

017764

DY AND

VANGORDA

BOOK 2

D.D.H.

Chief Surveyor: John Kuhne

Radmen: Stan Buziak, Bill Dohy

Contents

Page

Page

1	DDH-V-119-R	24	DDH-128
2	DDH-V-113-R	25	DDH-85
3	DDH-V-133-R	26	DDH-121
4	DDH-V300	27	DDH-39
5	DDH-V306	28	DDH-106
6	DDH-V308	29	DDH-92
7	DDH-V304	30	DDH-88
8	DDH-V-33-R	31	DDH-152
9	DDH-V305	32	DDH-147
10	DDH-V307	33	
11	DDH-V310	34	DDH-154
12	DDH-31	35	DDH-81
13	DDH-32	36	DDH-91
14	DDH-V136	37	DDH-V58
15	DDH-138	38	DDH-V8
16	DDH-36	39	DDH-V100
17	DDH-V-95-R	40	DDH-V90
18	DDH-302	41	DDH-V9
19	DDH-V303	42	DDH-V51
20	DDH-V-63-R	43	DDH-54
21	DDH-V309	44	DDH-93
22	DDH-V38	45	DDH-102
23	DDH-V311	46	DDH-104

Page

47	DDH-V37
48	DDH-39
49	sisimic line
50	sisimic line
51	..
52	sisimic line
53	sisimic line
54	
55	DDH-V-20-R
56	DDH-V-29-R
57	DDH-V312
58	DDH-V-46-R
59	DDH-79-X-12
60	DDH-79-X-11
61	DDH-V-30-R
62	DDH-V313.
63	DDH-V314.
64	DDH-V-26-R
65	DDH-V315
66	DDH-V-1-R
67	DDH-V-117-R
68	DDH-V-50-R
69	DDH-V-60-R

Note: equipment will DISSEMI

May 4th, 1944.
 T&N - John K.
 Rod - Stan B.

weather cloudy & sunny
 Temp 12°C
 Press 882 mmb

T@INA

Hor. Cir. Rd.

Site	JK3	0° 00' 00"	
"	V-119-R	169° 17' 54"	(1st)
"	JK3	169° 17' 54"	
"	V-119-R	338° 35' 54"	
	Plus	0° 00' 00"	
		338° 35' 54"	(Double)
Mean (w)	HCRZ	169° 17' 57"	

Site	JK3	90° 00' 00"	
"	V-119-R	259° 18' 00"	(1st)
"	JK3	259° 18' 00"	
"	V-119-R	68° 36' 00"	
	Plus	270° 00' 00"	
		338° 36' 00"	(Double)

Mean (w) HCRZ 169° 18' 00"
 Total Mean HCRZ 169° 17' 58"

T@INA

Vert. Cir Rd

		FL	FR
Site	V-119-R	98° 56' 03"	261° 04' 09"
"	V-119-R	98° 56' 00"	261° 04' 09"
Mean VCRZ		98° 55' 56"	

Slope Distance IN4 → V-119-A

SD

135.632

135.632

135.633

135.631

135.631

135.631

135.631

135.630 $\bar{x} = 135.631$ $s = \pm 0.001$ m.

Corrected SD = 135.636 m.

HI @ IN4 — 1.42 m.

HI @ V-119-A — 1.72 m.

Aug 4, 1971
 T&N - John K
 Rod - Stan E

Weather: cloudy & sunny
 Temp 12°C
 Press. 882 mmb

π@INA

		Hbr. Cir. Rd.	
Site	JK3	0° 00' 00"	
"	V-115-R	200° 18' 57"	(1st)
"	JK3	200° 18' 57"	
"	V-115-R	40° 37' 51"	
	Plus	360° 00' 00"	
		400° 37' 51"	(Dble)

Mean (a) HCR 200° 18' 55"

site	JK3	90° 00' 00"	
"	V-115-R	290° 19' 00"	(1st)
"	JK3	290° 19' 00"	
"	V-113-R	130° 37' 54"	
	Plus	270° 00' 00"	
		400° 37' 54"	(Dble)

Mean (a) HCR 200° 18' 57"

Total Mean HCR 200° 18' 56"

π@INA

		Vert. Civ. Rd	
		FL	FR
Site	V-113-R	94° 23' 36"	265° 37' 09"
"	V-113-R	94° 23' 42"	265° 37' 09"
Mean	KRA	94° 23' 15"	

Slope Distance INA → V-113-R

SD

134.103

134.097

134.098

134.095

134.100

134.101

134.097

134.097

$\bar{x} = 134.099\text{m}$ $S = \pm 0.003\text{m}$

Corrected SD = 134.104m

HI @ V-115-R — 1.67

Aug 4th, 1974.
 X & N - John K
 Rod - Stan B.

Weather - cloudy & sunny
 Temp 13°C
 Press. 882 mmHg

TC@INA

Hor. Cir. Rd

site	JK3	0° 00' 00"	
"	V-133-R	221° 46' 09"	(1 st)
"	WK3	221° 46' 09"	
"	V-133-R	83° 32' 18"	
	Plus	360° 00' 00"	
		443° 32' 18"	(Dble)

Mean (1) HCR Δ 221° 46' 09"

site	JK3	90° 00' 00"	
"	V-133-R	331° 46' 18"	(1 st)
"	JK3	331° 46' 18"	
"	V-133-R	173° 32' 12"	
	Plus	270° 00' 00"	
		443° 32' 12"	(Dble)

Mean (2) HCR Δ 221° 46' 06"

Total Mean HCR Δ 221° 46' 07"

TC@INA

Vest Cir Rd

		FL	FR
site	V-133-R	90° 00' 27"	270° 00' 15"
site	V-133-R	90° 00' 27"	270° 00' 18"
Mean HCR Δ		90° 00' 05"	

Slope Distance IN4 → V-133-R

SD

- 156.080
- 156.084
- 156.082
- 156.082
- 156.082
- 156.082
- 156.082
- 156.083

$\bar{x} = 156.083 \text{ m}$ $s = \pm 0.001 \text{ m}$
Corrected SD = 156.089 m

HT @ V-133-R — 1.68 m

Hug 4th, 1979.
 T & N - John K
 Rod - Stan B

Weather - cloudy & sunny
 Temp. 16°C
 Press. 881 mmb

π@ IN4

		Hor. Cir. Rd.	
Site	JK3	0° 00' 00"	
"	V-300	152° 31' 28"	(1 st)
"	JK3	152° 31' 28"	
"	V-300	305° 02' 57"	
	Plus	0° 00' 00"	
		305° 02' 57"	(DUE)
Mean(α)	HCRΔ	152° 31' 28"	
Site	JK3	90° 00' 00"	
"	V-300	242° 31' 24"	(1 st)
"	JK3	242° 31' 24"	
"	V-300	35° 02' 48"	
	Plus	270° 00' 00"	
		305° 02' 48"	(DUE)
Mean(α)	HCRΔ	152° 31' 24"	
Total Mean	HCRΔ	152° 31' 26"	

π@ IN4

		Vert. Cir. Rd.	
		FL.	FR.
Site	V-300	98° 44' 57"	261° 15' 48"
"	V-300	98° 44' 57"	261° 15' 51"
Mean	HCRΔ	98° 44' 34"	

Slope Distance IN4 \rightarrow V300

SD

155.429

155.428

155.430

155.429

155.429

155.430

155.429

155.429

$$\bar{x} = 155.429 \text{ m} \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 155.435 \text{ m}$$

HT @ V-300 \rightarrow 1.70 m

Aug 4th 1979.
 XEN - John K.
 Rod - Stan E.

Weather cloudy sunny
 Temp 16°C
 H 880 mmb

X@IN4

Hor. Cir. Rd.

side	JK3	0° 00' 00"	
"	V-306	140° 31' 42"	(1st)
"	JK3	140° 31' 42"	
"	V-306	281° 03' 12"	
	Plus	0° 00' 00"	
		281° 03' 12"	(Dble)

Mean(HCR) 140° 31' 36"

side	JK3	90° 00' 00"	
"	V-306	230° 31' 33"	(1st)
"	JK3	230° 31' 33"	
"	V-306	11° 03' 06"	
	Plus	270° 00' 00"	
		281° 03' 06"	(Dble)

Mean(HCR) 140° 31' 33"

Total Mean HCR) 140° 31' 34"

X@IN4

Vert. Cir. Rd.

FL.

FR.

side	V-306	96° 38' 05"	263° 22' 54"
"	V-306	96° 38' 06"	263° 22' 54"
Mean VCR)		96° 37' 35"	

Slope Distance IN4 \rightarrow V-306

SD:

101.471

101.471

101.478

101.477

101.477

101.476

101.476

101.476

$$\bar{x} = 101.477 \text{ m} \quad s = \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 101.481 \text{ m}$$

HI @ V-306 \rightarrow 1.69 m

Aug 4th 1979
 T & N - John K
 Rod - Scan. B.

Weather: cloudy & sunny
 Temp 16°C
 Press: 880 mmb

T@INA

		Hor. Cir. Rd.	
Site	JK3	0° 00' 00"	
"	V-308	131° 25' 54"	(1 st)
"	JK3	131° 25' 54"	
"	V-308	262° 51' 45"	
	Plus	0° 00' 00"	
		262° 51' 45" (Dble)	
Mean HCRΔ		131° 25' 53"	

Site	JK3	90° 00' 00"	
"	V-308	221° 25' 42"	(1 st)
"	JK3	221° 25' 42"	
"	V-308	252° 51' 42"	
	Minus	90° 00' 00"	
		262° 51' 42" (Dble)	
Mean (2) HCRΔ		131° 25' 51"	
Total Mean HCRΔ		131° 25' 52"	

T@INA

		Vert. Cir. Rd.	
		FL.	F. R.
Site	V-308	92° 52' 18"	267° 08' 36"
"	V-308	92° 52' 18"	267° 08' 38"
Mean VCRΔ		92° 51' 52"	

Slope Distance IN4 → V-308

SD

126.231

126.231

126.231

126.232

126.231

126.232

126.232

126.232

$$\bar{x} = 126.232 \text{ m } s = \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 126.237 \text{ m}$$

HT @ V-308 — 1.79 m

Aug 21, 1974
 TEN-John K
 Rod-Stair

Weather cloudy
 Temp 14°C
 Press. 880 mmHg

π@INA

Hor. Cir. Rd.

site	JK3	0° 00' 00"	
"	V-304	154° 04' 12"	(15°)
"	JK2	154° 04' 12"	
"	V-304	308° 08' 30"	
	Plus	0° 00' 00"	
		308° 08' 30"	(Dble)

Mean(2) HCRΔ 154° 04' 15"

site	JK3	90° 00' 00"	
"	V-304	244° 04' 06"	(15°)
"	JK3	244° 04' 06"	
"	V-304	38° 08' 27"	
	Plus	270° 00' 00"	
		308° 08' 27"	(Dble)

Mean(2) HCRΔ 154° 04' 13"

Total Mean HCRΔ 154° 04' 14"

π@TNA

Vert. Cir. Rd.

FL.

FR.

site	V-304	100° 09' 18"	259° 51' 24"
"	V-304	100° 09' 03"	259° 51' 24"
Mean VCRΔ		100° 08' 58"	

Slope D, = 30.0% INA → V-304

SI

79.458

79.459

79.460

79.458

79.459

79.460

79.458

79.459

$$\bar{x} = 79.459 \text{ m } S = \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 79.462 \text{ m}$$

① → V-304 — 1.62 m

Aug 4th, 1979.
 TEU - John Kuhner
 Rod - Stan B

Weather cloudy
 Temp 13°C.
 Press 880 mmb.

TA@INA

Hor. Cir. Rd.

site	JK3	0° 00' 00"	
"	V-33-R	174° 00' 27"	(1st)
"	NK3	174° 00' 27"	
"	V-33R	348° 00' 57"	
	Plus.	0° 00' 00"	
		348° 00' 57"	(Dble)

Meaning HCRΔ 174° 00' 28"

site	JK3	90° 00' 00"	
"	V-33-R	264° 00' 24"	(1st)
"	JK3	264° 00' 24"	
"	V-33-R	78° 00' 54"	
	Plus	270° 00' 00"	
		348° 00' 54"	(Dble)

Meaning HCRΔ 174° 00' 27"

Total Mean HCRΔ 174° 00' 28"

TA@INA

Vert. Cir. Rd

FL

FR

site	V-33-R	102° 56' 12"	257° 03' 54"
"	V-33-R	102° 56' 18"	257° 03' 57"
Mean	HCRΔ	102° 56' 10"	

Slope Distance INA - V-33-R

Σ L

69.494

69.494

69.491

69.493

69.493

69.493

69.493

69.492

$$\bar{x} = 69.493 \quad s = \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 69.496 \text{ m}$$

HI @ V-33R → 1.60 m

Aug 7, 1974
 T&N - John K
 Rod - Stan P

Weather over-cast
 Temp 8°C
 Press: 881 mmb

⊗@ TN4

		Hor. Cir. Rd.	
Site	JK3	0° 00' 00"	
"	V-305	203° 59' 06"	(1st)
"	JK3	203° 59' 06"	
"	V-305	47° 58' 21"	
	Plus	360° 00' 00"	
		407° 58' 21"	(Dble)

Mean(α) HCRΔ 203° 59' 11"

Site	JK3	90° 00' 00"	
"	V-305	293° 59' 09"	(1st)
"	JK3	293° 59' 09"	
"	V-305	137° 58' 06"	
	Plus	270° 00' 00"	
		407° 58' 06"	(Dble)

Mean(α) HCRΔ 203° 59' 03"

Total Mean HCRΔ 203° 59' 07"

⊗@ TN4

		Vert. Cir. Rd.	
		FL	FR
Site	V-305	104° 19' 57"	255° 39' 45"
"	V-305	104° 00' 00"	255° 39' 39"
Mean	VCRΔ	104° 20' 08"	

Slope Distance INA → V-305

- SD
- 63.753
- 63.754
- 63.754
- 63.753
- 63.752
- 63.755
- 63.753
- 63.754

$\bar{x} = 63.754$ $s = \pm 0.001$
 Corrected SD = 63.756 m

HI@ INA — 1.45 m

HI@ V-305 — 1.71 m

Aug 27, 1974
 TEN-John K
 Rod-Stan B.

Weather over-cast
 Temp 9°C
 Press. 981 mmb

70 IN4

Hor Cir. Rd

Site	JK2	0° 00' 00"	
"	V-307	230° 49' 33"	(1st)
"	JK3	230° 49' 33"	
"	V-307	101° 39' 12"	
	Plus	360° 00' 00"	
		461° 39' 12"	(Dble)

Mean HCR \bar{x} 230° 49' 36"

Site	JK3	90° 00' 00"	
"	V-307	230° 49' 30"	(1st)
"	JK3	320° 49' 30"	
"	V-307	191° 38' 48"	
	Plus	270° 00' 00"	
		461° 38' 48"	(Dble)

Mean HCR \bar{x} 230° 49' 24"

Total Mean HCR \bar{x} 230° 49' 30"

70 IN4

Vert. Cir. Rd

FL FR

Site	V-307	100° 52' 45"	259° 07' 00"
"	V-307	100° 52' 48"	259° 07' 03"

Mean VCR \bar{x} 100° 52' 53"

Slope Distance INA → V-307

SD

81.12

81.12

81.12

81.12

81.12

81.12

81.12

81.13

$\bar{x} = 81.12 \text{ m} \quad S = \pm 0.001 \text{ m}$

Corrected SD = 81.115 m

HT @ V-307 — 1.70 m

Hug 7th, 1979
 π@IN - John K
 Rod - 3/16" dia.

Weather: Part Sunny
 Temp 11°C
 P: 879 mmHg

π@IN4

		Hor. Cir. Rd.	
Site	JK3	0° 00' 00"	
"	V-310	242° 56' 36"	(1 st)
"	JK3	242 56' 36"	
"	V-310	125° 53' 12"	
	Plus	360° 00' 00"	
		480° 53' 12"	(Double)

Mean(2) HCRΔ 242° 56' 36"

site	JK3	90° 00' 00"	
"	V-310	332° 56' 36"	1 st
"	JK3	332 56' 36"	
"	V-310	215° 53' 00"	
	Plus	360° 00' 00"	
		480° 53' 00"	(Double)

Mean(2) HCRΔ 242° 56' 30"

Total Mean HCRΔ 242° 56' 33"

π@IN4

Vert. Cir. R.

		F.L.	R.L.
site	V-310	97° 36' 48"	268° 23' 24"
"	V-310	97° 36' 48"	268° 23' 24"
Mean VCRΔ		97° 36' 42"	

SLOPE DISTANCE IN4 → V-310

#113

98.963

98.962

98.962

98.962

98.962

98.962

98.962

98.963

$$\bar{x} = 98.963 \text{ m. } S = \pm 0.000$$

$$\text{Corrected SD} = 98.966 \text{ m}$$

HT @ V-310 — 1.62 m

444 444 1974
 7&N - John K
 Rd - ... E

Weather Part - sunny
 Temp: 12°C
 Pr: 880 mmb

TC@JK4

		Hor. Cir. Rd	
site	JK3	0° 00' 00"	
"	DDH-31	208° 09' 00"	(1 st)
"	JK3	208° 09' 00"	
"	DDH-31	56° 17' 57"	
	Plus	360° 00' 00"	
		416° 17' 57"	(Dble)
Mean (2) HCRΔ		208° 08' 58"	

site	JK3	90° 00' 00"	
"	DDH-31	298° 08' 57"	(1 st)
"	JK3	298° 08' 57"	
"	DDH-31	146° 17' 45"	
	Plus	270° 00' 00"	
		416° 17' 45"	(Dble)
Mean (2) HCRΔ		208° 08' 52"	

Total Mean (2) HCRΔ 208° 08' 55"

TC@JK4

		Vert. Cir. Rd.	
		FL	FR
site	DDH-31	86° 04' 20"	273° 55' 36"
"	DDH-31	86° 04' 30"	273° 55' 33"
Mean VCRΔ		86° 04' 28"	

Slope Distance JKA \rightarrow DDH-31

SD.

322.631

322.632

322.631

322.632

322.631

322.631

322.632

322.633

$$\bar{x} = 322.632 \text{ m } S = \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 322.644 \text{ m}$$

HTC DDH-31 \rightarrow 1.49

Aug 11, 1974.
 T-REGD - STAB B
 N - John K.

Weather Part - Sunny
 Temp. 13°C
 Press 877 mmb

π@ JK4

Hor. Cir. Rd.

Site	JK3	0° 00' 00"
"	DDH-32	84° 21' 51" (1st)
"	JK3	84° 21' 51"
"	DDH-32	168° 43' 48"
	Plus	0° 00' 00"
		168° 43' 48" (Dble)

Meaning HCRX 84° 21' 51"

Site	JK3	90° 00' 00"
"	DDH-32	174° 21' 48" (1st)
"	JK3	174° 21' 48"
"	DDH-32	258° 43' 45"
	Minus	90° 00' 00"
		168° 43' 45" (Dble)

Meaning HCRX 84° 21' 53"

Total Mean HCRX 84° 21' 53"

π@ JK4

Vert. Cir. Rd.

FL

FR

Site	DDH-32	99° 22' 48"	260° 37' 24"
"	DDH-32	99° 22' 51"	260° 37' 18"
Mean	VCR X	99° 22' 44"	

Slope Distance JKA → DDH-32

SD

61.024

61.024

61.027

61.027

61.028

61.026

61.027

61.027

$\bar{x} = 61.027 \quad s = \pm 0.001 \text{ m}$

Corrected SD = 61.029 m

HI @ JKA = 1.30 m

HI @ DDH-32 = 1.65 m

Hug 8th, 1474
 T & Rod - STANB
 N - John K.

Weather partly sunny
 Temp: 12°C
 Press: 879 mmHg

T@JK4

Hor. Cir. Rd.

Site	IN4	0° 00' 00"	
"	V-136	71° 33' 06"	(1st)
"	IN4	71° 33' 06"	
"	V136	143° 05' 45"	
	Plus	0° 00' 00"	
		143° 05' 45"	(Dble)
Mean (a) HCR Δ		71° 32' 52"	

Site	IN4	90° 00' 00"	
"	V-136	161° 32' 48"	(1st)
"	IN4	161° 32' 48"	
"	V-136	233° 05' 33"	
	Minus	90° 00' 00"	
		143° 05' 33"	(Dble)
Mean (a) HCR Δ		71° 32' 47"	

Total Mean HCR Δ 71° 32' 49"

T@JK4

Vert. Cir. Rd.

FL FR

Site	V-136	98° 35' 06"	061° 05' 42"
"	V-136	98° 35' 03"	061° 05' 42"
Mean VCR Δ		98° 34' 41"	

Slope Distance JKA — V-136

SD

125.642

125.652

125.654

125.653

125.653

125.653

125.653

125.654

$$\bar{x} = 125.653 \quad s = \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 125.658 \text{ m}$$

HI @ V-136 — 1.05 m

HI @ JKA — 1.30 m

Aug 6th, 1979.
 T-Rod - STAN B
 N - John K.

Weather cloudy
 Temp 14°C
 Press. 879 mmb

T@JKA

Hor. Cir. Rd.

Site	INA	0° 00' 00"	
"	DDH-138	71° 22' 03"	(1st)
"	INA	71° 23' 03"	
"	DDH-138	142° 45' 48"	
	Plus	0° 00' 00"	
		142° 45' 48"	(Dble)

Mean (2) HCRX 71° 22' 54"

Site	INA	90° 00' 00"	
"	DDH-138	161° 22' 45"	(1st)
"	INA	161° 22' 45"	
"	DDH-138	232° 45' 39"	
	Minus	90° 00' 00"	
		142° 45' 39"	(Dble)

Mean (2) HCRX 71° 22' 49"

Total Mean HCRX 71° 22' 52"

T@JKA

Vert. Cir. Rd.

FL

FR

Site	DDH-138	98° 14' 24"	261° 16' 15"
"	DDH-138	98° 14' 30"	261° 46' 12"

Mean VCRX 98° 14' 07"

Slope

Distance

JK4 → DDH-138

SD

187.114

187.113

187.113

187.113

187.113

187.113

187.114

187.114

$$\bar{x} = 187.113 \text{ m } S = \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 187.120 \text{ m}$$

HI @ DDH-138 — 1.54

Aug 8th 1979
 K-Rod - Station B
 W - John K

Weather Party
 Temp. 14°C
 Press. 879 mmb

π@JKA

Hor Cir Rd

site	INA	0° 00' 00"	
"	DDH-36	295° 20' 03"	(1st)
"	INA	295° 20' 02"	
"	DDH-36	230° 40' 00"	
	Plus	360° 00' 00"	
		590° 40' 00"	(Dble)
Mean	HCR Δ	295° 20' 00"	

site	INA	0° 00' 00"	
"	DDH-36	295° 20' 09"	(1st)
"	INA	295° 20' 09"	
"	DDH-36	230° 40' 03"	
	Plus	360° 00' 00"	
		590° 40' 03"	(Dble)
Mean	HCR Δ	295° 20' 02"	

Total Mean HCR Δ 295° 20' 01"

π@JKA

Vert Cir Rd

FL

FR

site	DDH-36	89° 28' 06"	270° 32' 54"
"	DDH-36	89° 28' 12"	270° 33' 00"
Mean	VCR Δ	89° 27' 36"	

Slope Distance JKA \rightarrow DDH-26

SD

85.976

85.976

85.976

85.976

85.975

85.975

85.976

85.976

$$\bar{x} = 85.976 \text{ m} \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 85.979 \text{ m}$$

HT @ DDH-26 -- 1.55m

Aug 9 on, 1979.
 * & N - John K.
 Rod - Stan P.

Weather: overcast
 Temp. 10°C
 Press. 980 mmHg

⊗ JKA

Hor. Cir. Rd.

site	JK3	0° 00' 00"	
"	V-95-R	18° 17' 48"	(1st)
"	JK3	18° 17' 48"	
"	V-95-R	36° 35' 39"	
	Plus	0° 00' 00"	
		26° 35' 39"	(Dble)
Mean (1) HCR X		18° 17' 49"	

site	JK3	90° 00' 00"	
"	V-95-R	108° 17' 57"	(1st)
"	JK3	108° 17' 57"	
"	V-95-R	186° 35' 45"	
	Minus	90° 00' 00"	
		36° 35' 45"	(Dble)

Mean (2) HCR X 18° 17' 52"
 Total Mean HCR X 18° 17' 51"

⊗ JKA

Vert Cir Rd.

FL

FR

site	V-95-R	93° 52' 27"	066° 07' 57"
"	V-95-R	93° 52' 24"	066° 07' 54"
Mean VCR A		93° 52' 15"	

Slope Distance JKA → V-95-R

SD

342.576

342.576

342.578

342.577

342.577

342.576

342.576

342.576

$$\bar{x} = 342.577 \text{ m } S = 10.001 \text{ m}$$

$$\text{Corrected SD} = 342.590 \text{ m}$$

HT@ V-95-R ——— 1.48m

HT@ JKA ——— 1.30m

Aug 9, 1979.
 T&D - John K
 Rod - Stone E.

Weather
 Temp 15°C
 Press: 220mmHg

TK@JKA

		Hor. Cir. Rd.	
site	JK3	0°00'00"	
"	DDH-302	14°41'06"	(1st)
"	JK3	14°41'06"	
"	DDH-302	29°22'09"	
	Plus	0°00'00"	
		29°22'09"	(Dble)
Mean (1)	HCR A	14°41'04"	

site	JK3	90°00'00"	
"	DDH-302	104°40'57"	(1st)
"	JK3	104°40'57"	
"	DDH-302	119°21'54"	
	Minus	90°00'00"	
		29°21'54"	(Dble)
Mean (2)	HCR A	14°40'57"	
Total Mean HCR A		14°41'01"	

TK@JKA

		Vert Cir. Rd.	
		FL.	FR.
site	DDH-302	92°59'36"	267°00'51"
"	DDH-302	92°59'42"	267°00'57"
Mean HCR A		92°59'22"	

Slope Distance JK4 \rightarrow DDH-302

SD

394.619

394.620

394.621

394.621

394.620

394.621

394.620

394.619

$$\bar{x} = 394.620 \text{ mS} \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 394.636 \text{ m}$$

HT @ DDH-302 \rightarrow 1.53 m

Aug 1979
 T&N - John K.
 Red-stan B

Weather part sunny
 Temp: 14°C
 Press: 890 mmb

TK@JK4

Hor. Cir. Rd.

site	JK3	0° 00' 00"	
"	V-303	5° 39' 03"	(1st)
"	JK3	5° 39' 03"	
"	V-303	11° 18' 12"	
	Plus	0° 00' 00"	
		11° 18' 12"	(Dble)
Meaning)	HCR A	5° 39' 06"	

site	JK3	90° 00' 00"	
"	V-303	95° 39' 09"	(1st)
"	JK3	95° 39' 09"	
"	V-303	101° 18' 18"	
	Minus	90° 00' 00"	
		11° 18' 18"	(Dble)

Meaning) HCR A 5° 39' 09"
Total Mean HCR A 5° 39' 07"

TK@JK4

Vert. Cir. Rd.

FL. FR.

site	V-303	90° 49' 06"	267° 11' 15"
"	V-303	90° 49' 06"	267° 11' 15"
Mean	VCR A	90° 49' 55"	

Slope Distance JKA \rightarrow V-303

SD

377.341

377.341

377.340

377.340

377.341

377.340

377.340

377.341

$$\bar{x} = 377.341 \text{ m } s = 10.001 \text{ m}$$

$$\text{Corrected SD} = 377.355 \text{ m}$$

HI @ V-303 \rightarrow 1.65 m

Aug 4, 1979.
 T-Rod - Stan B.
 D - John K.

Weather part sunny
 Temp 13°C
 Press: 881 mmb

T@JKA

Hor. Cir. Rd.

Site	JK3	0° 00' 00"	
"	V-63-R	358° 32' 54"	(1st)
"	JK3	358° 32' 54"	
"	V-63-R	357° 05' 42"	
	Plus	360° 00' 00"	
		717° 05' 42"	(Dble)
Mean (d) HCR Δ		358° 32' 51"	

Site	JK3	90° 00' 00"	
"	V-63-R	88° 32' 48"	(1st)
"	JK3	88° 32' 48"	
"	V-63-R	87° 05' 39"	
	Plus	630° 00' 00"	
		717° 05' 39"	(Dble)
Mean (e) HCR Δ		358° 32' 49"	
Total Mean HCR Δ		358° 32' 50"	

T@JKA

Vert. Cir. Rd.

		FL	FR
Site	V-63-R	91° 00' 45"	268° 59' 39"
"	V-63-R	91° 00' 45"	268° 59' 36"
Mean VCR Δ		91° 00' 33"	

Slope Distance JKA → V-63-R

SD HI @ V-63-R — 150m

489.195
 489.201
 489.202
 489.195
 489.198
 489.197
 489.201
 489.199

 $\bar{x} = 489.199$; $S = \pm 0.003$

Corrected SD = 489.218m

CHECK:

Temp: 13°C

Press: 884mmHg

X @ V-63-R

Vert. Cir. Rd.

FL

FR

Site JKA 59° 11' 17"

271° 59' 00"

" JKA 89° 01' 20"

270° 58' 57"

Mean VCR Δ 89° 01' 15"

Slope Distance V-63-R — JKA

SD - 489.198 489.199 489.198

489.199 489.199 489.199

 $\bar{x} = 489.199$ m $S = \pm 0.001$ m

Corrected SD = 489.217 m

HI @ V-63-R — 1.61 m (Inst. station)

HI @ JKA — 1.71 m (F.S. station)

Aug 9, 1971
 T & R - Schrick
 Road - JKA

Weather Party
 Temp. 13°C
 Pressure 881 mmB

T & R JKA

Hor. Cir. Rd.

site	JK3	0° 00' 00"	
"	V-309	2° 12' 18"	(12)
"	JK3	2° 12' 18"	
"	V-309	4° 24' 42"	
	Plus	0° 00' 00"	
		4° 24' 42"	(Total)

Mean VCR Δ 2° 12' 21"

site	JK2	90° 00' 00"	
"	V-309	92° 12' 21"	(14)
"	JK3	92° 12' 21"	
"	V-309	94 24' 45"	
	Minus	90° 00' 00"	
		4° 24' 45"	(Total)

Mean VCR Δ 2° 12' 23"

Total Mean VCR Δ 2° 12' 22"

T & R JKA

Vert. Cir Rd.

TL

FR

site	V-309	91° 02' 39"	268° 57' 54"
"	V-309	91° 02' 39"	268° 57' 54"
Mean VCR Δ		91° 02' 39"	

Slope Distance JKA → V-309

SD	HIG @ V-309 → 1.61m
494.718	
494.718	
494.717	
494.716	
494.716	
494.716	
494.717	
494.717	

$\bar{x} = 494.717 \text{ m}$ $S = \pm 0.001$
 Corrected SD = 494.735 m

2 @ V-309

Vert. Cr. Rd.

FL. FR.

SILK JKA 37° 10' 48" 37° 10' 48"

" JKA 37° 58' 45" 37° 10' 48"

MANUCRIS 88° 58' 33"

HIG @ JKA → 1.17 m

HIG @ V-309 → 1.61 m

Aug 10, 1979
 T & Rod - Stan B.
 W - John K

Weather Sunny
 Temp 18°C
 Press: 825mmHg

T@ HIW2

Hor. Cir. Rd.

Site	JK4	0° 00' 00"	
"	V-38	63° 43' 00"	(1st)
"	JK4	63° 43' 00"	
"	V-38	127° 26' 15"	
	Plus	0° 00' 00"	
		127° 26' 15"	(Dble)

Mean (a) HCRA 63° 43' 08"

Site	JK4	90° 00' 00"	
"	V-38	153° 42' 54"	(1st)
"	JK4	153° 42' 54"	
"	V-38	217° 26' 09"	
	Minus	90° 00' 00"	
		127° 26' 09"	(Dble)

Mean (a) HCRA 1 63° 43' 04"

Total Mean HCRA 63° 43' 06"

T@ HIW#2

Vert. Cir. Rd.

		FL	FR
Site	V-38	90° 10' 09"	269' 56' 48"
"	V-38	90° 10' 09"	269' 50' 42"
Mean VCRA		90° 09' 48"	

Slope Distance HIW#2 - V-38

SD

258.991

258.989

258.990

258.991

258.991

258.989

258.990

258.989

$$\bar{x} = 258.990 \text{ m } S = \pm 0.001 \text{ m}$$

$$\text{Corrected SD} = 258.999 \text{ m}$$

HI @ V-38 → 1.66 m

HI @ HIW#2 → 1.40 m

Aug 10, 1974.
 T&N - John K
 Rod - Stamp.

Weather: Sunny
 Temp: 13°C.
 Press: 884 mmb

T&N HIW #2

Hor. Cir. Rd.

Site	JK-4	0° 00' 00"	
"	V-311	346° 53' 57"	(1-1)
"	JK4	346° 53' 57"	
"	V-311	333° 47' 48"	
	Plus	360° 00' 00"	
		693° 47' 48"	(Dble)

Meaning HCR Δ 346° 53' 54"

Site	JK4	90° 00' 00"	
"	V311	76° 53' 57"	(1-1)
"	JK4	76° 53' 57"	
"	V311	63 47 48	
	Plus	630° 00' 00"	
		693° 47' 48"	(Dble)

Meaning HCR Δ 346° 53' 54"

Total Mean HCR Δ 346° 53' 54"

T&N HIW 2

Vert. Cir. Rd.

FL

FR

Site	V-311	114° 46' 06"	245° 15' 18"
"	V-311	114° 46' 09"	245° 15' 18"

Meaning VCR Δ 114° 45' 25"

Slope Distance HIW#2 → V-311

SD	HTC V 311 - 1.53m
38.395	
38.396	
38.396	
38.397	
38.396	
38.395	
38.397	
38.396	

$\bar{x} = 38.396 \text{ m} \pm 0.001 \text{ m}$

Corrected SD = 38.397 m

Check:

AG V-311

Vert. Cr. Rd.

FL

FR

SIC

65° 25' 00"

294° 35' 45"

"

65° 25' 03"

294° 35' 42"

FL (INVERT)

60° 21' 39"

HTC V 311 — 1.530 (Inst station)

HI @ HIW 2 — 1.27 m (FS station)

Hugobert
K-N - John K.
Rod - skimb

Weather sunny
Temp 22°C
Pressure 882 mmb

π@ IN3

Hor. Cir. Rd

Site IN1	0° 00' 00"	
" DDH-128	19° 23' 57"	(1 st)
" IN1	19° 23' 57"	
" DDH-128	38° 47' 45"	
Plus	0° 00' 00"	
	38° 47' 45"	(Dble)

Mean (1) HCR Δ 19° 23' 52"

Site IN1	10° 00' 00"	
" DDH-128	109° 23' 57"	(1 st)
" IN1	109° 23' 57"	
" DDH-128	128° 47' 31"	
	90° 00' 00"	
	38° 47' 39"	(Dble)

Mean (2) HCR Δ 19° 23' 49"

Total Mean HCR Δ 19° 23' 51"

π@ IN3

Vert. Cir. Rd.

FL

FR

Site DDH-128	88° 26' 54"	271° 34' 03"
" DDH-128	88° 26' 57"	271° 33' 57"
Mean HCR Δ	88° 06' 28"	

Slope Distance IN3-DDH-128

SD

141.750

141.758

141.752

141.755

141.759

141.760

141.760

141.755

$$\bar{x} = 141.756 \quad s = \pm 0.004$$

$$\text{Corrected SD} = 141.763 \text{ m}$$

HT @ TN3 ——— 1.41 m

HT @ DDH-128: ——— 1.56 m

Aug 13, 1979
 T & N - 3414 K
 Rod - Locum E

Weather - high over-cast
 Temp. 16°C
 Press. 877

π@ IN3

Hor. Cir. Rd.

Site	INI	0° 00' 00"	
"	DDH-85	10° 29' 15"	(1st)
"	INI	10° 29' 15"	
"	DDH-85	20° 58' 21"	
	Plus	0° 00' 00"	
		20° 58' 21"	(Dble)
Mean (a) HCRΔ		10° 29' 11"	

Site	INI	90° 00' 00"	
"	DDH-85	100° 29' 15"	(1st)
"	INI	100° 29' 15"	
"	DDH-85	110° 58' 15"	
	Minus	90° 00' 00"	
		20° 58' 15"	(Dble)

Mean (a) HCRΔ 10° 29' 07"

Total Mean HCRΔ 10° 29' 09"

π@ IN3 Vert. Cir. Rd.

FL.

FR.

Site	DDH-85	88° 55' 54"	271° 04' 30"
"	DDH-85	88° 55' 51"	271° 04' 30"
Mean VCRΔ		88° 55' 41"	

Slope Distance IN3 → DDH-85

SD

118.923

118.923

118.923

118.922

118.921

118.922

118.922

118.922

$$\bar{x} = 118.922 \quad s = 0.001$$

$$\text{Corrected SD} = 118.987 \text{ m}$$

HI@ IN3 — 1.48 m

HI@ DDH-85 — 1.60 m

Aug. 3 1979.
 W — Dawn K
 N — Dawn K
 Root — Dawn K

Weather
 Temp: 15°C
 Press: 877 mmb

76 TUB

Hor. Cir. Rd.

Site	INI	0° 00' 00"	
"	DDH-121	357° 23' 27"	(1st)
"	INI	357° 23' 27"	
"	DDH-121	354° 46' 57"	
	Plus	360° 00' 00"	
		714° 46' 57"	(DUE)

Mean(2) HCRA 357° 23' 29"

Site	INI	90° 00' 00"	
"	DDH-121	87° 23' 24"	(1st)
"	INI	87° 23' 24"	
"	DDH-121	84° 46' 48"	
	Plus	630° 00' 00"	
		714° 46' 48"	(DUE)

Mean(2) HCRA 357° 23' 24"

Total Mean HCRA 357° 23' 26"

76 TUB

Vert. Cir. Rd.

FL.

FR

Site	DDH-121	90° 34' 33"	269° 26' 12"
"	DDH-121	90° 34' 36"	269° 26' 09"
Mean	VCRA	90° 34' 18"	

Slope Distance INB \rightarrow DDA-121

SD

100.546

100.545

100.546

100.546

100.547

100.547

100.545

100.547

$$\bar{x} = 100.5465 \approx 100.547$$

$$\text{Corrected SD} = 100.551 \text{ m}$$

HI @ DDH-

121 - 1.560

T — John K.
 N — John K.
 R — Steve R.

Weather:
 Temp. 14°C
 Pres. 878mmHg

TC IN2

Hct. Cir. Rd

site	INI	0° 00' 00"	
"	DDH-89	340° 36' 27"	(1°)
"	INI	340° 36' 27"	
"	DDH-89	321° 12' 57"	
	Plus	360° 00' 00"	
		681° 12' 57"	(DUP)
Mean of HCR		340° 36' 28"	

site	INI	90° 00' 00"	
"	DDH-89	70° 36' 24"	(1°)
"	INI	70° 36' 24"	
"	DDH-89	51° 12' 57"	
	Plus	360° 00' 00"	
		681° 12' 57"	(DUP)
Mean of HCR		340° 36' 28"	

Total Mean HCR 340° 36' 28"

TC IN3

Vert. Cir. Rd.

FL FR

site	DDH-89	93° 48' 18"	266° 12' 18"
"	DDH-89	93° 48' 18"	266° 12' 15"
Mean VCRA		93° 48' 01"	

Cape Distance IN3 → DDH-89

SD

89.608

89.608

89.609

89.609

89.606

89.608

89.606

89.608

$$\bar{x} = 89.6085 \pm 0.001$$

$$\text{Corrected SD} = 89.611m$$

HT @ DDH-89 — 180m

Aug 13, 1979
 T&N-John K
 Rod- Stan B

Weather
 Temp 16°C
 Pres 879 mmb

T&N3

Hor. Cir. Rd.

Site	INI	0° 00' 00"	
"	DDH-106	267° 26' 42"	(1 st)
"	INI	267° 26' 42"	
"	DDH-106	174° 53' 18"	
	Plus	360° 00' 00"	
		534° 53' 18"	(Dble)
Mean(2) HCR4		267° 26' 39"	

Site	INI	90° 00' 00"	
"	DDH-106	257° 26' 42"	(1 st)
"	INI	357° 26' 42"	
"	DDH-106	264° 53' 21"	
	Plus	270° 00' 00"	
		534° 53' 21"	(Dble)

Mean(2) HCR4 267° 26' 40"
 Total Mean HCR4 267° 26' 40"

T&N3

Vert. Cir. Rd

FL. FR

Site	DDH-106	88° 54' 48"	271° 05' 48"
"	DDH-106	88° 54' 40"	271° 05' 48"
Mean VCR4		88° 54' 29"	

Slope Distance IN3-DDH-106

SD

44.722

44.722

44.724

44.723

44.722

44.722

44.722

44.721

$$\bar{x} = 44.722 \quad S = \pm 0.001$$

$$\text{Corrected SD} = 44.724 \text{m}$$

HI @ DDH-106 ——— 1.67 m

Aug 15, 1974,
 T&U - John K
 Rod - "Star"

Weather: sunny
 Temp. 28°C
 Press. 978 mmb

T@ JN3

Hor. Cir. Rd.

Site	INI	0° 00' 00"	
"	DDH-92	6° 41' 42"	(1st)
"	INI	6° 41' 42"	
"	DDH-92	13° 23' 25"	
	Plus	0° 00' 00"	
		13° 23' 15"	(Dble)
Mean (4)	HCR4	6° 41' 38"	

Site	INI	90° 00' 00"	
"	DDH-92	96° 41' 45"	(1st)
"	INI	96° 41' 45"	
"	DDH-92	103° 23' 15"	
	Minus	90° 00' 00"	
		13° 23' 15"	(Dble)
Mean (4)	HCR4	6° 41' 38"	

Total Mean HCR4 6° 41' 38"

T@ JN3

Vert. Cir. Rd.

		FL.	FR.
Site	DDH-92	97° 51' 06"	268° 09' 42"
"	DDH-92	97° 51' 00"	268° 09' 42"
Mean VCR4		97° 50' 40"	

Slope Distance INS \rightarrow DDH-92

SD

31.196

31.196

31.194

31.195

31.195

31.195

31.195

31.195

$$\bar{x} = 31.195 \quad s = \pm 0.001$$

Corrected SD = 31.196 m

HI @ DDH-92 \rightarrow 1.50 m

Aug 14, 1979.
 T&N — John K.
 Rod — Stan B.

Weather, Sunny
 Temp. 15°C
 Pres. 899 mmb

TC@INS

Hor. Cir. Rd.

site	INI	0° 00' 00"	
"	DDH-88	40° 38' 36"	(1-1)
"	INI	40° 38' 36"	
"	DDH-88	81° 17' 12"	
	Plus	0° 00' 00"	
		81° 17' 12"	(Dble)

Mean(1) HCR4 40° 38' 36"

site	INI	90° 00' 00"	
"	DDH-88	130° 38' 01"	(1-1)
"	INI	130° 38' 01"	
"	DDH-88	171° 16' 57"	
	Minus	90° 00' 00"	
		81° 16' 57"	(Dble)

Mean(2) HCR4 40° 38' 29"

Total Mean HCR4 40° 38' 32"

TC@INS

Vert. Cir. Rd.

FL

FR

Site	DDH-88	88° 41' 06"	671° 19' 18"
Site	DDH-88	88° 41' 06"	271° 19' 18"
Mean	VCR4	88° 40' 54"	

Slope Distance IN3 → DDH-88

SD

87.266

87.267

87.265

87.264

87.265

87.265

87.265

87.266

$$\bar{x} = 87.2655 \pm 0.001$$

Corrected SD = 87.268 m

HT@ IN3 — 1.47

HT@ DDH-88 — 1.06 m

Aug 14, 1999
 T&W - John K
 Rod - Stain E.

Weather: Sunny
 Temp 14°C
 Press. 880 mmb

T@ IN3

Hor. Cir. Rd.

Site	INI	0° 00' 00"	
"	DDH-152	80° 06' 15"	(15")
"	INI	50° 06' 15"	
"	DDH-152	160° 12' 27"	
	Plus	0° 00' 00"	
		160° 12' 27"	(Dist)
Mean	(1) HCRA	80° 06' 14"	

Site INI

90° 00' 00"

"	DDH-152	170° 06' 03"	(15")
"	INI	170° 06' 03"	
"	DDH-152	250° 12' 24"	
	Minus	90° 00' 00"	
		160° 12' 24"	(Dist)

Mean (1) HCRA 80° 06' 12"

Total Mean HCRA 80° 16' 13"

T@ IN3

Vert. Cir. Rd.

FL

FR

site	DDH-152	88° 51' 48"	271° 08' 57"
"	DDH-152	88° 51' 39"	271° 08' 54"
Mean	VCRA	88° 51' 23"	

Slope Distance IN3-DDH152

SD

92.733

92.733

92.733

92.733

92.733

92.734

92.734

92.733

$$\bar{x} = 92.733 \quad s = \pm 0.001$$

Corrected SD = 92.737 m

HI @ DDH-152

1.64 m

Aug 10, 1979
 70° N - 15.16 N Kuhn
 Rost. Sec. 2,

Weather: Sunny
 Temp: 14°C
 Pressure: 878 mmb

TO IN3

Hor. Circ. Rd.

Site	INI	0° 00' 00"	
"	DDH-147	131° 44' 30"	(1st)
"	INI	131° 44' 30"	
"	DDH-147	263° 29' 06"	
	Plus	0° 00' 00"	
		263° 29' 06"	(Dble)

Mean (a) HCR Δ 131.44' 33"

Site	INI	90° 00' 00"	
"	DDH-147	221° 44' 27"	(1st)
"	INI	221° 44' 27"	
"	DDH-147	353° 29' 03"	
	Minus	90° 00' 00"	
		263° 29' 03"	(Dble)

Mean (c) HCR Δ 131.44' 31"

Total Mean HCR Δ 131.44' 32"

TO IN3

Vert. Circ. Rd.

FL

FR

Site	DDH-147	86° 21' 12"	273° 39' 24"
"	DDH-147	86° 21' 12"	273° 39' 24"
Mean VCR Δ		86° 20' 54"	

Slope Distance IN3 \rightarrow DDH-147

SD

101.615

101.615

101.616

101.615

101.614

101.615

101.616

101.616

$$\bar{x} = 101.615 \quad s = \pm 0.001$$

Corrected SD = 101.619 m

HI @ DDH-147 \rightarrow 1.63 mHI @ IN3 \rightarrow 1.47

Aug 15, 1979
 T&N - Ichik
 K.C. - Stamp

Weather Sunny
 Temp 16°C
 H₂O 879 mmHg

T@TUB

Hor. Cir. Rd.

Site	INI	0° 00' 00"	
"	DDH-154	113° 02' 21"	(1st)
"	TNI	113° 02' 21"	
"	DDH-154	226° 04' 51"	
1	Plus	0° 00' 00"	
		226° 04' 51"	(Dble)
Mean	HCRΔ	113° 02' 25"	

Site	INI	90° 00' 00"	
"	DDH-154	203° 02' 18"	(1st)
"	INI	203° 02' 18"	
"	DDH-154	316° 04' 54"	
	Minus	90° 00' 00"	
		226° 04' 51"	(Dble)
Mean	HCRΔ	113° 02' 25"	

Total Mean HCRΔ 113° 02' 25"

T@TUB

Vert. Cir. Rd.

FL

FR

Site	DDH-154	87° 19' 24"	272° 41' 27"
"	DDH-154	87° 19' 24"	272° 41' 30"
Mean	VCRΔ	87° 18' 58"	

Slope Distance IN3 \rightarrow DDH-154

SD

44.996

44.995

44.995

44.994

44.994

44.996

44.995

44.996

$$\bar{x} = 44.995 \quad s = \pm 0.001$$

$$\text{Corrected SD} = 44.997 \text{ m}$$

HI (w) 154 — 1.630

Wag 10/14/74
 T&N - John K
 Rod - Stan B.

Weather Sunny
 Temp 16°C
 Hum: 87.8mmh

T@ IN3

Hgt. Cir. Red

Site	INI	0° 00' 00"
"	DDH-81	330° 22' 00" (1st)
"	INI	330° 23' 00"
"	DDH-81	300° 45' 48"
	Plus	360° 00' 00"
		660° 45' 48" (Dble)

Mean(H) HCRA 330° 22' 54"

Site	INI	40° 00' 00"
"	DDH-81	60° 23' 00" (1st)
"	INI	60° 23' 00"
"	DDH-81	30° 45' 48"
	Plus	630° 00' 00"
		660° 45' 48" (Dble)

Mean(H) HCRA 330° 22' 54"

Total Mean HCRA 330° 22' 54"

T@ IN3

Vert. Cir. Red

FL.

FR

Site	DDH-81	91° 26' 09"	268° 34' 42"
"	DDH-81	91° 26' 15"	268° 34' 42"
Mean	VCRA	91° 25' 46"	

Slope Distance, IN3 → DDH-81

SI

266.275

266.272

266.272

266.274

266.271

266.273

266.275

266.271

$$\bar{x} = 266.273 \text{ s} \pm 0.002$$

Corrected SD = 266.284 m

HI @ DDH-81 = 1.64

Aug 18, 1974
 T&W - John K.
 Rod - S. an. P.

Weather sunny
 Temp 17°C
 Press 878mmB

T@ IN3

Hor. Cir. Rd.

Site	INI	0° 00' 00"	
"	DDH-91	316° 28' 51"	(1st)
"	INI	316° 28' 51"	
"	DDH-91	272° 57' 33"	
	Plus	360° 00' 00"	
		632° 57' 33"	(Dble)
Meaning HCR Δ		316° 28' 46"	

Site	INI	90° 00' 00"	
"	DDH-91	46° 28' 48"	(1st)
"	INI	46° 28' 48"	
"	DDH-91	2° 57' 30"	
	Plus	630° 00' 00"	
		632° 57' 30"	(Dble)

Meaning HCR Δ 316° 28' 46"
 Total Mean HCR Δ 316° 28' 46"

T@ IN3

Vert. Cir. Rd.

FL

FR

Site	DDH-91	92° 34' 15"	267° 26' 36"
"	DDH-91	92° 34' 01"	267° 26' 32"
Mean VCR Δ		92° 33' 58"	

Slope Distance IN3 \rightarrow DDH-91

FD

271.429

271.429

271.431

271.429

271.427

271.427

271.430

271.427

$$\bar{x} = 271.429 \quad s = \pm 0.002$$

$$\text{Corrected SD} = 271.440 \text{ m}$$

11.5 m DDH-91 — 1.49 m

Aug 16 1979
 * & N - Jct. Ink
 Ref. Station

Weather sunny
 Temp. 14°C
 Press. 37.9 mmHg

TK@ IN3

Hor. Cir. Rd.

Site	INI	0° 00' 00"
"	V-58	314° 14' 48" (1st)
"	INI	314° 14' 48"
"	V-58	268° 29' 30"
	Plus	360° 00' 00"
		628° 29' 30" (Dble)

Mean(H) HCRA 314° 14' 45"

Site	INI	90° 00' 00"
"	V-58	44° 14' 45" (1st)
"	INI	44° 14' 45"
"	V-58	358° 29' 27"
	Plus	270° 00' 00"
		628° 29' 27" (Dble)

Mean(H) HCRA 314° 14' 43"

Total Mean HCRA 314° 14' 44"

TK@ IN3

Vert. Cir. Rd.

FL.

FR

Site	V-58	98° 23' 54"	267° 36' 48"
"	V-58	98° 23' 48" ^{54"}	267° 36' 48"
Mean HCRA		98° 23' 33"	

Slope Distance IN3 → V-58

SD

331.51815

331.31915

331.215

331.315

331.316

331.217

331.316

331.311

$\bar{x} = 331.115 \quad s = \pm 0.002$

Corrected SD = 331.128 m

HT @ V-58 @ 1.55 m

HT @ IN3 @ 1.47 m

Aug 16, 1977
 XEN - 5:00 K
 Red - 5:00 K

Weather cloudy
 Temp 18°C
 P: 877 mmb

π@ IN3

Hor. Cir. Rd.

site	INI	0° 00' 00"	
"	V-8	311° 00' 21"	(1 st)
"	INI	311° 00' 21"	
"	V-8	262° 00' 48"	
	Plus	360° 00' 00"	
		622° 00' 48"	(Dble)
Mean (1)	HCRΔ	311° 00' 21"	

site	INI	90° 00' 00"	
"	V-8	41° 00' 21"	(1 st)
"	INI	41° 00' 21"	
"	V-8	352° 00' 42"	
	Plus	270° 00' 00"	
		622° 00' 42"	(Dble)

Mean (1) HCRΔ 311° 00' 21"
 Total Mean HCRΔ 311° 00' 21"

π@ IN3

Vert. Cir. Rd.

FL

FR

site	V-8	98° 00' 48"	267° 39' 33"
"	V-8	98° 00' 48"	267° 39' 36"
Mean VCRΔ		98° 20' 37"	

Slope Distance INB \rightarrow V-8

SD

395.492

395.493

395.492

395.492

395.492

395.492

395.493

395.493

$$\bar{x} = 395.4925 \quad s = 10.001$$

$$\text{Corrected SD} = 395.508$$

HT @ V-8 \rightarrow 1.55m

Aug 18, 1979.
 N&D - John K
 Rod - Shultz.

Weather: sunny
 Temp 13°C
 Pres. 879 mmHg

<u>TO IN1</u>		Hor. Cir. Rd.	
site	IN3	0° 00' 00"	
"	V-100	35° 21' 00"	(1st)
"	IN3	35° 21' 00"	
"	V-100	70° 42' 03"	
	Plus	0° 00' 00"	
		70° 42' 03"	(Dble)
Mean(1) HCR Δ		35° 21' 01"	
site	IN3	90° 00' 00"	
"	V-100	125° 20' 54"	(1st)
"	IN3	125° 20' 54"	
"	V-100	160° 41' 45"	
	Minus	90° 00' 00"	
		70° 41' 45"	(Dble)
Mean(2) HCR Δ		35° 20' 52"	
Total Mean HCR Δ		35° 20' 57"	

<u>TO IN1</u>		Vert. Cir. Rd.	
		FL	FR
site	V-100	95° 04' 27"	264° 55' 57"
"	V-100	95° 04' 30"	264° 55' 54"
Mean VCR Δ		95° 04' 17"	

Slope Distance INI \rightarrow V-100

SD

455.173

455.171

455.177

455.176

455.170

455.175

455.177

455.177

$$\bar{x} = 455.175 \quad SE = 0.003$$

$$\text{Corrected SD} = 455.172$$

HT @ V-100 \rightarrow 1.54 mHT @ INI \rightarrow 1.63 m

Aug 18, 1979
 T&U - John Kuhne
 Rod - 33cm B

Weather part cloudy
 Temp. 12°C
 Press. 880 mmb

T@ IN1

Hor. Cir. Rd.

Site	IN3	0° 00' 00"	
"	V-90	38° 27' 15"	(1st)
"	IN3	38° 27' 15"	
"	V-90	76° 54' 30"	
	Plus	0° 00' 00"	
		76° 54' 30"	(Double)

Mean(HCR) 38° 27' 15"

Site	IN3	90° 00' 00"	
"	V-90	128° 27' 12"	(1st)
"	IN3	128° 27' 12"	
"	V-90	166° 54' 21"	
	Minus	90° 00' 00"	
		76° 54' 21"	(Double)

Mean(HCR) 38° 27' 10"

Total Mean HCR 38° 27' 13"

T@ IN1

Vert. Cir. Rd.

FL FR

Site	V-90	94° 25' 18"	265° 35' 30"
"	V-90	94° 25' 15"	265° 35' 27"
Mean VCR		94° 24' 54"	

Slope Distance INI \rightarrow V-90.

SD

513.442

513.442

513.434

513.436

513.436

513.441

513.435

513.434

$$\bar{x} = 513.438 \quad s = \pm 0.004$$

$$\text{Corrected SD} = 513.457 \text{ m}$$

HI @ V-90

1.6A

Aug 18, 1979
 T&N - John Kuhner
 Root - Stan B.

Weather Sunny
 Temp 11°C
 Press. 879mmB

<u>TCC INI</u>		Hor. Cir. Rd.	
site	IN3	0° 00' 00"	
"	V-9	32° 38' 57"	(1st)
"	IN3	32° 38' 57"	
"	V-9	65° 17' 48"	
	Plus	0° 00' 00"	
		65° 17' 48"	(Dble)
Mean(a) HCRA		32° 38' 54"	
<u>TCC INI</u>		Vert. Cir. Rd.	
site	IN3	90° 00' 00"	
"	V-9	122° 38' 51"	(1st)
"	IN3	122° 38' 51"	
"	V-9	155° 17' 36"	
	Minus	90° 00' 00"	
		65° 17' 36"	(Dble)
Mean(a) HCRA		32° 38' 48"	
Total Mean HCRA		32° 38' 51"	

<u>T@TNI</u>		Vert. Cir. Rd.	
		FL	FR
site	V-9	95° 05' 48"	264° 54' 21"
"	V-9	95° 05' 51"	264° 54' 24"
Mean HCRA		95° 05' 43"	

Slope Distance INI → V-9

SD

393.588

393.585

392.589

393.590

390.589

393.587

393.589

393.588

$\bar{x} = 393.588$ $s = \pm 0.002$

Corrected SD = 393.602 m

HT @ V-9

— 1.63

Aug 18, 1979.
 K&N - John K
 Rod - Stein. B.

Weather partly cloud
 Temp. 13°C
 Press. 879 mmb

K@INI

Hor. Cir. Rd.

site	IN3	0° 00' 00"	
"	V-51	52° 12' 27"	(1st)
"	IN3	52° 12' 27"	
"	V-51	104° 25' 00"	
	Plus	0° 00' 00"	
		104° 25' 00"	(Dble)

Mean (a) HCR A 52° 12' 30"

site	IN3	90° 00' 00"	
"	V-51	142° 12' 30"	(1st)
"	IN3	142° 12' 30"	
"	V-51	194° 25' 00"	
	Minus	90° 00' 00"	
		104° 25' 00"	(Dble)

Mean (a) HCR A 52° 12' 30"

Total Mean HCR A 52° 12' 30"

K@INI

Vert. Cir. Rd.

FL.

FR

site	V-51	94° 12' 30"	265° 47' 57"
"	V-51	94° 12' 27"	265° 47' 54"
Mean VCR A		94° 12' 16"	

Slope Distance INI → V-51

SD

574.338

574.338

574.338

574.340

574.340

574.338

574.337

574.340

$$\bar{x} = 574.339 \quad s = \pm 0.001$$

$$\text{Corrected SD} = 574.361 \text{ m}$$

HI @ V-51

————— 1.65

Aug 18, 14-19.
 T&N - John K.
 Rod - Stan B.

Weather: partly sunny
 Temp 12°
 Press. 849 mm Hg

π@INI

hbr. Cr. Rd.

Site	IN3	0° 00' 00"	
"	DDH-54	31° 05' 00"	(1st)
"	IN3	31° 05' 00"	
"	DDH-54	68° 10' 03"	
	Plus	0° 00' 00"	
		68° 10' 03"	(Dble)

Mean (1) HCR Δ 31° 05' 02"

Site	IN3	90° 00' 00"	
"	DDH-54	121° 04' 51"	(1st)
"	IN3	121° 04' 51"	
"	DDH-54	152° 09' 51"	
	Minus	90° 00' 00"	
		62° 09' 51"	(Dble)

Mean (2) HCR Δ 31° 04' 55"

Total Mean HCR Δ 31° 04' 58"

π@INI

Vert Cr. Rd.

FL.

FR

Site	DDH-54	93° 37' 27"	266° 22' 57"
"	DDH-54	93° 37' 24"	266° 22' 57"
Mean HCR Δ		93° 37' 14"	

Slope Distance INI → DDH-54

SD

528.557

528.559

528.557

528.558

528.559

528.557

528.558

528.558

$$\bar{x} = 528.558 \quad s = \pm 0.001$$

Corrected SD = 528.578 m

HI @ DDH 54 ——— 170

July 21, 1979
 75 EN - John K
 Rod - St. n B

Weather Over-Cast.
 Temp 9°C
 Press 883 mmHg

T@TNI

4br. Cir. Rd.

Site	IN3	0° 00' 00"	
"	DDH-93	29° 04' 03"	(1st)
"	IN3	29° 04' 03"	
"	DDH-93	58° 08' 06"	
	Plus	0° 00' 00"	
		58° 08' 06"	(Dble)
Mean (HCR)		29° 04' 03"	

Site	IN3	90° 00' 00"	
"	DDH-93	119° 04' 03"	(1st)
"	IN3	119° 04' 03"	
"	DDH-93	148° 08' 00"	
	Minus	90° 00' 00"	
		58° 08' 00"	(Dble)

Mean (HCR) 29° 04' 00"

Total Mean HCR 29° 04' 01"

T@TNI

Verk. Cr. Rd

FL.

FR.

Site	DDH-93	94° 24' 42"	265° 35' 27"
"	DDH-93	94° 24' 39"	265° 35' 27"
Mean KCR		94° 24' 37"	

Slope Distance INI → DDH-93

SD

480.020

480.028

480.029

480.038

480.028

480.030

480.035

480.022

$\bar{x} = 480.025 \quad S = 0.004$

Corrected SD = 480.041 m

HIT @ INI ——— 1.62

HIT @ DDH-93 ——— 1.74 m

Aug 21, 1974
 TEN - John K.
 Rod - Star B

Weather: over-cast.
 Temp. 11°C.
 Press. 982 mmb

TO TNL

Hor. Circ. Rd.

site	IN3	0° 00' 00"	
"	DDH-102	22° 52' 21"	(1st)
"	IN3	22° 52' 21"	
"	DDH-102	45° 44' 45"	
	Plus	0° 00' 00"	
		45° 44' 45"	(Dble)
Mean(H)	HCR2	22° 52' 22"	

site	IN3	90° 00' 00"	
"	DDH-102	112° 52' 18"	(1st)
"	IN3	112° 52' 18"	
"	DDH-102	135° 44' 42"	
	Minus	90° 00' 00"	
		45° 44' 42"	(Dble)
Mean(H)	HCR2	22° 52' 21"	

Total Mean HCR2 22° 52' 22"

TO TNL

Vert. Circ. Rd.

		FL.	FR.
Site	DDH-102	93° 38' 12"	266° 22' 00"
"	DDH-102	93° 38' 18"	266° 21' 57"
Mean VCR2		93° 38' 10"	

Slope Distance INI \rightarrow DDH-102

SD

- 509.059
- 509.059
- 509.060
- 509.060
- 509.061
- 509.060
- 509.059
- 509.061

$$\bar{x} = 509.060 \pm 0.001$$

Corrected SD = 509.078 m

Ht (a) DDH-102 \rightarrow 1.72 m

Aug 21, 1974.
 T&E - John K
 Rod - Stan B.

Weather partly cloudy
 Temp. 12°C
 Press 883 mmb

T@TNI

		Hor. Cir. Rd.	
Site	IN3	0° 00' 00"	
"	DDH-104	26° 24' 51"	(1st)
"	IN3	26° 24' 51"	
"	DDH-104	52° 49' 45"	
	Plus	0° 00' 00"	
		52° 49' 45"	(Dble)
Mean(H) HCR Δ		26° 24' 53"	
Site	IN3	90° 00' 00"	
"	DDH-104	116° 24' 54"	(1st)
"	IN3	116° 24' 54"	
"	DDH-104	142° 49' 51"	
	Plus	90° 00' 00"	
		50° 49' 51"	(Dble)
Mean(H) HCR Δ		26° 24' 55"	
Total Mean HCR Δ		26° 24' 54"	

T@TNI

		Vert. Cir. Rd.	
		FL	F12
Site	DDH-104	93° 01' 21"	266° 59' 06"
"	DDH-104	93° 01' 21"	266° 59' 06"
Mean VCR Δ		93° 01' 08"	

Slope Distance INI \rightarrow DDH-104

SD

561.874

561.874

561.875

561.875

561.875

561.875

561.876

561.875

$$\bar{x} = 561.875 \quad S = \pm 0.001$$

$$\text{Corrected SD} = 561.895 \text{ m}$$

INI \rightarrow DDH-104 $\pm 1.00 \text{ m}$

Aug 21, 1974.
 T&N - John K.
 Rod - Stan B.

Weather sunny
 Temp 14°C
 Press 883mmB

T@INI		Hor. Circ. Rd.	
Site	IN3	0° 00' 00"	
"	V-37	135° 54' 30"	(1st)
"	IN3	135° 54' 30"	
"	V-37	271° 49' 03"	
	Plus	0° 00' 00"	
		271° 49' 03"	(Dble)
Mean(H)	HCRΔ	135° 54' 30"	
Site	IN3	90° 00' 00"	
"	V-37	225° 54' 30"	(1st)
"	IN3	225° 54' 30"	
"	V-37	1° 49' 00"	
	Plus	270° 00' 00"	
		271° 49' 00"	(Dble)
Mean(H)	HCRΔ	135° 54' 30"	
Total Mean HCRΔ		135° 54' 31"	

T@INI		Vert. Circ. Rd.	
		FL	TR
Site	V-37	89° 52' 27"	270° 08' 27"
"	V-37	89° 52' 24"	270° 08' 30"
Mean	VCRΔ	89° 51' 59"	

Slope Distance INI \rightarrow V-37

SD

709.492

709.489

709.493

709.495

709.493

709.493

709.493

709.492

$$\bar{x} = 709.493 \quad s = \pm 0.002$$

$$\text{Corrected SD} = 709.500 \text{ m}$$

HI @ V-37

1.58m

Aug 28, 1979.
 T&W - John K.
 Rod - Stain B.

Weather: sunny
 Temp. 72
 Press. 881 mmb

T@TNI

		Hor. Circ. Rds.	
site	TN3	0° 00' 00"	
"	DDH-39	140° 19' 03"	(1st)
"	TN3	140° 19' 03"	
"	DDH-39	280° 38' 00"	
	Plus	0° 00' 00"	
		280° 38' 00"	(Dble)
Mean (w) HCRA		140° 19' 00"	

site	TN3	90° 00' 00"	
"	DDH-39	230° 19' 06"	(1st)
"	TN3	230° 19' 06"	
"	DDH-39	10° 38' 06"	
	Plus	270° 00' 00"	
		280° 38' 06"	(Dble)
Mean (w) HCRA		140° 19' 03"	
Total Mean HCRA		140° 19' 01"	

T@INI

		Vert. Circ. Rds.	
		FL.	FR.
site	DDH-39	89° 50' 10"	270° 09' 40"
"	DDH-39	89° 50' 18"	270° 09' 42"
Mean V CRA		89° 50' 17"	

Slope Distance IN1 → DDH 39

SD

641.785

641.786

641.783

641.784

641.785

641.785

641.783

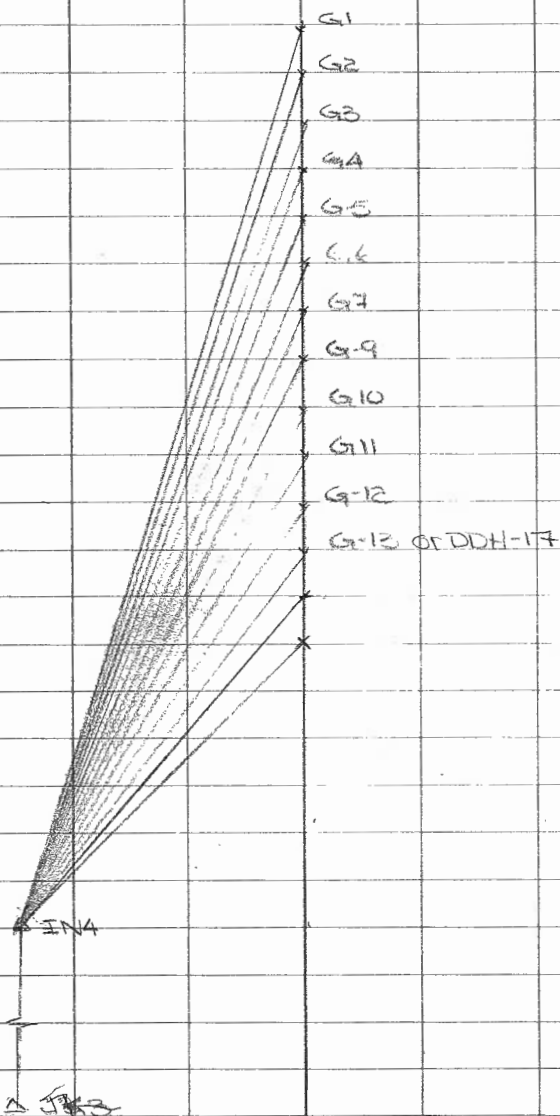
641.784

$\bar{x} = 641.784 \quad s = \pm 0.001$

Corrected SD = 641.805 m

HT @ DDH 39 ————— 1.64 m

HT @ IN1 ————— 1.62 m



Date: Aug 22, 1979

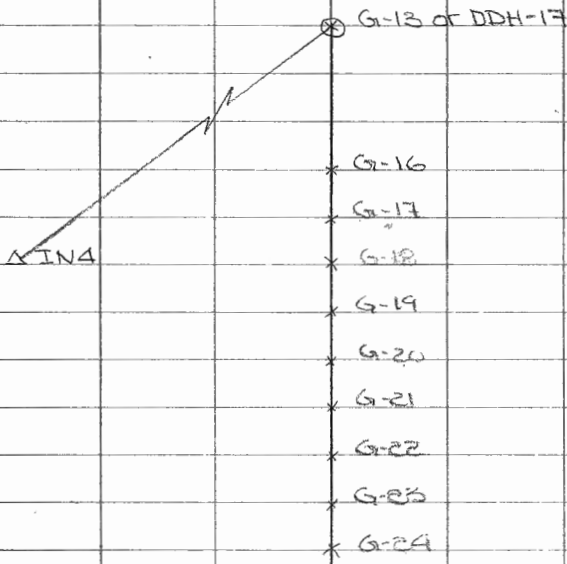
Temp: 50°F
Press: 29.2 mmHg

NEW-John K. Had. Staunb

Point: Hor. Δ Vert. Δ SID (or SID) Hor. Dist. Δ H

K@INA 2117-1.50 ; B.S @ JK3; PI = 1.60m

JK3	00000						
G-1	240°51'06"	235°01'57"	281.946	281.956	280.868	24.733	
G-2	241°56'42"	234°43'33"	270.896	270.905	269.984	22.319	
G-3	242°49'23"	234°18'12"	261.774	261.783	261.045	19.643	
G-4	243°50'06"	234°03'12"	250.652	250.661	250.024	17.718	
G-5	245°17'42"	233°42'51"	240.270	240.278	239.773	15.565	
G-6	246°40'21"	233°19'18"	230.751	230.759	230.371	13.271	
G-7	247°37'42"	232°33'52"	221.619	221.627	221.405	9.918	
G-8	249°16'51"	232°24'45"	211.960	211.967	211.779	8.923	
G-9	251°06'06"	231°49'33"	201.988	201.995	201.892	6.436	
G-10	253°04'45"	231°22'21"	193.036	193.043	192.988	4.624	
G-11	255°17'42"	230°44'29"	184.117	184.123	184.108	2.391	
G-12	257°45'27"	229°57'51"	176.136	176.142	176.142	-0.110	
DDH-700 G-13	260°14'54"	229°19'36"	168.084	168.090	168.078	-1.913	
G-14	263°19'33"	228°08'16"	161.432	161.438	161.352	-5.259	
PI=1.88 G-15	266°46'36"	226°20'18"	155.814	155.819	155.501	-9.951	



Date: Aug 22, 1971.

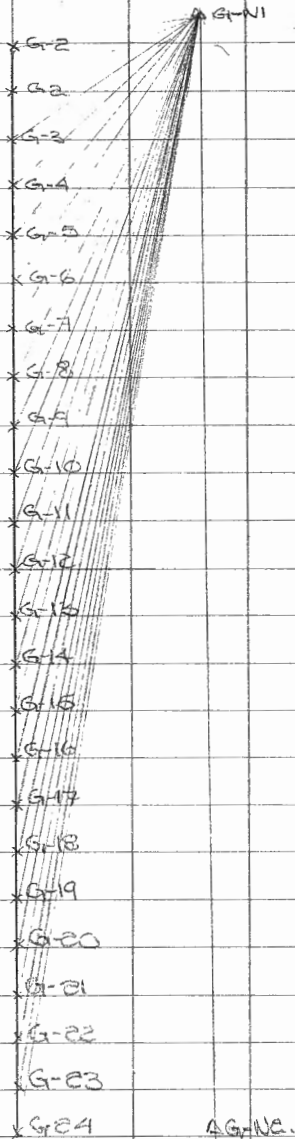
Temp 65°F
Press 883 mm Hg

TEN-John K Red-stair B

Point Hor. Δ Vert Δ SD Corr. SD Hor. Dist. Δ H.

TO	DDH-17		\rightarrow HI = 1.51 m ;	RS IN 4 ;	PI = 1.60 m		
G-16	309°16'21"	266°58'12"	33.797	33.798	22.908	-7.620	
G-17	309°11'15"	261°14'24"	45.615	45.617	45.085	-6.947	
G-18	308°51'07"	262°52'07"	57.0976	57.098	56.657	-7.083	
G-19	309°22'06"	265°06'20"	67.469	67.472	67.226	-5.754	
G-20	310°02'05"	266°37'	78.988	78.991	78.858	-4.662	
G-21	310°43'06"	268°03'57"	89.778	89.782	89.743	-2.508	
G-22	311°48'54"	269°48'01"	100.782	100.786	100.785	-0.342	
G-23	313°10'33"	270°56'	111.248	111.253	111.328	1.814	
G-24	312°57'12"	271°47'21"	122.144	122.149	123.089	3.819	

Line #2 of Group 2 → Sismic Line Pgs 2



AG-NE.

Date: Aug 19, 1979.

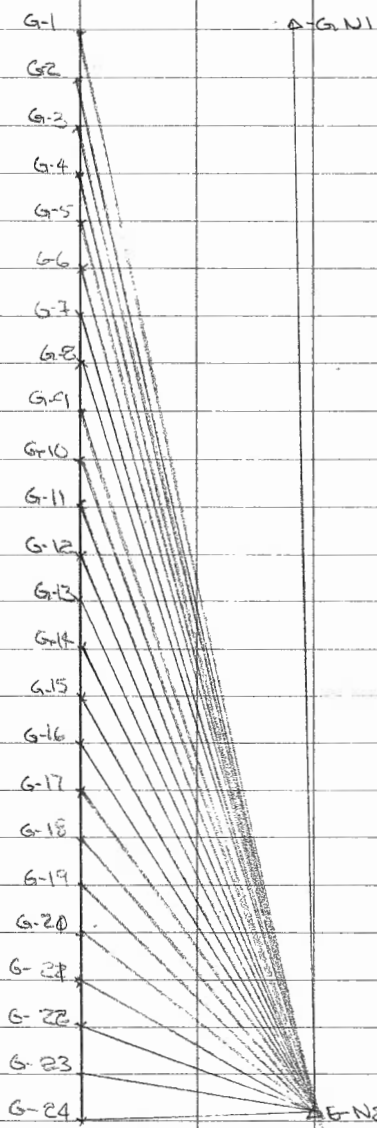
REN-John K

Rod - B.I.I.D.

Point I Hor. Dist Hor. Δ Elev. Δ Elev. Elev.

⊗ Offset Nail HI = 1.542 m

G-1	.14	13.970	92°39'10"	-0.647
G-2	.18	17.932	88°50'39"	-1.102
G-3	.26	25.632	81°55'39"	-3.048
G-4	.38	37.165	72°27'01"	-4.476
G-5	.48	47.349	63°21'09"	-5.552
G-6	.60	59.215	52°08'21"	-6.817
G-7	.70	69.089	41°51'39"	-7.933
G-8	.81	80.072	30°13'48"	-8.591
G-9	.93	98.271	19°09'29"	-8.803
G-10	1.04	108.677	08°08'26"	-9.616
G-11	1.17	116.716	0°16'39"	-5.761
G-12	1.26	125.849	0°21'51"	-4.354
G-13	1.37	136.953	0°09'16"	-2.534
G-14	1.49	148.992	0°54'15"	-1.105
G-15	1.60	159.995	0°03'12"	0.884
G-16	1.71	170.966	0°34'57"	2.417
G-17	1.82	181.902	0°74'36"	4.259
G-18	1.94	193.810	0°18'12"	6.062
G-19	2.05	204.697	0°07'06"	7.870
G-20	2.16	215.555	0°03'48"	9.791
G-21	2.30	229.388	0°01'50"	11.851
G-22	2.40	239.264	0°05'33"	13.272
G-23	2.52	251.132	0°23'13"	14.766
G-24	2.63	261.963	0°02'51"	16.481
G-25	2.63	261.963	0°04'48"	16.481



Date: Aug 20, 1979.

T&N - John K.

Rod - B. 11 D.

Point	I	Hor. Dist	Hor. Δ	Vert Δ	Δ ELEV	ELEV
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T@	G-02	off set nail	HT-	1.548m		
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G-24	0.14	13.999	0°00'00"	89°32'29"	0.1096	
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G-23	0.20	19.860	21°41'06"	94°48'09"	-1.669	
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G-22	0.28	27.652	36°22'24"	96°23'54"	-3.101	
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G-21	0.38	37.428	66°20'30"	97°01'00"	-4.607	
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G-20	0.49	48.126	72°32'15"	97°40'35"	-6.486	
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G-19	0.60	58.787	77°13'21"	98°10'30"	-8.445	
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G-18	0.72	70.476	80°02'15"	98°22'20"	-10.365	
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G-17	0.84	82.173	82°24'57"	98°25'51"	-12.263	
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G-16	0.94	91.874	84°07'21"	98°29'00"	-13.977	
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G-15	1.06	103.668	85°12'00"	98°31'48"	-15.549	
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G-14	1.18	113.260	86°19'18"	98°40'36"	-17.300	
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G-13	1.28	125.149	87°11'36"	98°35'00"	-18.890	
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G-12	1.40	136.875	88°20'09"	98°35'23"	-20.682	
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G-11	1.51	147.716	88°51'12"	98°28'49"	-22.024	
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G-10	1.63	159.677	89°22'24"	98°12'33"	-23.026	
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G-9	1.74	170.459	89°51'00"	98°12'06"	-24.569	
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G-8	1.86	182.542	90°23'12"	97°46'45"	-24.944	
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G-7	1.98	189.007	90°46'27"	97°43'21"	-23.785	
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G-6	2.06	203.386	91°04'12"	96°28'06"	-23.051	
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G-5	2.18	215.762	91°24'06"	95°48'54"	-21.973	
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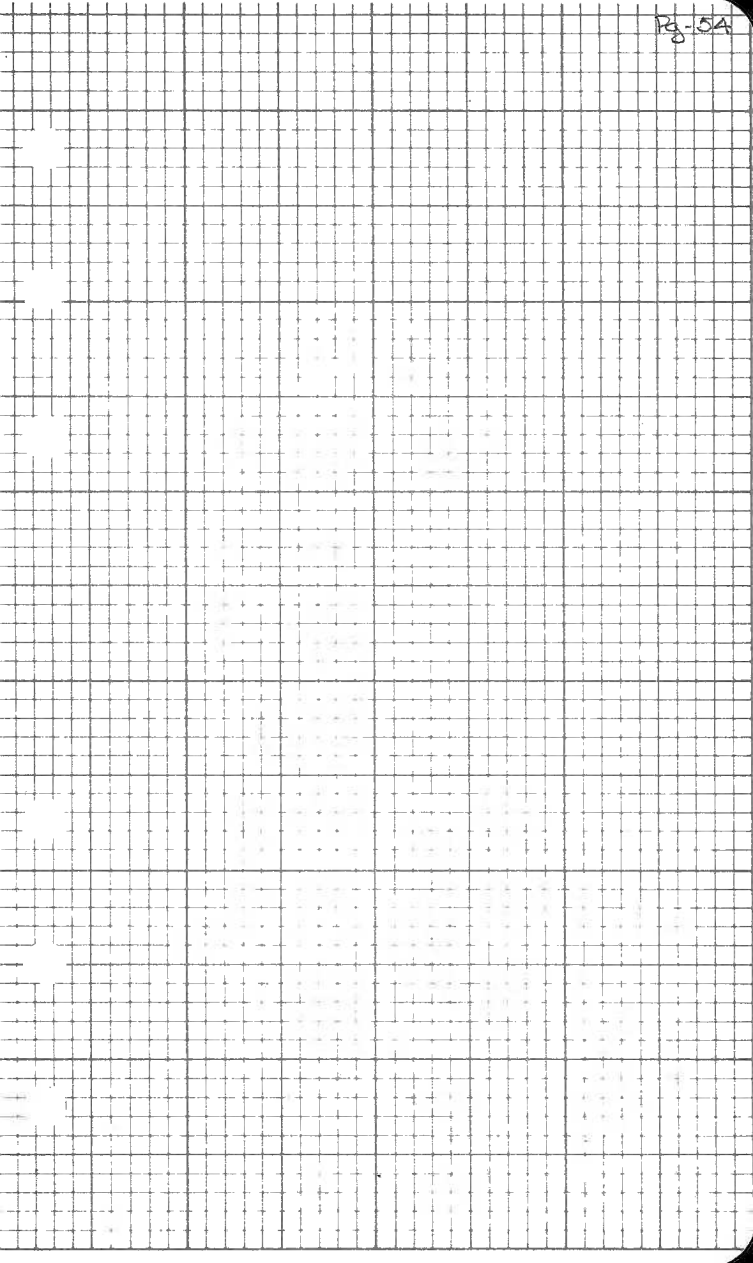
G-4	2.29	227.100	91°41'36"	95°13'36"	-20.774	
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G-3	2.40	238.402	91°56'42"	94°46'51"	-19.520	
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G-2	2.51	249.784	92°12'27"	93°59'30"	-17.430	
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G-1	2.62	260.892	92°22'45"	93°43'45"	-17.009	
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G.N.1	2.61	259.970	91°26'12"	93°35'30"	-16.318	
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Aug 23, 1979
 T&W - John K
 Rod - Stan B.

Weather Sunny/clear
 Temp. 12°C
 Press. 889mmB

<u>π@JK4</u>		Hor. Cir. Rds	
Side	INA	0° 00' 00"	
"	V-20-R	44° 43' 21"	(1st)
"	INA	44° 43' 21"	
"	V-20-R	89° 26' 42"	
	Plus	0° 00' 00"	
		89° 26' 42"	(Dble)
Mean (π) HCRΔ		44° 43' 21"	
<u>Side</u>		<u>INA</u>	
	INA	90° 00' 00"	
"	V-20-R	134° 43' 18"	(1st)
"	INA	134° 43' 18"	
"	V-20-R	79° 06' 27"	
	Minus	90° 00' 00"	
		89° 26' 27"	(Dble)
Mean (π) HCRΔ		44° 43' 13"	
Total Mean HCRΔ		44° 43' 17"	

<u>π@JK4</u>		Verl. Cir. Rds	
		FL.	FR.
Site	V-20-R	101° 20' 24"	258° 40' 00"
"	V-20-R	101° 20' 24"	258° 39' 57"
Mean VCRΔ		101° 20' 13"	

Slope Distance INA \rightarrow V-20-R

SD

139.133

139.139

139.135

139.136

139.137

139.136

139.137

139.138

$$\bar{x} = 139.136 \quad S = \pm 0.002$$

Corrected SD = 139.141 m

HT @ JK4

— 1.29 m

HT @ V-20R

— 1.65 m

July 25 1976.
 X&N - S&N HK
 Rod - Stan B

Weather sunny & clear
 Temp 12°C
 Press: 888 mmb

π@JKA

Hor. Cir. Rd.

Site	JK3	0° 00' 00"	
"	V-49-R	5° 30' 30"	(1st)
"	JK3	5° 30' 30"	
"	V-49-R	11° 00' 54"	
	Plus	0° 00' 00"	
		11° 00' 54"	(Dble)
Mean(H) HCRΔ		5° 30' 27"	

Site	JK3	90° 00' 00"	
"	V-49-R	95° 30' 24"	(1st)
"	JK3	95° 30' 24"	
"	V-49R	101° 00' 54"	
	Minus	90° 00' 00"	
		11° 00' 54"	(Dble)
Mean(H) HCRΔ		5° 30' 27"	

Total Mean HCRΔ 5° 31' 27"

π@JKA

Vert. Cir. Rd.

		FL.	FR.
Site	V-49-R	91° 07' 36"	268° 52' 06"
"	V-49-R	91° 07' 33"	268° 52' 03"
Mean VCRΔ		91° 07' 45"	

Slope Distance JKA \rightarrow V-49-R

SD

501.566

501.564

501.565

501.565

501.562

501.565

501.565

501.564

$$\bar{x} = 501.565 \quad s = 0.001$$

Corrected SD = 501.583 m

X @ V-49R

Vert. Cir. Rd.

EL.

FR.

Site JKA 88° 54' 18"

271° 06' 18"

" JKA 88° 54' 15"

271° 06' 15"

Mean VCR 88° 54' 00"

HI @ JKA — 1.16

HI @ V-49-R — 1.69

HI @ V-49-R — 1.69 m

Aug 23, 1979
 * J.K. - John K
 Rod - Stan B.

Weather: sunny & clear
 Temp: 11°C
 Press: 887 mmb

π@ JK4

		Horo. Cir. Rd.	
Site	JK3	0° 00' 00"	
"	V-312	8° 45' 57"	(1st)
"	JK3	8° 45' 57"	
"	V-312	17° 32' 06"	
	Plus	0° 00' 00"	
		17° 32' 06"	(Dble)
Meaning	HCRA	8° 46' 03"	

Site	JK3	90° 00' 00"	
"	V-312	98° 46' 00"	(1st)
"	JK3	98° 46' 00"	
"	V-312	107° 32' 12"	
	Minus	90° 00' 00"	
		17' 32' 12"	(Dble)
Meaning	HCRA	8° 46' 06"	
Total Mean	HCRA	8° 46' 04"	

π@ JK4

		Vert. Cir. Rd.	
		FL.	FR.
Site	V-312	91° 00' 00"	268° 40' 30"
"	V-312	91° 20' 00"	268° 40' 30"
Mean	VCRA	91° 19' 45"	

Slope Distance JKA \rightarrow V-312

S.D.

509.808

509.805

509.807

509.806

509.805

509.805

509.808

509.805

$$\bar{x} = 509.806 \quad S = 50.001$$

Corrected S.D. = 509.824 m

TA @ V-312

Vert. Cur. Rd.

F.L.

F.R.

Site JKA $88^{\circ}14'18''$ $231^{\circ}18'12''$ Site JKA $88^{\circ}14'18''$ $231^{\circ}18'12''$ Mean VCR $88^{\circ}28'03''$ HT @ V-312 \rightarrow 1.66HT @ JKA \rightarrow 1.16HT @ V-312 \rightarrow 1.66 m

Aug 23, 1979
 T&N - John K.
 Rod - Stamp.

Weather: Sunny & clear
 Temp 18°C
 Press. 887 mmHg

<u>π@ JKA</u>		Hor. Cir. Rds	
site	JK3	0° 00' 00"	
"	V-46-R	14° 30' 15"	(1st)
"	JK3	14° 30' 15'	
"	V-46-R	29° 00' 45"	
	Plus	0° 00' 00"	
		29° 00' 45"	(Dble)
Mean (1)	HCRΔ	14° 30' 23"	
site	JK3	90° 00' 00"	
"	V-46-R	104° 30' 15"	(1st)
"	JK3	104° 30' 15"	
"	V-46-R	119° 00' 42"	
	Plus	90° 00' 00"	
		29° 00' 42"	(Dble)
Mean (2)	HCRΔ	14° 30' 21"	
Total Mean	HCRΔ	14° 30' 22"	

<u>π@ JKA</u>		Vert. Cir. Rd.	
		FL.	FR.
site	V-46-R	91° 52' 48"	268° 07' 39"
"	V-46-R	91° 52' 51"	268° 07' 42"
Mean	VCRΔ	91° 52' 25"	

Slope Distance JKA \rightarrow V-46-R

SD

461.937

461.937

461.938

461.938

461.938

461.938

461.938

461.937

$$\bar{x} = 461.938, s = 10.001$$

$$\text{Corrected SD} = 461.954 \text{ m}$$

Σ @ V-46-R

Vert. Cir Rd

FL

FR

Site JKA

88° 09' 18"

271° 51' 34"

Site JKA

88° 09' 15"

271° 51' 31"

Mean VCRD = 88° 08' 56"

HT @ JKA ——— 1.16

HT @ V-46-R ——— 1.66 m

HT @ V-46-R ——— 1.56 m

AUG 25, 1979
 T&N - John K.
 Rod - Stan F

Weather Sunny
 Temp. 15°C
 Press. 879 mmHg

<u>T@ VGI</u>		Hor. Cir. Rd.	
Site	DY1	0° 00' 00"	
"	79-X-12	344° 36' 42"	(1st)
"	DY1	344° 36' 40"	
"	79-X-12	329° 13' 27"	
	Plus	360° 00' 00"	
		689° 13' 27"	(Dble)
Mean (w) HCRΔ		344° 36' 43"	
Site	DY1	90° 00' 00"	
"	79-X-12	74° 36' 45"	(1st)
"	DY1	74° 36' 45"	
"	79-X-12	59° 13' 30"	
	Plus	630° 00' 00"	
		689° 13' 30"	(1.1.1.1)
Mean (w) HCRΔ		344° 36' 45"	
Total Mean HCRΔ		344° 36' 44"	
<u>T@ VGI</u>		Vert. Cir. Rd.	
		FL	FR
Site	79-X-12	91° 50' 09"	268° 10' 12'
"	79-X-12	91° 50' 09"	268° 10' 18'
Mean VCRΔ		91° 49' 55"	

Slope Distance VGI \rightarrow 79-X-12

SD

798.463

798.462

798.463

798.463

~~798.462~~

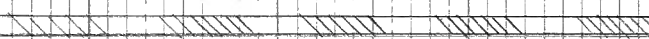
798.463

798.464

798.462

HT @ VGI \rightarrow 1.38HT @ 79-X-12 \rightarrow 1.65 $\bar{x} = 798.462$ $S = \pm 0.001$

Corrected SD = 798.495m

79-X-12

VCR

FL

FL

VGI

87° 32' 18"

270° 08' 15"

VGI

87° 32' 21"

270° 08' 18"

Mean VCR = 87° 32' 02"

HT @ 79-X-12 = 1.55m

HT @ VGI = 1.26m

Aug 25 1979,
 T&N - John K.
 Rod - Stan B.

Weather: Sunny/
 Temp. 17°C
 Pres: 898 mmb

<u>⊗@VGI</u>		Hor. Cir. Rd.	
site	DY1	0° 00' 00"	
"	79-X-11	335° 11' 24"	(1st)
"	DY1	335° 11' 24"	
"	79-X-11	310° 22' 51"	
	Plus	360° 00' 00"	
		670° 22' 51"	(Dble)
Mean(HCRA)		335° 11' 25"	

Mean(HCRA) 335° 11' 25"

<u>⊗@VGI</u>		Vert. Cir. Rd.	
		FL.	FR.
site	79-X-11	92° 28' 57"	267° 31' 36"
"	79-X-11	92° 29' 50"	267° 31' 23"
Mean VCR		92° 28' 42"	

Slope Distance VGI → 79-X-11

SD

HT @ 79-X-11 → 1.65

878.996

878.996

878.995

878.995

878.997

878.996

878.995

878.997

$$\bar{x} = 878.996 \quad s = \pm 0.001$$

Corrected SD = 879.533 m

HT @ 79-X-11

Vert. Circ. Rd.

FL

FR

Swe

88° 10' 32"

87° 50' 12"

Site

88° 10' 32"

87° 50' 15"

Mean VCR Δ

88° 10' 10"

HT @ 79-X-11

LAG

Aug 26, 1979
 T&N - John K
 Rod - Stan B.

Weather High at 0800
 Temp 12°C
 Press 878 mmb

<u>π@INA</u>		
		Hor. Cir. Rd.
Site	JK4	0° 00' 00"
"	V-30-R	350° 12' 54" (1st)
"	JK4	350° 12' 54"
"	V-30-R	340° 25' 42"
	Plus	360° 00' 00"
		700° 25' 42" (Dble)
Mean (a) HCRA		350° 12' 54"
Site	JK4	90° 00' 00"
"	V-30-R	80° 12' 54" (1st)
"	JK4	80° 12' 54"
"	V-30-R	70° 25' 42"
	Plus	630 00' 00"
		700° 25' 42" (Dble)
Mean (a) HCRA		350° 12' 51"
Total Mean HCRA		350° 12' 52"

<u>π@INA</u>			
		Vert. Cir. Rd.	
		FL.	FR
Site	V-30-R	89° 43' 54"	270° 16' 15"
"	V-30-R	89° 43' 54"	270° 16' 10"
Mean VCRA		89° 43' 50"	

Slope Distance IN4 \rightarrow V-30-R

SD

248.198

248.199

248.199

248.199

248.200

248.201

248.199

248.200

$$\bar{x} = 248.199 \quad s = \pm 0.001$$

$$\text{Corrected SD} = 248.208 \text{ m}$$

HI @ INA \rightarrow 1.50 m

HI @ V-30-R \rightarrow 1.68

Aug 26 1970
 ZEN - John K
 Rod - Star B

Weather: High over-cast
 Temp 12°C
 Press: 878 mmHg

X@ INA

Hor. Cir. Rd.

Site	JK4	0° 00' 00"	
"	V-313	343° 54' 12"	(1st)
"	JK4	343° 00' 00"	
"	V-313	327° 48' 24"	
	Plus	360° 00' 00"	
		687° 48' 24"	(Dble)
Mean (2) HCRΔ		343° 54' 12"	

Site	JK4	90° 00' 00"	
"	V-313	73° 54' 06"	(1st)
"	JK4	73° 54' 06"	
"	V-313	57° 48' 21"	
	Plus	630° 00' 00"	
		687° 48' 21"	(Dble)

Mean (2) HCRΔ 343° 54' 10"
 Total Mean HCRΔ 343° 54' 11"

X@ INA

Vert. Cir. Rd.

FL.

FR.

Site	V-313	90° 27' 33"	269° 30' 48"
"	V-313	90° 27' 30"	269° 30' 48"
Mean VCRΔ		90° 27' 22"	

Slope Distance INA \rightarrow V-313

SD

246.649

246.649

246.650

246.650

246.650

246.650

246.650

246.650

$$\bar{x} = 246.650 \quad s = \pm 0.001$$

$$\text{Corrected SD} = 246.659 \text{ m}$$

HI @ V-313 $\text{---} 1.65$

Aug 26, 1979.
 T&N — John K.
 Rod — Stan B

Weather Sunny
 Temp 14°C
 Press 878.9 mmHg

T@INA

		Horiz. Cir. Rd.	
site	JK4	0° 00' 00"	
"	V-314	329° 28' 45"	(1st)
"	JK4	329° 28' 45"	
"	V-314	298° 57' 24"	
	Plus	360° 00' 00"	
		658° 57' 24"	(Double)

Mean (1) HCR Δ 329° 28' 42"

site	JK4	90° 00' 00"	
"	V-314	59° 28' 48"	(1st)
"	JK4	59° 28' 48"	
"	V-314	28° 57' 30"	
	Plus	630° 00' 00"	
		658° 57' 30"	(Double)

Mean (2) HCR Δ 329° 28' 45"

Total Mean HCR Δ 329° 28' 43"

T@INA

		Vert. Cir. Rd.	
		FL.	FK.
site	V-314	91° 54' 30"	268° 05' 36"
"	V-314	91° 54' 30"	268° 05' 36"
Mean	VCR Δ	91° 54' 27"	

Slope Distance INA \rightarrow V-314

SD

249.002

249.000

249.000

249.001

249.000

249.001

249.001

249.001

$$\bar{x} = 249.0015 = \pm 0.001$$

$$\text{Corrected SD} = 249.011 \text{ m}$$

HI @ V-314 \rightarrow 1.69m

Sept 1, 1979.
 T&N-John K
 Rod-Station B

Weather over-cast
 Temp. 6°C
 Press 871 mmb

<u>π@ TNA</u>		
		Hor. Circ. Rd.
Site	JK4	0° 00' 00"
"	V-26-R	333° 58' 30" (1 st)
"	JK4	333° 58' 30"
"	V-26-R	307° 57' 00"
	Plus	360° 00' 00"
		667° 57' 00" (Dble)
Meaning HCRΔ		333° 58' 30"
Site	JK4	90° 00' 00"
"	V-26-R	63° 58' 27" (1 st)
"	JK4	63° 58' 27"
"	V-26-R	37° 56' 57"
	Plus	630° 00' 00"
		667° 56' 57" (Dble)
Meaning HCRΔ		333° 58' 28"
Total Mean HCRΔ		333° 58' 29"

<u>π@ INA</u>			
		Vert. Circ. Rd.	
		FL	FR
Site	V-26-R	93° 16' 24"	266° 43' 30"
"	V-26-R	93° 16' 24"	266° 43' 30"
Mean HCRΔ		93° 16' 27"	

Slope Distance INA \rightarrow V-26R

SD

185.543

185.542

185.544

185.542

185.543

185.542

185.542

185.542

$$\bar{x} = 185.543 \quad S = \pm 0.001$$

$$\text{Corrected SD} = 185.549$$

$$\#1 @ V-26-R = 1.70 m$$

$$\#1 @ INA = 1.49$$

John K.
Rod - Stan B.

Weather over-cast.
Temp. 6°C
Press: 871 mmHg

π@INA

Hor. Cir. Rd.

site	JKA	0° 00' 00"
"	V-315	326° 35' 03" (1st)
"	JKA	326° 35' 03"
"	V-315	293° 10' 09"
	Plus	360° 00' 00"
		653° 10' 09" (Dble)
Mean @ HCR	∧	326° 35' 04"

site	JKA	90° 00' 00"
"	V-315	56° 34' 57" (1st)
"	JKA	56° 34' 57"
"	V-315	23° 10' 00"
	Plus	630° 00' 00"
		653° 10' 00" (Dble)

Mean @ HCR ∧ 326° 35' 00"

Total Mean HCR ∧ 326° 35' 02"

π@INA

Vert. Cir. Rd.

FL

FR

site	V-315	93° 44' 39"	266° 15' 06"
"	V-315	93° 44' 42"	266° 15' 06"
Mean HCR	∧	93° 44' 47"	

Slope Distance IN4 → V-315

SD

- 193.542
- 193.542
- 193.543
- 193.542
- 193.542
- 193.541
- 193.542
- 193.543

$\bar{x} = 193.542 \quad s = 0.001$

Corrected SD = 193.543

HT @ V-315 ————— 1.59m

Sept. 15, 1974.
 T&N - John K.
 Rod - Star B

Weather Over-cast.
 Temp: 6°C
 Press: 870 mmHg

<u>T@INA</u>		Hor. Cir. Rd.	
site	JK4	0° 00' 00"	
"	V-1-R	300° 15' 18"	(1st)
"	JK4	300° 15' 18"	
"	V-1-R	080° 30' 40"	
	Plus	360° 00' 00"	
		640° 30' 42"	(Dble)
Mean(H) HCRΔ		300° 15' 21"	
<u>T@INA</u>		Vert. Cir. Rd.	
site	JK4	90° 00' 00"	
"	V-1-R	50° 15' 18"	(1st)
"	JK4	50° 15' 18"	
"	V-1-R	10° 30' 30"	
	Plus	620° 00' 00"	
		640° 20' 30"	(Dble)
Mean(H) HCRΔ		300° 15' 15"	
Total Mean HCRΔ		300° 15' 18"	

<u>T@INA</u>		Vert. Cir. Rd.	
		FL.	FR.
site	V-1-R	94° 07' 33"	265° 50' 18"
"	V-1-R	94° 07' 33"	365° 50' 15"
Mean HCRΔ		94° 07' 38"	

Slope Distance IN4 → V-I-R

SD

208.363

208.363

208.363

208.364

208.363

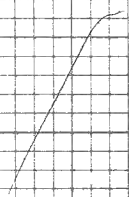
208.364

208.363

208.264

$$\bar{X} = 208.363 \quad S = \pm 0.001$$

$$\text{Corrected SD} = 208.370$$



HI@ V-I-R ————— 1.57m

T&N-John K.
Red- Stan B

Weather: Overcast.
Temp. 8°C.
Press 870 mmb

<u>T@JKA</u>		Hor. Cir. Rd.	
Site	INA	0° 00' 00"	
"	V-117-R	6° 49' 18"	(1st)
"	INA	6° 49' 18"	
"	V-117-R	13° 38' 36"	
	Plus	0° 00' 00"	
		13° 38' 36"	(Dble)
Mean of HCRZ		6° 49' 18"	
Site	INA	90° 00' 00"	
"	V-117-R	96° 49' 18"	(1st)
"	INA	96° 49' 18"	
"	V-117-R	103° 38' 36"	
	Minus	90° 00' 00"	
		13° 38' 36"	(Dble)
Mean of HCRZ		6° 49' 18"	
Total Mean HCRZ		6° 49' 18"	

<u>T@JKA</u>		Vert. Cir. Rd.	
		FL.	FR.
Site	V-117-R	98° 08' 27"	267° 51' 48"
"	V-117-R	98° 08' 27"	267° 51' 48"
Mean VCRZ		98° 08' 20"	

Slope Distance JKA \rightarrow V-117-R

SD

476.049

HI@ V-117-R — 1.59m

476.050

HI@ JKA — 1.30m

476.048

476.050

476.048

476.050

476.049

476.050

$$\bar{x} = 476.049 \quad S = \pm 0.001$$

$$\text{Corrected SD} = 476.066$$

NO V-117-R

Vert. Cr. Rd.

FL

FR

Site JKA

87° 51' 15"

272° 08' 27"

"

JKA

87° 51' 18"

272° 08' 30"

Mean VCRX

87° 51' 24"

HI@ JKA

— 1.17m

HI@ V-117-R

— 1.44m

Temp. over-cast.
 x@N-Johnk
 Rod-stank.

Temp. etc.
 Press: 869 mmHg

x@JKA

		Hor. Cir. Rd.	
Site	INA	0° 00' 00"	
"	V-50-R	256° 34' 18"	(1st)
"	INA	256° 34' 18"	
"	V-50-R	353° 08' 36"	
	Plus	360° 00' 00"	
		713° 08' 36"	(Dble)
Mean (d) HCRA		356° 34' 18"	

Site	INA	90° 00' 00"	
"	V-50-R	86° 34' 12"	(1st)
"	INA	86° 34' 12"	
"	V-50-R	83° 08' 24"	
	Plus	630° 00' 00"	
		713° 08' 24"	(Dble)
Mean (c) HCRA		356° 34' 12"	
Total Mean HCRA		356° 34' 15"	

x@JKA

		Verl. Cir. Rd.	
		FL.	FR
Site	V-50-R	91° 55' 36"	268° 04' 30"
"	V-50-R	91° 55' 36"	268° 04' 27"
Mean VCR		91° 55' 34"	

Slope Distance JKA \rightarrow V-50-R

SD

HI @ V-50-R — 1.60m

442.139

442.139

442.140

442.140

442.140

442.140

442.139

442.140

 $\bar{X} = 442.140$ $S = 50.001$

Corrected SD = 442.156

 \angle @ V-50-R

Vert. Cir. Rd.

Site JKA

FI
88° 03' 51"FR
271° 55' 13"

" JKA

88° 03' 48"

271° 55' 51"

Mean VCRZ

88° 04' 00"

HI @ V-50-R —

1.40m

Sept 1974
 T&N - John K.
 R - Stan B.

Weather, over-cast
 Temp 9°C
 Press' 869 mmb.

π@ JKA

		11050 Cir. Rd.	
Site	INA	0° 00' 00"	
"	V-60-R	348° 16' 21"	(1st)
"	INA	348° 16' 21"	
"	V-60-R	336° 32' 36"	
	Plus	360° 00' 00"	
		696° 32' 36"	(Dble)
Mean(α) HCR Δ		348° 16' 18"	

Site	INA	90° 00' 00"	
"	V-60-R	78° 16' 18"	(1st)
"	INA	78° 16' 18"	
"	V-60-R	66° 32' 39"	
	Plus	630° 00' 00"	
		696° 32' 39"	(Dble)

Mean(α) HCR Δ 348° 16' 19"
 Total Mean HCR Δ 348° 16' 19"

π@ JKA

		Vert. Cir. Rd.	
		FL	FR
Site	V-60-R	91° 52' 42"	268° 07' 24"
"	V-60-R	91° 52' 42"	268° 07' 21"
Mean	VCR Δ	91° 52' 40"	

Slope Distance JKA → V-60-R

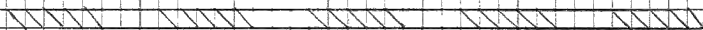
SD

- 428.150
- 428.150
- 428.149
- 428.149
- 428.149
- 428.149
- 428.148
- 428.148

HIT @ V-60-R — 1.60m

$$\bar{X} = 428.149 \quad S = \pm 0.001$$

Corrected SD = 428.164



HIT @ V-60-R

Vert. Cis. Rd.

	FL.	FR.
edge JKA	88° 07' 24"	271° 52' 18"
" JKA	88° 07' 27"	271° 52' 21"
Mean VCRX	88° 07' 33"	

HIT @ V-60-R — 1.51m

✓
709-~~4~~-12

1.65

1.55

709-X-17

V-30-K 1.68