

K-Σ

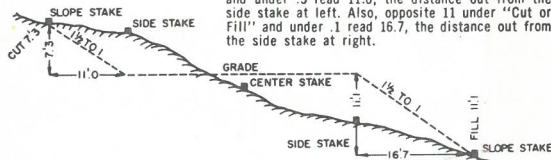
LEVEL BOOK

82 0040

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes $1\frac{1}{2}$ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40



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KEUFFEL & ESSER CO.

Book 70-1

1.3^m / bb

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46
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52
80

WR Oglesby

Florida Dept Natural Resources

Bureau of Geology

Tallahassee, Florida

PO Box 631

Zip 32302

May 20 -1970

Station	Time	Read	1.H.	Elev.	Bar	Location	Description
Miami DB	9:12	11987	1.1'		See Photo	Miami Int'l. Airport	Entrance
Airport	9:15	11989	-			to parking terminal	(See Photo)
	9:17	11991	-				
	9:23	11988	-				
	9:25	11990	-				

Miami							
West Airport	9:46	11958	1.5'				
Miami S	9:48	11956	-				
	9:50	11958	-				
	9:53	11959	-				

Miami DB	10:05	11993	1.1'				
Airport	10:07	11989	-				
	10:08	11991	-				
	10:10	11991	-				

Lower Level of Airport lobby
Obs Gravity 979.0518
R 160

Correction Factor to
National Gravity Net
is - 0.6 mgl.

Station	Time	Read	HH	EI	Bun
Coral Gables	10:35	11504	0.0		1933
Base	10:37	11505	-		A-36
	10:40	11503			Reset
					1943

Location Description
SW 122nd Ave at US 41

Miami DB	11:08	12011	1.1'
Airport	11:10	12008	-
	11:11	12011	-

Key	12:23	08284	1.0	X 313
Biscayne	12:25	08286	-	1970
Lighthouse	12:27	08284		05 ^c JCS
Base				

See Photo - Cape Florida
Lighthouse

Miami	12:43	10034	0.0
Miami	12:45	10034	0.0
Base			

5/20/70

Station	Time	Feet	HT	E1	Bm
Miami	12:55	10025	0.0		
B	12:57	10025	-		

Laundry Room - Down
Main lvs k. Judy Cup^{II} 979.0347

S. Miami	3:00	10225	level 0.0	13.615	South Miami
Base	3:02	10225	with BM	1954	

OSC/GS Disc about 1.5'
1954 above pavement - Painted Buff
US 1 + Sunset Drive

C	4:04	10209	-		
✓	4:06	10208	✓		

5910 Sunset Drive Down Blk.

Miami TB	3:28	12024	1.1'		
Airport	3:30	12022	-		
	3:32	12024	-		

5/21/70

Station
Flange
Horn
1935-1961
Base

Time Read I.H. E1 BM

8:12 04596 1.3'

8:13 04601

8:15 04601

8:17 04604

8:19 04603

8:20 04604

46.16

Location Description

New Cell

5/21/70

Station	Time	Peak	1H	E1	Bun
#1 Coconut Palm Drive	8:56	06115	1.2'	9' Est	N Rec
	8:58	06115		6116	
#2 Eureka Drive	9:18	08052	1.1'		
	9:20	08055	-		
	9:21	08055	-		
#3 Kendall Drive	9:44	10436	0.0	7''	
	9:45	10434			
Goral Gables	10:09	11532	0.0		
Base	10:10	11528	-		
	10:13	11530	-		
-	2:10	11504	0.0		
-	2:11	11507	0.0		
-	2:13	11505			
		11506			

Description

N Side of Coconut Palm Drive

E side of Krome Ave (27)

1' N of Street Sign

S. side of Eureka Drive +

E side of Krome Ave

S. Side of Kendall Drive (SR 94)

+ Krome Ave - W end of Kendall

across canal □ B.M. 7

A-36

		5/21/70			
Station	Time	Read	HH	EL	Bn
Caracas	11:50	10030	1.0		W-36
Base	11:53	10030			Resol 1952

#4
County
Line
025-160
12:26 08828 1.4'
12:29 08829

#5
Road
Curve
087-140
12:45 09181 1.5'
12:47 09179 -

#6
Road
Curve
087-141
1:10 09931 1.5
1:12 09931

#7
025-023
1:33 10137 0.8
1:35 10137

1934
A

USC
GS

WYE-A

at Coal Baffles 114.80

Collier-Monroe Line on US 94
In Roadway - 2' above GL.

On road about 2' above GL.

On road about 2' above GL
at a culvert

100 yds S of US 41 on SR 94
Dade County - W side 94 across
from roadside picnic area
Brass disc in monument
which projects 10" above
ground

5/21/70

Station	Time	Read	HH	FI	Bar
#1	3:02	10415	1.0		USC 168
Shark Valley	3:04	10416			5237
025-102					1165

#8	3:56	10084	1.5	10' Est	
Pinewood	3:59	10086			
025-103					
NE on S - 55S - 40E					

#3	4:20	10421	0.0		
Kendall	4:22	10421			
025-024					
Bar					

115.160
CG

#9	4:35	10292	1.1'	8' Est	
Kendall	4:37	10294			
Lakes					
025-104					

Ludlum			9' Est		
Rd					

Lamp Dried

N. Side US 41 Opp S. Bell
Radio Telephone Relay Station
0.7 miles E of Shark Valley Loop Rd

On top of RR Switch Box 2' sq
+ 1.5' high SE side of RR
tracks at Kendall Ave

Sec 34 - 55S - 39E

SE Cor 14 - 54S - 40E
S. Main 40' N of 67th Ave
SE Cor of Red Bird
Lounge

Station	Time	Read	HH	EI	BM
New Homeshead Florida	1:45	04657	1.4'		
Base City	1:47	04657	✓		
	3:58	04652	✓	del	
	3:59	04657	✓	OK	
	4:00	04656			
	6:15	04668	✓		
	6:17	04670	✓		

New Bull

⑩	2:09	04388	1.5'	6' Est	USGS
Tallahassee 025-105 Rd	2:10	04386	-		

N Side of N Canal Drive + E Side
Tallahassee Rd in SW 14-57S-39E

⑪	Conroy	3:01	03804 (Bench)	2.5'	
Point Base 025-106	3:03	03804	1.2'	Est	

See Photos + Arsenick Keys
At Entry Corner of Bench Behind Quail
docks at Conroy Point

⑫	7th	3:18	03841	0.0	15.5' Est
025-107 mark			03840	✓	USGS Gage Station
⑬					
025-108					

SW pier of Bridge (now
destroyed) a Bronze Disc

5/22/70

Station Time Read HH. Elev BM

⑬ 4:34 05116 1.5 8'

Loveland
025-108 4:36 05116

⑭ 5:07 06605 1.1'

Arvida
025-109 5:09 06607

J-464

Dade
BM

⑮ Coconut 5:32 06189 1.2' 9' ESI NR

Palm Drive
025-100 5:35 06187

⑯ 5:54 05953 1.4' 10' ESI MB-

025-110 5:58 05951

Dade
BM

Location

S. Side Mary Dr - E Side
Loveland Rd (217 Ave) in ^{10W} 24-57S-38E
Dade Cty Witness Post - No Monument

NE Cor 29-56S-38E - roadside

N Side Coco Palm Drive + E Side
Krome.Naranja Rd
SW 147th Ave + Coconut Palm Drive
NE Cor 28-56S-39E

6/8/70 Panama City to Pensacola

Station	Time	Read	HT	El	BM
Phillips Inlet	8:51	04476	0.4'		C 192 1957 USGS
①	8:53	04477	-	4480	USGS R160
	10:04	04481	-		
	10:06	04427	-		
	10:10	04461	-	Geel Change	
	10:12	04461	-		
	11:10	04448	0.10'	North	
	11:12	04449	-		

②	Sulphur	9:26	03993	0.0	13'
	Ht Base	9:28	03995	0.0	USGS

③	Stamped "Port" Washington West "Bay"	10:45	06296	0.7'	
		10:47	06296	-	
		11:35	06289	1.0'	
		1:37	06286	1.0	

On the S side of Hwy 98
About 126' NW of the SW
End of a bridge crossing
Phillips Inlet in 31-25-17W
About 35' West of sign
commemorating Confederate Works
30 East of Entrance to Avondale
Bay Causeway

Circle of Eng - US Army A - Stamped
H-176 1957 34-45-15W.

S. Side Hwy 98 in 32-25-20W
the "Port Washington West"
→ No 1 - 1933" Locater
Cone has been cluttered by
heavy equipment is tilted about
30° West

6/8/70

Station	Time	Point	HH	EL	RM
Destin	1:01	07136	0.0	26.488	LC193
Base	1:04	07136	✓	"	A
(4)	2:07	07147	0.0		USGS
	2:08	07146	0.0		R160
x	3:23	07129	0.0		
	3:26	07131	0.0		

Nassau	2:48	07662	0.9'		
Base	2:50	07661	✓		
(5)	6:29	07631	✓		
	6:30	07630			

Gulf	4:37	07141	0.0		
Breeze	4:39	07143	"		
Base	5:55	07141	✓		
(6)	5:56	07141	✓		
	6:55	07143	✓		
	6:57	07142	✓		

SE Pier of Bridge on
S. Ave of Hwy 98 at
Destin - East Pass
of Ford Walton Beach Aul

U-298 N side of US 98 + W side of
1967 SR 87 about 20' W of a
R160 power pole -

T-25 SE Pier of Old Bridge
1942 from Gulf Breeze to
used Pensacola - Water five p.m. day
GS road at pier was long back
R160

6/8/70

Station	Time	Depth	FI	1/4	BM
Pensacola	5:35	07379	2.4'	1.7'	L-2
Base	5:37	07380	above ground		1940
⑦			15.607 BM		USCF
			13.207 GL		GS

Pensacola Tidal 12 BM
set (2.6') above ground

6/9/70

Station	Time	Depth	FI	1/4	T-31
Milton	9:58	09606	9.058	1.2'	
Base	10:00	09604			1968
⑧					USCF
Milton	10:03	09604	8.888	1.4'	U-9
DB	10:05	09605			1968
	11:43	09605			USCF
	11:45	09605			
	1:26	09640			
	1:28	09639			
	3:05	09633			
	3:07	09634			

40 East of and across track from
former spot of U-9 - 1968
Sec 3 - 1N - 28W - Milton PRR Station
Impression in concrete of former
disk of U-9 - of P 977
Bull 32

6/8/70

Station	Time	Depth	FI	1H	BM
Pensacola	5:35	07379	2.4'	1.7'	L-2
			Disk		
Base	5:37	07380	above		1940
			9mm.		USC1
			15.607 BM		G-5.
			13.207 GL		

Pensacola Tidal 12 BM.
set (2.6') above ground

6/9/70

Station	Time	Depth	FI	1H	BM
Milton	9:58	09606	9.0 Est	1.2'	T-301

Base	10:00	09604			1968
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Station	Time	Depth	FI	1H	BM
Milton DB	10:03	09604	8.888	1.4'	U-9

	10:05	09605	-	-	1968
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	11:43	09605	-	-	USC1
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	11:45	09605	-	-	
--	-------	-------	---	---	--

	1:26	09640	-	-	
--	------	-------	---	---	--

	1:28	09639	-	-	
--	------	-------	---	---	--

	3:05	09633	-	-	
--	------	-------	---	---	--

	3:07	09634	-	-	
--	------	-------	---	---	--

40 Easting and across track from
former Spot of U-9 - 1918
Sec 3 - 1N - 28W - Milton RRR Station

Impression in concrete of former
disk of U-9 - of P 977
Bull 32

6/9/70

Stat	Time	Read	HT	Elev	Bm
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Nbrare	10:47	07636	0.9'		U298
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Base	10:49	07635	-		R160
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(5)

Holley	11:01	08028	0.5'	14.193	6-28 1933
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Base	11:02	08030	above dish		USC 105 R160
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(9)

	11:29	08942 ^{del}	1.0	140 ^{est}	F-298
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(10)	11:30	08947			1967
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	11:31	08946			USC 63
--	-------	-------	--	--	-----------

(7) Pensacola	12:50	07426	0.8	14.170	L-2 1440
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Base	12:52	07426	1.1		
------	-------	-------	-----	--	--

Jay	2:21	09914 ^{del}	1.5'	255 ^{est}	
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DB	2:26	09902	-	(99.16)	
----	------	-------	---	---------	--

#11	2:28	09901			
-----	------	-------	--	--	--

✓	3:53	09900	✓		
---	------	-------	---	--	--

-	3:55	09899	-		
---	------	-------	---	--	--

Dish is 8" above ground

Junction of SR 87 w US 90
East of Milton L & W side of rd brick
US 90 + 30'S RR track

Photo
Defunct Amoco Station on
S side of SR 4 across from
Smith Truck Co. in Jay
At pump base - near water tap.
Concrete raised stand 6"
Across street from Jay City Hall

6/9/70

Station	Time	W as Base	Real	114	E1	Bm
(12) Escambrin	4:26	11344	0.0	62.33	SRD	
River	4:28	11343	✓	59.33	Disc	
(13) Bridge	4:43	11325	0.0	55.33	SRD	
	4:45	11324	✓	54	Disc	

(14) Bridge	4:53	11321	0.0	54.68	SRD	
	4:55	11322	0.0		Disc	

(15) ¹⁰³ Bridge	5:01	11331	0.0	54.62	SRD	
	5:03	11333	✓		Disc	

(16) ¹⁰⁴ Sand	5:14	09651	1.5	260'		
Bot.	5:15	09650		Est.		

Day (11)	5:36	09870	1.5	255'	Est.	
DB	5:38	09872	✓			

NE Pier of Bridge over
Escambrin River - in Santa Rosa Co.
3' below this dish on sub-pier

NW Pier of Bridge in 10
5 N - ^{30 W} 8 E (miles 520.1)

Across Hwy from Saddle

520.5 miles SE Pier of Bridge
11 - ^{30 W} 8 E

520.8 miles - SE Pier of Bridge
5 N - 30 W

521.7 in 13 - ^{30 W} 5 N - 8 E - top
of hill - driveway at road level.

6/10/70

36

104 Station	Time	Read	1H	E1	BM
(16) Sand	8:43	9592	1.5	260'	
Box	8:45	9600	-	E1	
	8:47	9605	-		
	8:48	9607	-		(9620)
	8:50	9606	-		

(17) 105	8:58	9944 ^{del}	1.3'	224'	
	9:00	9948		E1	
	9:01	9948			

(18) 106	9:12	9888	1.3'	233'	
	9:14	9888		E1	

(19) 107	9:27	10223	1.3'	250'	
	9:29	10222		E1	

Anom. High

13-5N-^{20W}8Emils
637.7513-5N-^{30W}8Emils
638.0about 30' fill at bottom
20-5N-^{20W}9E

6/10/70
Station Time Read H E M

(20) 9.34 9632 1.3 268^{ft} NOT

108 9.36 9635 - Rec

(21) 9.49 9630 1.2' 270^{ft}

109 9.50 9632 -

(22) 110 9.57 9675^{ft} 1.3' 265^{ft}

9.59 9671 -

10.00 9670 -

(23) 10.05 9697 1.3 271^{ft}

111 10.07 9699 -

(24) 10.19 9770 1.4 269^{ft}

112 10.20 9770 -

(639.7)

Road leading to HOR II, St Regis

20-5 N-^{28W} TE from SR4

(640.0)

20-5 N 29W

(640.2) mile

20-5 N 29W

(640.45)

19-5 N-29W

(640.7)

Town limits of Jay

19-5 N 29W

6/10/70
 Station Time Read IH EI BM
 (25) 10.27 9793 1.3' 266^{Est}
 113 10.28 9796 "

(11) (100) 10.35 9873 1.5 255^E
 Pan-R 10.36 9873
~~113~~

(16) Sand 10.50 ^{del} 9634 1.5 260^E
 Box 10.53 9641
 10.55 9643

(11) (100) 1.29 9898 1.5 255^E
 AM DB 1.30 9894 "
 Jay DB 1.31 9897 (9910)

(26) 1.38 9912 1.5 255^E
 (114) 9913

(640.95)

19-5N-29^W

(641.25)

41-5N-29^W

653.85 miles

(654.0) miles

41-5N-29^W Intersection of
 SR 89 & SR 4 in Jay

6/10/70

Station	Time	Read	1H	E1	Bm
(27)	1.45	9985	1.3'	252	Nol
115	1.47	9984	-	Est	Rec.

28	2.00	10046	1.4'	240 ^E	
116	2.01	10051			
	2.03	10049			

(29)	2.10	10025	1.4	252 ^E	
117	2.11	10024			

(30)	2.21	10064	1.5	250 ^E	
118	2.23	10064			

(31)	2.37	10081	1.5	251 ^{Est}	
119	2.39	10083	-	-	

(654.2)

29 W
41-5 N-9E

(654.55)

18-5 N 29 W

(654.9)

17-5 N 29 W

(655.4)

42-5 N-29 W

16-5 N 29 W

off S-399 North

655.65

6/10/70

Stop	Time	Read	1H	El	Bar
(32)	2.44	10220	1.5	240	54 Not Rec
(120)	2.45	^{del} 10216	✓		
	2.46	10211	✓		
	2.47	10208	✓		
	2.49	10210	✓		

(11) 2.59 9880 1.5

Pan Am 3.40 9879

(6/11/70)

Century 9.06 11162

DB 9.07 11160

(33) 9.08 11160

10.45 11175

10.46 11174

11.25 11124

11.27 11127

S-399 Santa (656.1)

16-5N-2900

Roadside Park - Pleasantville

6/11/70

Station	Time	Read	IH	EI	Bm
(34) Pinnacle	9:50	09001	1.2	226'	TT100
Base	9.51	09002	-		194

USGS BM tilted at 15° & loose

033-021

(35) Walnut	10.12	08448	1.0'	260'	" Walnut NO2 " 1938
Base	10.13	08448			

USGS R160

(12) Day West Escamela Base	10:56	11366	0.0	62.33	
River Base	10.58	11367	0.0	✓	

of 6/9/70 - Shot on top of Pier level with SRD Disk today

Jay (11)	11.10	09938	1.5		
Pan Am DB	11.12	09936	-		
100	11.42	09910	-		
	11.43	09913	-		

10/14/70

Station	Time	Point	114	El	BM
Daytona	2:05	10485	9.25'	-	-
DB	2:07	10493	-		
DB	2:09	10493	✓		
	2:53	10493	✓		
	2:55	10493	✓		
	5:11	10529	✓		
	5:16	10528	✓		

Daytona	2:40	10907	2.75'
Beach	2:42	10911	
Base	2:44	10912	
St Austin	4:00	17319	2.00
Base	4:02	17316	

E 123
C465
1945
J-15

Daytona Beach DB at
Howard Johnson (before 3 palms)
on I-4 + I-95 Interchange

Municipal Airport R16
Disc is 2.75' above GL
1st even with disc
BM is 1.5' above GL
1st level with disc

10/15/70

Stat Time Read IH EI BM

Winter 3:15 05558 1.21

Park 3:20 05560 ✓

D.B. 4:22 05585 ✓

4:24 05584 ✓

Winter 6:04 05611 ✓

Puffy 6:06 05611 ✓

Box

Winter 3:45 05588 0.0

Park 3:47 05587 ✓

Bar

Daytona 5:15 10502 1.25

DB 5:17 10504

55.70

At Fairbanks exit to T-4
beneath oak tree

See photo

6:11

559

52

NG.B.M.

1966

Howard Johnson

See photo

11/3/70

Station Time Read 114 121 BM

Daytime 7:23 11356 1.2'

D.B. 7:25 11358 ✓

11:15 11357 ✓

11:17 11359 -

12:10 11381 -

12:12 11381 ✓

Summer 10:16 14764 0.0 12.6'

Haven Base 10:18 14765 0.0

Summer 8:45 14793 0.8'

Haven 8:47 14794 ✓

I.B. 10:02 14818 ✓

10:04 14820 ✓

St August. 9.18 18140 1.5' 7.608

Base 9.20 18137 Level with Base

Out Daytime Palm 7:15 AM
miles 6438

Howard Johnson - 3 Palm.

CTGS CTGS Tidal BM #5 loose
6-114 in Seawall -

Cove
A CTGS
1934
1967

11/3/70

Station	Time	Read	HT	El	BM
Danfma	11:43	13506	1.5'	15.213	Tidal
Beach	11:45	13504			9
Base				15	1927

P.B.	2:03	9511	1.3'		
Scotsmore	2:05	9511	✓		
	3:16	9487	✓		
	3:18	9487	✓		
	4:15	9485	✓		
	4:17	9488	✓		

Danfma	2:43	11371	1.2		
--------	------	-------	-----	--	--

DB	2:45	11373			
----	------	-------	--	--	--

New	3:52	9142	1.3'	13.031	H-277
to house			✓		Reset
Base	3:52	9141			1969

BM disc is 3.2' above sidewalk

Beneath S Lane I-95 at
Scotsmore at base of N.E.
filler (at its S. side).
Brevard County
Oak Hill Quad.

11/4/70
 Station Time Read Ht El BM
 O/O 11:05 15142 0.0 17.680 Q 32
 Titusville 11:07 15142 - ✓ 1932
 C+GS

Base
 (New) 8:30 10923 1.2' 25.489 Y-32
 Cocoa Base 8:32 10924 ✓ ✓ 1932
 10:14 10935 1.1' ✓ C+GS
 10:16 10935 ✓
 11:47 10925 ✓
 11:49 10925 ✓

Bithlo 9:21 10804 1.2' 64.08
 D B. 9:23 10803 -
 1:16 10815 ✓
 1:18 10815 -
 3:05 10841 -
 3:07 10843 ✓
 4:27 10832 ✓
 4:30 10835

Cocoa 6770

Disc is 2.5' above G.L.

Inst on disc

N Cocoa, Peachtree St + FEC RR track
 N side of Street + West side of track
 Monument V.S.I. tilted.

N. side of Hwy 50 in Bithlo at
 USGS Observation well - well
 head is about 2.5' above G.L. Bithlo
 26 - 22S - 32E Quail
 beneath 66

Station	Time	Temp	1H	FI	BM
New Titusville	11:16	15168	1.3'		H-227
Base	11:19	15175	✓		Reset
OK	11:20	15173	—		1969
	3:43	15202	✓		
	3:45	15203			

Winter	2:15	12454	1.4'
Park DB	2:17	12459	
	2:19	12459	

11/5/70

Melbourne

7066

out 7:30 AM

Station	Time	Read	1/H	F1	Brn
Malabar	8:20	7214	0.8'		V-229
Base	8:22	7215	✓		1945
	9:49	7222	✓		C165
	9:51	7224	✓		

(W.)	9:07	11052	1.1		4-32
CanBase	9:09	11054			1933

Ft Pierce	2:03	4618	2.5'		
D.B.	2:05	4623	✓		
	2:07	4620	✓		
	3:25	4650	✓		
	3:26	4654	✓		
	3:27	4652	✓		
	4:49	19996	✓		
	4:50	19999			
	4:52	19997			

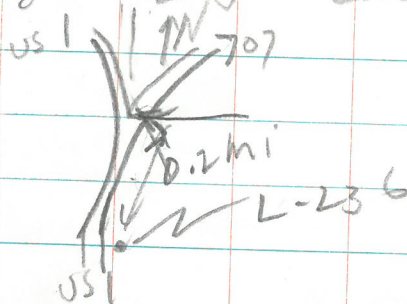
1st Park on Pickman Tally
 Ave Bat 7th St

11/5/70

Station	Time	Read	HT	EI	BM
Vero Beach	2:36	5973	1.1'	14.380	Vero Beach 1932
Base	2:38	5971			
(New) Ft Pierce	3:15	4622	1.5'		K231 A USGS
Base	3:17	4625			

Stuart	4:21	16202	1.3'		L-236
Base	4:23	16202	✓		1965
	5:19	16189	✓		1965
	5:21	16187	✓		

NE Cor of new St Lucie County
Court House at the sidewalk curb
a USGS disk set in sand curb
14 Paces West of — Street
Federal Hwy betw rd & RR
track 0.2 mi S of intersection
US 1 and SR 707 on E
of Hwy — 12' from curb.



11/6/70 125

Station	Time	Read	11.13	FI	Bm
New)	7:18	16475	0.0		Breakers
Palm	7:20	16475	-		△
Beach	8:57	16449	-		1929
Base	8:59	16449	-		

Jupiter	8:08	13699	0.0	35.138	1929
Base	8:10	13698	0.0		#3
	10:25	13696	✓	✓	✓
	10:27	13697	✓	✓	✓
	11:50	13700	✓	✓	✓
	11:52	13699	✓	✓	✓

Stoart	11:05	^{del} 16155	1.3		L-236
Base	11:07	16158	✓		
	11:09	16159	✓		

Palm Beach 7360

out
6:30 Am

SE of SE corner of Breakers Hotel
at Palm Beach at top of small
a 65 dish - wall about
3' high.

11/6/70

Station	Time	Read	HT	FI	BM
---------	------	------	----	----	----

Ft Lauderdale	2:46	10028	0.0		
---------------	------	-------	-----	--	--

D.B.	2:48	10031			
------	------	-------	--	--	--

	2:50	10028			
--	------	-------	--	--	--

	2:51	10031		USE	
--	------	-------	--	-----	--

	2:52	10033			
--	------	-------	--	--	--

	4:35	10013			
--	------	-------	--	--	--

	4:37	10011			
--	------	-------	--	--	--

Ft Lauderdale	3:35	10989	1.3'		
---------------	------	-------	------	--	--

Base	3:36	10986			
------	------	-------	--	--	--

U-235

1965

D.B. on S end of culvert at
45 Ave + Burris Road - South.
(Exit to Sunshine Phing)

BM is 2' above G.L.

11/7/70

Station	Time	Read	1H	FI	BM
New	7:57	16388	3.0	10 ¹ / ₁	Breakers
Palm	7:59	16389	✓		Δ
Beach	8:57	16391	—		1929
Base	8:59	16389	✓		

Palm	8:30	16576	1.4	19' Est
Beach	8:31	16579	✓	
DB	8:32	16578	✓	
	9:24	16585	✓	
	9:25	16588	—	
	9:27	16586	✓	
	11:15	16612	✓	
	11:17	16612	✓	

del.

Ft Lauderdale	10:24	9945	0.0
DB	10:26	9949	0.0
	10:28	9949	
	9:49		

Palm Beach 7639 out 7:45

First Utility pole (concrete)
S E of Okeechobee Blvd on Drexel Rd.
Entrance to Sunshine Skyway Pole
labeled S/E 11-69 FPL 111-40

7770 Palm Beach
Nov 8th
out 7⁰⁰

8176 Tallahassee
Nov 9
3:30 PM

4/6/71

Station	Time	Read	IH	El	BM
DeFuniak	2:33	10817	1.5	259.760	V-10
Springs					CHGS
Base	2:37	10818			1918

DeFuniak	2:44	10816	1.4'	265.013	W-10
Springs	2:47	10818			CHGS
Alternate					1918

Disk is in wall 1.4' above CL.

4/12/71

Station	Time	Real	IH	EI	Proj
Carnegietown	7:12	11042	1.0"	5.331	W-36 Reset 1952
Burr	7:14	11041			
	8:12	11018	0.9'		
+	8:14	11018			
	11:25	10976			
	11:27	10975			

Monroe	7:42	9523	0.8"		R-36
Station	7:44	9522			Reset
✓	7:48	9498			1956
DB	7:49	9499			
	8:36	9501			
+	8:38	9501			
	11:02	9469			
	11:04	9470			

+	9:03	11097	0.8'		CTGS A
	9:05	11096			1934
	10:35	11079			WYF
	10:37	11079			A

Coral Gables Bridge ~~rebuilt~~
+ has destroyed

Dade City - Loop Rd

4/12/71

Station	Time	Read	IH	El	Bm
Lehigh	2:25	14927	1-0'	32.28	LB-69
Acren	2:27	14927	-	[32.08]	
Bessemer	3:44	14922	✓		
09-071-025	3:46	14923	✓		
	5:20	14937	✓		
	5:22	14938	✓		

BM is 1.2' above GL

①	09-071-214				
Homestead	4:15	15442	1-0'	28' Esg	
100 ft	4:17	15444			

②					
Lincoln	4:36	15669	1-0'	26' Esg	
100 ft	4:38	15669			
	09-071-215				

32-445-27E (Alva SW)
Intersection of Homestead Av +
Leeland Hts Blvd - Beneath Sign

33-445-27E - Co Lincoln Av +
Leeland Hts. Beneath Sign (Alva SE)
at Concrete Manhole w/ Mail

4/12/71 & 4/13/71

Station Time Read Ht Fl Bm

Lehigh
 (3) X 5:00 16251 1-0'
 Base (3) 5:02 16251 09-071-216

4/13/71

← Note

Lehigh
 14th (3) 7:26 16279 1-0' 25'
 Joel Blm 7:28 16281 - FS'

Back
 X 8:08 16275 - USGS
 X 8:10 16277 -

9:24 16278 ✓

9:25 16278 ✓

9:58 16268 ✓

10:00 16268 -

10:42 16254 ✓

10:44 16256 ✓

C/Sec 15 - 445-27 E Alva
 Joel Blm E 14th St - ~~penetration~~

S. Cr 14th St; west side
 Joel Blm. beneath
 sign stand

4/13/71

Station	Time	Read	l.h.	l.f.	Bm.
4th X	7:02	14967	1.0'	32.44	4B-69
Aves Box	7:04	14969	-		
(025)	7:46	14950	-		
Platanus Rd.	7:48	14952	-		

Station	Time	Read	l.h.	l.f.	Bm.
(4) X	09-071-217				
Rel. Ave	8:45	16014	1.2	19'	
1. Base	8:47	16014	-	USG	

Station	Time	Read	l.h.	l.f.	Bm.
(5) X	09-071-218				
Prospect	9:01	16112	1.1'	21'	
Av Bush	9:03	16113	-	Est	

Station	Time	Read	l.h.	l.f.	Bm.
(6) X	09-071-219				
Lake	9:15	16200	1.2'		
Base	9:17	16202	-		

West end of 14th St at Lake Ave
 Sec 18 - 44S-27E - Olga Ave
 At Corner, Stake N  Lee Ave
 Loc.

Small Sign - Prospect Ave 14th St
 (SE cor) 17-44S-27E Olga

SEC 14th St & Lake Ave
 16-44S-27E Alva

4/13/71

Station Time Read H F Bm

①
Dog 09-071-220
9:37 16524 1.5' 24'

Cane x 9:39 16524 65'

1B

⑧
1st Grand x 9:50 09-071-221
16394 1.2' 24'

Brk
Bar 9:52 16394 65'

⑨
Tuckahoe 10:13 09-071-222
16994 1.4' 16'

Rl Bar 10:15 16994 65'

⑩
18th St 10:34 09-071-223
16435 1.4' 23.74

Bar x 10:36 16433 23'

⑪
Bell Blvd 3:54 09-071-224
14952 1.2' 31'

South
Base 3:56 14951 65'

4:19 14943

4:21 14945

13-445-27E Alva Quad
End of Permanent at 14th St East
+ Dog Canal (County Line)

SE Cor 14th St + Grant Ave

13-445-27E Alva

NE Cor Tuckahoe Rd + Edward
Driv - SW 26-435-27E - Alva

Spike in tree - SW Cor Bell Ave
18th St - Alva

W. side of Bell Blvd + N side
SR 82 - Sec 27 - 455-27E
Beneath Rd Sign ALVA S.E.

4/13/71

Station Time Read HH EI BM.

Lehigh X 4:08 14953 1.1' 32.44

Acres 4:10 14951 31.24

Pond
PondPond
02512 09-021-225
Bell 4:54 15769 1.1' 25

Blvd 4:56 15772 Est

13 09-021-226
Mirror 5:14 15292 1.0' 31
Lakes 5:16 15292 0565
Half Creek 5:36 15275
Base 5:38 1527214 09-021-227
5:25 15685 1.2 28
5:27 15684 Est15 Bell 5:43 14954 1.2 31'
Blvd 5:45 14954 Est
South
Base

1568

1529

39

Alva SE
Interaction Bell & Joe Blvd
SW 34 - 445-27E - Malakaha - S Side BellSec 22 - 455-27E - Canal on East
Side Bell Blvd. Alva SE

Sec 10 - 455-27E Alva SE

4/14/71

Station	Time	Read	HH	FI	Bm
Albama	8:40	15014	1.1'	32.44	H69
RD 9	8:42	15012		31.24	LB
Base	8:50	15015			
025	8:51	15008			
	8:52	15009			
		14953			

09-071-228					
Lehigh Ave	9:53	15536	1.3'	25'	
Base	9:52	15536	✓	USGS	
Δ	10:46	15539	✓	EST	
P.B.	10:48	15539	✓		
Stone	2:09	15539	✓		
as	2:06	15537	✓		
Base	2:51	15529	✓		
	2:53	15530	✓		
	4:35	15525	✓		
	4:37	15527	✓		

Sec 32-44S-27E, at intersection
of Lee Blvd (State Road 82-B) and
Leeland Hts Blvd (State Rd 873).
Center of 3 Palms on E side
Lee Blvd West side of a Canal
N. Side Leeland Hts Blvd. (ALVA SW)

4/14/71

Station	Time	Reel	114	EL	BN
625 ^x	10:12	14969	1.1	32.44	LB.
Alabama Rd	10:14	14970		31.24	69
Base					

15 ^x	09-071-229		32
Alabama Rd 1B	10:26 15133	1.2	
	10:28 15130	✓	USGS

16 ^x	09-071-230		31
Alabama Rd	10:38 15299	1.3	
1B	10:40 15299		USGS

14th St	09-071-216		25'
Steel	2:13 16287	1-0'	
Base	2:25 16289		Est

Lehigh	2:46 ⁰⁹⁻⁰⁷¹⁻²²⁸	15528	0.0	27' Est
Acres	2:48	15531		
Base		15530		

2.9
1.4
4.3

Section Line Pd at (E) Alabama Rd.

NW Cor 18 - 45S - 27E Alva SW

SE Cor 6 - 45S - 27E Alva SW
W side of Alabama Rd on ^{gravel road} ~~road~~

Southwest Pier of bridge
over canal at Lehigh Hts are
about 100' N. of Lee Blvd. Just
below letters & incised "1960"

4/14/71

Station	Time	Point	HH	El	BM
(17) Archdale	09-071-231	3:09	15618	1.2'	19'
St 1B	3:11	15619			Est

(18) Sunshine Blvd	09-071-232	3:32	15583	1.1'	25'
1B	3:34	15583			Est

(19) Gurney	09-071-233	3:48	15495	1.2'	25'
RL 1B	3:50	15494			Est

(20) SR 82B	09-071-234	4:07	15764	1.4'	22'
at SR 82 Intersection	4:09	15762			Est

(21) Bridge 328 SW1 Pier	09-071-235	4:20	15594	1.5'	25'
	4:22	15597			Est

Alva SW
Section 30 445-27E
S side SR 82-B, beneath sign
Archdale St + Homestead Rd

E side Sunshine Blvd + S side
Hwy 82 B (Lee Blvd) in
26-445-26E Alva SW

N side SR 82 at intersection
w. Gurney Rd (E side) in
28-445-26E Alva SW

N side SR 82-B + N side SR 82
in 25-445-25E Ft Myers SE
SR 82-B Bridge Pier at
1966-Incised Bridge 328 - Sec 30
445-26E - Alva SW

4/15/71

Station	Time	Read	IH	EI	Bm
K. Buckingham	7:32	16505	0.8'		0-73
Bu X	7:34	16502	✓		1934
(R160)	8:20	16506	✓		0765
09-024	8:22	16507	✓		
X	10:18	16506	1.2'		
	10:20	16508			

025	7:58	14985	1.2'	32.44	LTB-
Alabama Rd Box	8:00	14986		31.24	69
	11:47	14988			
	11:49	14985			
	6:06	14991			
	6:08	14991			

4/15/71

Station	Time	Read	HI	FI	Bm
26 x		09-071-236			
Pavement	8:38	16957	1.0	13'	USGS TT18
Road IB	8:40	16957			USGS 1952

Station	Time	Read	HI	FI	Bm
23 x		09-071-237			
Olga	8:54	17307	0.8'	7.215'	1934 N-73
Box	8:56	17306			C+65

Station	Time	Read	HI	FI	Bm
27 x		09-071-237			
FT Myers	9:11	17073	1.1	13'	
Shores IB	9:13	17073			ES1

Station	Time	Read	HI	FI	Bm
28 x		09-071-238			
Aradia	9:25	17108	1.4	14'	1934
Rd. IB	9:27	17107			USGS

Station	Time	Read	HI	FI	Bm
29 x		09-071-239			
Orange	9:44	17000	1.1	5'	
River tower IB	9:46	17000			

28-435-26 E Olga

West side Poughkeepsie R d. erect
BM Edge Chappel-Disc bent but OK

29-435-26 F - Olga

N. Side SR 80 - at Culvert

SW 30-435-26 E FT Myers

N side SR 80 + E side 31 (at Terrace Station)
at power line pole base

35-435-25 E FT Myers

Base of steps to Lockhart Drive

4/15/71

09-071-240

Station	Time	Read	HT	E	Bm
(30) X Orange River Rd	9:57	16794	1.5'	16' Est	
IB	9:59	16793			

(31) X Williams Rd	10:10	16603	1.5'	14'	Not Rec
IB	10:12	16601		USGS	

(32) X Orange River Rd	10:35	16139	0.6'	17'	USGS 65 Wm
	10:37	16142	"		TT 1952?

(33) X Gurney	10:54	15817	1.5'	23' Est	
Buckingham Intersect	10:55	15815			

(34) X Culvert	11:08	15873	1.4'	24'	SRD
Buckingham Rd	11:10	15875	"		USGS Disc

(35) X Bluefish	11:36	15265	1.5'	27' Est	
Canal	11:38	15267	-		
Bk of					

Sec 3 - 445-25E at
Intersection SR 80 & Orange River Blvd

Sec 6 - 445-26E Ft Myers

R160 - 16 - 445 - 26E O184

Sec 21 - 445 - 26E O184
Base of Sign - Gurney - Buckingham

Sec 19 - 445-26E O184
S side Buckingham Rd - on Culvert

Sec 4 - 445 - 26E Abra SW
SW Pier

4/15/71

Station	Time	Read	IH	EI	Bm
Alva	2:50	17136	0.9		K-73
Base	2:52	17136			Reset
69-022	4:27	17148			1948
✓	4:29	17150			6165

606 1716 calc from 025

0196 ✓	4:44	17295	0.9		N-73
Base	4:46	17295			
<u>69-023</u>					

4/15/71

09-071-246

Station	Time	Read	HT	EI	BM
(36) Cemetery	3:07	17355	7.2'	12'	
Read	3:09	17357		Est	

09-071-247

(37) I.B.	3:13	17308	1.2'	11'	
✓	3:15	17306		USGS	

09-071-248

(38) IB ^x	3:29	17233	1.5'	14'	
	3:30	17232		USGS	

09-071-249

(39) IB ^x	3:40	17347	1.5'	15'	
	3:42	17346		Est	

09-071-250

(40) IB ^x	3:55	17651	1.5'	14'	
	3:56	17654		Est	

09-071-251

(41) x Stinking Creek IB	4:05	17780	1.5'	8'	SRD
	4:06	17781		Est	Disc

Sec 16 - 435-27E OlgaN side SR 78 at Cemetery Road
Beneath Sign Cemetery & N River RdNW Cor 20 - 435-27E OlgaS side ^{SR 78} N River Rd at section

Sec 24 - 435-26E S side

78 at Paved rd intersection

Sec 14 - 435-26E N side

SR 78 at Graded road Olga

Sec 9 - 435-26E

N side SR 78 at paved rd intersection Olga

Sec 17 - 435-26E

N side SR (38) at end of center Olga

4/15/71

Station	Time	Real	Alt	Fl	Bm
Ortiz	5:11	16371	1.2	20	
M ⁽⁴²⁾	5:13	16373		Est	

(43) X	5:30	15765	1.5	19	
	5:32	15767		Est	

(44) X	5:58	15145	1.5		NOT
	5:54	15150			Rec
	6:00	15153			

Go back to Alameda Rd base

(45) X	6:20	14861	1.5	35	
	6:22	14863		Est	

(46)	6:31	15057	0.0	34	SRD
Bridge	6:33	15059		USGS	DISK
161					

Fort Myers

Sec 16 - 44S - 25E
At Sign Ortiz Ar & S Galaxy
Drive - beneath power line

Sec 33 - 44S - 25E Fort Myers SE

Sec 11 - 45S - 26E Alva SW
On old road now cut off from 82

Sec 29 - 45S - 27E Alva SW

Sec ³⁵~~34~~ - 45S - 27E Alva SE
SW. C. ~~SE~~ Pier of Bridge

5/2/72

Station Time Road IH El. BM

Holly 9:31 11613 1.5' 182' Road
Hill #12 9:33 11614 Center

Base 10:34 11613 ✓
10:35 11615

12- 11:40 11625 ✓
11:41 11623

12-1 9:54 11828 1.5 155' ✓
9:56 11829

12-2 10:04 11793 1.5 160' ✓
10:05 11794

12-3 10:09 11754 1.5 165' ✓
10:10 11753

Holly Hill Graves Area

Polk County - Haines City

26 S - 27 E Sec 32 9/16 1/2

5/2 / 72

Station Time Read 1H EI BM

60 12-4 10:14 11722 1.5' 170' Road
10:15 11721 Center

12-5 10:21 11693 1.5 175 ✓
10:22 11693

12-6 10:27 11654 1.5 180 ✓
10:28 11654

12-7 10:39 11610 1.5 185 ✓
10:40 11608

12-8 10:44 11584 1.5 189
Hill Top 10:46 11585

5/2/72

Station	Time	Read	IH	FI	BM
12-9	10:55	11609	1.5	185	Street
	10:56	11609			Center

12-10	11:01	11652	1.5	180	✓
	11:02	11652			

12-11	11:05	11694	1.5	175	✓
	11:07	11694			

12-12	11:10	11744	1.5	170'	✓
	11:11	11744			

12-13	11:15	11780	1.5	165	✓
	11:16	11781			

12-14	11:22	11825	1.5	160	
	11:24	11824			

5/2/72

Station	Time	Read	IH	FI	BM
12-15	11:30	11849	1.5	155	Road
		11849			Center

BM Not recovered at Tank Rd
on US #27 opposite
Road #12 Holly Hill
6 Monument Bases

□	□	□
---	---	---

□	□	□
---	---	---

35' 174'

BM 11:57 11731 3.5' 174'
at 11:59
Tank Rd

5/3/72

Station Time Read I H F I B M

31-1 9:53 12525 1.5 125'
 9:54 12527 -

31-2 9:58 12492 1.5 130
 9:59 12494

31-3 10:03 12457 1.5 135
 10:04 12456

31-4 10:08 12424 1.5 140
 10:09 12419
 10:10 12420

31-5 10:12 12344 1.5 150
 10:13 12341

5/3/72

STATION TIME READ I H E L. B.M.

31-6 10:14 12268 1.5 160
 10:15 12268

31-7 10:17 12198 1.5 170
 10:18 12199

31-8 10:20 12125 1.5 180
 12121

31-9 10:35 12062 1.5 190
 12061
 12060

36-Best 11:00 11929 1.5 220
 11933
 11932

STA	TIME	5-3-72 ROAD	1H	EL	RM
36-1	11:06	12010	1.5	210	
		12016			
		12009			
36-2	11:22	11979	1.5	210	
		11985			
		11982			
		11983			
36-3	11:28	11890	1.5	220	
		11890			
36-4	11:35	11963	1.5	210	
		11964			
36-5	11:38	12039	1.5	200	
		12037			

STA	TIME	READ	1H	EL	RM
36-6	11:43	12071	1.5	195	
		12077			
		12081			
		12075			
		12076			
36-7 (1/2 742)	11:48	12073	1.5	198	
		12068			
		12072			
36-8 (42)	11:53	12070	1.5	192	
		12068			
31-1	11:59	12591	1.5	125	
		12586			
		12591			
		12590			
		12526			
		<u>12526</u>			
		.64			

5/3/72

Station	Time	Read	IH	FI	BH
25-1	4:10	11923 ³	1.5	220	(D.H.)
		11932			
		11935			
		11926			
		11930			

25-2	4:19	12075	1.5	200	1.5
		12076			

25-3	4:25	12239	1.5	180	1.6
		12243			
		12243			

25-4	4:32	12397	1.5	160	
		12402			1.6
		12404			

St	Time	Read	IH	FI	BH
25-5	4:39	12572	1.5	140	D.H.
		12576			1.7
		12570			
		12572			

25-6	4:50	12703	1.5	125	1.3
		12702			

25-1	4:58	11924	1.5	220	
		11923			

5/4/72

Sta	Time	Read	IH	EI	Bm
B	8:48	11736	1.5	165'	
Base		11736			0.0

B-1	8:53	11732	1.5		W. 20 Paces -0.5
		11731			

B-2	9:02	11723	1.5		W. 40 Paces -1.0
		11722			

B-3	9:06	11708	1.5		W 60 Paces -1.4
		11709			

B-4	9:14	11701	1.5	+5.0	W 80 P. -0.7
		11701		170'	

B-5	9:20	11694	1.5		W 100P -0.7
		11695			

5/4/72

Station	Time	Read	IH	EI	Bm
Well #B	9:33	11705	1.5		W110P (B-5) +1.2
Inventor's		11707			

B-6	9:29	11703	1.5		W120P (B-5) +1.0
		11704			

B-7	9:43	11704	1.5		W+140P +0.2
		11706			
		11705			

B-8	9:48	11700	1.5		W+160 -0.5
		11701			

B-9	9:52	11701	1.5		W+180 +0.0
		11701			

5/4/72

Sta	Time	Read	IH	I/I	Bm
B	10:07	11766	1.5	165'	0.0
Base		11768			
		11767			

B-10	10:13	11701	1.5		Wt 200 P.
		11704			± 0.0
		11701			

B-11	10:20	11695	1.5		Wt 220
		11695			-0.6

B-12	10:28	11700	1.5		Wt 240
		11701			+0.6

B-13	10:32	11689	1.5		Wt 260
		11692		11691	-0.9
		11691		11655	

Stat	Time	Read	IH	E/I	Bm
B-14	10:37	11691	1.5		Wt 280
		11690			0.0

B-15	10:42	11694	1.5	175'	Wt 300
		11692		11693	0.0
				11655	+0.3

B-16	10:48	11658	1.5		Wt 400 P.
		11686			-0.6

B-17	10:53	11705	1.5		Wt 500 P.
		11707			+1.9

B-18	10:59	11710	1.5	173'	Wt 514
		11708		11709	+0.3
				11658	

		11709			
		11658			

514172
 St Time Read IH FI BM
 Base 11:13 11779 1.5 165' Road +
 B 11779 W+32

64
 182

B-19 11:24 11813 1.5 160' Road
 11811 E 32
 Center +
 post

11812
 43
 11769
 228

B-20 11:29 11851 1.5 155' +
 11849 E 7' 6"

11851
 4
 11847

B-21 11:34 11887 1.5 150' E+
 11885 149

447

B-22 11:44 11945 1.5 142'
 opp sink 11945

Base 11:50 11776 1.5 165'
 B 11777



-15-10-25 00

Pase

-0.5

-1.6

-1.5

119.30

108.07

954.40

128.90

10.8

1907.20

954.40

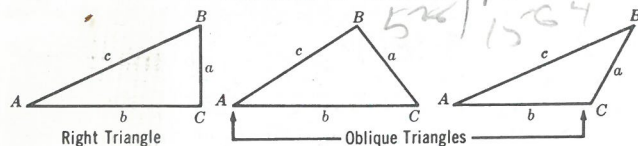
42.80

Gas Flare at 4:00 PM
through separator.

↑ 81992 Mant
WAP R
East
2420 Johnson 0997

22000
2208
176
1987

SOLUTION OF TRIANGLES



Solution of Right Triangles

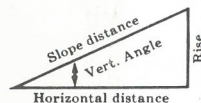
For Angle A, $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{a}$, $\csc = \frac{c}{b}$

Given a, b	Required A, B, c	$\tan A = \frac{a}{b} = \cot B$, $c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
a, c	A, B, b	$\sin A = \frac{a}{c} = \cos B$, $b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
A, a	B, b, c	$B = 90^\circ - A$, $b = a \cot A$, $c = \frac{a}{\sin A}$
A, b	B, a, c	$B = 90^\circ - A$, $a = b \tan A$, $c = \frac{b}{\cos A}$
A, c	B, a, b	$B = 90^\circ - A$, $a = c \sin A$, $b = c \cos A$

Solution of Oblique Triangles

Given A, B, a	Required b, c, C	$b = \frac{a \sin B}{\sin A}$, $C = 180^\circ - (A+B)$, $c = \frac{a \sin C}{\sin A}$
A, a, b	B, c, C	$\sin B = \frac{b \sin A}{a}$, $C = 180^\circ - (A+B)$, $c = \frac{a \sin C}{\sin A}$
a, b, C	A, B, c	$A+B = 180^\circ - C$, $\tan \frac{1}{2}(A-B) = \frac{(a-b) \tan \frac{1}{2}(A+B)}{a+b}$, $c = \frac{a \sin C}{\sin A}$
a, b, c	A, B, C	$s = \frac{a+b+c}{2}$, $\sin \frac{1}{2}A = \sqrt{\frac{(s-b)(s-c)}{bc}}$, $\sin \frac{1}{2}B = \sqrt{\frac{(s-a)(s-c)}{ac}}$, $C = 180^\circ - (A+B)$
a, b, c	Area	$s = \frac{a+b+c}{2}$, $\text{area} = \sqrt{s(s-a)(s-b)(s-c)}$
A, b, c	Area	$\text{area} = \frac{bc \sin A}{2}$
A, B, C, a	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = $5^\circ 10'$. From Table, Page X, $\cos 5^\circ 10' = .9959$. Horizontal distance = $319.4 \times .9959 = 318.09$ ft.
Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. $\cosine 5^\circ 10' = .9959$, $1 - .9959 = .0041$, $319.4 \times .0041 = 1.31$, $319.4 - 1.31 = 318.09$ ft.

When the rise is known, the horizontal distance is approximately: the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance = $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.

