

W358

358

358

Tables for Excavations and Embankments.
Distances from Centre of Roadway for Cross Sectioning.
Roadway 22 feet wide. Side Slopes 1 to 1.
For Single Track Excavation.

	MICROFILMED										
						.6	.7	.8	.9		
0	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	0
1	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	1
2	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	2
3	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	3
4	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	4
5	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	5
6	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	6
7	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	7
8	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	8
9	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	9
10	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	10
11	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	11
12	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	12
13	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	13
14	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	14
15	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	15
16	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	16
17	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	17
18	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	18
19	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	19
20	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	20
21	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	21
22	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	22
23	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	23
24	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	24
25	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	25
26	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	26
27	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	27
28	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	28
29	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	29
30	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	30
31	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	31
32	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	32
33	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	33
34	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	34
35	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	35
36	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	36
37	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	37
38	49.0	49.1	49.2	49.3	49.4	49.5	49.6	49.7	49.8	49.9	38
39	50.0	50.1	50.2	50.3	50.4	50.5	50.6	50.7	50.8	50.9	39
40	51.0	51.1	51.2	51.3	51.4	51.5	51.6	51.7	51.8	51.9	40

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Diversion Tunnel/Outlet Spoil Bank - Coordinates
and Elevs. of on July 1-1932 Pages 1-3

Diversion Tunnel Inlet Spoil Bank - Coordinates
and X sections July, 7, 1932 Pages 4-12

X sections of downstream rock
embankment for Est. #11 pages 13-28

X Sections of Hydraulic Fill 29-36
for Est. #12

X Sections of downstr. rock removed 37
for inspection May 13-1933

X Sections of Upstr. Rock for Est. #14 38-42

X Sections of Downstream Rock Emb.
for Est. #14 - west of toe wall 43

Profile of core wall for Est. #14 44

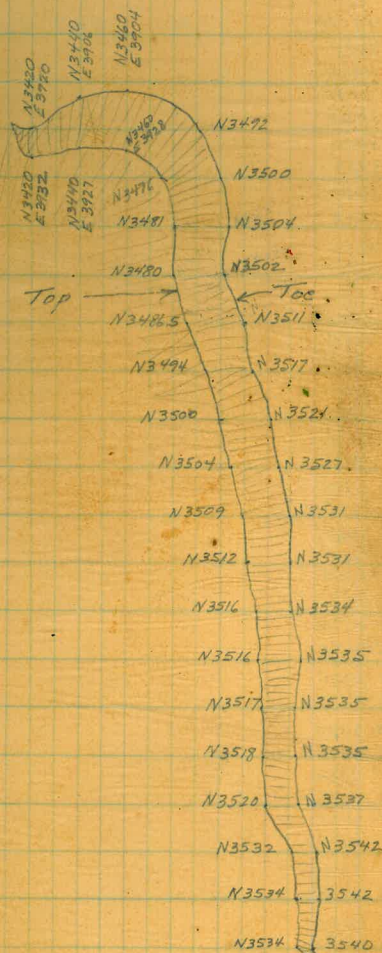
Elevations of Diversion Tunnel Outlet
Spoil Bank July 1 - 1932

July 1 - 1932
Elliott - Notes
Simpson - " "
Soper - " "
Kammen - " "
K. Ch. Top

B.M. 0.50 564.15 563.65

Sketch of Spoil Bank

N 3540					
E 4260			11.8		
N 3534					
E 4260			8.3		
N 3542					
E 4240			12.7		
N 3534					
E 4240			6.8	E 3920	
N 3542					
E 4220			12.6	E 3940	
N 3532					
E 4220			5.2	E 3960	
N 3537					
E 4200			12.9	E 3980	
T.P.	3.61	555.86	11.90	552.25	E 4000
N 3535					
E 4180			5.4	E 4020	
N 3535					
E 4180			5.5	E 4040	
N 3535					
E 4140			5.4	E 4060	
N 3534					
E 4120			5.2	E 4080	
N 3531					
E 4100			5.5	E 4100	
N 3531					
E 4080			6.2	E 4120	
N 3527					
E 4060			6.1	E 4140	
N 3521					
E 4040			6.2	E 4160	
N 3517					
E 4020			6.3	E 4180	
N 3511					
E 4000			6.3	E 4200	
N 3502					
E 3980			6.6	E 4220	
N 3504					
E 3960			6.6	E 4240	
N 3500					
E 3940			6.5	E 4260	
N 3492					
E 3920			6.8		



Elevations of Diversion Tunnel
Spoil Bank

555.86

T.P.	10.15	559.96	6.05	549.81
N3460				
E3904			10.6	
N3440				
E3906			7.9	
T.P.	11.80	571.66	0.10	559.86
N3420				
E3920			11.5	
N3420				
E3932			5.9	
N3440				
E3927			3.9	
N3460				
E3928			3.5	
N3476				
E3940			4.4	
N3481				
E3960			4.8	
N3460				
E3960			4.6	
N3480				
E3980			5.3	
N3460				
E3980			4.8	
N3486				
E4000			5.0	
N3460				
E4000			5.2	
N3494				
E4020			5.5	
N3470				
E4020			5.7	
N3500				
E4040			5.5	
N3480				
E4040			6.1	
N3504				
E4060			5.6	
N3480				
E4060			6.1	
N3509				
E4080			6.3	
N3480				
E4080			6.8	

571.66

N 3512
E 4100
N 3480
E 4100
N 3516
E 4120
N 3480
E 4120

6.6

7.0

7.5

7.5

T. P.

2.41

567.45

6.62

565.04

N 3516
E 4140
N 3480
E 4140

3.6

3.5

N 3517

E 4160

4.5

N 3480

E 4160

4.8

N 3518

E 4180

5.3

N 3480

E 4180

5.8

N 3520

E 4200

7.5

N 3500

E 4200

7.2

N 3500

E 4220

8.2

N 3500

E 4240

9.2

N 3500

E 4260

10.7

B. M.

3.78

563.67

Record

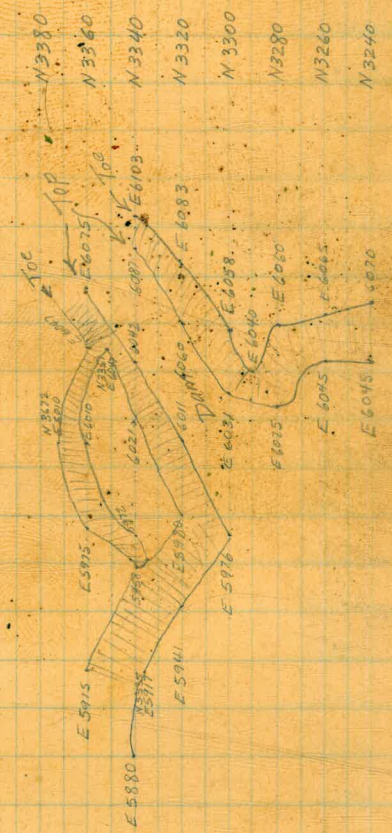
563.65

Elevations of Diversion Tunnel Inlet
Spoil Bank

B.M.	-0.05	584.28	584.33
		N3240	
E 6010			7.4
6020			7.5
6030			7.2
6045			7.3
6065			18.3
T.P.	3.01	577.95	7.34 576.94
		N3250	
6000			3.2
6010			2.7
6020			2.7
6030			2.6
6045			2.4
6065			16.3
		N3260	
6000			2.6
6010			2.3
6020			2.6
6030			2.8
6040			2.5
6045			2.1
6062			16.7
6070			18.9
6080			15.7

July 7, 1932
Elliott
Simpson
Soper
Kammen

Sketch of Spoil Bank



579.95

N 3270

6000 2.4

6010 2.1

6020 2.4

6030 2.7

6043 2.5

6060 16.1

6070 13.3

6080 13.9

6090 Original ground

N 3280

5950 2.6

5960 2.4

5990 2.2

6000 2.0

6010 2.0

6025 1.0

6040 13.0

6050 13.8

6060 16.2

6070 14.1

6080 11.8

6090 Original ground

579.95

N3290

E 5940	3.5
5950	3.5
5960	2.9
5970	2.6
5980	2.4
5990	2.3
6000	1.4
6010	1.6
6020	1.9
6028	2.3
6040	15.0
6050	16.6
6060	13.7
6070	14.1
6080	13.5
6090	Original Ground

N3300

5930	3.6
5940	3.3
5950	2.9
5960	2.9
5970	2.7

579.95

N3300

5980	2.6
5990	2.4
6000	1.8
6010	1.7
6020	2.3
6031	2.1
6040	8.1
6050	12.5
6060	11.3
6070	14.8
6080	14.8

E6090

Original Ground

N3310

E 5900	4.0
5910	4.0
5920	3.7
5930	3.4
5940	3.4
5950	3.1
5960	3.1
5970	2.8
5980	2.9
5990	8.1
5997	2.1

July 7 - 1932

57995

N3310

6010	2.2
6020	3.1
6030	3.4
6040	3.3
6050	7.2
6060	11.2
6070	15.3
6080	Original Ground

N3320

B.M.	3.70	579.29	575.37
------	------	--------	--------

July 8 - 1932

5880	3.6
5900	3.4
5920	2.9
5941	2.7
5950	3.6
5960	6.2
5970	8.1
5980	12.5
5990	14.7
6000	9.7
6011	1.4
6020	3.3
6030	3.6
6040	4.3

N3320
579.29

E 6050	5.5
6060	5.5
6070	10.1
6080	13.0 5.64.25
6090	original ground

N3330

E 5870	3.0
880	3.3
890	3.5
5900	3.2
910	3.3
920	2.9
930	5.2
940	7.8
950	9.2
960	11.9
970	13.3
980	10.6
990	16.3
6000	13.6
010	9.8
020	5.9
025	4.7
040	5.5
050	5.9

N3330

579.29

E 6060	6.2
6070	6.1

N3340

5840	2.6
850	2.8
860	3.0
870	2.9
880	3.1
890	4.1
900	5.3
910	5.5
920	6.6
930	10.8
940	12.6
950	15.6
B.M.	2.33
960	14.8
970	10.2
980	13.5
990	10.5
6000	7.0
010	9.8
020	9.3
030	7.0

N 3340

579.29

E 6042	3.8
050	4.3
060	4.6
070	5.7
080	6.3

N 3350

5970	14.8
980	8.8
990	8.5
6000	6.5
010	8.9
020	10.4
030	10.0
040	8.7
050	6.4
060	4.8
070	6.0
080	6.7
090	7.1
6100	7.1

N 3360

5970	15.2
5980	13.9
5990	11.1
6000	8.1

N3360

12

579.29

6010	7.4
020	10.7
030	10.9
040	13.2
050	13.8
060	11.7
075	6.4
080	6.9
090	7.6
100	7.9
6110	7.7

CROSS SECTIONS FOR EST #11

April 3 - 1933

Downstream Rock,

N3280

B.M.	2.03	651.40		649.37
	0.33	638.72	13.01	638.39
4755			5.0	33.7
4747			9.0	29.7 Toe

N3300

4752			5.7	33.0
4730			15.6	23.1 Toe

N3320

4752			6.1	32.6
4722			19.9	18.8 Toe
B.M.	0.44	626.28		625.84

N3340

4752		638.7	6.5	32.2
4714		626.3	8.9	17.4
4700			10.1	16.2
4650			10.5	15.8
B.M.	9.63	605.34		595.71
4600			4.8	00.5
4591			5.3	600.0 Toe

638.7

N3360

4752			6.0	32.7
4713		626.3	9.5	16.8
4650			10.6	15.7
4601		605.3	4.9	00.4
4592			5.2	00.1
4583			8.1	97.2 Toe

638.7

N3380

4752			5.7	33.0
4714		626.3	9.2	17.1
4645			10.9	15.4
4602		605.3	4.0	01.3
4592			5.3	600.0
4572			11.7	93.6 Toe

638.7

N3400

4752			5.6	33.1
4713		626.28	10.4	15.9
4645			10.6	15.7
T.P.	3.83	621.65	8.46	617.82
4608		605.3	3.5	01.8
4592			5.5	99.8
4546			20.0	85.3 Toe

	638.7	N3420 ✓		
4752			5.1	33.6
4745			4.2	34.5
4710	621.6		5.0	16.6
4652			5.8	15.8
4611	605.3		3.9	01.4
4592			5.1	00.2

3 to 1 to
Toc

	638.7	N3440 ✓		
4752			5.1	33.6
4736			4.8	32.9
4709	621.6		4.8	16.8
4652			5.8	15.8
4601	605.3		5.2	00.1
4592			5.0	00.3

(West from 575. & E. 4516.9 Same as Last Est)
From N3440 to N.3840

	638.7	N3460 ✓		
4752			5.2	33.5
24			6.0	32.7
4707	621.6		4.6	17.0
4650			5.9	15.7

	605.3	N3460 ✓		
4610			4.5	00.8
4592			5.3	6000

complete
to 575.

	638.7	N3480 ✓		
4752			5.2	33.5
4723			5.1	33.6
4700	621.6		5.0	16.6
4652			5.6	16.0
4608	605.3		4.3	01.0
4592			5.4	99.9

//

	638.7	N3500 ✓		
4752			5.0	33.7
4723			4.1	34.6
	621.6			
4700			5.7	15.9
4652			6.5	15.1
4619			14.1	07.5
	605.3			
4605			5.3	0.0
4592			5.4	99.9

//

	638.7	N3520 ✓	
4752		4.8	33.9
4725		4.7	34.0
4700	621.6	5.9	15.7
4650		7.0	14.6
4640		8.6	13.0
4606	605.3	4.6	00.7
4592		4.8	00.5 <i>complete to 575</i>

	638.7	N3560 ✓	
4752		4.6	34.1
4725		5.0	33.7
4700	621.6		
4696		6.0	15.6
4652		6.8	14.8
4609	605.3	3.4	01.9
4592		4.8	00.5 <i>complete to 575</i>

	638.7	N3540 ✓	
4752		4.6	34.1
4724		5.2	33.5
4700	621.6		
4658		6.2	15.4
4658		6.7	14.9
4612	605.3	2.6	02.7
4592		5.2	00.1 "

	638.7	N3580 ✓	
4752		4.7	34.0
4719		5.5	33.2
4700	621.6		
4697		6.2	15.4
4652		7.0	14.6
4619		14.0	07.6
4605	605.3	5.0	00.3
4592		5.3	00.0 "

638.7 N3600 ✓

4752		4.6	34.1
4720		5.4	33.3
	621.6		
4695		6.4	15.2
4652		7.7	13.9
4623		13.1	08.5
4605	605.3	3.9	01.4
4592		5.0	00.3

Complete to 575

638.7 N3620 ✓

4752		4.8	33.9
4718		5.2	33.5
4695	621.6	6.3	15.3
4652		7.2	14.4
4630		10.5	11.1
4612	605.3	3.5	01.8
4585		7.9	97.4

11

638.7 N3640 ✓

4752		4.9	33.8
4718		6.3	32.4
4695	621.6	6.4	15.2
4652		7.7	13.9
4630		10.8	10.8
4612	605.3	4.5	00.8
4592		7.2	98.1
4580		9.2	96.1

Complete to 575

638.7 N3660 ✓

4752		5.2	33.5
4722		6.0	32.7
4693	621.6	6.4	15.2
4652		7.7	13.9
4630		9.8	11.8
4615	605.3	4.2	01.1
4592		5.8	99.5

11

638.7 N.3680 ✓

4752		5.4	33.3	
4720		6.2	32.5	
4697	621.6	6.3	15.3	
4652		7.2	13.9	
4639		9.7	11.9	
4622	605.3	3.7	01.6	
4598		6.7	98.6	
4592		5.9	99.4	
4566		13.3	92.0	complete to 575

638.7 N.3700 ✓

4752		5.5	33.2	
4720		6.1	32.6	
4700	621.6	6.3	15.3	
4652		7.5	14.1	
4645		8.0	13.6	
4625	605.3	3.4	01.9	
4592		6.6	98.7	"

638.7 N.3720 ✓

4752		5.9	32.8	
4723		6.3	32.4	
4700	621.6	5.6	16.0	
4673		5.6	16.0	
4645		8.2	13.4	
4625	605.3	4.0	01.3	
4592		6.5	98.8	complete to 575

638.7 N.3740 ✓

4752		5.9	32.8	
4722		6.5	32.2	
4700	621.6	5.6	16.0	
4667		6.3	15.3	
4641		12.2	09.4	
4627	605.3	4.0	01.3	
4592		8.3	97.0	
4580		9.2	96.1	"

	638.7	N3760 ✓	
4752		6.0	32.7
4720		6.4	32.3
4700	621.6	5.7	15.9
4667		6.3	15.3
4652		8.1	13.5
4629	605.3	4.3	01.0
4584		6.8	98.5

complete to 575

	638.7	N3800 ✓	
4752		5.7	33.0
4720		5.7	32.8
	621.6		
4696		4.3	17.3
4652		5.8	15.8
	605.3		
4632		3.8	01.5
4592		4.3	01.0

complete to 575

	638.7	N3780 ✓	
4752		6.0	32.7
4719		5.9	32.8
4697	621.6	5.0	16.6
4662		5.5	16.1
4652		6.6	15.0
4632	605.3	4.1	01.2
4592		4.3	01.0

//

	638.7	N3820 ✓	
4752		5.7	33.0
4718		5.9	32.8
4700	621.6	4.1	17.5
4652		5.2	16.4
	605.3		
4637		3.5	01.8
4592		4.5	00.8

//

	638.7	N3840 ✓		
4752		4.5	34.2	
4720		4.3	34.4	
	621.6			
4698		3.0	18.6	
4652		3.8	17.8	
	605.3			
4632		3.6	01.7	
4592		4.0	01.3	complete to 575

(West from Elev 575 & E 4516.9 Same as last Est.)
From N3840 to N3440

	638.7	N3860 ✓		
4752		2.7	36.0	
4720		4.1	34.6	
4698	621.6	3.0	18.6	
4652		3.4	18.2	
	605.3			
4623		2.9	02.4	
4592		4.7	00.6	310' to toe

19

	638.7	N3880 ✓		
4752		0.6	38.1	
4720		2.2	36.5	
	621.6			
4698		3.0	18.6	
4652		3.2	18.4	
	605.3			
4609		3.3	02.0	toe

	638.7	N3900 ✓		
4752		4.7	40.4	
4720		4.3	39.0	
4698	621.6	3.5	18.1	toe

X Sections above Elev. 600
Downstream Rock Emb.

Apr 14, 1933

Elliot
Simpson
30 per
Leudon.

N 3260 15 0.0.

20

633.9 N3280

4677	7.6	26.3 Toe
87	2.0	31.9
4752	0.5	33.4

621.8 N3300

4669	1.4	20.4
------	-----	------

633.9

4684	2.5	31.4
4704	1.3	32.6

616.0 N3320

4623	6.5	09.5
------	-----	------

4646	621.8 4.7	17.1
------	-----------	------

4647	5.9	15.9
------	-----	------

65	4.7	17.1
----	-----	------

633.9

4684	2.5	31.4
------	-----	------

4720	1.5	32.4
------	-----	------

4652.0

21

605.5

3380

N3340

4601.5

4.7

00.8 ✓

B.M.

983

605.54

595.71

48

621.8

3.4

18.4 ✓

4601.4

5.2

600.3 ✓

52

5.7

16.1 ✓

T.P.

10.59

615.96

0.17

605.37 ✓

61

6.0

15.8 ✓

6.19

621.77

0.38

615.58 ✓

633.9

4645

5.0

616.7 ✓

4675

4.0

29.9 ✓

47

6.8

14.9 ✓

4720

1.9

32.0 ✓

63

4.9

16.8 ✓

633.9

4681

2.7

31.2 ✓

4720

1.7

32.2 ✓

605.5 N3360

605.5

3400

4601.4

5.0

00.5 ✓

4601.5

4.7

00.8 ✓

47

621.8

4.3

17.5 ✓

49

621.8

3.3

18.5 ✓

50

5.6

16.2 ✓

52

5.5

16.3 ✓

61

5.6

16.2 ✓

58

6.3

15.5 ✓

633.9

633.9

4682

3.8

30.1 ✓

4678

3.8

30.1 ✓

4720

1.8

32.1 ✓

4720

1.3

32.6 ✓

605.5 N3420

4601.9	4.5	601.0 ✓
	621.8	
49	3.8	18.0 ✓
52	5.7	16.1 ✓
58	5.9	15.9 ✓
	633.9	
4678	4.6	29.3 ✓
4725	1.4	32.5 ✓

605.5 N3460

4602.4	5.0	00.5 ✓
	621.8	
49	3.1	18.7 ✓
52	6.1	15.7 ✓
61	5.8	26.0 ✓
	633.9	
4680	4.4	29.5 ✓
4720	1.2	32.7 ✓

605.5 N3440

4601.9	5.1	00.4 ✓
	621.8	
47	4.3	17.5 ✓
49	5.5	16.3 ✓
60	5.6	16.2 ✓
	633.9	
4680	4.5	29.4 ✓
4720	1.5	32.4 ✓

605.5 N3480

4601.6	4.9	00.6 ✓
	621.8	
51	3.2	18.6 ✓
58	5.2	16.6 ✓
64	5.8	16.0 ✓
	633.9	
4682	2.8	31.1 ✓
4720	1.2	32.7 ✓

	605.5	N3500	
4600.9	5.0	00.5 ✓	
	621.8		
47	3.4	18.4 ✓	
64	6.0	15.8 ✓	
	633.9		
4683	3.4	30.5 ✓	
4720	1.0	32.9 ✓	

	605.5	N3540	
4602.4	4.6	00.9 ✓	
	621.8		
4646	4.2	17.6 ✓	
58	5.1	16.7 ✓	
70	6.7	15.1 ✓	
	633.9		
4690	2.3	31.6 ✓	
4720	0.9	33.0 ✓	

	605.5	N3520	
4601.9	4.9	00.6 ✓	
	621.8		
43	5.1	16.7 ✓	
50	6.8	15.0 ✓	
70	6.4	15.4 ✓	
	633.9		
4688	2.5	31.4 ✓	
4720	0.6	33.3 ✓	

	605.5	N3560	
4601.9	4.7	00.8 ✓	
	621.8		
39	6.7	15.1 ✓	
52	5.4	16.4 ✓	
72	7.1	14.7 ✓	
	633.9		
4692	3.0	30.9 ✓	
4720	0.8	33.1 ✓	

	605.5	N3580	
4601.9		4.7	.00.8 ✓
	621.8		
44		5.4	16.4 ✓
52		5.0	16.8 ✓
70		6.5	15.3 ✓
	633.9		
4690		2.5	31.4 ✓
4720		0.6	33.3 ✓

	605.5	N3600	
4601.9		4.7	00.8 ✓
	621.8		
43		4.1	17.7 ✓
52		3.6	18.2 ✓
58		6.6	15.2 ✓
64		6.9	14.9 ✓
	633.9		
4690		1.2	32.7 ✓
4720		0.7	33.2 ✓

	605.5	N3620	
4602.1		4.5	01.0 ✓
	621.8		
46		4.0	17.8 ✓
52		5.7	16.1 ✓
64		7.7	14.4 ✓
	633.9		
4690		1.8	32.1 ✓
4720		1.1	32.8 ✓

	605.5	N3640	
4602.0		4.1	01.4 ✓
	621.8		
42		5.8	16.0 ✓
52		7.1	14.7 ✓
69		7.7	14.4 ✓
	633.9		
4691		2.1	31.8 ✓
4720		1.5	32.4 ✓

605.5 3660

4600.7 4.2 01.3 ✓

621.8

42 4.3 17.5 ✓

52 7.6 14.2 ✓

70 7.2 14.6 ✓

633.9

4698 2.5 31.2 ✓

4720 1.4 32.5 ✓

605.5 3680

4601.9 4.4 01.1 ✓

621.8

45 4.2 17.6 ✓

54 7.0 14.8 ✓

4680 6.5 15.3 ✓

633.9

4710 1.9 32.0 ✓

4740 0.4 33.5 ✓

605.5 N3700

4601.9 4.4 01.1 ✓

621.8

48 3.8 18.0 ✓

57 7.0 14.8 ✓

4696 6.3 15.5 ✓

633.9

4722 1.0 32.9 ✓

4740 0.4 33.5 ✓

605.5 N3720

4608 3.6 01.9 ✓

621.8

45 3.1 18.7 ✓

53 5.6 16.2 ✓

4696 5.9 15.9 ✓

633.9

4722 1.7 32.2 ✓

4740 0.6 33.3 ✓

605.5 N3740

4605 3.7 01.8 ✓

621.8

43 2.9 18.9 ✓

52 5.4 16.4 ✓

4701 6.0 15.8 ✓

633.9

22 1.3 32.6 ✓

47.40 1.1 32.8 ✓

605.5 3760

4602.1 4.6 00.9 ✓

621.8

45 3.1 18.7 ✓

52 5.5 16.3 ✓

4699 5.7 16.1 ✓

633.9

4719 1.4 32.5 ✓

4740 0.9 33.0 ✓

605.5 N3780

4604.5 4.1 01.4 ✓

621.8

44 3.8 18.0 ✓

50 5.7 16.1 ✓

46.96 5.7 16.1 ✓

633.9

4718 0.8 33.1 ✓

40 0.8 33.1 ✓

605.5 N3800

4603.8 3.9 01.6 ✓

621.8

46 3.5 18.3 ✓

54 5.4 16.4 ✓

4696 4.5 17.3 ✓

633.9

4720 0.6 33.3 ✓

4740 0.8 33.1 ✓

	605.5	N3820	
4605.2		3.8	01.7 ✓
	621.8		
52		3.4	18.4 ✓
56		4.9	16.9 ✓
4697		4.0	17.8 ✓
	633.9		
4718		1.0	32.9 ✓
40		0.7	33.2 ✓

	605.5	N3840	
4606.7		3.8	01.7 ✓
	621.8		
52		3.7	18.1 ✓
57		4.5	17.3 ✓
78		3.4	18.4 ✓
	633.87		
T.P.	8.23	642.10	0.0 633.87
20		7.5	34.6 ✓
4740		7.7	34.4 ✓

	605.5	N3860	
4607.9		3.1	02.4 ✓
	621.8		
52		3.0	18.8 ✓
58		3.3	18.5 ✓
97		3.1	18.7 ✓
	642.1		
4721		7.1	35.0 ✓
40		6.3	35.8 ✓

	605.5	N3880	
4609.2		2.7	02.8 ✓
	621.8		
4652		3.3	18.5 ✓
4696		2.9	18.9 ✓
	642.1		
4719		6.0	36.1 ✓
40		4.7	37.4 ✓

	621.77	13900	8	✓
4693		3.6	17.2	Toe
12.27	633.87	0.17	621.60	✓
	642.1			
4720		3.8	38.3	✓
40		2.5	39.6	✓

X section of Hydr. F. 11.
For Estimate 12 - May 1 - 1933

Upstream

T.P.	5.54	628.37	122.83	
			✓ N 3280	
5090		12.6	15.8	W.S.
5100		11.9	16.5	
20		11.1	17.3	
40		9.8	18.6	
60		8.4	20.0	
80		7.2	21.2	
5200		5.8	22.6	
15		4.1	24.3	
15	too	0.7	27.7	
20		1.3	27.1	
32		0.7	27.7	
			✓ N 3320	
32		0.8	27.6	
23		0.9	27.5	
22		60	22.4	
5200		5.8	22.6	
5180		8.2	20.2	
60		7.7	20.7	
40		9.0	19.4	
20		10.9	17.5	
5100		12.6	15.8	W.S.

Upstream

29

628.37

✓ N 3360

5100	12.6	15.8	W.S.
20	11.2	17.2	
40	9.8	18.6	
60	9.3	19.1	
80	7.7	20.7	
5200	6.1	22.3	
20	5.2	23.2	
32	4.4	24.0	
32 extra to mismo	1.6	26.8	

✓ N 3400

32	3.7	24.7	
20	5.5	22.9	
5200	7.1	21.3	
5180	8.2	20.2	
60	9.3	19.1	
40	10.3	18.1	
20	11.2	17.2	
5100	11.9	16.5	
5085	12.6	15.8	W.S.
			✓ N 3440
5080	12.6	15.8	W.S.
5100	11.8	16.6	
20	11.2	17.2	
40	10.4	18.0	

Upstream

628.37

✓ N3440

5160	9.5	18.9
80	8.8	19.6
5200	7.9	20.5
20	6.7	21.7
32	5.6	22.8

✓ N3480

32	5.5	22.9
20	6.7	21.7
5200	7.3	21.1
5180	8.4	20.0
60	9.0	19.4
40	10.2	18.2
20	10.9	17.5
5100	11.8	16.6
5085	12.6	15.8 w.s.

✓ N3520

5085	12.6	15.8 w.s.
5100	11.1	17.3
20	10.3	18.1
40	9.1	19.3
60	7.8	20.6
80	6.8	21.6
5200	5.8	22.6
20	4.9	23.5
28	4.6	23.8
32	3.6	24.8

Upstream

30

628.37

✓ N3560

5234	3.6	24.8
32	6.1	22.3
20	7.0	21.4
5200	7.5	20.9
5180	8.5	19.9
60	9.6	18.8
40	10.3	18.1
20	11.2	17.2
5100	11.9	16.5
5090	12.6	15.8 w.s.

✓ N3600

5090	12.6	15.8 w.s.
5100	12.1	16.3
20	11.6	16.8
40	11.1	17.3
60	10.3	18.1
80	8.9	19.5
5200	8.0	20.4
20	4.7	23.7
32	4.0	24.4

✓ N3640

32	3.9	24.5
29	4.4	24.0
28	7.6	20.8
20	8.0	20.4

Upstream

628.37

✓ N3640

5200	8.4	20.0	
5180	9.6	18.8	
60	10.3	18.1	
40	11.0	17.4	
20	11.8	16.6	
5100	12.4	16.0	
5095	12.6	15.8	W.S.

✓ N3680

5100	12.6	15.8	W.S.
20	11.7	16.7	
40	10.7	17.7	
60	9.9	18.5	
80	8.9	19.5	
5200	7.7	20.7	
20	6.9	21.5	
27	7.0	21.4	
28	4.2	24.2	
32	4.1	24.3	

✓ N3720

32	3.9	24.5	
22	3.2	25.2	
20	6.1	22.3	
5200	6.8	21.6	
5180	8.2	20.2	

Upstream

31

628.37

✓ N3720

5160	9.2	19.2	
40	10.8	17.6	
20	12.0	16.4	
5105	12.6	15.8	W.S.

✓ N3760

5110	12.6	15.8	W.S.
20	12.4	16.0	
40	11.3	17.1	
60	9.9	18.5	
80	8.2	20.2	
5200	6.2	22.2	
20	5.2	23.2	
27	5.3	23.1	
32	3.6	24.8	

✓ N3800

34	3.1	25.3	
32	5.3	23.1	
20	6.3	22.1	
5200	7.8	20.6	
5180	9.6	18.8	
60	10.6	17.8	
40	11.8	16.6	
20	12.6	15.8	W.S.

Upstream

62837

✓ N3840

5232	4.5	23.9	
20	5.9	22.5	
5200	8.3	20.1	
5180	10.9	17.5	
60	11.9	16.5	
35	12.6	15.8	W.S

✓ N3880

5130	12.6	15.8	W.S
40	12.3	16.1	
60	11.9	16.5	
80	10.7	17.7	
5200	8.8	19.6	
20	7.0	21.4	
32	4.1	24.3	
35	2.7	25.7	

✓ N3920

32	2.2	26.2	
20	6.1	22.3	
5200	8.1	20.3	
5180	9.6	18.8	
5160	10.6	17.8	
40	10.9	17.5	
20	12.0	16.4	
15	12.6	15.8	W.S

Upstream

32

62837

✓ N3940

5170	9.0	19.4	
5180	8.6	19.8	
5200	7.3	21.1	
20	5.4	23.0	
32	1.0	27.4	

End May 1 - 1933

Start May 2 - 1933 (Rain)

Downstream

B.M. 0.66	638.08	637.42
Set T.P.	5.07	633.01
T.P. 2.43	629.17	626.74

✓ N3840

4855	6.4	22.8	
40	5.6	23.6	
20	4.0	25.2	
4800	1.6	27.6	
4790	+1.3	30.5	

T.P. 4.99 638.00 633.01

4790 also	3.3	34.7	
4740	3.6	34.4	

✓ N3800

4740	5.0	33.0	
4783	4.8	33.2	
4785	7.9	30.1	

Downstream

629.2

✓ 3800

4800	2.5	26.7
20	4.4	24.8
40	6.3	22.9
60	8.2	21.0
80	9.9	19.3
4900	11.2	18.0
20	12.6	16.6
30	13.6	15.6 w.s

✓ N3760

25	13.6	15.6 w.s
20	13.1	16.1
4900	11.9	17.3
80	10.5	18.7
60	9.0	20.2
40	7.4	21.8
20	5.5	23.7
4800	3.1	26.1

638.00

4782	8.0	30.0
80	4.8	33.2
40	5.2	32.8

✓ N3720

4740	5.0	33.0
83	4.9	33.1
4785	8.8	29.2

Downstream

33

629.2

4800	3.2	26.0
20	5.6	23.6
40	7.3	21.9
60	9.2	20.0
80	10.8	18.4
4900	12.3	16.9
20	13.6	15.6 w.s

✓ N3680

20	13.6	15.6 w.s
4900	12.3	16.9
4880	10.5	18.7
60	8.8	20.4
40	7.1	22.1
20	5.0	24.2
4800	2.9	26.3
4785	0.0	29.2

638.00

83	4.7	33.3
4740	4.7	33.3
4740	4.4	33.6
81	4.3	33.7

✓ N3640

Downstream

629.2 ✓ N3640

4784	1.9	27.3	
800	4.1	25.1	
20	6.0	23.2	
40	7.7	21.5	
60	9.4	19.8	
80	11.0	18.2	
4900	12.4	16.8	
15	13.6	15.6	W.S

✓ N3600

15	13.6	15.6	W.S
4900	12.6	16.6	
880	11.4	17.8	
60	10.1	19.1	
40	8.7	20.5	
20	7.0	22.2	
4800	5.1	24.1	
4782	3.0	26.2	

638.00

79	4.1	33.9	
40	4.2	33.8	

✓ N3560

4740	4.3	33.7	
77	3.2	34.8	

Downstream

34

629.3 ✓ N3560

4785	1.3	28.0	
4800	3.7	25.6	
20	6.0	23.3	
40	7.9	21.4	
60	9.7	18.6	
80	11.4	17.9	
4900	13.0	16.3	
08	13.6	15.7	W.S

✓ N3520

12	13.6	15.7	W.S
4900	12.8	16.5	
4880	11.5	17.8	
60	9.7	19.6	
40	7.7	21.6	
20	5.4	23.9	
4800	3.5	25.8	
4785	1.6	27.7	

638.0

80	3.7	34.3	
40	4.5	33.5	

✓ N3480

4740	4.8	33.2	
80	3.9	34.1	

Downstream

629.3 ✓N3480

4785	2.7	26.6	
4800	4.9	24.4	
20	6.7	22.6	
40	8.5	20.8	
60	10.3	19.0	
80	11.7	17.6	
4900	13.0	16.3	
10	13.6	15.7	W.S

✓N3440

13	13.6	15.7	W.S
4900	12.8	16.5	
80	11.6	17.7	
60	10.5	18.8	
40	8.9	20.4	
20	7.3	22.0	
4800	5.4	23.9	
4782	3.8	25.5	

638.0

77 4.5 33.5

40 4.7 33.3

✓N3400

4740	5.2	32.8	
81	4.5	33.5	

Still Raining

85

629.3 ✓N3400

4785	3.0	26.3	
4800	4.8	24.5	
20	7.1	22.2	
40	8.6	20.7	
60	10.2	19.1	
80	11.9	17.4	
4903 4900	13.4	15.7	W.S

✓N3360

4903	13.6	15.7	W.S
80	11.9	17.4	
60	10.5	18.8	
40	9.1	20.2	
20	7.6	21.7	
4800	5.9	23.4	
4785	3.9	25.4	

638.0

83 4.7 33.3

40 5.8 32.2

✓N3320

4740	6.3	31.7	
4800	5.6	32.4	

Haral. Train

629.3

✓N/3320

36

4818

8.6 20.7

40

9.8 19.5

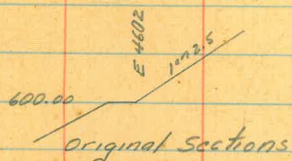
65

11.5 17.8

67

13.6 15.7 W.S

Xsection of downstream rock removed
on May 12 1933.



May 13-1933
Elliott
Simpson
Soper
Remmen

4602
4616
4623

611.14

N3860

9.4 01.7
8.7 02.4
2.1 09.0

N3870. No rock moved

Final sections

B.M.	11.88	599.88		588.00
	11.28	611.14	0.02	599.86

N3790

E 4602		9.7		601.4
4622		1.1		10.0

N3800

4602		9.9		01.2
4617		9.1		02.0
4623		1.1		10.0

N3820

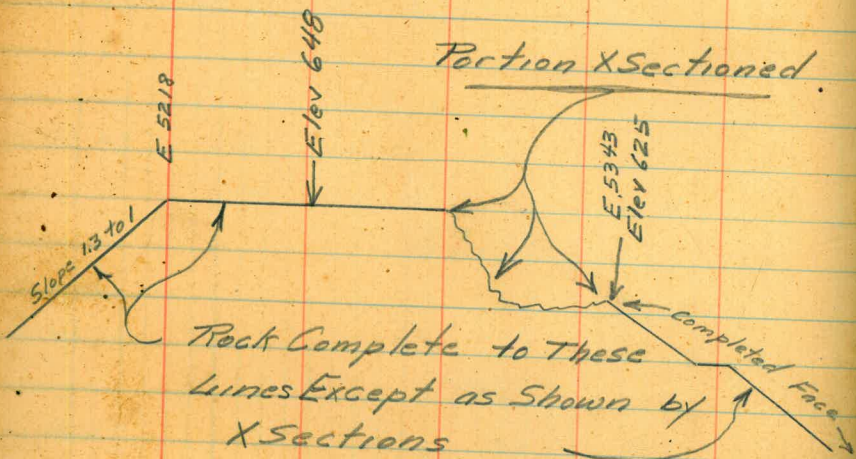
4602		9.6		01.5
4616		9.4		01.7
4624		2.1		09.0

N3840

4602		9.7		01.4
4616		9.6		01.5
4625		2.5		08.6

X Sections of Upstr. Rock Emb.
Est. #14 - June 30 - 1933

Elliott
Simpson
Soper
Remmen



No rock on N. 3180 ✓
N3200 ✓

5260

648.0 Toe

N3220 ✓

5267

648.0 O.G.

5260

5274

5287

5270

5260

5260

80

5279

5305

5288

5260

5260

70

5330

655.8

N3240 ✓

648.0

11.4

44.4

649.0

N3260 ✓

10.6

38.4 Toe

2.4

46.6

648.0

649.0

N3280 ✓

648.0

5.4

43.6

14.0 ✓

35.0 Toe

649.0

N3300 ✓

18.0

31.0 Toe

6.2

42.8

648.0

649.0

N3320 ✓

1.0

648.0

6.0

43.0

17.8

31.2 Toe

Upstream Track Emb for Est #14 - June 30
 (Face of rock is complete Elev. 625 to toe)

N3340

B.M.	9.28	628.00	618.72
5343			625.0
		649.0	
5295		5.7	43.3
5260			648.0

N3380

		628.0	
5343			625.0
5338	1.3		26.7
34	3.6		24.4
5287			48.0

N3420

		628.0	
5343			625.0
5343	5.6		22.4
5322	2.1		25.9
5292			48.0

Elliott-Simpson-Soper-Ramblinton

89

628.0 N3460

5343		625.0
43	4.9	23.1
5324	4.6	23.4
5280		48.0

N3500

		628.0	
5343			625.0
5343	9.1		18.9
5310	1.3		26.7
5277			48.0

N3540

		628.0	
5343			625.0
5343	8.3		19.7
5317	6.4		21.6
5281			48.0

628.0 N3580 ✓

5343 ¹⁷		625.0
5343	5.1	22.9
5316	3.7	24.3
5280		48.0

628.0 N3620 ✓

5343		625.0
5343	5.5	22.5
5300	3.3	24.7
5265		48.0

628.0 N3660 ✓

5343		625.0
5343	5.5	22.5
5318	1.5	26.5
5300	5.0	23.0
5268		48.0

628.00

N3700 ✓

40

5343		625.0
5343	5.5	22.5
5316	0.5	27.5
5305	0.0	28.0
5278		48.0

628.00

N3740 ✓

T.P. 617		628.26
633.13	0.74	628.26
5343		625.0
5343	9.0	24.4
5325	5.4	28.0
5310	8.7	24.5
5278		48.0

633.4

N3780 ✓

5343		625.0
5343	11.0	22.4
5314	9.2	24.2
5279		48.0

633.4 N3820 ✓

5343		625.0
5343	11.4	22.0
5314	8.9	24.5
5280		48.0

633.4 N3860 ✓

5343		625.0
5343	9.6	23.8
5313	7.7	25.7
5279		48.0

N3900 ✓

5343		625.0
5343	8.0	25.4
5310	7.2	26.2
5281		48.0

633.4 N3940 ✓

5343		625.0
5343	8.2	25.2
13	6.0	27.4
5288		48.0

N3980 ✓

5343		625.0
5343	8.5	24.7
5320	8.4	25.0
5294		48.0

N4000 ✓

5343		625.0
5343	7.5	25.9
5325	7.6	25.8
5294		48.0

N4020 ✓

B.M.	12.56	638.97	626.41	
5349		12.2	626.8	Top
5325		13.1	625.9	
5303			648.0	

N4040 ✓

5324		11.1	627.9	Top
5300			648.0	

No Rock on N4060

X Sections of Downstream Rock Embankment Between Toe Wall & Toe

June 30 - 1933

N3880

B.M.	2.28	577.34	575.06	
4477	?		1.9	75.4
4450			1.8	75.5
4437			4.7	72.6 Toe

N3860

4494	?		2.3	75.0 Toe Wall
4456			2.1	75.2
3% slope to 0.6				

Rock complete between toe wall and downstream toe from N.3860 to N.3720

N3700

4506				75.0 Toe Wall
4493				75.0
4475			16.1	61.2
West from here Same as Est. 12 & 13				

N3680

4510				75.0 Toe Wall
4498				75.0
4475			15.9	61.4
West same as Est. 12 & 13				

577.3

N3660

4511				575.0 Toe Wall
4500				75.0
4477			15.5	61.8
West same as Est. 12 and 13				

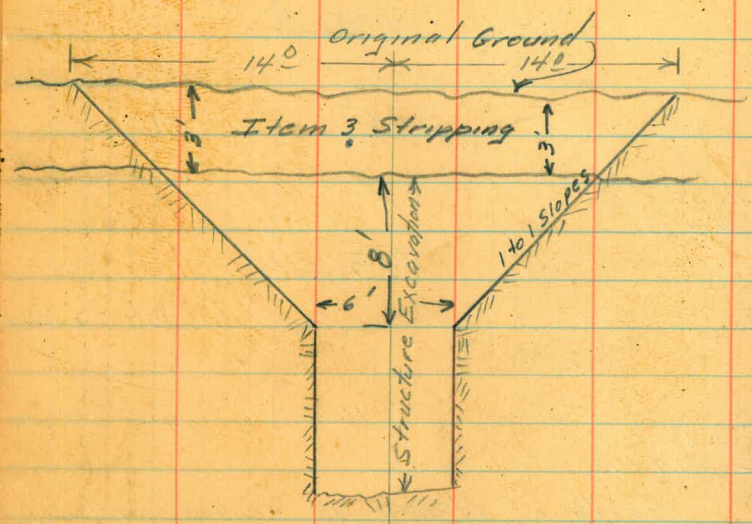
N3640

4512				75.0 Toe Wall
4500				75.0
4476			16.3	61.0
West from here Same as Est. 12 & 13.				

South of N3640 is same as estimates 12 & 13 between toe wall and downstream toe.

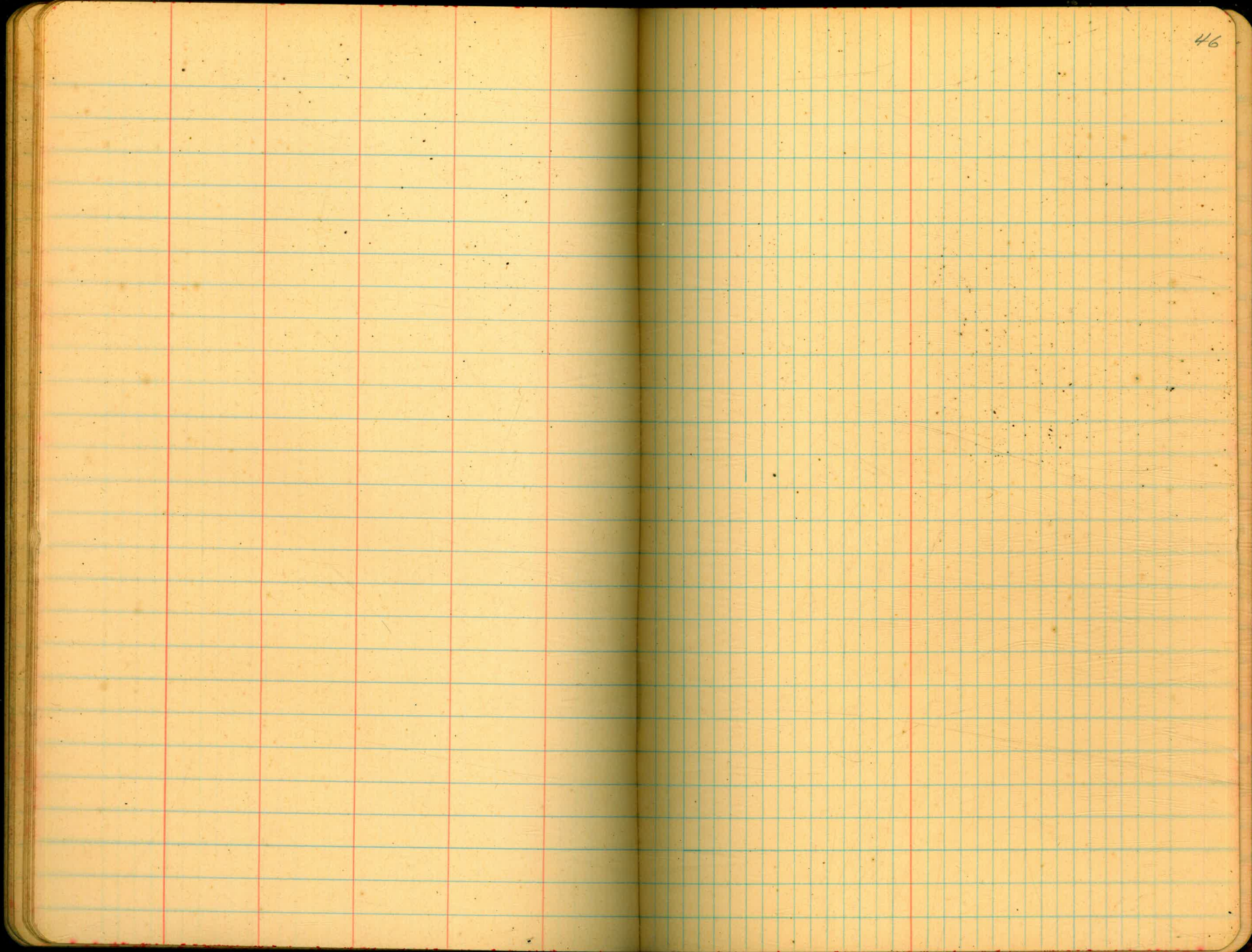
Note: Rock complete from toe wall to Elev. 650.
648

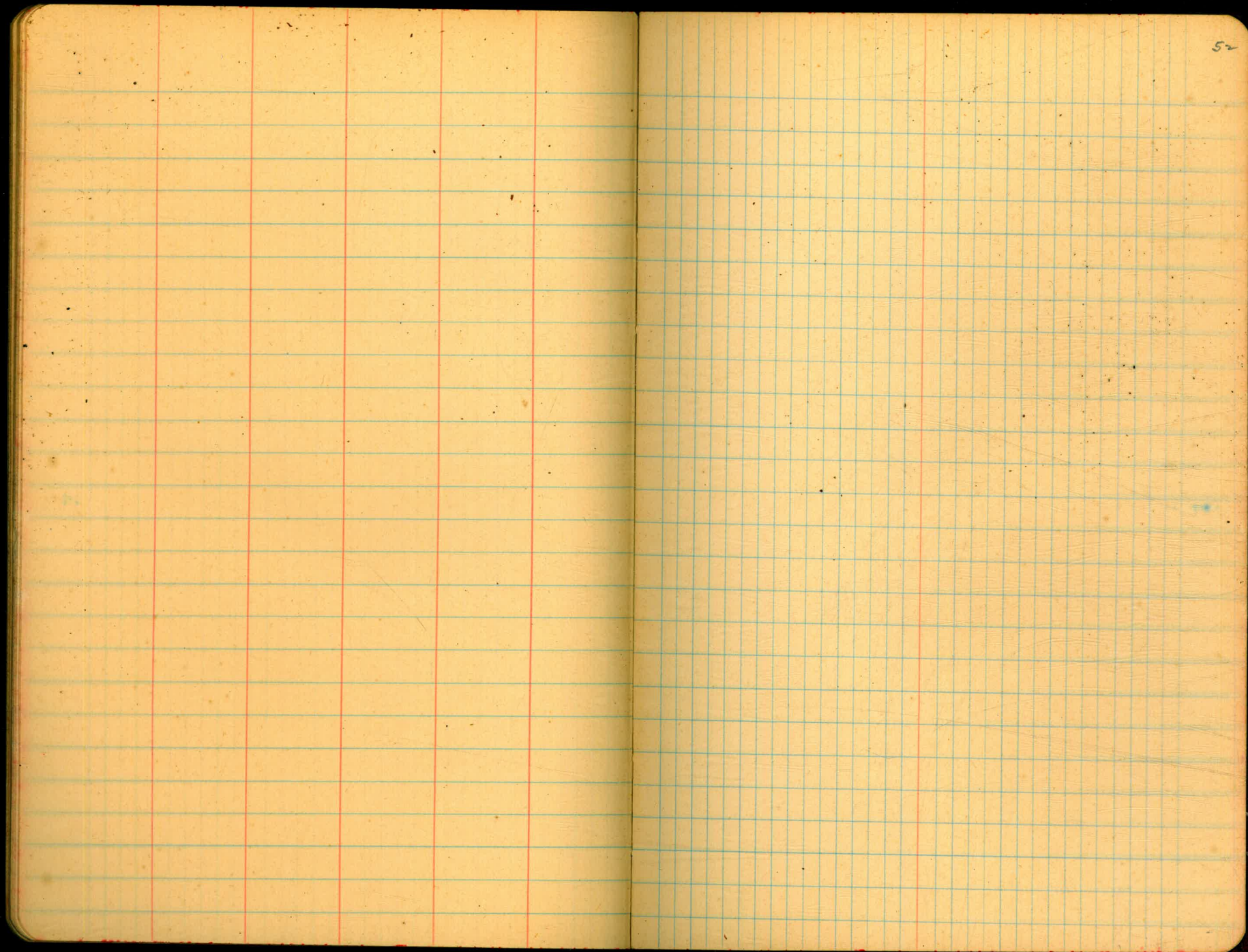
Profile of Core Wall for Est. # 14

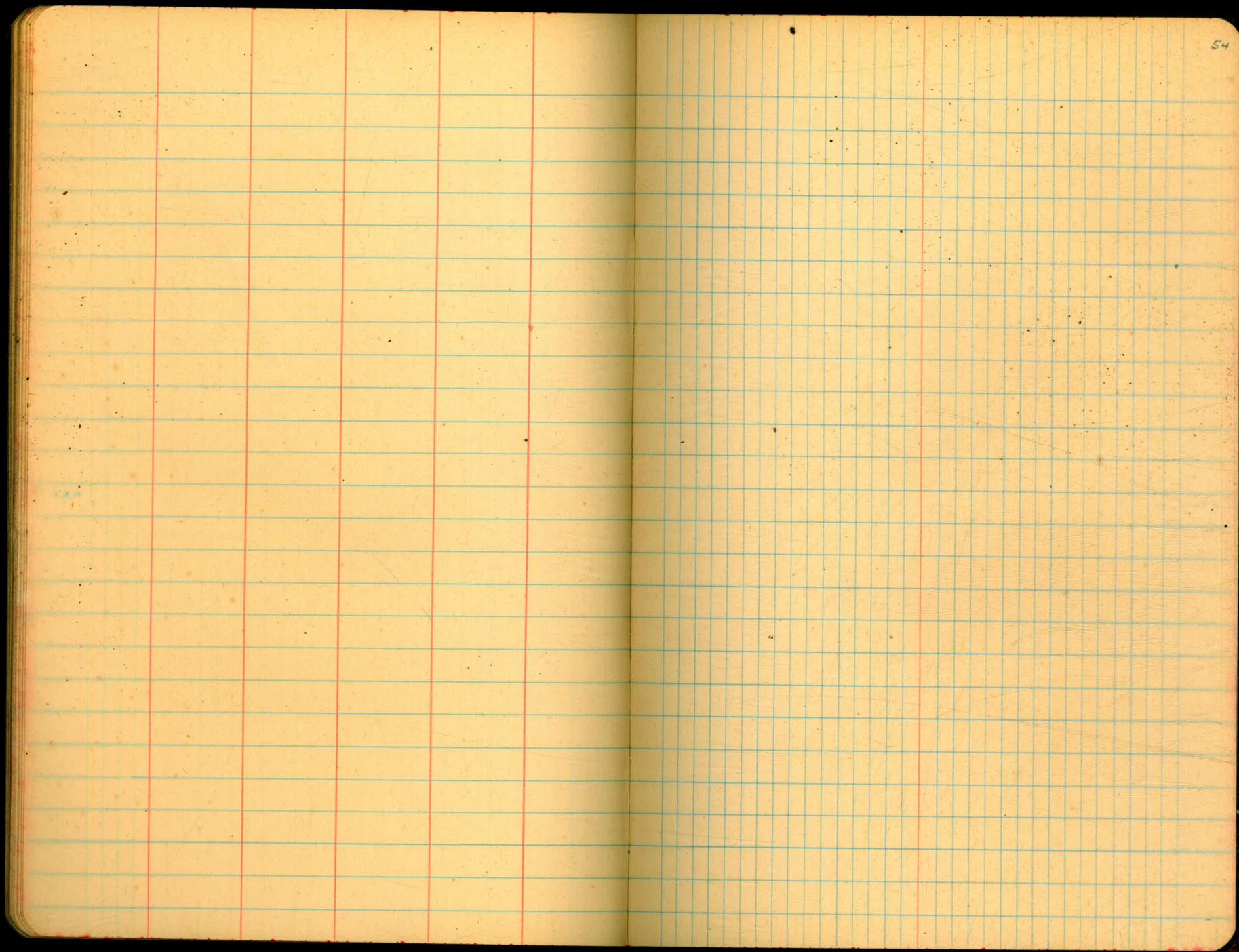


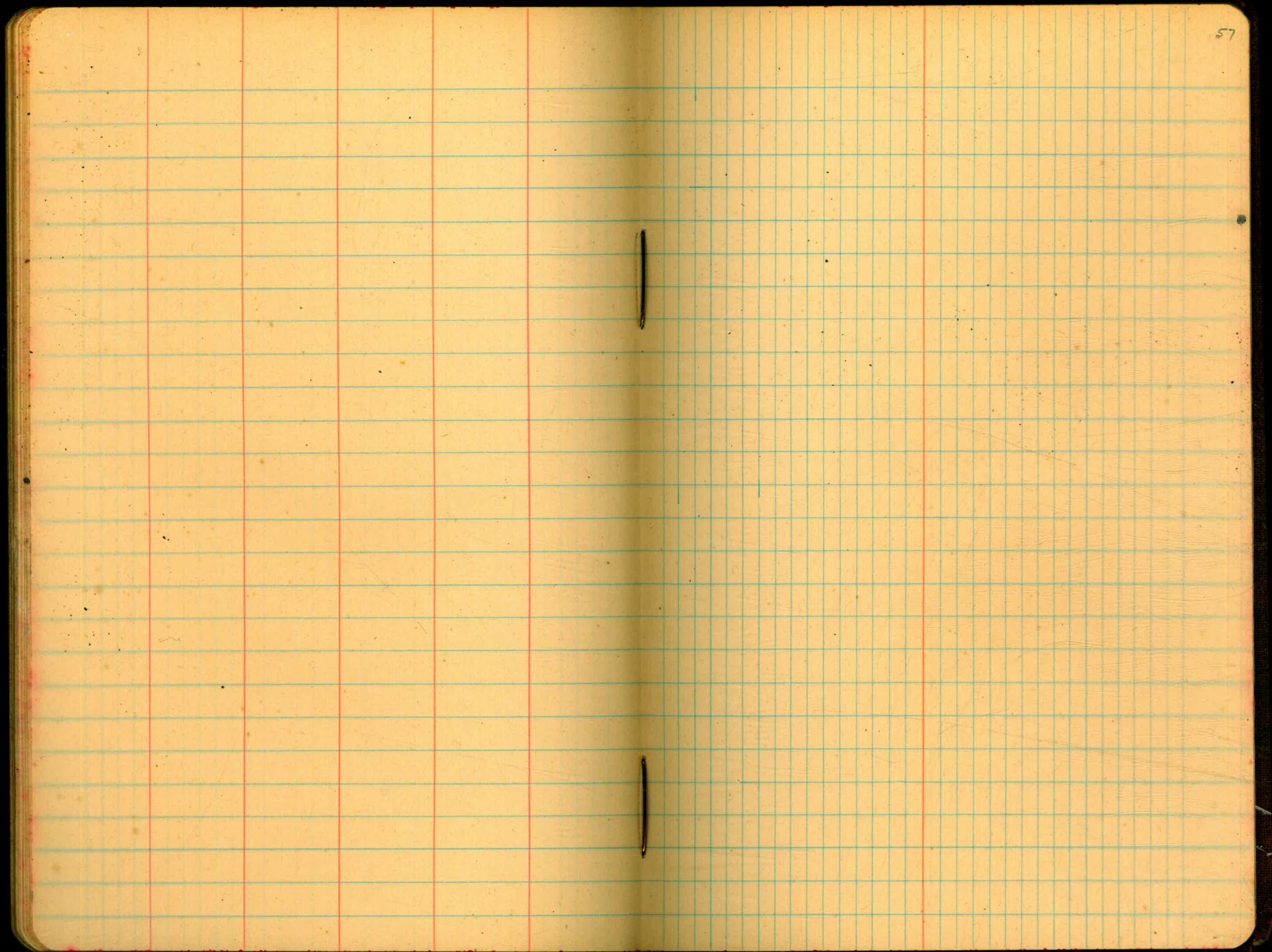
B.M.	246	705.96	703.50
N4040			0.6
4026		6.7	699.3
4026		20.7	85.3
4010		20.6	85.4
3995		20.0	86.0
3983		25.3	80.7
3975		23.5	682.5

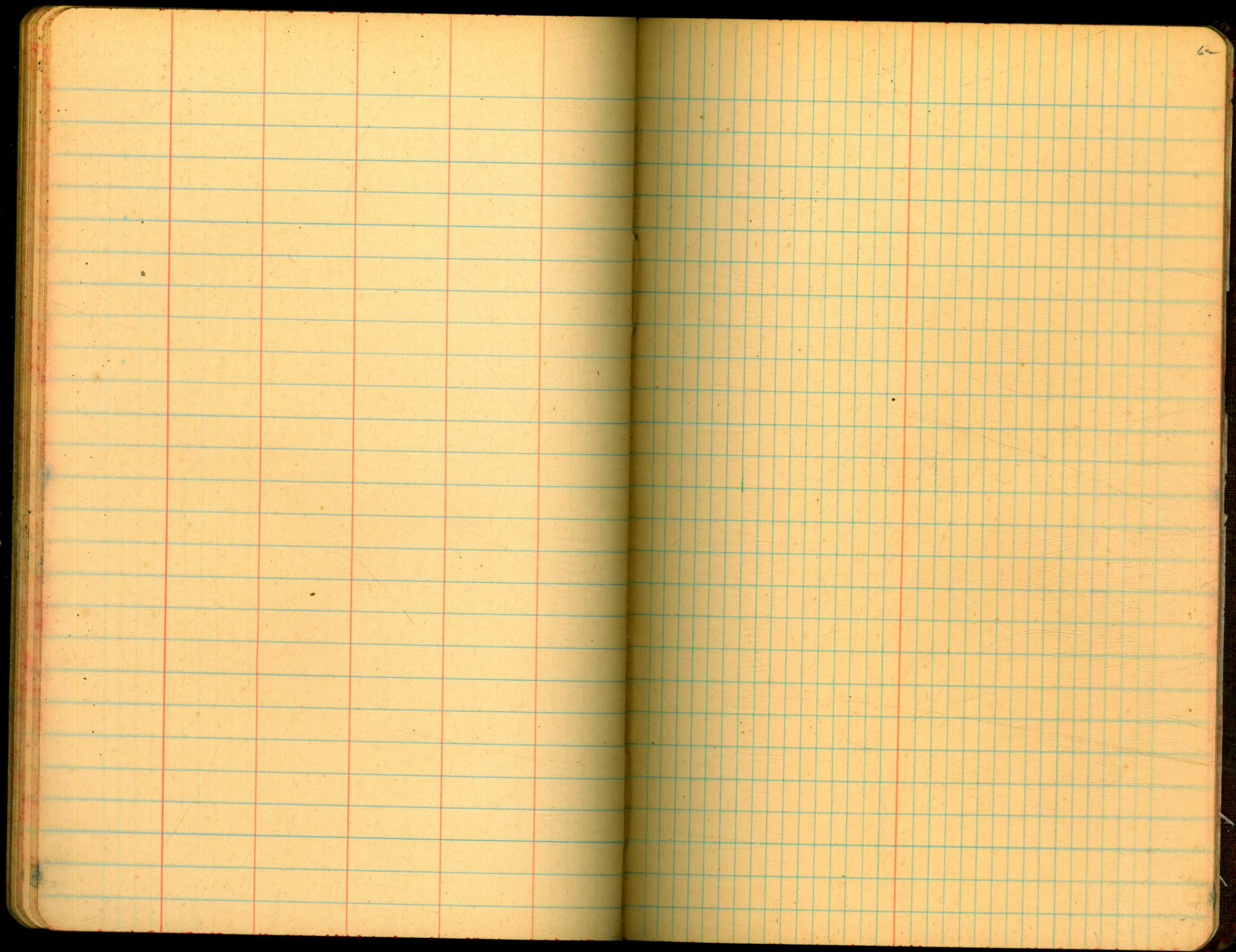
Comp. July 3, F.O. REL.











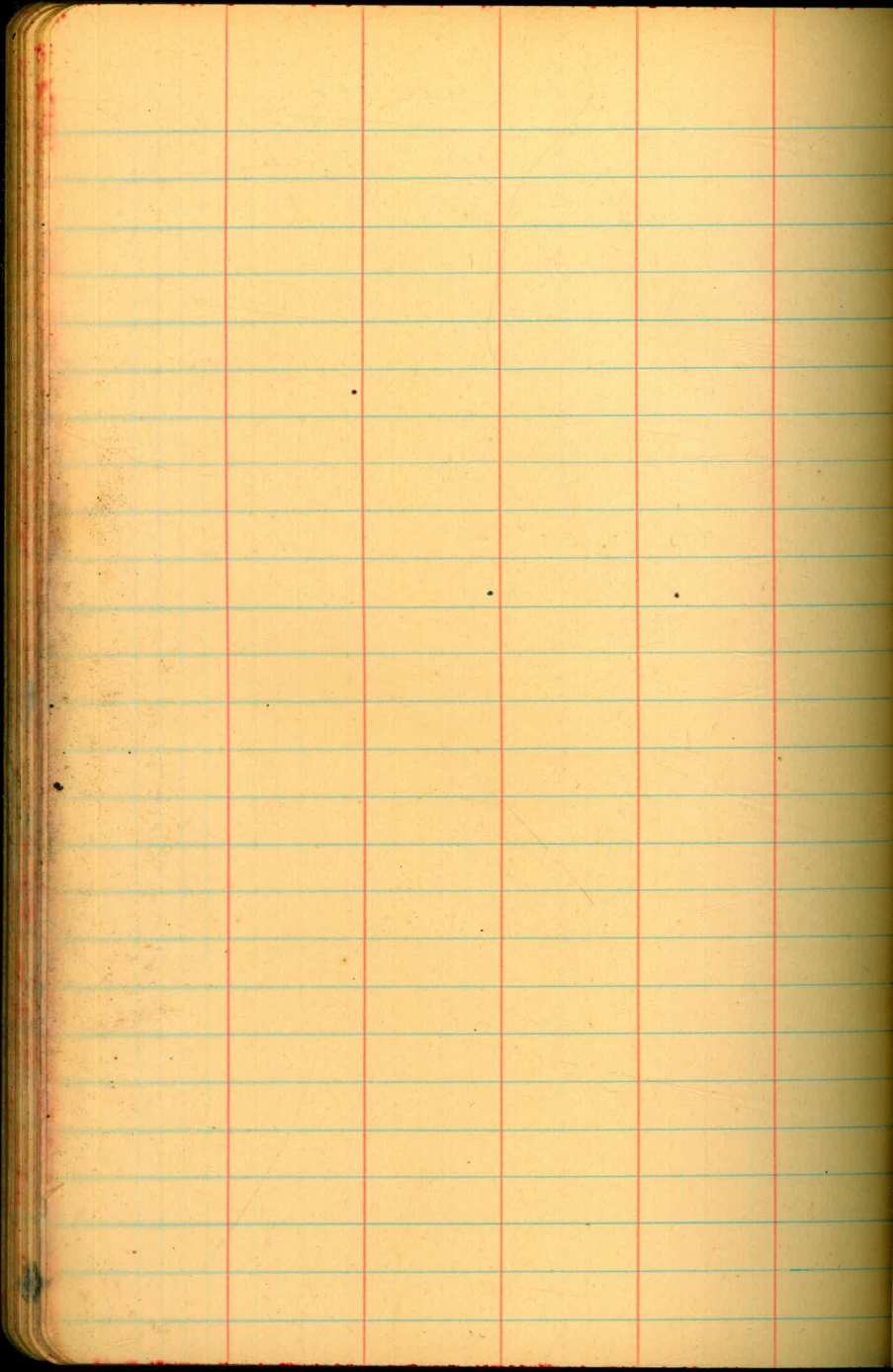


Table I - Radii Ordinates and Deflections

Dist	Ordinate	Deflection	Dist	Ordinate	Deflection
0.00	0.0000	0.0000	10.00	0.1736	0.0003
0.10	0.1736	0.0003	10.10	0.1753	0.0006
0.20	0.3472	0.0012	10.20	0.1770	0.0012
0.30	0.5208	0.0024	10.30	0.1787	0.0018
0.40	0.6944	0.0039	10.40	0.1804	0.0024
0.50	0.8680	0.0057	10.50	0.1821	0.0030
0.60	1.0416	0.0078	10.60	0.1838	0.0036
0.70	1.2152	0.0102	10.70	0.1855	0.0042
0.80	1.3888	0.0129	10.80	0.1872	0.0048
0.90	1.5624	0.0159	10.90	0.1889	0.0054
1.00	1.7360	0.0192	11.00	0.1906	0.0060
1.10	1.9096	0.0228	11.10	0.1923	0.0066
1.20	2.0832	0.0267	11.20	0.1940	0.0072
1.30	2.2568	0.0309	11.30	0.1957	0.0078
1.40	2.4304	0.0354	11.40	0.1974	0.0084
1.50	2.6040	0.0402	11.50	0.1991	0.0090
1.60	2.7776	0.0453	11.60	0.2008	0.0096
1.70	2.9512	0.0507	11.70	0.2025	0.0102
1.80	3.1248	0.0564	11.80	0.2042	0.0108
1.90	3.2984	0.0624	11.90	0.2059	0.0114
2.00	3.4720	0.0687	12.00	0.2076	0.0120
2.10	3.6456	0.0753	12.10	0.2093	0.0126
2.20	3.8192	0.0822	12.20	0.2110	0.0132
2.30	3.9928	0.0894	12.30	0.2127	0.0138
2.40	4.1664	0.0969	12.40	0.2144	0.0144
2.50	4.3400	0.1047	12.50	0.2161	0.0150
2.60	4.5136	0.1128	12.60	0.2178	0.0156
2.70	4.6872	0.1212	12.70	0.2195	0.0162
2.80	4.8608	0.1299	12.80	0.2212	0.0168
2.90	5.0344	0.1389	12.90	0.2229	0.0174
3.00	5.2080	0.1482	13.00	0.2246	0.0180
3.10	5.3816	0.1578	13.10	0.2263	0.0186
3.20	5.5552	0.1677	13.20	0.2280	0.0192
3.30	5.7288	0.1779	13.30	0.2297	0.0198
3.40	5.9024	0.1884	13.40	0.2314	0.0204
3.50	6.0760	0.1992	13.50	0.2331	0.0210
3.60	6.2496	0.2103	13.60	0.2348	0.0216
3.70	6.4232	0.2217	13.70	0.2365	0.0222
3.80	6.5968	0.2334	13.80	0.2382	0.0228
3.90	6.7704	0.2454	13.90	0.2399	0.0234
4.00	6.9440	0.2577	14.00	0.2416	0.0240
4.10	7.1176	0.2703	14.10	0.2433	0.0246
4.20	7.2912	0.2832	14.20	0.2450	0.0252
4.30	7.4648	0.2964	14.30	0.2467	0.0258
4.40	7.6384	0.3099	14.40	0.2484	0.0264
4.50	7.8120	0.3237	14.50	0.2501	0.0270
4.60	7.9856	0.3378	14.60	0.2518	0.0276
4.70	8.1592	0.3522	14.70	0.2535	0.0282
4.80	8.3328	0.3669	14.80	0.2552	0.0288
4.90	8.5064	0.3819	14.90	0.2569	0.0294
5.00	8.6800	0.3972	15.00	0.2586	0.0300

Table II - Minutes in Decimals of a Degree

Minutes	Decimals
0	0.0000
1	0.0167
2	0.0333
3	0.0500
4	0.0667
5	0.0833
6	0.1000
7	0.1167
8	0.1333
9	0.1500
10	0.1667
11	0.1833
12	0.2000
13	0.2167
14	0.2333
15	0.2500
16	0.2667
17	0.2833
18	0.3000
19	0.3167
20	0.3333
21	0.3500
22	0.3667
23	0.3833
24	0.4000
25	0.4167
26	0.4333
27	0.4500
28	0.4667
29	0.4833
30	0.5000
31	0.5167
32	0.5333
33	0.5500
34	0.5667
35	0.5833
36	0.6000
37	0.6167
38	0.6333
39	0.6500
40	0.6667
41	0.6833
42	0.7000
43	0.7167
44	0.7333
45	0.7500
46	0.7667
47	0.7833
48	0.8000
49	0.8167
50	0.8333
51	0.8500
52	0.8667
53	0.8833
54	0.9000
55	0.9167
56	0.9333
57	0.9500
58	0.9667
59	0.9833
60	1.0000

Table III - Inches in Decimals of a Foot

Inches	Decimals
0	0.0000
1	0.0833
2	0.1667
3	0.2500
4	0.3333
5	0.4167
6	0.5000
7	0.5833
8	0.6667
9	0.7500
10	0.8333
11	0.9167
12	1.0000

Table VII. Excavation and Embankments, Cu. Yds. per 100 ft.

Slope	1/2 to 1	1 to 1			1 1/2 to 1				All Slopes 1 Ft. Base
		BASE			BASE				
		20'	20	22	24	14	16	20	
1	75	78	85	93	57	65	80	94	3.7
2	152	163	178	193	126	141	170	200	7.4
3	230	256	278	300	206	228	272	316	11.1
4	311	356	385	414	296	326	385	444	14.8
5	393	463	500	537	398	435	509	583	18.5
6	477	578	622	666	511	556	644	733	22.2
7	564	700	752	804	635	687	791	894	25.9
8	652	830	889	948	770	830	948	1067	29.6
9	742	967	1033	1100	917	983	1116	1250	33.3
10	833	1111	1185	1259	1074	1148	1296	1444	37.0
11	926	1263	1344	1425	1243	1324	1487	1650	40.7
12	1022	1422	1511	1600	1422	1511	1689	1867	44.4
13	1119	1589	1685	1781	1613	1709	1902	2094	48.1
14	1219	1763	1867	1970	1815	1919	2126	2333	51.8
15	1319	1944	2055	2166	2028	2139	2361	2583	55.5
16	1422	2133	2251	2369	2252	2370	2607	2844	59.2
17	1527	2330	2456	2582	2487	2613	2865	3117	62.9
18	1633	2533	2667	2800	2733	2867	3133	3400	66.6
19	1742	2744	2885	3025	2991	3131	3413	3694	70.3
20	1852	2963	3111	3259	3259	3407	3704	4000	74.0
21	1963	3189	3344	3500	3539	3694	4005	4317	77.7
22	2078	3422	3585	3748	3830	3993	4318	4644	81.4
23	2193	3663	3833	4003	4131	4302	4642	4983	85.1
24	2310	3911	4089	4267	4444	4622	4978	5333	88.8
25	2430	4167	4352	4537	4769	4954	5324	5694	92.5
26	2551	4430	4622	4814	5104	5296	5681	6067	96.2
27	2675	4700	4900	5100	5450	5650	6050	6450	100.0
28	2800	4978	5185	5392	5807	6015	6430	6844	103.6
29	2926	5263	5477	5691	6176	6391	6820	7250	107.3
30	3055	5556	5778	6000	6556	6778	7222	7667	111.0
31	3185	5856	6085	6314	6946	7176	7635	8094	114.7
32	3318	6163	6399	6635	7348	7585	8059	8533	118.4
33	3452	6478	6722	6966	7761	8006	8494	8983	122.1
34	3589	6800	7052	7304	8185	8437	8941	9444	125.8
35	3727	7130	7389	7648	8620	8880	9398	9917	129.5
36	3866	7467	7733	8000	9067	9338	9867	10400	133.2
37	4008	7811	8084	8358	9524	9798	10346	10894	136.9
38	4051	8163	8444	8725	9993	10274	10837	11400	140.6
39	4296	8522	8811	9100	10472	10761	11339	11917	144.3
40	4444	8889	9185	9481	10963	11259	11852	12444	148.0
41	4593	9263	9567	9871	11465	11769	12376	12983	151.7
42	4744	9644	9955	10266	11978	12289	12911	13533	155.4
43	4897	10033	10351	10669	12502	12820	13457	14094	159.1
44	5052	10430	10756	11084	13037	13363	14015	14667	162.8
45	5208	10833	11166	11499	13583	13917	14583	15250	166.5
46	5366	11244	11584	11924	14141	14481	15163	15844	170.2
47	5527	11663	12011	12359	14700	15057	15754	16450	173.9
48	5688	12089	12444	12799	15289	15644	16356	17067	177.6
49	5853	12522	12884	13246	15880	16243	16968	17694	181.3
50	6018	12963	13333	13703	16481	16853	17592	18333	185.0
52	6355	13867	14251	14635	17710	18104	18874	19644	192.4
54	6700	14800	15200	15600	19000	19400	20200	21000	200.0
56	7051	15763	16177	16591	20326	20741	21570	22400	207.2
58	7410	16756	17186	17516	21696	22126	22985	23844	214.6
60	7777	17778	18222	18666	23111	23555	24444	25333	222.0
70	9722	23332	23850	24368	30852	31370	32407	33444	259.0
80	11852	29629	30221	30813	39704	40296	41480	42667	296.0
90	14167	36666	37333	38000	49667	50333	51665	53000	333.0
100	16667	44444	45184	45924	60741	61481	62962	64444	370.0

2.5 / 230
225

Tables for Excavations and Embankments.
Distances from Edge of Roadway for Cross-Sectioning.
Any Roadway. Side Slopes 1 1/2 to 1.
Half the width of roadway to be added to table to find distance from centre line.

	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

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