

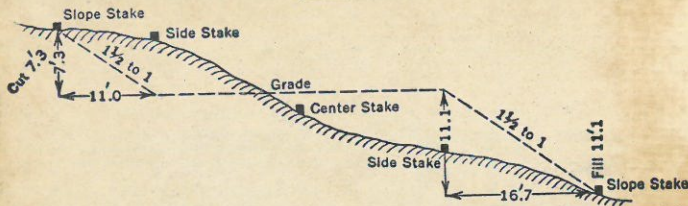
1957

1957
AUGER
SAMPLE
PROFILES

15

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	Distance out from Side or Shoulder Stake										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
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

The paper in this book No. 373 A
is made of 50% high grade rag stock
with a WATER RESISTING surface sizing.

Fla. Geological Survey
Book # 4.

Index

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AS-320

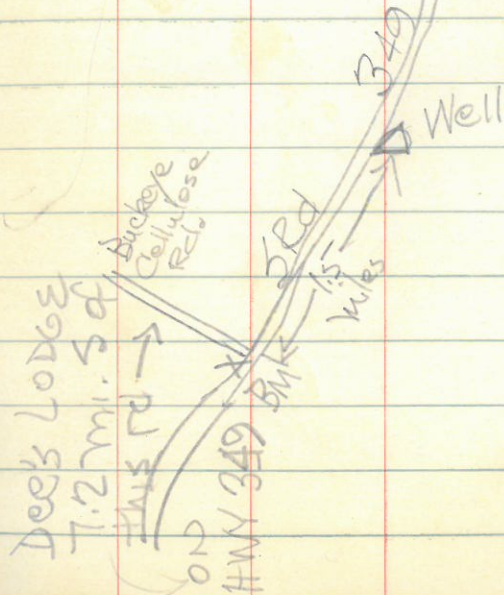
6 Aug. 57
CloudyPerry Kilbourn T
D.A. Whitehead

Sta	Bs	HI	FS	Elev.
u.s. G & R.S. BM TT	4.55	16.35		11.80
TP 1	5.52	16.70	5.17	11.18
TP 2	5.30	17.20	4.80	11.90
TP 3	5.15	17.22	5.13	12.07
TP 4	4.80	16.77	5.25	11.97
TP 5	5.03	15.94	5.86	10.91
TP 6	4.89	15.81	5.02	10.92
TP 7	5.15	16.06	4.90	10.91
TP 8	4.96	15.89	5.13	10.93
TP 9	4.72	15.85	4.76	11.13
AS-320			5.40	10.45

EBs 50.07 11.80
 EFS 51.42 10.45
 1.35 cko 1.35

N ↑

OLD TOWN



2/

AS-B11

10.8' L50

obtained from
U.S.G.S. BM

6 Aug 57

Raining like Hell

DA Whitfield

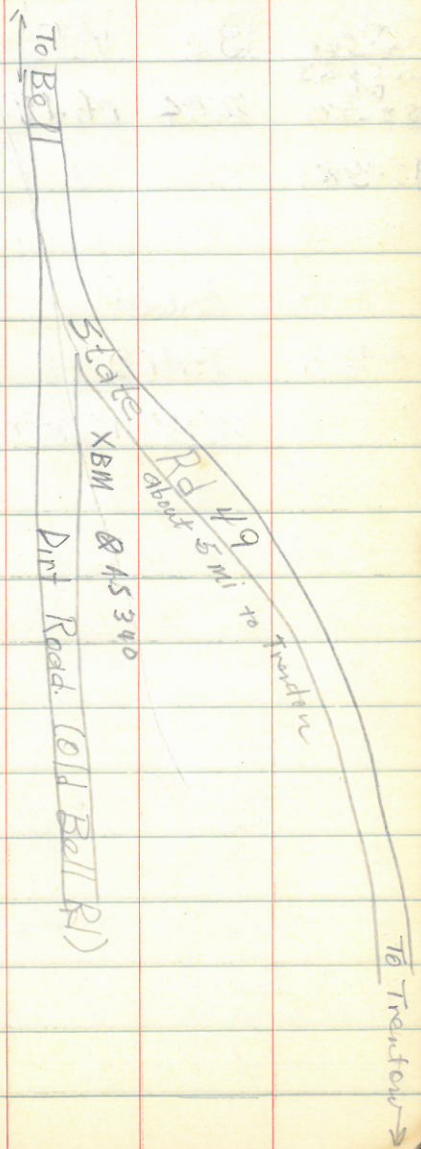
3)

A.S. 340

Aug 7, 1957
CloudyD.A. Whitehead &
J. P. Kilbourn

Sta	BS	HI	FS	Elev
USCGS BM BF 54	3.72	54.48		50.76
AS-340			4.63	49.85

ΣFS	4.63		Σ0.76
ΣBS	3.72		49.85
	.91	cls	.91

N
↑

4

AS-341

1 Aug. 57
Cloudy & RAINYJ.P. Kilbourn &
D.A. Whitehead

Sta	BS	HI	FS	ELEV
USCGS BM BF-50	2.44	80.10		77.66
AS-341			6.00	74.10

SFS	6.00	77.66
EBS	2.44	74.10
	3.56 obs	3.56



1.4 Miles
 PLANTED SLASH on
 TRAIL FOREST
 BM RIGHT ON EDGE

5

A.S.-337

Aug 7, 1957

Cloudy

D.A. Whitehead A

J.P. Kilbourn

Sta	BS	HI	FS	Elev
U.S.C&GS BM BF65	2.44	76.31		73.87
TP-1	0.34	65.05	11.60	64.71
TP-2	3.66	59.56	9.15	55.90
TP-3	6.58	65.22	0.92	58.64
TP-4	2.80	57.94	10.08	55.14
TP-5	8.97	55.88	11.03	46.91
AS-337			7.71	48.17

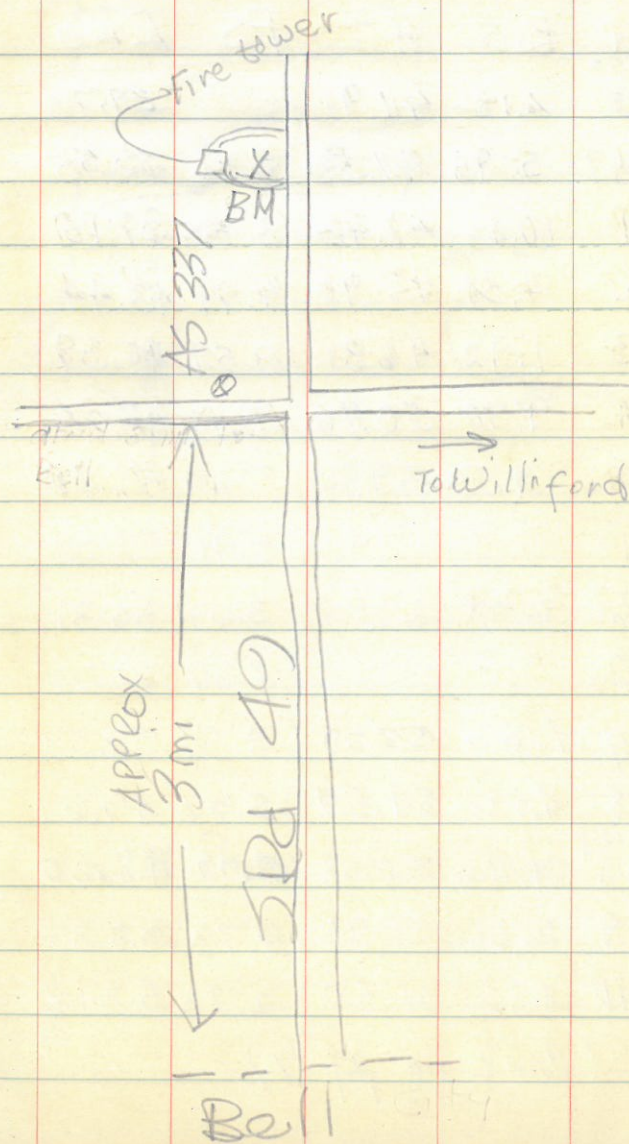
Σ BS 24.79

73.87

Σ FS 50.49

48.17

25.70 cks 25.70



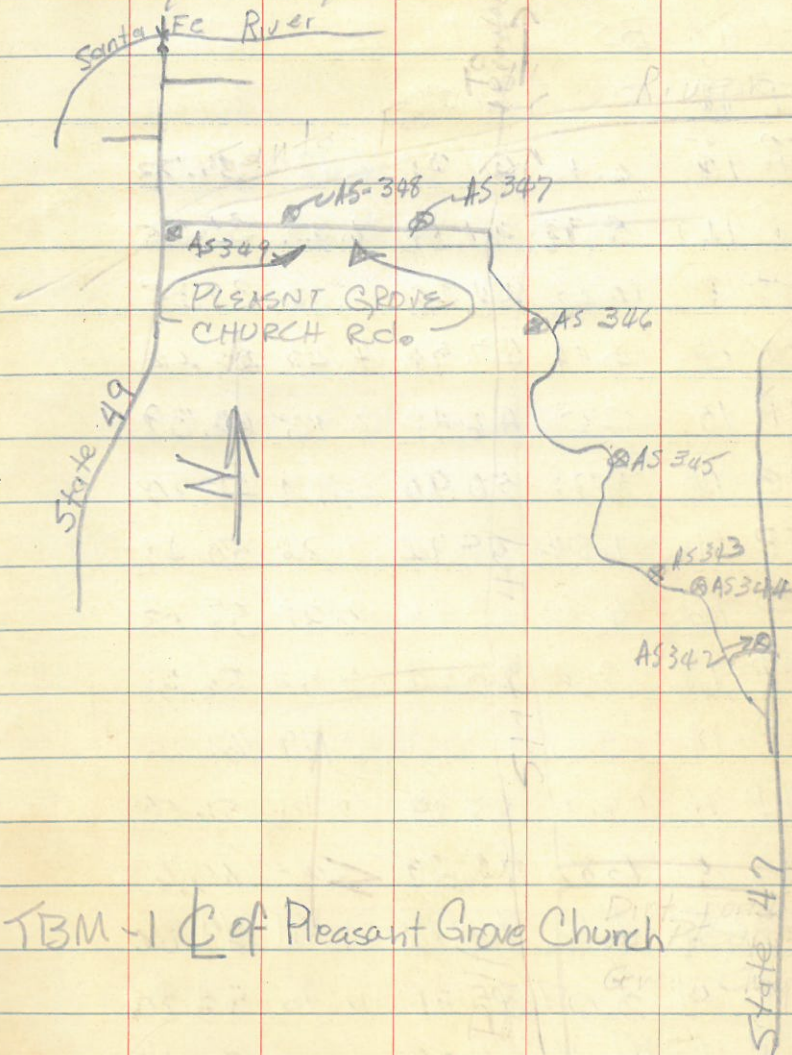
6) Profile A-A'

Sta	BS	HI	FS	Elev
BF 73	2.18	41.91		39.73
AS 349	5.95	41.50	6.36	35.55
TP 1	10.48	48.43	3.55	37.95
TP 2	4.54	47.98	4.99	43.44
TP 3	1.92	46.31	3.59	44.39
TP 4	9.70	50.90	5.11	41.20
TP 5	9.53	59.94	.49	50.41
CP 1			2.91	57.03
TP 6	6.58	62.89	3.63	56.31
CP 2			1.60	61.29
TP 7	1.00	55.59	8.30	54.59
TP 8	4.92	54.59	5.92	49.67
CP-3#				
TBM-1	9.43	58.03	5.99	48.60
TP 9	2.61	55.91	4.73	53.30
TP 10	8.32	61.50	2.73	53.18

(Can't on pg 7)

Aug. 7, 1957
Cloudy & Bright

J.P. Kilbourn
D.A. Whitehead



TBM-1 @ of Pleasant Grove Church

State 49

7) Cont from pg 6

Aug. 8, 57

Sta	BS	HI	FS	Elev
TP 10		61.50		
TP 11	6.46	61.48	6.48	55.02
TP 12	4.37	57.40	8.45	53.03
TP 13	5.18	62.55	.03	57.37
TP 14	5.18	63.44	4.29	58.26
TP 15	2.52	63.00	2.96	60.48
TP 16	7.90	66.96	3.94	59.06
CP 4	1.84	64.92	3.88	63.08
TP 17	6.82	63.46	8.28	56.64
TP 18	8.40	65.89	5.97	57.49
TP 19	5.27	67.57	3.59	62.30
TP 20	6.91	69.99	4.49	63.08
AS 347	6.80	73.73	3.06	66.93
CP-5	1.12	72.94	1.91	71.82
TP-21	3.07	65.03	10.98	61.96
CP-6	10.19	69.22	6.00	59.03
TP-22	9.30	76.94	1.58	67.64

(QV6)

Sta	BS	HI	FS	Elev
TP 11	3.68	56.71		53.03
AS 348			4.56	52.15

We passed AS 348, then
came back and shot it
using TP 12 which was
clearly marked.

8/ Cont. from Pgs. 7

CP = Check Point

Sta	Bs	HI	FS	Elev
TP-22		76.94		
CP-7		(3.05)	73.89	
TP-23	3.52	77.89	3.57	73.37
TP-24	10.68	81.09	6.48	70.41
TP-25	6.10	80.62	6.57	74.52
TP-26	2.27	77.84	6.05	74.57
TP-27	6.69	76.46	7.07	69.77
TP-28	4.30	79.35	1.41	75.05
TP-29	0.01	75.52	3.84	75.51
TBM-2	5.52	78.21	2.83	72.68
TP-30	11.45	80.25	2.41	68.80
TP-31	6.15	82.34	4.06	76.19
CP-8	4.29	81.35	5.28	77.06
TP-33	5.67	82.37	4.65	76.70
TP-34	6.71	84.67	4.41	77.96
TP-35	2.80	83.06	4.41	80.26
TP-36	6.70	83.33	6.43	76.63

8 Aug 57

TBM-2 Piece of wood imbedded in ground
at intersection & right turn in road.

3) Con 4 from Pgs 8

Sta	Bs	H.I.	FS	Elev
TP-36		83.33		
TP-37	3.51	82.55	4.29	79.04
TP-38	4.33	83.25	3.63	78.92
TP-39	3.48	81.24	5.49	77.46
TP-40	4.96	82.95	3.25	77.99
TP-41	3.82	82.10	4.67	78.28
TBM-3 CP-9	4.99	82.32	4.77	78.33
TP-43	5.18	82.97	4.53	77.79
TP-44	5.40	84.99	3.38	79.59
TP-45	5.32	84.61	5.70	79.59
TP-46	7.93	87.40	5.14	79.47
CP-10	4.18	83.87	7.71	79.69
AS-346			4.67	79.20 ^{ck}
CP-11	3.86	80.69	7.04	76.83
TP-47	3.93	78.96	5.66	75.03
TP-48	5.34	78.72	6.08	72.88
TP-49	4.28	76.19	6.31	71.91

9 Aug. 57 (Begins with TP-43)
Cloudy DA Whithead T

TBM-3 8" L, 1" DIA Stake driven
flush with ground at intersection
in rd. 0.3 mi past last house on
right. 6 paces from a dead
tree on W side of tree. Stake
is on E side of rd.

10) Cont from Pg 9

Sta	B2	HL	FS	Elev
TP-40		76.19		
TP-50	4.23	76.47	3.95	72.24
TP 51	7.91	77.62	6.76	69.71
TP 52	4.79	76.12	6.29	71.33
TP 53	4.85	76.01	4.96	71.16
TP 54	5.52	76.93	4.60	71.41
TP 55	5.69	76.12	6.50	70.43
TP 56	5.24	76.83	4.53	71.59
TP 57	7.03	76.80	7.06	69.77
CP 12	5.52	76.70	5.62	71.18
TP 58	5.68	76.15	6.23	70.47
TP 59	4.48	75.36	5.27	70.88
TP 60	5.43	76.40	4.39	70.97
CP 13				
TBM 4	5.88	76.57	5.71	70.69
TP 61	3.68	75.64	4.41	71.96
TP 62	6.34	78.14	3.84	71.80

Cont on pg 11

9 Aug 57
Cloudy & Hot

J.A. Whithead

TBM 4 Mark on ground 4" from
2" oak limb driven into
ground on the NW side
of the road 2.4 mi from
TBM 3

11

Con't. from pg 10

Sta	BS	HI	FS	Elev
TP 62		78.14		
TP 63	6.18	75.96	8.36	69.78
TP 64	4.45	74.22	6.19	69.77
TP 65	6.98	74.91	6.29	67.93
TP 66	5.04	73.69	6.26	68.65
TP 67	4.31	71.54	6.46	67.23
TP 68	5.38	69.88	7.04	64.50
TP 69	4.83	69.02	5.69	64.19
CP 14	2.92	66.30	5.64	63.38
AS 343			(4.33)	61.97
CP 15	5.68	62.48	9.50	56.80
TP 70	.93	54.29	9.12	53.36
CP 16	1.32	48.85	6.76	47.53
TP 71	4.94	47.91	5.88	42.97
TP 72	4.60	42.98	9.53	38.38
TP 73	4.62	41.50	6.10	36.88
AS 344			(7.24)	34.26

12)

Con't from pg 11

Sta	BS	HI	FS	Elev
TP 73		41.50		
CP 17	3.01	40.59	3.92	37.58
TP 74	10.10	47.49	3.20	37.39
TP 75	5.58	41.85	11.22	36.27
CP 18				
TBM 5	4.26	40.70	5.32	36.53
CP 19	10.78	42.65	8.92	31.87
CP 20	2.82	43.91	1.56	41.09
TP 76	7.79	45.16	6.54	37.37
TP 77	8.44	43.54	10.06	35.10
CP 21	4.68	44.16	4.06	39.48
TP 78	6.44	44.88	5.72	38.44
AS 342			4.71	40.17
CP 22			4.3	40.57

TBM 5

Ground level on the
W side & at the base
of an 8" oak with
a "2" painted on the
NW side. 0.8 mi from
state hwy 47 where
road turns W.

13/

AS-336

10 Aug 57
SunnyD.A. Whitehead &
J.P. Kilbourn

Sta BS HI FS Elev.

usc #65
BM BH-21

4.71 70.70

65.99

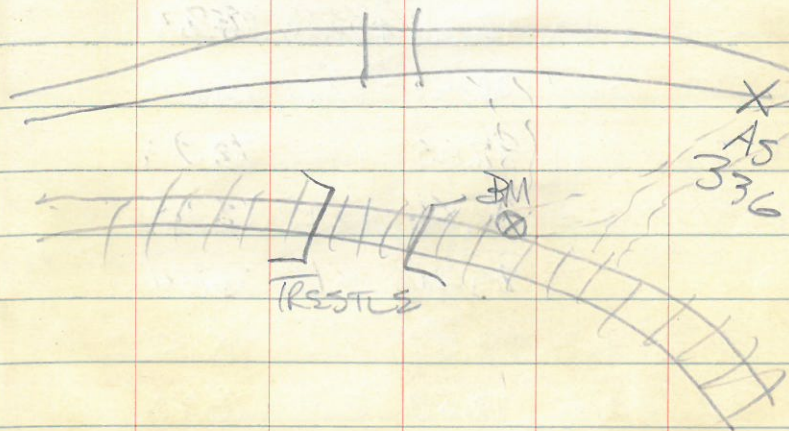
TP 1 5.03 69.82 5.91 64.79

AS-336

4.93 64.89

EBS 9.74 65.99

EFS 10.84 64.89

1.10 ch 1.10

14)

AS 335

Aug. 10, 1957

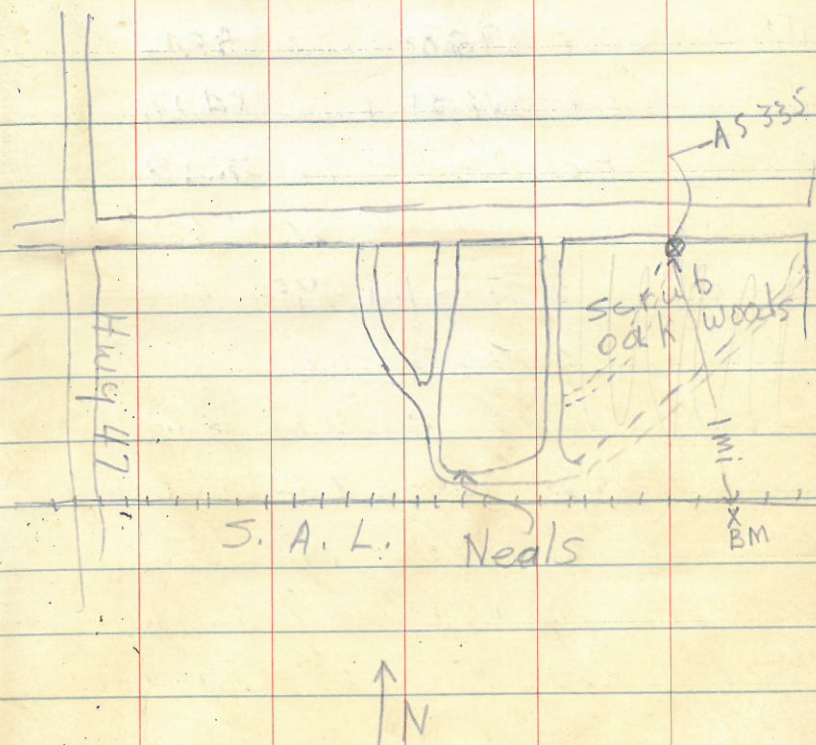
J.P. Kilbourn T

Fair + Bright

D.A. Whitehead

Sta.	BS	HI	FS	Elev
as g.s.	9.7			
BH 9	2.19	104.08		101.89
TP 1	.59	95.07	9.60	94.48
TP 2	1.85	86.29	10.63	84.44
TP 3	5.80	80.40	11.69	74.60
TP 4	8.14	87.05	1.49	78.91
TP 5	4.74	79.84	11.95	75.10
TP 6	7.02	85.36	4.50	75.34
TP 7	4.42	79.57	7.21	75.15
TP 8	2.80	78.53	3.84	75.73
TP 9	8.90	81.37	6.06	72.47
TP 10	6.73	86.77	1.33	80.04
TP 11	3.85	86.89	3.73	83.04
TP 12	10.65	87.84	9.70	78.19
TP 13	1.27	82.13	6.98	80.86
TP 14	9.41	90.09	1.45	80.68
TP 15	6.25	85.15	11.19	78.90

Con't on pg 15



15

Con't from pg 14

Sta	BS	HI	FS	Elev
TP 15		85.15		
TP 16	1.76	84.68	.23	84.92
TP 17	3.54	81.51	8.71	77.97
AS 335			6.33	75.18

$$\Sigma FS = 116.62$$

$$\Sigma BS = 89.91$$

$$26.71 \text{ OK } 26.71$$

16

AS 316 & AS 317

Sta	BS	HI	FS	Elev.
Road Intersection	3.96	9.96		6.00
TP-1	5.37	9.58	5.75	4.21
TP-2	6.04	9.30	6.32	3.26
TP-3	3.82	9.41	3.71	5.59
AS-317			4.87	4.54
AS-316	19.19		4.92	4.49
	20.65			

1.46

AS-318

$$\begin{array}{r} 6.00 \\ 4.54 \\ \hline 1.46 \end{array}$$

Rd. Inter- section.	5.66	11.66	5.66	6.00
------------------------	------	-------	------	------

TP-1	4.16	9.68	6.14	5.52
	4.99	9.70	4.97	4.71
			4.61	5.09

318 { EBS 4.81
 318 { EFS 15.72
 EFS .91

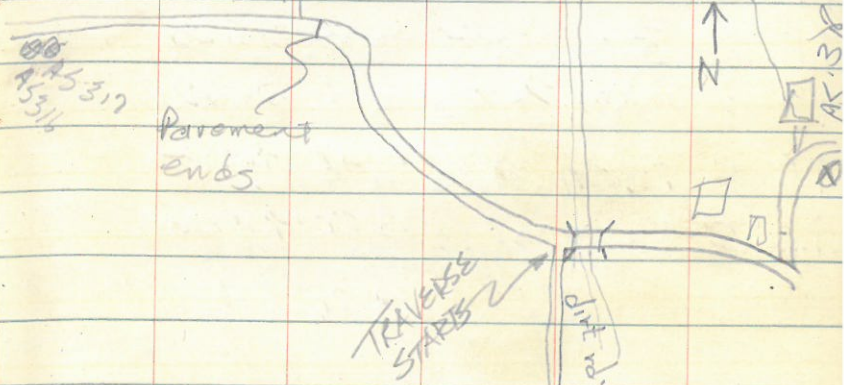
Aug. 11, 1957

D.A. Whitehead &

Fair & Bright

J.P. Kilbourn

Steinhatchee River



11

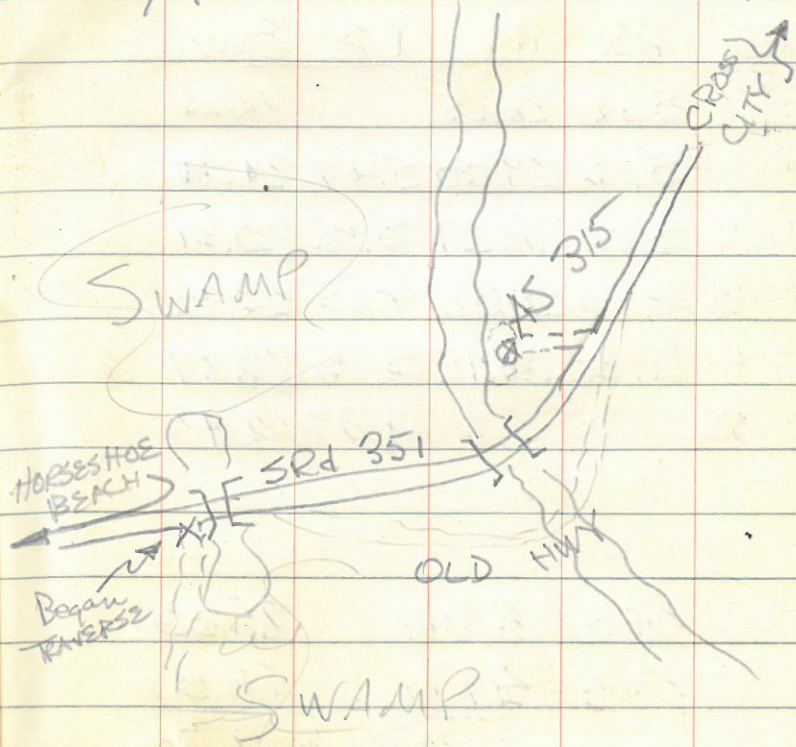
AS-315

Sta	Bs	HI	FS	Elev
REINTER-SECTION	5.13	30.13		25.00
TP 1	5.16	29.47	5.82	24.31
TP 2	5.01	28.55	5.93	23.54
TP 3	8.22	30.94	5.83	22.72
TP 4	5.27	31.32	4.89	26.05
TP 5	3.63	26.12	8.83	22.49
AS 315			4.86	21.26

EBS 37.42 25.00
 EFS 36.16 21.26
3.74 ch 3.74

11 Aug. 57
Sunny & Brt.

J.P. Kilbourn &
D.A. Whitehead



18)

AS-322

Aug 11, 1957

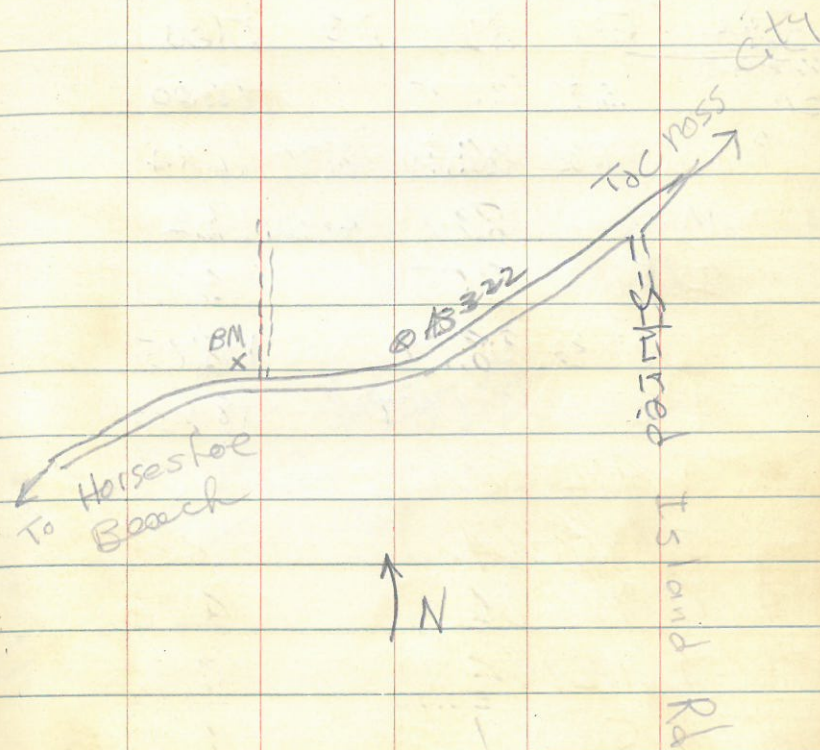
D.A. Whitehead T

Fair & Bright

J.P. Kilbourn

Sta	BS	HI	FS	Elev
USGS BM	5.65	28.65		23.00
TP-1	5.15	28.33	5.47	23.18
TP-2	5.06	28.27	5.12	23.21
TP-3	4.90	28.32	4.85	23.42
TP-4	5.30	28.17	5.45	22.87
AS-322			4.97	24.20

EBS 26.06 24.20
 EFS 25.86 23.00
 1.20 chs 1.20



(10)

AS-314

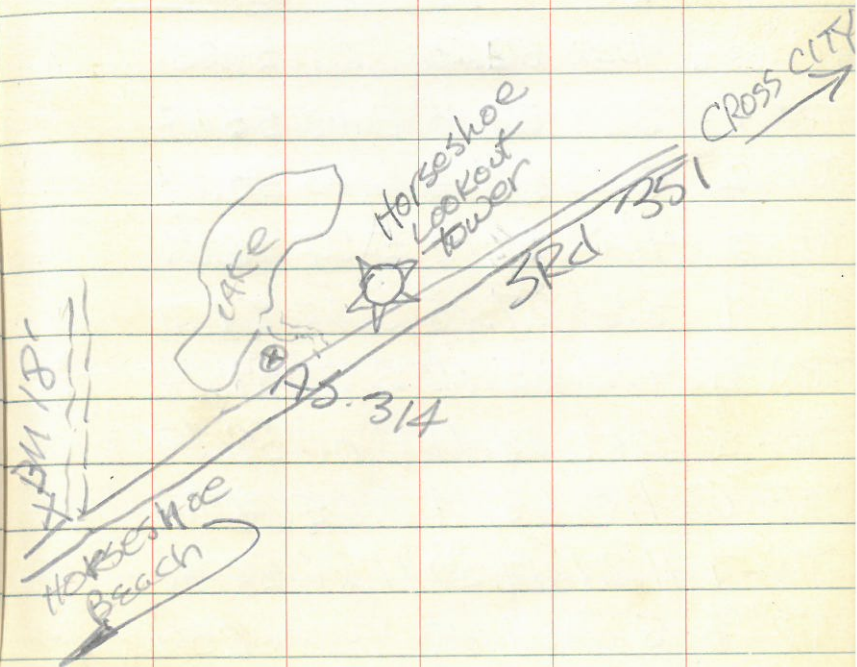
11 Aug 57
Sunny & BrtJ.P. Kilbourn A
D.A. Whitehead

Sta	Bs	HI	Fs	ELEV
u.s.g.s BM	5.79	23.79		18.00
TP 1	7.33	24.17	6.95	16.84
AS 314			4.92	19.25

EBS 13.12 19.25

EFS 11.87 18.00

1.25 chs 1.25



(20)

AS - 339

Sta	BS	HI	FS	Elev
USC & GS BM - BF 71	4.27	62.20		57.93
TP-1	3.97	59.68	6.49	55.71
TP-2	4.25	57.53	6.40	53.28
TP-3	4.93	57.19	5.27	52.26
TP-4	5.54	57.25	5.48	51.71
TBM-1	4.27	55.95	5.57	51.68
TP-5	10.52	63.41	3.06	52.89
TP-6	1.88	65.24	0.05	63.36
TP-7	11.21	64.59	11.86	53.38
TP-8	5.03	67.62	2.00	62.59
AS-339			4.55	63.07

$$\Sigma BS = 55.81$$

$$\Sigma FS = 50.73$$

$$5.14 \text{ ck } 5.14$$

7 AUG. 57

RAINING & Cloudy

D.A. Whitehead &

J.P. Kilbourn

N 1

X BF 71

Bell is 8.1 mi S

TBM-1 South end of D
yellow passing stripe
at intersection
of C of Thomas Farm #
Rd and C of SR 49

THOMAS FARM RD

SR 49

DIST RD

1)

AS-338

Aug. 7, 1957

Cloudy

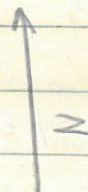
J.P. Kilbourn &

D.A. Whitehead

Sta	BS	HT	FS	Elev
AS 339	1.49	65.56		64.07
TP 1	1.06	55.08	11.54	54.02
TP 2	7.30	51.82 51.85	10.56	44.52 50.60
TP 3	2.87	33.47 53.50	1.22	50.63 48.68
TP 4	10.89	56.57 56.60 64.26	7.79	45.71 56.02
TP 5	8.24	64.29 57.08	.55	56.05 56.63
TP 6	.46	57.11 57.84	7.64	56.65 49.39
TP 7	8.45	58.87 60.01	7.69	50.42 55.19
TP 8	4.82	61.04 57.70	2.65	56.22 53.57
TP 9	4.13	58.73 57.19	6.44	54.60 51.90
TP 10	5.29	58.22 56.82	5.80	52.13 51.54
TP 11	5.28	57.85 57.55	5.65	52.57 52.67
TP 12	4.88	58.58 55.16	4.15	53.70 51.01
TP 13	4.15	56.19 55.16	6.54	52.04 46.72
AS-338			8.44	47.15

 $\Sigma FS = 86.66$ $\Sigma BS = 69.31$

17.35 ck 17.35

AS
339AS
338

22

AS 312

Sta	BS	HT	FS	Elev
U.S.C & GS AZIMUTH BM	5.81	10.81		5.00
TP-1	6.99	10.10	7.70	3.11
AS-312			<u>5.73</u>	<u>4.37</u>

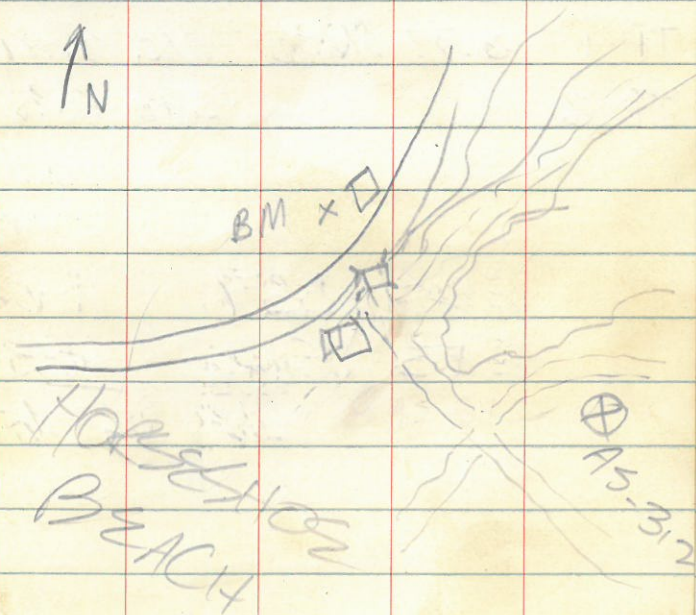
EBS	12.80	5.00
EFS	<u>13.43</u>	<u>4.37</u>
	.63	or .63

Aug 11, 1957

D.A. Whitehead &

Fair + Bright

J. P. Kilbourn

23)

AS - 313

Sta 135 HI FS Elev

Road
Intersection 5.15 16.15 11.00

TP 1 5.87 16.73 5.29 10.86

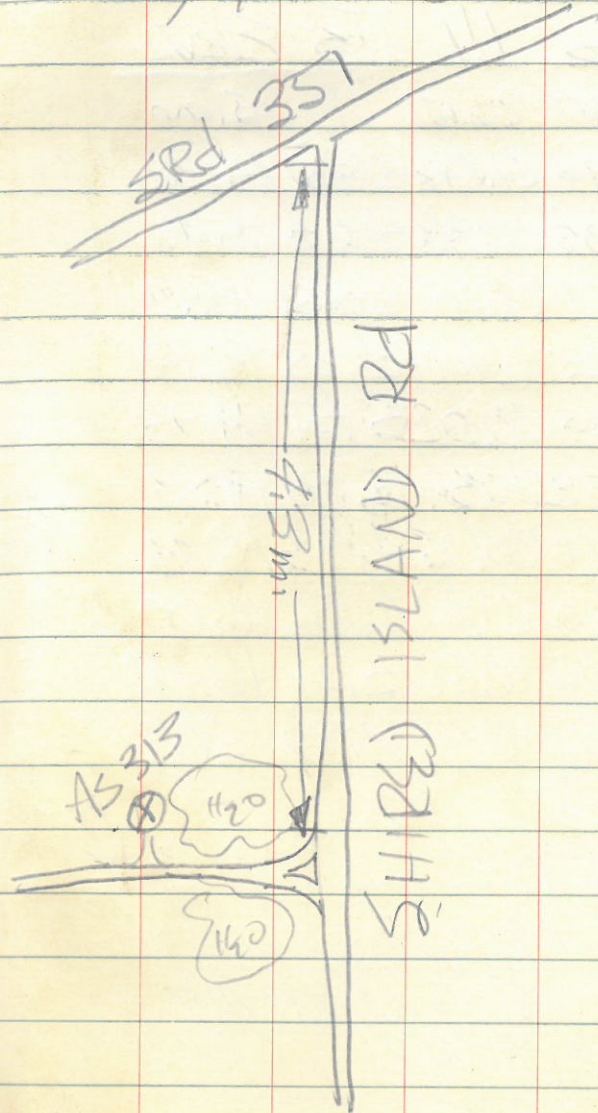
TP 2 4.35 15.33 5.75 10.98

AS 313 4.62 10.71

EBS 15.37 11.00

EFS 15.66 10.71

.29 chs .79

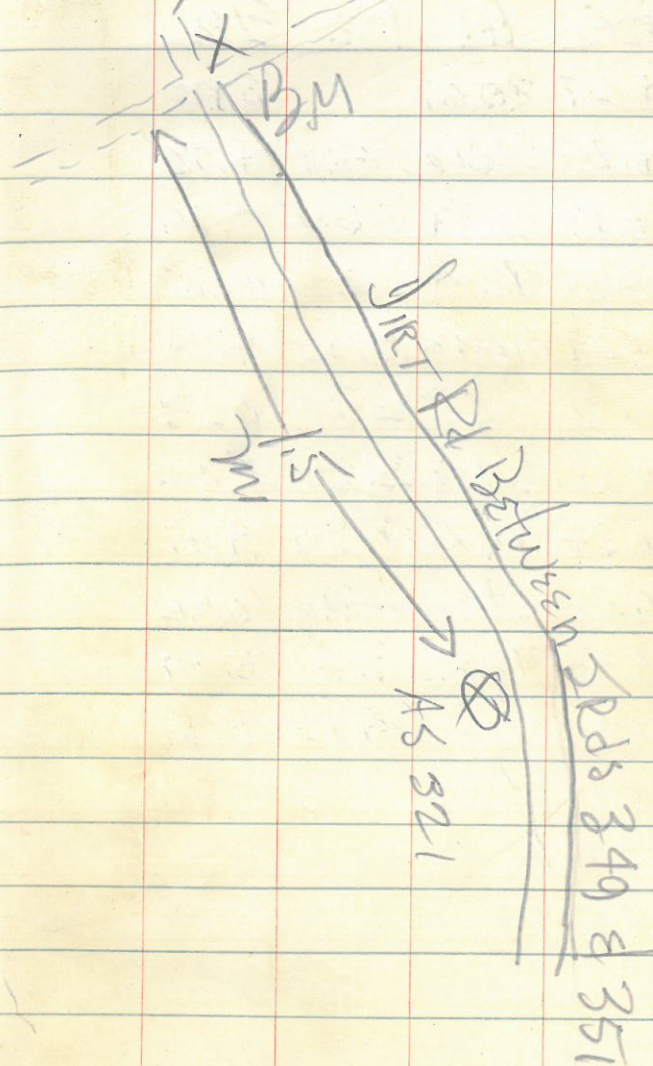
11 Aug 57 J.P. Kilbourn &
Sunny & Brite D.A. Whitehead

24) AS-321

Sta	BS	HI	FS	Elev
u ²⁵ BM	5.67	20.67		15.00
TP-1	5.74	21.06	5.35	15.32
TP-2	4.92	20.38	5.60	15.46
TP-3	5.71	20.54	5.55	14.83
TP-4	5.25	20.44	5.35	15.19
TP-5	5.09	20.02	5.51	14.93
TP-6	5.52	20.34	5.20	14.82
TP-7	5.34	20.95	4.93	15.41
TP-8	5.80	21.89	4.86	16.09
TP-9	4.04	20.52	5.41	16.48
AS-321			4.89	15.63

 $\Sigma BS = 53.28$ $\Sigma FS = 52.65$

.63 CK .63

11 Aug 57
Sunny & BrtJ. A. Whitehead
V. P. Kilbourn

25 AS 3194 AS 323

Aug 11, 1957

J.P.K. Ibbourn T

Fair

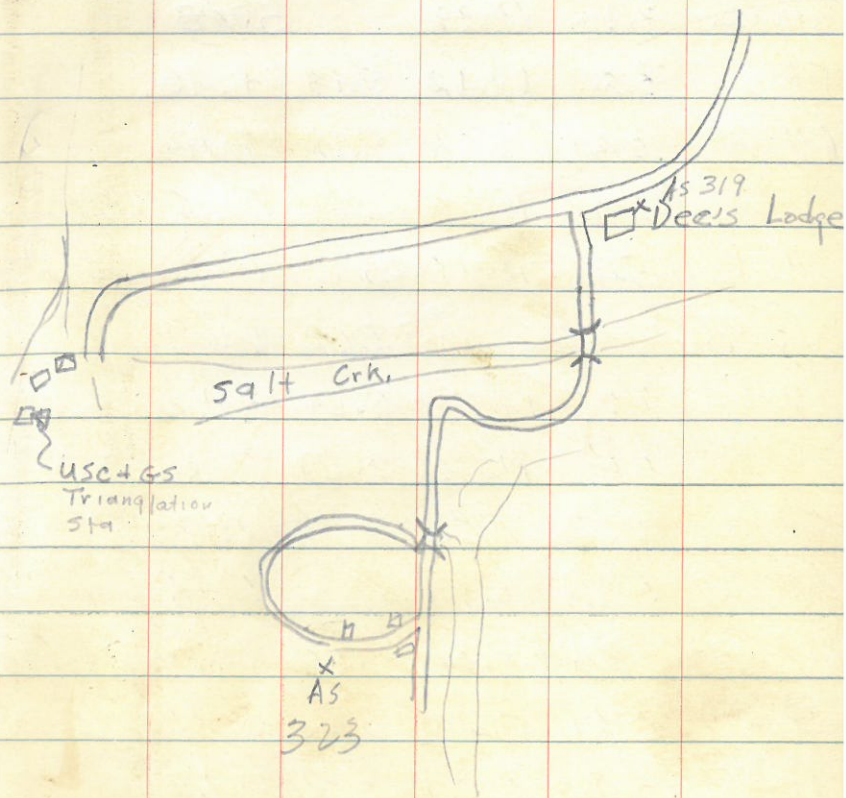
D.A. Whitehead

Sta	BS	HI	FS	Elev
USCGS Triangulation	3.39	9.39		6.00
TP 1	5.36	10.12	4.63	4.76
TP 2	5.47	10.54	5.05	5.07
TP 3	5.63	10.33	5.84	4.70
TP 4	5.19	10.10	5.42	4.91
AS 319			(3.61)	6.49
TP 5	8.26	12.71	5.65	4.45
TP 6	4.40	11.72	5.39	7.32
TP 7	7.20	10.52	8.40	3.32
TP 8	3.72	8.86	5.38	5.14
TP 9	5.55	8.86	5.55	3.31
TP 10	5.80	9.26	5.40	3.46
TP 11	5.52	9.25	5.53	3.73
TP 12	5.35	8.68	5.92	3.33
AS 323			5.08	3.60

$$\Sigma FS = 73.24$$

$$\Sigma BS = 70.84$$

$$2.40 \text{ CK } 2.40$$



26/

AS - 327

13 Aug. 57
Cloudy

J. P. Kilbourn T.
J. A. Whitehead

Sta	BS	HI	FS	Elev
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SRD CUL- VERT EL.	4.98	64.46		59.48
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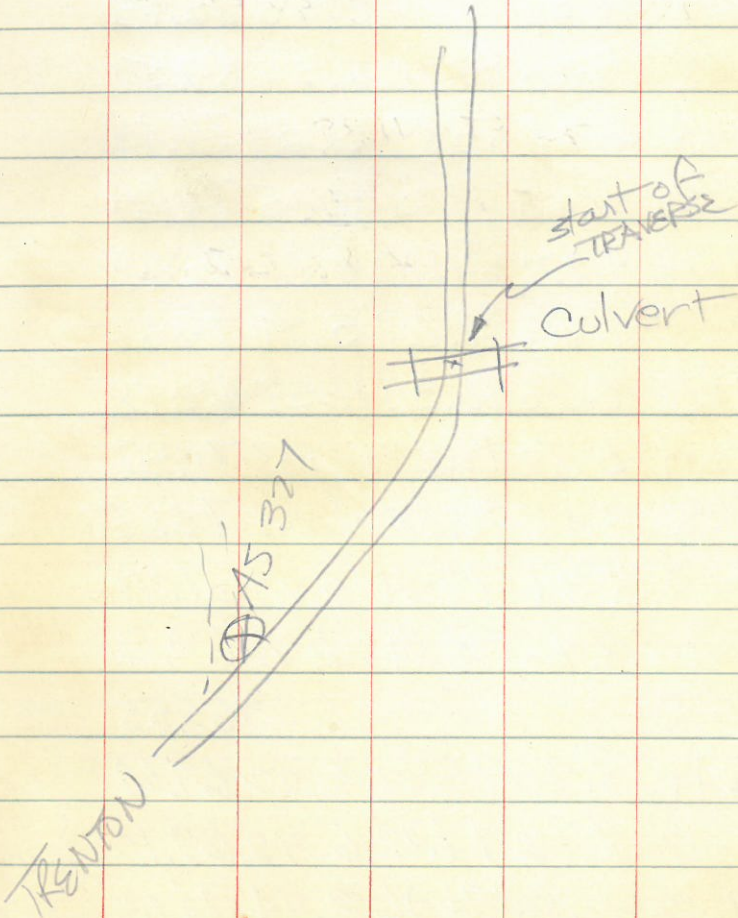
TP 1	4.35	63.40	5.41	59.05
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AS 327			5.98	57.42
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$\Sigma FS = 11.39$

$\Sigma BS = 9.33$

2.06 $\checkmark$ 2.06



21)

AS-334

14 Aug 57
Sunny & BrtJ.A. Whitehead &
J.P. Kilbourn

Sta	BS	HI	FS	Elev
AS-335	11.92	87.10		75.18
TP-1	11.33	98.06	.37	86.73
CP-1			(2.33)	95.73
TP-2	.20	89.72	8.54	89.52
TP-3	4.71	83.89	10.54	79.18
CP-2			(9.65)	74.24
TP-4	9.27	84.90	8.26	75.63
TP-5	1.63	81.29	5.24	79.66
TP-6	2.63	72.35	11.57	69.72
TP-7	6.89	78.39	.85	71.50
TP-8	3.45	77.30	4.54	73.85
TP-9	5.31	72.34	10.27	67.03
TP-10	3.70	72.84	3.20	69.14
CP-3			(7.29)	65.55
TP-11	8.20	75.82	5.22	67.62
TP-12	8.82	77.92	6.72	69.10
TP-13	.88	74.96	3.84	74.08

W

⊗ AS-335

2 ←

⊗ AS-334

W

28) AS-334 (con)

Sta	BS	HI	FS	Elev
TP-13		74.96		
TP-14	10.74	78.36	7.34	67.62
TP-15	4.46	75.05	7.77	70.59
TP-16	3.38	72.24	6.19	68.86
TP-17	6.54	73.15	5.63	66.61
CP-4	10.45	72.38	11.22	61.93
AS-334			7.76	64.62
TP-18	6.87	78.41	.84	71.54
CP-5			5.30	73.11

$$\Sigma FS = 123.45$$

$$\Sigma BS = \underline{121.38}$$

$$2.07 \text{ or } 2.07$$

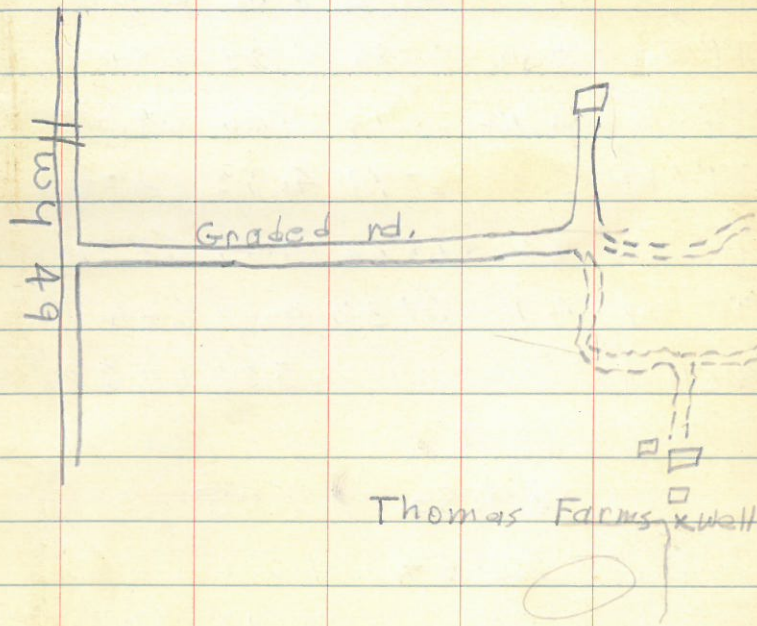
29) Thomas Farms Well

Aug 14, 1957
Fair + Bright

J.P. Kilbourn T
D.A. Whitehead

Sta	BS	HI	FS	Elev
C of HWY TBM 1 8/7/57 Pg. 20	5.18	56.86		51.68
TP 1	2.10	51.24	7.72	49.14
TP 2	10.96	54.40	7.80	43.44
TP 3	4.97	59.16	.21	54.19
TP 4	11.22	65.69	4.69	54.47
TP 5	8.54	73.13	1.10	64.59
TP 6	.35	42.38	11.10	62.03
TP 7	.92	55.97	7.33	55.05
TP 8	2.36	57.28	1.05	54.92
TP 9	10.59	60.28	7.59	49.69
TP 10	9.71	61.79	8.20	52.08
TP 11	11.64	72.58	.85	60.94
TP 12	.91	71.55	1.94	70.64
TP 13	.97	67.71	4.81	66.74
TP 14	6.35	62.08	11.98	55.73
TP 15	5.99	67.03	1.04	61.04

Cont on Pg 30



30)

cont from pg 29

Sta	BS	HI	FS	Elev
TP 15		6703		
TP 16	5.25	65.32	6.96	60.07
TP 17	8.81	73.84	.29	65.03
TP 18	4.64	68.94	9.54	64.30
TP 19	3.20	67.98	4.16	64.78
TP 20	9.83	68.04	9.77	58.21
TP 21	4.96	69.37	3.63	64.41
Well			5.56	63.81

$$\Sigma BS = 129.45$$

$$\Sigma FS = \underline{117.32}$$

$$12.13 \text{ ck } 12.13$$

63.81

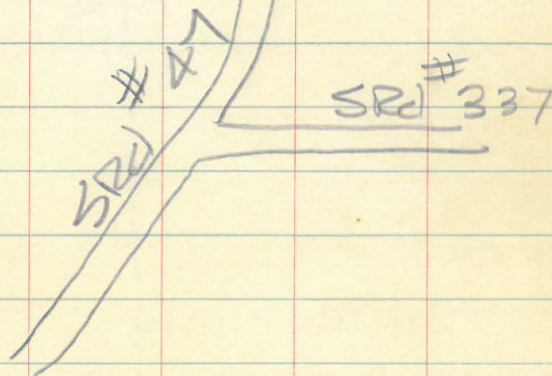
3)

AS 333

Sta	BS(+)	HI	FS(-)	Elev
Culvert # 12	NS 10.47			W.S.
	E 9.08			67.2
1 Pipe	SS 10.45			
TP-1	10.31	77.67	.10	77.57
TP-2	5.18	87.88	2.58	85.30
TP-3	6.49	90.48	6.06	84.42
AS-333		90.91	4.75	86.16

Aug 15, 1957
Fair + BrightD.A. Whitehead K
J.P. Kilbourn


Culvert #10
1st one
past spot
where 337
meets 47



22

AS 331

Sta	BS(+)	HI	FS(-)	Elev
culvert #10	W.S. 5.27			W.S.
	E 4.87			83.8
1 conc. box	BS 5.29	89.07		

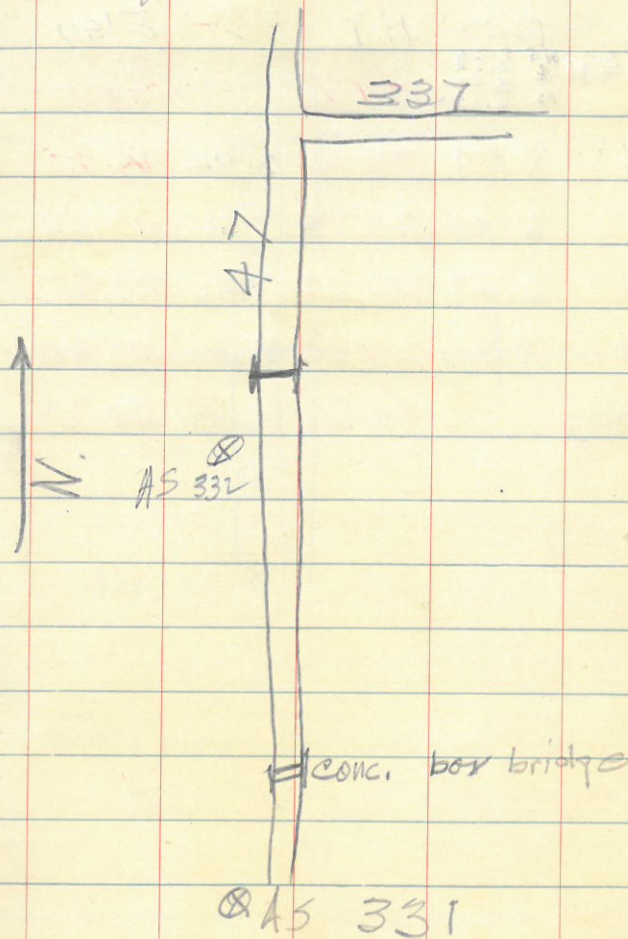
AS 331

6.80

82.27

Aug 15, 1957
Fair & Bright

J.P. Kilbourn &
D.A. Whitehead



53)

AS 332

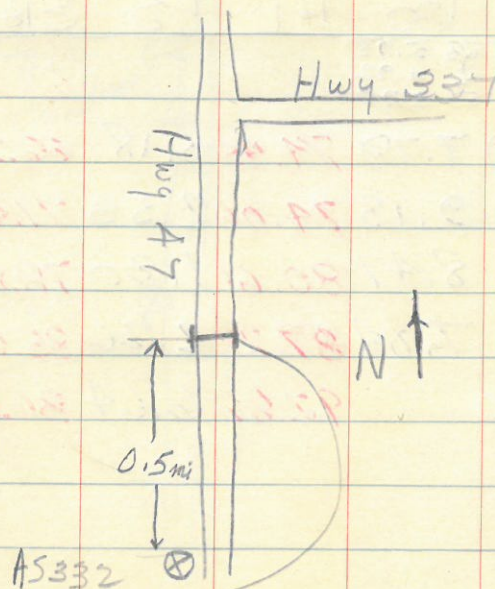
Aug 15, 1957

Fair & Bright

J.P. Kilbourn X

D.A. Whitehead

Sta	BS (+)	HI	FS (-)	Elev
culvert #11	WS 6.04 + 5.08			W.S. 73.1
1 pipe	FS 6.15	79.14		
TP 1	9.59	79.14	3.94	75.20
TP 2	6.30	84.79	2.11	82.68
TP 3	6.47	88.98	7.46	81.52
TP 4	7.70	87.99	5.09	82.90
AS 332		90.60	6.33	84.27



1 pipe culvert, 1st one
South of Jct. with 337.

34) AS-329 & AS-330

Sta	Bs	HL	FS	Elev
Culvert #	WS 5.95			N.S.
5 2 pipe	4.92			68.5
	SS 5.95			
AS-329	7.79	74.45	8.18	66.27
TP-1	9.13	74.06	2.58	71.48
TP-2	8.47	80.61	1.80	78.81
TP-3	7.84	87.28	2.26	85.02
AS-330		92.86	6.64	86.22

15 Aug 1957
Sunny & Brt

J.A. Whitehead &
J.P. Kilbourn

AS-330

AS 329

SRJ #47

culvert #5
2 pipe culvert
3.45 mi
from intersec.
of 47 & 49

TBM 7 0.4
Curve 1.8
5.8

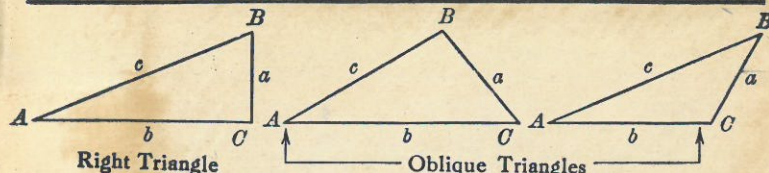
2.4
2.7

41.50
4.54
36.96

420

7

TRIGONOMETRIC FORMULÆ



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	Required	
a, b	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	Required	
A, B, a	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	$s = \frac{a + b + c}{2}, \sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{b c}}$ $\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{a c}}, C = 180^\circ - (A + B)$
a, b, c	Area	$s = \frac{a + b + c}{2}, \text{area} = \sqrt{s(s - a)(s - b)(s - c)}$
A, b, c	Area	$\text{area} = \frac{b c \sin A}{2}$
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 1X, $\cos 5^\circ 10' = .9959$. 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. $\cos 5^\circ 10' = .9959, 1 - .9959 = .0041, 319.4 \times .0041 = 1.31, 319.4 - 1.31 = 318.09$ 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.