EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be 30.6+(20—16)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

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X sections of Chocolate Creek

Borrow Pit.	p. 6 to 10
Original X sections of Spillway Spoil Area	p. 11 - 32
Stripping X sections So. abut. Est. #23	p. 33 - 34
Final Profile + Est. 23 Exc. of core trench	p. 35
original Elevs. of Lakeside Borrow Pits	p. 36 - 37
X sections of Lakeside Pit	p. 38
" " " " Finals	54 - 65.

X sections of Borrow Pit
Chocolate Creek
April 11-1933
(For O.G. Shots see back of book

B.M.	4.05	611.50	607.45	
	N 2290 is O.G.			
		N2280		
10,010		4.6	606.9	O.G
B.M.	7.47	597.62	590.15	
10,018		1.5	96.1	
10,035		4.7	92.9	
10,080		+2.1	99.7	
10,090			609.0	O.G.
		N2270		
10,105			610.7	O.G
10,100		+2.1	99.7	
080		4.9	92.7	
040		5.8	91.8	
10,005		6.0	91.6	
9995			602.5	
9978			606.4	O.G.

Elliott
Simpson
Soper
Remmen
597.62

1

	N2260		
9959		606.9	O.G
9975	6.3	591.3	
10,000	6.0	91.6	
20	5.9	91.7	
40	5.6	92.0	
60	5.4	92.2	
80	5.0	92.6	
95	4.7	592.9	
111	+3.8	601.4	
115		612.2	O.G
	N2250		
123		613.0	O.G
117	+2.9	600.5	
106	4.4	593.2	
100	4.7	92.9	
080	4.8	92.8	
060	5.2	92.4	
040	5.5	92.1	
10,020	5.8	91.8	

	597.62	N2250	
10,000		5.9	591.7
9,980		6.4	91.2
60		6.2	91.4
44			607.2 0.G
		N2240	
			612.9 0.G
10,128			
10,125		+4.2	601.8
113		4.0	593.6
100		4.3	93.3
80		4.8	92.8
60		5.2	92.4
40		5.5	92.1
20		5.7	91.9
10,000		5.7	91.9
9,980		6.0	91.6
960		6.1	91.5
950		5.7	91.9
940			607.3 0.G

	597.62	N2230	
9886			607.2 0.G
890		2.0	595.6
900		7.0	90.6
20		5.9	91.7
40		5.6	92.0
60		5.7	91.9
80		5.6	92.0
10,000		5.7	91.9
20		5.6	92.0
40		5.5	92.1
60		5.3	92.3
80		4.6	93.0
100		4.4	93.2
20		4.4	93.2
31		+2.9	600.5
37			615.7 0.G

597.62 N2220

10,138		617.0	O.G
10,134	+2.7	600.3	
23	3.6	94.0	
100	4.2	93.4	
080	4.6	93.0	
060	5.3	92.3	
040	5.5	92.1	
020	5.6	92.0	
10,000	5.6	92.0	
9980	5.6	92.0	
60	5.5	92.1	
40	5.7	91.9	
20	5.6	92.0	
9900	7.0	90.6	
890	7.1	90.5	
875	0.5	97.1	
868		606.8	O.G

597.62 N2210

9858		602.1	O.G
65	0.6	97.0	
80	6.6	91.0	
900	6.1	91.5	
20	5.7	91.9	
40	5.3	92.3	
60	5.3	92.3	
80	5.3	92.3	
10,000	5.3	92.3	
20	5.5	92.1	
40	5.6	920	
60	5.1	92.5	
80	4.6	93.0	
100	4.0	93.6	
24	2.7	94.9	
33	+3.1	600.7	
38		617.3	O.G

597.62 N2200

10,139		617.7	O.G
10,134	+2.5	600.1	
25	2.1	95.5	
100	3.6	94.0	
80	4.5	93.1	
60	5.1	92.5	
40	5.4	92.2	
20	5.5	92.1	
10,000	5.0	92.6	
980	5.1	92.5	
60	5.1	92.5	
40	5.1	92.5	
20	5.3	92.3	
900	5.7	91.9	
880	6.1	91.5	
60	6.1	91.5	
40	6.3	91.3	
20	6.6	91.0	
9,800	7.0	90.6	

597.62 N2180

9820	6.6	91.0
40	6.3	91.3
60	6.1	91.5
80	5.7	91.9
900	5.2	92.4
20	4.8	92.8
40	4.9	92.7
60	5.1	92.5
80	5.1	92.5
10,000	5.2	92.4
20	5.3	92.3
40	5.3	92.3
60	4.8	92.8
80	4.0	93.6
100	3.0	94.6
20	1.9	95.7
40	1.6	96.0
50	+3.0	600.6
55		621.4 O.G

	597.62 N2160		
10,170		623.7	0.6
10,165	+6.8	604.4	
53	1.0	96.6	
40	1.1	96.5	
20	1.6	96.0	
100	2.4	95.2	
080	3.5	94.1	
60	4.6	93.0	
40	5.3	94.3	
20	5.3	92.3	
10,000	5.3	92.3	
980	5.3	92.3	
60	5.4	92.2	
40	5.4	92.2	
20	5.4	92.2	
900	5.5	92.1	
880	5.8	91.8	
60	6.2	91.4	
40	6.4	91.2	
9,820	6.7	90.9	

	597.62 N2140	
9820	6.6	91.0
40	6.4	91.2
60	6.4	91.2
80	6.0	91.6
9,900	5.8	91.8
20	5.6	92.0
40	5.6	92.0
60	5.6	92.0
80	5.5	92.1
10,000	5.5	92.1
20	5.7	91.9
40	5.2	92.4
60	4.5	93.1
80	3.0	94.6
100	2.0	95.6
20	0.8	96.8
40	0.5	97.1
10,160	1.0	96.6
123		624.2 0.6

	597.62	N 2120		
10,171			624.3	O.G.
10,170		+7.7	605.3	
67		+6.8	604.4	
60		0.1	97.5	
40		0.2	97.4	
20		0.3	97.3	
10,100		1.5	96.1	
080		2.7	94.9	
60		4.3	93.3	
40		5.3	92.3	
20		5.9	91.7	
10,000		6.0	91.6	
980		5.5	92.1	
60		5.5	92.1	
40		5.6	92.0	
20		5.7	91.9	
9,900		5.7	91.9	
80		5.9	91.7	
60		6.0	91.6	
40		6.0	91.6	

	597.62	N 2100		
9,840		6.1	91.5	
60		5.7	91.9	
80		5.5	92.1	
9,900		5.4	92.2	
20		5.2	92.4	
40		5.3	92.3	
60		5.5	92.1	
80		5.8	91.8	
10,000		6.2	91.4	
20		5.9	91.7	
40		5.0	92.6	
60		3.8	93.8	
80		2.4	95.2	
10,100		1.6	96.0	
20		0.3	97.3	
40		0.5	97.1	
50		0.9	96.7	
60		+7.0	604.6	
66			622.8	O.G.

		597.62	N 2080		
T.P.	5.34	601.89	1.07	596.55	
10,157				624.3	O.G.
10,152			+4.0	05.9	
40			2.8	99.1	
20			4.3	97.6	
10,100			4.8	97.1	
80			6.3	95.6	
60			7.8	94.1	
40			8.9	93.0	
20			10.0	91.9	
10,000			10.3	91.6	
80			10.2	91.7	
60			9.6	92.3	
40			9.2	92.7	
20			9.0	92.9	
9,900.			9.1	92.8	
80			9.4	92.5	
860			9.7	92.2	

		601.89	N 2060		
9,860			9.6	92.3	
80			8.9	93.0	
9,900			8.6	93.3	
20			8.6	93.3	
40			8.9	93.0	
60			9.5	92.4	
80			9.9	92.0	
10,000			9.9	92.0	
20			9.5	92.4	
40			8.7	93.2	
60			7.5	94.4	
80			6.5	95.4	
10,100			4.7	97.2	
20			4.3	97.6	
30			3.2	98.7	
43			+4.1	06.0	
46.				6240	O.G.

601.89 N2040

10,139		
10,132	621.9	O.G.
20	+4.0	05.9
10,100	2.7	99.2
80	4.4	97.5
60	5.6	96.3
40	7.3	94.6
20	8.3	93.6
10,000	9.0	92.9
80	9.2	92.7
60	9.4	92.5
40	9.2	92.7
20	8.7	93.2
9,900	8.4	93.5
9,880	8.5	93.4
	8.6	93.3

601.89 N2020

9,900	8.0	93.9
20	8.0	93.9
40	8.6	93.3
60	9.1	92.8
80	8.9	93.0
10,000	8.9	93.0
20	8.2	93.7
40	7.8	94.1
60	5.8	96.1
80	4.9	97.0
10,100	4.0	97.9
13	+2.5	04.4
22	623,1	O.G.

N2010

10,112	622.0	O.G.
10,107	+4.6	06.5
10,100	1.4	00.5
80	4.9	97.0
10,060	5.4	96.5

601.89

	N2010	
10,040	7.0	94.9
20	8.2	93.7
10,000	8.8	93.1
80	8.8	93.1
60	8.8	93.1
40	8.3	93.6
20	8.0	93.9
9,900	7.8	94.1
	N2000	
9,900	7.6	94.3
20	7.8	94.1
40	8.1	93.8
60	8.3	93.6
80	8.6	93.3
10,000	8.8	93.1
20	8.2	93.7
40	7.1	94.8
50	6.8	95.1

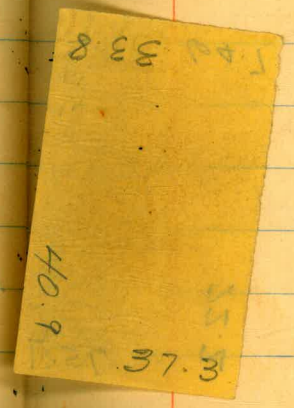
10,060	7.9	94.0
70	7.3	94.6
80	7.5	94.4
90	7.3	94.6
10,098	7.5	94.4
10,103	7.8	94.1
For these 4 shots O.G. is N1985 → 10,097	8.0	93.9
10,089	8.2	93.7
80	8.4	93.5
60	8.5	93.4
50	8.3	93.6
40	8.1	93.8
20	7.8	94.1
10,000	7.6	94.3
80	7.8	94.1
60	8.0	93.9
40	7.9	94.0
20	7.3	94.6
9,900	7.5	94.4

601.89

	N2000	
1.3	00.6	
5.5	96.4	
4.9	97.0	
3.5	98.4	
+3.1	05.0	
	620.4	O.G.
	N1990	
	618.3	O.G
+2.5	04.4	
2.5	99.4	
+2.0	03.9	
2.5	99.4	
6.7	95.2	
8.0	93.9	
8.5	93.4	
8.3	93.6	
8.0	93.9	
7.9	94.0	
7.3	94.6	
7.5	94.4	

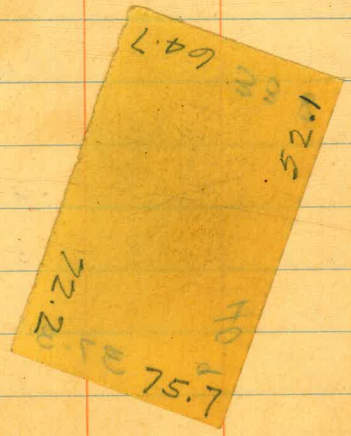
	601.89	N 1980		
9,900		7.4	94.5	
20		7.3	94.6	
40		7.8	94.1	
60		8.5	93.4	
70		2.6	99.3	
80		7.4	94.5	
10,000		7.3	94.6	
20		4.2	97.7	
30			610.3	O.G
		N 1970		
9,900		7.0	94.9	
20		7.1	94.8	
30		1.8	00.1	
40		4.3	97.6	
50		+0.7	02.6	
70		3.5	98.4	
78		1.2	00.7	
10,000			609.4	O.G

	601.89	N 1960		
9,900		7.1	94.8	
15		6.8	95.1	
35		+7.8	09.7	O.G
	N 1950 is O.G.			
T.P.	13.19	614.68	0.40	601.49
T.P.	12.55	626.49	0.74	613.94
Check				
B.M.			9.72	616.77 616.76



	601.89	N 1980		
9,900		7.4	94.5	
20		7.3	94.6	
40		7.8	94.1	
60		8.5	93.4	
70		2.6	99.3	
80		7.4	94.5	
10,000		7.3	94.6	
20		4.2	97.7	
30			610.3	O.G
		N 1970		
9,900		7.0	94.9	
20		7.1	94.8	
30		1.8	00.1	
40		4.3	97.6	
50		+0.7	02.6	
70		3.5	98.4	
78		1.2	00.7	
10,000			609.4	O.G

	601.89		N 1960		
9,900			7.1	94.8	
15			6.8	95.1	
35			+7.8	09.7	O.G
	N 1950 is O.G.				
T.P.	13.19	614.68	0.40	601.49	
T.P.	12.55	626.49	0.74	613.94	
Check					
B.M.			9.72	616.77	616.76



Original Xsections of Spillway spoil Area, after construction roads were built.
Sept 11-1933

B.M. 11.12 675.68 664.56

N4170

5550		O.G.
5540	0.0	75.7
30	4.2	71.5
20	4.7	71.0
10	4.9	70.8
5500	5.4	70.3
5490	4.1	71.6
5486	1.9	73.8
5485		O.G.

Plotting Clk by as shown 9-15-34 EBH

N4160

5470		O.G.
76	4.9	70.8
80	5.5	70.2
90	6.1	69.6
5500	5.9	69.8
10	5.8	69.9

Elliott - Notes
Simpson - T
Soper - P
Solgado - Ch.

675.68

N4160

5520	5.7	70.0
30	6.3	69.4
40	4.9	70.8
50	4.6	71.1
60	2.0	73.7
70		O.G.

N4150

5600 5595	+5.0	80.7 O.G.
90	+1.8	77.5
80	+0.8	76.5
70	2.9	72.8
60	4.2	71.5
50	6.8	68.9
40	7.1	68.6
30	7.4	68.3
20	6.7	69.0
10	6.9	69.7
5500	6.2	69.5
5490	6.1	69.6

675.68 N4150

5480	6.0	69.7
70	5.9	69.8
60	5.4	70.3
50	5.5	70.2
40	5.6	70.1
30	5.6	70.1
20	5.7	70.0
10	5.6	70.1
5400	5.7	70.0
5390	5.5	70.2
5380	5.5	70.2
70	5.5	70.2
60	5.7	70.0

N4140

5360	5.6	70.1
70	5.7	70.0
80	5.6	70.1
90	5.6	70.1
5400	5.6	70.1

Plotting ck 9-14-34

675.68 N4140

5410	5.5	70.2
20	5.5	70.2
30	5.5	70.2
40	5.5	70.2
50	5.5	70.2
5460	5.6	70.1
70	5.7	70.0
80	5.8	69.9
90	5.9	69.8
5500	6.3	69.4
10	6.5	69.2
20	6.6	69.1
30	6.7	69.0
40	6.7	69.0
50	6.3	69.4
60	5.8	69.9
70	4.7	71.0
80	2.6	73.1
90	0.6	75.1

675.68

	N4140	
5600	+2.0	77.7
5610	+7.5	83.2
	N4130	
5645	+9.7	85.4
40	+7.6	83.3
30	+6.1	81.8
20	+3.4	79.1
10	+1.5	77.2
5600	1.3	74.4
5590	2.3	73.4
80	3.6	72.1
70	4.9	70.8
60	5.7	70.0
50	6.2	69.5
40	6.5	69.2
30	6.7	69.0
20	6.6	69.1
10	6.4	69.3
5500	6.2	69.5

675.68

	N4130	
5490	5.9	69.8
80	5.7	70.0
70	5.6	70.1
60	5.5	70.2
50	5.5	70.2
40	5.5	70.2
30	5.5	70.2
20	5.6	70.1
10	5.7	70.0
5400	5.8	69.9
5390	6.0	69.7
80	6.0	69.7
70	6.0	69.7
60	5.9	69.8
	N4120	
5360	7.2	68.5
70	6.0	69.7
80	6.3	69.4
90	5.9	69.8

675.68 N4120

5400	6.1	69.6
10	5.9	69.8
20	5.7	70.0
30	5.5	70.2
40	5.7	70.0
50	5.8	69.9
60	5.6	70.1
70	5.3	70.4
80	5.7	70.0
90	6.0	69.7
5500	6.3	69.4
10	6.4	69.3
20	6.4	69.3
30	6.5	69.2
40	6.6	69.1
50	6.4	69.3
60	5.8	69.9
70	4.9	70.8
80	3.7	71.8

675.68 N4120

5590	2.7	73.0
5600	1.3	74.4
10	0.0	75.7
20	+1.2	76.9
30	+2.5	78.2
40	+3.8	79.5
50	+5.0	80.7
60	+6.9	82.6
70	+8.6	84.3
80	+10.0	85.7

N4110

5680	+8.8	84.5
70	+7.6	83.3
60	+6.4	82.1
50	+5.0	80.7
40	+3.8	79.5
30	+2.5	78.2
20	+1.3	77.0
10	0.0	75.7

675.68 N4110

5600		1.5	74.2
5590		2.9	72.8
80		4.3	71.4
70		5.5	70.2
60		6.2	69.5
50		6.3	69.4
40		6.4	69.3
30		6.8	68.9
20		6.9	68.8
15		6.4	69.3
10		8.0	67.7
5500		10.5	65.2
5490		7.8	67.9
83		8.3	67.4
80		1.2	74.5
70		+2.2	77.9
66		+1.3	77.0
60		2.4	73.3
50		2.3	73.4
40		1.5	74.2

675.68 N4110

5430		2.7	73.0
20		4.6	71.1
10		4.9	70.8
5400		5.7	70.0
5390		6.0	69.7
80		9.1	66.6
Set B.M.		12.76	662.92
	9.32	672.24	

N400

5680		+12.6	84.8
70		+11.2	83.4
60		+10.0	82.2
50		+8.7	80.9
40		+7.4	79.6
30		+6.0	78.2
20		+4.6	76.8
10		+3.2	75.4
5600		+1.9	74.1
5590		+0.5	72.7

	672.24	N4100		
5580		2.2	70.0	✓
70		3.4	68.8	✓
60		3.3	68.9	✓
50		3.2	69.0	✓
40		3.3	68.9	✓
35		3.4	68.8	✓
20		8.5	63.7	✓
10		9.6	62.6	✓
5500		12.2	60.0	✓
5490		13.5	58.7	✓
80		14.7	57.5	✓
70		14.6	57.6	✓
60		13.1	59.1	✓
50		12.4	59.8	✓
40		9.7	62.5	✓
35		2.5	69.7	✓ O.G.
30		2.5	69.7	✓
20		4.0	68.2	✓
10		7.4	64.8	✓

	672.24	N4100		
5400		9.7	62.5	✓
		N4090		✓
5360		20.9	51.3	✓
70		18.1	54.1	✓
80		16.3	55.9	✓
90		14.7	57.5	✓
5400		15.4	56.8	✓
10		17.4	54.8	✓
20		16.7	55.5	✓
30		15.2	57.0	✓
40		20.1	52.1	✓
50		19.2	53.0	✓
60		18.7	53.5	✓
70		16.3	55.9	✓
80		15.2	57.0	✓
90		13.9	58.3	✓
5500		12.7	59.5	✓
10		11.5	60.7	✓
20		10.2	62.0	✓

Start Sept 12 - 1933
Elliott - Notes
Simpson - π
Salgado - φ
Osborne - ch.

		672.24	N4090		
5530			8.8	63.4	
40			5.9	66.3	
50			3.1	69.1	
60			3.5	68.7	
70			3.8	68.4	
80			4.2	68.0	
90			5.0	67.2	
5600			2.5	69.7	
05			0.4	71.8	
10			+2.4	74.6	
20			+4.5	76.7	
30			+5.9	78.1	
40			+7.1	79.3	
50			+8.5	80.7	
60			+9.9	82.1	
70			+11.4	83.6	
80			+12.9	85.1	
Check			9.32	662.92	662.92

Plotting at about 64° East

T.P.	1.80	Level 664.72		662.92	
			12.69	652.03	
	0.04	π 652.07			
		664.7	N4080		
5600			+0.8	65.5	
5590			+1.9	66.6	
80			+2.8	67.5	
70			+3.4	68.1	
60			+4.0	68.7	
50			0.1	64.6	
40			4.9	59.8	
30			8.5	56.2	
20			7.7	57.0	
10			5.5	59.2	
5500			5.4	59.3	
5490			6.8	57.9	
80			8.0	56.7	
70			9.3	55.4	
60			10.4	54.3	

664.7

N4080

5450	11.8	52.9
40	13.3	51.4
	652.1	
30	2.2	49.9
20	4.0	48.1
10	5.4	46.7
5400	6.9	45.2
5390	7.9	44.2
80	8.9	43.2
70	9.4	42.7
60	9.6	42.5
50	10.0	42.1
40	9.9	42.2
30	9.3	42.8
20	9.1	43.0
10	8.7	43.4
5300	7.7	44.4
5293	7.6	44.5 Toe of dam

652.1

N4070

5300	8.3	43.8 Toe of dam
10	8.7	43.4
20	9.3	42.8
30	9.7	42.4 W
40	9.8	42.3
50	10.2	41.9
5360	10.2	41.9
70	9.8	42.3
80	9.0	43.1
90	8.1	44.0
5400	6.8	45.3
10	5.4	46.7
20	3.9	48.2
30	2.4	49.7
40	0.8	51.3
	664.7	
50	12.0	52.7
60	10.6	54.1
70	9.0	55.7

664.7 N4070

5480	9.1	55.6
90	9.8	54.9
5500	12.1	52.6
10	12.8	51.9
20	14.2	50.5
30	15.0	49.7
40	10.9	53.8
50	6.9	57.8
60	2.2	62.5
70	+3.2	67.9
80	+2.5	67.2
90	+1.3	66.0
5600	+0.2	64.9

N4060

5600	0.4	64.3
5590	+1.0	65.7
80	+2.8	67.5
70	0.6	64.1
60	6.7	58.0

664.7 N4060

5550	13.6	51.1
40	17.9	46.8
30	21.3	43.4
20	21.8	42.9
10	21.2	43.5
5500	19.5	45.2
5490	17.3	47.4
80	14.6	50.1
70	12.2	52.5
60	11.3	53.4
50	12.7	52.0
40	13.4	51.3

652.1

30	2.1	50.0
20	3.7	48.4
10	5.3	46.8
5400	6.7	45.4
5390	8.0	44.1
80	9.0	43.1

652.1

N4060

5370	9.8	42.3
60	10.2	41.9
50	10.4	41.7
40	10.1	42.0
30	9.7	42.4
20	9.0	43.1
10	8.6	43.5
5300	7.9	44.2 Top of Dam

N4050

5314	13.1	39.0 Toe of Dam
20	14.3	37.8
30	9.8	42.3
40	10.6	41.5
50	11.3	40.8
60	11.9	40.2
70	12.1	40.0
80	12.2	39.9
90	10.2	41.9
5400	8.1	44.0

652.1

N4050

5410	6.5	45.6
20	6.9	45.2
30	8.1	44.0
40	6.7	45.4
50	5.5	46.6
60	8.2	43.9
70	9.3	42.8
80	10.7	41.4
90	11.1	41.0
5500	14.0	38.1
10	15.2	36.9
20	16.7	35.4
30	14.1	38.0
40	10.7	41.4
50	4.7	47.4
664.7		
60	11.3	53.4
70	6.8	57.9
80	4.9	59.8
90	0.5	64.2
5600	0.4	64.3

		664.7	N4040	
5600			3.0	61.7
5590			5.4	59.3
80			11.1	53.6
70			16.4	48.3
60			20.7	44.0
		652.07		
T.P.	+0.34	637.35	15.06	637.01
50			+1.3	38.6
40			2.0	35.3
30			5.3	32.0
20			5.2	32.1
10			5.1	32.2
5500			4.2	33.1
5490			3.2	34.1
80			3.9	33.4
70			4.0	33.3
60			0.4	36.9
50			1.0	36.3

		637.35	N4040	
5440			1.6	35.7
30			1.4	35.9
20			1.1	36.2
10			0.6	36.7
5400			+0.1	37.4
5390			+1.3	38.6
T.P.			0.34	637.01
	+3.93	640.94		
80			2.2	38.7
70			1.8	39.1
60			1.2	39.7
50			0.6	40.3
40			2.9	38.0
30			4.2	36.7
5320			6.0	34.9 Toe of dam
			N4030	
5328			8.9	32.0 Toe of dam
40			5.6	35.3
50			4.4	36.5

	640.94	N4030 ✓
5360	1.3	39.6 ✓
70	1.7	39.2 ✓
80	2.3	38.6 ✓
90	2.8	38.1 ✓
5400	3.3	37.6 ✓
10	3.9	37.0 ✓
20	4.5	36.4 ✓
30	5.2	35.7 ✓
40	5.8	35.1 ✓
50	6.3	34.6 ✓
60	6.9	34.0 ✓
70	7.5	33.4 ✓
80	7.9	33.0 ✓
90	8.5	32.4 ✓
5500	8.7	32.2 ✓
10	9.0	31.9 ✓
20	9.3	31.6 ✓
30	9.4	31.5 ✓
40	9.1	31.8 ✓

	640.94	N4030 ✓
5550	8.7	32.2 ✓
60	4.0	36.9 ✓
70	+0.2	41.1 ✓
80	+6.5	47.4 ✓
90	+9.2	50.1 ✓
5600	+13.9	54.8 ✓
		N4020 ✓
5600	+5.4	46.3 ✓
5590	+2.9	43.8 ✓
80	2.1	38.8 ✓
70	6.0	34.9 ✓
60	8.3	32.6 ✓
50	9.7	31.2 ✓
40	9.7	31.2 ✓
30	9.4	31.5 ✓
20	9.3	31.6 ✓
10	9.0	31.9 ✓
5500	8.6	32.3 ✓
5490	8.1	32.8 ✓

640.94 N4020

5480	7.6	33.3
70	7.0	33.9
60	6.5	34.4
50	5.9	35.0
40	5.4	35.5
30	4.8	36.1
20	4.2	36.7
10	3.8	37.1
5400	3.2	37.7
5390	2.5	38.4
80	2.4	38.5
70	3.7	37.2
60	4.5	36.4
50	9.3	31.6
37	12.0	28.9 Toe of dam
	N4010	
5340	14.6	26.3 Toe of dam
50	15.0	25.9
60	13.2	27.7

640.94 N4010

5370	11.0	29.9
80	9.9	31.0
90	7.4	33.5
5400	6.9	34.0
10	5.9	35.0
20	5.5	35.4
30	5.3	35.6
40	5.0	35.9
50	5.8	35.1
60	6.4	34.5
70	7.1	33.8
80	7.7	33.2
90	8.1	32.8
5500	8.5	32.4
10	8.9	32.0
20	9.2	31.7
30	9.5	31.4
40	9.5	31.4
50	9.6	31.3

Plotting of cs thawn by 9-14-34 EBH

640.94

4010 ✓

5560		9.7	31.2 ✓
70		9.3	31.6 ✓
80		7.0	33.9 ✓
90		4.9	36.0 ✓
5600		2.2	38.7 ✓
T.P.		11.97	628.97 ✓
	4.85	633.82 ✓	

N4000 ✓

5600		1.0	32.8 ✓
5590		2.6	31.2 ✓
80		2.8	31.0 ✓
70		2.6	31.2 ✓
60		2.4	31.4 ✓
50		2.3	31.5 ✓
40		2.3	31.5 ✓
30		2.1	31.7 ✓
20		1.8	32.0 ✓
10		1.3	32.5 ✓

633.82

4000 ✓

5500		1.0	32.8 ✓
5490		0.5	33.3 ✓
80		2.1	31.7 ✓
70		1.4	32.4 ✓
60		2.4	31.4 ✓
50		3.3	30.5 ✓
40		3.5	30.3 ✓
30		4.7	29.1 ✓
20		4.4	29.4 ✓
10		5.0	28.8 ✓
05		5.7	28.1 ✓
5400		6.4	27.4 ✓
5390		7.2	26.6 ✓
80		7.6	26.2 ✓
70		7.7	26.1 ✓
60		8.1	25.7 ✓
50		8.3	25.5 ✓
40		8.7	25.1 ✓ Toe of dam

	633.82	3990 ✓
5345	8.8	25.0 ✓
50	8.4	25.4 ✓
60	8.0	25.8 ✓
70	7.6	26.2 ✓
80	7.3	26.5 ✓
90	7.2	26.6 ✓
5400	7.0	26.8 ✓
10	6.8	27.0 ✓
20	6.5	27.3 ✓
30	6.4	27.4 ✓
40	6.5	27.3 ✓
50	6.6	27.2 ✓
60	6.6	27.2 ✓
70	6.4	27.4 ✓
80	6.3	27.5 ✓
90	6.0	27.8 ✓
5500	5.9	27.9 ✓
10	5.6	28.2 ✓
20	5.2	28.6 ✓

	633.82	3990 ✓
5530	4.8	29.0 ✓
40	4.0	29.8 ✓
50	3.9	29.9 ✓
60	3.0	30.8 ✓
70	2.6	31.2 ✓
80	2.7	31.1 ✓
90	2.7	31.1 ✓
5600	2.8	31.0 ✓
		3980 ✓
5600	2.9	30.9 ✓
5590	2.9	30.9 ✓
80	3.1	30.7 ✓
70	3.4	30.4 ✓
60	3.8	30.0 ✓
50	4.2	29.6 ✓
40	4.6	29.2 ✓
30	5.1	28.7 ✓
20	5.4	28.4 ✓
10	5.8	28.0 ✓

633.82 3980 ✓

5500	6.1	27.7 ✓
5490	6.3	27.5 ✓
80	6.4	27.4 ✓
70	6.5	27.3 ✓
60	6.6	27.2 ✓
50	6.7	27.1 ✓
40	6.9	26.9 ✓
30	6.5	27.3 ✓
20	6.6	27.2 ✓
10	6.9	26.9 ✓
5400	7.0	26.8 ✓
5390	7.9	25.9 ✓
80	9.2	24.6 ✓
70	10.9	22.9 ✓
60	9.5	24.3 ✓
45	9.5	24.3 ✓ TOC

633.82 3970 ✓

5360	15.6	18.2 ✓ TOC
70	16.0	17.8 ✓
80	15.4	18.4 ✓
90	12.7	21.1 ✓
5400	9.0	24.8 ✓
10	7.0	26.8 ✓
20	8.0	25.8 ✓
30	7.4	26.4 ✓
40	6.9	26.9 ✓
50	6.8	27.0 ✓
60	6.5	27.3 ✓
70	6.3	27.5 ✓
80	7.0	26.8 ✓
90	7.7	26.1 ✓
5500	8.2	25.6 ✓
10	6.1	27.7 ✓
20	7.0	26.8 ✓
30	4.7	29.1 ✓
40	4.5	29.3 ✓

		633.82	3970 ✓	
5550			4.2	29.6 ✓
60			4.0	29.8 ✓
70			3.5	30.3 ✓
80			3.3	30.5 ✓
90			2.0	31.8 ✓
5600			3.1	30.7 ✓
T.P.			12.16	621.66 ✓
	0.05	621.71 ✓		
B.M. Check			14.45	607.26 ✓ 607.30

Sept 13 - 1933 N4170 ✓

5350		691.6		O.G.
40			18.0	73.6 ✓
30			16.6	75.0 ✓
20			15.2	76.4 ✓
10			13.8	77.8 ✓
5300			12.4	79.2 ✓
5290			10.7	80.9 ✓
80				O.G.

Plotting ch 9-14-34 C.B.H.

Elliott
Simpson
Soper
Salgado

More Original X Sections
Sept 13 - 1933

27

B.M.	0.39	703.89 ✓		703.50
			12.84	691.05 ✓
	0.53	691.58 ✓		

		703.9	N4160 ✓	
5140				O.G.
5150			+1.2	705.1 ✓
60			1.1	02.8 ✓
70			2.7	01.2 ✓
80			4.3	699.6 ✓
90			+1.2	705.1 ✓
5200			0.1	03.8 ✓
10			4.5	699.4 ✓
20			10.6	93.3 ✓
30			13.3	90.6 ✓
40			14.2	89.7 ✓
		691.6		
50			3.9	87.7 ✓
60			6.2	85.4 ✓

Plotting ch as shown by - C.B.H.

691.6

N4160

5270	8.2 83.4
80	10.0 81.6
90	11.2 80.4
5300	13.0 78.6
10	14.5 77.1
20	16.6 75.0
30	18.1 73.5
40	19.7 71.9
50	21.0 70.6
55	21.4 670.2
65	

O.G.

703.9

N4150

5140	+0.2 104.1
50	0.9 03.0
60	2.1 01.8
70	3.5 00.4
80	5.4 698.5
90	6.6 97.3
5200	8.7 95.2

703.9

4150

5210	10.6 693.3
20	12.2 91.7
30	13.5 90.4
40	3.7 87.9
50	4.9 86.7
60	6.3 85.3
70	8.2 83.4
77	9.3 82.3
80	12.3 79.3
90	14.2 77.4
5300	17.1 74.5
10	21.2 70.4
20	21.3 70.3
30	21.4 70.2
40	21.6 70.0
50	21.7 69.9

691.6

N4140

5350	21.7 69.9
40	21.6 70.0
30	21.4 70.2

N4140

691.6

5320	21.2	670.4
10	21.3	70.3
5300	21.1	70.5
5290	21.0	70.6
80	19.7	71.9
70	18.6	73.0
58	7.4	84.2
50	7.5	84.1
40	4.5	87.1
30	1.4	90.2

703.9

20	12.3	91.6
10	10.3	93.6
5200	8.8	95.1
5190	6.9	97.0
80	6.3	97.6
70	5.4	98.5
60	5.2	98.7
50	3.0	100.9

N4130

703.9

5170	12.8	691.1
80	12.3	91.6
90	11.3	92.6

691.58

5200	0.0	91.6
10	2.4	89.2
20	3.3	88.3
30	6.2	85.4
40	10.7	80.9
T.P.	0.80	679.57

12.79	678.79	
50	7.0	72.6
60	8.2	71.4
70	8.9	70.7
80	8.8	70.8
90	9.0	70.6
5300	9.2	70.4
10	9.3	70.3
20	9.4	70.2
30	9.6	70.0
40	9.5	70.1
50	9.3	70.3

691.6

N4120 ✓

5170	7.4	684.2 ✓
80	8.3	83.3 ✓
90	5.5	86.1 ✓
5200	4.5	87.1 ✓
10	5.6	86.0 ✓
20	9.7	81.9 ✓
30	12.8	78.8 ✓
45	8.8	70.8 ✓
50	8.8	70.8 ✓
60	8.8	70.8 ✓
70	8.7	70.9 ✓
80	8.8	70.8 ✓
90	9.0	70.6 ✓
5300	8.8	70.8 ✓
10	9.1	70.5 ✓
20	14.0	65.6 ✓
30	16.7	62.9 ✓
40	14.8	64.8 ✓
50	11.6	68.0 ✓

π 679.59

679.59

N4110 ✓

5187	1.8	77.8 ✓
5205	8.1	71.5 ✓
20	8.8	70.8 ✓
30	8.8	70.8 ✓
40	8.9	70.7 ✓
50	8.9	70.7 ✓
60	8.9	70.7 ✓
70	9.1	70.5 ✓
80	9.3	70.3 ✓
95	8.5	71.1 ✓
T.P.	12.84	666.75 ✓

4.59 671.34 ✓

12.63	658.71 ✓

0.35 π 659.06 ✓

671.34

5300	4.1 67.2 ✓
10	8.6 62.7 ✓

659.06 N4110

5320	4.1	55.0
30	4.1	55.0
40	3.5	55.6
50	1.2	57.9
671.3		
60	9.6	61.7
70	7.3	64.0

N4100

5390	11.1	60.2
80	11.5	59.8
70	10.0	61.3
60	12.4	58.9
659.06		
50	10.5	48.6
40	11.2	47.9
30	10.7	48.4
20	10.2	48.9
15	9.4	49.7
10	2.1	57.0 ~~47.0~~

5300		
5290		
80		
70		
60		
50		
40		
30		
20		
10		

671.3 N4100

11.4	59.9
4.3	67.0
1.3	70.0
1.3	70.0
+0.9	72.2
+0.5	71.8
0.7	70.6
0.7	70.6
0.7	70.6
0.9	70.4

N4090

1.7	69.6
1.3	70.0
+0.3	71.6
+0.1	71.4
0.7	70.6
2.2	69.1
4.9	66.4
7.9	63.4

671.3

N4090 ✓

5290		10.0	61.3 ✓
95	659.1	12.5	46.6 ✓
5300		14.1	45.0 ✓
10		14.9	44.2 ✓
20		15.6	43.5 ✓
30		14.0	45.1 ✓
40		16.0	43.1 ✓
5350		15.2	43.9 ✓

N4080 ✓

5280		10.3	48.8 ✓
73		0.0	59.1 ✓

Plotting ck. as shown by 9-14-34 EBK

671.3

60		9.7	61.6 ✓
50		7.4	63.9 ✓
40		6.2	65.1 ✓
30		3.6	67.7 ✓
20		2.3	69.0 ✓

Stripping X Sections Est. #23

April 2 - 1934

N3090

B.M.	6.38	714.91		708.53
E5150			15.1	699.8
5130			15.6	99.3
5120			15.2	99.7
5095			17.0	97.9
80			15.1	99.8
60			13.2	701.7
40			8.5	06.4
30			8.0	06.9
15			10.3	04.6
5003			13.8	01.1

N3080

5003		8.8	06.1
20		2.9	12.0
50		4.4	10.5
5080		8.7	06.2
5130		15.2	99.7
50		14.5	00.4

Miss sections that used on Final Sec. Book #2.2

Elliott
Simpson
Soper
Remmen

N3070

5140	714.9		O.G.
35		9.5	705.4
15		12.8	02.1
5100		10.8	04.1
5080		9.0	05.9
50		4.1	10.8
20		2.4	12.5
07		1.6	13.3
05		2.8	12.1
5003		3.0	11.9

N3060

4981			
4997			17.0
5003		2.9	712.0
05		2.8	17.7
20	731.3	4.9	26.4
65	714.9	3.2	11.7
75		5.6	09.3
85		1.0	13.9

N3060

5105		714.9	0.0	714.9 ✓
5110				O.G.

N3050 ✓

731.3

5108				O.G.
5103			10.0	21.3 ✓
5080			8.9	22.4 ✓
60			9.1	22.2 ✓
55			6.4	24.9 ✓
T.P	13.1	744.4 ✓	0.0	731.3 ✓
20			11.6	32.8 ✓
13			12.6	31.8 ✓
5003			24.7	19.7 ✓ ~~29.7~~
4997			24.7	19.7 ✓ ~~29.7~~
81				O.G

N3040 ✓

4978				O.G
4997			19.3	25.1 ✓
5003			19.3	25.1 ✓
11			8.7	35.7 ✓

N3040 ✓

5020		744.4	6.9	737.5 ✓
25			3.8	40.6 ✓
38			4.1	40.3 ✓
55			6.1	38.3 ✓
80			15.0	29.4 ✓
95			11.6	32.8 ✓

N3030 ✓

5080			7.2	37.2 ✓
45			4.1	40.3 ✓
20			1.4	43.0 ✓
4994				O.G

N3020 is O.G.

April 2 - 1934

Profile of Core Trench

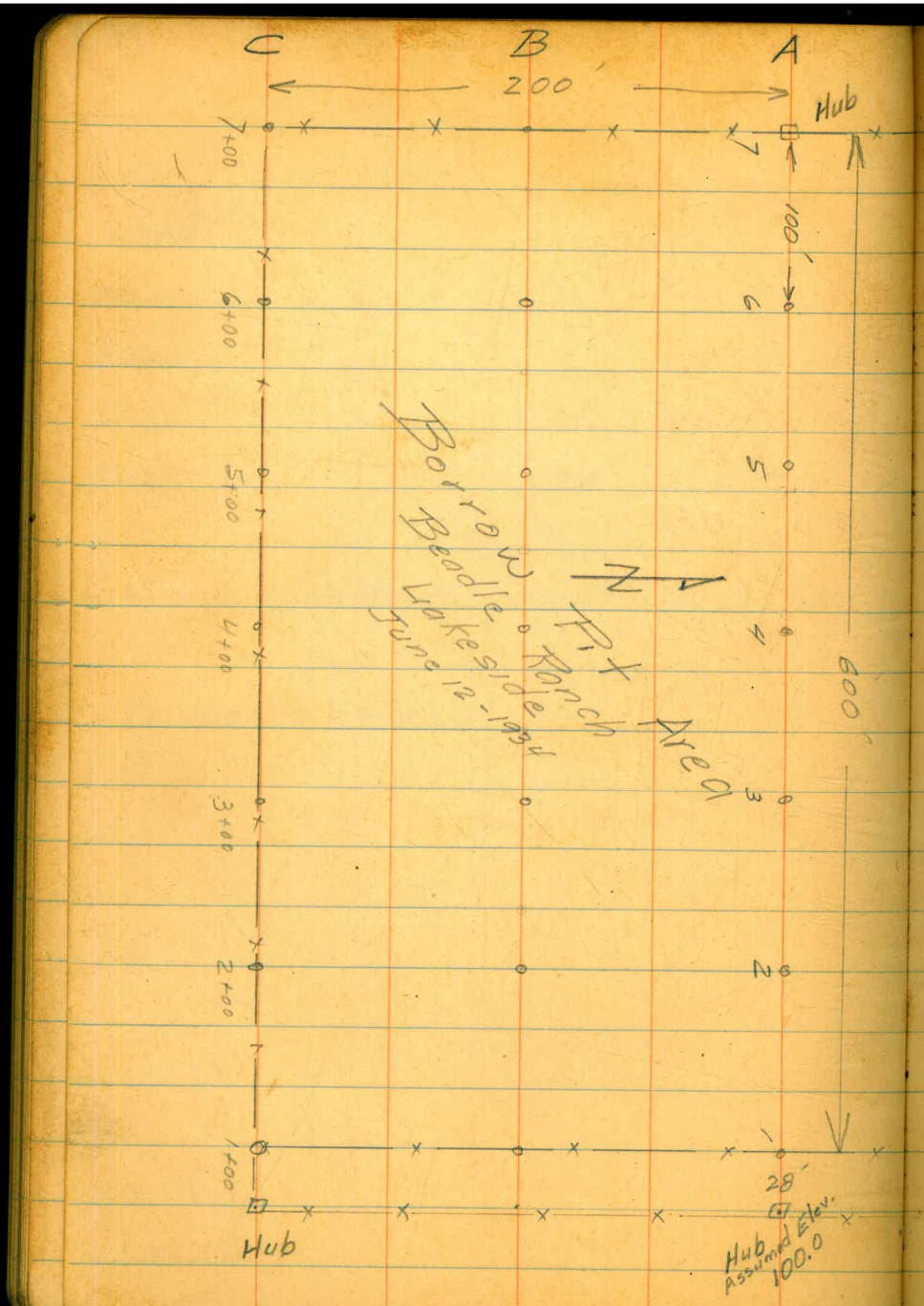
717.0

3048 (5600 Sta.)	17.2	699.8	↑ Final Profile ↓
3052	17.2	699.8	
3054	8.1	708.9	
3034	2.1	714.9	
3032	+5.5	722.5	

N3032 Final FB 443.

Additional Core Trench Excavation for Est. #23

Tunnel 7 x 7 x 27'



Original Elevs. on 100' squares

Converse
Elliott
Simpson
Soper

36

8/24/34

B.M.	6.1	106.1		100.0	Hub at N.E. Corner of area
A 1			5.6	100.5	✓
A 2			5.2	100.9	✓
A 3			5.8	100.3	✓
A 4			4.8	101.3	✓
A 5			4.6	101.5	✓
A 6			4.3	101.8	✓
A 7			3.9	102.2	✓ Hub at N.W. Cor.
B 7			4.3	101.8	✓
B 6			4.9	101.2	✓
B 5			5.1	101.0	✓
B 4			5.4	100.7	✓
B 3			5.4	100.7	✓
B 2			6.6	99.5	✓
B 1			5.7	100.4	✓

Continued from previous page

106.1 ✓

C 1	6.4	99.7	✓
C 2	6.4	99.7	✓
C 3	5.9	100.2	✓
C 4	5.3	100.8	✓
C 5	5.0	101.1	✓
C 6	4.8	101.3	✓
C 7	5.0	101.1	✓

X Sections of Lakeside borrow pit area as excavated to date, June 25 1934

Note: Base line for these sections is "C" line as sketched on page 36. distances are North from "C" line.

B.M. 5.0 105.0 ✓ 100.00

1+17 is original ground

8/24 "W"

	99.3 ✓	93.1 ✓	92.4 ✓	100.0 ✓
1+25	5 7	11 9	12 6	5 0
	10	12	70	76
	99.7 ✓	92.6 ✓	91.2 ✓	99.8 ✓
2+00	5 3	12 4	13 8 water surface	5 2
	12	16	80	87
	99.8 ✓	92.2 ✓	91.7 ✓	100.5 ✓
3+00	5 2	12 8	13 3	4 5
	12	18	87	94
	100.7 ✓	92.7 ✓	91.7 ✓	100.7 ✓
4+00	4 3	12 3	13 3	4 3
	15	20	92	100
	100.7 ✓	93.0 ✓	92.3 ✓	101.1 ✓
4+15	4 3	12 0	12 7	3 9
	16	20	65	70

1934

Converse
Elliott notes
Simpson ?
Soper
Remmen

105.0 ✓

	100.7 ✓	93.8 ✓	93.2 ✓	101.0 ✓
5+00	4 3	11 2	11 8	4 0
	15	20	67	72
	100.8 ✓	91.5 ✓	92.7 ✓	101.2 ✓
6+00	4 2	13 5	12 3	3 8
	12	18	70	77
	101.0 ✓	92.4 ✓	93.1 ✓	101.1 ✓
6+60	4 0	12 6	11 9	3 9
	8	15	70	77

Plotted, gridded, cont'd

6+75 is original ground

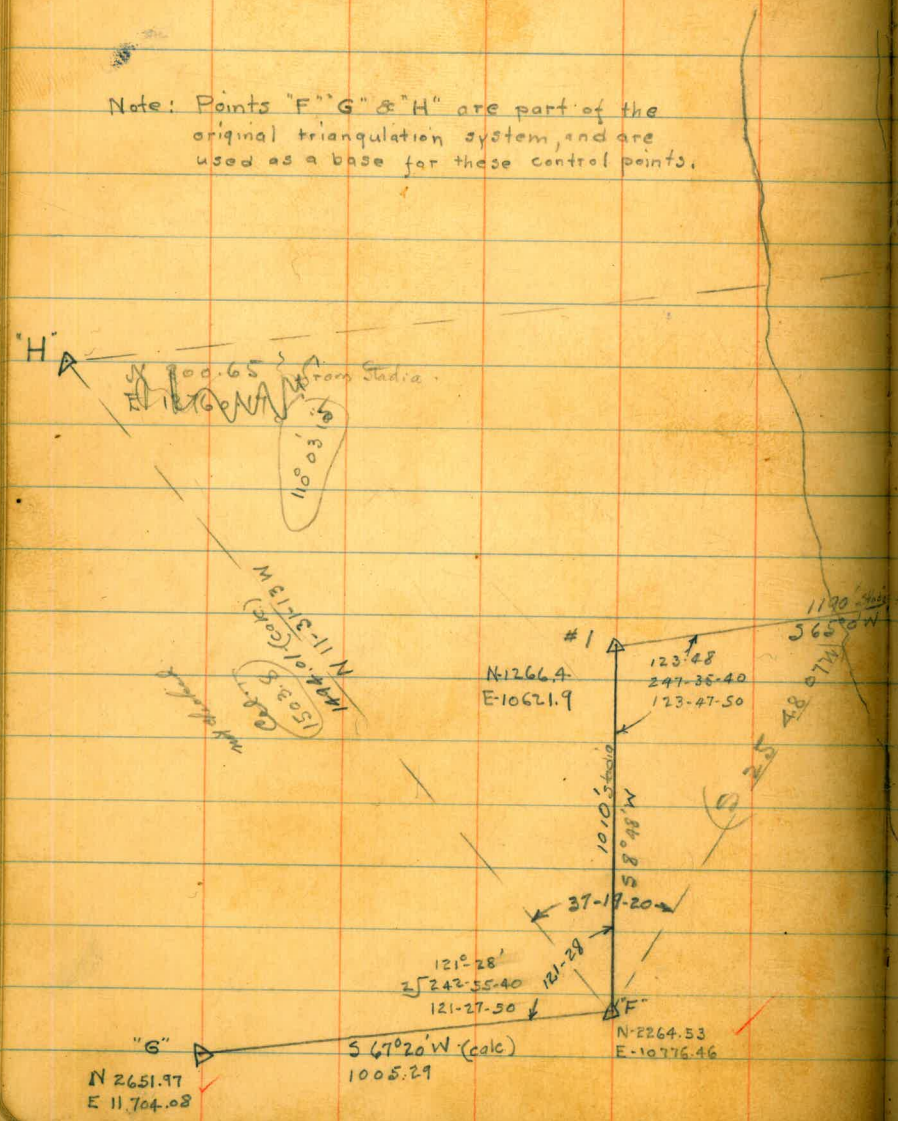
July-27-1934
Simpson
Salgado
Isabelle

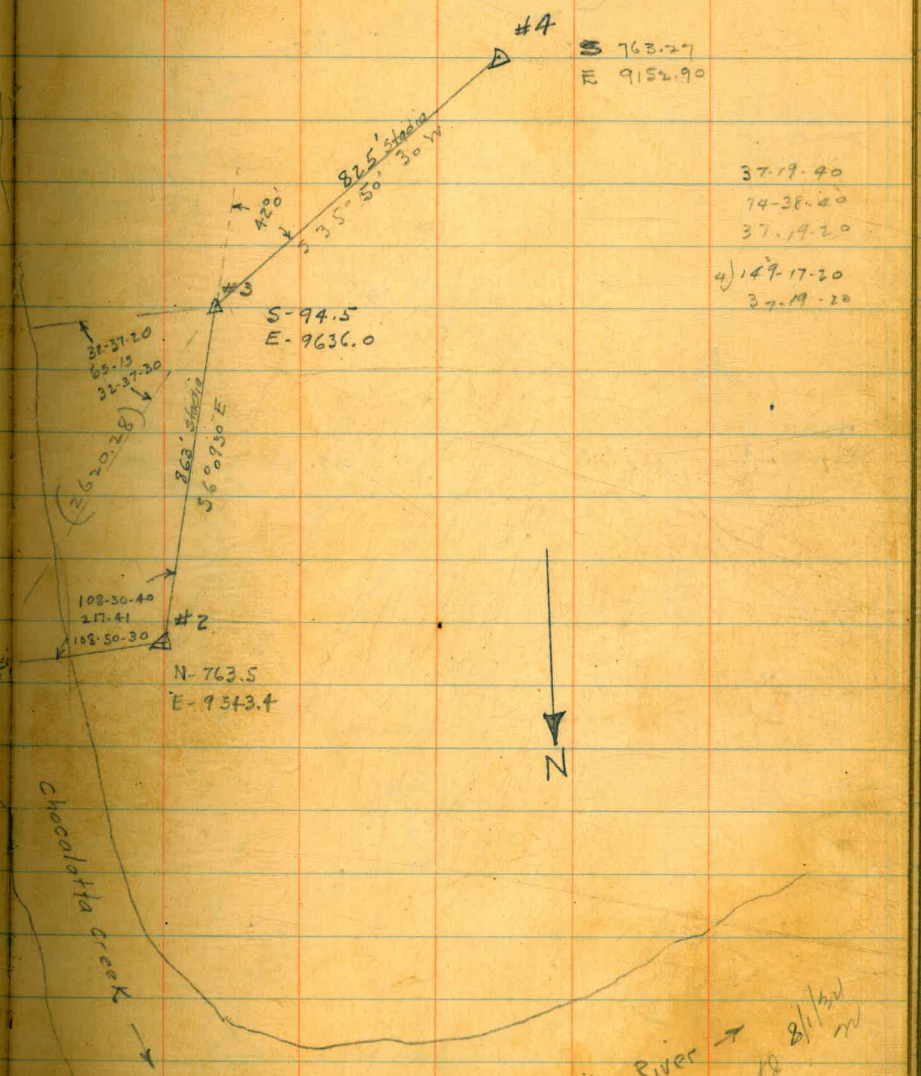
Very Hot

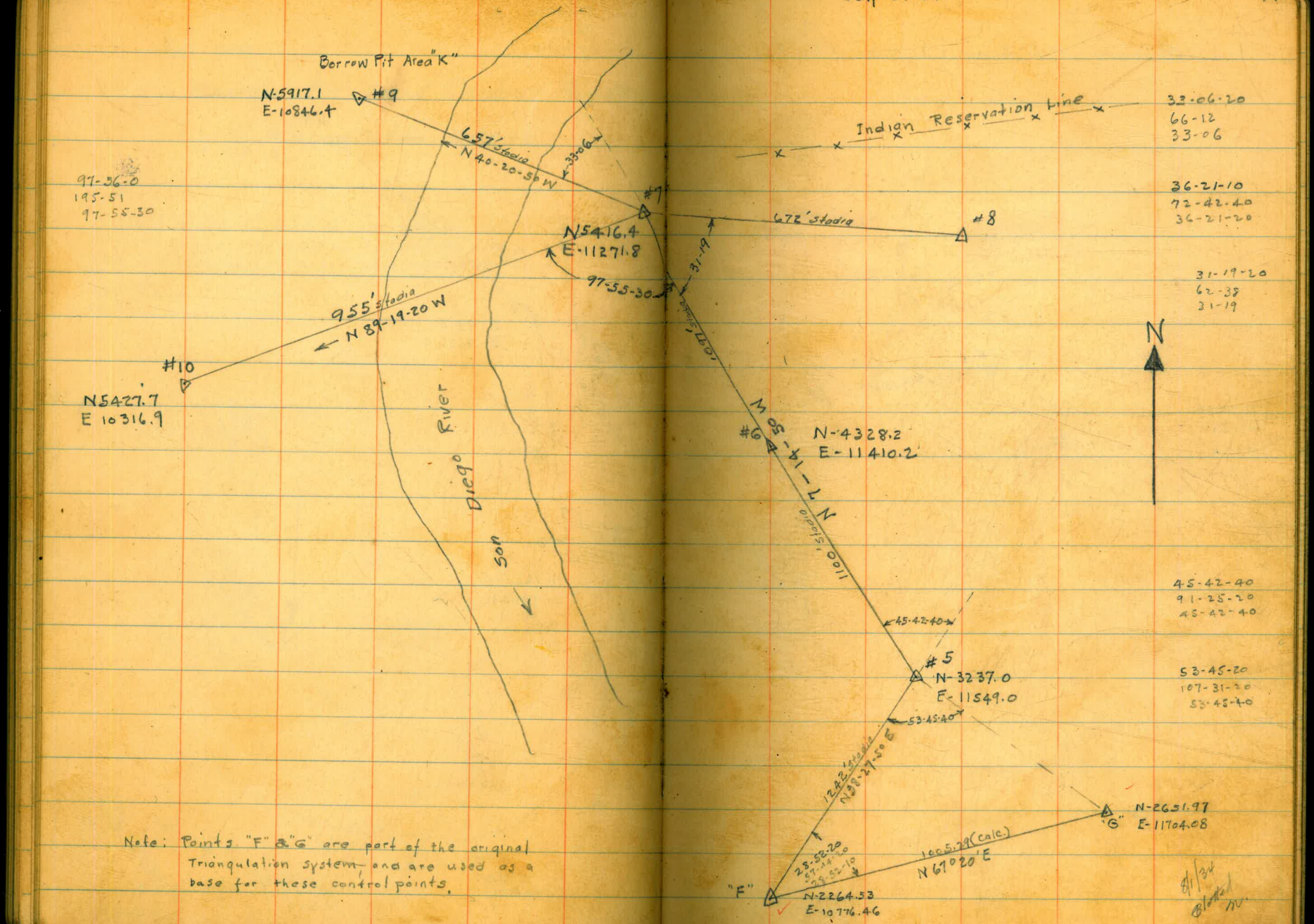
Borrow Pit Area Control Points.

Chocolatta Creek.

Note: Points "F" "G" & "H" are part of the original triangulation system, and are used as a base for these control points.





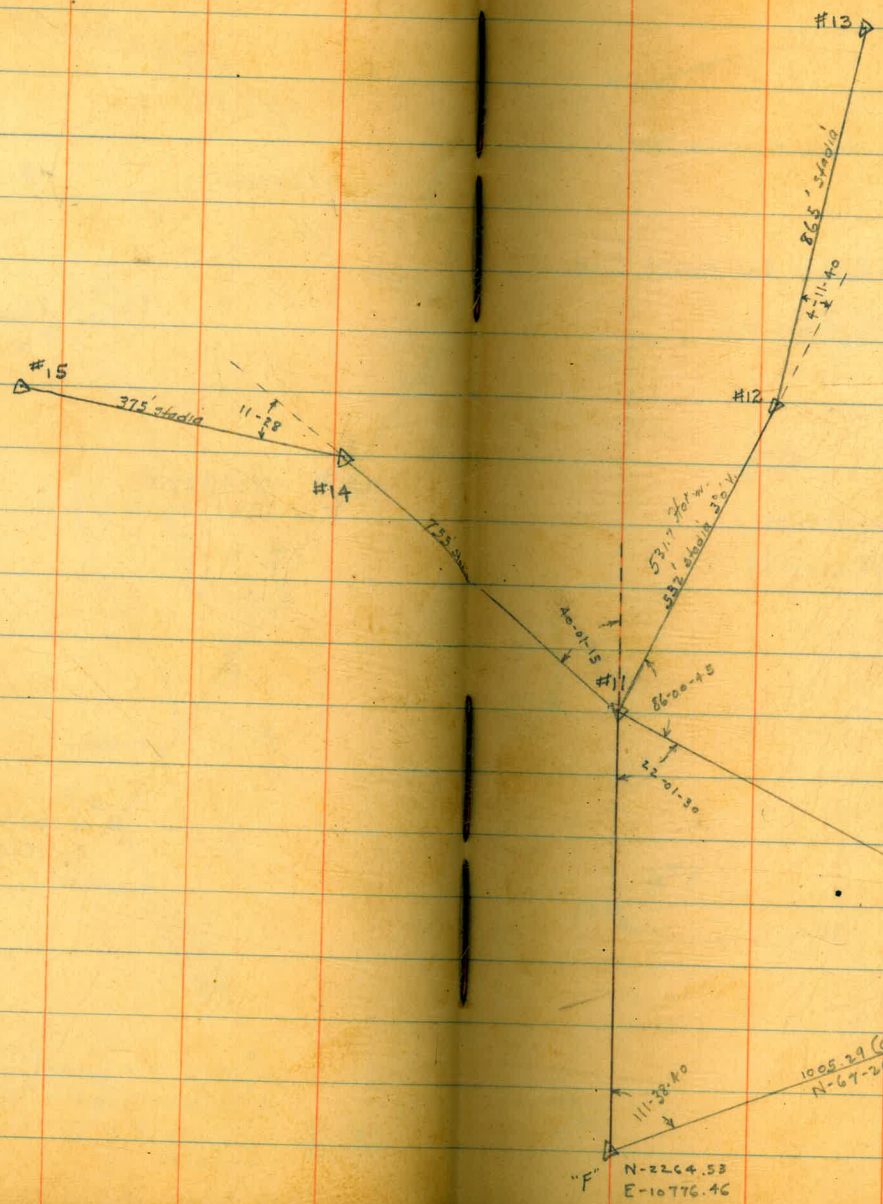


Note: Points "F" & "G" are part of the original Triangulation system and are used as a base for these control points.

8/1/34
Blocked in.

Borrow Pit Area Control Points.

July-30-1934
Simpson
Salgado
Isabelle.



46-19-40
185-19
46-19-45

111-38-40
446-34-30
111-38-37½

4-11-30
8-23-20
4-11-40

11-28-10
22-56
11-28

4e-01
80-02-30
40-01-15

22-01-40
88-06
22-01-30

86-00-30
172-01-30
86-00-45

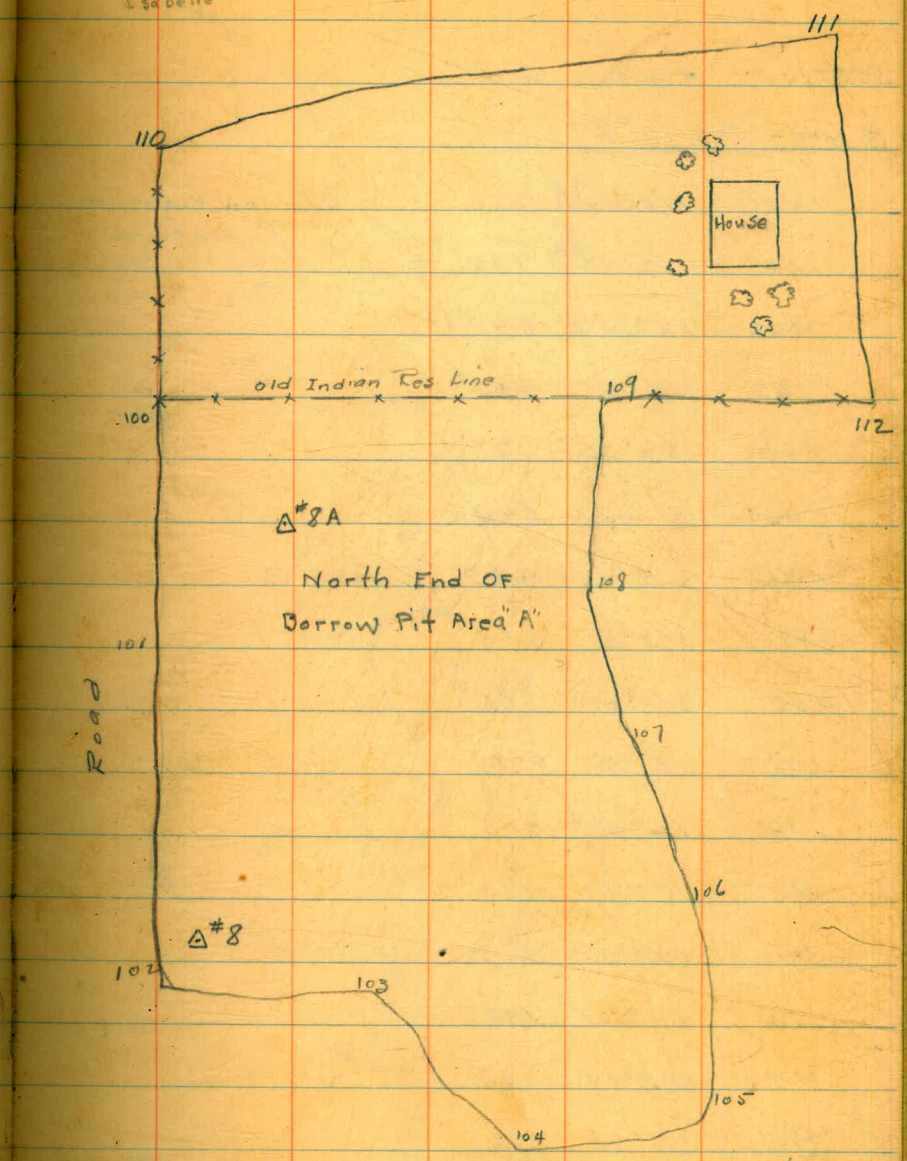
N-2651.97
E-11704.08

Stadia Outline Survey of Borrow Pit Material Available.

July-30-1934

Simoes
Salgado
Isabelle

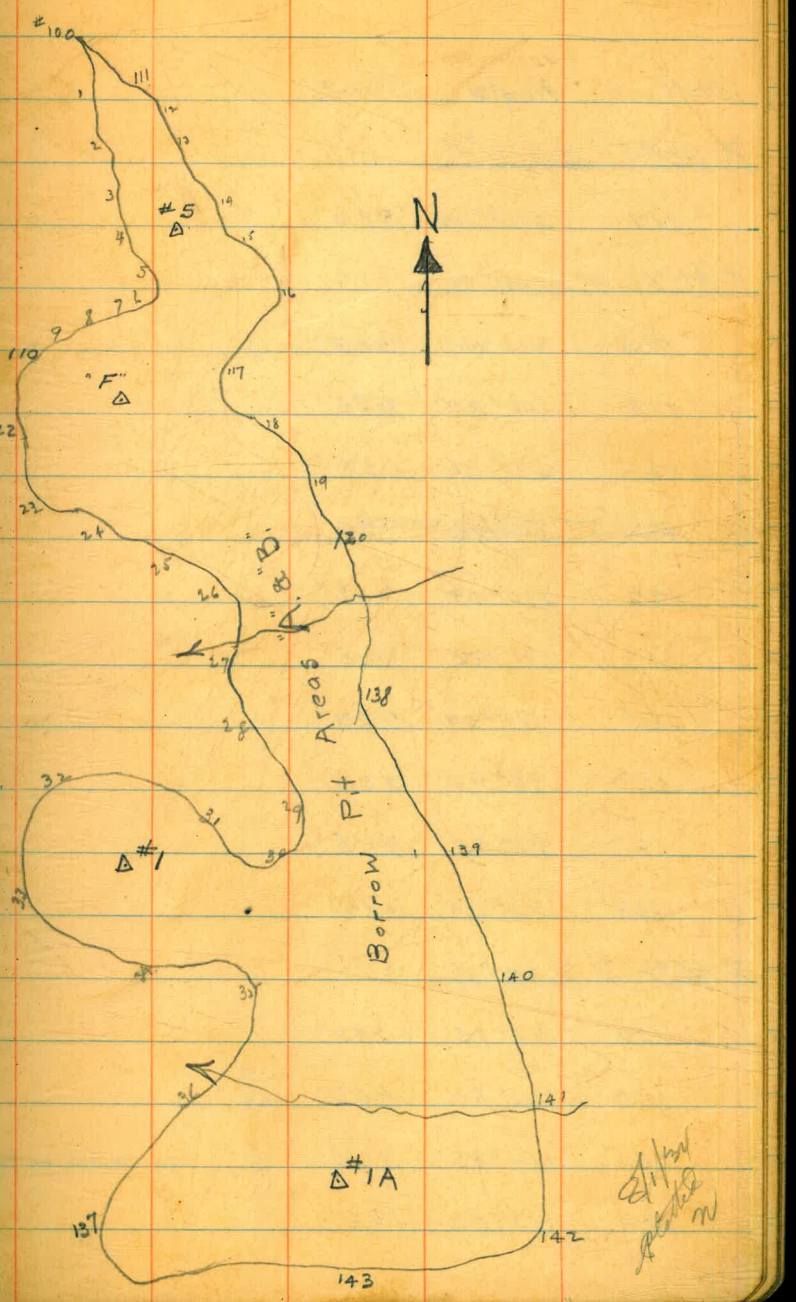
Station	~~Azimuth~~ Angle	Dist.	
℄ At #8 – B.S. on #7			
Note: All angles are turned clockwise from the station sighted on.			
100	67°17'	655'	on Indian Res. Fence Line
101	66°06'	340'	
102	286°42'	25'	
103	169°13'	100'	
104	210°15'	305'	
105	194°43'	385'	
106	176°44'	455'	
107	135°45'	385'	
108	99°21'	530'	
#8-A Transit Pt. only.	77°23'	625'	
℄ At #8A – B.S. on #8			
109	201°37'	192'	
110	164°0'	505	
111	193°10'	455	
112	219°10'	485	



Simpson
Salgado
Isabelle

Station	Angle	Dist.
↑ At #5 - B.S. on #F		
100	125°50'	950'
101	122°40	770'
102	127°56	645'
103	115°54'	440'
104	86°35'	67'
105	2°36'	240'
106	358°44'	375'
107	343°05'	655'
108	354°09'	800'
109	8°45'	930'
110	16°09'	1205'
111	133°15'	780'
112	140°37'	445'
113	145°24'	188'
114	295°14'	105'
115	301°45	305'
116	325°58'	785'

Note: All Angles are Turned clockwise from the Point Sighted on.



Station	Angle	Dist.
At #5 - B.S. on #F.		
117	342°49'	880'
At #F - B.S. on #G		
118	23°44'	405'
119	34°32'	675'
120	64°17'	655'
~~121 85°26' 750'~~		
122	210°09'	415'
123	171°37'	425'
125	144°07'	420'
126	98°42'	205'
127	97°55'	445'
128	93°34'	670'
At #1 - B.S. on #F		
129	37°05'	280'
130	76°41'	300'
131	114°25'	365'
132	113°20'	192'

See Sketch on Pg. 44.

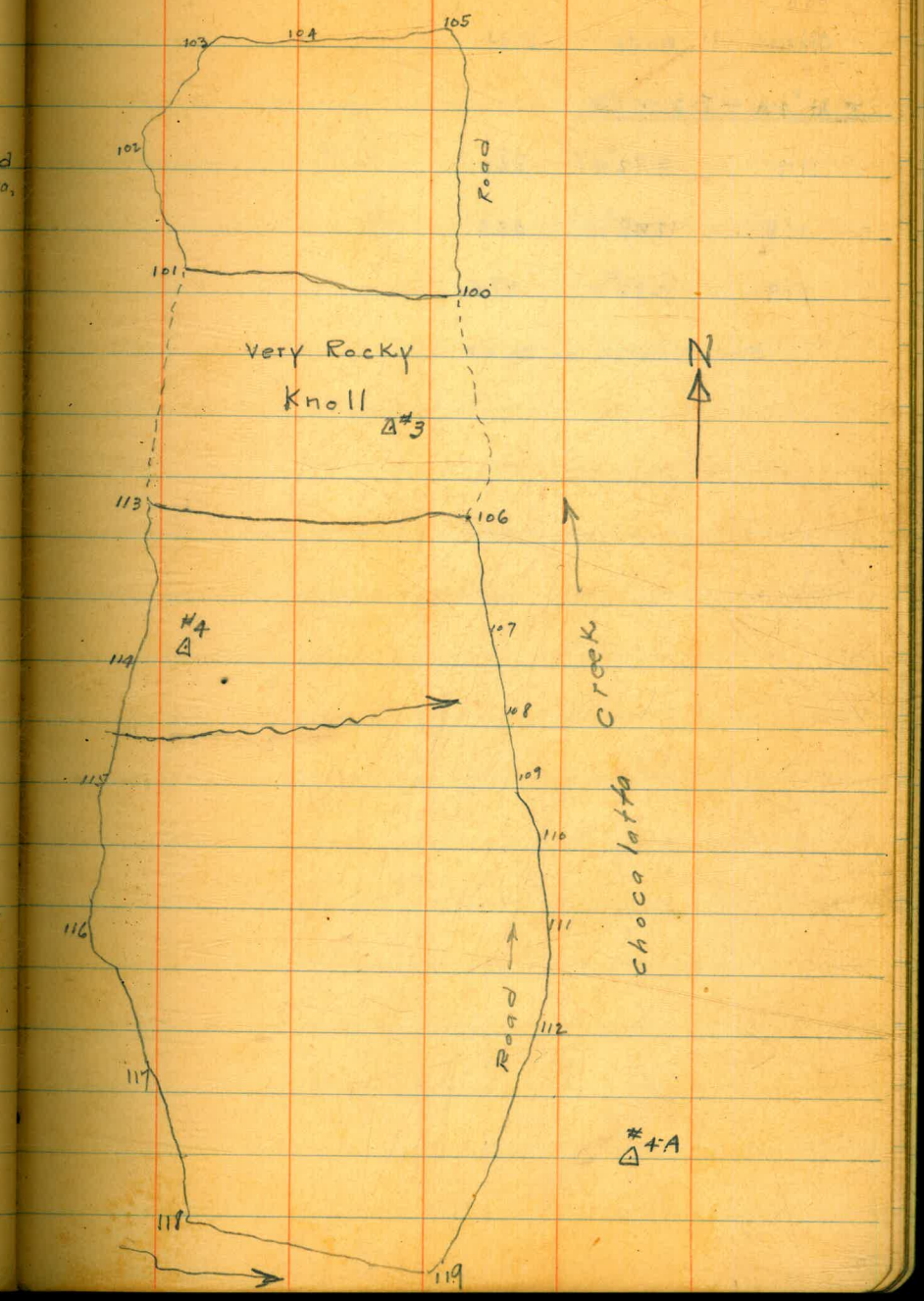
Station	Angle	Dist.
⊼ At #1 - B.S. on #F.		
133	1° 10'	222'
134	300° 20'	292'
135	226° 54'	120'
136	183° 09'	355'
137	227° 10'	672'
1A Transit Pt. only	195° 37'	665'
138	65° 42'	667'
139	104° 0'	485'
140	137° 37'	700'
⊼ At 1A - B.S. on #1		
141	104° 0'	198'
142	151° 04'	350'
143	197° 08'	240'

All Lines Related

See Sketch on Pg. 44

Stadia outline of Borrow Pit Material Available
Chocalatta Creek.

Station	Angle	Dist.	
T At #2 – B.S. on 'F'			
100	117°12'	665'	Note: All Angles are turned clockwise from the Sta. Sighted on.
101	141°28'	535'	
102	156°25'	430'	
103	172°23'	350'	plotted
104	171°58'	190'	
105	45°11'	240'	
T At #4 – B.S. on #3			
106	7°45'	690'	
107	16°17'	440'	
108	51°24'	380'	
109	92°56'	430'	
110	107°01'	580'	
111	122°04'	705'	
112	130°26'	920'	
113	336°45'	450'	
114	187°19'	100'	
115	156°37'	435'	
116	151°39'	690'	
4-A Transit Pt. only	137°51'	1215'	V. 0°0'



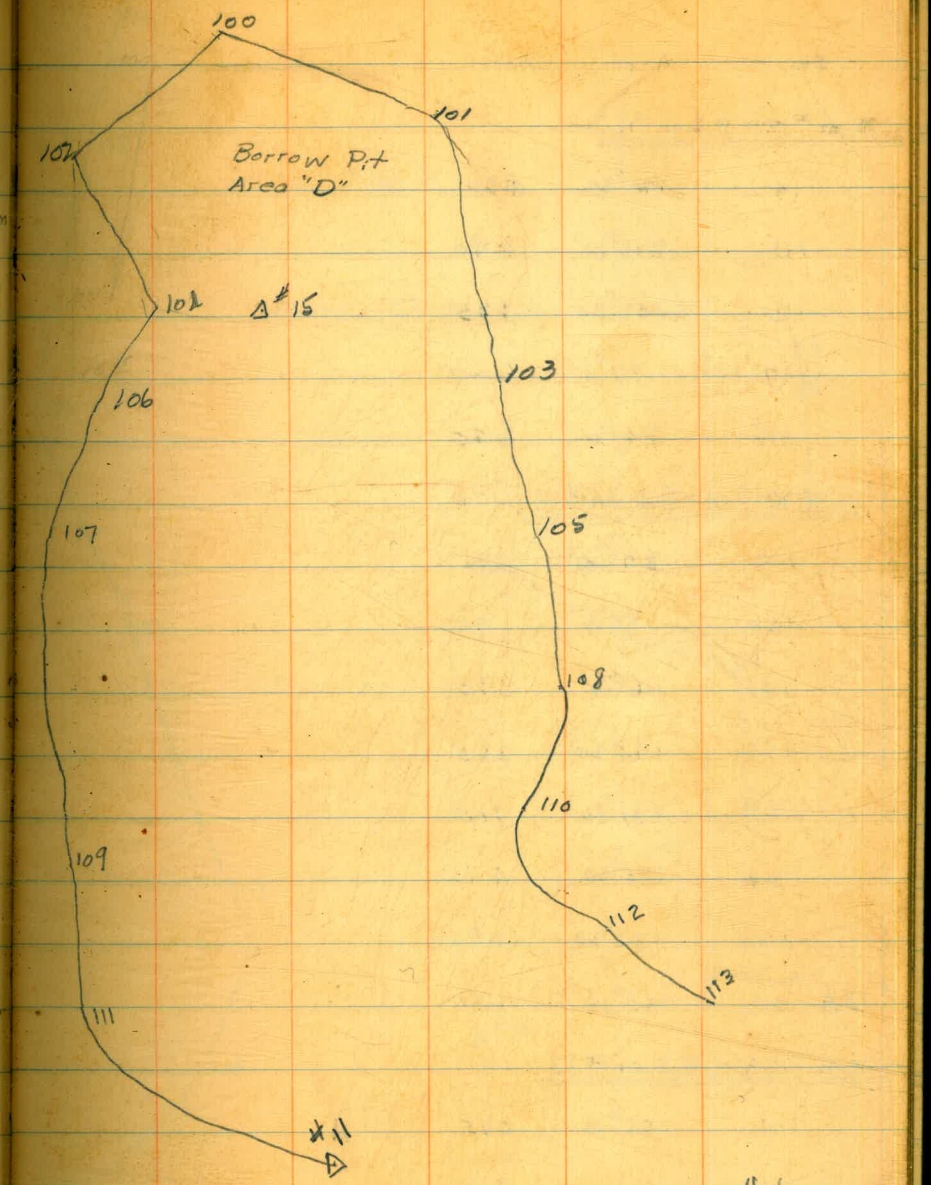
Station	Angle	Dist.
℄ At #4A – B.S. on #4		
117	272°47'	360'
118	248°10	455'
119	230°0'	375

Plotted

See sketch on Pg. 47.

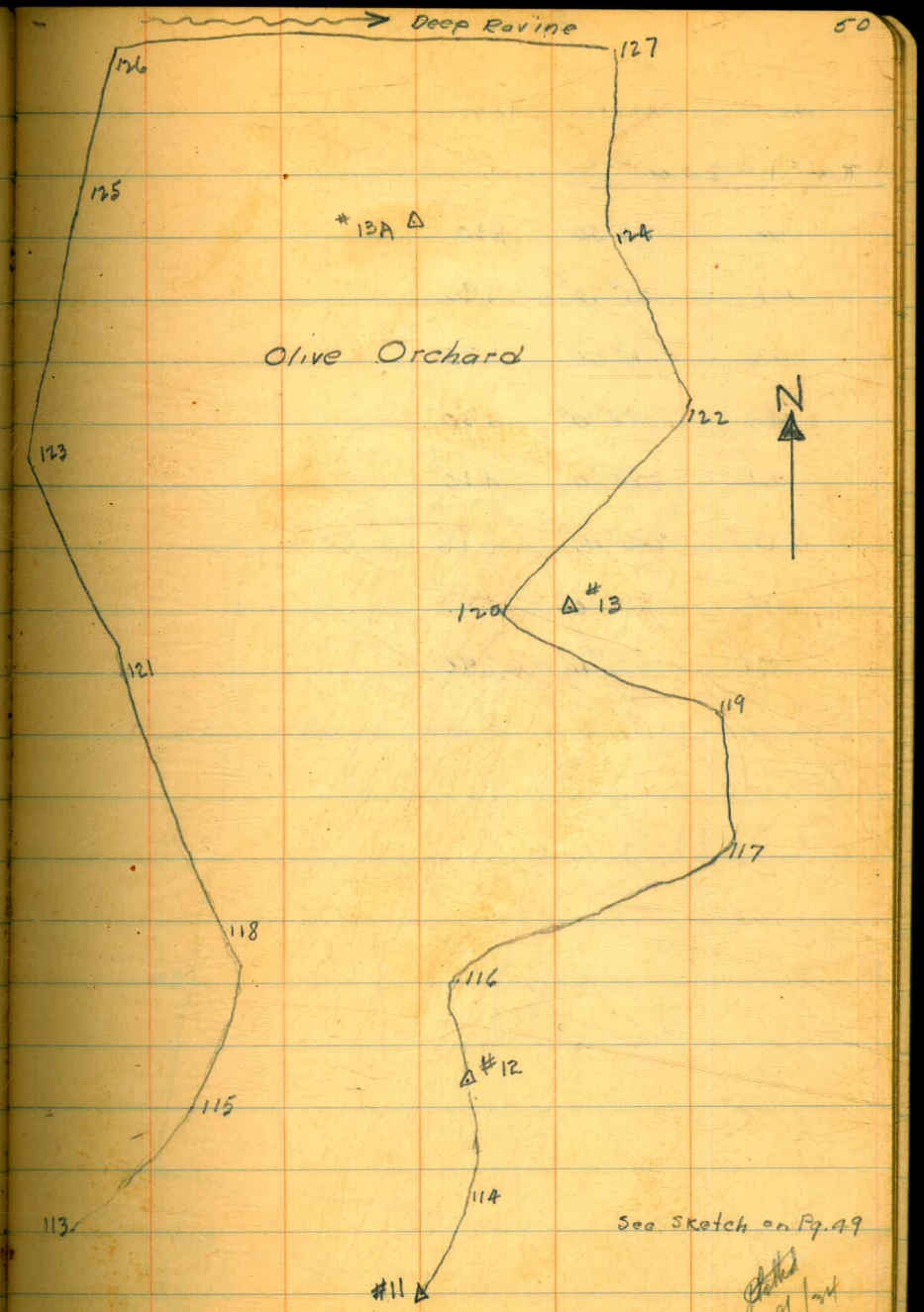
Sta.	Angle	Dist.
At #15 – B.S. on #11		
100	162°10'	360
101	200°35'	260
102	119°45'	250
103	249°0'	165
104	86°-45'	40
105	296°50'	285
106	53°10'	185
At #14 – B.S. on #11		
107	110°10'	370
108	242°50'	160
109	40°30'	365
110	355°10'	310
At #11 – B.S. on #14		
111	315°30'	235
112	24°45'	330
113	82°10'	405

Note: All Angles are Turned Clockwise from Sta. sighted on.



Sta.	Angle	Dist.
At #12 – B.S. on #13		
114	170°30′	430
115	218°0′	290
116	342°30′	175
117	37°0′	600
118	341°0′	620
At #13 – B.S. on #12.		
119	291°0′	370
120	77°0′	40
121	116°10′	365
122	194°20′	265
123	131°50′	710
124	175°20′	475
125	152°20′	1095
#13A Transit Pt. Only	165°05′	630
At #13A – B.S. on #13		
126	156°10	575
127		360

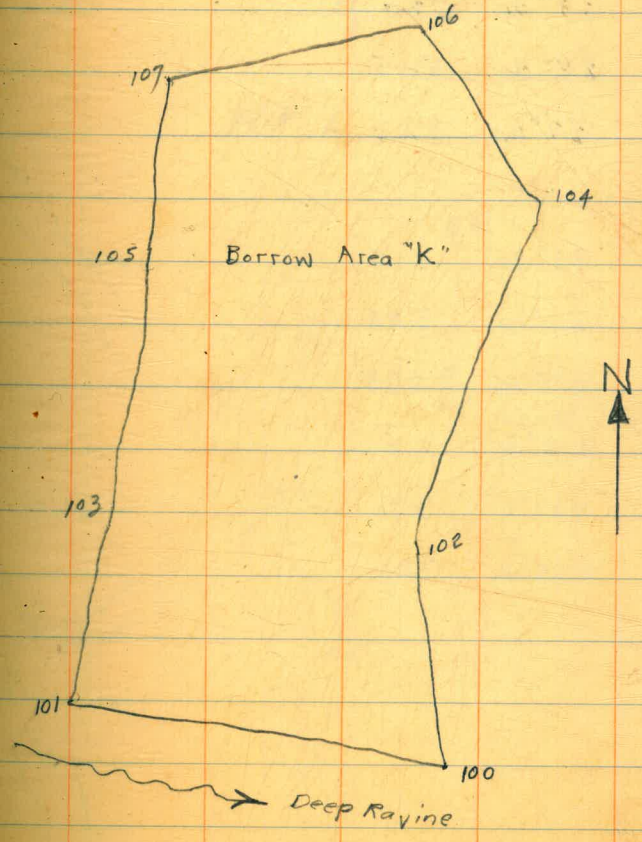
360



See Sketch on Pg. 49

Borrow Pit Area "K"

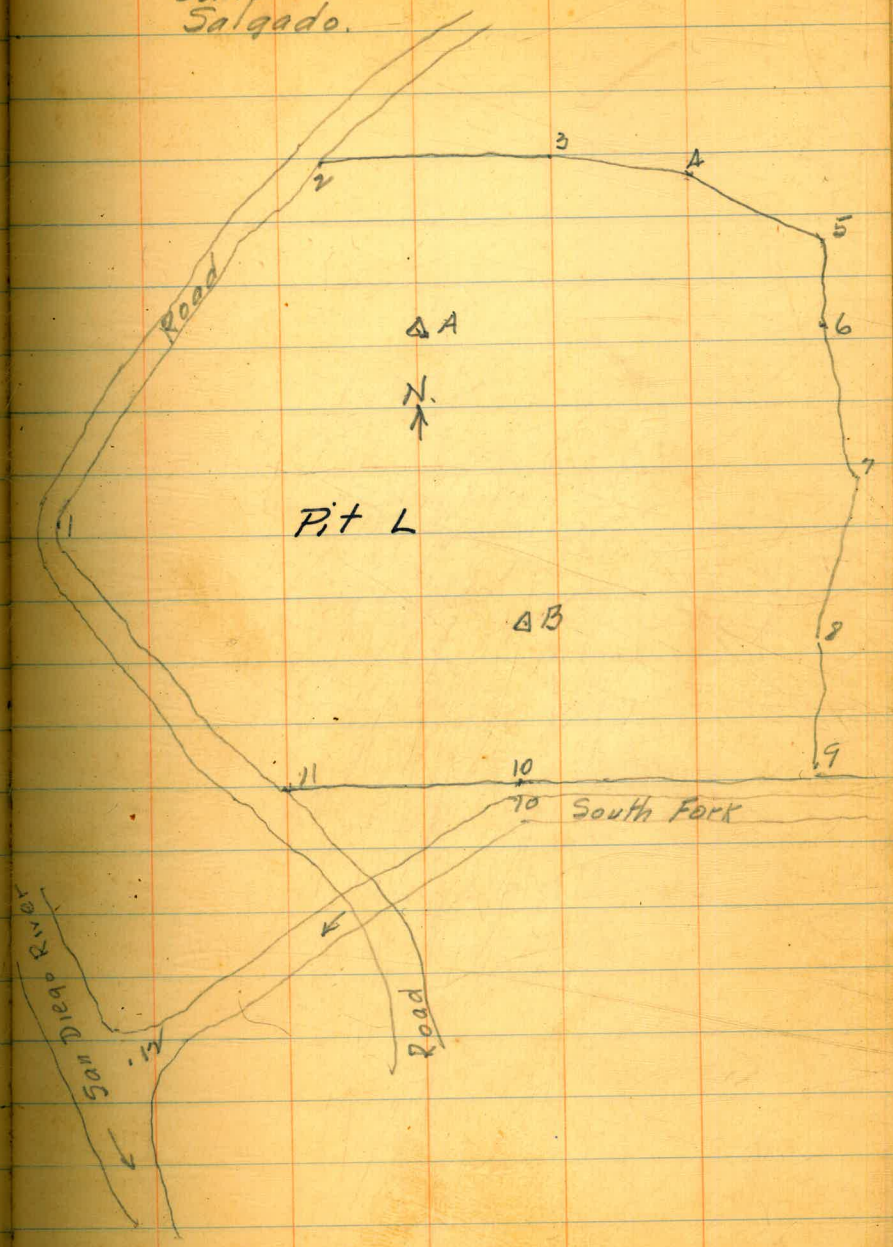
Sta.	Angle	Dist.
℄ at #9 – B.S. on #7		
100	45°50′	310
101	121°20′	190
102	6°20′	75
103	194°20′	120
104	286°10′	410
105	247°10′	290
106	268°10′	505
107	251°40′	390



South Fork Borrow Pit

Sta.	Angle	Dist.
℄ at "A" Vernier at 0 on true north.		
1	328° 40'	390
2	317° 15'	183
3	24° 0'	223
4	55° 0'	422
5	69° 30'	520
6	88° 30'	505
B.	157° 30'	343
℄ at "B" BS. on "A"		
7	93° 30'	515
8	141° 10'	345
9	167° 45'	335
10	219° 30'	117
11	267° 0'	280
12	255° 40'	540

Aug. 1, 1934.
Converse
Salgado.



X Sections of Lakeside Borrow Pit
Area as Excavated to Date, Aug.-13-1934.
Change from Hydraulic to Rolled Fill.

Simpson
Soper
Isabelle

54

Note: Base line for These Sections is "C" Line as sketched on Page 36. Distances are North from "C" line

8/24/34

B.M.	6.30	106.30		100.00 Hub at N.E. Cor. Area.

6+75 is Original Ground

	94.1	93.8	97.3	96.3	101.3
6+65	12 2/5	12 5/5	9 0/5	10 0/5	5 1/5 O.G.
	50	65	70	112	120

	93.3	93.2	96.3	96.3	101.0
6+50	13 0/5	13 1/5	10 0/5	10 0/5	5 3/5 O.G.
	50	64	70	113	119

	92.6	93.8	92.1	101.2
6+25	13 2/5	12 5/5	14 2/5	5 1/5 O.G.
	50	70	105	119

	91.9	91.8	91.4	101.0
6+00	14 4/5	14 5/5	14 9/5	5 3/5 O.G.
	50	75	103	113

5+75

	92.2	93.0	91.8	101.4	
	14 1/5	13 3/5	14 5/5	4 9/5	O.G.
	50	75	103	112	

5+50

	92.6	92.8	94.8	92.7	94.1	100.7
	13 7/5	13 5/5	11 5/5	13 6/5	12 2/5	5 6/5 O.G.
	50	65	70	90	103	111

5+25

	92.7	92.1	95.5	95.5	101.0
	13 6/5	14 2/5	10 8/5	10 8/5	5 3/5 O.G.
	50	67	77	104	111

5+00

	93.4	93.6	95.6	96.0	101.5
	12 9/5	12 7/5	10 7/5	10 3/5	4 8/5 O.G.
	50	65	70	102	110

4+75

	92.7	93.2	90.9	90.9	101.1
	13 6/5	13 1/5	15 4/5	15 4/5	5 3/5 O.G.
	50	65	83	94	108

4+60

	92.3	91.3	88.9	90.3	100.2
	14 0/5	15 0/5	17 4/5	16 0/5	6 1/5 O.G.
	50	80	90	98	110

106.30

	92.4	89.7	89.1	90.4	90.5	100.9
↓ 4+50	13 9/50	16 6/66	17 2/97	15 9/104	15 8/130	5 4/140 O.G.
	92.2	91.4	88.7		89.0	100.8
↓ +25	14 1/50	14 9/75	17 6/85		17 3/128	5 5/140 O.G.
	93.0	90.2	88.7		89.5	100.4
↓ 4 +00	13 3/50	16 1/85	17 6/95		16 8/127	5 9/138 O.G.
	92.4	90.0	89.0	90.0	89.5	100.5
↓ +75	13 9/50	16 3/75	17 3/85	16 3/95	16 8/124	5 8/135 O.G.
	91.8	91.5	88.4	90.0	89.0	100.6
↓ +50	14 5/50	14 8/75	17 9/85	16 3/90	17 3/121	5 7/132 O.G.
	92.0	92.0	90.0	88.5	88.5	100.5
↓ 3 +25	14 3/50	14 3/77	16 3/80	17 8/95	17 8/120	5 8/129 O.G.

Plotted & Inked 8/31

Lakeside Borrow Pit X Sections Cont'd.

106.30 ✓

↓ 3+00	92.0 ✓	91.3 ✓	90.1 ✓	88.1 ✓	88.5 ✓	99.9 ✓
	14 3/5	15 0/5	16 2/5	18 2/5	17 8/5	6 4/5 O.G.
	50	75	77	90	120	125
↓ +75	91.4 ✓	91.6 ✓	90.0 ✓	88.0 ✓	88.5 ✓	99.6 ✓
	14 9/5	14 7/5	16 3/5	18 3/5	17 8/5	6 7/5 O.G.
	50	75	80	95	114	123
↓ +50	91.8 ✓	91.8 ✓	90.2 ✓	88.5 ✓	88.5 ✓	99.9 ✓
	14 5/5	14 5/5	16 1/5	17 8/5	17 8/5	6 4/5 O.G.
	50	75	77	90	113	120
↓ +25	91.5 ✓	91.8 ✓	89.7 ✓	89.3 ✓	88.8 ✓	98.8 ✓
	14 8/5	14 5/5	16 6/5	17 0/5	17 5/5	7 5/5 O.G.
	50	73	75	90	112	118
↓ 2+00	92.4 ✓	91.4 ✓	90.0 ✓	88.8 ✓	89.0 ✓	100.3 ✓
	13 9/5	14 9/5	16 3/5	17 5/5	17 3/5	6 0/5 O.G.
	50	78	81	95	110	117
↓ 1+75	92.1 ✓	91.1 ✓	89.9 ✓	89.1 ✓	89.0 ✓	99.6 ✓
	14 2/5	15 2/5	16 4/5	17 2/5	17 3/5	6 7/5 O.G.
	50	72	74	85	105	113

Stuart Robertson, C.E.

Lakeside Borrow Pit XSections Cont'd.

106.30 ✓

		92.2 ✓	91.9 ✓	90.2 ✓	88.6 ✓
1+50	Cut/Fill 100 Elev.	14 L	14 R	16 L	17 L
		50	65	70	80
		92.8 ✓	90.9 ✓	89.9 ✓	99.7 ✓
+25		13 L	15 R	16 R	6 R O.G.
		50	70	102	108

1+15 is Original Ground.

6.32 99.98 ✓ = check on

89.0 ✓	99.7 ✓	
17 R	6 R O.G.	
102	107	

Hub at N.E. Cor.
Rec. Elev. 100.00

X Sections of Lakeside Borrow Pit Area as Excavated to Aug.-13-1934.- completion of Sections shown on Pages 54, 55, 56, and 57 of this book.

Base Line for these sections is "C" line as sketched on page 36 — Distances are North from "C" line.

8/24/34

B.M.	4.86	104.86 ✓	100.00	Hub at N.E. Cor. of Area.

1+15 is Original Ground

	99.4 ✓	94.4 ✓	
1+25	5.5 O.G.	10.5	
	9	13	
	99.4 ✓	93.3 ✓	
1+50	5.5 O.G.	11.6	
	9	14	
	99.6 ✓	93.0 ✓	
1+75	5.3 O.G.	11.9	
	9	14	
	99.7 ✓	93.3 ✓	
2+00	5.2 O.G.	11.6	
	12	16	

Station Graded 8/24

Aug.-21-1934
Simpson
Soper
Isabelle

104.86 ✓

	99.8 ✓	93.1 ✓	
2+25	5.1 O.G.	11.8	
	12	16	
	99.9 ✓	91.6 ✓	
2+50	5.0 O.G.	13.3	
	12	17	
	100.0 ✓	92.5 ✓	
2+75	4.9 O.G.	12.4	
	12	19	
	100.0 ✓	92.9 ✓	
3+00	4.9 O.G.	12.0	
	12	20	
	100.1 ✓	92.6 ✓	
3+25	4.8 O.G.	12.3	
	12	19	
	100.3 ✓	92.2 ✓	
3+50	4.6 O.G.	12.7	
	13	19	

104.86

	100.3	94.0
3+75	4.6 O.G.	10.9
	15	20
	100.8	93.5
4+00	4.1 O.G.	11.4
	14	22
	100.7	93.3
+25	4.2 O.G.	11.6
	16	23
	100.8	94.1
+50	4.1 O.G.	10.8
	15	22
	100.8	94.1
+60	4.1 O.G.	10.8
	14	21
	101.2	94.5
+75	3.7 O.G.	10.4
	12	21

104.86

	100.8	93.6
5+00	4.1 O.G.	11.3
	13	21
	100.9	93.5
+25	4.0 O.G.	11.4
	13	20
	100.8	92.3
+50	4.1 O.G.	12.6
	13	20
	100.9	91.3
+75	4.0 O.G.	13.6
	13	21
	100.9	91.9
6+00	4.0 O.G.	13.0
	12	20
	100.7	91.9
+25	4.2 O.G.	13.0
	11	18

Slotted 6"ø

Lakeside Borrow Pit x Sections cont'd.

104.86 ✓

	101.1 ✓	92.3 ✓	
6+50	3 8 O.G.	12 6	
	9	15	
	101.0 ✓	92.8 ✓	
6+65	3 9 O.G.	12	
	7	14	

(Station Group)

6+75 is Original Ground.

4.87 99.99 ✓ check on

Hub of N.E. Cor. Area.
Rec. Elev. 100.00

Final X-Sections of Lakeside Borrow Pit.

Oct 12-1934.

Base line for these x sections is "C" line, as sketched on Page 36 of this Book, Distances are North from "C" line unless otherwise noted.

Simpson
Soper
Isbell

13c

61

B.M.	2.39	102.39			100.00	Hub at N.E. Cor. of Area.		
Original Ground		99.1	99.9	100.4	100.3	100.3		
1+15		3 3/5	2 5/5	2 0/5	2 1/5	2 1/5	Plotted	
		10	50	100	150	194		
	99.4	94.0	93.2	88.9	90.6	88.4	87.0	87.8	88.6	99.7
1+25	3 0/5 O.G.	8 3/5	9 2/5	13 5/5	11 8/5	14 0/5	15 4/5	14 6/5	13 8/5	2 7/5 O.G. Plotted
	10	14	60	83	100	118	136	160	191	196
	99.5	93.5	91.3	89.1	88.0	90.2	87.2	88.1	87.8	89.7	87.2	89.0	100.3
+50	2 9/5 O.G.	8 9/5	11 1/5	13 3/5	14 4/5	12 2/5	15 2/5	14 3/5	14 6/5	12 7/5	15 2/5	13 4/5	2 1/5 O.G. Plotted
	9	25	60	To	88	105	112	126	153	160	179	191	196
	99.4	88.3	87.7	87.8	91.5	90.8	87.9	89.9	87.8	89.6	87.8	88.9	99.9
+60	3 0/5 O.G.	14 1/5	14 7/5	14 6/5	10 9/5	11 6/5	14 5/5	12 5/5	14 6/5	12 8/5	14 6/5	13 5/5	2 5/5 O.G. Plotted
	0	11	30	49	54	71	90	108	145	163	184	191	196
	99.7	87.8		87.8	87.8	91.2	90.9	88.1	90.1	89.1	87.7	89.0	88.6	88.8	100.5
1+75	2 7/5 O.G.	14 6/5		14 6/5	14 6/5	11 2/5	11 5/5	14 3/5	12 3/5	13 3/5	14 7/5	13 4/5	13 8/5	13 6/5	1 9/5 O.G. Plotted
	1 South	12		33	50	55	73	92	107	128	147	165	181	192	195

Reduced 10-13-34. C.H.

	99.7	102.39						
	88.8	87.4	86.8	91.3	91.3	88.7	90.0	88.6
2+00	2 7/10 O.G.	13 6/10	15 0/10	15 6/10	11 1/10	11 1/10	13 7/10	12 4/10
	0	13	31	49	54	79	94	110
	89.0	87.8	87.8	100.7				
	13 8/10	13 4/10	14 6/10	14 6/10	1 7/10 O.G.	Plotted		
	134	162	175	191	195			
	99.8	88.3	86.4	86.8	91.2	91.8	88.8	90.5
	88.2	89.6	88.1	87.4	88.2	100.5		
+25	2 6/10 O.G.	14 1/10	16 0/10	15 6/10	11 2/10	10 6/10	13 9/10	11 9/10
	0	12	19	43	52	73	94	112
	14 2/10	12 8/10	14 3/10	15 0/10	14 2/10	1 9/10 O.G.	Plotted	
	134	145	150	171	190	196		
	99.8	88.3	87.3	86.8	91.9	92.0	88.1	90.1
	87.7	89.5	87.3	87.8	88.3	100.9		
+50	2 6/10 O.G.	14 1/10	15 1/10	15 6/10	10 5/10	10 4/10	14 3/10	12 3/10
	0	14	23	49	55	73	96	113
	14 7/10	12 9/10	15 1/10	14 6/10	14 1/10	1 5/10 O.G.	Plotted	
	134	153	160	176	191	198		
	100.2	87.8	86.9	87.8	91.6	91.6	88.5	89.8
	87.9	89.2	87.8	87.4	88.8	101.1		
+75	2 2/10 O.G.	14 6/10	15 5/10	14 6/10	10 8/10	10 8/10	13 9/10	12 6/10
	1 South.	14	20	47	53	76	94	115
	14 5/10	13 2/10	14 6/10	15 0/10	13 6/10	1 3/10 O.G.	Plotted	
	135	155	160	176	192	199		
	100.1	88.3	86.8	86.8	92.3	91.6	88.0	89.2
	87.3	87.3	88.8	100.3				
3+00	2 3/10 O.G.	14 1/10	15 6/10	15 6/10	10 1/10	10 8/10	14 4/10	12 9/10
	0	13	20	48	54	71	100	117
	13 2/10	15 1/10	15 1/10	13 6/10	2 1/10 O.G.	Plotted		
	152	160	179	190	197			
	100.1	88.3	86.8	87.3	92.4	92.0	88.5	89.8
	87.6	89.3	87.8	86.8	88.4	100.7		
+25	2 3/10 O.G.	14 1/10	15 6/10	15 1/10	10 0/10	10 4/10	13 9/10	12 6/10
	0	14	24	53	58	78	102	120
	14 8/10	13 1/10	14 6/10	15 6/10	14 0/10	1 7/10 O.G.	Plotted	
	142	157	163	180	192	197		
	100.4	87.8	86.8	86.8	90.9	91.1	88.5	89.3
	87.7	89.6	87.4	87.4	88.4	100.9		
+50	2 0/10 O.G.	14 6/10	15 6/10	15 6/10	11 5/10	11 3/10	13 9/10	13 1/10
	1	16	23	54	58	76	94	123
	14 7/10	12 8/10	15 0/10	15 0/10	14 0/10	1 5/10 O.G.	Plotted	
	144	158	165	187	195	200		

Reduced 10-13-34 EBH

		102.39						
	100.4	86.8	85.4	87.3	92.4	91.6	89.1	
3 + 75	2.0 O.G.	15.6	17.0	13.1	10.0	10.8	13.3	
	1	15	20	52	56	71	95	
	101.0	87.8	84.9	86.3	88.8	92.8	91.6	89.1
4 + 00	1.4 O.G.	14.6	17.5	16.1	13.6	9.6	10.8	13.3
	2	17	23	46	52	54	75	90
	101.2	87.3	85.9		87.8	91.9	91.2	
+ 25	1.2 O.G.	15.1	16.5		14.6	10.5	11.2	
	2	17	22		51	55	77	
	101.6	88.3	86.8	86.8	92.5	89.6	88.9	
+ 50	0.8 O.G.	14.1	15.6	15.6	9.9	12.8	13.5	
	0	16	22	53	57	70	105	
	101.9	88.3	87.3	86.8	92.5	91.7	89.1	90.1
+60	0.5 O.G.	14.1	15.1	15.6	9.9	10.7	13.3	12.3
	0	16	24	48	53	80	100	130
	101.6	87.8	86.8	87.8	93.3	93.6		89.3
+75	0.8 O.G.	14.6	15.6	14.6	9.1	8.8		13.1
	1 South	15	21	47	54	65		95
	101.3	88.3	86.8	87.3	93.0	93.7	95.6	90.3
5 + 00	1.1 O.G.	14.1	15.6	15.1	9.4	8.7	6.8	12.1
	1	14	29	48	52	60	90	100

89.1	85.6	89.3	87.8	87.4	88.8	100.9	
13.3	16.8	13.1	14.6	15.0	13.6	1.5 O.G.	Plotted
128	140	158	165	183	195	199	
89.2	86.2	89.5	87.8	87.4	88.8	101.5	
13.2	16.2	12.9	14.6	15.0	13.6	0.9 O.G.	Plotted
126	138	160	167	181	198	202	
89.1	89.1	89.1	86.8	86.8	88.8	101.7	
13.3	13.3	13.3	15.6	15.6	13.6	0.7 O.G.	Plotted
85	124	160	167	185	198	202	
89.9	88.8	87.8	88.3	88.8	100.1		
12.5	13.6	14.6	14.1	13.6	2.3 O.G.		Plotted
130	141	170	183	196	201		
	88.7	89.0	87.8	88.3	88.8	100.2	
	13.7	13.4	14.6	14.1	13.6	2.2 O.G.	Plotted
	140	160	167	183	196	201	
90.0	88.9	87.4	87.8	88.8	100.8		
12.4	13.5	15.0	14.6	13.6	1.6 O.G.		Plotted
130	160	167	185	195	200		
89.9	87.8	89.5	87.3	87.4	88.8	101.3	
12.5	14.6	12.9	15.1	15.0	13.6	1.1 O.G.	Plotted
140	150	164	170	184	193	200	

Reduced 10-13-34 GBH

10/12/34

		102.39						
	100.9	87.5	86.8	86.8	92.8	92.4	95.7	
5 + 25	1.5 O.G.	14.1	15.6	15.6	9.6	10.0	6.7	
	1	16	23	50	54	70	85	
	100.9	87.8	86.3	86.8	92.5	92.7	94.1	92.8	87.5
+ 50	1.50 O.G.	14.6	16.1	15.6	9.9	9.7	8.3	9.6	14.9
	0	14	21	49	53	60	67	100	120
	101.0	87.8	86.3	87.4	92.8	93.1		88.9	
+ 75	1.4 O.G.	14.6	16.1	15.0	9.6	9.3		13.5	
	0	13	20	47	51	74		119	
	101.0	87.3	85.8	87.4	91.8	91.6	88.8		
6 + 00	1.4 O.G.	15.1	16.6	15.0	10.6	10.8	13.6		
	1 South.	13	20	50	53	105	120		
	100.6	88.3	87.3	87.1	92.3	95.4	95.0		
+ 33	1.8 O.G.	14.1	15.1	15.3	10.1	7.0	7.4		
	2 South	9	15	48	53	65	90		
	101.0	88.3	87.3	88.4	87.4	87.1	87.2	88.3	
+ 40	1.4 O.G.	14.1	15.1	14.0	15.0	15.3	15.2	14.1	
	3 South	8	14	30	50	70	100	120	
	100.9		87.8		87.7	88.2		88.2	
+ 83	1.5 O.G.		14.6		14.7	14.2		14.2	
	3 South		8		20	40		60	

89.1	89.0	87.8	87.8	88.8	101.2	
1.3 3	13.4	14.6	14.6	13.6	1.2 O.G.	Plotted
115	160	175	186	193	199	
88.8	89.1	87.8	88.4	101.5		
13.6	13.3	14.6	14.0	0.9 O.G.		Plotted
140	150	170	190	196		
89.0	88.4	88.4	101.7			
13.4	14.0	14.0	0.7 O.G.			Plotted
155	170	188	195			
88.8	88.8	88.3	101.9			
13.6	13.6	14.1	0.5 O.G.			Plotted
155	170	186	194			
88.8	88.7	88.3	88.3	102.4		
13.6	13.7	14.1	14.1	0.2 O.G.		Plotted
118	160	170	182	191		
88.8	89.0	87.8	88.3	102.2		
13.6	13.4	14.6	14.1	0.2 O.G.		Plotted
140	160	170	182	190		
88.2	88.8	87.8	87.8	88.8	101.7	
14.2	13.6	14.6	14.6	13.6	0.7 O.G.	Plotted
85	120	160	175	179	189	

Reduced 10-13-34 EBH

102.39

	101.0	101.5	101.8	101.7	102.2
6+93	1.4	0.9	0.6	0.7	0.2 Plotted
	0	50	100	150	186

Note: Sta 6+93 is original Ground.

2.39 100.00 check on Hub at N.E. Cor. of Area.

626.5

2040			
10,139		4.6	621.9
2060			
10,146		2.5	24.0
2080			
10,157		2.2	24.3
2100			
10,166		3.7	22.8
2120			
10,131		2.2	24.3
2140			
10,173		2.3	24.2
2160			
10,170		2.8	23.7
2180			
10,155		5.1	21.4
2200			
10,139		8.8	17.7
2210			
10,138		9.2	17.3
2220			
10,138		9.5	17.0
2230			
10,137		10.8	15.7
2240			
10,128		13.6	12.9
2250			
10,123		13.5	13.0
2260			
10,115		14.3	12.2
2270			
10,105		15.8	10.7

B.M.	4.05	611.50		607.45	
N2270 E9978			5.1	606.4	O.G
N2270 E9995			9.0	02.5	
N2260 E9959			4.6	06.9	O.G
N2250 E9944			4.3	07.2	O.G
N2240 E9940			4.2	07.3	O.G
N2230 E9886			4.3	07.2	O.G
N2220 E9868			4.7	06.8	O.G
T.P.	0.77	602.30	9.97	601.53	
N2210 E9858			0.2	02.1	O.G
Set B.M.			12.15	590.15	
		614.68			
1970 10,000			5.3	09.4	
1980 10,030			4.4	10.3	
1990		626.49			
N1990 E10,097			8.2	18.3	
2000 10,103			6.1	20.4	
2010 10112			4.5	22.0	
2020 10,122			3.4	23.1	

Table IX.—Calculation of Earthwork.

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2 96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if w =16.2 and h =5.3, cu. yds. =1.48+.028+.089 =1.597 cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) =h, and ½ the roadbed =w, add the triangles formed by taking the distance out to each break in turn (=w's) by the difference between the cuts (or fills) on each side of it (=h's) always subtracting the outer from the inner.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½.

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9+(20—16)÷2 or 2 ft. added to 41.9 =43.9. For slopes of 1 on 1 see inside of front cover.

Made in Germany.