	41.6	.987	197.4
142°	82°	.139	300	41.7	.990	297
97°	80°	.173	200	34.6	.985	197
134°	83°	.122	100	12.2	.992	99.2
			<u>1500</u>			<u>1484.6</u>

SCALE: 1-70



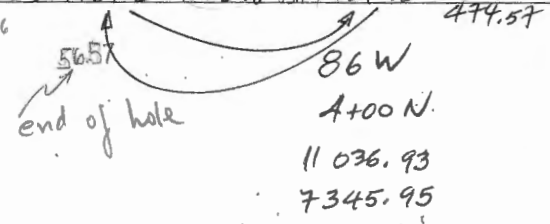
DEPTH FROM COLLAR — 1484.6

A. 113

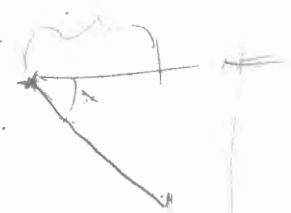
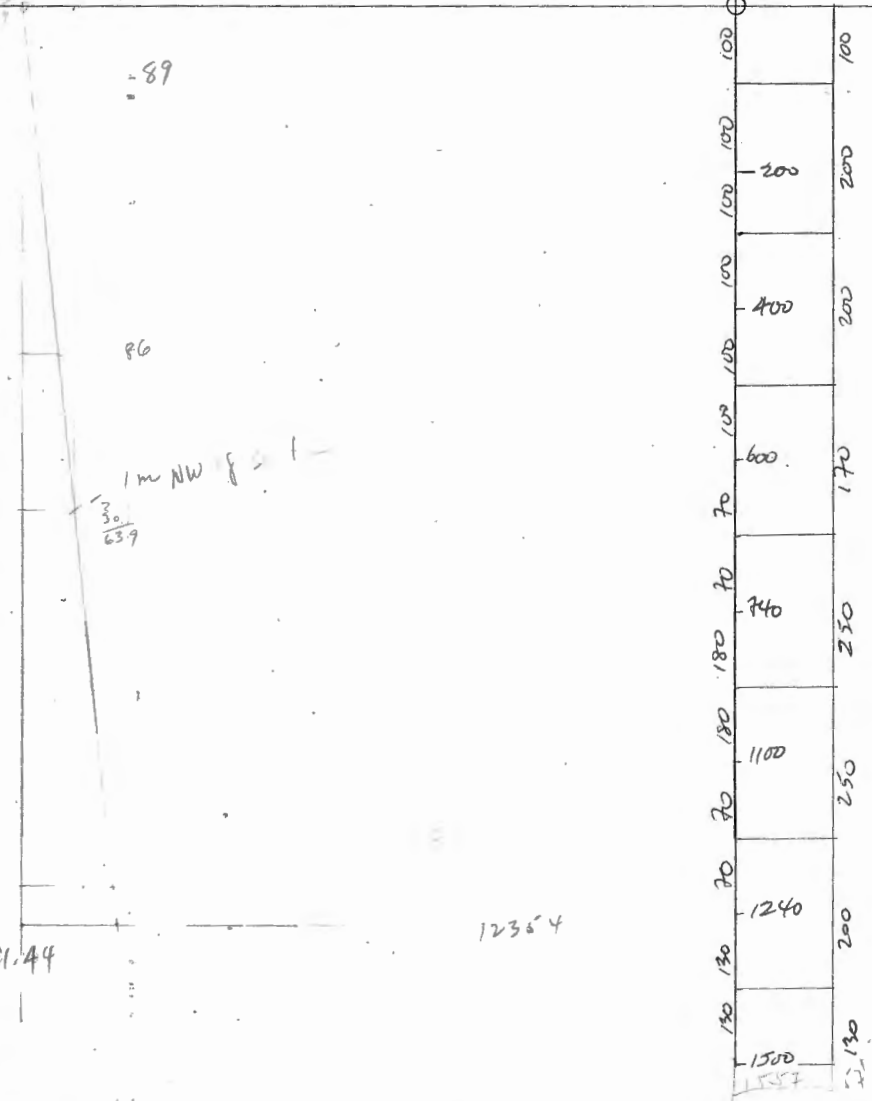
Scale: 1" to 20'

Ft.	Dip	Bearing	INTERVAL		COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
						FT	M		FT	M		
			100						30.48	1326.54		30.48
200	84°	32°	200	300	.1045	20.9	6.37	.99452	198.90	91.44	1235.44	60.62
400	81°	112°	200	500	.1564	31.28	9.53	.98769	197.54	152.4	1175.23	60.21
600	81°	92°	170	670	.1564	26.59	8.10	.98769	167.91	204.22	1121.98	51.17
740	78°	112°	250	920	.2079	51.98	15.84	.97815	244.54	280.42	1027.51	74.53
1100	82°	142°	250	1170	.1392	34.8	10.61	.99027	247.57	336.62	918.81	75.45
1240	80°	97°	200	1370	.1736	34.72	10.58	.98481	196.96	417.58	791.53	60.05
1500	83°	134°	130	1500	.1219	15.85	4.83	.99255	129.03	457.2	652.18	474.57

NW 1/70
cont'd to 800



30.48
1296.06



$$C.S. = \frac{S \sin}{\sin \theta}$$

$$T_a = \frac{OPP}{S \sin}$$

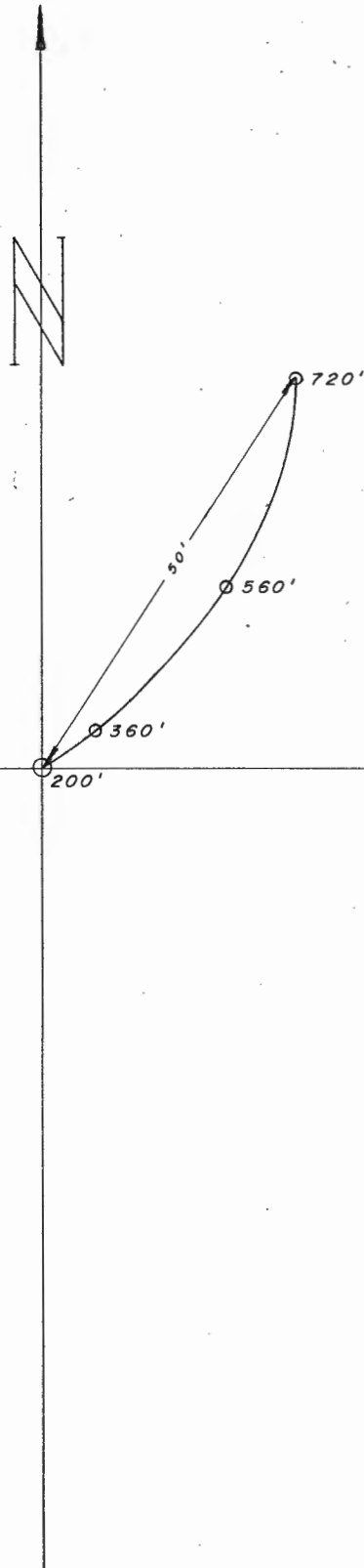
12354

- A-174 (60W. 6S.)

D. D. H. Deviation

Scale: 1" to 20'

Ft.	Dip	Bearing
200'	90°	-
360'	85°	54°
560'	83°	40°
720'	80°	373 013°



BY J.M. DATE 5/10/10

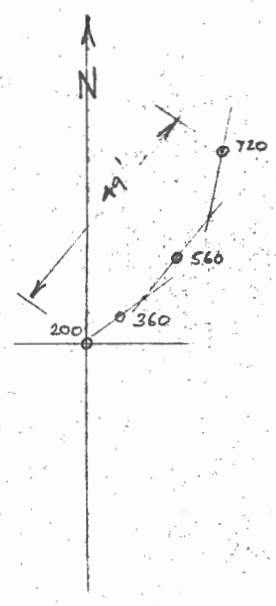
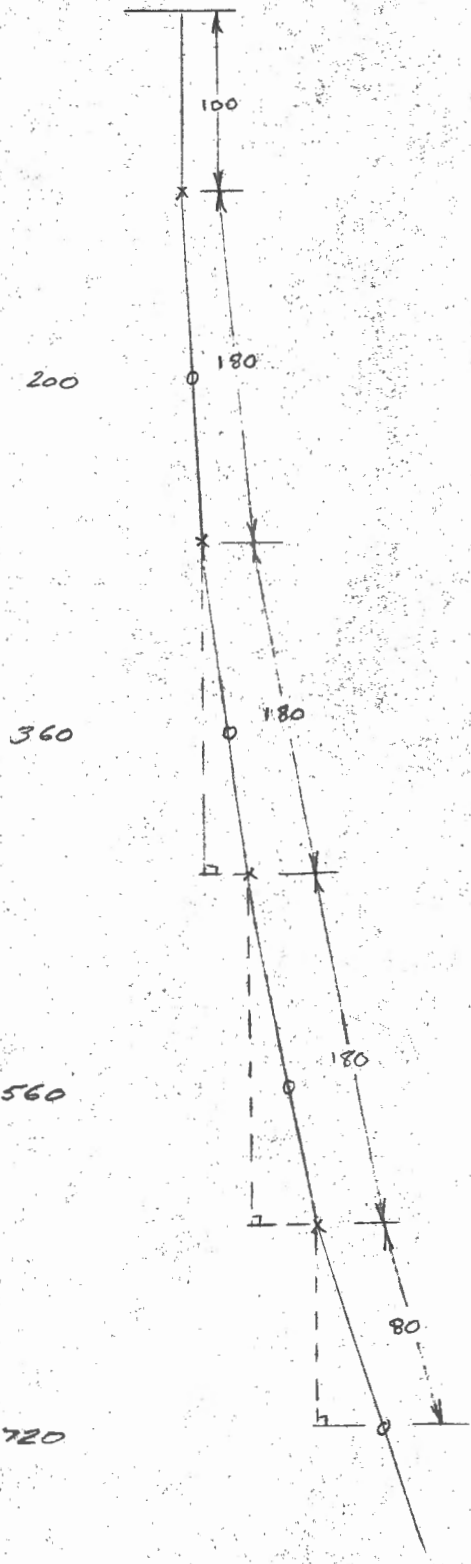
PROJECT A-114
 DIP AND BEARING SURVEY
 BY TROPARI

WELL NO. OF GRUM.

NOT TO SCALE

AZ.	DIP	COS	AST.	HD.	SIN	V.D.
0	90°	0	100	0	1.00	100
0	90°	0	180	0	1.00	180
51	75°	.087	180	15.7	.996	179.3
39	83°	.122	180	22	.992	178.6
343	80°	.174	80	14.2	.985	78.8
			720			715.9

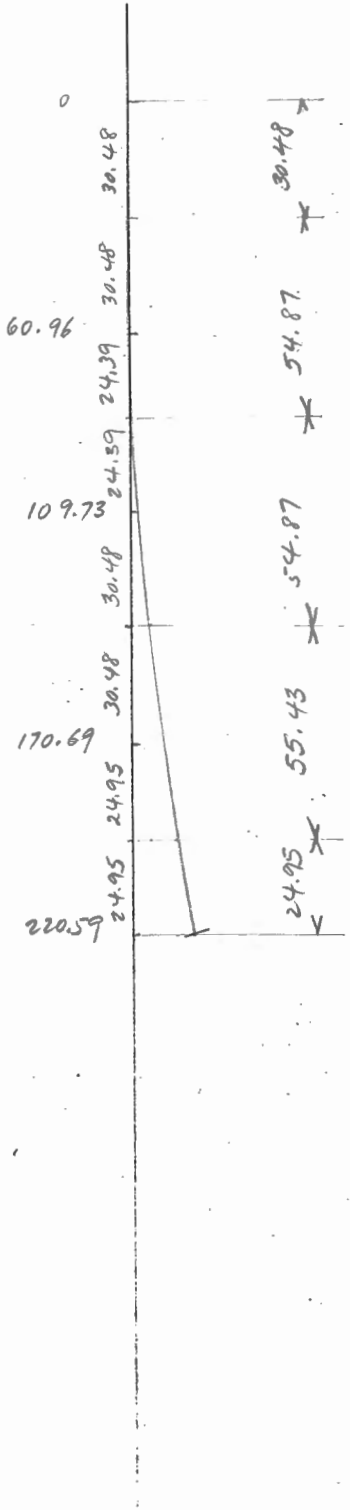
SCALE 1-40



DEPTH FROM COLLAR — 715.9

A-114

LENGTH	DIP	BEARING	INTERVAL	HOR. DIST.		VERT. DIST.		ELEVATION	LENGTH
				M	METRES	SIN	M		
			30.48				30.48	1269.77	
60.96	90	/	54.87				54.87	1184.42	85.35
109.73	85	54	54.87	.0872	4.78	.99619	54.66	1129.76	140.22
170.69	83	40	55.43	.1219	6.76	.99255	55.02	1074.74	195.65
221.59	80	13	24.95	.1736	4.33	.98481	24.57	1050.17	220.60

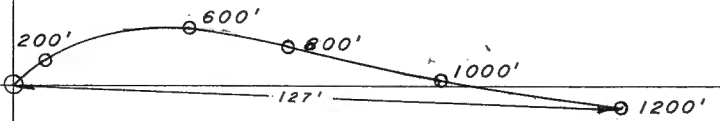


A-115 (86 W. B.L.)

D. D. H. Deviation

Scale: 1" to 20' 40"

Fl.	Dip	Bearing
200'	85°	50°
600'	84°	87°
800'	82°	103°
1000'	79°	102°
1200'	79°	97°



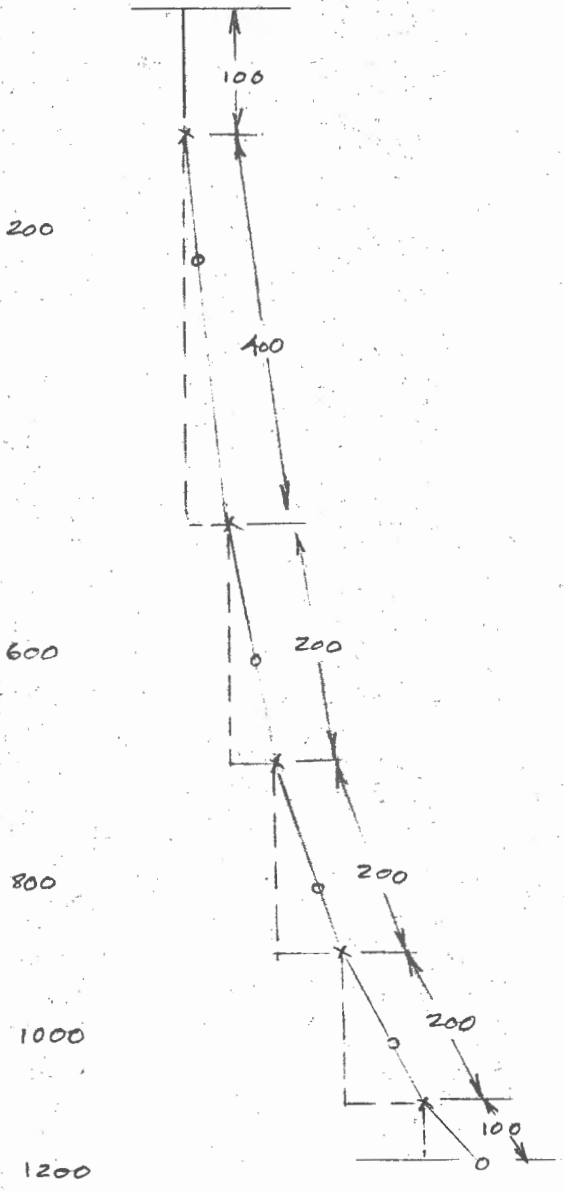
BY J.M. DATE Sept 10
 CHECKED BY _____ DATE _____

WELL NO. A-115
 OF _____
 JOB NO. GRUM
DIP AND BEARING SURVEY
 by Sperry - Sun

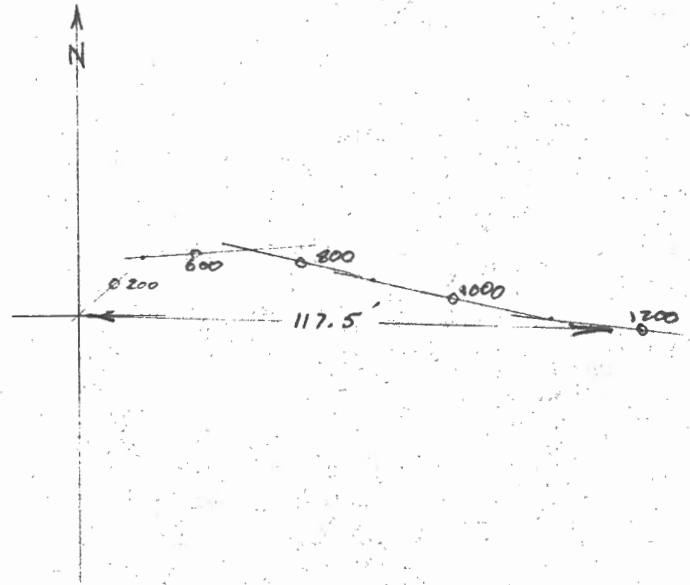
NOT TO SCALE

AZ	DIP	COS	DIST	H.D.	SIN	V.D.
0	90°	0	100	0	1.00	100
50°	55°	.567	200	17.4	.996	199.2
87°	84°	.104	200	20.8	.994	198.8
103°	82°	.139	200	27.8	.990	198
102°	79°	.191	200	38.2	.981	196.2
97°	79°	.191	100	19.1	.981	98.1
			<u>1200</u>			<u>990.3</u>

SCALE: 1-90



DEPTH AT COLLAR — 990.3



A.115

Trace of Drill done earlier by Phillips
Traced in Mylar sections.

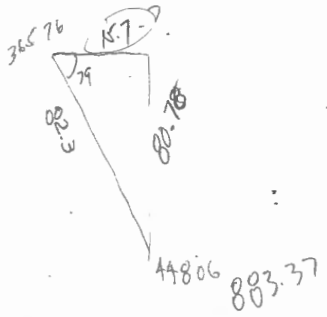
D. D. H. Deviation

Scale: 1" = 20'

Fl.	Dip	Bearing	INTERVAL		LOS.	HOR. DIST.		SIN.	FT	DIST		ELEV.	LENGTH OF DDH
						M	M						
			100							1326.86			
200	85° 30'	50° 20'	300	400	.0785	23.55	7.18	.99692	299.08	91.16	1216.36	30.48	30.48
600	84°	81° 4'	300	700	.1045	31.35	9.56	.99452	298.36	90.94	1205.22	121.92	121.92
800	82°	103° 4'	200	900	.1392	27.84	8.49	.99027	198.05	60.39	1114.28	213.36	213.36
1000	79°	102° 4'	200	1100	.1908	38.16	11.63	.98163	196.33	59.84	1053.91	274.32	274.32
1200	77°	97° 4'	100	1200	.1908	19.08	5.82	.98163	98.16	29.92	964.07	335.28	335.28
							15.70			80.78	883.36	448.06	448.06

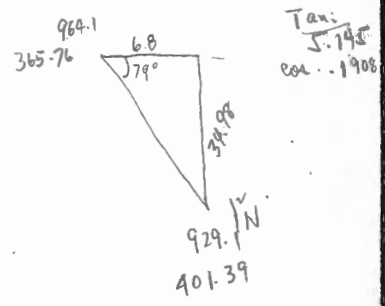
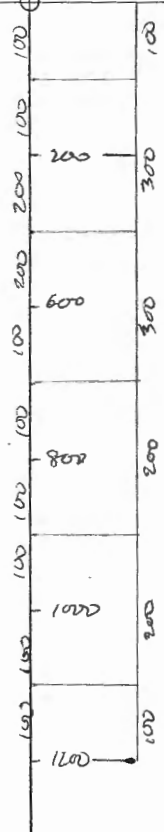


86 W
0 + 00
10 948.14
7 260.70



$\cos 79^\circ = \frac{15.7}{82.37}$

$\cos \theta =$
 $\tan \theta = \frac{8}{6.8}$
 $x = 6.8 \cdot 5145$



$\tan 79^\circ = \frac{964.1}{6.8}$
 $\cos 79^\circ = .1908$

END

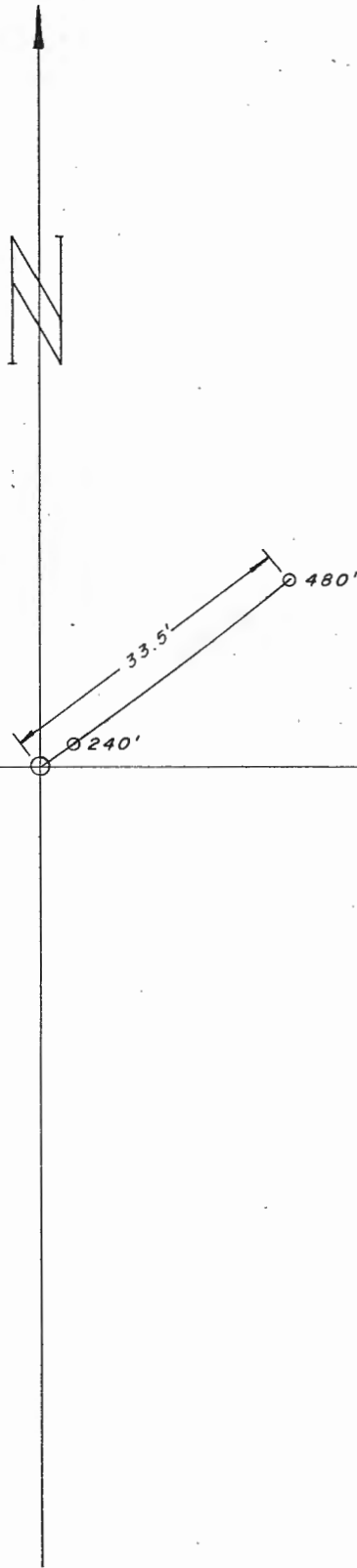
964.1
9.6
49.4
914.7

A-116 (66W. 10N.)

D. D. H. Deviation

Scale: 1" to 20'

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
240'	88°	57°
480'	78°	52°



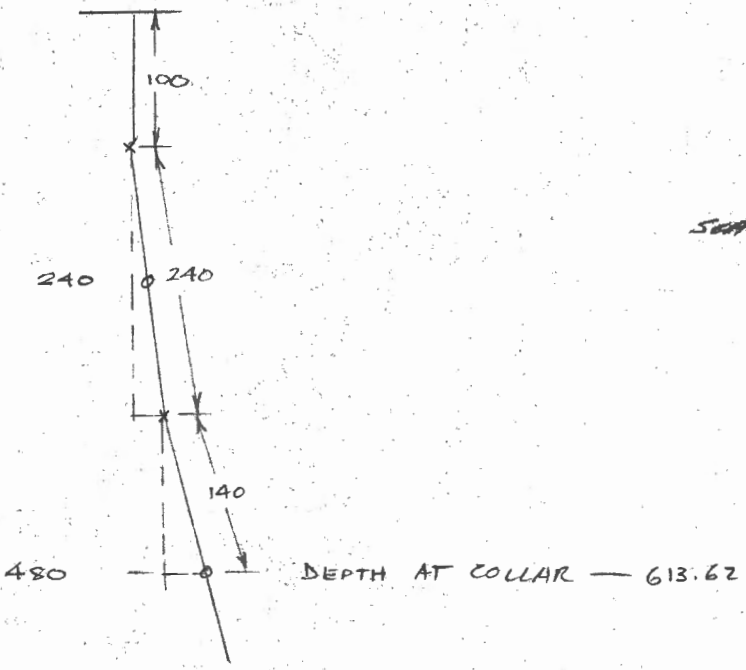
BY J.M. DATE SEP. 10
 CHECKED BY DATE

A-116
 DIP AND BEARING SURVEY
 by SPERRY-SUN

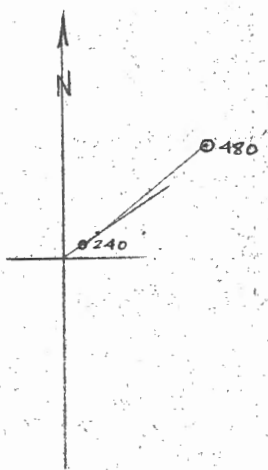
SHEET NO. OF
 JOB NO. GRUM

NOT TO SCALE

AZ.	DIP.	COS	DIST.	H.D.	SIN.	V.D.
0	90°	0	100	0	1.00	100
57°	88°	.035	240	8.4	.999	239.8
52°	78°	.208	140	29.1	.978	136.9
			480			613.62



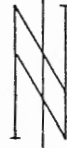
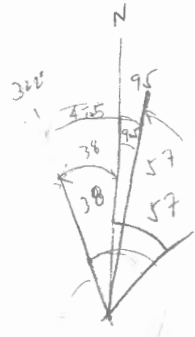
SCALE: 1" = 40'



D. D. H. Deviation

Scale: 1" to 20'

Ft.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
	90°		120							1304.60	36.58
240	88°	57°	240	.0349	8.38	2.55	.99939	239.85	43.11	1194.91	109.73
480	78°	52°	236	.2079	49.06	14.95	.97815	230.84	70.36	1124.55	746.30 ?
											181.66 m



59.6 ft.

$230.85 = 70.36$

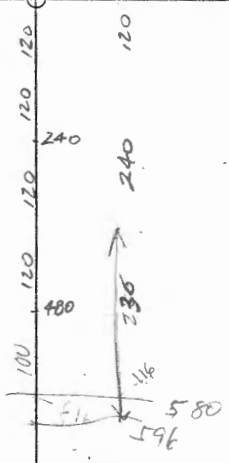
236.01

$49.07 = 14.95$

48.

35.30

66 W / 10 N



10,746.22

7,905.17

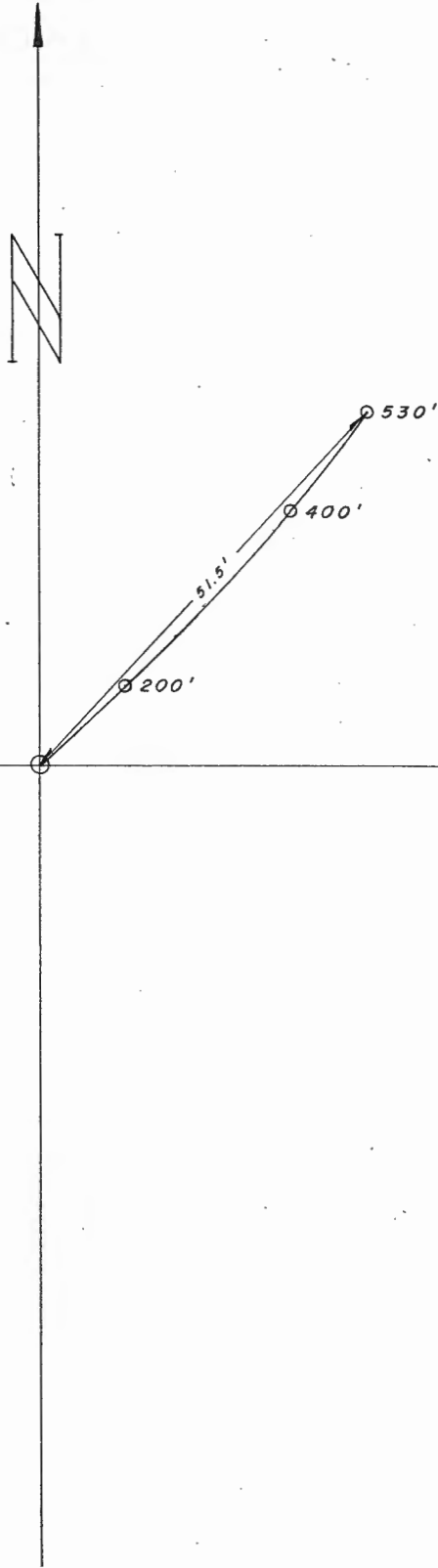
66 W / 10 N

A-117 (66 W. B.L.)

D. D. H. Deviation

Scale: 1" to 20'

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
200'	83°	47°
400'	82°	42°
530'	86°	37°



BY JKC

DATE 19/9/75

REF A-117

SHEET NO. 17

CHECK BY

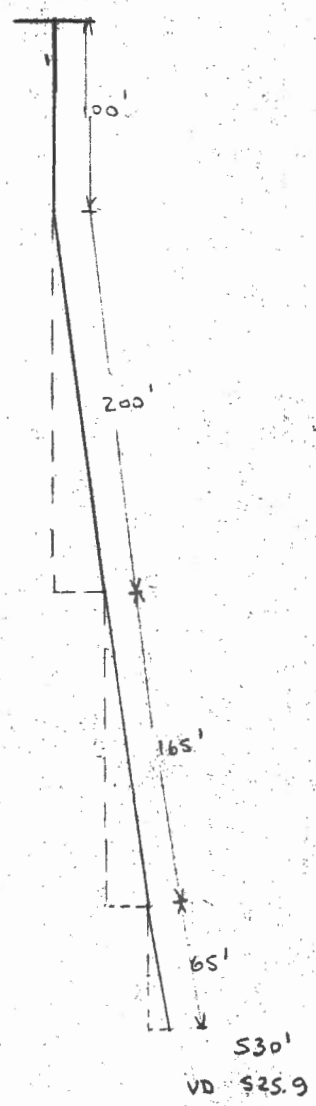
DATE

DIP + BRG SURVEY

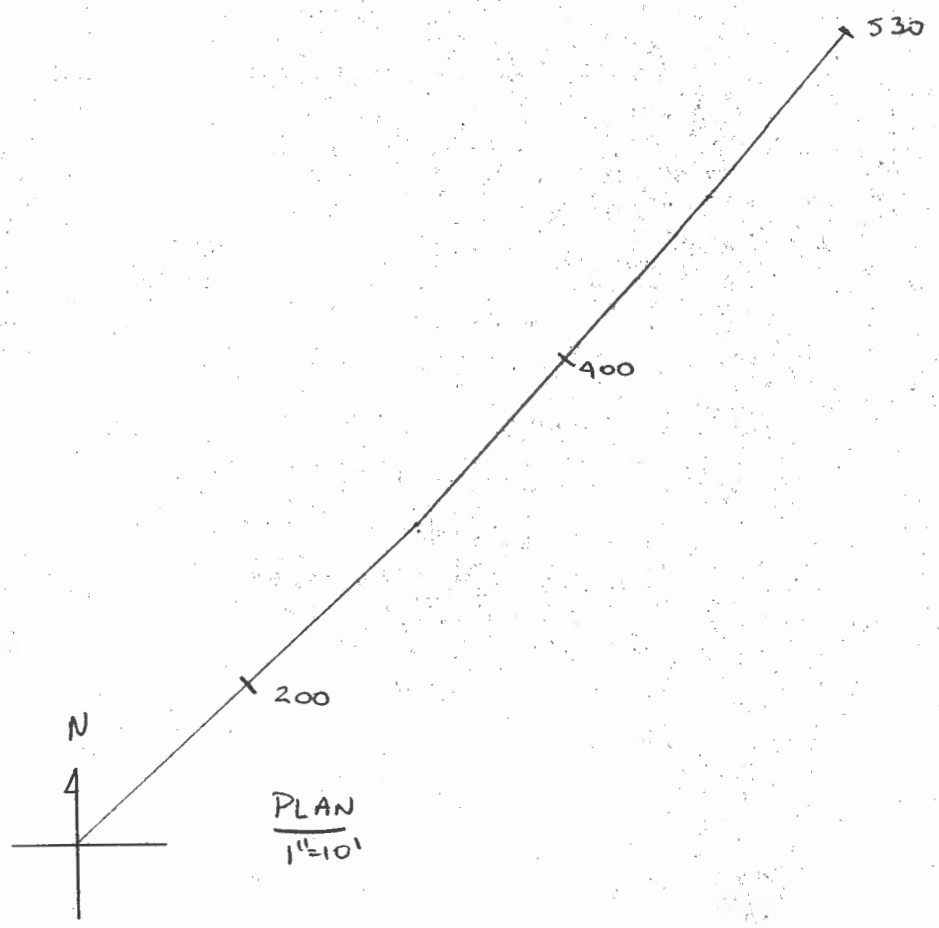
JOB NO.

SPERRY SUN

SECTION
1" = 100'



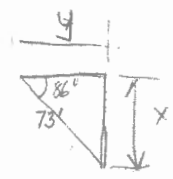
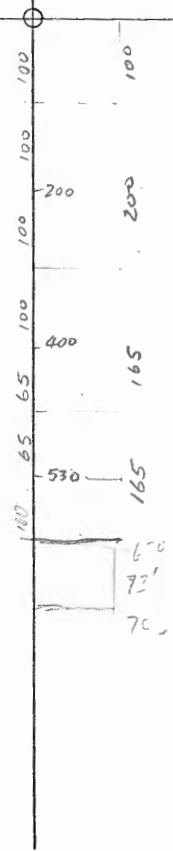
AZ	DIP	cos	D	HD	SIN	VD
-	90	0	100	0	1.00	100
47.83	83	.12187	200	24.4	.99255	198.5
42	82	.13917	165	23.0	.99027	163.4
40	80	.17365	65	11.3	.98491	64.0
			530			525.9



D. D. H. Deviation

117
Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL		COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
			FT	M		FT	M					
	90		100						30.48	1286.46	30.48	
200	83°	47	200	300	.1119	24.38	4.43	.99255	198.51	60.51	1195.47	91.47
400	82°	42	165	465	.1392	22.97	7.00	.99027	163.39	49.80	1145.67	191.43
530	86°	37	165	630	.0698	11.52	5.81	.99756	164.60	50.16	1095.51	192.02
703			73			5.1	1.55		72.81	22.2	1073.3	214.2
												214.27
												703



$$\cos 86 = \frac{y}{73}$$

$$y = 73 (.0698) = 5.1'$$

$$\sin 86 = \frac{x}{73}$$

$$x = 73 (.99756) = 72.8'$$

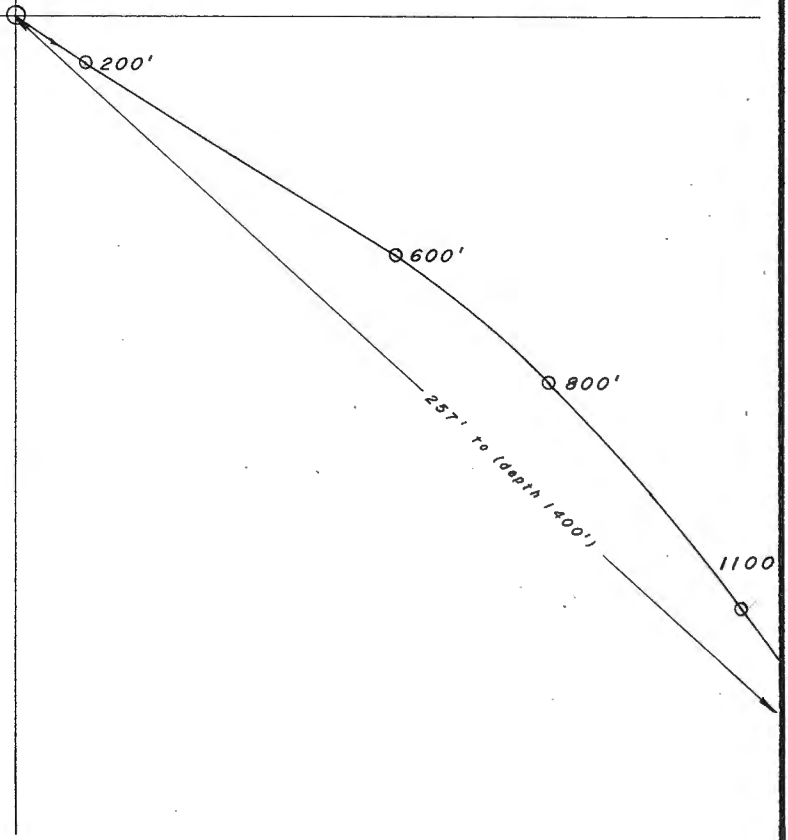
52.75

A-118 (86W. 5N.)

D.D.H. Deviation

Scale: 1" to ~~20~~ 40'

Ft.	Dip	Bearing
200'	80°	123°
600'	78°	121°
800'	78°	132°
1100'	78°	142°
1300'	78°	142°
1400'	77°	142°



W

DATE 23/1/15

A-118

SHEET NO. 07

CHKD BY

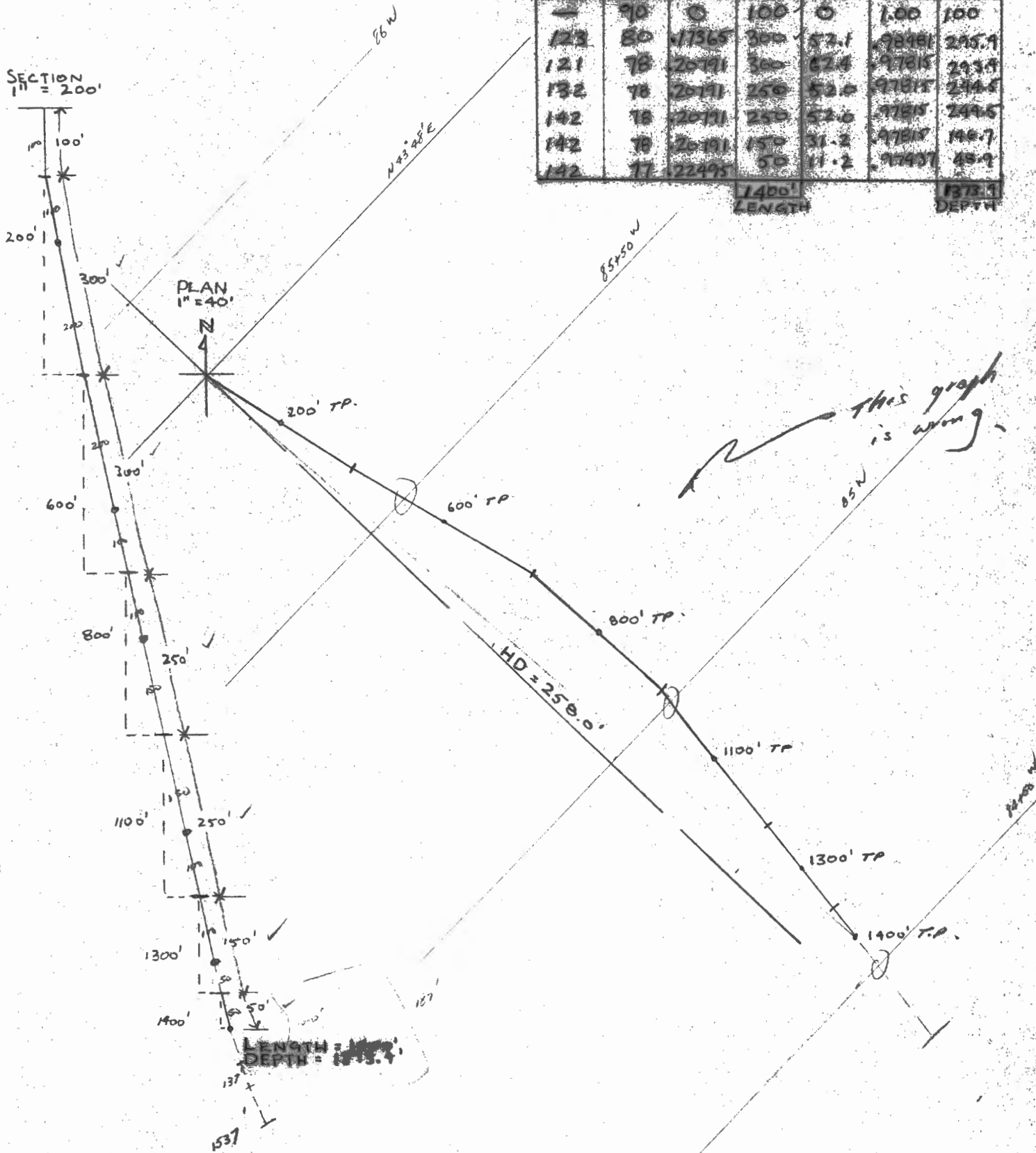
DATE

DIP + BRG. SURVEY SPERRY - SUN

JOB NO.

AZ	DIP	COS	DIST	HD	SIN	VD
—	90	0	100	0	1.00	100
123	80	.17365	300	52.1	.98481	295.4
121	78	.20171	300	62.4	.97815	293.4
132	78	.20171	250	53.0	.97815	244.5
142	78	.20171	250	52.0	.97815	244.5
142	78	.20171	150	31.2	.97815	146.7
142	77	.22475	50	11.2	.97937	45.9
						1400'
						LENGTH
						1873.4
						DEPTH

SECTION
1" = 200'



this graph is wrong.

LENGTH = 1400'
DEPTH = 1873.4'

137
157

A. 118

Chicko
A4 - N 121

Scale: 1" = 20'

Ft.	Dip	Bearing	INTERVAL		COS.	HOR. DIST.		SIN.	VE. DIST.		ELEV.	LENGTH OF DDH
			FT	M		FT	M					
			100						30.48	30.48	1325.26	30.48
200	80°	123°	300	400	.4736	52.08	15.87	.98481	295.44	90.05	1204.73	121.92
600	78°	121°	300	300	.2079	62.37	19.01	.97815	293.45	89.44	1115.29	213.36
800	78°	132°	250	950	.2079	51.98	15.84	"	244.54	74.54	1040.75	289.56
1100	78°	142°	250	1200	.2079	51.98	15.84	"	244.54	74.54	966.21	365.76
1300	78°	142°	150	1350	.2079	31.19	9.51	"	146.72	44.72	921.49	411.48
1400	77°	142°	50	1400	.2250	11.25	3.43	.97437	48.72	14.85	906.64	426.72

1137



86 W
6700 N
11 076.78
7 388.58

15 - - 46



921.49

442 m

891.9

468.5m END

157

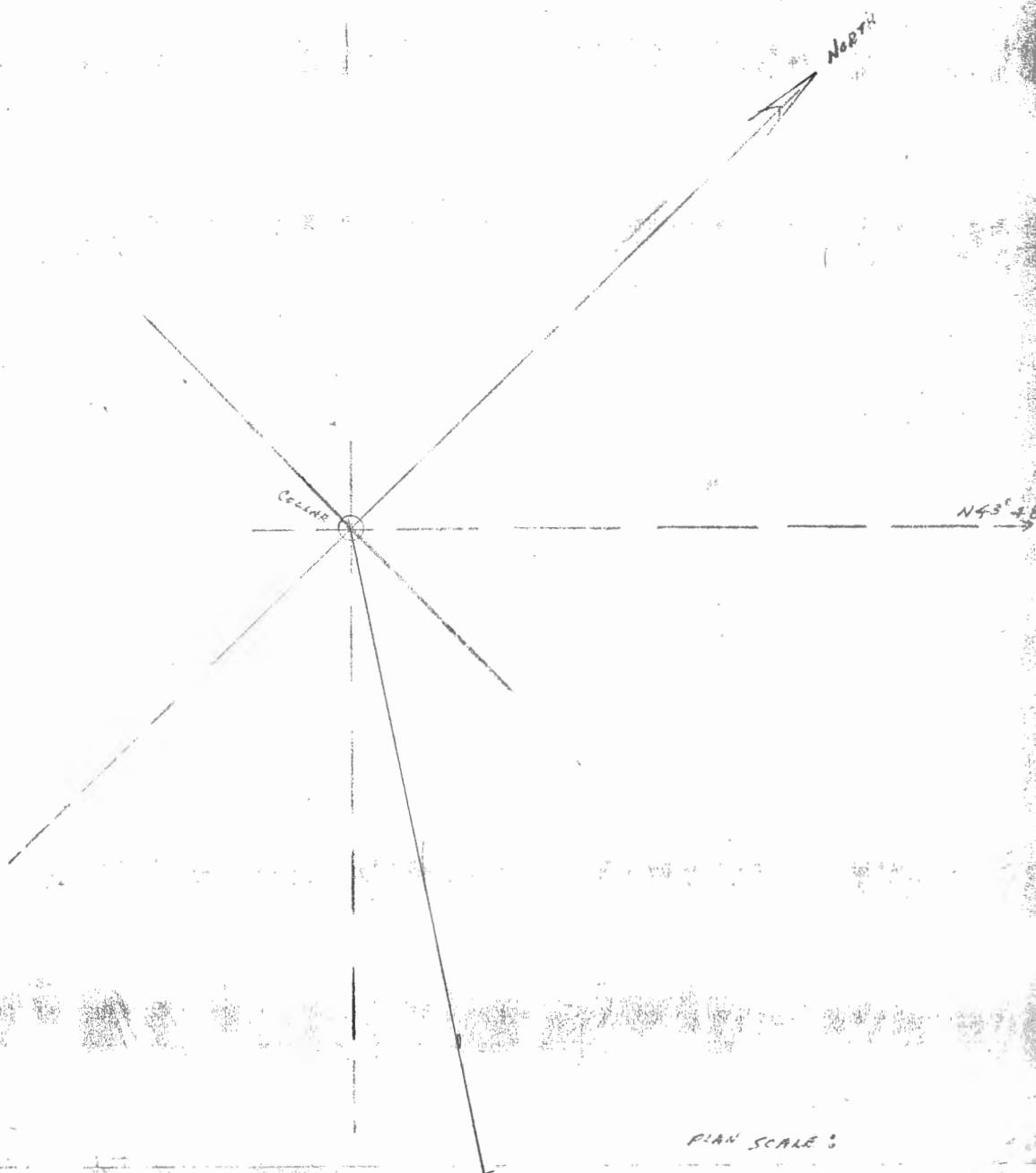
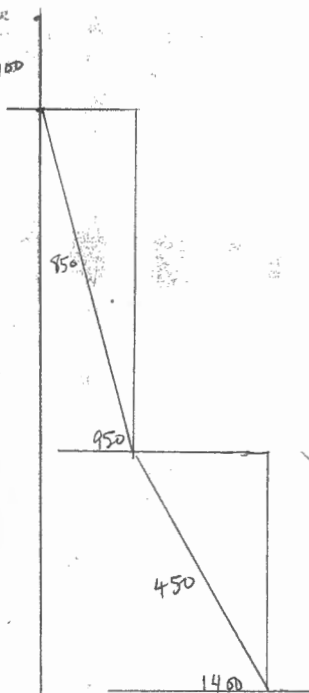
169 m

DIP & BEARING SURVEY - HOLE # A-118

1325

TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.	ELEV.
Collar				-90	100 ^{30.5}		0		30	
			122	-19	850 ⁽²⁵⁹⁾	.191	49.5	.982	254	
			142	-78	450 ⁽¹³⁷⁾	.208	25.5	.978	134	
TOTAL VERT. DIST.										



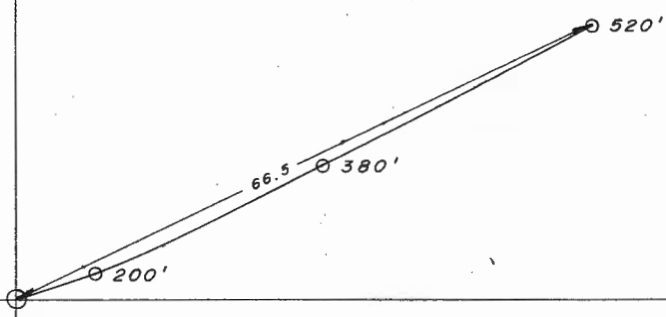
PLAN SCALE:

A-119 (60W. 2N.)

D. D. H. Deviation

Scale: 1" to 20'

Ft.	Dip	Bearing
200'	85°	72°
380'	78°	63°
520'	75°	62°



BY W

DATE 20/9/75

DIP + BRG. SURVEY

SHEET NO.

CHECK BY

DATE

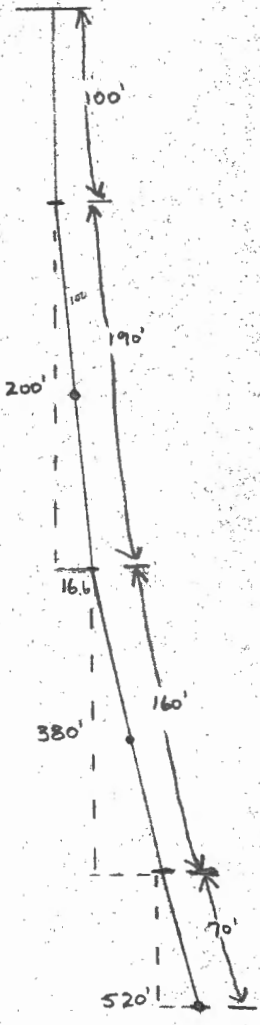
SPERRY SUN

JOB NO.

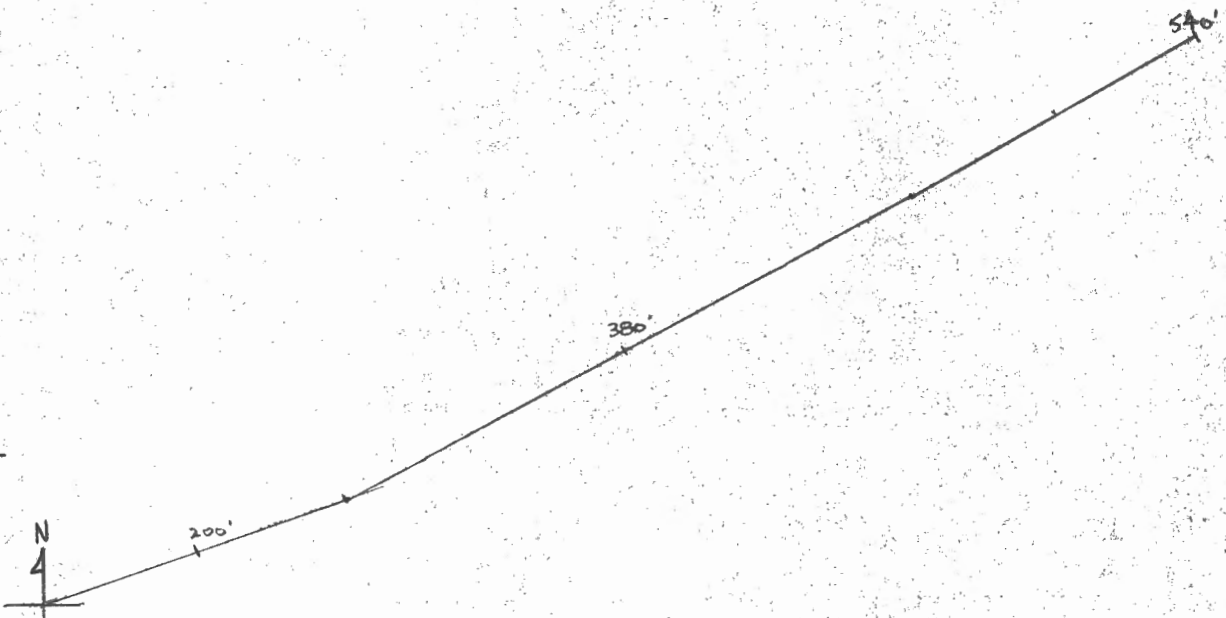
A-119

AZ	DIP	COS	D	HD	SIN	VD
-	90	0	100	0	1.00	100
71	85	.08716	190	16.6	.99619	189.3
62	78	.20791	160	33.3	.97815	156.5
61	75	.24192	70	16.9	.96593	67.6
			520'			513.4'

SECTION
1" = 100'



N
PLAN
1" = 10'



D. D. H. Deviation

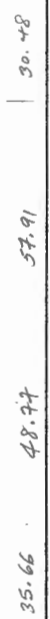
A-119

Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERI. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
60.96	85°	72°	30.48	.0872		5.05	.99619	30.48	1284.22	30.48	30.48
115.82	78°	63°	48.77	.2079		10.14	.97815	57.69	1196.05	88.39	88.39
158.50	73°	62°	35.66	.2588		9.23	.96593	47.70	1148.35	137.16	137.16
								34.45	1113.90	172.82	172.82



10,445.49
7,871.16
60W/2N.

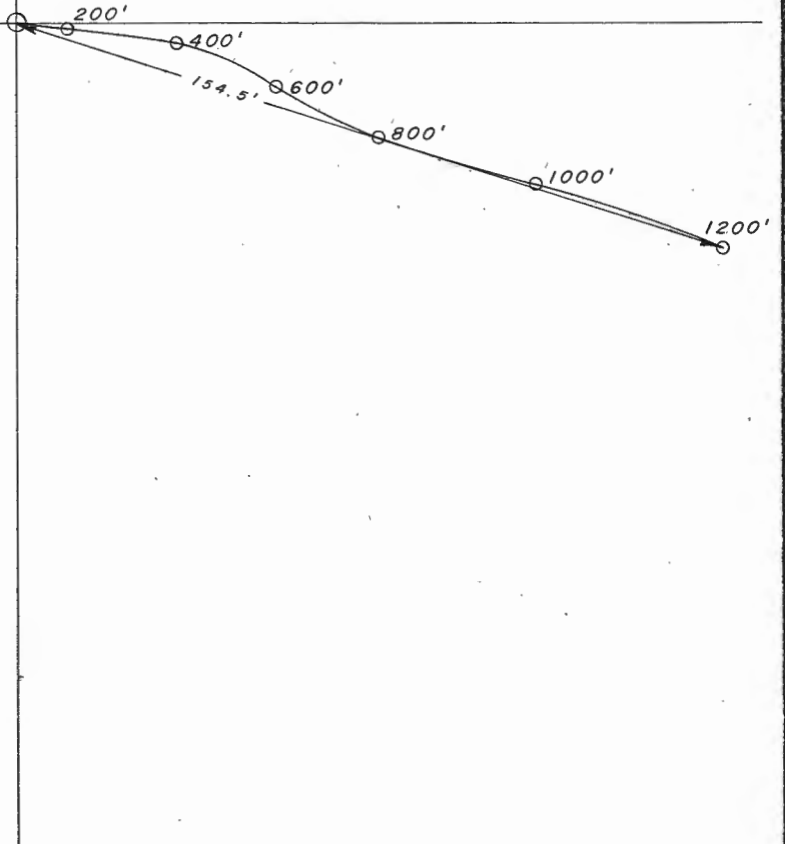


A-120 (86W. 8N.)

D. D. H. Deviation

Scale: 1" to ~~20'~~ 40'

Ft.	Dip	Bearing
200'	84°	97°
400'	83°	97°
600'	84°	120°
800'	82°	115°
1000'	78°	105°
1200'	78°	110°



DATE 23/1/77

A-120
BRG + DIP SURVEY
SPERRY - SUN

SHEET NO. OF

NO	DIP	COS	DIST	HD	SIN	VD
1	0	1.0000	100	0	0.0000	100.0
2	31	0.8572	200	23.9	0.5145	103.4
3	33	0.8391	200	24.1	0.5591	107.8
4	34	0.8297	200	24.3	0.5675	112.5
5	35	0.8192	200	24.5	0.5774	117.4
6	36	0.8077	200	24.7	0.5877	122.5
7	37	0.7952	200	24.9	0.5984	127.8
8	38	0.7817	200	25.1	0.6095	133.3
9	39	0.7673	200	25.3	0.6210	139.0
10	40	0.7520	200	25.5	0.6329	144.9
11	41	0.7358	200	25.7	0.6452	151.0
12	42	0.7188	200	25.9	0.6579	157.3
13	43	0.7010	200	26.1	0.6710	163.8
14	44	0.6824	200	26.3	0.6845	170.5
15	45	0.6631	200	26.5	0.6984	177.4
16	46	0.6431	200	26.7	0.7127	184.5
17	47	0.6224	200	26.9	0.7274	191.8
18	48	0.6011	200	27.1	0.7424	199.3
19	49	0.5792	200	27.3	0.7577	207.0
20	50	0.5567	200	27.5	0.7733	214.9
21	51	0.5337	200	27.7	0.7892	223.0
22	52	0.5102	200	27.9	0.8054	231.3
23	53	0.4863	200	28.1	0.8219	239.8
24	54	0.4620	200	28.3	0.8387	248.5
25	55	0.4373	200	28.5	0.8558	257.4
26	56	0.4123	200	28.7	0.8732	266.5
27	57	0.3870	200	28.9	0.8909	275.8
28	58	0.3614	200	29.1	0.9089	285.3
29	59	0.3355	200	29.3	0.9272	295.0
30	60	0.3093	200	29.5	0.9458	304.9
31	61	0.2828	200	29.7	0.9647	315.0
32	62	0.2561	200	29.9	0.9839	325.3
33	63	0.2292	200	30.1	1.0034	335.8
34	64	0.2021	200	30.3	1.0232	346.5
35	65	0.1748	200	30.5	1.0433	357.4
36	66	0.1473	200	30.7	1.0637	368.5
37	67	0.1196	200	30.9	1.0844	379.8
38	68	0.0917	200	31.1	1.1054	391.3
39	69	0.0636	200	31.3	1.1267	403.0
40	70	0.0353	200	31.5	1.1483	414.9
41	71	0.0068	200	31.7	1.1702	427.0
42	72	-0.0219	200	31.9	1.1924	439.3
43	73	-0.0507	200	32.1	1.2149	451.8
44	74	-0.0792	200	32.3	1.2377	464.5
45	75	-0.1074	200	32.5	1.2608	477.4
46	76	-0.1353	200	32.7	1.2842	490.5
47	77	-0.1629	200	32.9	1.3079	503.8
48	78	-0.1902	200	33.1	1.3319	517.3
49	79	-0.2172	200	33.3	1.3562	531.0
50	80	-0.2439	200	33.5	1.3808	544.9
51	81	-0.2703	200	33.7	1.4057	559.0
52	82	-0.2964	200	33.9	1.4309	573.3
53	83	-0.3222	200	34.1	1.4564	587.8
54	84	-0.3477	200	34.3	1.4822	602.5
55	85	-0.3729	200	34.5	1.5083	617.4
56	86	-0.3978	200	34.7	1.5347	632.5
57	87	-0.4224	200	34.9	1.5614	647.8
58	88	-0.4467	200	35.1	1.5884	663.3
59	89	-0.4707	200	35.3	1.6157	679.0
60	90	-0.4944	200	35.5	1.6433	694.9
61	91	-0.5178	200	35.7	1.6712	711.0
62	92	-0.5409	200	35.9	1.6994	727.3
63	93	-0.5637	200	36.1	1.7279	743.8
64	94	-0.5862	200	36.3	1.7567	760.5
65	95	-0.6084	200	36.5	1.7858	777.4
66	96	-0.6303	200	36.7	1.8152	794.5
67	97	-0.6519	200	36.9	1.8449	811.8
68	98	-0.6732	200	37.1	1.8749	829.3
69	99	-0.6942	200	37.3	1.9052	847.0
70	100	-0.7149	200	37.5	1.9358	864.9
71	101	-0.7353	200	37.7	1.9667	883.0
72	102	-0.7554	200	37.9	1.9979	901.3
73	103	-0.7752	200	38.1	2.0294	919.8
74	104	-0.7947	200	38.3	2.0612	938.5
75	105	-0.8139	200	38.5	2.0933	957.4
76	106	-0.8328	200	38.7	2.1257	976.5
77	107	-0.8514	200	38.9	2.1584	995.8
78	108	-0.8697	200	39.1	2.1914	1015.3
79	109	-0.8877	200	39.3	2.2247	1035.0
80	110	-0.9054	200	39.5	2.2583	1054.9
81	111	-0.9228	200	39.7	2.2922	1075.0
82	112	-0.9399	200	39.9	2.3264	1095.3
83	113	-0.9567	200	40.1	2.3609	1115.8
84	114	-0.9732	200	40.3	2.3957	1136.5
85	115	-0.9894	200	40.5	2.4308	1157.4
86	116	-1.0053	200	40.7	2.4662	1178.5
87	117	-1.0209	200	40.9	2.5019	1199.8
88	118	-1.0362	200	41.1	2.5379	1221.3
89	119	-1.0512	200	41.3	2.5742	1243.0
90	120	-1.0659	200	41.5	2.6108	1264.9
91	121	-1.0803	200	41.7	2.6477	1287.0
92	122	-1.0944	200	41.9	2.6849	1309.3
93	123	-1.1082	200	42.1	2.7224	1331.8
94	124	-1.1217	200	42.3	2.7602	1354.5
95	125	-1.1349	200	42.5	2.7983	1377.4
96	126	-1.1478	200	42.7	2.8367	1400.5
97	127	-1.1604	200	42.9	2.8754	1423.8
98	128	-1.1727	200	43.1	2.9144	1447.3
99	129	-1.1847	200	43.3	2.9537	1471.0
100	130	-1.1964	200	43.5	2.9933	1494.9
101	131	-1.2078	200	43.7	3.0332	1519.0
102	132	-1.2189	200	43.9	3.0734	1543.3
103	133	-1.2297	200	44.1	3.1139	1567.8
104	134	-1.2402	200	44.3	3.1547	1592.5
105	135	-1.2504	200	44.5	3.1958	1617.4
106	136	-1.2603	200	44.7	3.2372	1642.5
107	137	-1.2700	200	44.9	3.2789	1667.8
108	138	-1.2794	200	45.1	3.3209	1693.3
109	139	-1.2885	200	45.3	3.3632	1719.0
110	140	-1.2973	200	45.5	3.4058	1744.9
111	141	-1.3058	200	45.7	3.4487	1771.0
112	142	-1.3141	200	45.9	3.4919	1797.3
113	143	-1.3221	200	46.1	3.5354	1823.8
114	144	-1.3298	200	46.3	3.5792	1850.5
115	145	-1.3372	200	46.5	3.6233	1877.4
116	146	-1.3443	200	46.7	3.6677	1904.5
117	147	-1.3511	200	46.9	3.7124	1931.8
118	148	-1.3576	200	47.1	3.7574	1959.3
119	149	-1.3639	200	47.3	3.8027	1987.0
120	150	-1.3700	200	47.5	3.8483	2014.9
121	151	-1.3758	200	47.7	3.8942	2043.0
122	152	-1.3813	200	47.9	3.9404	2071.3
123	153	-1.3866	200	48.1	3.9869	2100.8
124	154	-1.3917	200	48.3	4.0337	2130.5
125	155	-1.3965	200	48.5	4.0808	2160.4
126	156	-1.4011	200	48.7	4.1282	2190.5
127	157	-1.4055	200	48.9	4.1759	2220.8
128	158	-1.4097	200	49.1	4.2239	2251.3
129	159	-1.4137	200	49.3	4.2722	2282.0
130	160	-1.4175	200	49.5	4.3208	2312.9
131	161	-1.4211	200	49.7	4.3697	2344.0
132	162	-1.4245	200	49.9	4.4189	2375.3
133	163	-1.4277	200	50.1	4.4684	2406.8
134	164	-1.4308	200	50.3	4.5182	2438.5
135	165	-1.4337	200	50.5	4.5683	2470.4
136	166	-1.4364	200	50.7	4.6187	2502.5
137	167	-1.4390	200	50.9	4.6694	2534.8
138	168	-1.4414	200	51.1	4.7204	2567.3
139	169	-1.4437	200	51.3	4.7717	2600.0
140	170	-1.4458	200	51.5	4.8233	2632.9
141	171	-1.4478	200	51.7	4.8752	2666.0
142	172	-1.4496	200	51.9	4.9274	2699.3
143	173	-1.4513	200	52.1	4.9799	2732.8
144	174	-1.4528	200	52.3	5.0327	2766.5
145	175	-1.4542	200	52.5	5.0858	2800.4
146	176	-1.4554	200	52.7	5.1392	2834.5
147	177	-1.4565	200	52.9	5.1929	2868.8
148	178	-1.4574	200	53.1	5.2469	2903.3
149	179	-1.4582	200	53.3	5.3012	2938.0
150	180	-1.4588	200	53.5	5.3558	2972.9
151	181	-1.4593	200	53.7	5.4107	3008.0
152	182	-1.4597	200	53.9	5.4659	3043.3
153	183	-1.4600	200	54.1	5.5214	3078.8
154	184	-1.4602	200	54.3	5.5772	3114.5
155	185	-1.4603	200	54.5	5.6333	3150.4

A-120

Checked AY
N 2/16

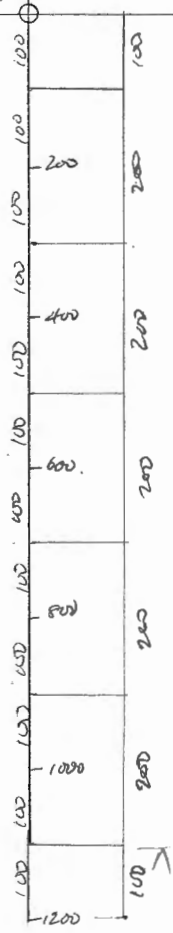
D. D. H. Deviation

Scale: 1" = 20'

Ft.	Dip	Bearing	INTERVAL		COS.	HOR. DIST.		SIN.	VER. DIST.		ELEV.	LENGTH OF DDH
			100			FT	M		FT	M		
200	84°	97°	200	300	.1045	20.9	6.37	.99452	198.90	60.62	1294.25	30.48
400	83°	97°	200	500	.1219	24.38	7.43	.99255	198.51	60.51	1233.63	91.44
600	84°	120°	200	700	.1045	20.9	6.37	.99452	198.90	60.62	1173.12	152.4
800	82°	115°	200	900	.1392	27.84	8.49	.99027	198.05	60.37	1112.50	213.36
1000	78°	105°	200	1100	.2079	41.58	12.67	.97815	195.63	59.63	1052.13	274.32
1200	78°	110°	100	1200	.2079	20.79	6.37	.97815	195.63	59.63	992.50	335.28
1487			387	1447		80.4	24.5		379.5	115.3	877.2	453.2



86 W
8700 N
11 118.58 N
7 427.24 E



297

13

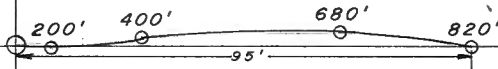
1487

A-121 (66W. 2N.)

D. D. H. Deviation

Scale: 1" to ~~20'~~ 40'

Ft.	Dip	Bearing
200'	86°	94°
400'	83°	83°
680'	80°	89°
820'	77°	97°



W

DATE 21/9/75

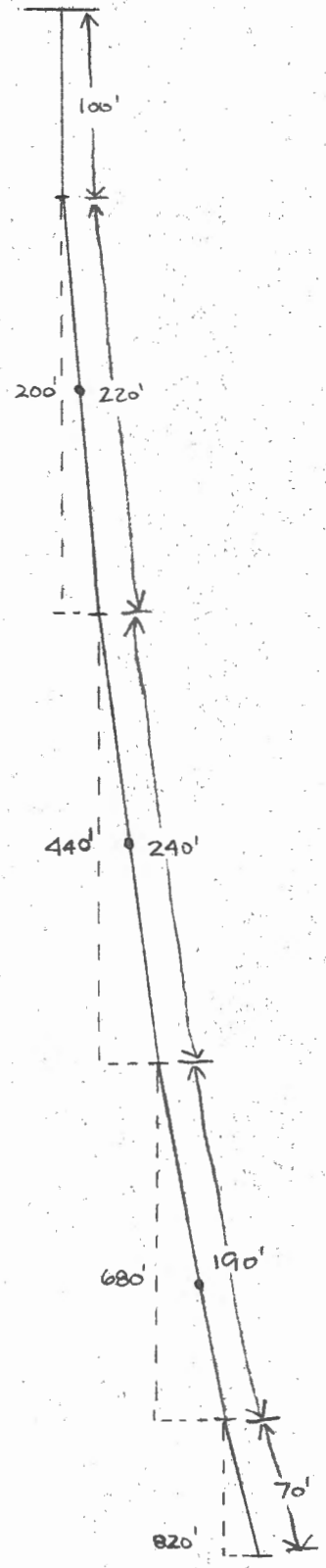
PROJECT A-121

SHEET NO. 07

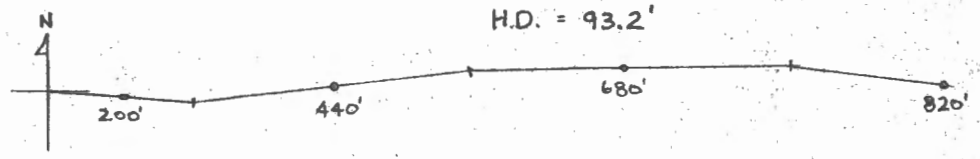
DIP + BRG. SURVEY SPERRY - SUN

ST	DIP	CGS	DIST	HD	SIN	VD	
1	0	0	100	0	1.00	100	
2	22	15.8	220	15.8	.99756	219.5	
3	23	15.8	240	29.2	.99287	238.2	
4	28	17.8	190	52.6	.92481	187.1	
5	17	22.7	70	12.7	.97487	68.2	
820						LENGTH	813.0
						DEPTH	

SECTION
1" = 100'



PLAN
1" = 20'



191

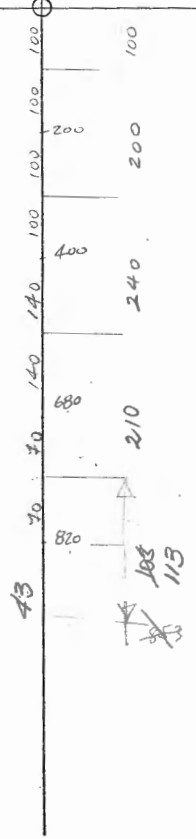
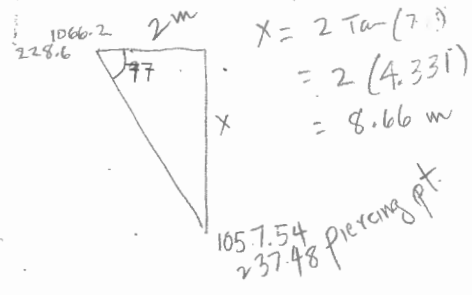
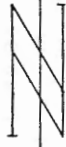
D.D.H. Deviation

Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	FT	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M			M	M		
	90°		100						30.48	1293.13	30.48	
200	86°	94°	200 300	.0698	13.96	4.26	.99756	199.51	60.81	1201.84	91.44	
400	83°	83°	240 540	.1219	29.26	8.92	.99256	238.21	42.61	1129.23	164.59	
680	80°	89°	210 750	.1736	36.46	11.11	.98481	206.81	63.04	1066.19	279.60	
820	77°	97°	113	.2250	25.42	7.75	.97437	110.10	33.56	1032.63	263.00	

~~260.00 M~~
883

CORRECTION: depth of hole 263.00 M
(not 260.0 M)



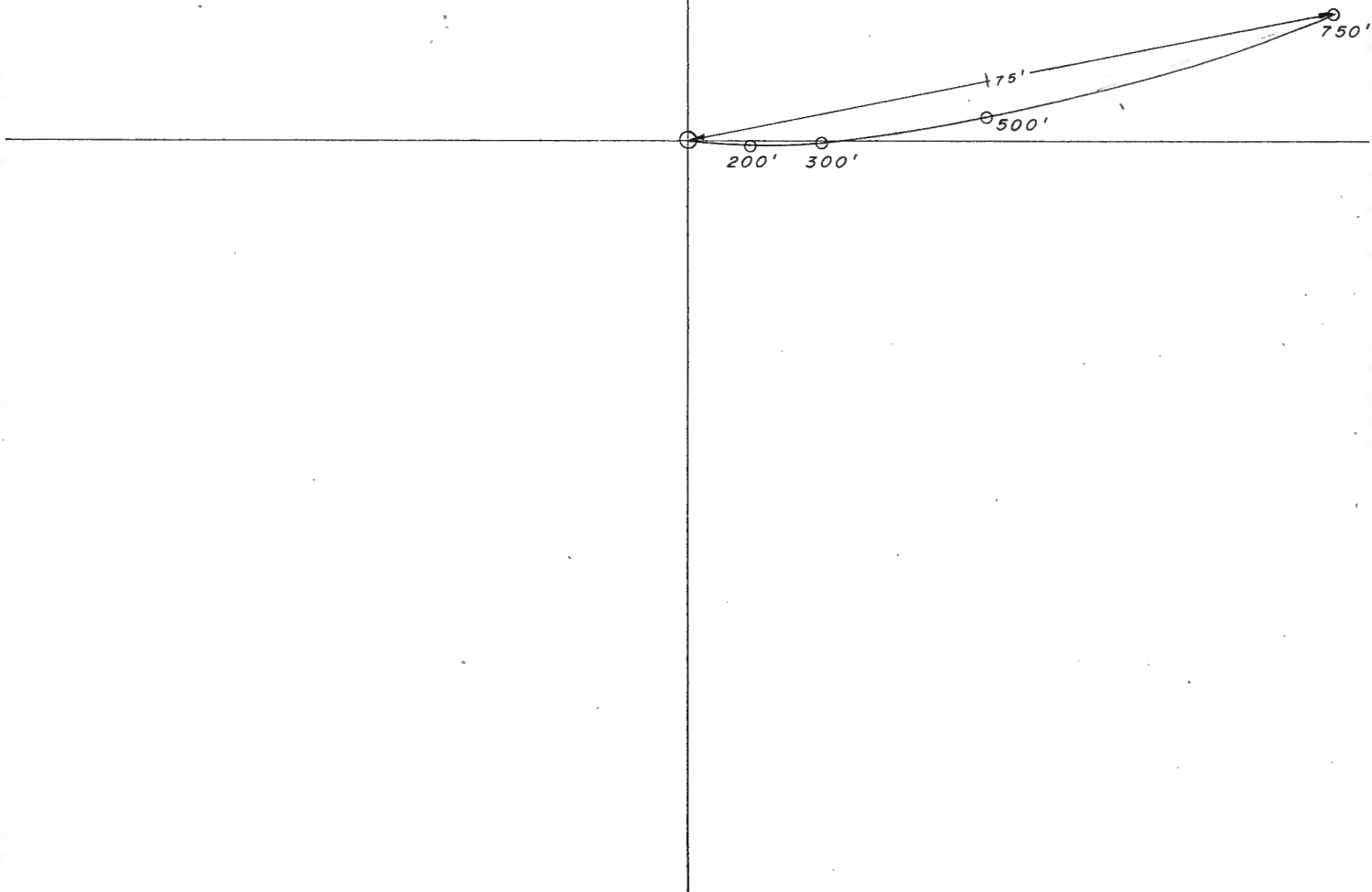
062.8

A-122 (62W. B.L.)

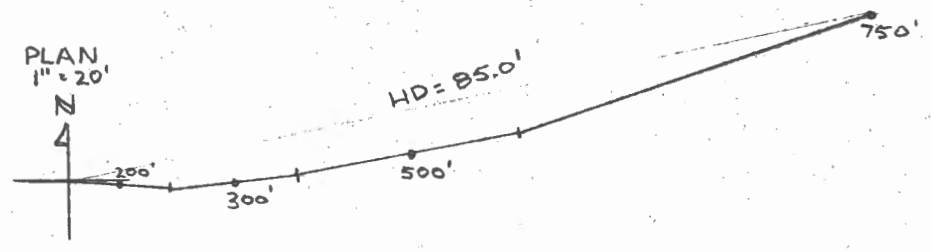
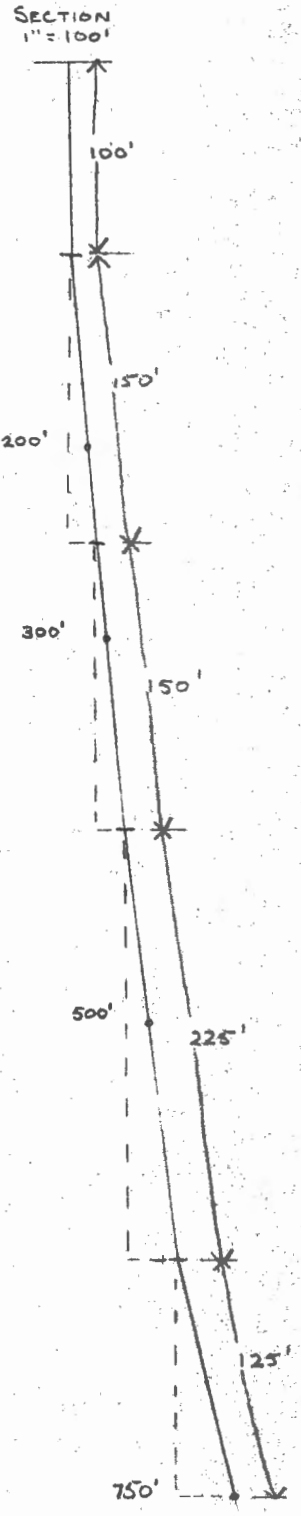
D.D.H. Deviation

Scale: 1" to 20'

<i>Ft.</i>	<i>Dip</i>	<i>Bearing</i>
200'	86°	94°
300'	85°	87°
500'	84°	80°
750'	77°	72°



AZ	DIR	COS	DIST	HD	SIN	VD
90	0	1.0000	100	0	0.0000	100
86	10	.96176	150	14.7	.17365	135.3
85	15	.96594	150	23.1	.21985	126.9
84	20	.93969	150	38.6	.28174	111.4
77	25	.90631	150	61.5	.35021	118.9
			750			741.7



A.122

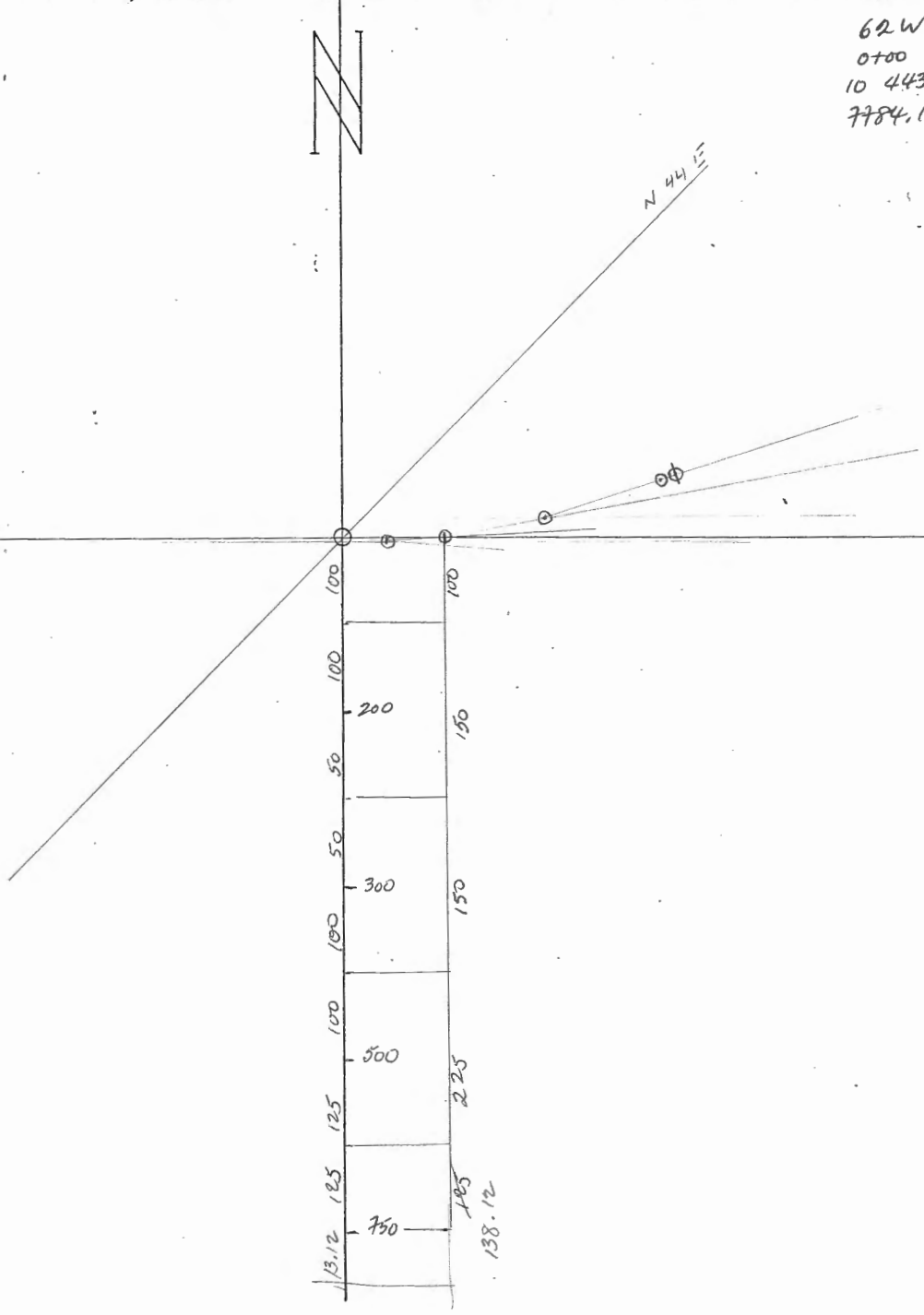
D. D. H. Deviation

Scale: 1" = 20'

Fl.	Dip	Bearing	INTERVAL		COS.	HOR. DIST.		SIN.	RT. DIST.		ELEV.	LENGTH OF DDH
			FT	M		FT	M					
	90°		100						30.48	1250.30	30.48	
200	86°	94°	150	250	.0698	10.47	3.19	.99756	149.63	45.61	1204.69	76.20
300	85°	87°	150	400	.0872	13.08	3.99	.99619	149.43	45.55	1159.14	121.92
500	84°	80°	225	625	.1645	23.51	7.17	.99452	223.77	68.21	1090.93	190.50
750	77°	72°	185	810	.2250	28.13	8.57	.97437	121.80	37.12	1053.81	228.60
			138.12			31.08	9.47	"	134.58	41.02	1049.91	232.60
							.89					

62 W
0+00
10 443.29
7784.10

232.6
228.6
4.0

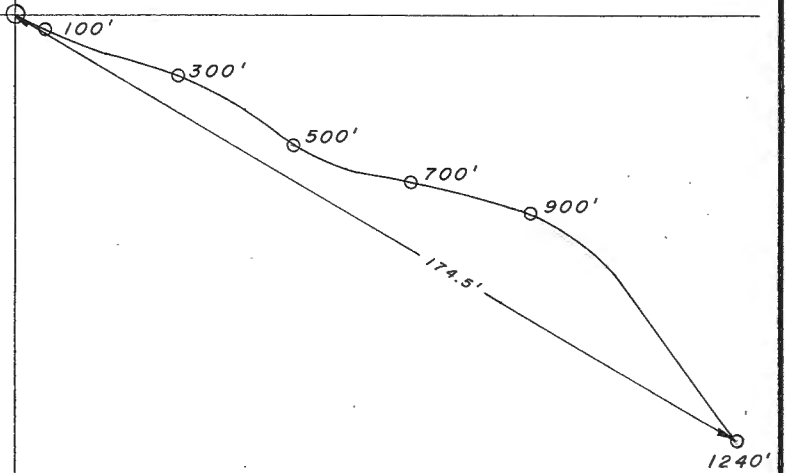


A-123 (88W. 6N.)

D. D. H. Deviation

Scale: 1" to 20' 40"

Ft.	Dip	Bearing
100'	82°	116°
300'	81°	107°
500'	83°	127°
700'	82°	101°
900'	83°	106°
1240	75°	144°



CU

DATE 25/9/75

A-123

SHEET NO

CHIEF BY

DATE

DIP + BRG. SURVEY

JOB NO

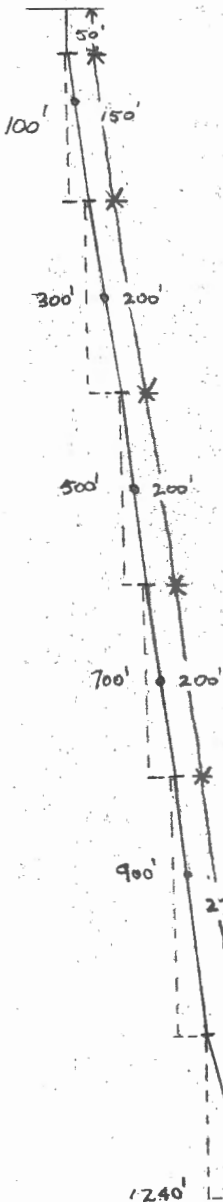
SPERRY - SUN

ST	DIP	COS	DIST	HD	SIN	VD
116	90	0	50	0	1.00	50
107	82	.13917	150	20.9	.99027	148.5
127	81	.15643	200	31.3	.98769	197.5
101	83	.12187	200	24.4	.99255	198.5
106	82	.13917	200	27.8	.99027	198.1
106	83	.12187	270	32.9	.99255	268.0
194	75	.25982	170	44.0	.96593	164.2

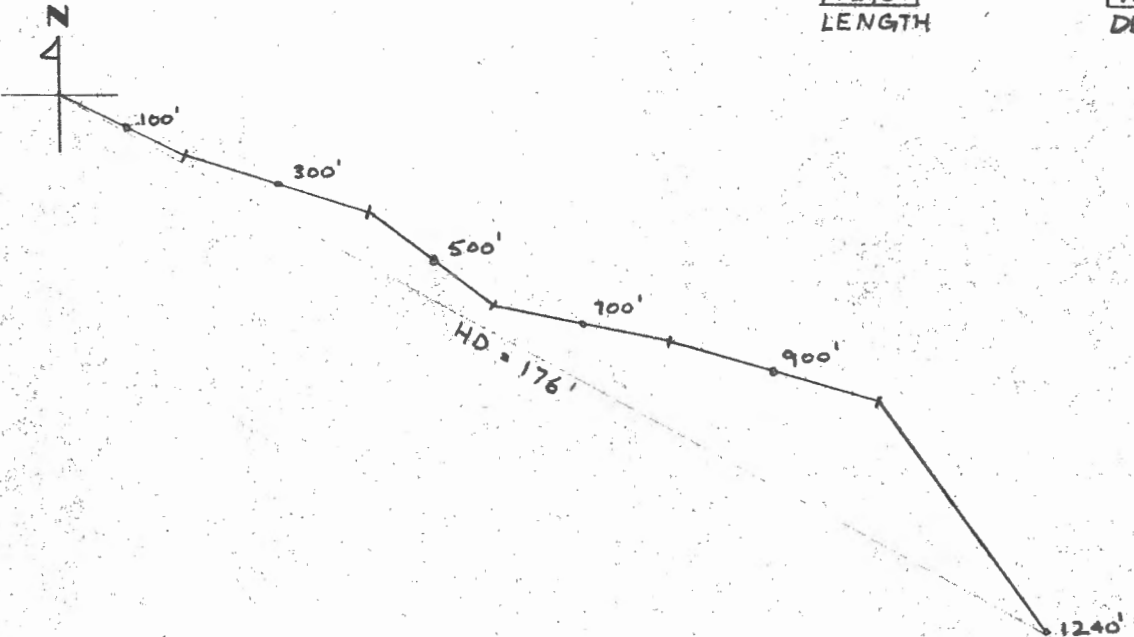
1240
LENGTH

1224.8
DEPTH

SECTION
1" = 200'



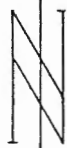
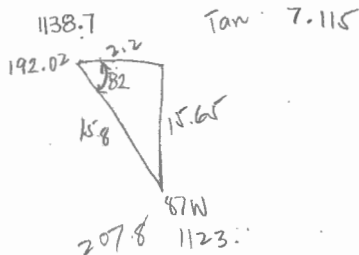
PLAN
1" = 30'



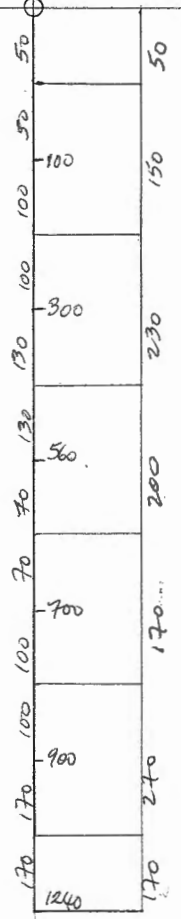
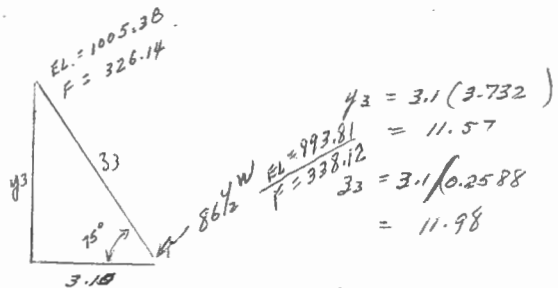
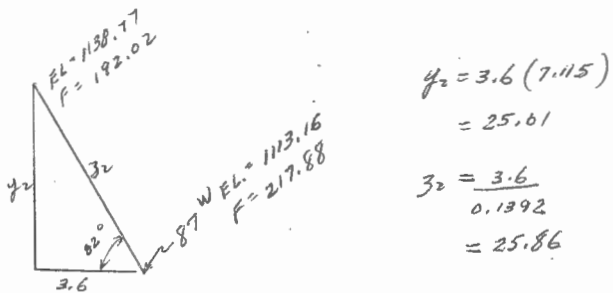
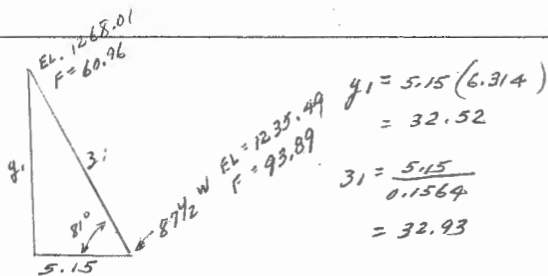
LENGTH = 1240'
DEPTH = 1224.8'

Scale: 1" to 20'

St.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
			50							1328.52	
100	82°	116°	150 200	.1392	20.88	6.36	.99027	148.54	15.24	1313.28	15.24
300	81	107	230 430	.1564	35.94	10.96	.98769	227.17	69.24	1268.01	60.96
560	83	127	200 620	.1219	24.38	7.43	.99255	198.51	60.40	1198.77	131.06
700	82	101	170 800	.1392	23.66	7.21	.99027	168.35	51.31	1087.06	192.02
900	83	106	270 1070	.1219	32.91	10.03	.99255	267.99	81.68	1005.38	243.84
1240	45	144	170 1240	.2588	44.00	13.41	.96593	164.21	50.05	955.33	326.14
			284.9		73.73	22.47		275.19	85.82	879.26	464.8



88 W
6 N
11 120.20
7345.44
4648m



284.9
1240
86.84

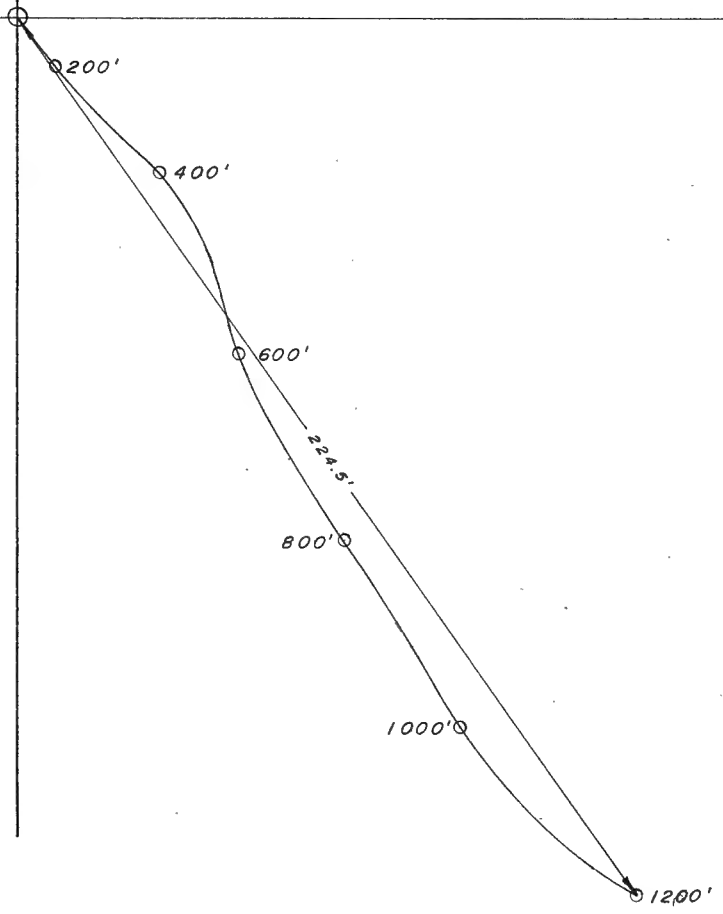
F = 81.2 / 86.85
EL = 81' Diff elev / 86.85' footage
f = 97.8 x 86.85 = 28.81 / 435.9

A-124 (86W. 10N.)

D. D. H. Deviation

Scale: 1" to 20' 40'

Ft.	Dip	Bearing
200'	82°	142°
400'	80°	133°
600'	76°	162°
800'	78°	146°
1000'	75°	148°
1200'	75°	129°



W

5/10/75

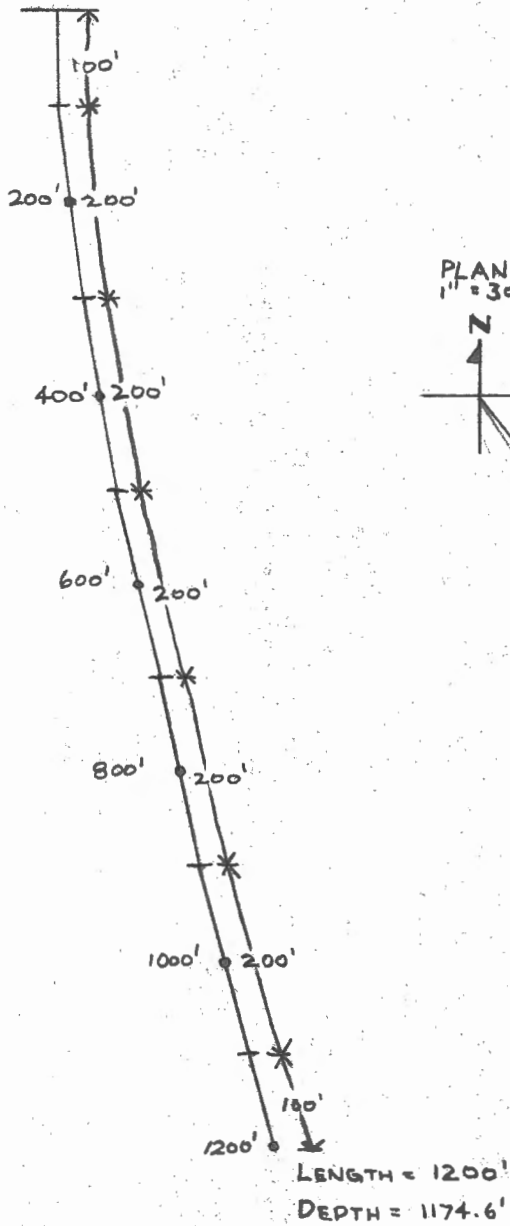
A-124

DIP & BRG. SURVEY
SPERRY SUN

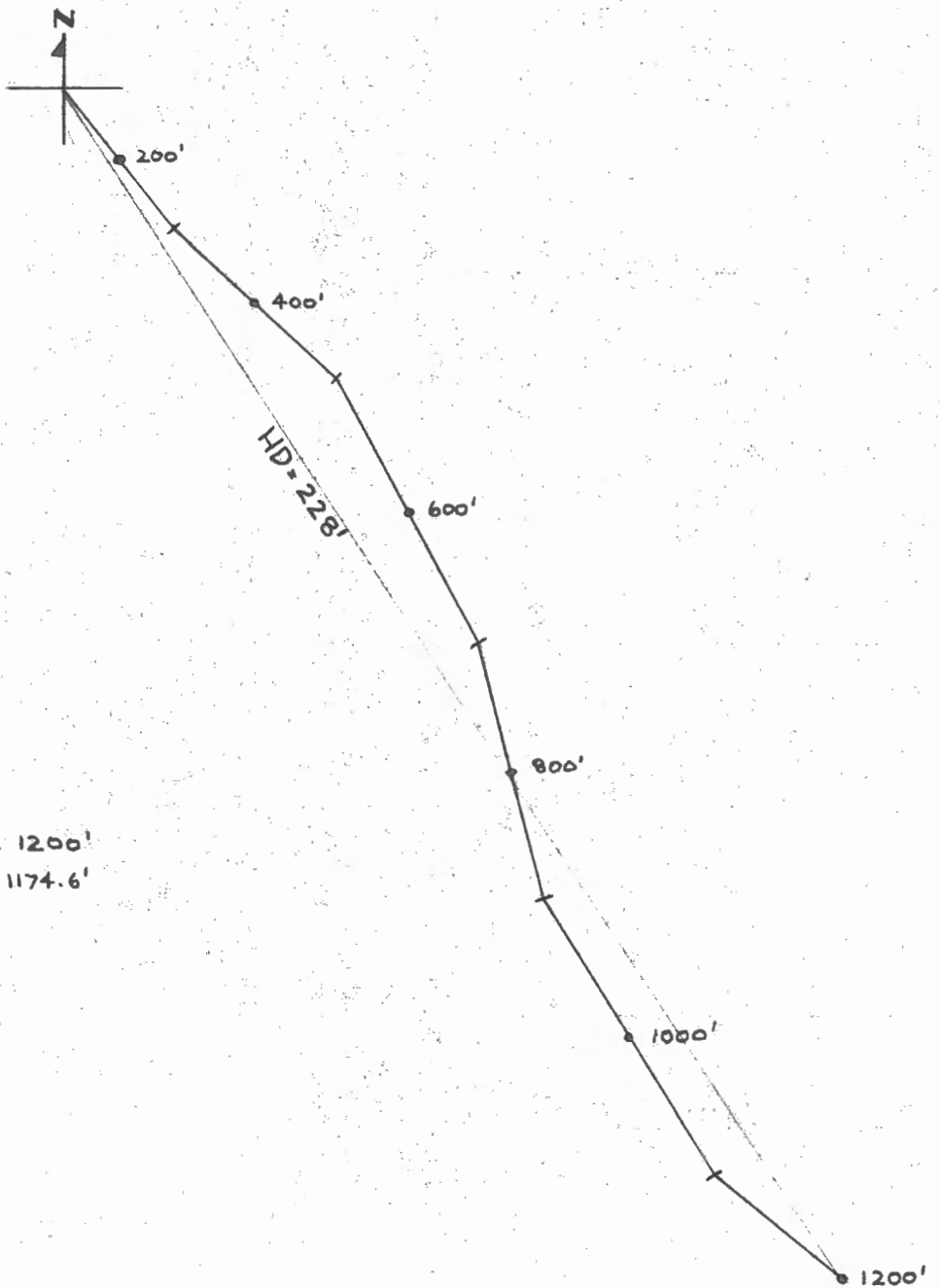
DATE: 5/10/75
JOB NO.:

AZ	DIP	COS	DIST	HD	SIN	VD
	90	0	100	0	1.00	100
142	82	.13917	200	27.8	.99027	198.1
133	80	.17365	200	34.7	.98481	197.0
152	76	-.24192	200	48.4	.97030	194.1
166	78	-.20791	200	41.6	.97815	195.6
148	75	-.25882	200	51.8	.96593	193.2
129	75	.25882	100	35.9	.96593	96.6
						1174.6
						1200
						LENGTH
						DEPTH

SECTION
1" = 20'



PLAN
1" = 30'



A. 124

96 R

D. D. H. Deviation

Scale: 1" = 20'

Fl.	Dip	Bearing	INTERVAL	HOR. DIST.			SIN.	FT	RT. DIST		ELEV.	LENGTH OF DDH
				COS.	FT	M			M	M		
			100							1323.03		
200	82°	142°	200	.1392	27.84	8.49	.99027	198.05	30.48 ✓	1292.55	30.48	
400	80°	133°	200	.1736	34.72	10.58	.98481	196.96	60.37 ✓	1232.18	91.44	
600	76°	162°	200	.2419	48.38	14.75	.9703	194.06	60.03 ✓	1172.15	152.4	
800	78°	146°	200	.2079	41.58	12.67	.97815	195.63	59.15 ✓	1113.00	213.36	
1000	75°	148°	200	.2588	51.76	15.78	.96593	193.19	59.63 ✓	1053.37	274.32	
1200	75°	129°	100	.2588	25.88	7.89	.96593	96.59	29.44 ✓	994.49	335.28	
1300			100			7.89			29.44 ✓	965.05	365.76	
1388			88		22.77	6.94		85.	25.9	909.7	423.1	396.2



86 W
10 N
11 162.11 N
7470.04 E

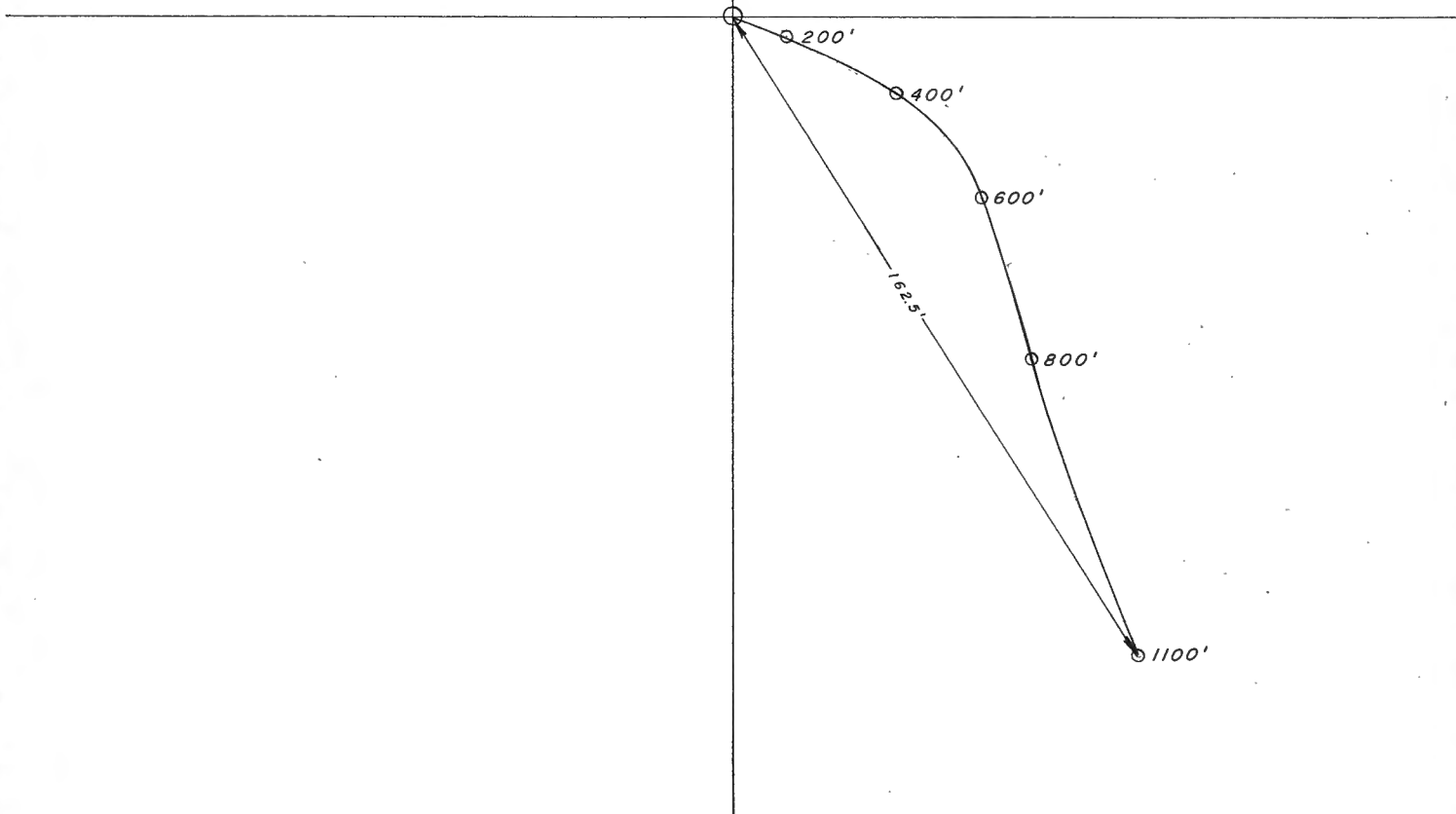


A-125 (88W. 8N.)

D. D. H. Deviation

Scale: 1" to 20' 40"

Ft.	Dip	Bearing
200'	83°	111°
400'	82°	117°
600'	81°	148°
800'	78°	166°
1100'	76°	158°



W

DATE 3/10/75

SURVEY A-125

SHEET NO

DRAWN BY

DATE

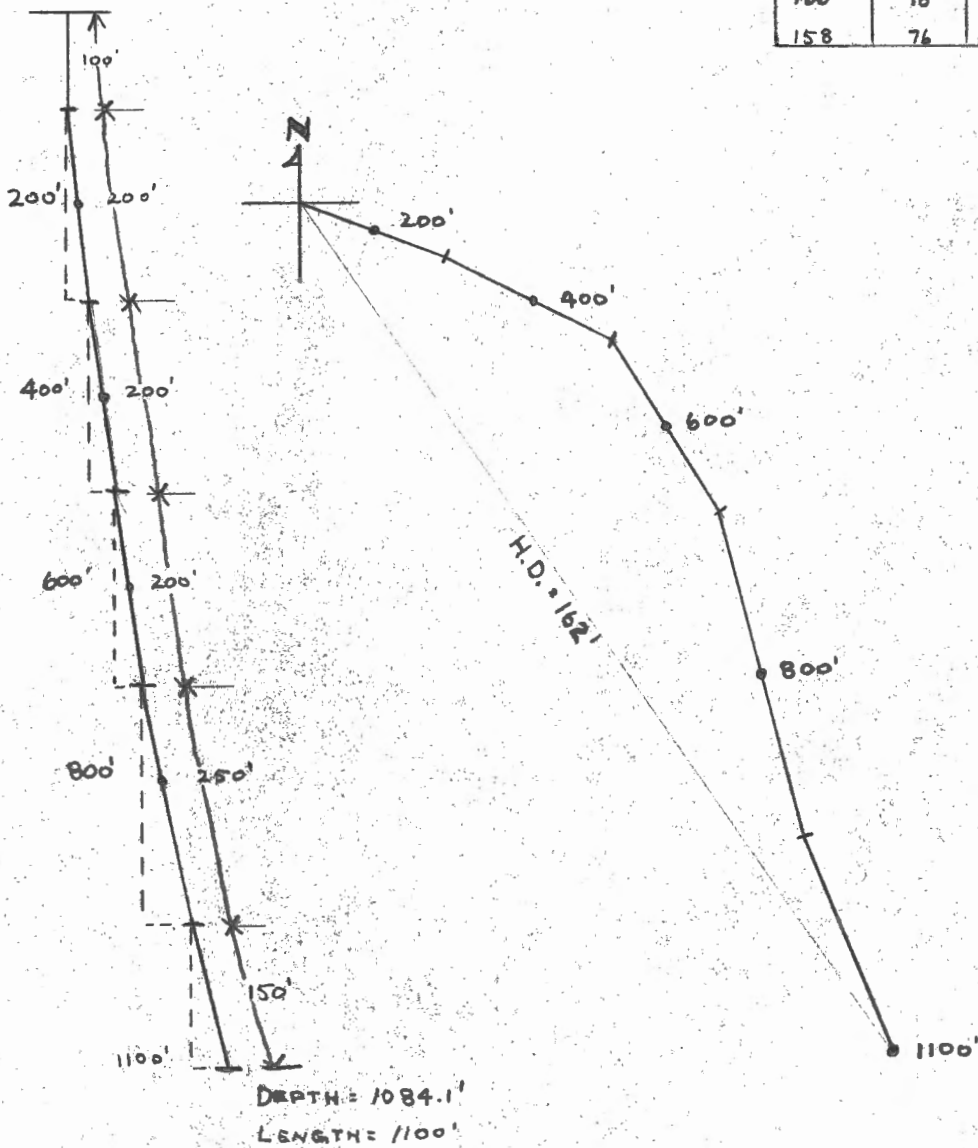
DIP & BRG SURVEY

JOB NO

SPERRY - SUN

AZ	DIP	COS	DIST	HU	SIN	VD
	90	0	100	0	1.00	100
111	83	.12187	200	24.4	.99255	198.5
117	62	.13917	200	27.8	.97027	198.1
148	81	.15643	200	31.3	.98769	197.5
166	78	.20791	250	52.0	.97915	244.5
158	76	.24192	150	36.3	.97030	145.5
			1100			1084.1
			LENGTH			DEPTH

SECTION
1" = 200'



D. D. H. Deviation

A-12-5

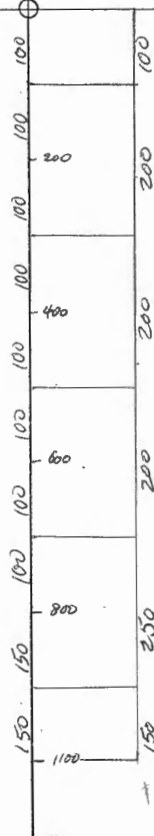
Scale: 1" to 20'

Ft.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
	90		100							1327.26	
200	83	111°	200	.1219	24.38	7.43	.99255	198.51	30.48	1296.78	30.48
400	82	117°	200	.1392	27.84	8.49	.99027	198.05	60.51	1236.27	91.44
600	81	148°	200	.1564	31.28	9.53	.98769	197.54	60.28	1195.90	152.4
800	78	166°	250	.2079	51.98	15.84	.97815	244.54	74.54	1041.09	289.56
1100	76	158°	150	.2419	36.29	11.06	.9703	145.55	144.36	996.73	335.28
1200									44.8	952.37	381.
									46.5	905.87	429.8



13-2-1

88 W
8 N
1163.43
7387.77

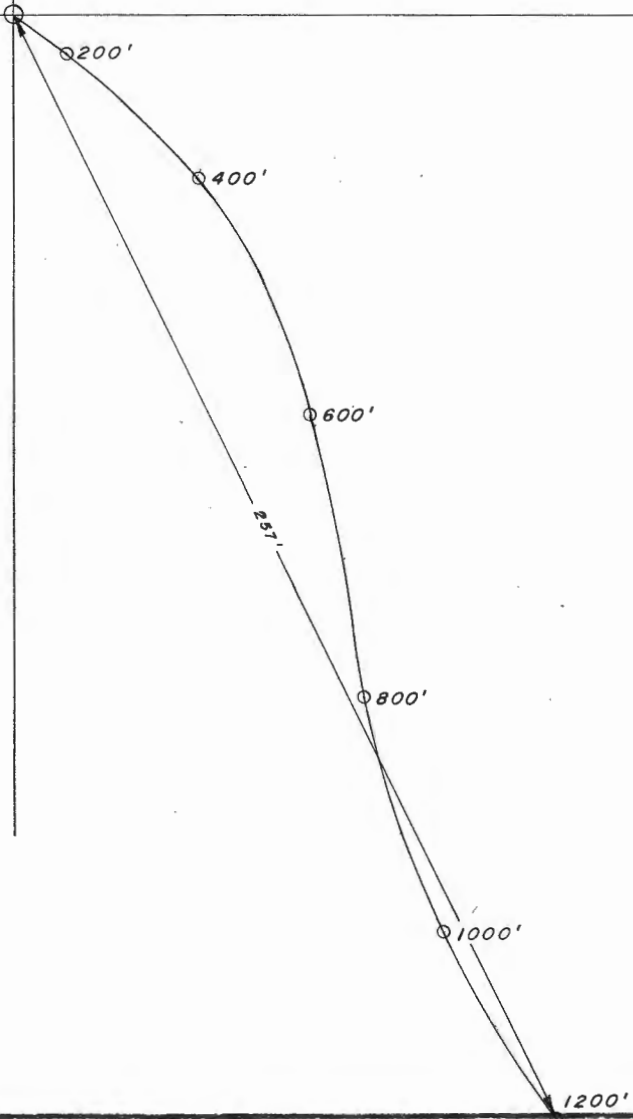


A-127 (88W. 10N.)

D. D. H. Deviation

Scale: 1" to 20' 40"

Ft.	Dip	Bearing
200'	82°	126°
400'	76°	133°
600'	72°	160°
800'	73°	172°
1000'	77°	157°
1200'	77°	147°



W

DATE 5/10/75

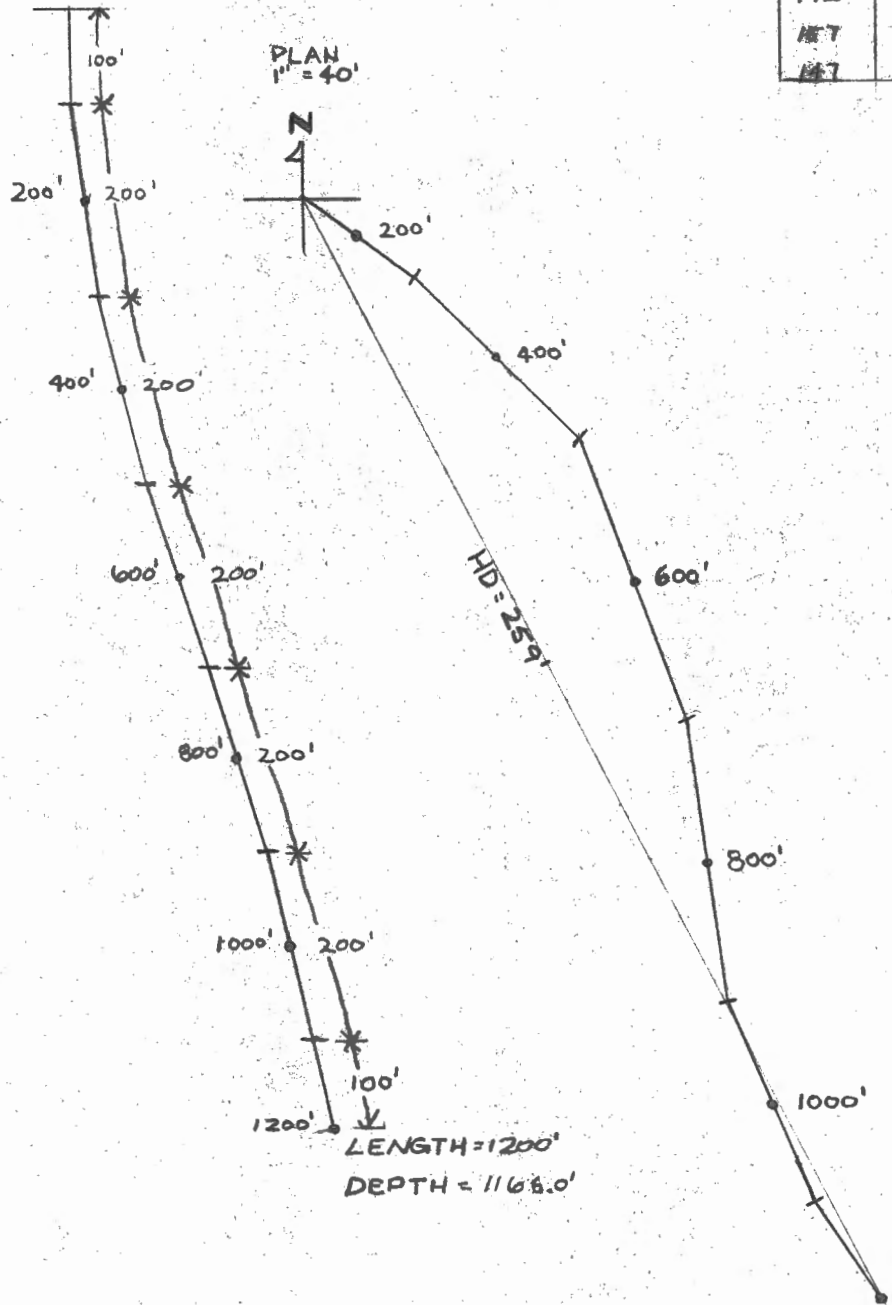
SHEET NO. A-127

DIP + BRG SURVEY
SPERRY - SUN

AZ	DIP	COS	DIST	HD	SIN	VD
126	82	.13917	200	27.8	.99027	198.1
135	76	.24192	200	48.4	.97030	194.1
160	73	.30902	200	61.8	.95106	190.2
172	73	.29277	200	58.5	.95630	191.3
187	77	.22492	200	45.0	.97437	194.9
147	77	.22492	100	22.5	.97437	97.4
			2000	2600	1166.0	
			LENGTH		DEPTH	

SECTION
1" = 20'

PLAN
1" = 40'



A.127

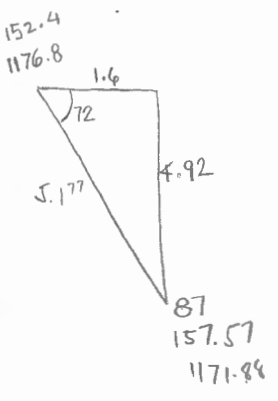
D. D. H. Deviation

Scale: 1" to 20'

FI.	Dip	Bearing	INTERVAL	HOR. DIST.		VERT. DIST.		SIN.	FT	M	ELEV.	LENGTH OF DDH
				FT	M	FT	M					
			100								1326.78	
62.96	200	82°	200	.1392	27.84	8.49	.99027	198.05	30.48	1296.30	30.48	
21.92	400	76	200	.2419	48.38	14.75	.9703	194.06	60.37	1235.93	91.44	
192.88	600	72	200	.3090	61.8	18.84	.95106	190.21	57.98	1176.78	152.4	
243.84	800	73	200	.2924	58.48	17.82	.95630	191.26	58.30	1060.50	274.32	
304.8	1000	77	100	.2250	45.0	6.86	.97437	97.44	29.70	1030.80	304.8	
335.28										1001.1	335.2	
										130	468.20	

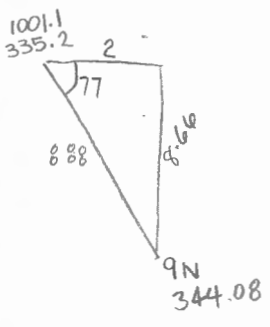
Longitudinal

Tan 72 = 3.078

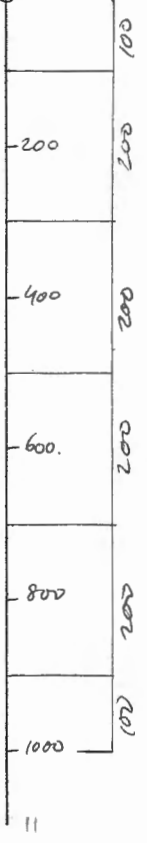


88 W
10 N
11204.91
7426.64

Tan 77 = 4.331



43.19
42

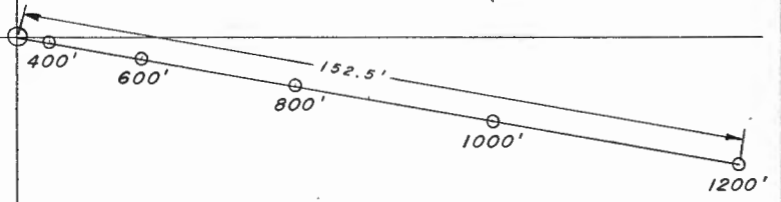


A-128 (88 W. 2500+25 S.)

D.D.H. Deviation

Scale: 1" to ~~20~~ 40'

Ft.	Dip	Bearing
400'	88°	?
600'	81°	?
800'	80°	100°
1000'	76°	104°
1200'	74°	?

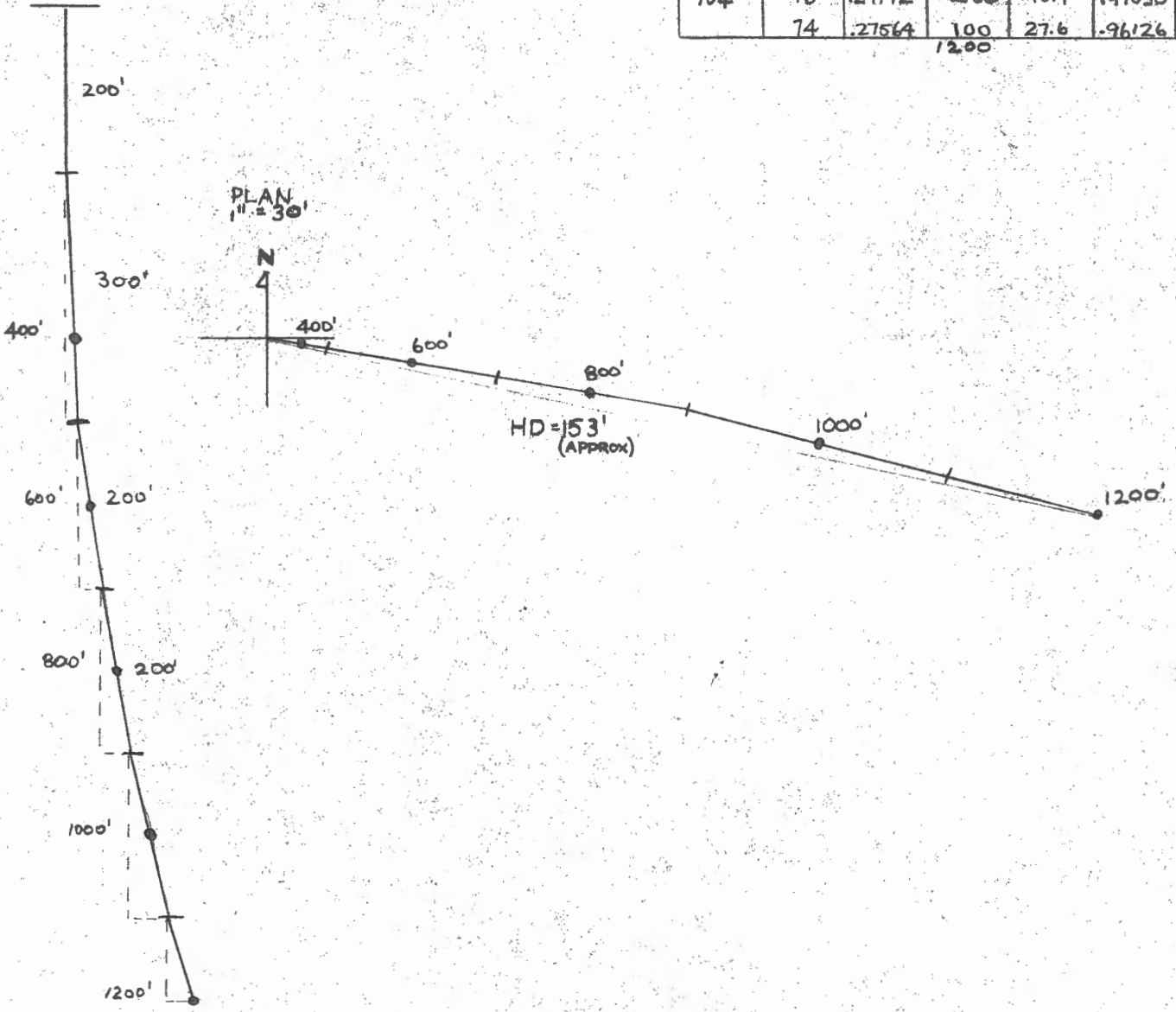


DIP + BRG. SURVEY
SPERRY-SUN (L.O.F. N.S.F.)

DUE TO PYRRHOTITE IN DDH ONLY TWO BEARINGS ACCEPTABLE

AZ	DIP	CO'S	DIST	HD	SIN	VD
	90	0	200	0	1.00	200
	88	.03490	300	10.5	.99939	299.8
	81	.15643	200	31.3	.98769	197.5
100	80	.17365	200	34.7	.98481	197.0
104	76	.21192	200	48.4	.97030	194.0
	74	.27564	100	27.6	.96126	96.1
			1200			1184.4

SKETCH
1" = 20'



LENGTH = 1200'
DEPTH = 1184.4'

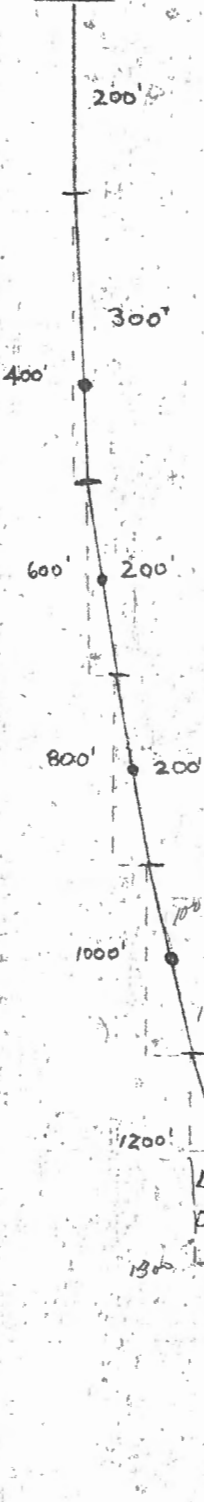
SPERRY-SUN (L.O.F.N.S.F.)

DUE TO PYRRHOTITE IN DDH ONLY TWO BEARINGS ACCEPTABLE

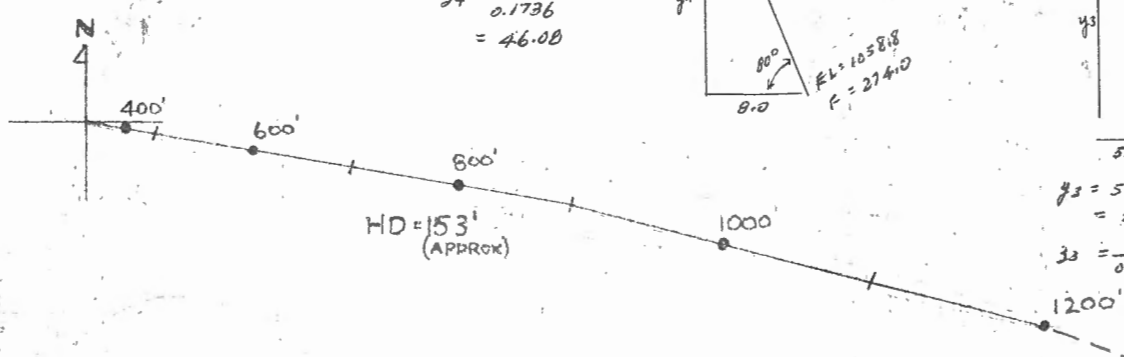
AZ	DIP	COS	DIST	HD	SIN	VD	
-	95	0	200	0	1.00	200	
121.9 - 400	100	88	0.03490	300	10.5	0.99939	299.8
182.8 - 600	100	81	0.15643	200	31.3	0.98767	197.5
243.8 - 800	100	80	0.17365	200	34.7	0.98481	197.0
304.8 - 1000	104	76	0.24192	200	48.4	0.97030	194.0
365.7 - 1200	74	27564	100	27.6	0.96126	96.1	1184.4

SKETCH

1" = 20'



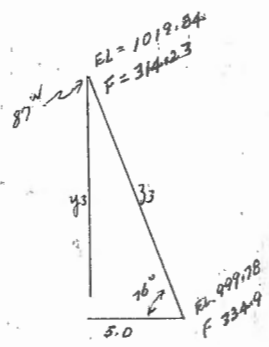
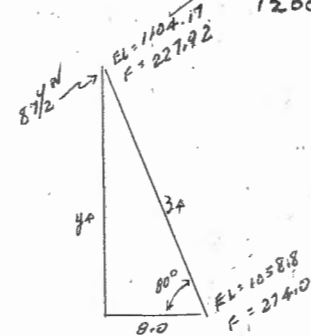
PLAN 1" = 30"



477.3 m

$y_4 = 8(5.671) = 45.37$

$z_4 = \frac{8}{0.1736} = 46.08$



$y_3 = 5(4.011) = 20.055$

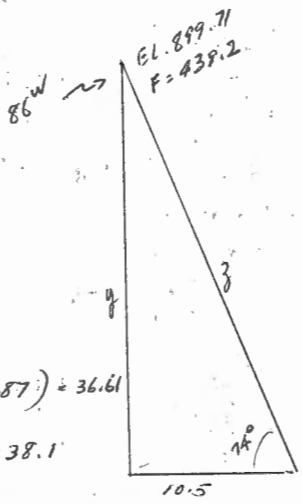
$z_3 = \frac{5}{0.2419} = 20.67$

Metric

Coll.	ELV.	F _{TR}	T.P.	DIP	Cos.	DIST.	H.D.	SIN	V.D.
1330.97	1270.07	60.9	Collar	-90	0	60.9	0	1	60.9
	1178.87	152.2	121.9	-88	0.0349	91.3	3.18	0.99939	91.2
	1118.77	213.1	182.8	-81	0.1564	60.9	9.52	0.9876	60.1
	1058.87	274.0	243.8	-80	0.1736	60.9	10.57	0.9848	59.9
	999.78	334.9	304.8	-76	0.2419	60.9	14.73	0.9703	59.09
	941.25	395.8	365.1	-74	0.2756	60.9	16.78	0.9612	58.53

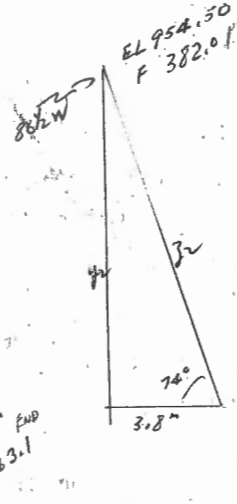
477.3 END C. 477.3 END OF HOLE

LENGTH = 1200'
 DEPTH = 1184.9'



$y = 10.5(3.487) = 36.61$

$z = \frac{10.5}{0.2756} = 38.1$



$y_2 = 3.8(3.487) = 13.25$

$z_2 = \frac{3.8}{0.2756} = 13.788$

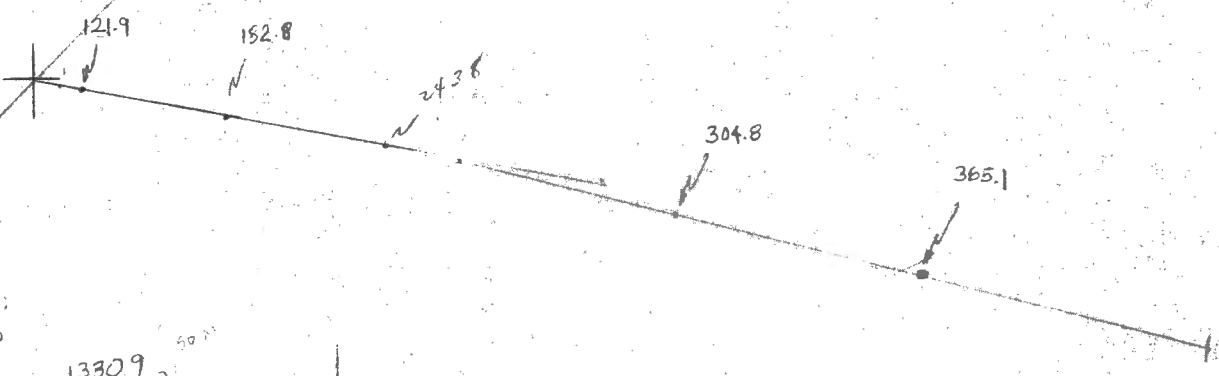
477.3 END EL. 883.1

EL. 941.25 F 395.8

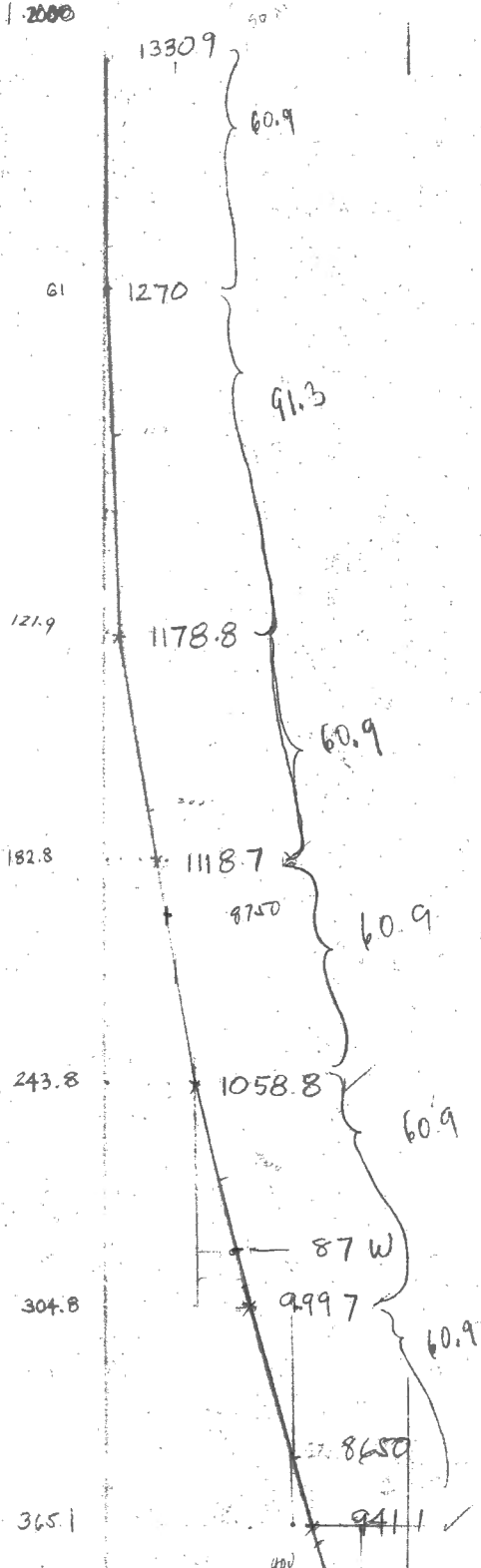
A-128

1:500

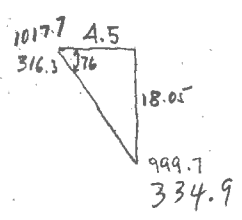
in:



Section:
1:2000



60.9
 4
 243.6
 91.3
 334.9



$76^\circ = \cos - 0.2419$
 $\sin = 0.97030$
 $\tan = 4.011$

186

78

A. 129

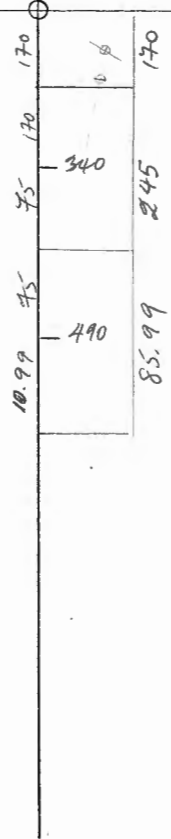
D. D. H. Deviation

Scale: 1" = 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH.
					FT	M		FT	M		
			170							1293.84	51.82
340'	86°	132°	245 415	0.0698	17.10	5.20	.99756	244.40	74.49	1242.02	126.49
490'	86°	192°	85.99	0.0698	6.00	1.83	.99756	85.78	26.15	1167.53	152.70
											152.7



10,618.83
7,954.88



A-131 (165.5' Depth)

D. D. H. Deviation

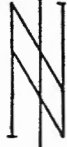
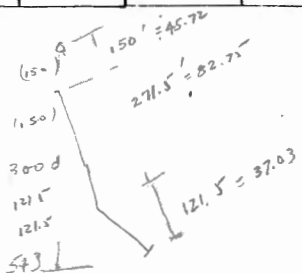
Scale: 1" = 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VER. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
	87°		45.72				0.99863		1286.97		45.72
91.44	(87°)	42°	82.75	0.0523	4.23	120.94	0.98769	82.64	81.43	1241.25	128.47
165.5	82°	62°	37.03	0.0523	13.92	6.15	0.99027		36.67	1159.52	165.50
									1121.94		

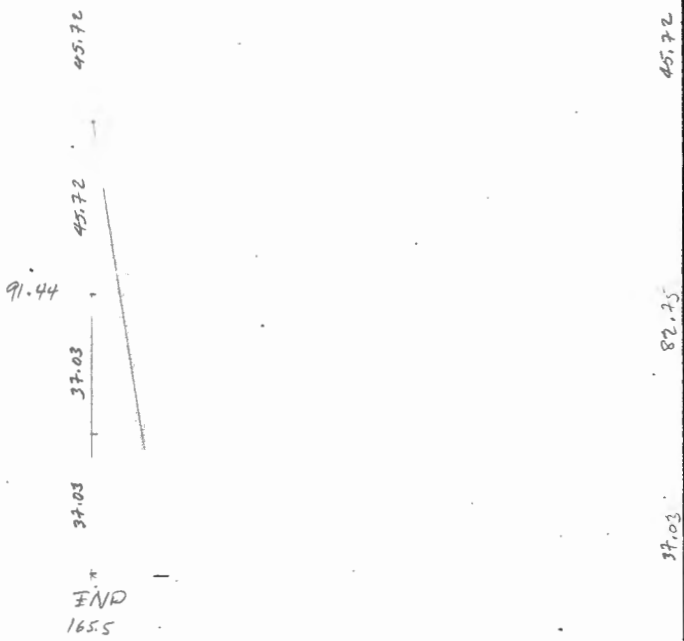
END
HOLE

Checked by *[Signature]*

165.5



10,489.36
7,913.56
~~1286.97~~
60W/4N



Scale: 1" = 20'

A.132

Ft.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	ST		
91.44	88°	157°	45.72	.0349		2.50	.99939	45.72	1313.26	1267.54	45.72
143.26	85°	122°	26.85	.0872		2.34	.99619	71.59	1195.95	1169.20	117.35
								26.75			144.20
											144.2 ✓



10, 809.446
7, 714.553
72W / 7N

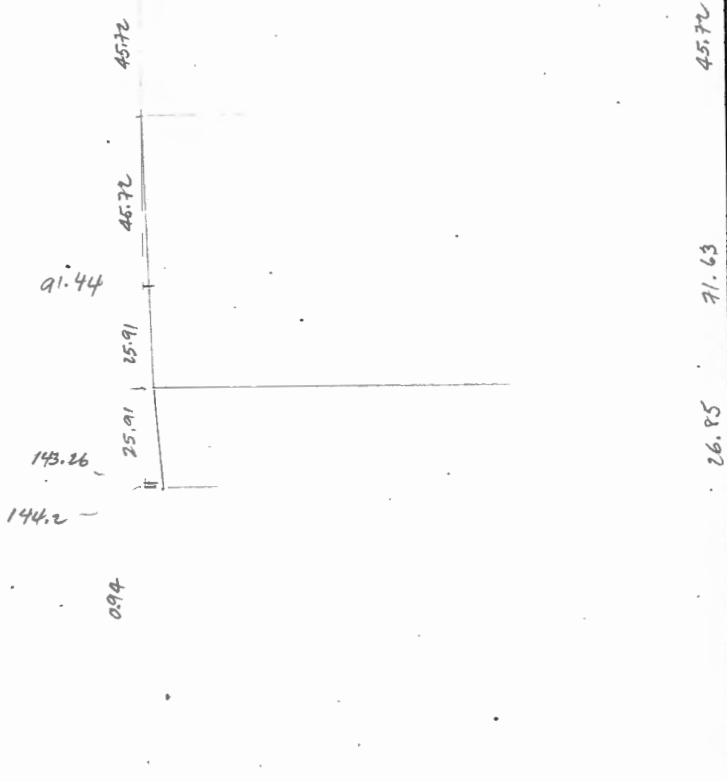


TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.
Collar-45.72	N/A	N/A	N/A	-90° ✓	45.72 ✓	0	0	1	45.72
300' = 91.99	S55E	125°	159° ✓	-88° ✓	71.628	0.03490	2.5 ✓	0.99939	71.6 ✓
470' = 143.3	E	90°	122° ✓	-85° ✓	26.8	0.0872 ✓	2.3	0.9962	26.7
473 = 144.2			↓	↓	26.82	↓	2.34	↓	26.72
TOTAL VERT. DIST. 144.04									

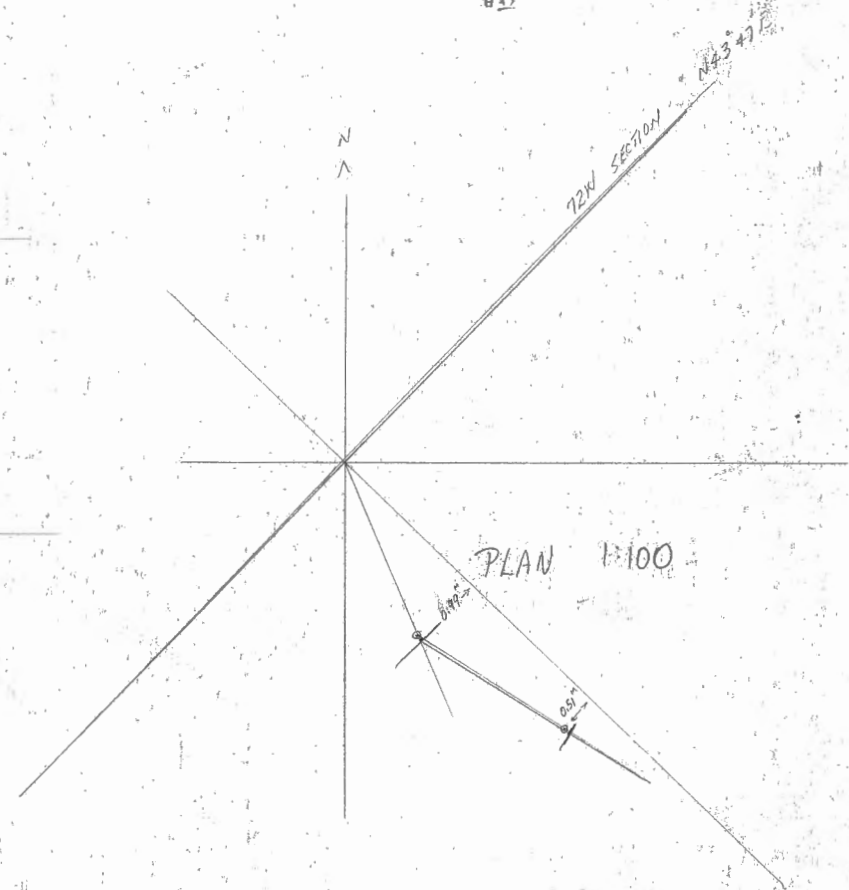
Depth (L)
 Collar = 1313.26
 1267.54
 1195.94
 1169.22

Scale 1" = 100'

1170
85 = 25.906

117.35

Σ 4.84
 4.84



BY *JL* DATE *Nov. 9/76*
 CHKO BY _____ DATE _____

DIP & BEARING SURVEY - HOLE # A-133

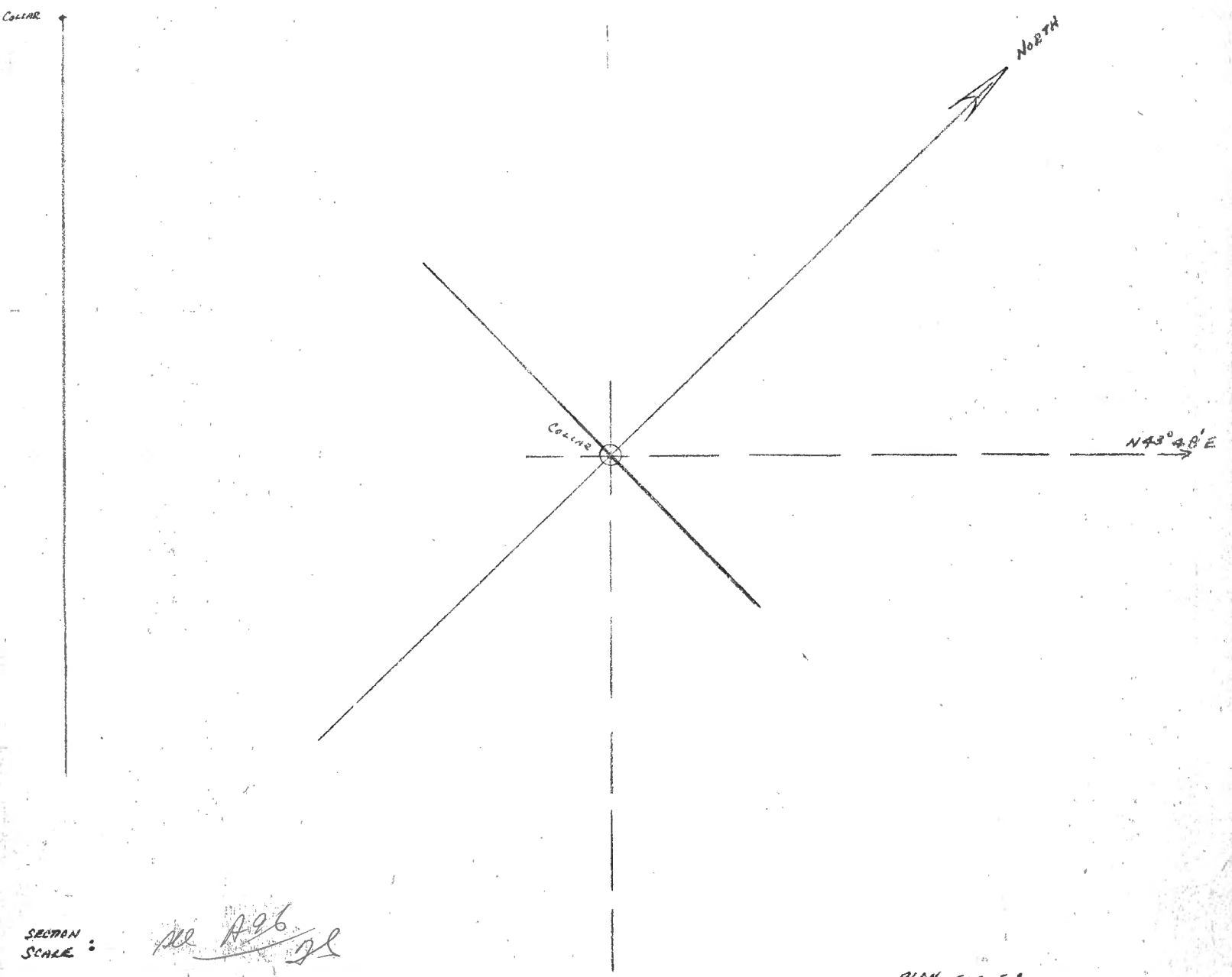
SHEET NO. _____ OF _____
 JOB NO. _____

Depth = 473' (144.2')

TABLE #1: CORRELATION OF FIELD DATA: USE A96 data. *gl.*

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.	ELEV.
Collar										1307.44
				-98°	80.5 = 24.54	0	0	1	-24.54	1282.90
49.07			106°	-88°	51.97				-51.94	1230.96
103.94			105°	-86°	54.86				-54.73	1176.23
					42' = 12.80		1		-12.1	1164.1
TOTAL VERT. DIST.										

473
431
42

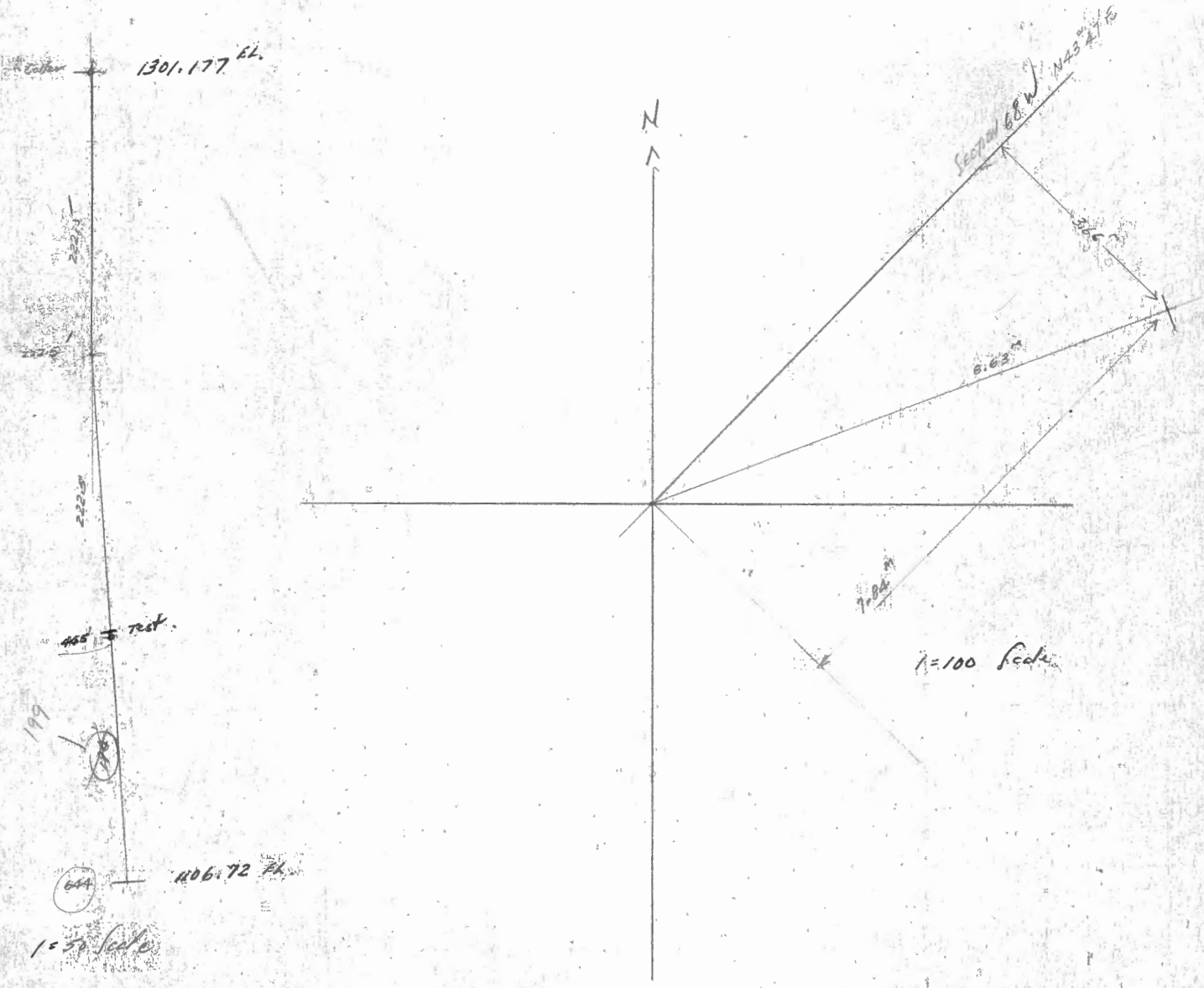


SECTION SCALE: *see A96 gl*

PLAN SCALE:

TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.
COLLAR	/	/	/	-90°	^{67.82} 222.5	/	/	1	^{67.82} 222.5
445 / 131.64	N37°E	⁰³⁷ 069	069	-86°	126.95	0.0698	8.63	0.99756	126.64
TOTAL VERT. DIST. ^{194.46} 349.14									



checked ✓

D. D. H. Deviation

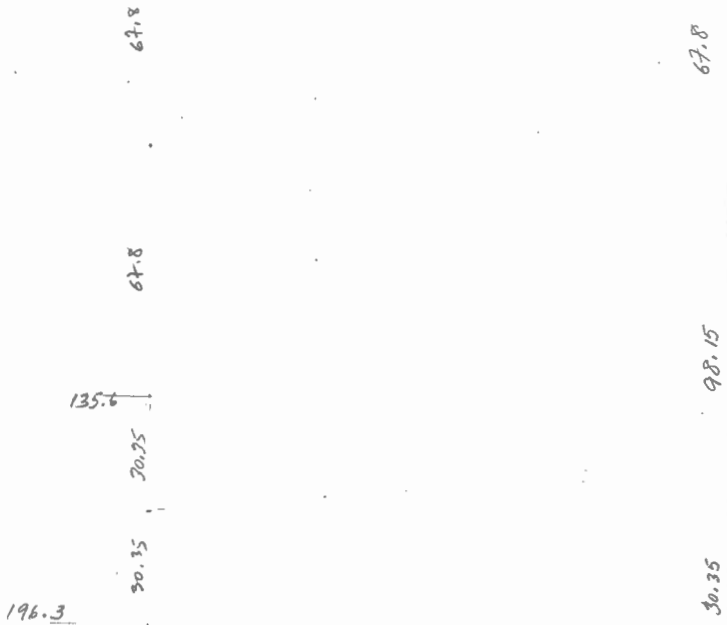
A-134-

Scale: 1" = 20'

Ft.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
			67.8 ✓							1301.78	
135.6	86° ✓	69° ✓	98.15	.0698 ✓		6.85	.99756 ✓	67.8	97.91	1233.98	67.8
	86°		30.35	.0698		2.12	.99756	30.28	30.28	1136.07	165.95
			128.76			8.98		128.44			196.30
											196.3 ✓



10,723.122
 7,799.058
 68W / 7N.



A-135

D. D. H. Deviation

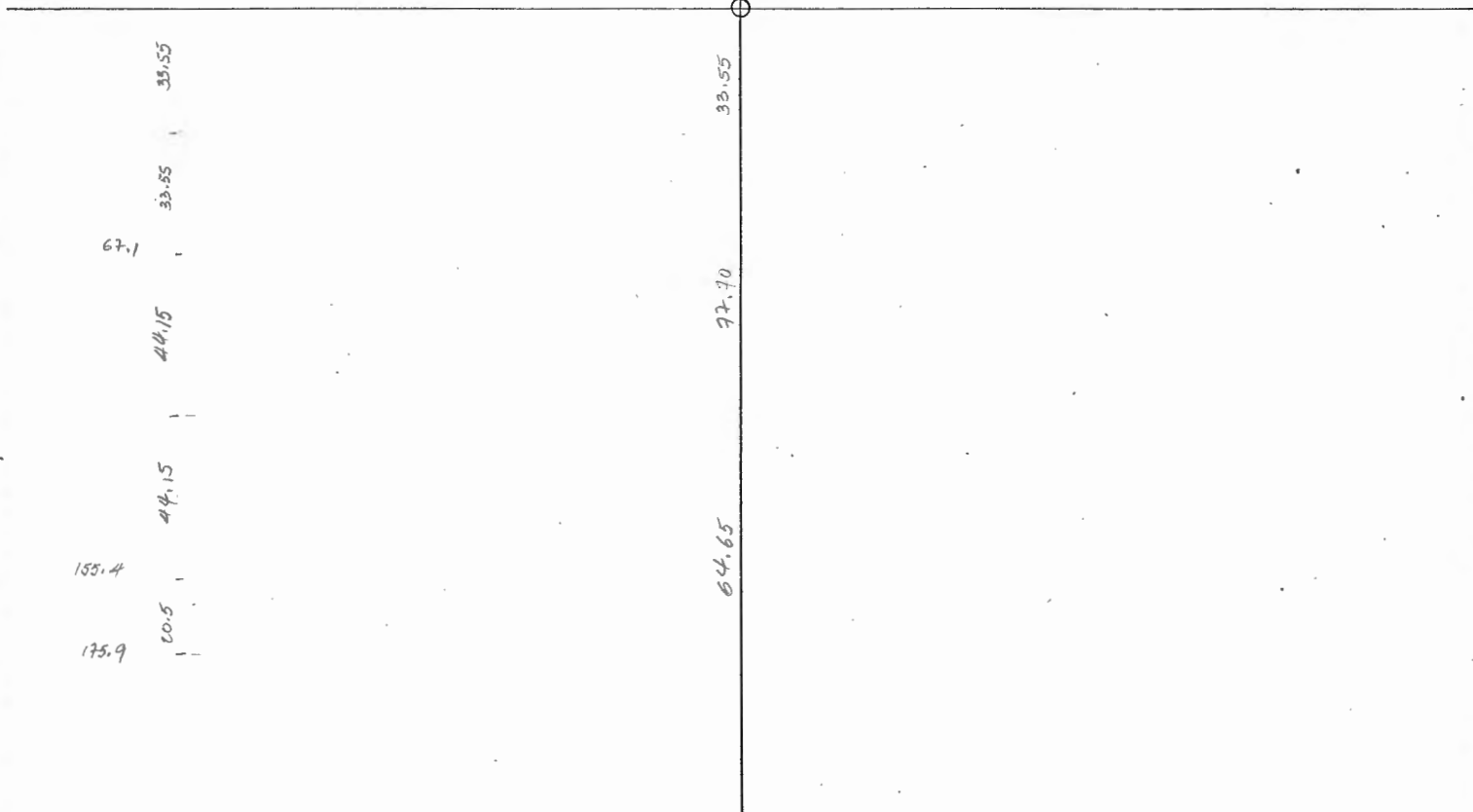
Scale: 1" = 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
			33.55					33.55		1297.709	33.55
67.1	87°	30°	77.70	.0523		4.06	.99863	77.59		1186.57	111.25
155.4	77°30'	83°	64.65	.2164		13.99	.97630	63.12		1123.45	175.90
											175.9



10,679.61
7,843.3

66W/6N



BY: _____ DATE: _____
 DRAWN BY: _____ DATE: _____

DIP & BEARING
 SURVEY - HOLE # U-126

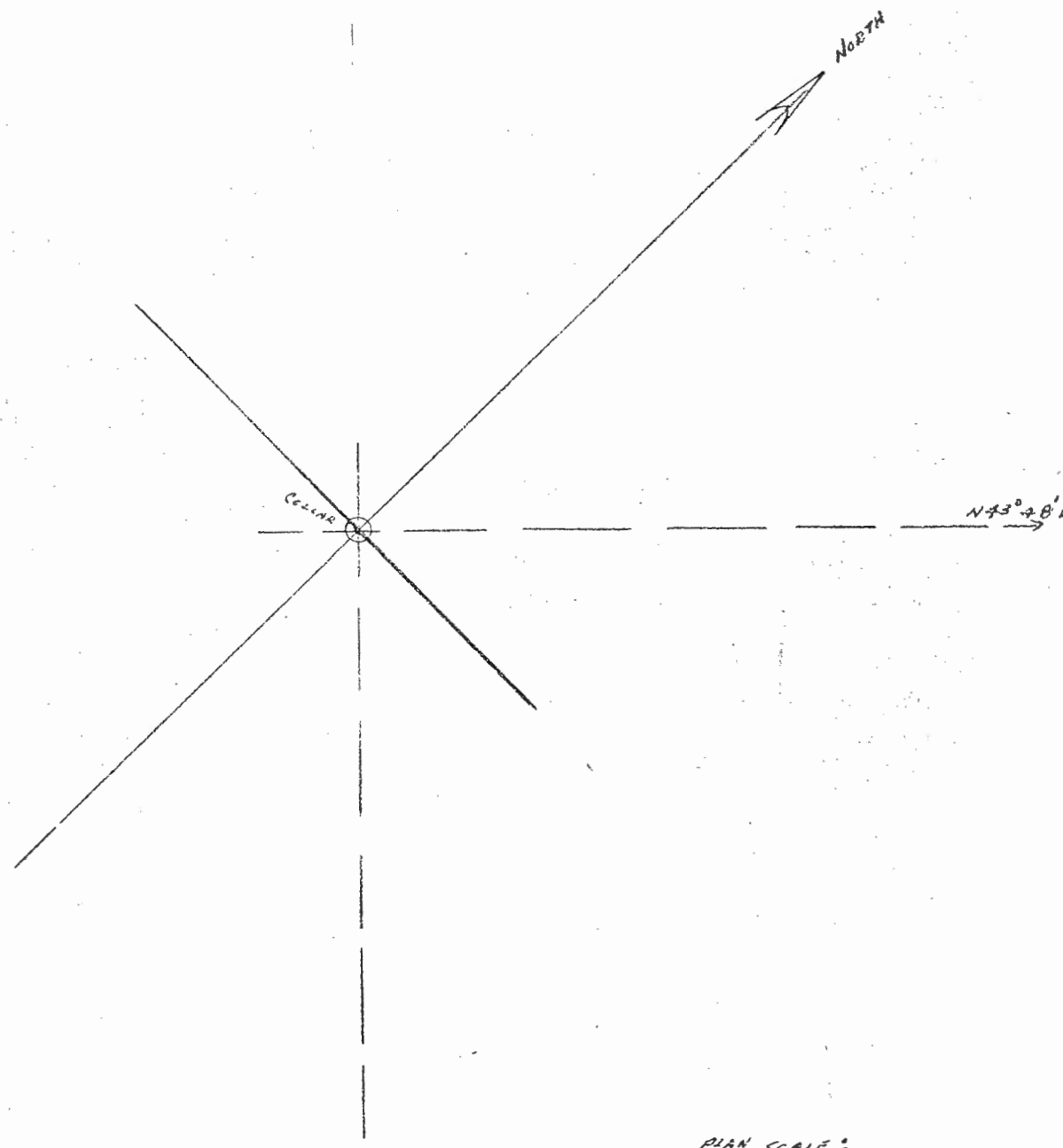
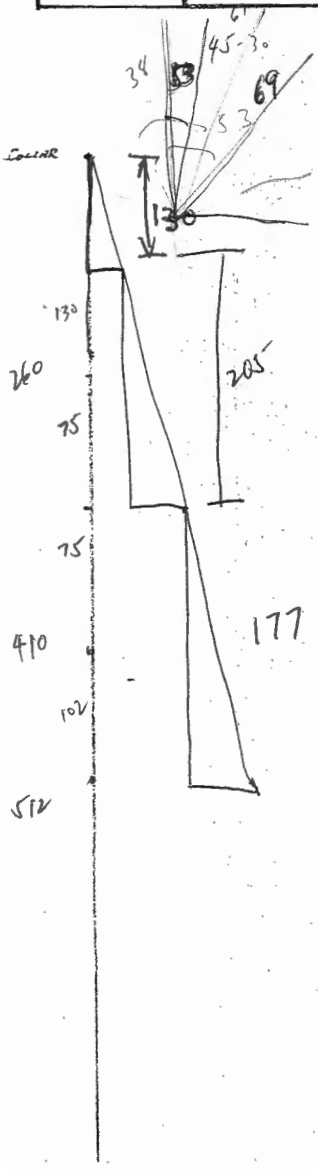
SHEET NO. _____ OF _____
 JOB NO. _____

Based on A-58 & 112

TABLE #1: CORRELATION OF FIELD DATA:

156.1 m = 512'

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.	ELEV.
0				-90	130' (39.6)	0	0	1	39.6 m	1255.7
260	87°-50'	45-30	45-30	87°-30'	205' (62.4)	0.0436	2.7	.99905	62.42	1193.3
410	85°	61°-30'	61-30	85°	177' (54)	0.0872	4.7	.99619	53.79	1139.5
			includes end ↗							
TOTAL VERT. DIST.										



SECTION SCALE :

PLAN SCALE :

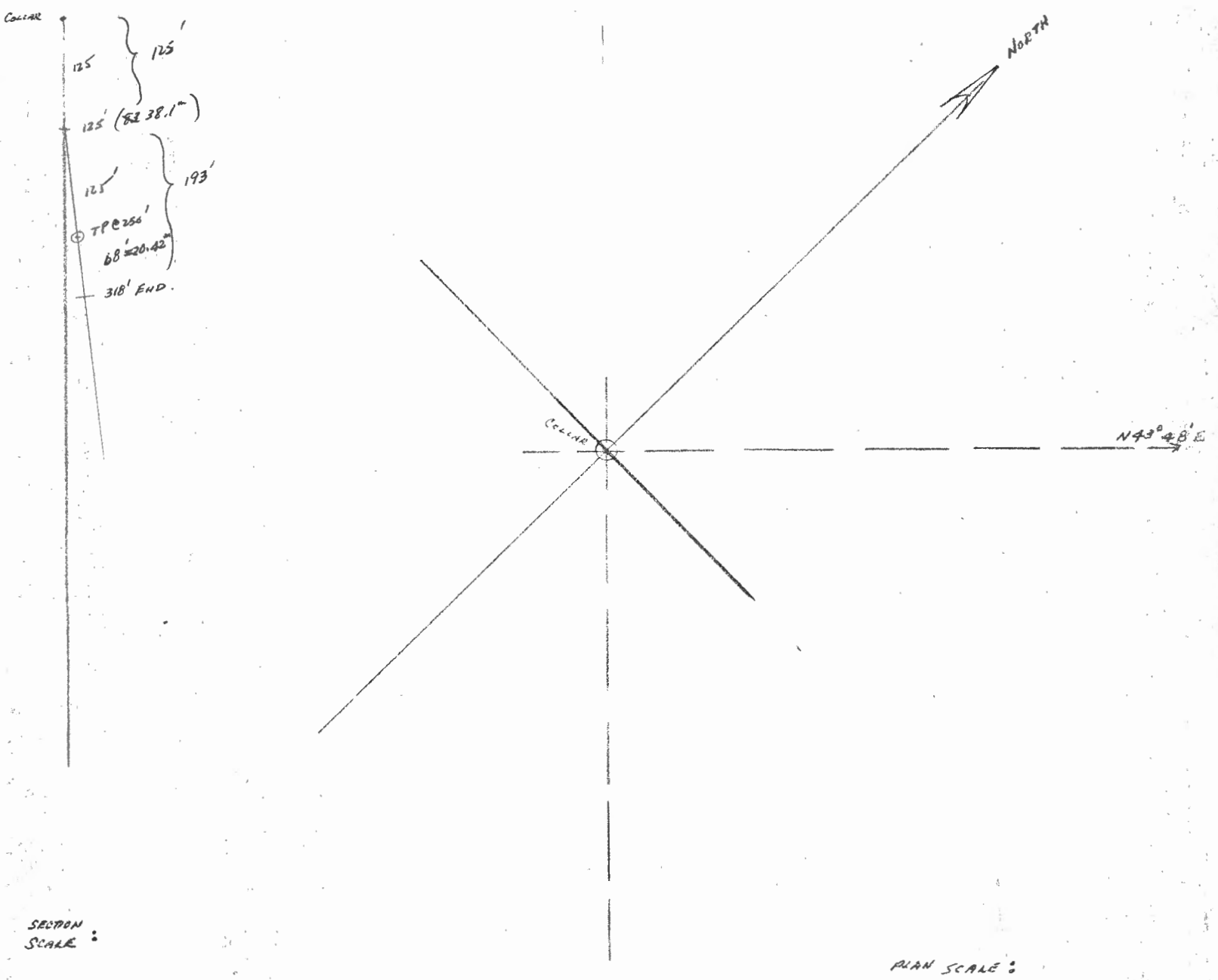
BY g/c DATE Nov/16 DIST. DIP & BEARING SHEET NO. _____ OF _____
 CRKD. BY _____ DATE _____ SURVEY - HOLE # A138 (318' = 96.9') JOB NO. _____

TABLE #1: CORRELATION OF FIELD DATA: USE A143 Survey Data

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP.	HORIZ. DIST.	SINE DIP.	VERT. DIST.	ELEV.
COLLAR					0					1311.97
125'			063°	-90° -89°	125 = 38.1'	0	0	1	125 = 38.1'	1273.81
250'			063°	-83°	193 = 58.83'	0.1219	23.53 = 7.17' 27.42 = 8.26'	.99255	191.56 = 58.39' 223.32 = 68.47'	1215.40
TOTAL VERT. DIST.										

318
250

68



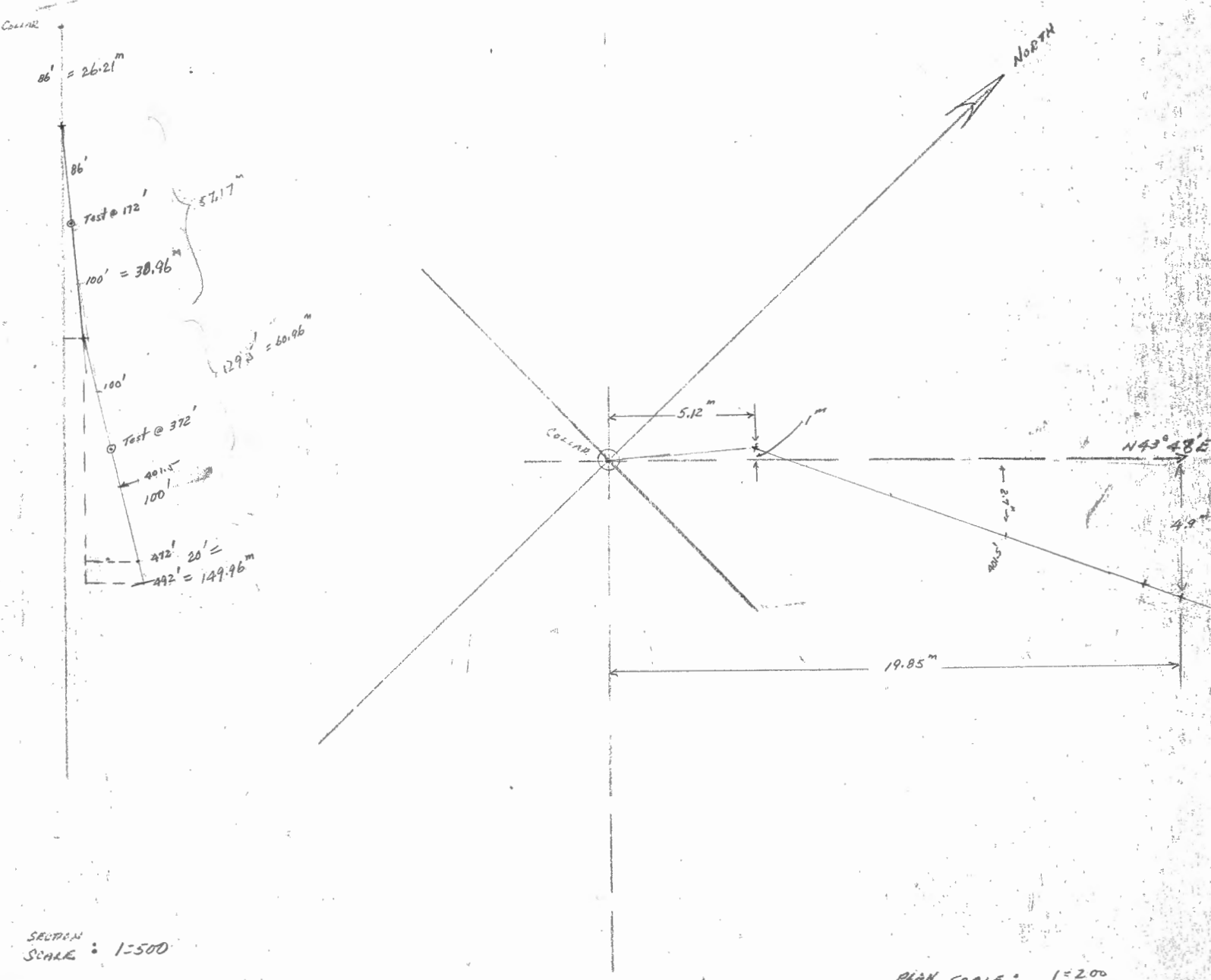
DIP & BEARING SURVEY - HOLE # A-139

SHEET NO. _____ OF _____
JOB NO. _____

TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.	ELEV.
					COLLAR				0	1302.87
					26.21				26.21	1276.66
172' = 52.43'	N 07° E	007	039°	-84.5°	57.17	.0958	5.48	.99540	56.91	1219.75
372' = 113.39'	N 32° E	032	064°	-76.5°	60.96	.2334	14.23	.97237	59.28	1160.47
					6.10	.2334	1.42	.97237	5.93	1154.54
TOTAL VERT. DIST.									148.33	

13.11



A.139

check 11/18/76

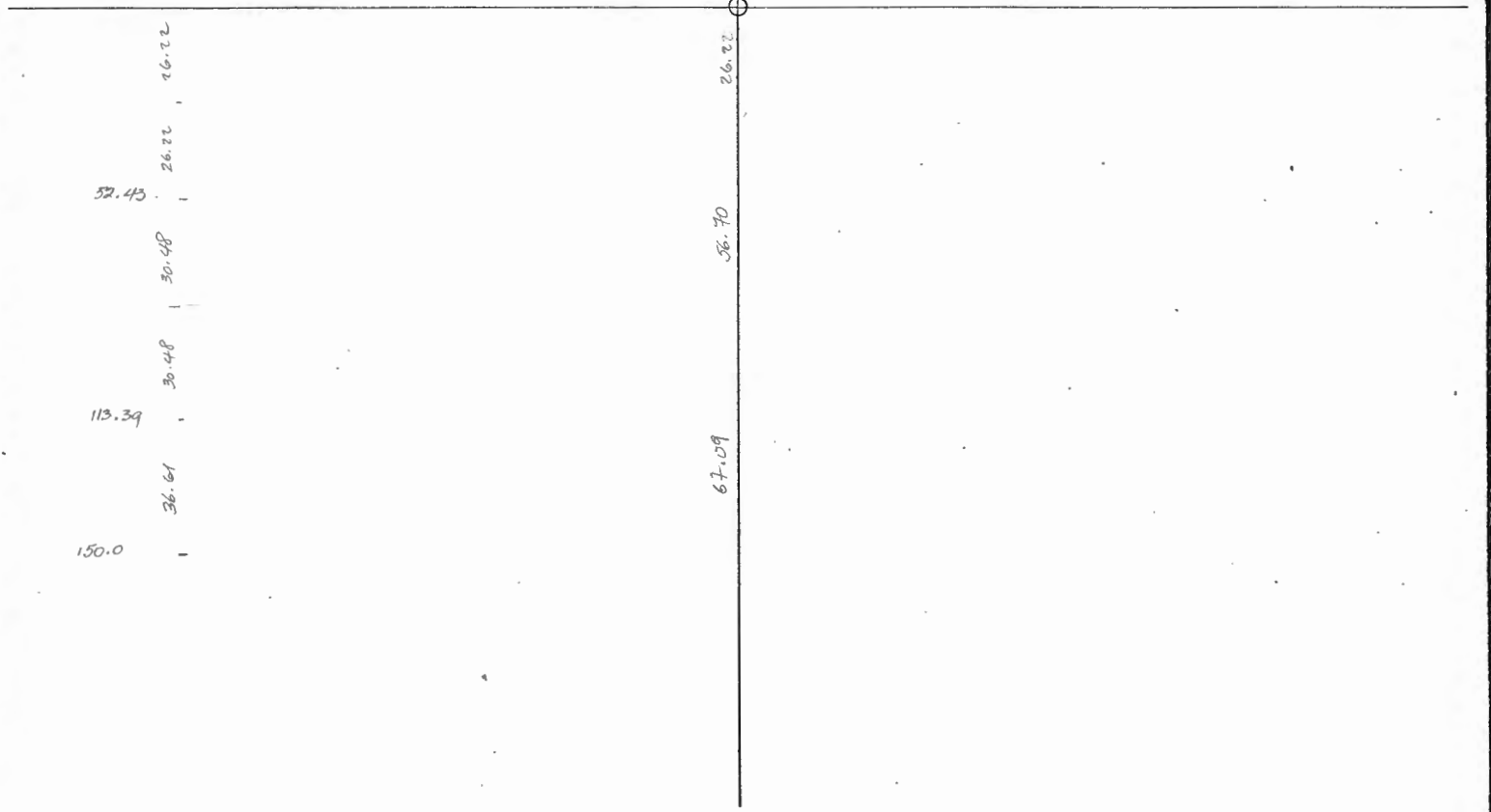
D.H. Deviation

Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
			26.22					26.22	1302.87	1276.65	26.22
52.43	84°30'	39°	56.70	.0958		5.73	.99590	56.44	1220.28	1154.88	82.92
113.39	76°30'	64°	67.09	.2334		15.66	.97237	65.23	1154.88	1154.88	150.00
											150.0 ✓

N

10,724.00
7,884.02
66W/8N



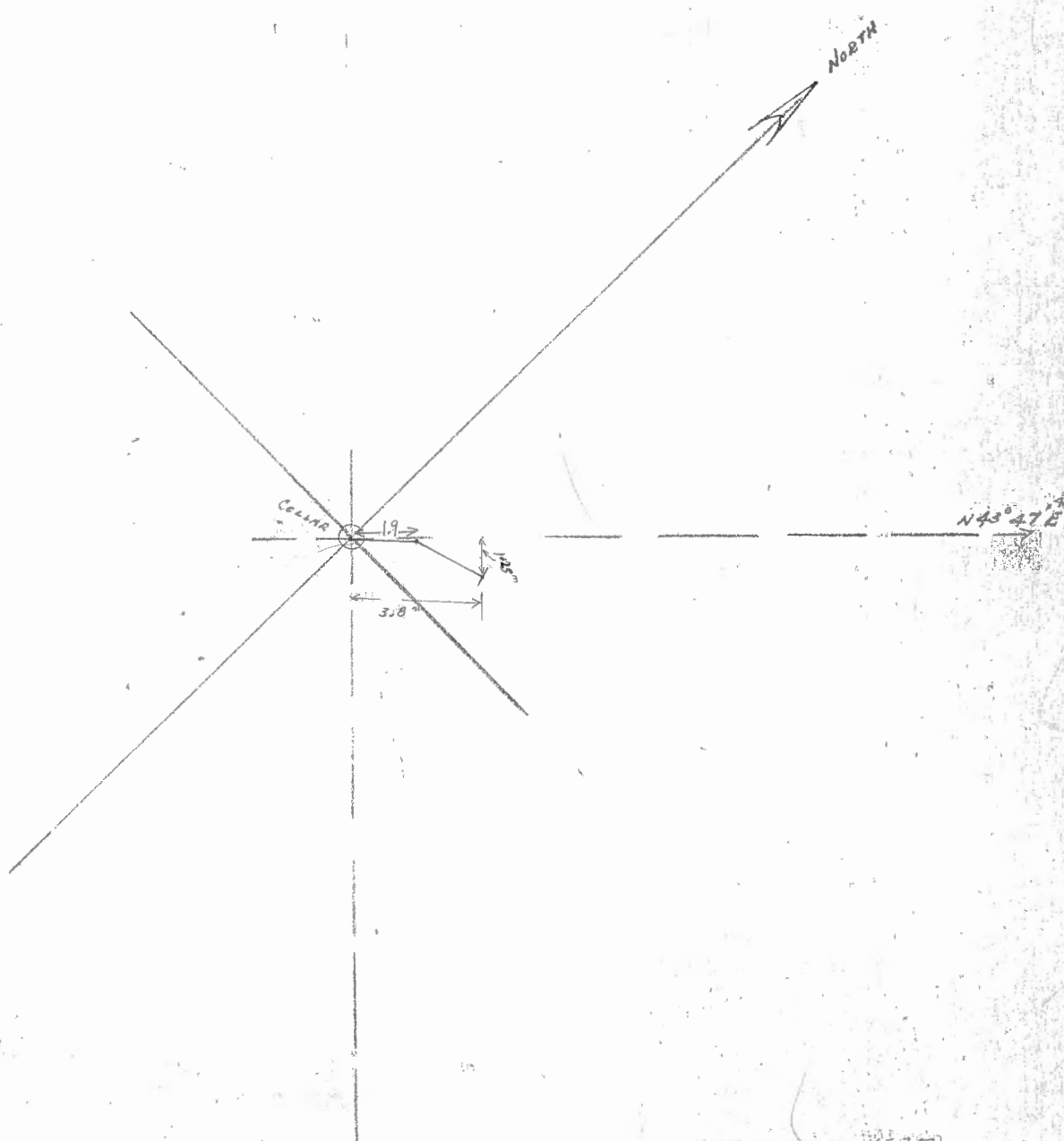
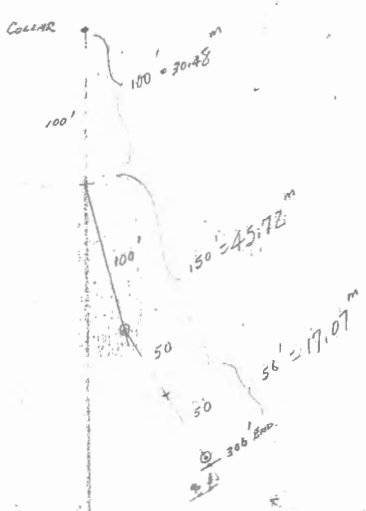
DIP & BEARING
SURVEY - HOLE # A-1A1

SHEET NO. _____ OF _____
JOB NO. _____

NOTE: No Survey Done. Dip & Brg used are averages from A90 & A92.

TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.	ELEV.
					COLLAR	/	/	/	/	1312.42
					30.48	/	/	1	30.48	1281.94
200' = 60.96			045°	-87.5°	45.72	.0436	1.99	.99905	45.68	1236.26
300' = 91.44 (306' END)			073°	-82.5°	17.07	.1305	2.23	.99144	16.92	1219.34
TOTAL VERT. DIST. 93.08										



SECTION SCALE: 1" = 500'

PLAN SCALE: 1/4" = 200'

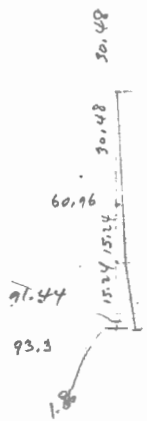
Scale: 1" = 20'

A. 141

ST. M	Dip	Bearing	INTERVAL	COS	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					←	M		←	1		
60.96	87° 30'	45°	30.48	.0230	1.99	← 1.73	.99905	48	1312.33	1281.85	30.48
91.44	82° 30'	73°	17.10	12.48	2.23	← 2.03	1.44105	45.67	1236.18	1236.18	76.20
				13.05			1.99219	16.95	16.97	1219.23	93.30
							.99144				
											93.3



10,894,053
7,712,499
74W/9N



30.48
45.72
17.10

J. PRESTON

DATE Aug 29/76

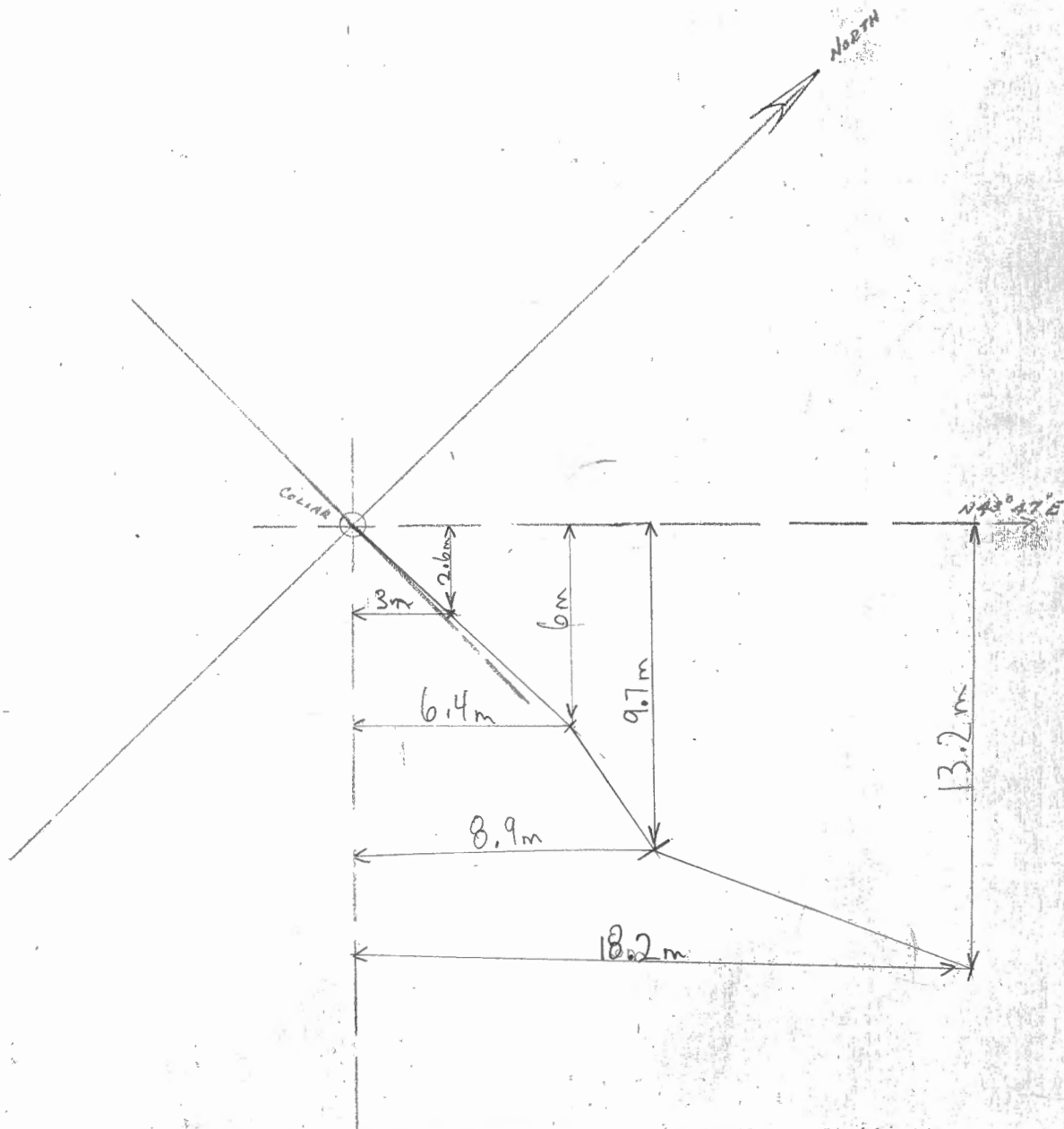
DIP & BEARING SURVEY - HOLE # 8-A-142 Section 68W-1N

SHEET NO. OF

JOB NO.

TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP.	HORIZ. DIST.	SINE DIP.	VERT. DIST.	REMARKS
collar	—	—	—	-90°	145'-44.2	0	0	1	44.2	-44.2
290'-88.4	N55°E	55	087	-87°	245'-74.7	.0523	3.91	.9986	74.6	-74.8
490'-149.4	N55°E	55	087	-84.4°	165'-50.3	.0976	4.909	.9952	50.1	-168.9
620'-189	N68°E	68	100	-83.8°	135'-41.1	.1080	4.44	.9942	40.86	-229.76
760'-231.6	N43°E	43	075	-80°	189'-57.6	.1736	10.0	.9848	56.7	-288.46
TOTAL VERT. DIST. 266.5										



SECTION SCALE

PLAN SCALE: 1:200

A. 142

checked ✓

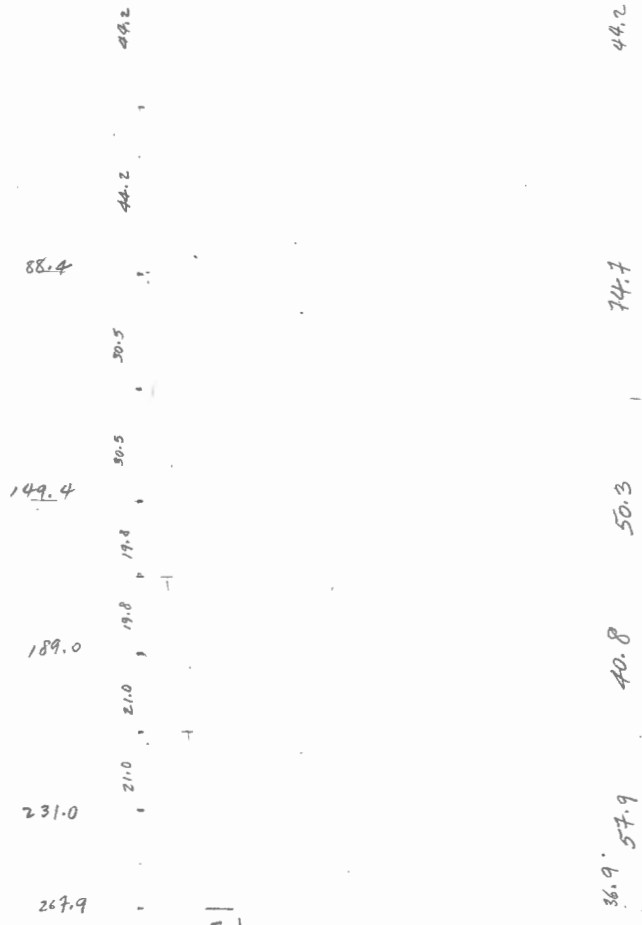
D. D. H. Deviation

Scale: 1" to 20'

Ft.	Dip	Bearing	INTERVAL	cos.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
88.4	87°	55°	44.2	.0523		3.91	.99863	44.2	1243.9	44.2	
149.4	84° 4'	55°	50.3	.0987 ✓		4.96	.99577	50.05	1169.3	118.9	
189	83° 8'	68°	40.8	.1074 ✓		4.38	.99421	40.56	1078.69	210.0	
231	80°	43°	57.9	.1436		10.05	.98481	57.02	1021.67	267.9	
											267.9 M.



10,593.888
7,676.713
68 W / IN



36.9
21.06

[Handwritten signature and scribbles]

END.

Checked, corrected & plotted on chart by *[Signature]*

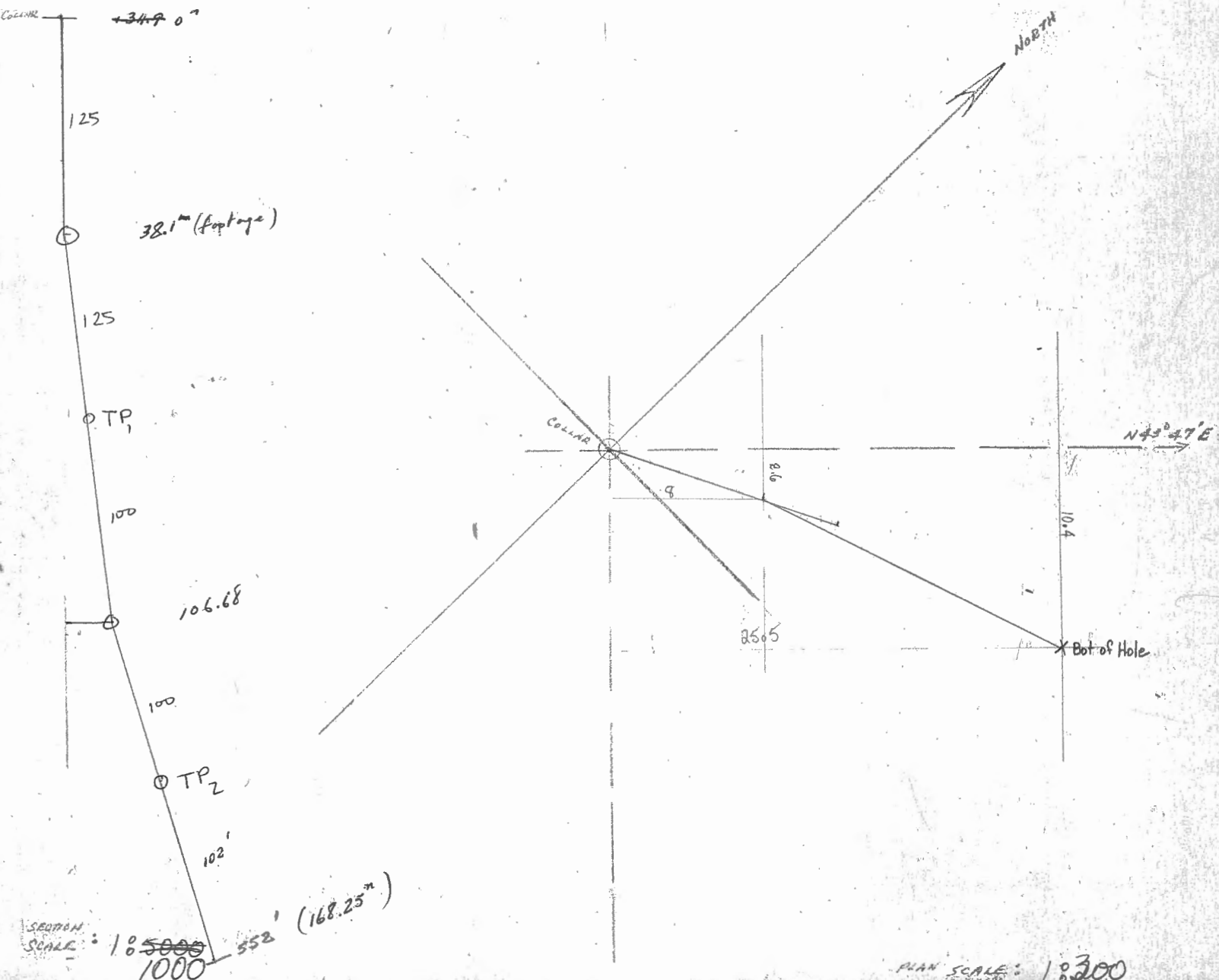
RG
 DATE: Aug 30/76

DIP & BEARING
 SURVEY - HOLE #
 A-143

SHEET NO. 1 OF 1
 JOB NO. *Field 6/6*

TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.	ELEV.
0	-	-	-	-90°	125	-	0	1	125'	13106.31
250'	N31°E	031	63°	-83°	225	0.1218	27.42	.99255	222.32	1208.07
450'	N40°E	040	72°	-73.5	200	0.2840	56.80	.95882	191.9	1144.11
552	bottom of hole									58.7
TOTAL VERT. DIST. 539.0									164.6	



A.143

checked ✓

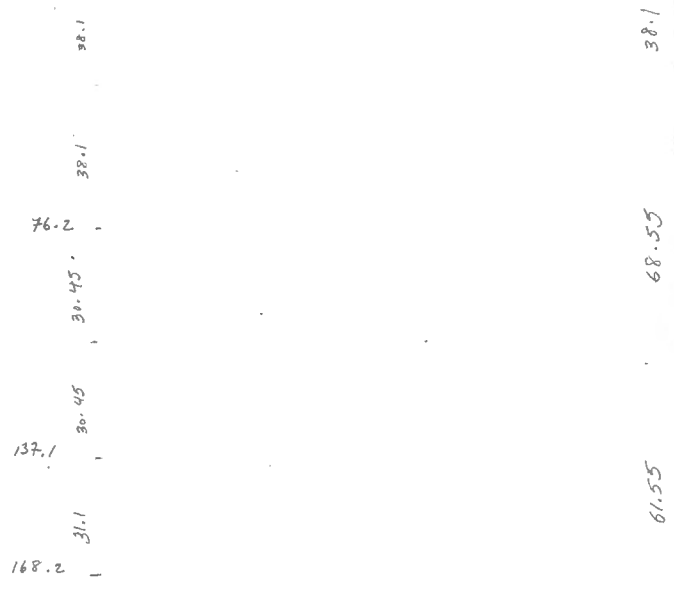
D. D. H. Deviation

Scale: 1" to 20'

Ft.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
			38.1							1306.31	
76.2	83° ✓	630 ✓	68.55	.1219 ✓		8.36	.99255	38.1	68.04	1268.21	38.1
137.1	73 1/2° ✓	420 ✓	61.55	.2924		18.00	.95630	38.86	58.86	1200.17	106.65
				.2840		17.48	.95882	59.01	59.01	1141.15	168.20
											168.2



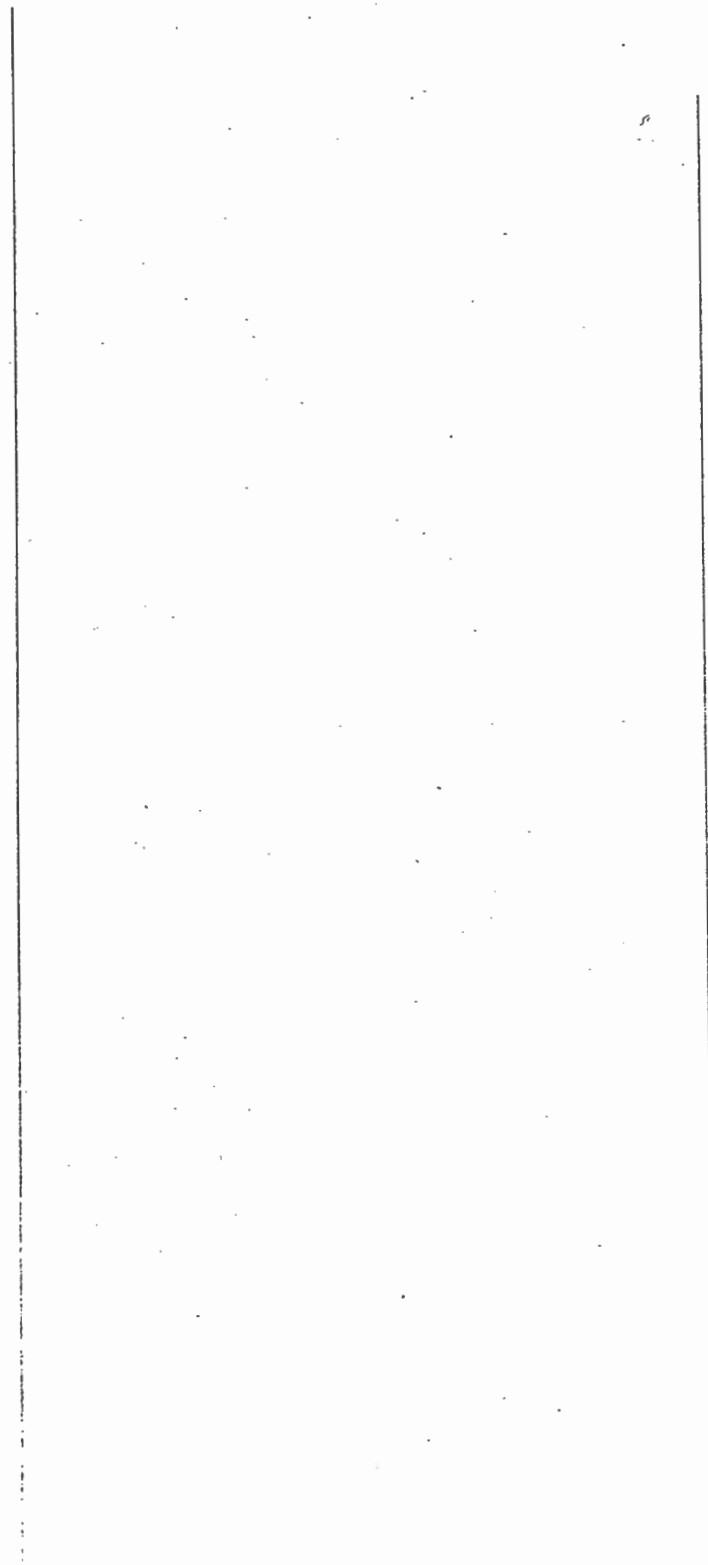
10,764.164
 7,840.884
 68°N/9N



A-145

LENGTH	DIP	BEARING	INTERVAL	HOR. DIST.		VERT. DIST.		ELEVATION	LENGTH
				S	METRES	SIN	1/2		
			33.52					1285.97	
67.05	86	75 34	52.57	.0698	3.67	.99756	52.44	1252.45	33.52
								1200.01	86.09

A-145 CALCULATED BY AVERAGE OF
A-13 & A-74.

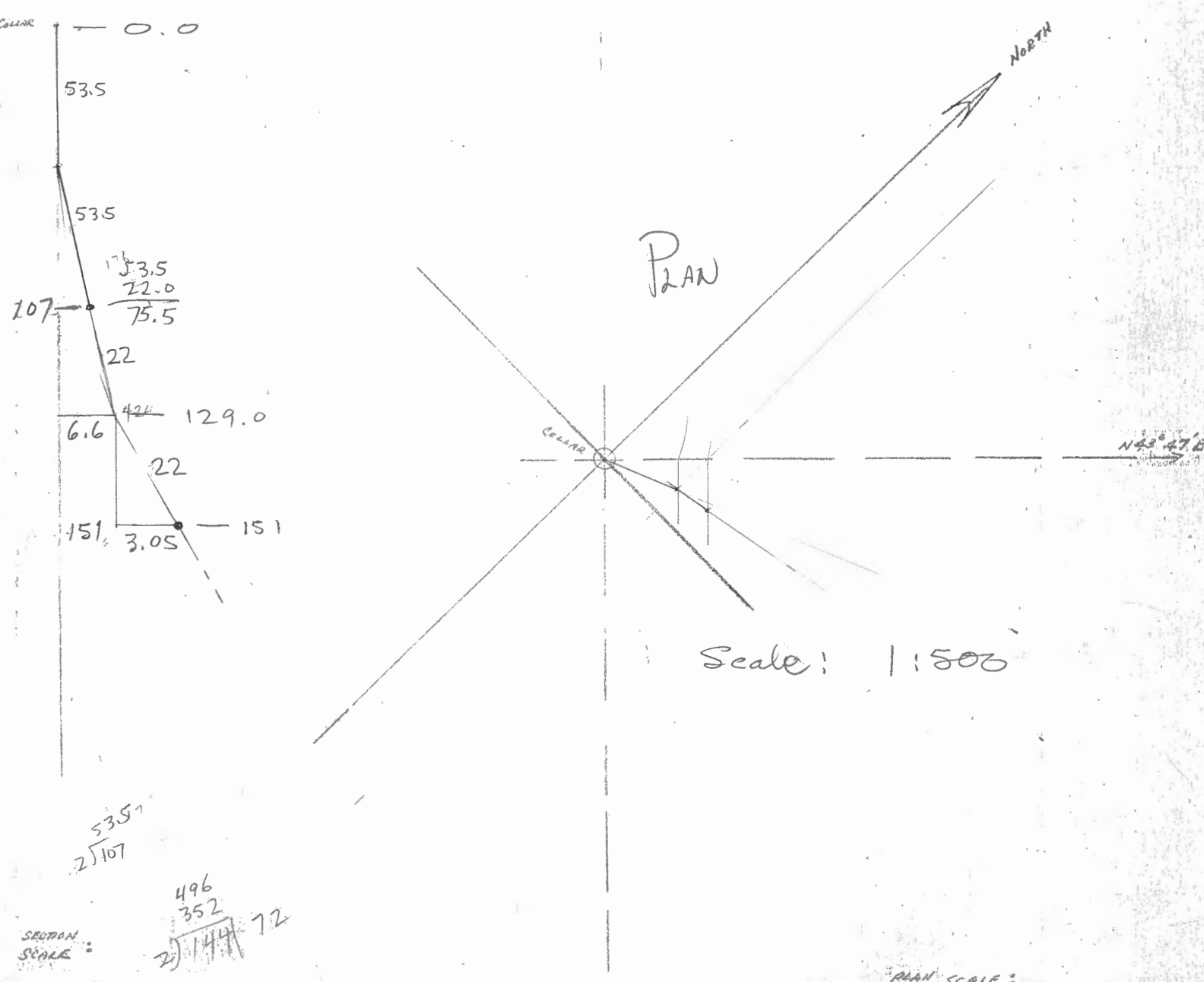


DIP & BEARING
SURVEY - HOLE # A-147
A-147

SHEET NO. ... OF ...
JOB NO. ...

TABLE #1: CORRELATION OF FIELD DATA:
Metric

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.	ELEV.
Collar	0	0	0	-90	53.5	0	0	1	53.6	
107	N 35 E	035	067	-85	75.5	.0872	6.59	.9962	75.3	
151	N 47 E	047	079	-82	22.9	.1392	3.05	.9903	21.7	
									150.5	
TOTAL VERT. DIST.										



A. 147

checked ✓

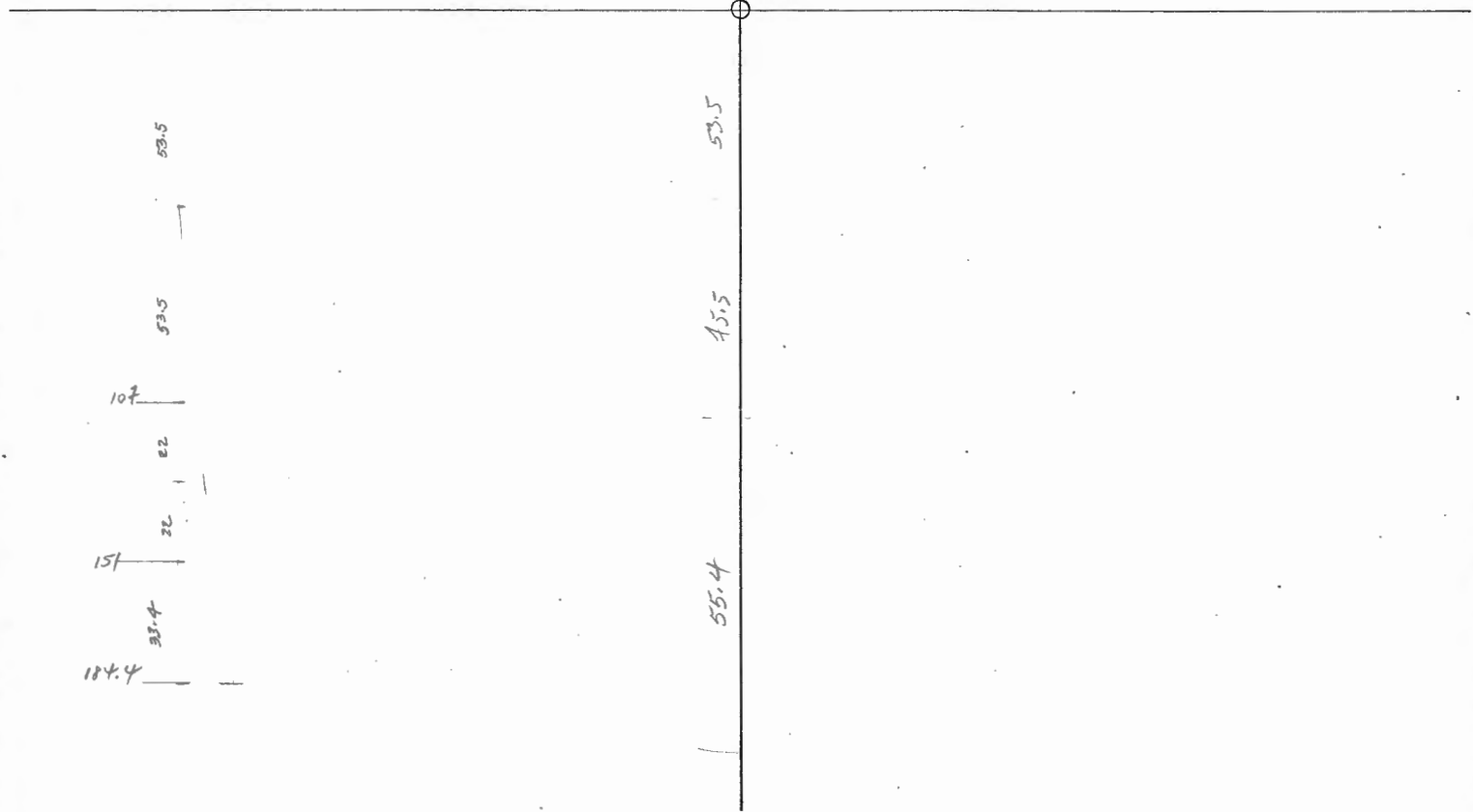
D. D. H. Deviation

Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VER. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
			53.5							1288.75	
107	85°	67°	45.5	.0872		6.58	.99619		75.21	1235.25	53.5
151	82°	79°	55.4	1908 .1392		10.57 7.71	.48163 .99027		54.58 54.86	1105.66 1105.18	184.4
											184.4



10,638.316
7,719.393
68W/3N



64W 8N

BY *LB*

DATE

DIP & BEARING

SHEET NO. OF

DATE

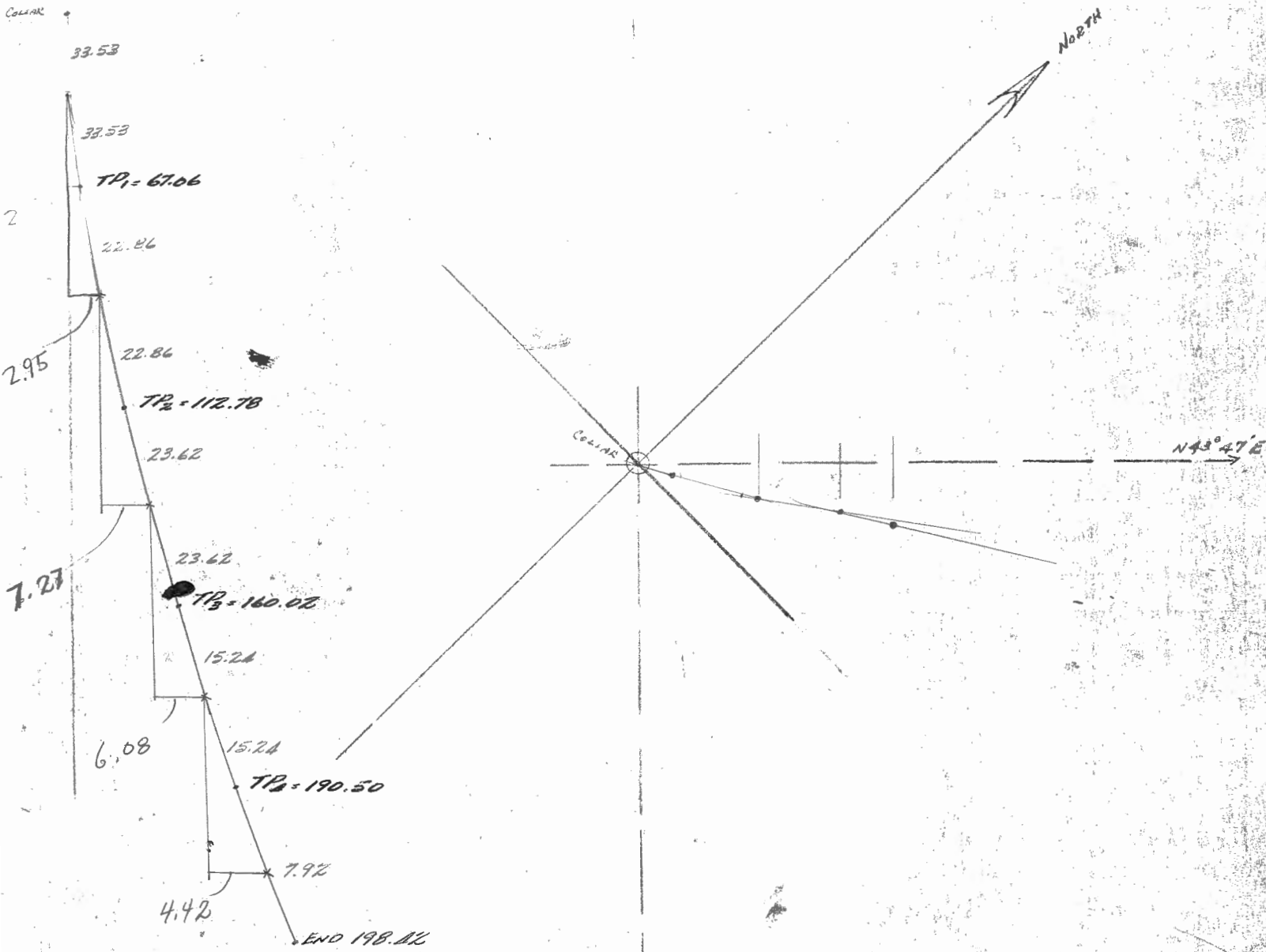
SURVEY - HOLE # A-149

JOB NO.

SEPT. 6, 1976

TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.	ELEV.
COLLAR	0	0	0	-90°	33.53	0	0	1.0	33.53	
220' = 67.06	N-30°-E	30°	62°	-87°	56.39	0.05230	2.95	0.99863	56.31	
370' = 112.78	N-28°-E	28°	60°	-81°	46.48	0.15644	7.27	0.98769	45.91	
525' = 160.02	N-22°-E	22°	54°	-81°	38.86	0.15644	6.08	0.98769	38.38	
625' = 190.50	N-15°-E	15°	57°	-79°	23.16	0.19081	4.42	0.98163	22.73	
END = 198.82	N-15°-E	15	57	-79						TOTAL VERT. DIST. 196.86



SECTION SCALE:

PLAN SCALE:

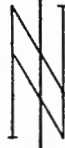
A-149

Check A 7 Nov 12

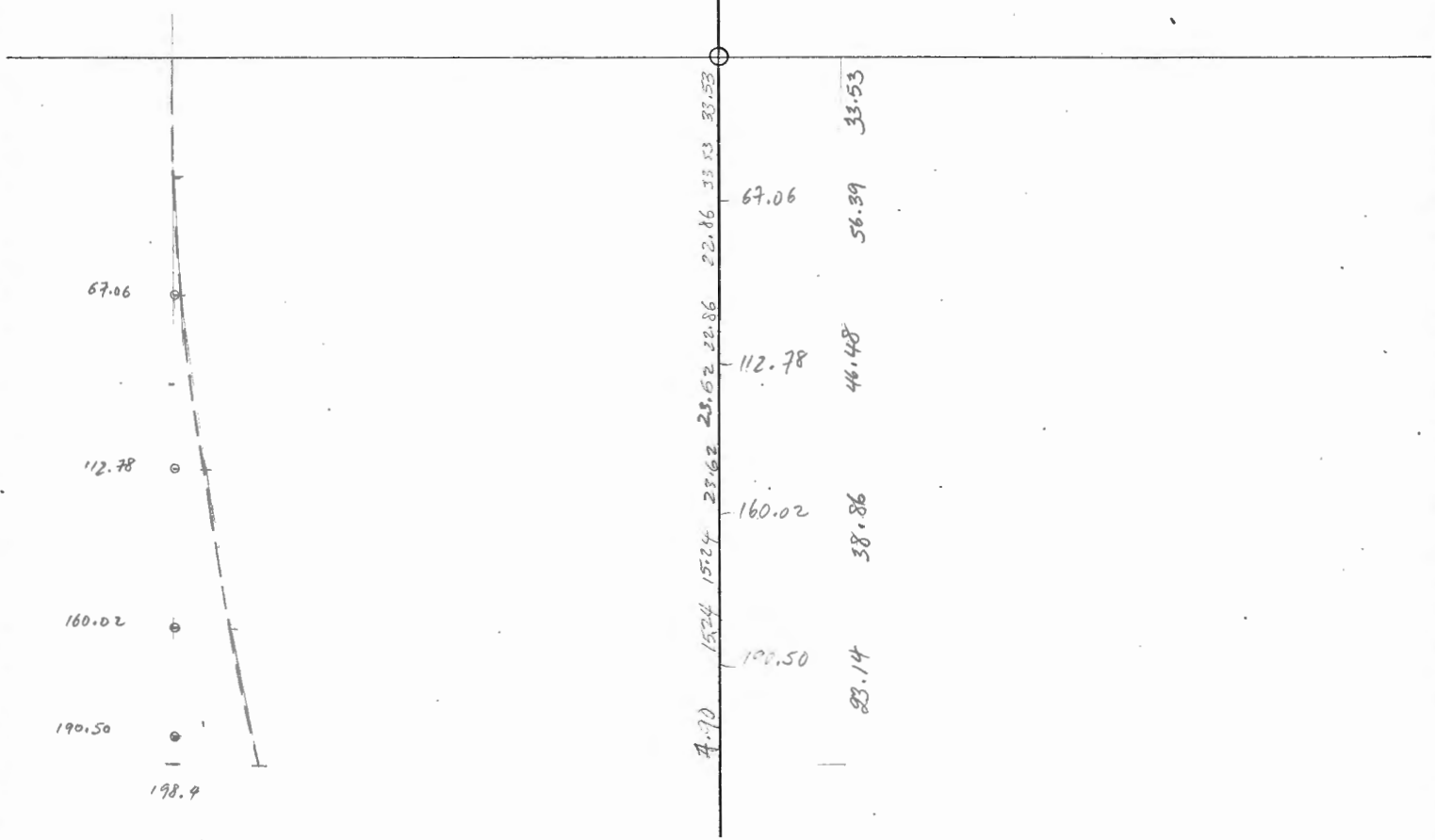
D. D. H. Deviation

Scale: 1" = 20'

Fl.	Dip	Bearing	COS		HOR. DIST.	SIN.	VERT. DIST		ELEV.	LENGTH OF DDH	
			INTERV.	COR.			FT	M		FT	M
				33.53			33.53	1295.18		33.53 ✓ 33.53	
67.06	87°	62°	.0523	56.39	2.95	.99863	36.31	1205.34		89.92 89.92	
112.78	81°	60°	.1564	46.48	7.27	.98769	45.91	1159.43		136.40 136.40	
160.02	81°	54°	.1564	38.86	6.08	.98769	38.38	1121.05		175.26 175.26	
190.50	79°	57°	.1908	23.14	4.42	.98163	22.71	1098.34		198.40 198.40	
											198.4 M.



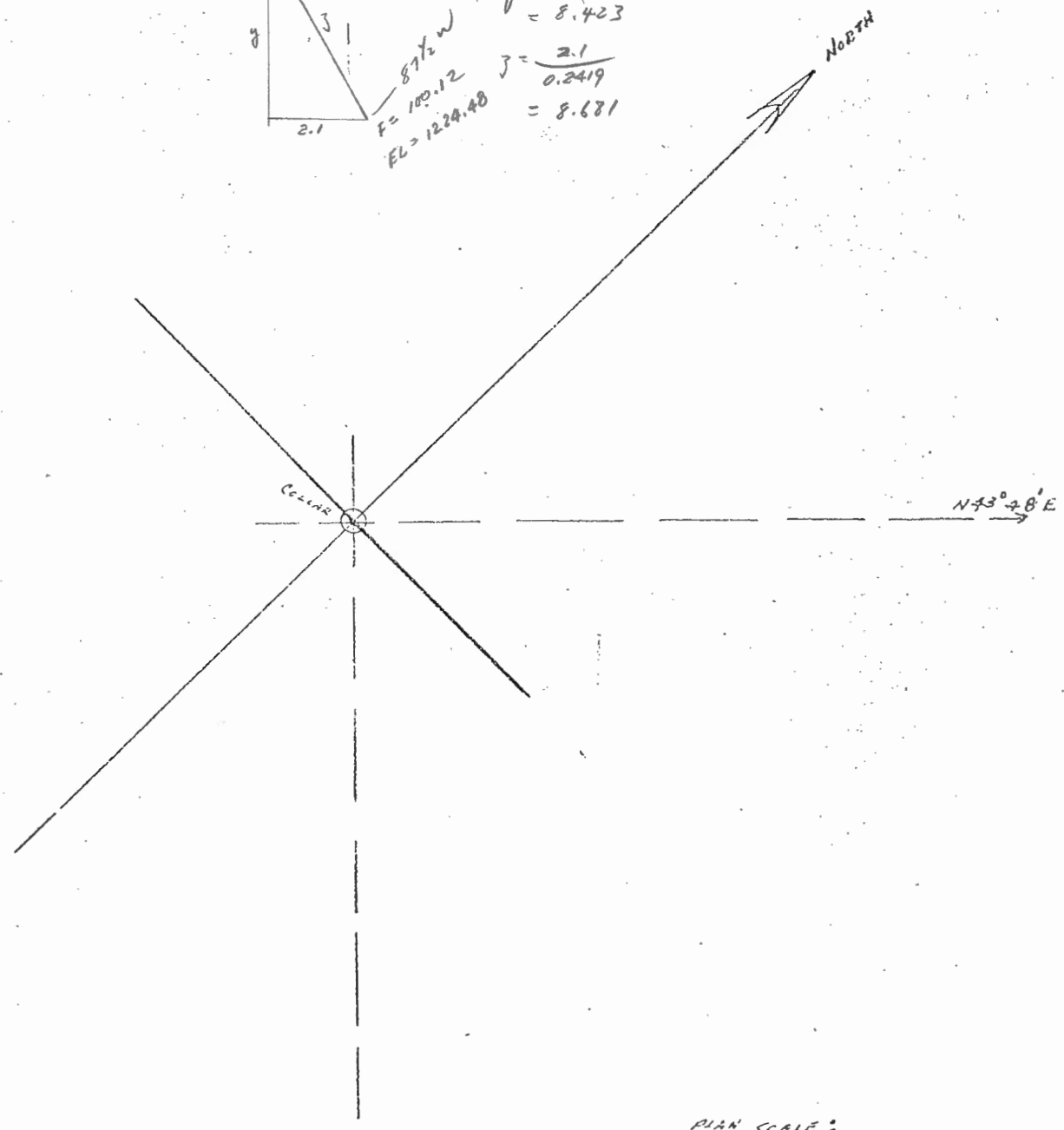
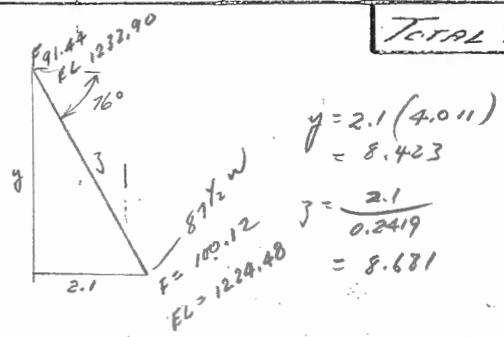
10,598.140
7,848.417
64 W/S N



o = Test point.

TABLE #1: CORRELATION OF FIELD DATA: use A-127 Survey

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP.	HORIZ. DIST.	SINE DIP.	VERT. DIST. COLLAR	ELEV. 1323.75	ELEV. FOOTING 0
					100' (30.48)				(-30.48)	1227.75	30.48
200' (60.96)			126°	-82°	200' (60.96)	0.1392	27.84 (8.49)	0.99027	190.05 (60.37)	1232.90	91.44
400' (121.92)	}		135°	-76°	177' (53.95)	0.2419	42.82 (13.05)	0.9703	-171.74 (52.35)	1180.55	145.4
477' (145.4)											
TOTAL VERT. DIST.											



SECTION SCALE:

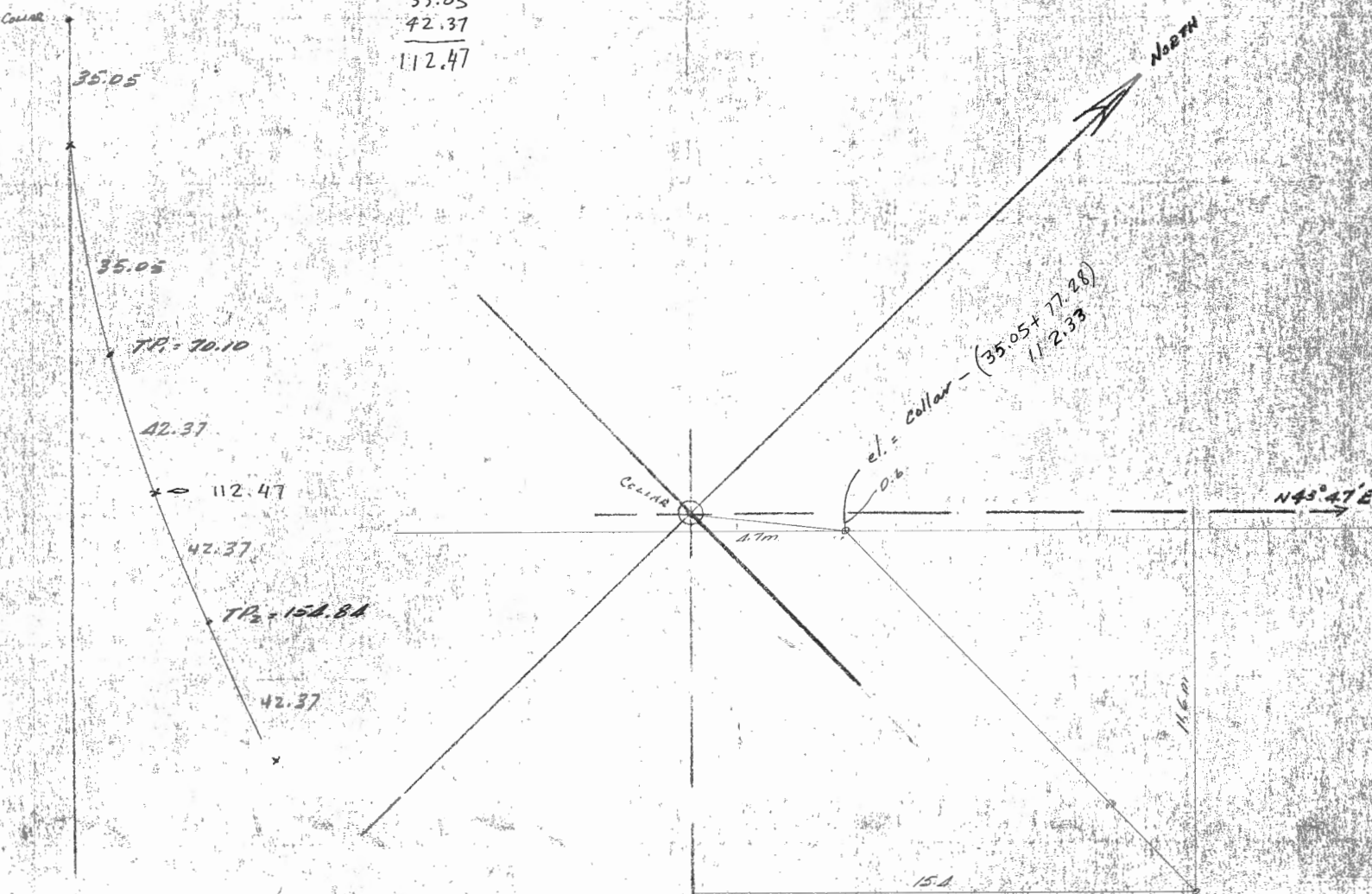
PLAN SCALE:

BY LB DATE _____ SUBJECT DIP & BEARING SHEET NO. _____ OF _____
 CHKD. BY _____ DATE _____ Sept 13, '76 SURVEY - HOLE # A-150 JOB NO. _____

TABLE #1: CORRELATION OF FIELD DATA: COLLAR ELEV = 1287.92A

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP.	HORIZ. DIST.	SINE DIP.	VERT. DIST.	ELEV.
Collar	0	0	0	-90°	35.05	0			35.05	1252.87
730' = 70.10	N-18°E	18°	50°	-86 1/2°	77.82	0.061089	4.73	0.995135	77.28	1175.59
508' = 154.84	N-38°E	58°	90°	-79 1/2°	84.74	0.182236	15.44	0.983255	83.36	1092.51
TOTAL VERT. DIST.										

35.05
 35.05
 42.37
 112.47



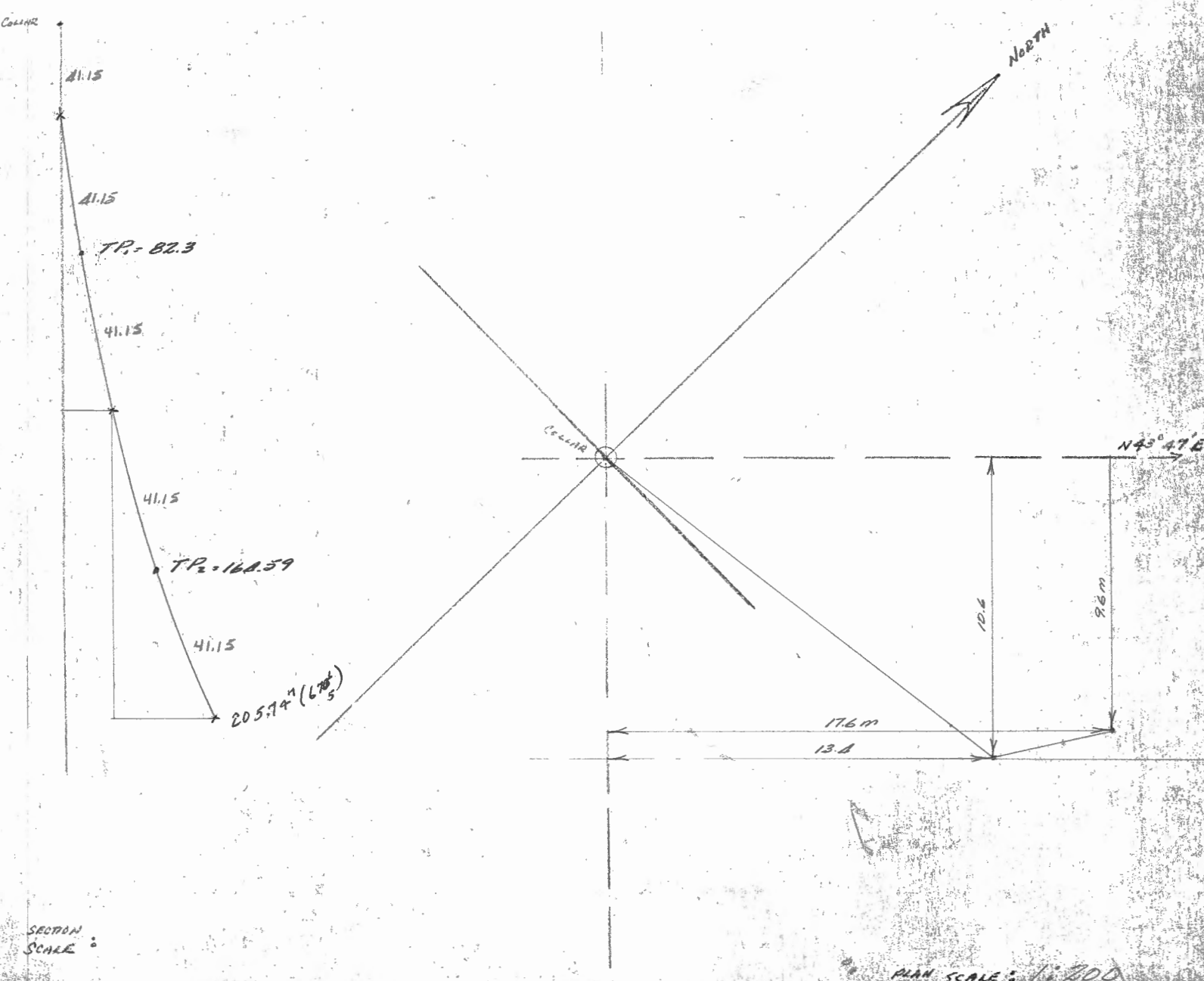
SECTION SCALE

PLAN SCALE: 1:200

BY LB DATE _____ SUBJECT DIP & BEARING SHEET NO. _____ OF _____
 CHKD BY _____ DATE _____ SURVEY - HOLE # U-A-153 JOB NO. _____
Sept. 13, 76

TABLE #1: CORRELATION OF FIELD DATA: COLLAR ELEV. = ? 1297.22

TEST POINT	OBS. BEARING	OBS. AZIMUTH	COER AZIMUTH	DIP	DIST.	COSINE DIP	HORIZ. DIST.	SINE DIP	VERT. DIST.	ELEV.
Collar	0	0	0	-90°	11.15	0	0	1.00	11.15	1256.1
270' = 82.30	N-50°-E	50°	82°	-78°	82.30	0.207912	17.41	0.978148	80.50	1175.6
540' = 160.59	N-00°-E	0°	32°	-87°	82.30	0.052336	4.31	0.99863	82.19	1093.4
717' =										
TOTAL VERT. DIST.										



SECTION SCALE :

PLAN SCALE: 1/1000

A-153

checked

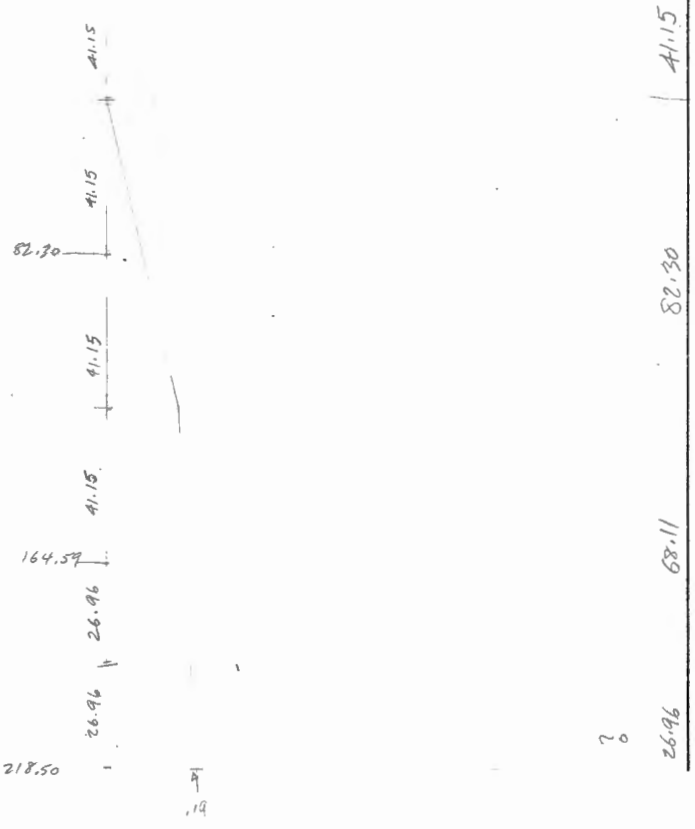
D. D. H. Deviation

Scale: 1" to 20'

Ft.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
			41.15 ✓							1297.22	
82.30	48° ✓	82° ✓	82.30 ✓	.2079 ✓		14.11 ✓	.97815 ✓		41.15 ✓	1256.07	41.15
164.59	87° ✓	32° ✓	68.11 ✓	.0523 ✓		3.54 ✓	.99863 ✓		68.02 ✓	1175.57	123.45
										1109.35	191.56
			95.07	.0523		4.97	.99863		94.94	1080.63	
											218.50 M



10,680.107
7,758.805
68W/5N



53.71

None of field

BY *A. Hood* DATE *NOV 26*
CHKD. BY _____ DAY _____

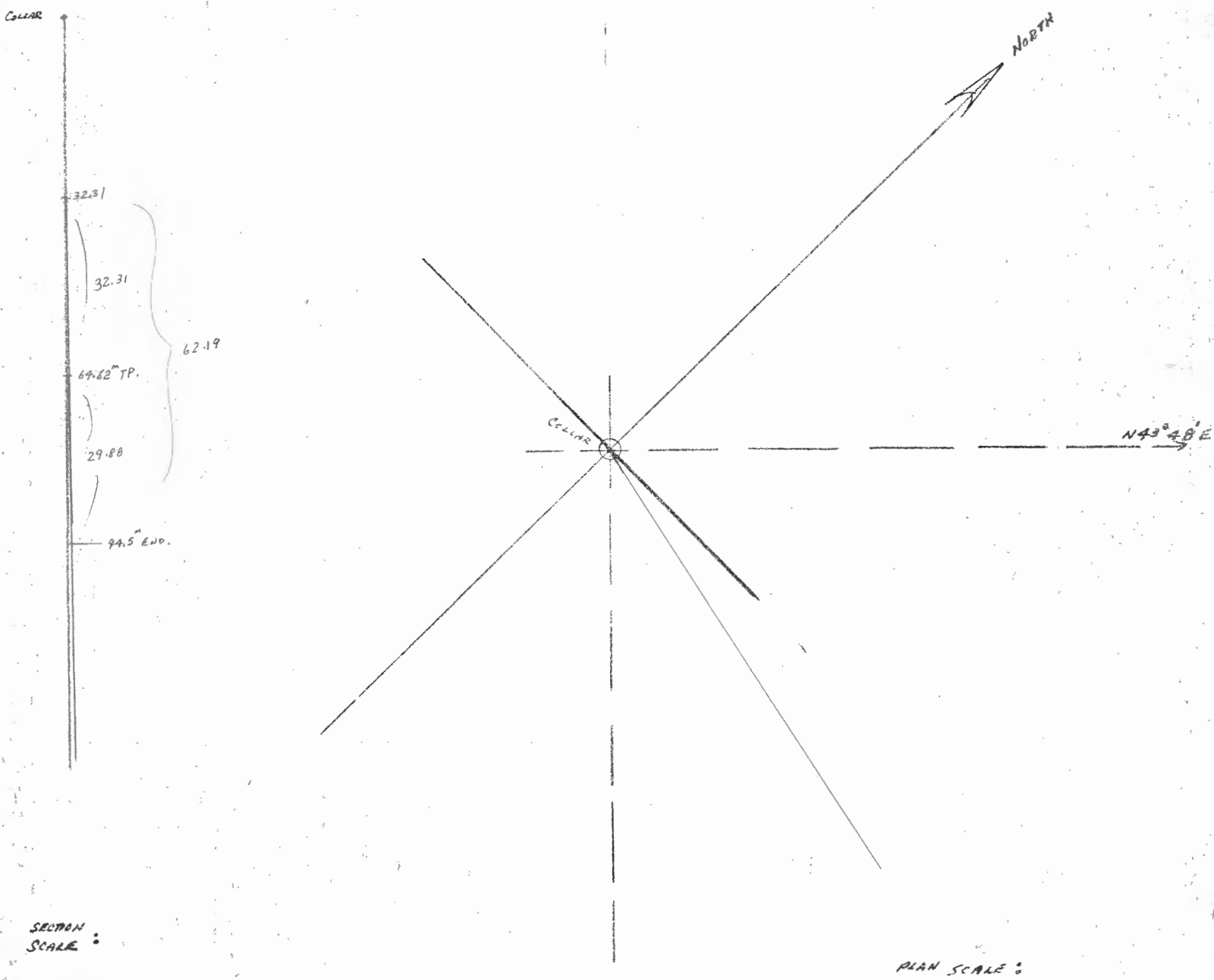
SUBJECT *DIP & BEARING SURVEY - HOLE # 4*

SHEET NO. _____ OF _____
JOB NO. _____

A155 (94.5" depth)

TABLE #1: CORRELATION OF FIELD DATA: USE A13 data.

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP.	HORIZ. DIST.	SINE DIP.	VERT. DIST.	ELEV.
COLLAR 106' = 32.31										1311.05 1278.74
212' = 64.62			101° 21'	-89°	62.19	0.0175	1.09	0.99985	62.18	1216.56
94.5" END										
TOTAL VERT. DIST.										



SECTION SCALE :

PLAN SCALE :

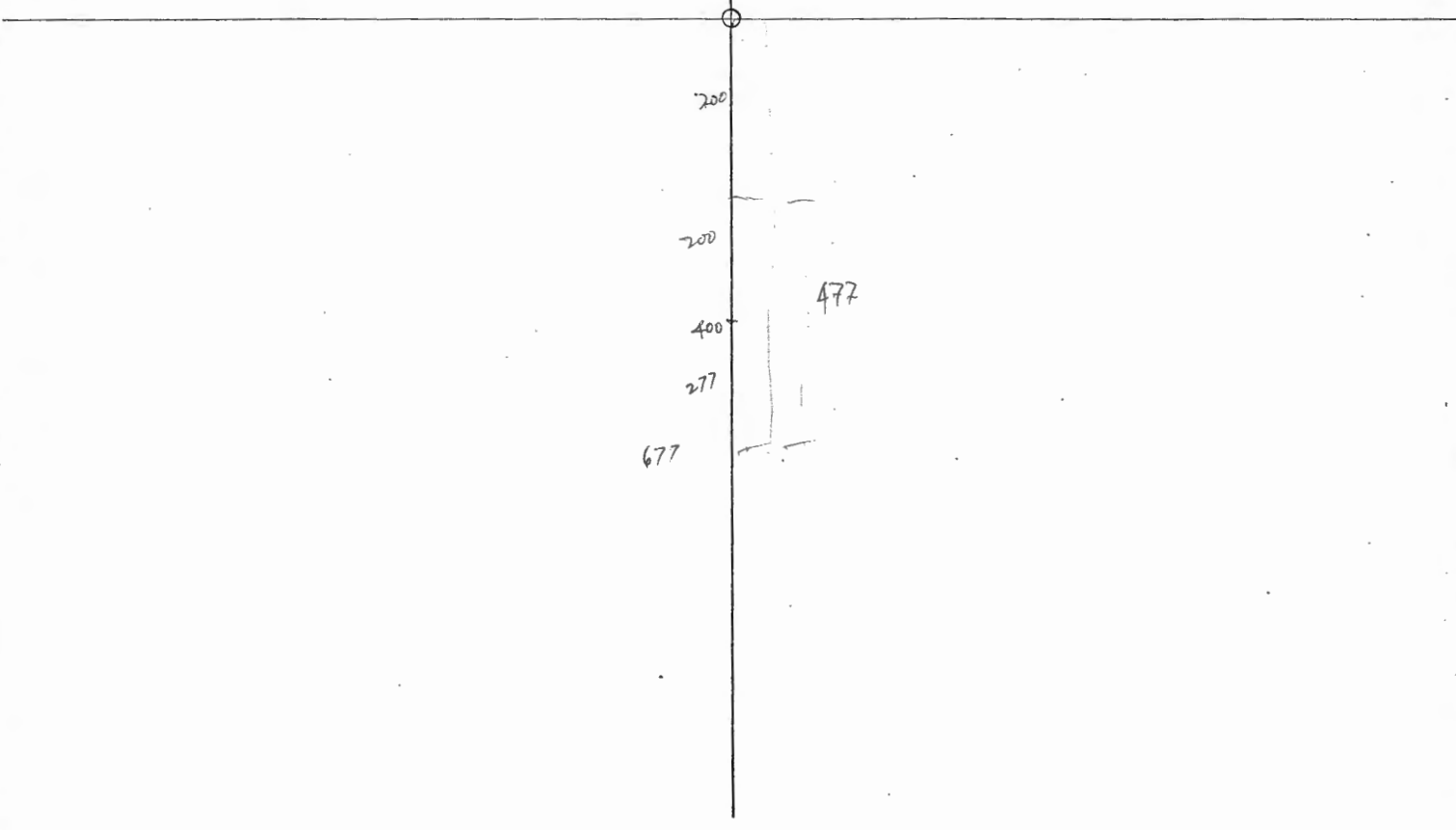
A-156

D. D. H. Deviation

Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
	-90		200					200	61	1258.4	61
677	-86	120	477	0.0698	33.29	10.14	0.99756	475.8	145.03	1113.37	206.3 BOTTOM

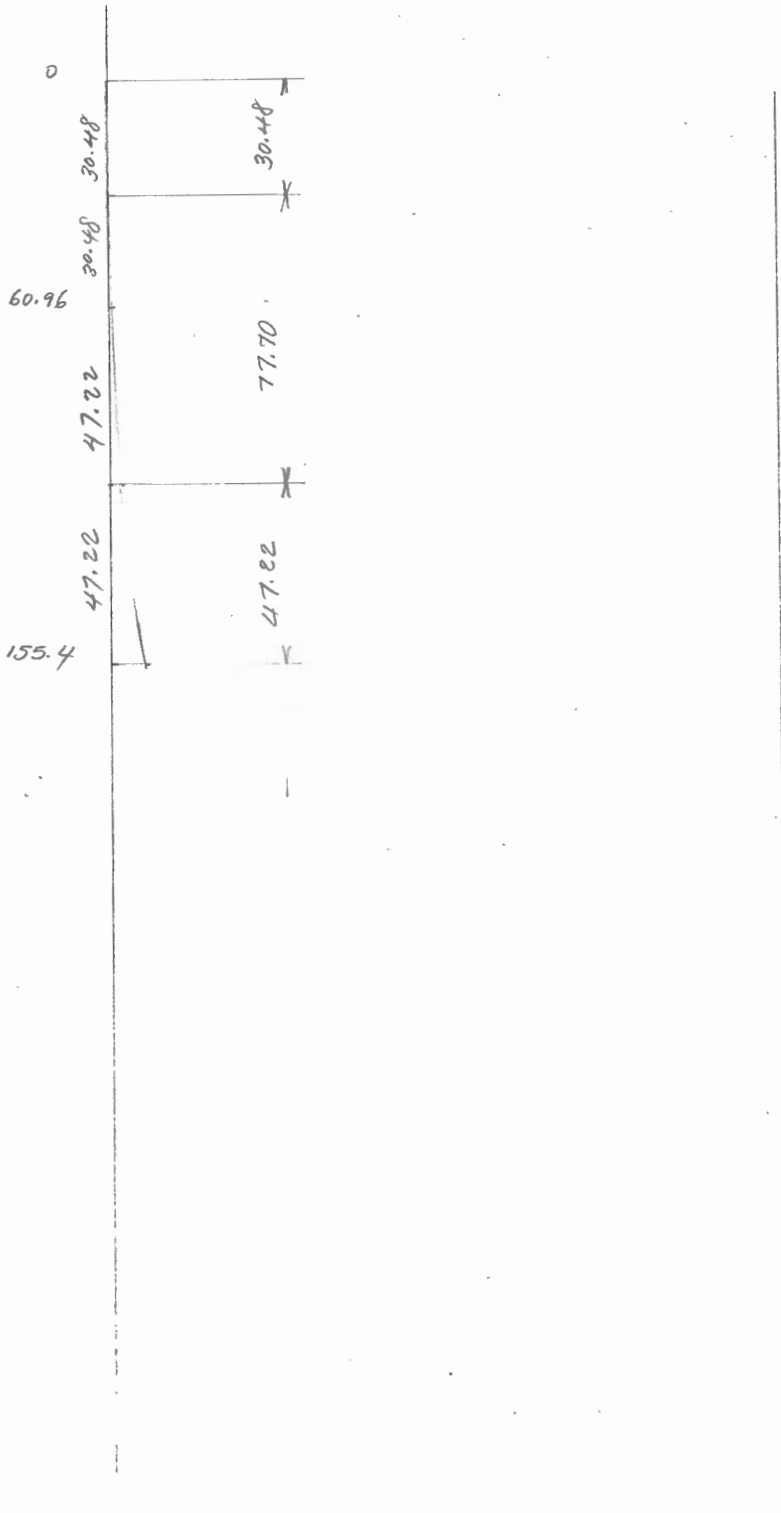
NOTE: ONLY ONE TEST TAKEN.
RAN OUT OF DEV. FLUID.



A-157

LENGTH	DIP	BEARING	HOR. DIST.		VERT. D.		ELEVATION	LENGTH
			INTERVAL	COS	METRES	SIN		
			30.48				1284.61	
60.96	87.5°	122°	77.7	.0436 ✓	3.39	.99905 ✓	1254.03	30.48
155.4	86°	82°	47.22	.0698 ✓	3.30	.99756 ✓	1176.40	108.18
							1129.30	155.40

X - SECT : 66W.

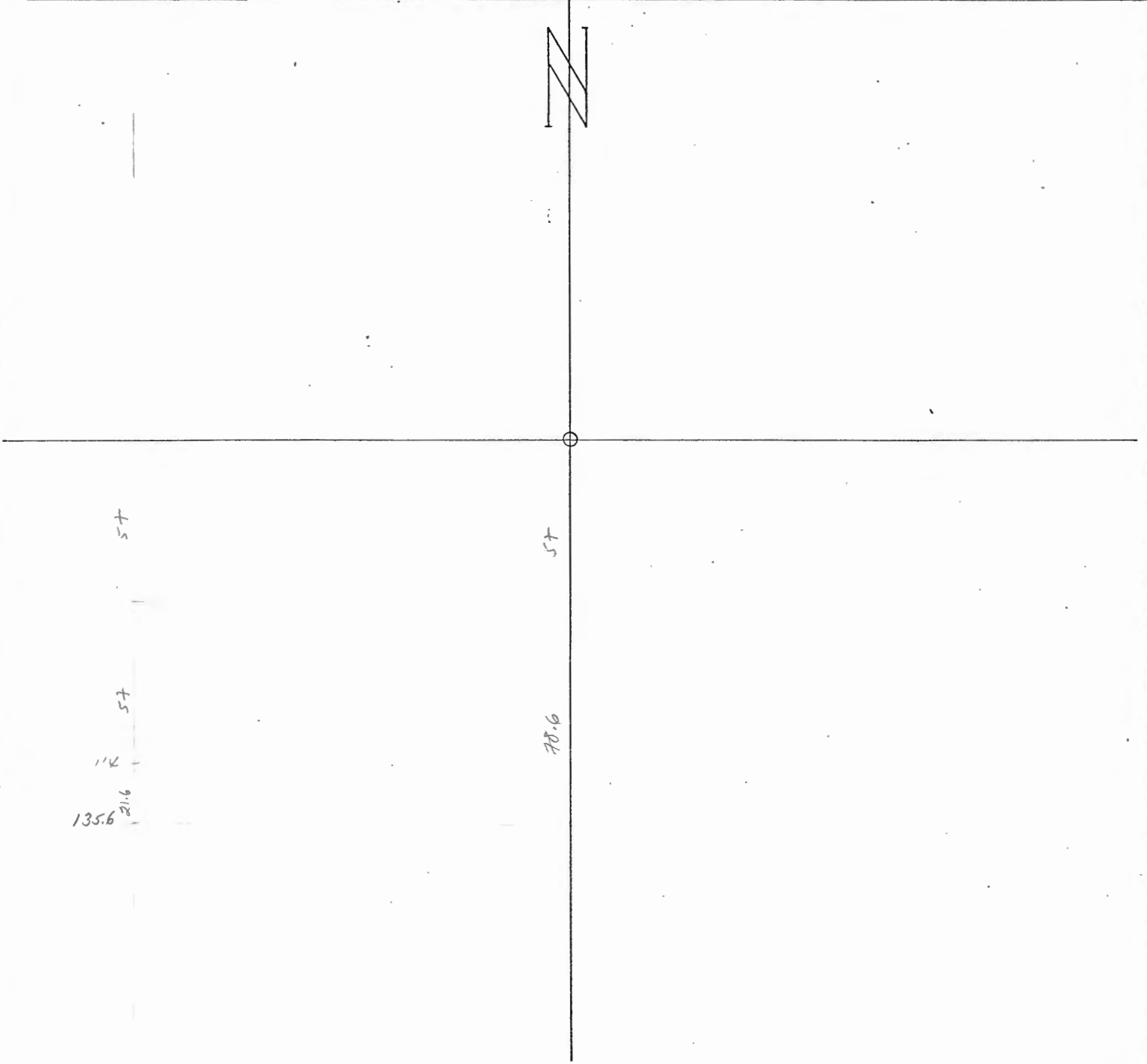


A. 128

D. D. H. Deviation

Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
74										1312.58	
collar	-89°		57	10175		1.99	.99985	56.99	1255.59		57.0
114	-84°30'	90°	78.6	.0958		7.53	.99540	78.24	1177.35		135.6



Trace Plotted on Master X-5 26

BY 26 Calc'd
 DATE Nov. 4/76
 CRKD BY _____ DATE _____

JECT DIP & BEARING
SURVEY - HOLE # 26

SHEET NO. Corrected
 JGB NO. _____
Dec. 14/76

76-A159 (148.4" depth)
USE 74-A62 survey data.

TABLE #1: CORRELATION OF FIELD DATA:

TEST POINT	OBS. BEARING	OBS. AZIMUTH	CORR. AZIMUTH	DIP	DIST.	COSINE DIP.	HORIZ. DIST.	SINE DIP.	VERT. DIST.	ELEV.
Collar	/			-86°30'	0					1287.454
30.48"	/			"	30.48"	0	0	1.0	-30.48	1256.97
60.96	(121°20')		()	-86°30'	60.96	0.0610	3.7"	.9981	-60.25	1196.22
121.92			105°20'	-80°00'	56.96	.1736	7.88 10.6	.9848	-56.09 -60.24	1140.13 1126.18

TOTAL VERT. DIST.

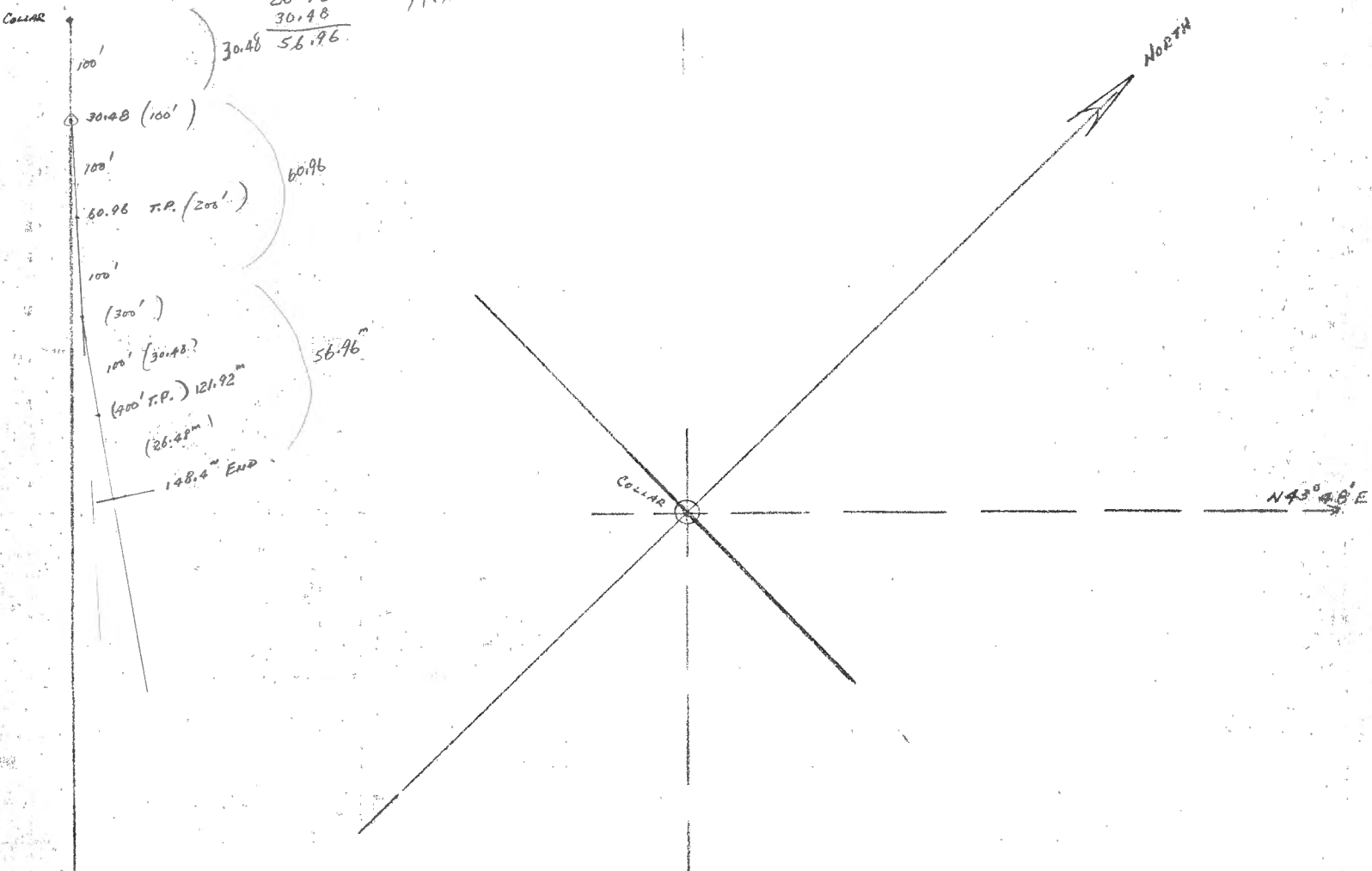
148.4
 121.92

 26.48
 30.48

 56.96

60.96
 30.48

 91.44



Scale = 1=20 meters

SECTION SCALE :

PLAN SCALE :

A. 159

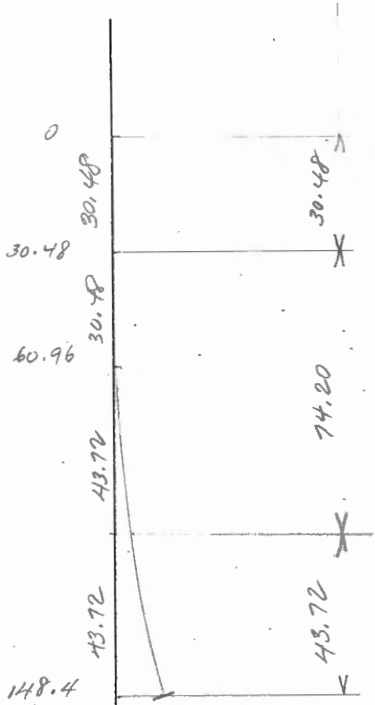
HOR. DIST.

VERT. DIST

ELEVATION

LENGTH

LENGTH	DIP	BEARING	INTERVAL	S	METRES	SIN	I	REF	ELEVATION	LENGTH
30.48	/		30.48	/					1256.97	30.48
60.96	86° 30	121.20	74.20	.0610	4.53	.99813	74.06		1182.91	104.68
148.40	80° 00	105.20	43.72	.1736	7.59	.98481	43.06		1139.85	148.40



A. 161

D. D. H. Deviation

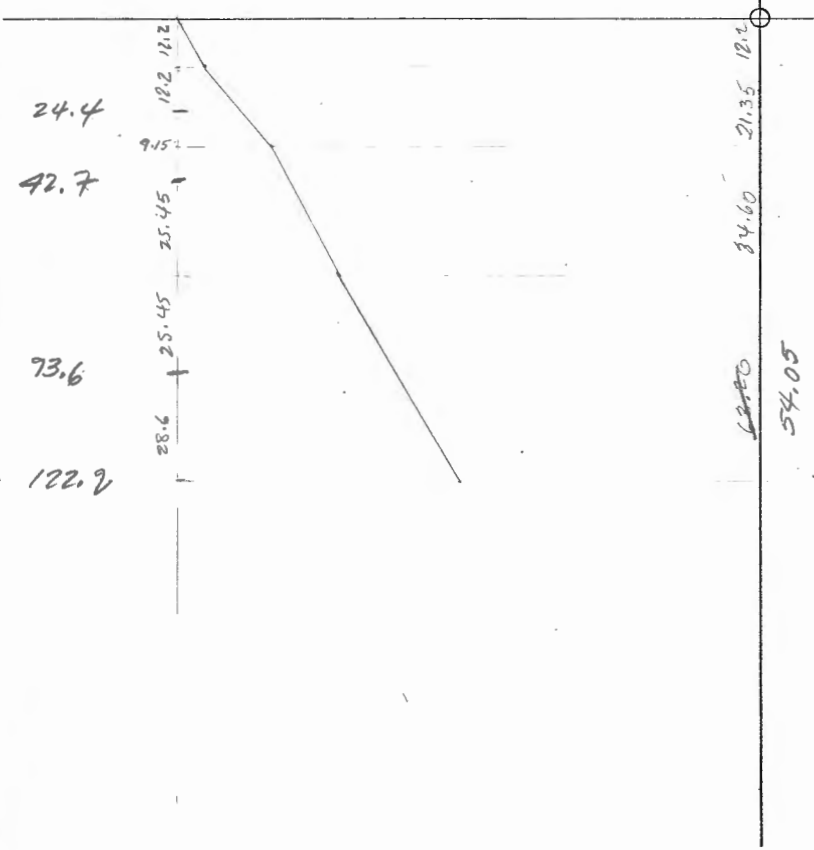
Scale: 1" to 20'

Fl.	Dip	Bearing	INTERVAL	COS.	HOR. DIST.		SIN.	VERT. DIST.		ELEV.	LENGTH OF DDH
					FT	M		FT	M		
24.4	-51°	N44E	12.2	.6293	✓	7.68	.77815			1312.49	12.2
42.7	-53°	44	21.35	.6018		12.84	.79864			1300.79	33.55
73.6	-51°	44	34.60	.6293		21.77	.77715			1283.24	68.15
	-53°	54	54.05	.6018		32.53	.79864			1256.35	122.20
			54.05							1213.19	
											122.2



78W. 91

- 1303.01
- 1285.96
- 1259.07
- 1215.99



A-162

LENGTH	DIP	BEARING	INTERVAL	HOR. DIST.		VERT. D		ELEVATION	LENGTH
				COS	METRES	SIN	METRES		
0	-	-	47.55				47.55	1274.31	47.55
95.1	89	37°	65.05	.0175	1.14	.99985	65.04	1226.76	112.60
130.1	83	"	17.5	.1219	2.13	.99255	17.37	1161.72	130.10
								1144.35	

Hole on X-SECT. 62W
SHEET S-E
38.

