

W  
444

# 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.

444

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  $30.6 + (20 - 16) \div 2$  or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.

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JAN 12 1965

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Item 3 Computations

1-68

Blank

69-79

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JAN 15 1982

# EL CAPITAN DAM

Areas of Cross-Sections of Excavation  
for Base of Dam Under Schedule  
Item 3.

Starting at N 3590 Going South

Elev.	N 3590		Ht.	Mean Dist	Sq. Ft
	Hyd. top elev	Fill. bottom elev.			
4870	53.1	53.1	0.0		
80	53.8	52.7	1.1		
90	52.6	51.4	1.2		
4900	52.8	49.4	3.4		
10	53.7	47.4	6.3		
20	50.3	44.7	5.6		
30	43.1	42.0	1.1		
40	38.3	38.3	0.0	18.7	10
					187.00

7.0. + H.V.N. Dec 7, 1933

Elev.	N 3580		Ht.	Mean Dist	Sq. Ft
	Hyd.	Fill			
4870	53.3	53.3	0.0		
80	54.3	53.6	0.7		
90	54.4	51.9	2.5		
4900	55.1	49.4	5.7		
10	55.8	47.5	8.3		
20	51.0	45.3	5.7		
30	43.3	43.3	0.0	22.9	10
					229.00

Cont.

N 3580						
Cont.	Hyd.	Fill				
4940	38.4	38.4	0.0			
50	37.4	37.2	0.2			
60	37.0	36.7	0.3			
70	37.2	37.2	0.0	0.5	10	
						5.00
						234.00

N 3570						
	Hyd.	Fill				
4870	54.1	54.1	0.0			
80	55.1	53.8	1.3			
90	55.1	53.2	1.9			
4900	56.7	50.0	6.7			
10	57.0	47.5	9.5			
20	50.6	45.3	5.3			
30	43.0	42.5	0.5			
40	38.1	38.1	0.0	25.2	10	
						252.00

N 3560						
	Hyd.	Fill				
4860	54.9	54.9	0.0			
70	54.8	54.2	0.6			
80	54.8	53.9	0.9			
90	54.3	53.2	1.1			
4900	53.9	49.1	4.8			
10	57.0	46.7	10.3			
20	50.1	45.1	5.0			
30	42.4	42.4	0.0	22.7	10	
						227.00

N 3550						
	Hyd.	Fill				
4860	55.0	55.0	0.0			
70	55.2	54.0	1.2			
80	54.8	53.7	1.1			
90	54.7	53.3	1.4			
4900	54.0	49.1	4.9			
10	54.1	46.5	7.6			
20	48.3	44.9	3.4			
30	40.1	40.1	0.0	19.6	10	
						196.00

N 3 5 4 0  
Hyd. Fill.

4840	56.5	56.5	0.0			
50	56.8	55.9	0.9			
60	55.4	55.1	0.3			
70	55.3	54.5	0.8			
80	54.7	53.8	0.9			
90	55.2	52.9	2.3			
4900	54.7	48.6	6.1			
10	56.0	46.5	9.5			
20	48.6	45.2	3.4			
30	39.8	39.8	0.0	24.2	10	242.00

N 3 5 3 0  
Hyd. Fill.

4820	55.0	55.0	0.0			
30	59.4	57.4	2.0			
40	57.4	56.9	0.5			
50	57.6	56.2	1.4			
60	60.0	55.2	4.8			

Cont.

Cont

4870	55.4	54.2	1.2			
80	55.1	53.7	1.4			
90	55.0	53.2	1.8			
4900	55.1	48.6	6.5			
10	55.1	46.5	8.6			
20	47.0	45.6	1.4			
30	40.0	40.0	0.0	29.6	10	296.00

N 3 5 2 0

Hyd. Fill.

4810	57.4	57.4	0.0			
20	59.8	57.9	1.9			
30	60.5	57.5	3.0			
40	58.4	56.7	1.7			
50	58.6	56.3	2.3			
60	57.1	55.3	1.8			
70	55.5	54.5	1.0			
80	55.0	53.8	1.2			

Cont

Cont	N 3520				
	Hyd	Fill			
4890	55.4	53.2	2.2		
4900	55.8	49.1	6.7		
10	54.2	46.0	8.2		
20	47.6	45.0	2.6		
30	40.9	40.9	0.0		
40	37.7	37.7	0.0		
50	36.7	36.0	0.7		
60	36.5	35.6	0.9	33.75	10 337.50
			1.6	7	11.20
67	36.1	33.8	2.3		
			2.0	1	2.00
68	35.3	33.6	1.7		
			.85	7	5.95
75	29.6	29.6	0.0		
					356.65

		N 3510				
	Hyd	Fill				
4800	58.3	58.3	0.0			
10	59.8	58.6	1.2			
20	60.4	58.7	1.7			
30	60.7	57.6	3.1			
40	59.5	56.6	2.9			
50	59.1	56.0	3.1			
60	60.4	55.4	5.0			
70	55.9	54.9	1.0			
80	55.0	54.0	1.0			
90	55.4	53.3	2.1			
4900	57.2	49.5	7.7			
10	53.4	46.5	6.9			
20	47.1	43.9	3.2			
30	39.1	39.1	0.0			
40	36.4	36.4	0.0			
50	37.4	36.2	1.2			
60	36.0	35.0	1.0	40.6	10 406.00	
				12.5	7 8.75	
67	35.7	34.2	1.5			

N 3510  
Hyd. Fill.

4967 35.7 34.2 1.5

.75 3

2.25 ✓

70 33.9 33.9 0.0

417.00 ✓

N 3500  
Hyd. Fill.

4790 54.0 54.0 0.0 ✓

4800 59.2 59.1 0.1 ✓

10 59.9 58.4 1.5 ✓

20 60.3 58.1 2.2 ✓

30 60.8 57.4 3.4 ✓

40 60.5 56.6 3.9 ✓

50 59.4 56.5 2.9 ✓

60 59.8 55.3 4.5 ✓

70 56.9 55.2 1.7 ✓

80 55.8 54.4 1.4 ✓

90 57.5 53.7 3.8 ✓

4900 60.0 49.9 10.1 ✓

Cont

N 3500  
Hyd. Fill.

5

Cont.

4910 54.3 47.4 6.9

20 49.0 44.0 5.0

30 39.9 39.9 0.0

47.4 10

474.00 ✓

N 3490  
Hyd. Fill.

4800 57.1 57.1 0.0 ✓

10 58.5 58.4 0.1 ✓

20 59.6 57.8 1.8 ✓

30 61.1 57.4 3.7 ✓

40 60.9 57.0 3.9 ✓

50 59.9 56.8 3.1 ✓

60 59.7 55.6 4.1 ✓

70 60.4 55.4 5.0 ✓

80 60.9 54.7 6.2 ✓

90 61.2 53.8 7.4 ✓

4900 59.5 50.4 9.1 ✓

10 53.5 48.3 5.2 ✓

Cont



N 3490  
 Cont. Hyd. Fill.  
 4920 49.8 45.0 4.8 ✓  
 30 39.1 39.1 0.0 54.4 10 544.00 ✓

N 3480  
 Cont. Hyd. Fill. 6  
 4920 46.5 44.4 2.1 ✓  
 30 38.4 38.4 0.0 40.8 10 408.00 ✓  
 456.25 ✓

N 3480  
 Hyd. Fill.  
 4820 57.4 57.4 0.0 ✓  
 30 58.2 57.3 0.9 ✓  
 40 59.6 57.3 2.3 ✓  
 1.15 2.05 10 20.50 ✓  
 2.7 7 ✓ 18.90 ✓  
 47 60.5 57.4 3.1 ✓  
 2.95 3 ✓ 8.85 ✓  
 50 60.2 57.4 2.8 ✓  
 60 59.8 56.0 3.8 ✓  
 70 59.9 55.5 4.4 ✓  
 80 60.8 54.7 6.1 ✓  
 90 61.1 53.2 7.9 ✓  
 4900 59.2 50.0 9.2 ✓  
 10 53.2 47.3 5.9 ✓

N 3470 Hyd. Fill.  
 4810 59.2 59.2 0.0 ✓  
 .5 10 ✓ 5.00 ✓  
 70 59.3 58.3 1.0 ✓  
 1.4 4 ✓ 5.60 ✓  
 24 59.6 57.8 1.8 ✓  
 1.9 6 ✓ 11.40 ✓  
 30 59.5 57.5 2.0 ✓  
 40 58.1 57.4 0.7 ✓  
 50 57.1 57.1 0.0 ✓  
 60 58.7 56.7 2.0 ✓  
 70 58.9 55.5 3.4 ✓  
 80 60.4 53.7 6.7 ✓  
 90 60.8 52.5 8.3 ✓  
 4900 58.6 50.0 8.6 ✓

Cont.

Cont.

N 3470  
 Cont. Hyd. Fill.

4910	51.6	47.5	4.1	✓			
20	48.3	44.6	3.7	✓			
30	39.2	39.2	0.0		38.5	10	<u>385.00</u>
							✓ 407.00

N 3460

Hyd. Fill

4860	56.9	56.9	0.0	✓			
70	57.4	56.0	1.4	✓			
80	57.6	53.7	3.9	✓			
90	58.2	52.5	5.7	✓	8.15	10	81.50
			2.85				
					6.55	6	39.30
96	58.6	51.2	7.4	✓			
					7.15	4	28.60
4900	57.2	50.3	6.9	✓			
			3.45				
10	51.6	48.9	2.7	✓			
20	47.4	46.6	0.8	✓			
30	43.1	43.1	0.0	✓	6.95	10	<u>69.50</u>
							218.90

N 3450

Hyd. Fill

7

4820	59.5	59.5	0.0	✓			
30	59.8	59.7	0.1	✓			
40	60.0	59.1	.9	✓			
50	60.1	58.6	1.5	✓			
60	56.4	56.4	0.0	✓			
70	56.1	56.1	0.0	✓			
80	56.4	54.3	2.1	✓			
90	55.6	52.7	2.9	✓			
4900	56.8	51.7	5.1	✓			
10	54.6	50.8	3.8	✓			
20	50.3	50.3	0.0	✓	16.4	10	164.00

N 3440

Hyd. Fill

4840	60.0	60.0	0.0	✓			
50	60.3	59.5	0.8	✓			
60	57.9	57.9	0.0	✓			
70	57.5	57.4	0.1	✓			

Cont.

Cont.	N 3440					
	Hyd	Fill				
4880	57.3	56.1	1.2			
90	56.2	55.0	1.2			
4900	56.7	55.3	1.4			
10	57.1	52.2	4.9			
20	51.9	50.7	1.2			
30	49.0	49.0	0.0			
40	47.9	47.9	0.0			
50	46.7	46.5	0.2			
60	46.4	46.2	0.2			
70	46.0	45.8	0.2			
80	45.3	45.3	0.0	11.4	10	114.00

N 3430

Hyd. Fill.

4780	67.8	67.8	0.0			
90	67.2	61.8	5.4			
<u>4800</u>	61.0	61.0	0.0	5.4	10	54.00

								8
	N 3430							
	Hyd	Fill						
4870	58.8	58.8	0.0					
80	58.7	57.6	1.1					
90	58.8	58.8	0.0					
4900	57.2	54.5	2.7					
10	56.1	53.1	3.0					
20	54.0	51.6	2.4					
30	52.2	50.7	1.5					
40	50.4	50.3	0.1					
50	49.4	49.4	0.0					
60	49.4	48.9	0.5					
70	48.7	48.3	0.4					
80	48.3	47.6	0.7					
90	48.2	47.7	0.5	12.75	10	126.50		
				.25	2	.50		
92	47.7	47.7	0.0			181.00		

N 3420  
Hyd. Fill

4780	68.3	68.3	0.0			
90	70.0	68.5	1.5	✓		
<u>4800</u>	61.7	61.7	0.0	1.5	10	15.0
4830	60.6	60.6	0.0	✓		
40	60.9	60.4	0.5	✓		
50	59.2	58.9	0.3	✓		
<u>60</u>	59.0	59.0	0.0	0.8	10	8.0
4880	58.2	58.2	0.0	✓		
90	57.8	56.9	0.9	✓		
4900	57.1	55.1	2.0	✓		
10	55.7	54.8	0.9	✓		
20	53.9	53.6	0.3	✓		
30	52.2	52.2	0.0	✓		
40	51.4	51.3	0.1	✓		
50	51.0	50.6	0.4	✓		
60	50.3	50.1	0.2	✓		
70	49.7	49.6	0.1	✓		
80	49.4	49.1	0.3	✓		
90	49.5	49.4	0.1	5.25	10	52.50

N 3420  
Hyd. Fill

4990	49.5	49.4	0.1			
				.45	3	1.35
93	48.9	48.1	0.8	✓		
				.4	4	1.60
97	48.1	48.1	0.0			78.45

N 3410  
Hyd. Fill

4830	61.1	61.1	0.0	✓		
40	61.9	60.3	1.6	✓		
50	59.5	59.2	0.3	✓		
60	59.1	58.4	0.7	✓		
70	58.7	58.3	0.4	✓		
80	58.6	58.2	0.4	✓		
90	58.1	57.8	0.3	✓		
4900	57.8	57.7	0.1	✓		
10	56.8	56.4	0.4	✓		
20	55.7	55.1	0.6	✓		

Cont.

N3410  
Cont. Hyd Fill.

4930	55.6	55.0	0.6	✓				
40	52.7	52.1	0.6	✓				
50	51.7	51.7	0.0	✓				
60	51.9	51.6	0.3	✓				
70	52.3	51.9	0.4	✓				
80	52.0	50.5	1.5	✓				
90	51.6	50.2	1.4	8.9	10	89.00	✓	

N3400  
Hyd. Fill.

4810	68.8	68.8	0.0	✓				
20	63.3	62.5	0.8	✓				
30	61.9	61.8	0.1	✓				
40	62.8	62.0	0.8	✓				
50	63.8	60.8	3.0	✓				
60	60.6	60.0	0.6	✓				
70	60.1	59.6	0.5	✓				
80	60.1	59.1	1.0	✓				

Cont.

N3400  
Cont. Hyd Fill

4890	59.6	58.6	1.0	✓				
4900	58.7	57.9	0.8	✓				
10	58.8	57.6	1.2	✓				
20	58.6	57.3	1.3	✓				
30	57.9	57.2	0.7	✓				
40	58.8	58.7	0.1	✓				
<u>50</u>	<u>56.5</u>	<u>56.5</u>	0.0	11.9	10	119.00	✓	

70	53.9	53.9	0.0	✓				
				0.2	10	2.00	✓	
80	53.5	53.1	0.4	✓				
				.55	5	2.75	✓	
85	53.7	53.0	0.7	✓				
				.75	5	3.75	✓	
90	53.9	53.1	0.8	✓				
				0.4	7	2.80	✓	
97	53.1	53.1	0.0	✓				
						130.30	✓	

N3390 + N3380

No Item 3 Excavation

N3370

D.S. Rock

4580	96.6	96.6	0.0	✓			
90	97.4	94.4	3.0	✓			
4600	97.9	95.4	2.5	✓			
10	00.4	00.4	0.0	✓			
20	05.3	04.5	0.8	✓			
30	04.9	04.5	0.4	✓			
40	05.6	05.4	0.2	✓			
50	06.0	06.0	0.0	✓	6.9	10	69.00 ✓

N3360

D.S. Rock

4580	97.1	97.1	0.0	✓			
90	98.9	97.9	1.0	✓			
4600	99.6	98.0	1.6	✓			

Cont.

N 3360

D.S. Rack

11

4610	04.3	01.2	3.1	✓			
20	05.8	04.1	1.7	✓			
30	06.7	04.1	2.6	✓			
40	07.9	06.0	1.9	✓			
50	08.2	08.2	0.0	✓			
60	08.7	08.0	0.7	✓			
<u>90</u>	08.6	08.6	0.0	✓	2.6	10	26.00 ✓
4710	06.3	06.3	0.0	✓			
20	06.3	05.7	0.6	✓			
30	05.6	05.3	0.3	✓			
40	04.6	04.1	0.5	✓			
50	01.3	01.3	0.0	✓	1.4	10	14.00 ✓
<u>4780</u>	96.9	96.9	0.0	✓			
90	94.6	93.0	1.6	✓			
4800	92.5	92.5	0.0	✓	1.6	10	16.00 ✓
							156.00 ✓

N 3360  
Hyd. Fill.

5140	88.7	88.7	0.0	✓			
			1.6	✓	5	8.00	✓
45	92.3	89.1	3.2	✓			
			3.2	✓	5	16.00	✓
50	92.8	89.6	3.2	✓			
60	91.9	89.7	2.2	✓			
70	90.7	90.1	0.6	✓			
80	90.9	87.9	3.0	✓	5.9	10	59.00
							83.00

N 3350

D.S. Rock

4580	97.4	97.4	0.0	✓			
90	99.4	97.2	2.2	✓			
4600	01.2	99.2	2.0	✓			
10	03.1	01.2	1.9	✓			
20	06.2	04.2	2.0	✓			
30	07.8	04.9	2.9	✓			
40	08.8	06.9	1.9	✓			

Cont

123

N 3350  
Cont. D.S. Rock

4650	09.9	08.3	1.6	✓			
60	10.9	08.1	2.8	✓			
70	10.3	09.7	0.6	✓			
80	09.9	09.7	0.2	✓			
90	10.5	10.5	0.0	✓	18.1	10	181.00
4710	10.7	10.7	0.0	✓			
20	09.2	08.1	1.1	✓			
30	08.9	08.9	0.0	✓	1.1	10	11.00
4760	04.5	04.5	0.0	✓			
70	02.8	02.3	0.5	✓			
80	00.6	00.2	0.4	✓			
90	98.4	96.7	1.7	✓			
4800	96.7	95.5	1.2	✓			
10	94.7	93.7	1.0	✓			
20	93.1	92.9	0.2	✓			
30	93.4	93.4	0.0	✓	5.0	10	50.00
							242.00

N 3350  
Hyd. Fill

5130	89.5	89.5	0.0			
				2.2	3	6.6
33	94.7	90.3	4.4			
				3.8	7	26.6
40	95.4	92.2	3.2			
				3.05	10	30.5
50	96.5	93.6	2.9			
				2.75	5	13.75
55	97.3	94.7	2.6			
				1.3	5	6.50
60	98.1	98.1	0.0			83.95

N 3340  
D.S. Rock

4600	00.4	00.4	00			
10	03.2	02.9	0.3			
20	06.4	03.2	3.2	1.9	10	19.00
				3.5	5	17.50
25	07.2	03.4	3.8			

N 3340  
D.S. Rock

4625	07.2	03.4	3.8			
				2.65	5	13.25
30	08.1	06.6	1.5			
40	10.2	06.5	3.7			
50	11.5	07.0	4.5			
60	11.9	10.6	1.3			
70	11.8	11.8	0.0	10.25	10	102.50
						152.25

Hyd. Fill

5120	88.2	88.2	0.0			
				.95	5	4.75
25	94.9	93.0	1.9			
				2.85	2	5.70
27	97.1	93.3	3.8			
				3.8	3	11.40
30	97.5	93.7	3.8			
				4.45	10	44.50
40	99.0	93.9	5.1			



N 3340  
Std. Fill.

5140	99.0	93.9	5.1	✓		
			3.2	✓	5	16.00
45	99.5	98.2	1.3	✓		
			2.75	✓	5	13.75
50	00.0	95.8	4.2	✓		
60	01.3	98.8	2.5	✓		
70	01.1	99.9	1.2	✓		
80	99.8	95.4	4.4	✓		
90	99.2	96.0	3.2	✓	11.8	10
					<u>118.00</u>	
					214.10	

U.S. Rock

5190	99.2	96.0	3.2	✓		
5200	98.5	96.3	2.2	✓		
10	96.1	96.1	0.0	✓		
20	97.6	97.6	0.0	✓		
30	05.9	03.8	2.1	✓		
40	09.9	08.4	1.5	✓		
50	10.1	09.1	1.0	✓		

Cont

14

Cont N 3340  
U.S. Rock

5260	10.3	10.0	0.3	✓		
70	11.7	11.7	0.0	✓	8.7	10
						87.00

N 3330

U.S. Rock

4610	05.8	05.8	0.0	✓		
			.65	✓	10	6.50
20	06.4	05.1	1.3	✓		
			1.85	✓	5	9.25
25	07.1	04.7	2.4	✓		
			1.2	✓	5	6.00
30	07.9	07.9	0.0	✓		
40	11.2	10.5	0.7	✓		
50	11.8	09.5	2.3	✓		
60	13.1	12.2	0.9	✓		
70	13.5	13.5	0.0	✓	3.9	10
						<u>39.00</u>
						147.75



N 3330

Hyd. Fill

4975	86.7	86.0	0.7	✓		
					0.85	5
						4.25
80	86.5	85.5	1.0	✓		
					0.5	10
						5.00
90	86.7	86.7	0.0	✓		
<hr/>						
5090	87.9	87.9	0.0			
					0.1	10
						1.00
5100	87.9	87.7	0.2	✓		
					0.3	10
						3.00
10	91.6	91.2	0.4	✓		
					0.4	4
					0.9	
						1.60
						3.60
14	93.1	92.7	0.4	✓		
					2.35	6
					2.85	
						14.10
20	99.2	94.9	4.3	✓		
					4.75	10
						47.50
30	00.8	95.6	5.2	✓		
					5.65	5
					5.15	
						28.25
						25.75
35	01.6	95.5	6.1	✓		
					5.1	

N 3330

16

Hyd. Fill

5135	01.6	95.5	6.1	✓		
					3.05	5
					2.55	
						15.25
						12.75
40	02.4	02.4	0.0	✓		
50	02.8	00.8	2.0	✓		
60	03.8	99.9	3.9	✓		
70	03.8	00.2	3.6	✓		
80	03.2	99.8	3.4	✓		
90	02.5	98.7	3.8	✓	14.8	10
						148.00
						725.60
						715.25

U.S. Rock

5190	02.5	98.7	3.8	✓		
5200	01.4	97.9	3.5	✓		
10	00.9	99.7	1.2	✓		
20	02.6	02.6	0.0	✓		
30	11.3	07.3	4.0	✓		
40	14.1	09.7	4.4	✓		
50	14.1	11.5	2.6	✓		
60	16.8	16.4	0.4	✓		

Cont

N 33 30  
 Cont. U.S. Rock.

5270	19.6	16.1	3.5	✓		
80	17.8	17.8	0.0	21.5	10	215.00 ✓

N 33 20  
 D.S. Rock

4630	09.6	09.6	0.0	✓		
40	10.6	10.4	0.2	✓		
50	13.3	12.9	0.4	✓		
60	13.9	13.7	0.2	✓		
70	14.7	14.7	0.0	0.8	10 ✓	8.00 ✓
						223.00

Hyd. Fill.

4750	14.4	14.4	0.0	✓		
60	13.1	12.1	1.0	✓		
70	11.2	09.7	1.5	✓		
80	10.7	09.8	0.9	✓		
90	09.0	09.0	0.0	3.4	10	34.00 ✓

N 33 20  
 Hyd. Fill.

4820	09.6	09.6	0.0	✓		
30	08.3	07.4	0.9	✓		
40	06.6	05.9	0.7	✓		
50	04.8	02.5	2.3	✓		
60	04.3	01.2	3.1	✓		
70	03.4	01.9	1.5	✓		
80	03.0	01.7	1.3	✓		
90	04.8	00.0	4.8	✓		
4900	02.1	00.9	1.2	✓		
10	02.1	01.3	0.8	✓		
20	03.2	02.4	0.8	✓		
30	03.8	02.3	1.5	✓		
40	04.6	03.5	1.1	✓		
50	03.1	03.1	0.0	✓		
60	02.1	97.9	4.2	✓		
70	01.7	93.1	8.6	✓		
80	99.4	90.8	8.6	37.1	10	371.00 ✓

To north → 405.00 (a)

N 3320

Hyd. Fill.

\* Use this area only for  
Volume to South. To North it  
is Item 11.

4980	99.4	90.8	8.6		
				10.4	104.00
90	00.5	88.3	12.2		
			265	13.25	79.50
96	00.6	86.3	14.3		
			309	15.4	15.40
97	00.6	84.1	16.5		
97	00.6	82.7	17.9		
				17.95	53.85
5000	00.7	82.7	18.0		
				18.8	56.40
03	00.8	81.2	19.6		
			324	16.2	113.40
10	00.9	88.1	12.8		
20	00.8	87.6	13.2		
30	01.7	87.7	14.0		

Cont

N 3320

18.

Cont. Hyd. Fill.

5040	01.1	88.1	13.0		
50	01.0	88.7	12.3		
60	01.2	88.2	13.0		
70	00.0	90.4	9.6		
80	99.1	91.5	7.6		
90	99.1	92.7	6.4		
5100	99.9	92.9	7.0		
				102.50	1025.00
10	00.9	00.9	0.0		1447.55
					104.80
					Less Area Item 7
					(b) 1342.75

Following is Regular Item 3.

5080	91.5	91.5	0.0		
90	92.7	91.3	1.4		
5100	92.9	92.0	0.9		
10	00.9	94.5	6.4		
20	01.9	98.0	3.9		
30	03.9	01.9	2.0		
40	06.4	06.4	0.0		
50	06.1	06.1	0.0		

Cont

N 3320

Cont Hyd. Fill

5160	04.7	03.4	1.3 ✓
70	06.7	02.6	4.1 ✓
80	06.6	02.2	4.4 ✓
90	05.7	03.9	1.8 ✓
5200	06.1	06.1	0.0 26.2 10 (C) 262.00 ✓

Note Area for vol to south = a+b+c  
 " for vol to North = a+c

U.S. Rock.

5200	06.1	06.1	0.0 ✓
10	07.8	06.0	1.8 ✓
20	10.6	10.4	0.2 ✓
30	14.4	10.8	3.6 ✓
40	16.7	11.9	4.8 ✓
50	20.3	15.0	5.3 ✓
60	21.1	19.6	1.5 ✓
70	26.0	24.2	1.8 ✓
80	28.4	25.6	2.8 ✓
90	22.8	22.8	0.0 21.80 10 218.00 ✓

N 3310

19

Hyd. Fill

4740	17.8	17.8	0.0 ✓
50	17.4	16.2	1.2 ✓
60	16.1	14.8	1.3 ✓
70	19.6	13.7	5.9 ✓
80	14.2	12.9	1.3 ✓
90	14.6	13.5	1.1 ✓
4800	13.2	12.9	0.3 ✓
10	12.7	12.2	0.5 ✓
20	12.4	11.7	0.7 ✓
30	12.1	11.5	0.6 12.6 10 126.00 ✓
			1.35 8 ✓ 10.80 ✓
38	13.0	10.9	2.1 ✓
			1.05 1 1.05 ✓
39	13.1	13.1	0.0 ✓
4849	10.1	10.1	0.0 ✓
			0.7 1 0.70 ✓
50	09.8	08.4	1.4 ✓
			1.05 10 10.50 ✓
60	08.9	08.2	0.7 ✓

N 3310  
Hyd. Fill.

4860	08.9	08.2	0.7 ✓		
				0.35 ✓ 1	0.35 ✓
61	08.8	08.8	0.0 ✓		
4873	07.9	07.9	0.0		
				1.15 ✓ 2	2.30 ✓
75	07.7	05.4	2.3 ✓		
				3.15 ✓ 5	15.75 ✓
80	07.8	03.8	4.0 ✓		
90	07.2	04.0	3.2 ✓		
4900	06.7	05.4	1.3 ✓		
10	07.0	05.1	1.9 ✓		
20	08.2	06.4	1.8 ✓	9.30 ✓ 10	93.00 ✓
				0.9 ✓ 1	0.90 ✓
21	08.3	08.3	0.0 ✓		
4927	09.2	09.2	0.0		
				2.0 ✓ 3	6.00 ✓
30	09.6	05.6	4.0 ✓		
				4.05 ✓ 10	40.50 ✓
40	08.8	04.7	4.1 ✓		

N 3310  
Hyd. Fill.

4940	08.8	06.9	1.9 ✓		
50	06.9	06.3	0.6 ✓		
60	07.1	03.4	3.7 ✓		
70	07.2	96.8	104 ✓		
80	06.8	95.2	11.6 ✓		
90	05.2	91.8	134 ✓	3395 ✓ 10	339.50 ✓
				277 ✓	13.85 ✓ 2
92	05.4	91.1	143 ✓		27.70 ✓
				355 ✓	17.75 ✓ 3
95	05.6	84.4	212 ✓		53.25 ✓
				439 ✓	21.45 ✓ 2
97	05.8	84.1	217 ✓		42.90 ✓
				442 ✓	22.4 ✓ 3
5000	06.1	83.0	231 ✓		67.20 ✓
				469 ✓	23.45 ✓ 3
03	05.8	82.0	238 ✓		70.35 ✓
				23.7 ✓ 2	47.40 ✓
05	05.6	82.0	236 ✓		

N 3310

Hyd. Fill.

5005	05.6	82.0	23.6 ✓		
			<sup>3.9</sup> 19.9 ✓	5 ✓	99.50 ✓
10	05.2	89.0	16.2 ✓		
			<sup>2.5</sup> 14.95 ✓	5 ✓	74.75 ✓
15	05.7	96.0	9.7 ✓		
			9.65 ✓	5 ✓	48.25 ✓
20	06.3	96.7	<sup>4.8</sup> 9.6 ✓		
30	06.3	97.4	8.9 ✓		
40	05.6	97.9	7.7 ✓		
50	05.2	97.6	7.6 ✓		
60	05.5	97.4	8.1 ✓		
70	05.2	98.7	6.5 ✓		
80	04.5	98.9	5.6 ✓		
90	03.9	98.8	5.1 ✓		
5100	03.8	97.8	6.0 ✓		
10	04.4	99.7	4.7 ✓		
20	04.8	00.4	4.4 ✓		
30	08.4	02.1	6.3 ✓		
40	09.1	07.1	<sup>1.0</sup> 2.0 ✓	76.70 10	767.00 ✓

Cont

N 3310

21

Hyd. Fill.

5140	09.1	07.1	2.0 ✓		
			1.25 ✓	5 ✓	6.25 ✓
45	09.8	09.3	0.5 ✓		
			<sup>2.4</sup> 1.2 ✓	5 ✓	6.00 ✓
50	10.5	08.6	<sup>0.95</sup> 1.9 ✓		
60	10.4	07.1	3.3 ✓		
70	10.2	06.2	4.0 ✓		
80	10.3	06.5	3.8 ✓		
90	09.5	09.5	0.0 ✓		
5200	09.3	08.0	1.3 ✓		
10	11.8	09.4	<sup>1.2</sup> 2.4 ✓	<sup>14.55</sup> 10	145.50 ✓

Less Area Item 7 = 2103.40 ✓

142.30 ✓

1961.10 ✓

U.S. Rock

5210	11.8	09.4	2.4 ✓		
20	13.4	11.8	1.6 ✓		
30	17.4	13.7	3.7 ✓		
40	19.5	14.2	5.3 ✓		



N 3310  
Cont U.S. Rock

5250	23.1	16.8	6.3	✓
60	24.7	19.2	5.5	✓
70	27.2	22.6	4.6	✓
80	29.9	24.8	5.1	✓
90	31.1	26.4	4.7	✓
				356.5 10 (a) 356.50 ✓

N 3300  
D.S. Rock

4640	20.1	20.1	0.0	✓
50	20.3	20.0	0.3	✓
60	20.5	19.4	1.1	✓
70	18.1	17.9	0.2	✓
80	16.4	16.4	0.0	✓
				1.6 10
				<u>16.00</u>

Following Area to be used to S. only.

Hyd. Fill.

To North it is Item 11.

5290	31.1	26.4	4.7	✓
				0.4 5.2 10 ✓ 52.00
5300	31.1	25.4	5.7	✓
				0.9 4.95 10 49.50 ✓
10	31.8	27.6	4.2	✓
				2.1 7 ✓ 14.70 ✓
17	32.7	32.7	0.0	✓
				(b) 116.20

4744	22.0	22.0	0.0	✓
				0.2 6 ✓ 1.20 ✓
50	21.4	21.0	0.4	✓
				0.2 4 ✓ 0.80 ✓
54	21.0	21.0	0.0	✓
64	20.3	20.3	0.0	✓
				0.5 6 ✓ 3.00 ✓
70	20.0	19.0	1.0	✓
				0.5 5 ✓ 2.50 ✓
75	20.9	20.9	0.0	✓

Note Area for Vol to South

= 0 + 6 to north 0

N 3300  
Hyd. Fill

4782	21.4	21.4	0.0	✓		
					1.55	6 ✓
88	20.0	16.9	3.1	✓	9.30	
					1.55	1 ✓
89	19.7	19.7	0.0	✓		
4839			0.0	✓		
					.45	1 ✓
40	15.8	14.9	0.9	✓	0.45	
					.45	6 ✓
46			0.0			
4850			0.0			
					0.6	10 ✓
60	14.7	13.5	1.2	✓	6.00	
					0.6	7 ✓
67			0.0			
4874			0.0			
					.55	6 ✓
80	12.1	11.0	1.1	✓	3.30	
					.55	3 ✓
83			0.0		1.65	

N 3300  
Hyd. Fill.

23

4895			0.0	✓		
					1.35	5 ✓
						6.75 ✓
4900	11.8	09.1	2.7	✓		
10	11.2	09.0	2.2	✓		
20	12.2	11.9	0.3	✓		
30	12.6	12.4	0.2	✓		
40	12.5	12.3	0.2	✓		
50	13.1	07.1	6.0	✓		
60	14.1	05.1	9.0	✓		
70	12.9	03.8	9.1	✓		
80	13.3	01.7	11.6	✓	34.15	10 ✓
					13.3	8 ✓
						341.50 ✓
						106.40 ✓
88	12.0	9.7.0	15.0	✓		
					17.2	1 ✓
						17.20 ✓
89	11.9	9.2.5	19.4	✓		
					19.4	1 ✓
						19.40 ✓
90	11.7	9.2.3	19.4	✓		
					19.45	3 ✓
						58.35 ✓
93	11.3	9.1.8	19.5	✓		

N 3300

Hyd. Fill.

4993	11.3	91.8	19.5 ✓		
			<sup>493</sup> 24.6 ✓	4 ✓	98.40 ✓
4997	10.9	81.2	29.7 ✓		
			<sup>509</sup> 28.45 ✓	3 ✓	85.35 ✓
5000	10.5	83.3	27.2 ✓		
			<sup>523</sup> 26.15 ✓	3 ✓	78.45 ✓
03	10.6	85.5	25.1 ✓		
			<sup>497</sup> 24.85 ✓	2 ✓	49.70 ✓
05	10.6	86.0	24.6 ✓		
			<sup>411</sup> 20.55 ✓	4 ✓	82.20 ✓
09	10.7	94.2	16.5 ✓		
			16.3 ✓	1 ✓	16.30 ✓
10	10.7	94.6	16.1 ✓		
			<sup>497</sup> 14.85 ✓	6 ✓	89.10 ✓
16	10.9	97.3	13.6 ✓		
			<sup>423</sup> 11.15 ✓	4 ✓	44.60 ✓
20	11.0	02.3	8.7 ✓		
			8.2 ✓	1 ✓	8.20 ✓
21	11.2	03.5	7.7 ✓		

N 3300

29

Hyd. Fill.

5021	11.2	03.5	7.7 ✓		
			<sup>169</sup> 8.45 ✓	9 ✓	76.05 ✓
5030	13.0	03.8	9.2 ✓		
40	10.2	05.3	4.9 ✓		
50	10.0	04.8	5.2 ✓		
60	09.8	04.2	5.6 ✓		
70	10.4	05.7	4.7 ✓		
80	09.3	04.7	4.6 ✓		
90	08.1	03.8	4.3 ✓		
5100	07.3	02.6	4.7 ✓		
10	07.6	03.0	4.6 ✓		
20	08.1	03.7	4.4 ✓		
30	10.0	05.1	4.9 ✓		
40	11.8	07.9	3.9 ✓	<sup>5445</sup> 10	544.50 ✓
			<sup>52</sup> 2.6 ✓	5 ✓	13.00 ✓
45	12.3	11.0	1.3 ✓		
			<sup>41</sup> 2.05 ✓	5 ✓	10.25 ✓
5150	12.9	10.1	2.8 ✓		
60	13.6	08.2	5.4 ✓		

Cont

N 3300  
Hyd Fill

51.70	13.7	09.0	4.7	✓
80	13.4	08.7	4.7	✓
90	12.9	09.6	3.3	✓
5200	13.9	09.6	4.3	✓
10	14.7	11.5	3.2	✓
Less Area Item				✓

254.00  
2036.35  
166.90  
1869.45

U. S. Rock.

5210	14.7	11.5	3.2	✓
20	18.5	13.7	4.8	✓
30	19.5	16.4	3.1	✓
40	21.7	17.5	4.2	✓
50	24.0	19.5	4.5	✓
60	26.6	21.9	4.7	✓
70	29.1	25.8	3.3	✓
75	30.7	27.7	3.0	✓
80	32.4	27.7	4.7	✓

245.50  
3.15 5  
15.75  
192.5

N 3300  
U. S. Rock

5280	32.4	27.7	4.7	✓
90	34.6	27.6	7.0	✓
5300	34.6	28.8	5.8	✓
06	35.3	29.6	5.7	✓
12			0.0	✓

5.85 10 ✓ 58.50  
6.4 10 ✓ 64.00  
5.75 6 ✓ 34.50  
2.85 6 ✓ 17.10  
454.60

N 3290

D S Rock.

4650	24.8	24.8	0.0	✓
60	25.8	25.8	0.3	✓
70	24.9	24.1	0.8	✓
80	19.9	19.9	0.0	✓

11.00 ✓

N 3290

D.S. Rock

4689			0.0		
			0.8	3	2.40
92	20.8	19.2	1.6		
			0.8	1	0.80
<u>93</u>			0.0		
4703	23.1	22.9	0.2		
			.15	7	1.05
10	24.2	24.1	0.1		
			0.05	10	0.50
20			0.0		15.75

Hyd. Fill.

4843			0.0		
			.55	7	3.85
50	20.2	19.1	1.1		
			0.8	10	8.00
60	20.5	20.0	0.5		
			.25	3	0.75
63			0.0		

N 3290

Hyd. Fill.

26

4876			0.0		
			1.0	4	4.00
80	22.9	20.9	2.0		
90	20.8	20.5	0.3		
4900	19.7	18.9	0.8		
10	17.8	14.9	2.9		
20	17.5	16.8	0.7		
30	19.4	19.2	0.2		
40	21.1	19.8	1.3		
50	18.3	13.4	4.9		
60	18.3	07.5	10.8		
70	17.7	05.9	11.8		
80	16.5	05.3	11.2	40.30	10
				403.00	
			11.25	3	33.75
83	16.4	05.1	11.3		
			13.25	7	92.75
90	16.3	01.1	15.2		
			16.0	4	64.00
94	15.5	98.7	16.8		

N 3290  
Hyd. Fill

4994	15.5	94.2	21.3	✓	
			480	22.7	3 ✓
97	15.4	91.3	24.1	✓	68.10
			501	25.05	3 ✓
5000	15.0	89.0	26.0	✓	75.15
			542	27.15	3 ✓
03	15.0	86.7	28.3	✓	
			438	21.9	5 ✓
08	15.0	99.5	15.5	✓	109.50
			1545	2	30.90
10	15.0	99.6	15.4	✓	
			15.4	2	30.80
12	15.2	99.8	15.4	✓	
			225	11.25	8 ✓
20	15.9	08.8	7.1	✓	90.00
			121	6.45	5 ✓
25	16.2	10.4	5.8	✓	32.25
			565	5	28.25
5030	16.5	11.0	5.5	✓	

Cont.

Cont

N 3290  
Hyd. Fill

5040	15.5	12.3	3.2	✓
50	15.7	13.5	2.2	✓
60	14.3	13.8	0.5	✓
70	13.1	13.1	0.0	✓
80	12.5	12.3	0.2	✓
90	11.8	11.0	0.8	✓
5100	10.7	09.3	1.4	✓
10	10.8	08.3	2.5	✓
20	11.2	07.9	3.3	✓
30	13.8	08.5	5.3	✓
40	15.6	11.6	4.0	✓
50	16.0	11.3	4.7	✓
60	16.3	11.5	4.8	✓
70	17.1	12.3	4.8	✓
80	15.8	15.8	0.0	✓
90	16.1	12.0	4.1	✓
5200	16.4	13.7	2.7	✓
10	16.3	15.8	0.5	✓
20	18.7	18.7	0.0	✓

Less Area Item 7

477.50 ✓  
1634.00  
~~160.00~~  
1474.00

N 3290  
U.S. Rock

5220	18.7	18.7	0.0	✓
30	21.4	19.8	1.6	✓
40	23.4	19.6	3.8	✓
50	26.1	22.2	3.9	✓
60	28.8	27.2	1.6	✓
70	31.7	27.6	4.1	✓
80	34.8	27.6	7.2	✓
90	36.7	28.7	8.0	✓
5300	37.7	31.7	6.0	✓
10	38.9	38.9	0.0	3620 10
				<u>362.00</u>

N 3280  
Hyd. Fill.

4812			0.0	
			.35	1 ✓
13	37.3	36.6	0.7	✓
			.35	7 ✓
20	35.5	35.5	0.0	2.45 ✓

N 3280  
Hyd. Fill.

4820	35.5	35.5	0.0	✓
30	33.7	31.8	1.9	✓
40	28.9	27.6	1.3	✓
50	24.4	23.5	0.9	✓
60	26.6	24.9	1.7	✓
70	26.2	26.2	0.0	5.80 10
4887			0.0	58.00
			0.1	3 ✓
				0.30 ✓
90	26.1	25.9	0.2	✓
4900	25.5	25.4	0.1	✓
10	23.9	22.1	1.8	✓
20	24.0	23.0	1.0	✓
30	25.1	24.6	0.5	✓
40	24.1	24.0	0.1	✓
50	23.1	23.1	0.0	✓
60	22.1	14.2	7.9	✓
70	22.4	08.6	13.8	✓
80	21.8	07.6	14.2	32.40 10
			14.35	5 ✓
85	21.5	07.0	14.5	✓
				324.00
				71.75

N3280

Hyd. Fill

4985	21.5	07.0	14.5 ✓		
			223 16.15 5 ✓	80.75	
90	21.3	03.5	17.8 ✓		
			401 20.05 7 ✓	140.35	
97	21.2	98.9	223 ✓		
			472 23.6 3 ✓	70.80	
5000	21.2	96.3	249 ✓		
			521 26.05 3 ✓	78.15	
03	21.0	93.8	272 ✓		
			288 24.4 3 ✓	73.20	
06	20.8	99.2	21.6 ✓		
			205 20.25 4 ✓	81.00	
10	20.6	01.7	18.9 ✓		
			358 17.9 19.25 3 ✓	53.70 57.75	
13	20.7	03.8	16.9 19.6		
			275 14.75 16.1 2 ✓	29.50 32.20	
15	20.9	08.3	12.6 ✓		
			11.6 5 ✓	58.00	
20	21.1	10.5	10.6 ✓		

N3280

Hyd. Fill

29

5020	21.1	10.5	10.6 ✓		
			126 9.8 6 ✓	58.80	
5026	21.2	12.2	9.0 ✓		
			88 4 ✓	35.20	
30	21.2	12.6	8.6 ✓		
40	20.3	12.8	7.5 ✓		
50	19.2	13.6	5.6 ✓		
60	17.5	14.8	2.7 ✓		
70	16.9	14.6	2.3 ✓		
80	16.6	14.6	2.0 ✓		
90	14.9	14.9	0.0 ✓		
<u>5110</u>	13.8	13.8	0.0 ✓		
20	15.6	13.9	1.7 ✓		
30	18.2	13.4	4.8 ✓		
40	19.4	13.4	6.0 ✓		
50	19.2	14.7	4.5 ✓		
60	19.5	14.1	5.4 ✓		
70	20.1	15.8	4.3 ✓		
80	21.0	16.5	4.5 ✓		

Cont





N 3270

Hyd. Fill

4900	309	30.4	0.5	✓		
10	307	29.4	1.3	✓		
20	299	29.2	0.7	✓		
30	295	27.9	1.6	✓		
40	294	28.5	0.9	4.30	10	43.00
			0.9	7		6.30
47	293	28.4	0.9			
			0.45	1		0.45
<u>48</u>			0.0			
56			0.0			
			0.55	4		2.20
60	276	26.5	1.1	✓		5000
			2.05	6		12.30
66	26.8	23.8	3.0	✓		
			8.1	4		32.40
70	26.2	13.0	13.2	✓		
			27.9	13.95	10	139.50
80	25.9	11.2	14.7	✓		
			20.8	15.4	9	138.60
89	26.0	09.9	16.1	✓		

N 3270

31

Hyd. Fill

4989	26.0	09.9	16.1	✓			
			338	16.9	1	16.90	
90	26.0	08.3	17.7	✓			
			402	20.1	3	60.30	
93	25.9	03.4	22.5	✓			
			470	23.5	3	70.50	
96	25.9	01.4	24.5	✓			
			515	25.75	1	25.75	
97	25.9	98.9	27.0	✓			
				27.25	3	81.75	
			5000	25.8	98.3	27.5	
			502	28.1	3	84.30	
				03	26.5	97.8	28.7
			579	28.95	2	57.90	
				05	27.0	97.8	29.2
			518	25.9	1	25.90	
				06	27.2	04.6	22.6
					20.6	4	82.40
				10	28.2	09.6	18.6

N. 3270

Hyd. Fill

5010 28.2 09.6 186 ✓

31.7 15.85 5 ✓

15 27.2 14.1 131 ✓

25.3 12.65 5 ✓

20 26.2 14.0 122 ✓

30 26.2 13.4 128 ✓

40 23.7 13.5 102 ✓

50 22.7 13.9 88 ✓

60 21.6 15.0 66 ✓

70 20.8 14.8 60 ✓

80 19.8 16.0 38 ✓

90 19.0 15.8 32 ✓

5100 18.4 16.8 1.6 ✓

10 18.3 17.4 0.9 ✓

20 18.4 18.4 0.0 ✓

30 20.5 20.2 0.3 ✓

40 22.0 20.8 1.2 ✓

50 21.9 20.9 1.0 ✓

60 23.1 19.8 3.3 ✓

Cont.

N 3270

32

Cont.

Hyd. Fill

5170 24.6 20.7 3.9 ✓

80 25.5 25.3 0.2 ✓

90 23.7 23.7 0.0 ✓

63.25 Less Area Item 7

U.S. Rock

5239 0.0 ✓

0 0.35 1 ✓ 0.35

40 27.4 26.7 0.7 ✓

50 32.1 27.6 4.5 ✓

60 34.0 27.8 6.2 ✓

70 37.1 28.7 8.4 ✓

80 39.3 33.3 6.0 ✓

90 41.9 36.2 5.7 ✓ 28.30 10 283.00

2.85 8 ✓ 22.80

98 43.8 43.8 0.0 ✓ 306.15

N 3260  
D.S. Rock

4670	38.3	38.3	0.0	✓
80	34.4	34.2	0.2	✓
90	28.5	28.1	0.4	✓
4700	26.7	26.4	0.3	75 10 ✓
			0.15	3 ✓
03	26.9	26.9	0.0	

Hyd. Fill

4760	40.3	40.3	0.0	✓
70	40.4	39.6	0.8	✓
80	41.4	39.4	2.0	1.8 10 ✓
			1.0	4 ✓
<u>84</u>	42.0	42.0	0.0	
4808	46.0	46.0	0.0	
			0.1	2 ✓
10	46.3	46.1	0.2	✓
20	45.3	45.1	0.2	✓
30	46.1	44.1	2.0	✓

N 3260  
Hyd. Fill

4830	46.1	44.1	2.0	3.3 10 ✓	23.00 33.00
				1.0	1 ✓
<u>31</u>	46.0	46.0	0.0	✓	
60	41.9	41.0	0.9	✓	
				0.45	6 ✓
<u>66</u>	40.0	40.0	0.0		2.70
72	38.6	38.6	0.0		
				0.7	8 ✓
80	38.2	36.8	1.4	✓	5.60
				0.7	2 ✓
<u>82</u>	39.7	39.7	0.0	✓	1.40
99	37.0	37.0	0.0		
				1.0	4 ✓
4900	37.0	36.6	0.4	✓	
				0.2	1 ✓
				0.45	10 ✓
<u>10</u>	36.4	35.9	0.5	✓	4.50
46	36.4	36.4	0.0		
				0.25	4 ✓
50	36.4	35.9	0.5	✓	1.00

N3260

Hyd. Fill

4950	36.4	35.9	0.5 ✓		
				0.25 ✓ 10	2.50 ✓
60	33.3	33.3	0.0		
				1.1 ✓ 8 ✓	8.80 ✓
68	32.0	29.8	2.2 ✓		
				4.3 ✓ 2 ✓	8.60 ✓
70	31.7	25.3	6.4 ✓		
				9.55 ✓ 10 ✓	95.50 ✓
80	30.4	17.7	12.7 ✓		
				13.45 ✓ 7 ✓	94.15 ✓
87	30.5	16.3	14.2 ✓		
				16.1 ✓ 3 ✓	48.30 ✓
90	30.6	12.6	18.0 ✓		
				22.55 ✓ 7 ✓	157.85 ✓
97	31.0	03.9	27.1 ✓		
				27.2 ✓ 3 ✓	81.60 ✓
5000	31.1	03.8	27.3 ✓		
				27.3 ✓ 3 ✓	81.90 ✓
03	31.0	03.7	27.3 ✓		

N3260

34

Hyd. Fill

5003	31.0	03.7	27.3 ✓		
				27.15 ✓ 4 ✓	108.60 ✓
07	30.8	03.8	27.0 ✓		
				24.65 ✓ 5 ✓	123.25 ✓
12	30.6	08.3	22.3 ✓		
				19.25 ✓ 2 ✓	38.50 ✓
14	30.5	14.3	16.2 ✓		
				15.6 ✓ 6 ✓	93.80 ✓
20	30.3	15.3	15.0 ✓		
30	29.0	14.1	13.9 ✓		
40	27.3	15.6	11.7 ✓		
50	26.6	16.0	10.6 ✓	384.10	384.00 ✓
				9.1 ✓ 4 ✓	36.40 ✓
54	26.4	18.8	7.6 ✓		
				7.25 ✓ 6 ✓	43.50 ✓
60	26.1	19.2	6.9 ✓		
70	26.3	23.7	2.6 ✓		
80	24.1	22.3	1.8 ✓		
90	24.7	24.7	0.0 ✓		

Cont.

N 3260

N 3260

35

Cont. Hyd. Fill

5100	23.3	22.8	0.5	✓
10	21.9	18.5	3.4	✓
20	22.5	18.8	3.7	✓
30	22.9	20.2	2.7	✓
40	24.7	21.3	3.4	✓
50	25.3	22.5	2.8	✓
60	26.0	22.9	3.1	✓
70	27.8	23.6	4.2	✓
80	28.1	24.0	4.1	✓
90	28.0	23.9	4.1	✓
5200	27.1	23.7	3.4	✓
10	25.4	23.8	1.6	✓
20	24.4	24.4	0.0	✓

Less Area Item 7 =

448.50  
 1977.15  
 167.80  
 1749.35

U.S. Rock

5230	25.8	25.8	0.0	✓
40	28.9	26.7	2.2	✓
50	34.0	27.8	6.2	✓

Cont.

Cont. U.S. Rock

5260	37.7	29.2	8.5	✓
70	40.6	34.4	6.2	✓
80	42.3	36.0	6.3	✓
90	45.3	38.9	6.4	✓
			32.6	10
			3.2	5
95	46.6	46.6	0.0	✓

326.00

16.00

342.00

N3250

D.S. Rock

4749	437	437	00	✓		✓
				0.15	1	0.15
50	44.1	43.8	0.3	✓		
				0.25	10	2.50
60	47.3	47.1	0.2	✓		
				0.1	4	0.40
64	47.3	47.3	0.0			3.05

Hyd. Fill

4781	49.1	49.1	0.0			✓
				1.6	1	1.60
82	49.0	45.8	3.2	✓		
				2.55	8	20.40
90	48.8	46.9	1.9	✓		
				2.7	10	13.50
4800	50.6	49.8	0.8	✓		
				0.4	1	0.40
<u>01</u>	51.2	51.2	0.0			

N3250

Hyd. Fill

36

4827	52.5	52.5	0.0			✓
				0.6	1	0.60
28	52.4	51.2	1.2	✓		
				1.1	2	2.20
30	52.4	51.4	1.0	✓		
				1.5	7	10.50
37	54.3	52.3	2.0	✓		
				1.0	2	2.00
<u>39</u>	54.8	54.8	0.0	✓		
4895	42.5	42.5	0.0			✓
				0.25	5	1.25
4900	42.6	42.1	0.5	✓		
10	41.6	41.0	0.6	✓		
20	40.6	40.4	0.2	✓		
30	41.8	41.5	0.3	✓		
40	40.8	39.8	1.0	✓		
50	40.5	38.7	1.8	✓		
60	40.9	40.4	0.5	✓		
70	41.1	39.1	2.0	565	10	56.50

N. 3250

Hyd. Fill

4970	41.1	39.1	2.0 ✓		
				1.2 4 ✓	4.80 ✓
74	38.7	38.3	0.4 ✓		
				5.35 1 ✓	5.35 ✓
75	38.1	27.8	10.3 ✓		
				11.35 5 ✓	56.75 ✓
80	35.2	22.8	12.4 ✓		
				13.45 10 ✓	134.50 ✓
90	35.1	20.6	14.5 ✓		
				15.8 3 ✓	47.40 ✓
93	35.1	18.0	17.1 ✓		
93	35.1	08.7	26.4 ✓		
				26.35 4 ✓	105.40 ✓
97	35.0	08.7	26.3 ✓		
				26.25 3 ✓	78.75 ✓
5000	35.0	08.8	26.2 ✓		
				26.0 3 ✓	78.00 ✓
03	34.8	09.0	25.8 ✓		
				25.5 3 ✓	76.50 ✓
06	34.7	09.5	25.2 ✓		

N 3250

Hyd. Fill

37

5006	34.7	09.5	25.2 ✓		
				21.1 4 ✓	84.40 ✓
10	34.5	17.5	17.0 ✓		
				16.15 4 ✓	64.60 ✓
14	34.1	18.8	15.3 ✓		
				15.55 6 ✓	93.30 ✓
20	33.4	17.6	15.8 ✓		
30	32.4	15.9	16.5 ✓		
40	31.6	16.9	14.7 ✓		317.50 ✓
				13.65 8 ✓	109.20 ✓
48	32.0	19.4	12.6 ✓		
				11.8 2 ✓	23.60 ✓
50	32.1	21.1	11.0 ✓		
				10.0 2 ✓	20.00 ✓
52	31.9	22.9	9.0 ✓		
				9.1 8 ✓	72.80 ✓
60	31.2	22.0	9.2 ✓		
				8.25 5 ✓	41.25 ✓
65	30.6	23.3	7.3 ✓		
				3.65 5 ✓	18.25 ✓
70	30.0	30.0	0.0 ✓		



N 3250

Hyd. fill.

5090	29.7	29.7	0.0	✓
5100	29.3	28.6	0.7	✓
10	26.9	21.5	5.4	✓
20	26.3	20.8	5.5	✓
30	25.9	21.7	4.2	✓
40	28.1	21.5	6.6	✓
50	28.7	22.9	<del>5.8</del> 4.8	
60	29.9	24.4	5.5	✓
70	31.5	26.0	5.5	✓
80	31.2	26.1	5.1	✓
90	30.7	25.5	5.2	✓
5200	30.6	24.6	6.0	✓
10	29.9	24.9	5.0	✓
20	28.2	25.0	3.2	✓
Less Area Item 7				
U.S. Rock				
20	28.2	25.0	3.2	✓
30	27.6	25.6	2.0	✓
40	30.6	28.8	1.8	✓
50	36.6	29.5	7.1	✓

621.00 ✓

2162.30 ✓

160.60

2001.70 ✓

N 3250

U.S. Rock

5260	639.3	34.5	4.8	✓
70	435	37.0	6.5	✓
80	470	42.7	4.3	✓
			2.15	✓
86	481	48.1	0.0	✓

259.50 ✓

12.90 ✓

272.40 ✓

N 3240

DS. Rock

4770	653.7	53.7	0.0	✓
80	56.1	55.7	0.4	✓
90	56.4	56.4	0.0	✓

4.00 ✓

Hyd. Fill.

4852	59.1	59.1	0.0	✓
			1.5	8 ✓
60	58.1	55.1	3.0	✓
			1.5	8 ✓
68	53.2	53.2	0.0	✓

12.40 ✓

12.40 ✓

N 3240

Hyd. Fill.

H920	46.6	46.6	0.0	✓	
30	46.5	43.1	3.4	✓	
40	45.8	45.2	0.6	✓	
50	47.4	46.4	1.0	✓	
60	46.3	45.4	0.9	✓	
70	46.3	46.0	0.3	✓	
80	41.5	33.2	8.3	✓	103.50
			17.8	8.9	1 ✓
81	41.3	31.8	9.5	✓	
			22.1	11.05	9 ✓
90	39.4	26.8	12.6	✓	99.45
			27.8	13.9	4 ✓
94	39.7	24.5	15.2	✓	55.60
			46.3	23.15	2 ✓
96	39.8	08.7	31.1	✓	46.30
			42.7	31.35	4 ✓
5000	40.1	08.5	31.6	✓	125.40
				31.6	3 ✓
03	40.0	08.4	31.6	✓	94.80

N 3240

Hyd. Fill

39

5003	40.0	08.4	31.6	✓	
			57.9	28.95	4 ✓
07	39.8	13.5	26.3	✓	115.80
			45.3	22.65	3 ✓
10	39.7	20.7	19.0	✓	67.95
20	37.8	21.8	16.0	✓	
30	36.5	21.9	14.6	✓	
40	37.1	24.1	13.0	✓	
50	36.8	26.6	10.2	✓	
60	35.5	29.1	6.4	✓	
70	34.4	29.8	4.6	✓	
80	35.9	35.9	0.0	✓	743.00
5105	32.0	32.0	0.0	✓	
				20.5	10 ✓
10	30.9	26.8	4.1	✓	20.50
20	30.5	24.8	5.7	✓	
30	31.5	27.4	4.1	✓	
40	32.2	26.8	5.4	✓	

Cont.

N 3240

Hyd. Pill

5150 33.4 28.2 52 ✓

60 34.6 28.2 64 ✓

70 34.6 29.0 56 ✓

80 35.4 28.8 66 ✓

90 35.1 29.7 54 ✓

5200 34.5 29.1 54 ✓

10 33.6 29.1 45 ✓

541.00

2047.00 ✓

Less Area Item 7 193.60

1853.40 ✓

U.S. Rock

5210 33.6 29.1 45 ✓

4.1 10 ✓

41.00 ✓

20 32.0 28.3 37 ✓

1.85 6 ✓

11.10 ✓

26 30.5 30.5 0.0 ✓

36 31.3 31.3 0.0 ✓

0.95 4 ✓

3.80 ✓

40 32.4 30.5 1.9 ✓

N 3240

U.S. Rock

5240 32.4 30.5 1.9 ✓

50 38.3 30.5 7.8 ✓

60 42.1 36.0 6.1 ✓

70 46.0 41.4 4.6 ✓

80 48.6 48.6 0.0 ✓

194.50 ✓

250.40 ✓

N 3230

D.S. Rock

4680 47.7 47.7 0.0 ✓

2.1 6 ✓

12.60 ✓

86 40.4 36.2 4.2 ✓

2.1 4 ✓

8.40 ✓

90 35.6 35.6 0.0 ✓

4700 36.4 36.2 0.2 ✓

10 38.6 38.5 0.1 ✓

20 42.1 42.1 0.0 ✓

3.00 ✓

24.00 ✓

N 3230

Hyd. Pill.

4840	67.6	67.6	0.0		
50	67.6	66.7	0.9	1	9.00
60	65.1	65.1	0.0	1	
=					
93	63.5	63.5	0.0	1	
			1.0	2	2.00
95	62.7	60.7	2.0	1	
			1.0	5	5.00
4900	60.8	60.8	0.0		
=					
22	51.0	51.0	0.0		
			0.9	1	0.90
23	51.2	49.4	1.8	1	
			2.65	7	18.55
30	52.5	49.0	3.5	1	
40	50.6	50.6	0.0	1	
50	51.2	50.0	1.2	1	
60	51.4	47.1	4.3	1	
70	50.0	45.6	4.4	1	94.50

N 3230

Hyd. Pill

41

4970	50.0	45.6	4.4	1	
			3.5	8	28.40
78	47.4	44.8	2.6	1	
			5.4	2	10.80
80	46.7	38.5	8.2	1	
			8.75	10	87.50
90	44.5	35.2	9.3	1	
			13.0	3	39.00
93	45.4	28.7	16.7	1	
			18.65	4	74.60
97	46.7	26.1	20.6	1	
			20.45	3	61.35
5000	47.6	27.3	20.3	1	
			19.55	3	58.65
03	47.3	28.5	18.8	1	
			18.45	7	129.15
10	46.6	28.5	18.1	1	
			18.2	3	54.60
13	45.2	26.9	18.3	1	

N 3230

Hyd. Pill.

5013 45.2 26.9 18.3 ✓

16.3 7 ✓

20 42.1 27.8 14.3 ✓

30 42.8 26.5 16.3 ✓

40 41.4 31.9 9.5 ✓

50 42.1 34.9 7.2 ✓

60 40.8 36.7 4.1 ✓

70 42.5 42.5 0.0 ✓

5105 36.3 36.3 0.0 ✓

1.85 5 ✓

10 35.3 31.6 3.7 ✓

20 35.1 29.8 5.3 ✓

30 36.0 30.1 5.9 ✓

40 36.1 31.3 4.8 ✓

50 37.5 32.6 4.9 ✓

60 38.4 33.4 5.0 ✓

70 39.0 34.4 4.6 ✓

80 39.0 35.7 3.3 ✓

114.10 ✓

442.50 ✓

9.25 ✓

N 3230

Hyd. Pill.

42

90 39.0 36.7 2.3 ✓ 396.00 ✓

5200 38.9 35.6 3.3 ✓ 1635.85 ✓

Less Area Item 7 125.80

1510.05 ✓

U. S. Rock

5200 38.9 35.6 3.3 ✓

10 38.1 34.1 4.0 ✓

20 36.6 33.4 3.2 ✓

30 34.7 32.2 2.5 ✓

40 32.9 31.8 1.1 ✓

50 39.6 36.3 3.3 ✓

60 44.8 38.7 6.1 ✓

188.00 ✓

6.3 5 ✓ 31.50 ✓

65 47.8 41.3 6.5 ✓

5.05 5 ✓ 25.25 ✓

70 50.8 47.2 3.6 ✓

1.8 4 ✓ 7.20 ✓

74 52.0 52.0 0.0 ✓ 251.95 ✓

N 3220  
D.S. Rock

4690	645.1	645.1	0.0	✓	
			2.55	3 ✓	7.65 ✓
93	42.6	37.5	5.1	✓	
			3.55	5 ✓	17.75 ✓
98	38.6	36.6	2.0	✓	
			1.0	2 ✓	2.00 ✓
4700	378	37.8	0.0	✓	
10	41.1	40.9	0.2	✓	
20	47.3	46.9	0.4	✓	
30	51.4	51.4	0.0	✓	
60	62.3	62.3	0.0	✓	
70	62.8	61.1	1.7	✓	
80	62.7	62.7	0.0	✓	23.00 ✓
92	66.4	66.4	0.0	✓	
			1.0	3 ✓	3.00 ✓
95	66.7	64.7	2.0	✓	
			2.15	5 ✓	10.75 ✓
4800	67.0	64.7	2.3	✓	

N 3220  
D.S. - Rock

4800	67.0	64.7	2.3	✓	
10	69.0	67.2	1.8	✓	
20	71.1	69.6	1.5	✓	44.50 ✓
30	73.4	73.4	0.0	✓	108.65 ✓
"					
Hyd. Pill.					
4830	73.4	73.4	0.0	✓	
40	72.0	70.9	1.1	✓	
50	71.9	71.9	0.0	✓	11.00 ✓
4935	69.3	69.3	0.0	✓	
			0.45	5 ✓	2.25 ✓
40	68.7	67.8	0.9	✓	
			0.45	1 ✓	0.45 ✓
41	58.5	58.5	0.0	✓	
48	56.8	56.8	0.0	✓	
			1.0	2 ✓	2.00 ✓
50	56.3	54.3	2.0	✓	
			3.1	10 ✓	31.00 ✓
60	55.9	51.7	4.2	✓	

N 3220

Hyd. Pill

H960	55.9	51.7	4.2 ✓	
			3.5 ✓ 6 ✓	21.00
66	55.4	52.6	2.8 ✓	
			5.4 ✓ 4 ✓	21.60
70	55.1	47.1	8.0 ✓	
			9.1 ✓ 2 ✓	18.20
72	54.5	44.3	10.2 ✓	
			9.75 ✓ 8 ✓	78.00
80	52.3	43.0	9.3 ✓	
			8.55 ✓ 10 ✓	85.50
90	50.2	42.4	7.8 ✓	
			268 13.4 ✓ 7 ✓	93.80
97	49.8	30.8	19.0 ✓	
			218 20.9 ✓ 3 ✓	62.70
5000	49.6	26.8	22.8 ✓	
			292 24.6 ✓ 3 ✓	73.80
03	49.2	22.8	26.4 ✓	
			431 21.55 ✓ 3 ✓	64.65
06	48.9	32.2	16.7 ✓	

N 3220

Hyd. Pill

44

5006	48.9	32.2	16.7 ✓	
			342 17.1 ✓ 4 ✓	68.40
10	48.4	30.9	17.5 ✓	
20	49.5	36.6	12.9 ✓	
30	48.9	44.8	4.1 ✓	
40	46.8	44.9	1.9 ✓	
50	45.3	45.3	0.0 ✓	276.50
78	46.2	46.2	0.0 ✓	
			0.05 ✓ 2 ✓	0.10
80	46.2	46.1	0.1 ✓	
			0.05 10 ✓	0.50
90	45.5	45.5	0.0 ✓	
			1.25 10 ✓	12.50
5100	42.8	40.3	2.5 ✓	
			3.65 ✓ 4 ✓	14.60
04	42.0	37.2	4.8 ✓	
			9.9 4.95 ✓ 6 ✓	29.70
10	40.7	35.6	5.1 ✓	

N 3220

Hyd. Fill

5110	40.7	35.6	5.1	✓
20	39.8	33.2	6.6	✓
30	40.4	35.2	5.2	✓
40	41.6	38.9	2.7	✓
50	42.8	41.1	1.7	✓
60	42.4	42.1	0.3	✓
70	42.1	40.3	1.8	✓
80	42.7	39.0	3.7	✓
90	43.0	38.7	4.3	✓
5200	42.7	37.5	5.2	✓

314.50

1282.75

Less Area Item 7 143.00

U.S. Rock 1139.75

5200	42.7	37.5	5.2	✓
10	42.1	36.4	5.7	✓
20	41.0	35.2	5.8	✓
30	39.5	34.2	5.3	✓
40	38.0	35.5	2.5	✓
50	43.7	35.2	8.5	✓
60	48.9	40.2	8.7	✓
70	53.1	53.1	0.0	✓

391.00

N 3210

D.S. Rock

45

4772	66.1	66.1	0.0	✓
75	66.7	65.0	1.7	✓
80	67.5	66.0	1.5	✓
90	73.4	73.4	0.0	✓
4800	72.2	69.6	2.6	✓
16	73.0	72.6	0.4	✓
20	73.3	72.5	0.8	✓
30	76.0	74.1	1.9	✓
40	77.6	77.3	0.3	✓

0.85

2.55

1.6

8.00

Hyd. Fill

40	77.6	77.3	0.3	✓
50	78.5	77.6	0.9	✓
60	76.7	76.4	0.3	✓
61	76.6	76.6	0.0	✓
69	76.1	76.1	0.0	✓
70	76.0	75.5	0.5	✓

0.15

12.00

0.15

0.25

0.25



N 3210  
Hyd. Fill

4870	76.0	75.5	0.5 ✓		
			0.25 ✓ 4 ✓	1.00	
74	75.7	75.7	0.0 ✓		
4905	67.9	67.9	0.0 ✓		
			0.3 ✓ 5 ✓	1.50	
10	68.9	68.3	0.6 ✓		
20	67.6	66.9	0.7		
30	64.7	64.1	0.6 ✓	13.00	
			0.3 ✓ 5 ✓	1.50	5000
35	64.3	64.3	0.0		
43	63.5	63.5	0.0		
			0.9 ✓ 7 ✓	6.30	
50	62.7	60.9	1.8 ✓		
			2.95 ✓ 10 ✓	29.50	
60	59.9	55.8	4.1 ✓		
			3.5 ✓ 6 ✓	21.00	
66	59.1	56.2	2.9 ✓		
			6.5 ✓ 3 ✓	19.50	
70	58.6	48.5	10.1 ✓		

N 3210  
Hyd. Fill

46

4970	58.6	48.5	10.1 ✓		
80	58.5	43.5	15.0 ✓		
90	54.0	41.6	12.4 ✓		262.50 ✓
			13.6 ✓ 4 ✓		54.40 ✓
94	53.8	39.0	14.8 ✓		
			17.35 ✓ 3 ✓		52.05 ✓
97	53.7	33.8	19.9 ✓		
			20.8 ✓ 3 ✓		62.40 ✓
			21.7 ✓		
			22.7 ✓ 3 ✓		68.10 ✓
03	53.8	30.1	23.7 ✓		
			18.9 ✓ 1 ✓		18.90 ✓
04	53.9	39.8	14.1 ✓		
			14.7 ✓ 6 ✓		88.20 ✓
10	54.3	39.0	15.3 ✓		
			15.45 ✓ 2 ✓		30.90 ✓
12	54.4	38.8	15.6 ✓		
			13.35 ✓ 2 ✓		26.70 ✓
14	54.5	43.4	11.1 ✓		

N 3210

Hyd. Pill

5014 54.5 43.4 11.1 ✓

10.8 6 ✓

64.80 ✓

Less Item 7 Area

20 54.9 44.4 10.5 ✓

30 54.0 44.9 <sup>9.1</sup>  
10.1 ✓

40 52.4 45.1 7.3 ✓

50 50.0 45.6 4.4 ✓

60 49.3 45.9 3.4 ✓

70 49.8 45.7 4.1 ✓

80 50.0 45.4 4.6 ✓

90 49.6 44.5 4.9 ✓

5100 46.2 43.9 2.3 ✓

10 45.2 43.2 2.0 ✓

20 44.7 43.2 1.7 ✓

30 45.7 42.7 3.0 ✓

40 46.2 42.4 <sup>3.8</sup>  
4.8 ✓

50 46.1 42.4 3.7 ✓

60 45.2 41.5 3.7 ✓

70 45.1 40.6 4.5 ✓

80 45.6 42.1 3.5 ✓

90 47.6 41.4 6.2 ✓

743.50  
~~763.50~~

N 3210

Hyd. Pill

47

1578.15  
~~1596.15~~

128.0

1450.15 ✓

U. S. Rock

5190 47.6 41.4 6.2 ✓

5200 47.1 39.1 8.0 ✓

10 46.3 37.5 8.8 ✓

20 45.4 36.2 9.2 ✓

30 43.4 38.1 5.3 ✓

40 41.8 36.1 5.7 ✓

50 44.2 38.9 5.3 ✓

60 51.7 44.6 7.1 ✓

70 57.1 57.1 0.0 ✓

525.00 ✓

N 3200

D.S. Rock

4790	750	75.0	0.0
4800	756	73.9	1.7 ✓
10	77.3	76.7	0.6 ✓
20	77.9	76.5	1.4 ✓
30	80.0	80.0	0.0 ✓
40	81.5	78.9	2.6 ✓
50	81.6	79.8	1.8 ✓

72.00 ✓

Hyd. Fill

50	81.6	79.8	1.8 ✓
60	81.8	80.3	1.5 ✓
70	82.3	82.3	0.0 ✓
80	79.1	79.1	0.0 ✓
90	78.9	78.3	0.6 ✓
4900	74.6	74.5	0.1 ✓
10	75.3	75.1	0.2 ✓
20	73.1	66.9	6.2 ✓
30	70.8	65.3	5.5 ✓
40	68.7	62.5	6.2 ✓
50	66.5	61.4	5.1 ✓

cont

N 3200

Hyd. Pill

4960	64.0	62.4	1.6 ✓	271.00 ✓
			5.7 8 ✓	45.60 ✓
68	63.8	54.0	9.8 ✓	
			10.4 2 ✓	20.80 ✓
70	63.7	52.7	11.0 ✓	
			12.55 7 ✓	87.85 ✓
77	62.2	48.1	14.1 ✓	
			14.2 3 ✓	42.60 ✓
80	61.5	47.2	14.3 ✓	
			14.65 10 ✓	146.50 ✓
90	60.1	45.1	15.0 ✓	
			19.9 5 ✓	99.50 ✓
			29.8 14.9 5 ✓	74.50 ✓
95	59.4	34.6	24.8 ✓	
			24.55 5 ✓	122.75 ✓
			39.1 19.55 5 ✓	97.75 ✓
5000	58.6	34.3	24.3 ✓	
			24.1 5 ✓	120.50 ✓
			43.2 23.1 5 ✓	115.50 ✓
05	58.0	34.1	23.9 ✓	
			40.7 20.35 5 ✓	101.75 ✓
10	57.5	40.7	16.8 ✓	

cont.



N 3190

D.S. Rock

4805	680.3	80.3	0.0	✓		
					1.25	5 ✓
10	81.5	79.0	2.5	✓		
20	83.0	82.0	1.0	✓		
30	85.9	84.9	1.0	✓		
40	88.6	81.6	7.0	✓		
50	85.5	83.8	1.7	✓		
60	87.0	82.8	4.2	✓		
60	87.6	82.8	4.2	✓		
70	87.0	84.9	2.1	✓		
80	85.8	85.8	0.0	✓		
					140.50	
					145.50	
					151.75	5000
					146.75	
					42.00	
					47.00	
4908	79.9	79.9	0.0	✓		
					1.75	2 ✓
					3.50	
10	79.6	76.1	3.5	✓		
20	77.8	72.7	5.1	✓		
30	75.9	71.3	4.6	✓		
40	73.8	65.8	8.0	✓		
50	73.0	63.6	9.4	✓		
60	69.6	62.1	7.5	✓		
70	68.4	61.1	7.3	✓		

Con't

N 3190

Hyd. Pill.

50

4980	684	59.6	8.8	✓		
90	65.4	52.0	13.4	✓		591.50 ✓
					28.9	14.45 3 ✓
93	65.3	49.8	15.5	✓		43.35 ✓
					22.4	21.2 4 ✓
97	65.1	38.2	26.9	✓		84.80 ✓
						26.85 3 ✓
						79.55 ✓
5000	65.0	38.2	26.8	✓		
						26.65 4 ✓
						106.60 ✓
04	64.7	38.2	26.5	✓		
					4.44	22.2 3 ✓
						66.60 ✓
07	64.5	46.6	17.9	✓		
					3.08	15.4 5 ✓
						77.00 ✓
12	63.4	50.5	12.9	✓		
					2.43	12.15 7 ✓
						85.05 ✓
19	62.6	51.2	11.4	✓		
						11.8 1 ✓
						11.80 ✓
20	62.5	50.3	12.2	✓		
					2.73	13.65 5 ✓
						68.25 ✓
25	61.8	46.7	15.1	✓		

N 3190

Hud Pill.

5025	61.8	46.7	15.1	✓	
			287	14.35	5 ✓
30	61.1	47.5	13.6	✓	
			12.65		
			25	13.15	7
37	60.4	48.7	11.7	✓	
			12.7		
			10.6		
			22	11.1	3 ✓
40	60.1	50.6	9.5	✓	
			7.35	✓	6 ✓
46	59.5	54.3	5.2	✓	
			5.35	✓	4 ✓
50	59.1	53.6	5.5	✓	
60	59.3	52.9	6.4	✓	
70	59.1	52.6	6.5	✓	
			6.1	✓	7
77	58.3	52.6	5.7	✓	
			4.8	✓	3
80	58.0	54.1	3.9	✓	
90	57.4	55.0	2.4	✓	
5100	56.4	57.7	4.7	✓	
Cont.					

N 3190

Hud Pill.

51

5110	550	52.0	3.0	✓	
20	54.1	51.7	2.4	✓	
30	53.4	51.7	1.7	✓	
40	53.6	51.3	2.3	✓	
50	53.0	49.3	3.7	✓	
60	53.6	48.0	5.6	✓	
70	53.1	45.9	7.2	✓	
80	53.4	44.7	8.7	✓	
	Less Hem. 7 Area				
	L.S. Rock				
80	53.4	44.7	8.7	✓	
90	53.8	45.1	8.7	✓	
5200	55.0	46.7	8.3	✓	
10	55.2	48.5	6.7	✓	
20	54.4	49.0	5.4	✓	
30	51.8	45.2	6.6	✓	
40	49.6	42.2	7.4	✓	
50	48.5	44.8	3.7	✓	
60	55.3	54.5	0.8	✓	
62	56.4	56.4	0.0	✓	

393.00 ✓  
 2101.70  
 2091.70  
 170.80

1930.90  
 1920.90

515.50 ✓

0.80 ✓

516.30 ✓

N 3180

D. S. Rock

4800	84.0	84.0	0.0	✓
10	84.5	84.2	0.3	✓
20	86.0	85.9	0.1	✓
30	88.0	87.2	0.8	✓
40	88.9	88.4	0.5	✓
50	90.0	88.1	1.9	✓
60	89.2	89.2	0.0	✓

36.00

Hyd. Fill.

60	89.2	89.2	0.0	✓
70	90.1	90.0	0.1	✓
80	90.0	89.6	0.4	✓
90	89.5	89.2	0.3	✓
4900	89.9	86.0	3.9	✓
10	84.2	83.4	0.8	✓
20	81.4	80.2	1.2	✓
30	79.3	77.6	1.7	✓
40	79.0	75.3	3.7	✓
50	78.5	71.9	6.6	✓
60	73.5	69.1	4.4	✓

Con't.

N 3180

Hyd. fill.

52

4970	73.0	64.0	9.0	✓
80	72.8	62.8	10.0	✓
			10.85	8 ✓
88	71.8	60.1	11.7	✓
			2.45	12.25 2 ✓
90	71.5	58.7	12.8	✓
			3.23	16.15 7 ✓
97	70.4	50.9	19.5	✓
			3.76	18.8 3 ✓
5000	70.0	51.9	18.1	✓
			3.50	17.5 3 ✓
03	69.8	52.9	16.9	✓
			2.97	14.85 2 ✓
05	69.6	56.8	12.8	✓
			2.47	12.35 5 ✓
10	69.3	57.4	11.9	✓
20	67.6	58.7	8.9	✓
30	65.8	59.7	6.1	✓
			6.0	2 ✓
32	65.8	59.9	5.9	✓

371.00

86.80

24.50

113.05

56.40

52.50

29.70

61.75

179.00

12.00

N 3180

Hyd. Fill

5032	65.8	59.9	5.9	✓	
			10.4	7.2	8 ✓
40	66.0	57.5	8.5	✓	
50	64.6	59.6	5.0	✓	
60	63.8	60.2	3.6	✓	
70	62.0	60.2	1.8	✓	
80	61.6	61.5	0.1	✓	
90	60.3	60.0	0.3	✓	149.00
					148.80
			3.2	2 ✓	6.40
92	60.1	54.0	6.1	✓	
			6.1	8 ✓	48.80
5100	59.4	53.3	6.1	✓	
			6.35	10 ✓	63.50
10	58.8	52.2	6.6	✓	
			10.4	7.2	9 ✓
19	58.3	50.5	7.8	✓	64.80
			11.5	5.75	1 ✓
					5.75
20	58.3	54.6	3.7	✓	
30	59.1	53.0	6.1	✓	

cont.

N 3180

Hyd. Fill

53

5140	59.1	51.3	7.8	✓	
50	57.9	50.5	7.4	✓	
60	59.5	51.5	8.0	✓	
70	58.0	50.2	7.8	✓	
Less Item 7 Area					

350.50  
 1733.05  
 112.60

1620.45 ✓

U.S. Rock

70	58.0	50.2	7.8	✓	
80	57.3	51.4	5.9	✓	
90	58.4	52.0	6.4	✓	
5200	59.5	53.1	6.4	✓	
10	59.9	53.8	6.1	✓	
20	59.6	53.9	5.7	✓	
30	56.9	51.4	5.5	✓	
40	54.0	48.1	5.9	✓	
50	51.9	51.9	0.0	✓	

458.00 ✓



N 3170  
D S Rock

4810	691.0	690.7	0.3	✓
20	937	91.9	1.8	✓
30	935	91.2	2.3	✓
40	937	92.9	0.8	✓
50	94.6	92.4	2.2	✓
60	93.6	92.7	0.9	✓
70	94.1	92.8	1.3	✓

88.00

Hyd Fill

70	94.1	92.8	1.3	✓
80	93.6	93.6	0.0	✓
90	92.6	92.6	0.0	✓
4900	93.0	91.3	1.7	✓
			1.2	4
04	91.6	90.9	0.7	✓
			2.2	1
05	91.2	87.5	3.7	✓
			3.05	5
10	89.4	87.0	2.4	✓
			1.7	10
20	87.0	86.0	1.0	✓

15.00

4.80

2.20

15.15

17.00

N 3170  
Hyd Fill

54

4920	87.0	86.0	1.0	✓
			0.5	10
30	85.2	85.2	0.0	✓
4955	82.3	82.3	0.0	✓
			4.1	5
60	82.3	74.1	8.2	✓
70	78.6	68.9	9.7	✓

0.5 10

5.00

4.1 5

20.50

17.9 89.5 10

89.50

11.45 2

22.90

13.2

13.0 8

104.00

12.8

12.3 8

98.40

11.8

12.0 2

24.00

12.2

13.3 4

53.20

14.4

18.95 1

18.95

23.5

95

77.1

53.6



N 3170  
Hyd. Fill

N 3160  
D.S. Rock

56

5110	63.5	57.6	5.9		
20	62.9	55.4	7.5		
30	63.7	55.0	8.7		
40	63.4	53.2	10.2		
50	62.2	54.7	7.5		
60	62.2	55.7	6.5	40.1	
Less Item 7 Area				39.1	10
				401.00	
				391.00	
				144.40	

U.S. Rock

1506.55

60	62.2	55.7	6.5		
70	61.0	56.5	4.5		
80	61.5	56.8	4.7		
90	62.0	58.3	3.7		
5200	62.6	58.8	3.8		
10	63.3	58.7	4.6		
20	64.4	57.6	6.8		
30	63.4	55.8	7.6		
40	58.8	54.4	4.4		
50	55.9	55.9	0.0	43.35	10
				433.50	

4820	95.7	95.6	0.1		
30	97.4	96.6	0.8		
40	98.0	98.0	0.0		
50	99.2	97.0	2.2		
60	99.9	97.3	2.6		
70	00.6	99.4	1.2		
80	98.8	97.7	1.1	7.40	10
				74.00	

Hyd. Fill

80	98.8	97.7	1.1		
90	98.0	94.7	3.3		
4900	97.9	94.0	3.9		
10	95.9	93.7	2.2		
20	93.0	92.6	0.4		
30	93.4	92.3	1.1		
40	90.3	90.3	0.0		
50	87.4	87.2	0.2		
60	86.1	86.1	0.0	11.65	10
				116.50	



N 3160

U.S. Rock

5160 65.6 60.6 5.0

70 65.6 61.6 4.0

80 66.3 62.5 3.8

90 66.8 63.0 3.8

5200 67.6 63.3 4.3

10 67.5 63.6 3.9

20 67.8 63.1 4.7

27 67.4 67.4 0.0

N 3150

D.S. Rock

4880 707.1 07.1 0.0

84 06.1 03.0 3.1

90 04.6 00.5 4.1

N 3150  
Hyd Fill

58

4890 04.6 00.5 4.1

4900 03.6 96.5 7.1

10 01.9 98.4 3.5

20 00.0 97.3 2.7

30 99.5 93.2 6.3

34 98.0 93.2 4.8

34<sup>7</sup> 97.8 97.8 0.0

54 93.6 93.6 0.0

56 93.0 88.3 4.7

60 91.8 91.8 0.0

70 89.2 88.5 0.7

72 88.8 80.3 8.5

78 87.7 78.1 9.6

246.5 10 246.50

235.7 16.45

262.95

6.20

21.60

27.80

18.50 10

5.55 4

2.4 0.7

2.35 2

2.35 4

0.35 10

4.6 2

9.05 6

185.00

22.20

1.68

4.70

9.40

3.50

9.20

54.30



N 3150  
U.S. Rock

5140	71.4	68.2	3.2	2.2	10	22.00
50	70.9	69.7	1.2			
				0.6	8.5	5.10
58 <sup>5</sup>	71.0	71.0	0.0			
49	72.5	72.5	0.0			
				0.1	1	0.10
80	72.6	72.4	0.2			
				0.1	5	0.50
85	72.5	72.5	0.0			
5210	71.7	71.7	0.0			
20	71.2	69.7	1.5			
30	70.8	67.7	3.1			
40	69.3	66.7	2.6			
50	67.1	65.8	1.3			
60	65.8	65.8	0.0	8.5	10	85.00
						112.70

N 3140  
D.S. Rock

60

4870	09.3	09.3	0.0			
80	08.7	04.6	4.1			
90	09.0	03.5	5.5	6.85	10	68.50
Hyd. Fill						
90	09.0	03.5	5.5			
4900	08.2	01.7	6.5			
10	07.4	02.4	5.0			
20	08.5	08.5	0.0			
30	04.2	98.1	6.1			
40	03.0	01.6	1.4			
50	00.4	99.9	0.5	22.00	10	220.00
				0.25	2	0.50
52	99.6	99.6	0.0			
72 <sup>1/2</sup>	92.4	92.4	0.0			
				3.95	2.4	9.48
75	91.8	83.9	7.9			
				8.15	5	40.75
80	90.5	82.1	8.4			
				8.55	2	17.10
82	90.1	81.4	8.7			

N 3140.

Hyd. Fill

4982 90.1 81.4 8.7

10.2 8

81.60

12.55 2

25.10

90 88.3 76.6 11.7

12.05 1

12.05

7.8 8

62.40

91 88.4 76.0 12.4

16.4 4

65.60

2.7 4.2

11.34

95 88.6 68.2 20.4

22.45 2

44.90

44<sup>2</sup> 84.9 84.9 0.047<sup>5</sup> 84.6 84.6 0.0

97 88.8 64.3 24.5

25.3 3

75.90

50 84.4 81.3 3.1

1.55 2.5

3.87

5000 89.0 62.9 26.1

26.7 3

80.10

60 82.7 77.4 5.3

70 80.9 75.8 5.1

03 88.8 61.5 27.3

23.95 7

167.65

80 80.1 73.8 6.3

90 79.9 75.6 4.3

10 88.2 67.6 20.6

17.8 10

178.00

5100 78.9 74.1 4.8

10 78.5 72.2 6.3

20 83.5 68.5 15.0

14.95 10

149.50

20 77.2 71.1 6.1

30 76.6 70.0 6.6

56.70 10

567.00

30 86.7 71.8 14.9

40 76.0 69.3 6.7

812.84

172.60

50 75.9 68.6 7.3

1640.24

Loss Item 7 Area

N 3140

Hyd. Fill.

61

5030 86.7 71.8 14.9

12.55 2

25.10

32 86.4 76.2 10.2

7.8 8

62.40

40 85.3 79.9 5.4

2.7 4.2

11.34

44<sup>2</sup> 84.9 84.9 0.047<sup>5</sup> 84.6 84.6 0.0

1.55 2.5

3.87

50 84.4 81.3 3.1

60 82.7 77.4 5.3

70 80.9 75.8 5.1

80 80.1 73.8 6.3

90 79.9 75.6 4.3

5100 78.9 74.1 4.8

10 78.5 72.2 6.3

20 77.2 71.1 6.1

30 76.6 70.0 6.6

56.70 10

567.00

40 76.0 69.3 6.7

812.84

172.60

50 75.9 68.6 7.3

1640.24

Loss Item 7 Area



N 3140

U.S. Rock

5150 75.9 68.6 7.3

60 75.9 68.0 7.9

70 80.6 69.3 11.3

80 76.5 70.7 5.8

90 76.0 72.7 3.3

5200 76.4 74.7 1.7

10 76.9 72.6 4.3 35.80 10 358.00

5.75 7

40.25

17 76.3 71.1 7.2

398.25

N 3130

D.S. Rock

A883 713.7 13.7 0.0

0.63

1.80

86 13.4 12.2 1.2

1.75 4

7.00

90 13.0 10.7 2.3

2.85 10

28.50

A900 11.8 08.4 3.4

37.30

N 3130

Hyd. Fill

62

H900 11.8 08.4 3.4

10 11.8 07.3 4.5

20 10.7 04.9 5.8

30 07.7 02.4 5.3

40 07.1 03.4 3.7

50 04.3 01.5 2.8

60 01.8 93.7 8.1

70 99.6 91.8 7.8

80 97.3 86.4 10.9

90 93.5 82.9 10.6 55.90 10 559.00

12.25 5

61.25

95 95.0 81.1 13.9

21.75 2

43.50

97 95.8 66.2 29.6

29.8 3

89.40

5000 96.8 66.8 30.0

29.45 3

88.35

03 96.4 67.5 28.9

27.45 2

54.90

05 96.0 70.0 26.0

N 3130  
Hyd. Fill.

5005	96.0	70.0	26.0		
				22.45 5	112.25
10	95.3	76.4	18.9		
				18.0 1	18.00
11	94.8	77.7	17.1		
				15.45 9	139.05
20	91.0	77.2	13.8		
				10.15 10	101.50
30	90.8	84.3	6.5		
				3.85 3	11.55
33	91.1	89.9	1.2		
				0.85 7	5.95
40	91.8	91.3	0.5		
50	89.2	85.2	4.0		
60	86.5	82.2	4.3		
70	85.7	80.1	5.6		
80	85.0	78.3	6.7		
90	85.0	77.5	7.5		
5100	84.0	76.3	7.7		

Can't.

N 3130  
Hyd. Fill.

5110	83.1	75.3	7.8		
20	82.9	72.6	10.3		
30	81.7	72.2	9.5		
40	81.0	71.8	9.2	68.25 10	682.50
Less Item 7 Area					1967.20
U.S. Rock					184.00
40	81.0	71.8	9.2		1783.20
				9.25 10	92.50
50	80.6	71.3	9.3		
				7.55 10	75.50
60	80.2	74.4	5.8		
				5.25 8	42.00
68	80.4	75.7	4.7		
				2.55 2	5.10
70	80.4	80.0	0.4		
80	81.6	78.2	3.4		
90	81.6	76.8	4.8		
5200	81.4	75.4	6.0		
10	81.3	74.0	7.3	18.05 10	180.50

395.60

N 3120  
D.S. Rocks

N3120 Hyd Fill

64.

4891 <sup>L</sup>	18.0	18.0	00			
				2.6	3.9	10.14
95	17.4	12.2	5.2			
				5.45	5	27.25
4900	16.6	10.9	5.7			
1				6.0	10	<u>60.00</u>
10	16.0	09.7	6.3			97.39

4994	98.9	87.7	11.2			
				25.5	12.75	3
97	98.9	84.6	14.3			
				32.0	16.3	3
5000	98.8	80.5	18.3			
				40.0	20.1	3
03	98.4	76.5	21.9			

Hyd Fill

10	16.0	09.7	6.3			
						12.6
20	14.0	07.6	6.4			
						25.20
30	12.6	06.5	6.1			
						9.3
40	11.4	04.5	6.9			
						18.60
50	08.0	03.1	4.9			
						8.75
60	06.0	98.7	7.3			
						70.00
70	04.6	96.9	7.7			
						9.5
80	03.6	92.6	11.0			
						19.00
90	99.0	88.5	10.5	58.70	10	587.00
						11.1
						5.55
						6
94	98.9	87.7	11.2	10.85	4	43.40
						28

						56.2
						18.1
						5
08	97.6	83.3	14.3			
						12.6
10	97.3	86.4	10.9			
						9.3
						2
12	97.2	89.5	7.7			
						8.75
						8
20	97.0	87.2	9.8			
						9.5
						2
22	96.6	87.4	9.2			
						11.1
						5.55
						6
28	95.5	93.6	1.9			
						33.30

N 3120  
Hyd. Fill.

N 3120  
U.S. Rock

65

5028 95.5 93.6 1.9

5160 85.8 82.8 3.0

0.95 1

0.95

70 86.0 81.2 4.8

29 95.3 95.3 0.0

80 85.8 80.4 5.4 14.10 10

141.00

40 94.2 92.2 2.0

4.7 7

32.90

50 93.1 88.9 4.2

87 86.1 80.1 6.0

60 92.8 86.6 6.2

3.0 3

9.00

70 91.9 85.2 6.7

90 86.3 86.3 0.0

182.90

80 89.7 85.0 4.7

90 88.7 83.3 5.4

N 3110

5100 87.9 84.0 3.9

D.S. Rock

10 87.5 83.6 3.9

4895 21.5 21.5 0.0

20 87.0 83.4 3.6 388.00 10

0.85 5

4.25

Less Item 7 Area

1423.40  
75.32

4900 21.0 19.3 1.7

1348.08

1.8 10

18.00

U.S. Rock

10 19.7 17.8 1.9

22.25

20 87.0 83.4 3.6

30 86.1 84.7 1.4

40 85.6 85.6 0.0

50 85.9 85.5 0.4

N 3110

Hyd. Fill.

1910	19.7	17.8	1.9	
20	19.1	14.9	4.2	
30	17.6	10.3	7.3	
40	15.2	08.3	6.9	
50	13.9	06.5	7.4	
60	11.9	03.9	8.0	
70	08.7	02.0	6.7	
80	06.4	99.0	7.4	
90	05.7	92.5	13.2	55.45 1.0
			14.3	4
94	05.3	89.9	15.4	
			14.15	3
97	04.9	92.0	12.9	
			14.25	3
5000	04.6	89.0	15.6	
			16.05	3
03	04.4	87.9	16.5	
			13.45	7
10	04.0	93.6	10.4	

N 3110  
Hyd. Fill

66

5010	04.0	93.6	10.4	
			9.95	2
				19.90
12	03.8	95.3	8.5	
			7.4	5
				37.06
17	03.4	97.1	6.3	
			6.5	3
				19.50
20	03.1	96.4	6.7	
			6.95	2
				13.90
22	03.1	95.9	7.2	
			3.6	7.8
				28.08
29 <sup>8</sup>	03.0	03.0	0.0	
37 <sup>2</sup>	01.1	01.1	0.0	
			1.2	2.3
				2.76
40	00.6	98.2	2.4	
50	98.8	93.5	5.3	
60	96.5	93.8	2.7	
70	95.6	92.9	2.7	
80	95.1	92.5	2.6	
90	92.7	90.6	2.1	

N 3110  
Hyd. Fill.

5100 92.6 90.0 2.6

10 92.9 90.3 2.6 2059 10

Less Item 7 Area

205.00  
1165.34  
99.29

1066.05 H925

U.S. Rock

10 92.9 90.3 2.6

20 91.5 89.6 1.9

30 91.8 88.7 3.1

40 90.8 87.2 3.6

50 90.1 85.7 4.4

60 90.5 83.3 7.2

70 90.7 82.3 8.4 2560 10

4.2 4

74 90.9 90.9 0.0

256.00

16.80

272.80

N 3100  
D.S. Rock

67

D.S. Rock =

0.00

Hyd. Fill

24.0 24.0 0.0

088 5

425

30 22.7 21.0 1.7

40 20.2 12.6 7.6

50 18.6 11.7 6.9

60 16.9 08.7 8.2

70 15.8 08.8 7.0

80 11.6 04.2 7.4 3425 10

8.2 7

342.50

57.40

87 10.1 01.1 9.0

9.8 3

29.40

90 09.5 98.9 10.6

12.9 7

90.30

97 09.1 93.9 15.2

15.05 3

45.15

5000 09.0 94.1 14.9

N 3100  
Hyd Fill

N 3100  
Hyd Fill.

5000 09.0 94.1 14.9

148 3

44.40

5080 99.3 99.3 0.0

90 97.7 97.2 0.5

03 09.0 94.3 14.7

12.95 7

90.65

5100 97.6 95.2 2.4

10 97.3 93.9 3.4 46 10

46.00

10 08.9 97.7 11.2

9.7 4

38.80

Less Item 7 Area

74.35

14 08.7 00.5 8.2

6.1 4

24.40

U.S. Rock

10 97.3 93.9 3.4

18 08.5 04.5 4.0

4.0 2

8.00

20 97.5 91.7 5.8

20 08.5 04.5 4.0

4.0 10

40.00

30 96.6 90.2 6.4

40 95.3 89.4 5.9

30 08.5 04.5 4.0

2.5 10

25.00

50 95.2 89.7 5.5 22.55 10

225.50

40 05.5 04.5 1.0

0.5 3.6

1.80

57 95.3 95.3 0.0

2.75 7

19.25

43<sup>6</sup> 04.9 04.9 0.0









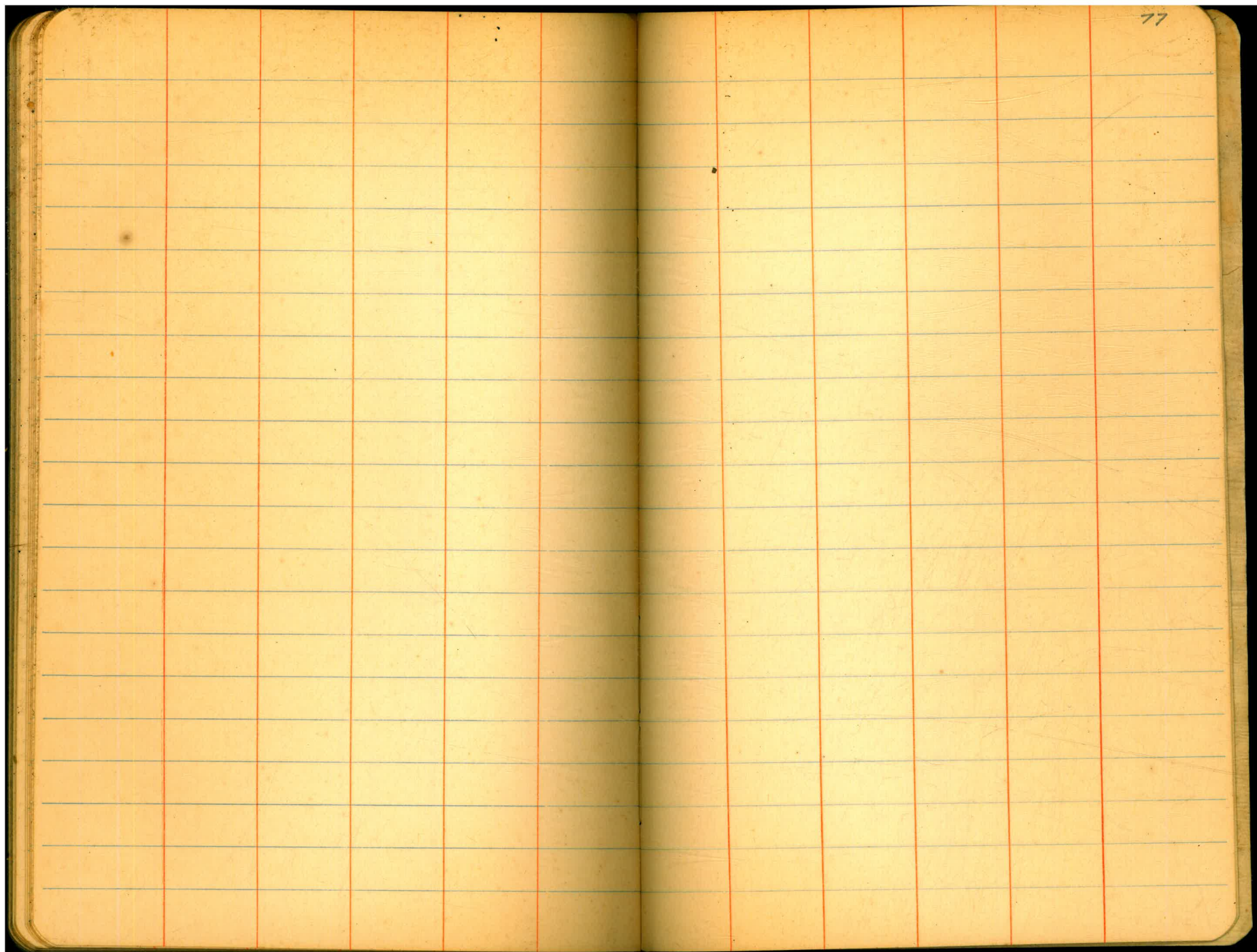
The image shows an open notebook with two facing pages. Both pages are cream-colored and feature light blue horizontal ruling. Vertical red lines create margins on both pages. The right page is numbered '72' in the top right corner. The pages are otherwise blank, with no handwriting or printed text.

















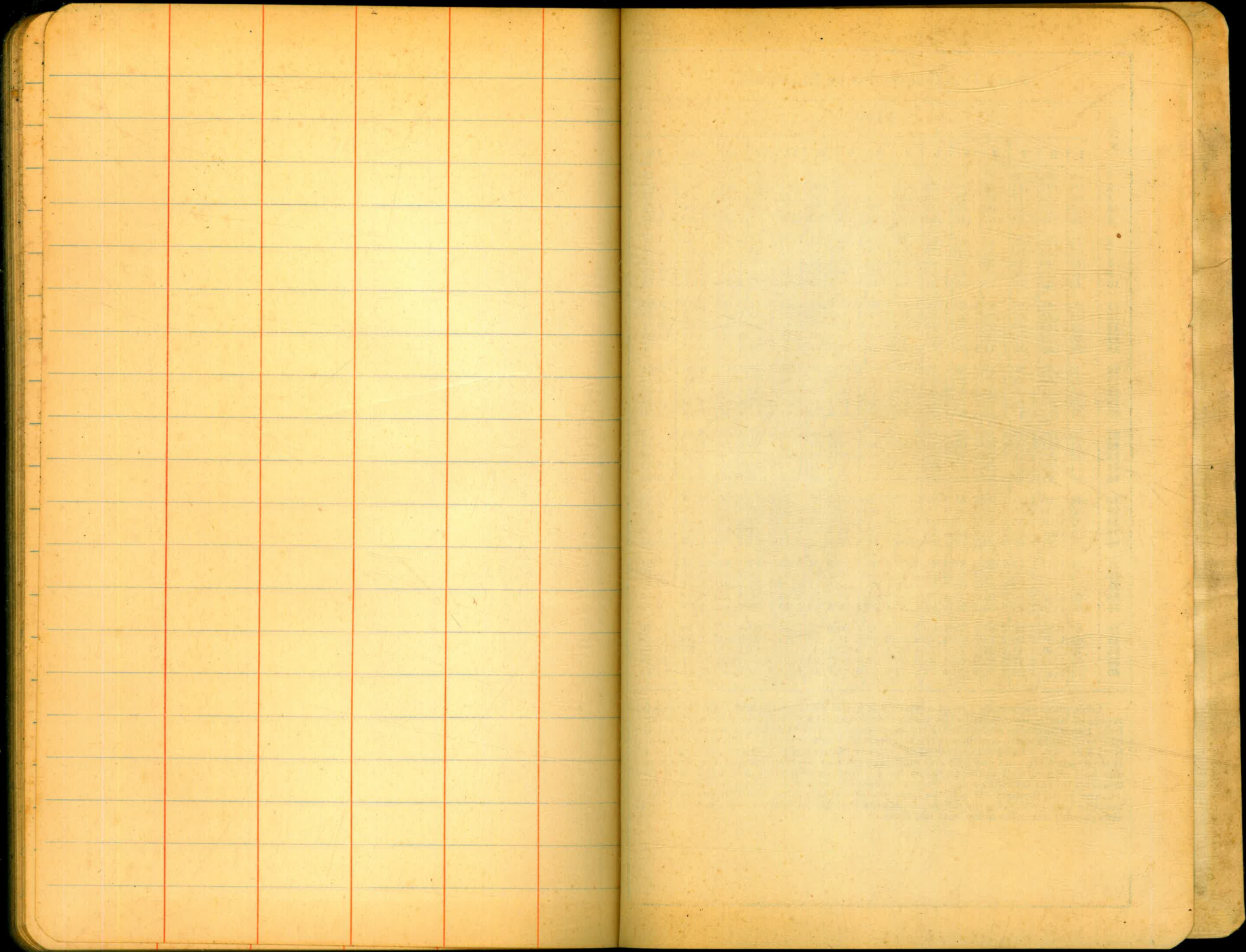


TABLE IX.—CALCULATION OF EARTHWORK.

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.  $= 1.43 + .028 + .089 = 1.597$  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  $\frac{1}{2}$  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 1 1/2.  
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  $41.9 + (20 - 16) \div 2$  or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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