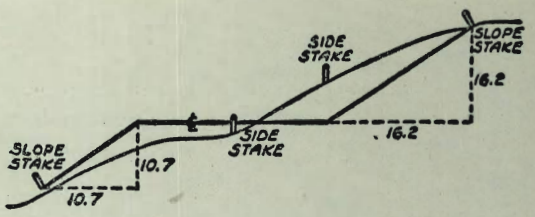


Distances from Side Stakes for Cross-Sectioning

Slope 1 to 1. Roadway of Any Width

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0
1	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	1
2	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	2
3	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	3
4	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	4
5	5.00	5.10	5.20	5.30	5.40	5.50	5.60	5.70	5.80	5.90	5
6	6.00	6.10	6.20	6.30	6.40	6.50	6.60	6.70	6.80	6.90	6
7	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90	7
8	8.00	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90	8
9	9.00	9.10	9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90	9
10	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	10
11	11.00	11.10	11.20	11.30	11.40	11.50	11.60	11.70	11.80	11.90	11
12	12.00	12.10	12.20	12.30	12.40	12.50	12.60	12.70	12.80	12.90	12
13	13.00	13.10	13.20	13.30	13.40	13.50	13.60	13.70	13.80	13.90	13
14	14.00	14.10	14.20	14.30	14.40	14.50	14.60	14.70	14.80	14.90	14
15	15.00	15.10	15.20	15.30	15.40	15.50	15.60	15.70	15.80	15.90	15
16	16.00	16.10	16.20	16.30	16.40	16.50	16.60	16.70	16.80	16.90	16
17	17.00	17.10	17.20	17.30	17.40	17.50	17.60	17.70	17.80	17.90	17
18	18.00	18.10	18.20	18.30	18.40	18.50	18.60	18.70	18.80	18.90	18
19	19.00	19.10	19.20	19.30	19.40	19.50	19.60	19.70	19.80	19.90	19
20	20.00	20.10	20.20	20.30	20.40	20.50	20.60	20.70	20.80	20.90	20
21	21.00	21.10	21.20	21.30	21.40	21.50	21.60	21.70	21.80	21.90	21
22	22.00	22.10	22.20	22.30	22.40	22.50	22.60	22.70	22.80	22.90	22
23	23.00	23.10	23.20	23.30	23.40	23.50	23.60	23.70	23.80	23.90	23
24	24.00	24.10	24.20	24.30	24.40	24.50	24.60	24.70	24.80	24.90	24
25	25.00	25.10	25.20	25.30	25.40	25.50	25.60	25.70	25.80	25.90	25
26	26.00	26.10	26.20	26.30	26.40	26.50	26.60	26.70	26.80	26.90	26
27	27.00	27.10	27.20	27.30	27.40	27.50	27.60	27.70	27.80	27.90	27
28	28.00	28.10	28.20	28.30	28.40	28.50	28.60	28.70	28.80	28.90	28
29	29.00	29.10	29.20	29.30	29.40	29.50	29.60	29.70	29.80	29.90	29
30	30.00	30.10	30.20	30.30	30.40	30.50	30.60	30.70	30.80	30.90	30
31	31.00	31.10	31.20	31.30	31.40	31.50	31.60	31.70	31.80	31.90	31
32	32.00	32.10	32.20	32.30	32.40	32.50	32.60	32.70	32.80	32.90	32
33	33.00	33.10	33.20	33.30	33.40	33.50	33.60	33.70	33.80	33.90	33
34	34.00	34.10	34.20	34.30	34.40	34.50	34.60	34.70	34.80	34.90	34
35	35.00	35.10	35.20	35.30	35.40	35.50	35.60	35.70	35.80	35.90	35
36	36.00	36.10	36.20	36.30	36.40	36.50	36.60	36.70	36.80	36.90	36
37	37.00	37.10	37.20	37.30	37.40	37.50	37.60	37.70	37.80	37.90	37
38	38.00	38.10	38.20	38.30	38.40	38.50	38.60	38.70	38.80	38.90	38
39	39.00	39.10	39.20	39.30	39.40	39.50	39.60	39.70	39.80	39.90	39
40	40.00	40.10	40.20	40.30	40.40	40.50	40.60	40.70	40.80	40.90	40
41	41.00	41.10	41.20	41.30	41.40	41.50	41.60	41.70	41.80	41.90	41
42	42.00	42.10	42.20	42.30	42.40	42.50	42.60	42.70	42.80	42.90	42
43	43.00	43.10	43.20	43.30	43.40	43.50	43.60	43.70	43.80	43.90	43
44	44.00	44.10	44.20	44.30	44.40	44.50	44.60	44.70	44.80	44.90	44
45	45.00	45.10	45.20	45.30	45.40	45.50	45.60	45.70	45.80	45.90	45
46	46.00	46.10	46.20	46.30	46.40	46.50	46.60	46.70	46.80	46.90	46
47	47.00	47.10	47.20	47.30	47.40	47.50	47.60	47.70	47.80	47.90	47
48	48.00	48.10	48.20	48.30	48.40	48.50	48.60	48.70	48.80	48.90	48
49	49.00	49.10	49.20	49.30	49.40	49.50	49.60	49.70	49.80	49.90	49
50	50.00	50.10	50.20	50.30	50.40	50.50	50.60	50.70	50.80	50.90	50

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

89.73
59
89 14

to page # 79

except pages #1, 17, 69 to 77

IMPROVED TABLES AND INFORMATION

TABLE XIII—CORRECTIONS FOR TANGENTS AND EXTERNALS

These corrections are to be added to the approximate values, found by dividing the tangent, or external, for a 1° curve (Table VIII) by the degree of curve, in order to obtain the true tangents, or externals. Intermediate values may be obtained by interpolation.

FOR TANGENTS ADD

Central Angle	Degree of Curve													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	03	.06	09	13	16	19	.22	.25	.28	.31	34	38	42	.46
15°	04	10	14	19	24	.29	.34	.39	45	.51	.53	58	.63	.68
20°	06	.13	19	.26	.32	.39	.45	.51	.58	.65	.72	79	.84	.90
25°	.08	16	24	.33	40	49	.58	67	.75	.83	90	.99	1.06	1.14
30°	10	19	.29	39	49	.59	.69	79	.89	.99	1.09	1.20	1.29	1.39
35°	11	22	.34	47	.58	.69	.70	.81	.92	1.04	1.29	1.42	1.54	1.66
40°	13	.26	.40	.53	.67	.80	.93	1.06	1.20	1.34	1.49	1.64	1.79	1.94
45°	15	.30	44	60	76	91	1.06	1.21	1.37	1.52	1.70	1.87	2.04	2.21
50°	17	.34	.51	.68	.85	1.02	1.19	1.36	1.54	1.72	1.91	2.10	2.29	2.48
55°	19	38	.57	76	.95	1.14	1.32	1.52	1.72	1.92	2.14	2.35	2.56	2.77
60°	21	42	.63	.84	1.05	1.27	1.49	1.71	1.94	2.17	2.38	2.60	2.83	3.07
65°	23	46	.69	.93	1.16	1 40	1.64	1.88	2.13	2.38	2.63	2.88	3.13	3.39
70°	25	.51	76	1.02	1.28	1.54	1.80	2.06	2.33	2.60	2.88	3.16	3.44	3.72
75°	.27	.56	.83	1.12	1.40	1.69	1.98	2.27	2.57	2.87	3.16	3.47	3.78	4.09
80°	30	.61	.91	1.22	1.53	1.84	2.15	2.46	2 78	3.10	3.44	3.78	4.12	4.46
85°	33	66	1.00	1.33	1.68	2.02	2.36	2 70	3.05	3.40	3.77	4.14	4.55	4 89
90°	36	.72	1.09	1.45	1.83	2.20	2.57	2.94	3.32	3.70	4.10	4.50	4.91	5.32
95°	39	79	1.19	1.55	2.00	2.40	2.80	3.20	3.61	4.02	4.40	4.98	5.38	5.83
100°	43	.86	1.30	1.74	2.18	2.62	3.06	3.50	3.95	4.40	4.88	5.37	5.85	6.34
110°	51	1.03	1.56	2.08	2.61	3.14	3.67	4.21	4 76	5.31	5 86	6.43	7 01	7 60
120°	62	1.25	1 93	2.52	3.16	3.81	4 45	5.11	5.77	6 44	7 12	7.80	8.50	9 22

FOR EXTERNALS ADD

Central Angle	Degree of Curve													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.001	.003	.004	.006	.007	.008	.009	.011	.012	.014	.015	.017	.018	.020
15°	.003	.007	.010	.014	.018	.023	.027	.029	.032	.035	.039	.043	.047	.051
20°	.006	.011	.017	.022	.028	.034	.038	.045	.051	.057	.063	.070	.076	.083
25°	.009	.018	.027	036	.046	.056	.065	.074	.083	.093	.106	120	127	135
30°	.013	.025	.038	.051	.065	.078	.090	.103	.116	.129	.149	.170	.179	.188
35°	.018	.035	.054	.072	.086	.109	.131	.153	.175	.197	.213	.230	.247	.264
40°	.023	.046	.070	.093	.117	.141	.172	.203	.234	.265	.277	.290	.315	.341
45°	.030	.060	.093	.119	.153	.184	.216	.254	.289	.325	.351	.378	.411	.445
50°	.037	.075	.116	.151	.189	.227	.266	.305	.345	.384	.425	.467	.508	.550
55°	.046	.093	.142	.188	.236	.283	.332	.381	.420	.479	.530	.582	.641	.700
60°	.056	.112	.168	.225	.283	.340	.398	.457	.516	.575	.636	.697	.774	.851
65°	.067	.135	.204	.273	.343	.412	.483	.554	.625	.697	.711	.845	.922	1.01
70°	.080	.159	.240	.321	.403	.485	.568	.652	.735	.819	.906	.994	1.08	1.17
75°	.095	.182	.286	.383	.480	.578	.678	.777	.877	.977	1.07	1.18	1.29	1.39
80°	.110	.220	.332	.445	.558	.671	.787	.903	1.02	1.13	1.25	1.38	1.50	1.62
85°	.128	.259	.391	.524	.657	.790	.926	1.06	1.20	1.34	1.47	1.62	1.76	1.91
90°	.149	.299	.450	.603	.756	.910	1.07	1.22	1.38	1.54	1.70	1.87	2.03	2.20
95°	.174	.350	.522	.706	.985	1.06	1.25	1.43	1.62	1.80	1.99	2.18	2.38	2.58
100°	.200	.401	.604	.809	1.01	1.22	1.43	1.64	1.85	2.06	2.28	2.50	2.73	2.96
110°	.268	.536	.806	1.08	1.35	1.63	1.91	2.20	2.48	2.76	3.05	3.35	3.66	3.96
120°	.360	.721	1.08	1.45	1.82	2.19	2.57	2.95	3.33	3.72	4.11	4.50	4.91	5.32

Index

Also on P.2

Index Cont. on P.1

Also see Front page

Tie points	66+77
Benchs set -	P. 68

Intersections + Curb Returns

SEE P. 18

Chalcedony & Haines	53
" & INGRAHAM	54 & 64
" & Kendall	55
" & JEWELL	56
LAW & HAINES obs.	57
" & INGRAHAM	58
" & JEWELL	59
" & Kendall	60
BERYL & Jewell	61
" & Kendall	62
" & Emelene	63

Law

9-2-49

7449-L

Ingraham to Haines

	Rough Gr.	ck.	So. gutter	BM #7 Page 80	So. 1/4	℄	North 1/4	North gutter	ck.	Rough
				108.65						
1+00	105.22	105.22	104.55	2.49		105.20		105.05	105.72	105.72
	5.92	6.68	5.16	111.14				4.66	6.18	5.42
	6.12	×	×	8.99				×	×	4.72
	F 0.20			102.15						C 0.70
				7.97						
0+80	105.71	105.71	105.04	110.12		105.68		105.54	106.21	106.21
	5.43	6.19	4.67					4.17	5.69	4.93
	5.94	×	×	BM #7				×	6.46	4.42
	F 0.51			108.65					×	C 0.51
				3.25						
				111.90						
0+60	106.27	106.27	105.60			106.25		106.10	106.77	106.77
	4.87	5.63	4.11					3.61	5.13	4.37
	5.23	×	×					×	5.90	4.16
	F 0.36								×	C 0.21
0+40	106.87	106.87	106.20			106.85		106.70	107.37	107.37
	4.27	5.03	3.51					3.61	4.53	3.77
	4.77	×	×					×	5.30	4.00
	F 0.50			BM #7 108.65 1.00 109.71	gutter Ht				×	F 0.23
		111.90							111.90	
0+20 ℄ E.C.	107.55	107.55	106.88			107.65		107.38	108.05	108.05
	3.59	4.35	2.83					2.33	3.85	3.09
	4.20	×	×					×	×	2.88
	F 0.61									C 0.21
Wly Ingraham 0+00	107.82	107.82	107.28			107.90		108.05	108.52	108.52
	3.32									2.62
	4.04									2.03
	F 0.72									C 0.59
	111.14									111.14

Law - Ingraham to Haines.

		Rough Gr.	So. Cl.	So Gutter	So 1/4	℄	N. 1/4	No gutter	North cl.	Rough Gr.
E.V.C. 2+20	T.P.	103.62	103.62	102.95		103.60		103.45	104.12	104.12
		7.52	8.28	6.76 x				6.24 x	7.78 x	7.02
		8.99	x							5.02
		F 1.47								C 2.00
2+00		103.73	103.73	103.06		103.71		103.56	104.23	104.23
		7.41	8.17	6.65 x				6.15 x	7.67 x	6.91
		8.77	x							5.07
		F 1.36								C 1.84
1+80		103.90	103.90	103.23		103.88		103.73	104.40	104.40
		7.24	8.00	6.48 x				5.98 x	7.50 x	6.74
		7.97	x							5.05
		F 0.73								C 1.69
1+60		104.14	104.14	103.47		104.12		103.97	104.64	104.64
		7.00	7.76	6.24 x				5.74 x	7.26 x	6.50
		7.50	x							4.96
		F 0.50								C 1.54
1+40		104.44	104.44	103.77		104.42		104.27	104.94	104.94
		6.70	7.46	5.94 x				5.44 x	6.96 x	6.20
		7.00	x							5.23
		F 0.30								C 0.97
1+20		104.80	104.80	104.13		104.78		104.63	111.90 105.30	105.30
		6.34	7.10	5.58 x				5.08 x	6.60 x	5.84
		6.45	x							4.74
		F 0.11								C 1.10
		111.14 x								111.14 x

Law

Ingraham to Haines

	← South				1/4	℄	1/4		North →		
	Rough Gr.	cl.	gutter					Gutter	cl	Rough
Ely Haines 5+00	102.50	102.50	101.83			102.30		102.46	103.13	103.13
	7.62									6.99
	7.42									4.60
	C-0.20									C-2.39
		P.32							A-P.32	
		107.28							107.28	
A+90 ol. B.C. = ℗	102.54	102.54	101.87			102.52		102.37	103.04	103.04
	7.58	4.74							4.24	7.08
	7.19									4.31
	C-0.39									C-2.77
A+36	102.76									103.26
	7.36									6.86
	7.59									4.26
	F 0.23									C-2.60
3+82	102.97									103.47
	7.15									6.65
	8.11									4.46
	F 0.96	Rake	Rake			Rake		Rake	Rake	C-2.19
3+28	103.19									103.69
	6.93									6.43
	7.99									4.13
	F 1.06									C-2.30
2+74	103.40									103.90
	6.72									6.22
	8.05									4.40
	F 1.33									C-1.82
	110.12 ↗ P. 3									110.12 ↗ P. 12

Chalcedony

Lamont to Kendall (7447-L)

	Rough	ctr	gutter	
	136.35 X			B.M. #3
1+00	127.68	127.68	127.18	@ 259
	8.67	6.03	7.00 X	23
	8.03	X		126.01
	C-0.64			10.34
				136.35 X
	X cross			
0+80	127.48	127.48	126.98	
	8.87	6.23	7.20 X	
	8.25	X		
	C-0.62			
0+60	127.21	127.21	126.71	
	9.14	6.50	7.47 X	
	8.55	X		
	C-0.59			
0+40	126.87	126.87	126.37	
	9.48	6.84	7.81 X	
	8.99	X		
	C-0.49			
0+20	126.47	126.47	125.97	
	7.88	7.24	8.21 X	
	9.33	X		
	C-0.55			
P.V.C.				
W.L. Lamont			134.18 X	ctr at. chisel +
0+00	126.00	126.00	125.38	128.10
	10.35	7.71	8.80	6.09
		7.66		134.19 X
		+0.05		

	1/4	℄	1/4	gutter	ctr.	Rough
						136.35 X
1+00		127.96		127.93	128.68	128.68
				6.25 X	5.03 X	7.67
						3.08
						C-4.59
0+80		127.76		127.73	128.48	128.48
				6.45 X	5.23 X	7.87
						3.56
						C-4.31
0+60		127.49		127.46	128.21	128.21
				6.72 X	5.50 X	8.14
						3.97
						C-4.17
0+40		127.15		127.12	127.87	127.87
				7.06 X	5.84 X	8.48
						4.30
						C-4.18
0+20		126.75		126.72	127.47	127.47
				7.46 X	6.24 X	8.88
						4.68
						C-4.20
P.V.C.						
W.L. Lamont				134.18 X		
0+00		126.19		126.29	127.00	127.00
					6.71	9.35
					6.73	
					-0.02	

Chalcedony

Lamont-Kendall

	Rough	cl.	Gutter
	136.35 ℄		
3+00	128.74	128.74	128.24
	7.61	4.97	5.94
	6.99	×	×
	C-0.62		
P.V.C.			
2+80	128.68	128.68	128.18
	7.67	5.03	6.00
	7.62	×	×
	C-0.05		
2+40	128.46		
	7.89		
	7.50		
	C-0.39		
	× cross		
2+00	128.25		
	8.10		
	7.64		
	C-0.46		
1+60	128.03		
	8.32		
	7.84		
	C-0.48		
Brk-EUC.			134.18 ℄
1+20	127.82	127.82	127.32
	8.53	5.89	6.86
	7.92	×	×
	C-0.61		

Rake

Rake

	1/4	℄	1/4	gutter	cbr	Rough
					1	136.35 ℄
3+00		129.02		128.99	129.74	129.74
				5.19	3.97	6.61
				×	×	4.16
						C-2.45
2+80		128.96		128.93	129.68	129.68
				5.25	4.03	6.67
				×	×	4.15
						C-2.52
2+40						129.46
						6.89
						4.09
						C-2.80
2+00						129.25
						7.10
						3.89
						C-3.21
1+60						129.03
						7.32
						3.56
						C-3.76
				134.18 ℄		
1+20		128.10		128.07	128.82	128.82
				6.11	489	7.53
				×	×	2.91
						C-4.62

Rake

Rake

.Chalcedony

Lamont to Kendall

	Rough	ch.	gutter			¼	¢	¼	gutter	ch.	Rough
				↑ - P.I. 136.35 4.16 132.19 2.56 134.75 ↗							
E.N.C. 4+00	127.50 7.25 5.82 C-1.43	131.76 ↑ 127.50 4.26 ×	127.00 7.18 ×	2+60 R.I. 129.30 4.41 133.71 ↗			127.78		127.75 6.43 ×	128.50 3.26 ×	128.50 6.25 4.57 C-1.68
3+80	127.95 6.80 5.46 C-1.34	127.95 3.81 ×	127.45 6.73 ×				128.23		128.20 5.78 ×	128.95 2.81 ×	128.95 5.80 3.76 C-2.04
3+60	128.30 6.45 5.30 C-1.15	131.76 ↗ 128.30 3.46 ×	127.80 6.38 ×				128.58		128.55 5.63 ×	131.76 ↗ 129.30 2.46 ×	129.30 5.45 3.32 C-2.13
3+40	128.55 6.20 5.29 C-0.91	133.71 ↗ 128.55 5.16 ×	128.05 6.13 ×				128.83		128.80 5.38 ×	133.71 ↗ 129.55 4.16 ×	129.55 5.20 3.08 C-2.12
3+20	134.75 ↗ 128.69 6.06 5.29 C-0.77	128.69 5.02 ×	134.18 ↗ 128.19 5.99 ×				128.97		134.18 ↗ 128.94 5.24 ×	129.69 4.02 ×	134.75 ↗ 129.69 5.06 3.78 C-1.28

Chalcedony
Lamont to Kendall

131.76 ℄
3.49
128.35
F. Hydt. Kendall
- B.M. #

5+40 ℄ =
124.00
7.76
131.76 ℄

℄ Kendall
5+40

134.75 ℄ | 126.69 ℄
124.00 | 124.00
10.75 | 2.69 × T.P.
10.32
C 0.43

125.00

	Rough	Cb.	gutter		1/4	℄	1/4	gutter	Cb.	Rough
E.℄. Kendall 5+00	125.00	131.76 ℄ 125.00	124.50			125.27		125.25	126.00	134.75 ℄ 126.00
	9.75	6.76							5.76	8.75
	8.66	×							Cut	6.20
	C-1.09									C-2.55
Rt. ℄ only 4+90								125.50	126.25	× sidewalk 126.25
									5.51 ×	8.50
										5.96
										C-2.54
4+50	126.25	126.25		Rake					127.25	127.25
	8.50	5.51							4.51	7.50
	7.32	×							+	5.51
	C-1.18									C-1.99

Rake

Chalcedony

Kendall to Jewell (7446-L)

	Rough	cb.	gutter			¼		gutter	cb.	Rough
P.V.C.	122.75x	126.69	128.83x					128.83x	126.69	122.75x
1+60	118.60	118.60	118.10	T.P.		118.88		118.85	119.60	119.60
	4.15	8.09	0.73	134.75				9.98	7.09	3.15
	5.42	x	x	12.91					x	1.53
	F-1.27			121.84						C-1.62
				0.91						
				122.75x						
	122.75x									122.75
1+20	119.70									120.71
	3.05									2.04
	3.72									0.72
	F0.67									C-1.32
T.P. rock										
0+80	120.80									121.82
	13.95									12.93
	14.27									11.51
	F0.32									C-1.42
		Rake	Rake			Rake		Rake	Rake	
0+40	121.90									122.93
	12.85									11.82
	12.65									10.16
	C-0.20									C-1.66
N. ch. + G.									126.69	
0+10	—							123.03	123.78	123.78
									2.91	10.97
										9.30
										C 1.67
		P.12 126.69								
W. L. Kendall		123.00								
0+00	123.00	3.69	122.50			123.27		123.25	124.00	124.00
	11.75	x								10.75
	11.38									9.04
	C-0.37									C-1.71
										95
										C-0.84 to East

INDEXED
W.K.
DEC 5 1949

Chalecedony

Kendall to Jewell

	Rough	cb.	gutter		1/4	℄	1/4	gutter	cb.	Rough
3+40	114.95									115.95
	7.80									6.80
	9.29									4.00
	F 1.49									C-2.80
		Rake	Rake			Rake		Rake	Rake	
2+90	115.86									116.86
	6.89									5.89
	8.38									3.08
	F 1.49									C-2.81
E.V.C.		126.69 x								
2+40	116.77	116.77	116.27			117.05		117.02	117.77	117.77
	5.98	9.92	12.56 x					11.81 x	8.92 x	4.98
	7.18	x								2.62
	F 1.20									C-2.36
2+20	117.16	117.16	116.66			117.44		117.41	118.16	118.16
	5.59	9.53	12.17 x					11.92 x	8.53 x	4.59
	6.69	x								2.67
	F 1.10									C-1.92
2+00	117.59	117.59	117.09			117.87		117.84	118.59	118.59
	5.16	9.10	11.74 x					10.99 x	8.10 x	4.16
	6.00	x								2.43
	F 0.84									C-1.73
	122.75 x							122.82 x	126.69 *	
1+80	118.07	118.07	117.57			118.35		118.32	119.07	119.07
	4.68	8.62	11.26 x					10.51 x	7.62 x	3.68
	5.82	x								2.20
	F 1.14									C-1.48

Chalcedony

Kendall to Jewell

	Rough	Cb.	gutter	
	122.75			
	112.00	112.00	111.56	T.P.11
E.L. Jewell	10.75			122.75
5+00	8.43			7.16
	C-2.32 North			115.59
	C-3.1 west			4.98
				120.57
Cb. B.C.	122.75	117.90		B.M.#5
4+90	112.22	112.22	111.92	P.80
	10.53	5.68		115.41
	8.43	×		2.49
	C-2.10			117.90
				0.78
				117.12
℄ only				9.57
4+80	—	—		126.69
4+40	113.13			
	9.62			
	8.40			
	C-1.22			
		Rake	Rake	
	122.75			
3+90	114.04			
	8.71			
	8.95			
	F-0.24			

1/4	℄	1/4	gutter	Cb.	Rough
					113.00
	111.80		112.25	113.00	7.57
					5.35
					C-2.22 South
					C-1.47 west
				117.90	
			112.47	113.22	113.22
				4.68	7.35
				×	3.53
					C-3.82
	112.75			—	—
					114.13
					6.44
					3.30
					C-3.14
			Rake	Rake	
	Rake				120.57
					115.04
					5.53
					2.82
					C-2.71

Chalcedony

Jewell to Ingraham

7445-L

	Rough	Ch.	gutter		¼	¼	North gutter	ch.	Rough
1+50	108.25 7.75 7.80 -0.05			B.M. #1 G 259 23 115.41 059 116.00					109.26 6.74 5.99 C 0.75
1+00	109.16 6.84 6.86 -0.02	Rake		115.41 0.67 116.08			Rake	Rake	110.18 5.82 5.25 C 0.57
0+50	110.07 5.93 5.94 -0.01				Rake				111.09 4.91 4.17 C 0.74
N. Ch. + C. only 0+16.99	—	+	—				110.95	111.70	111.70 4.30 3.44 C 0.86
C. E.C. 0+10	110.81 Drive	116.06 T 110.81 5.25 Drive →	116.06 T 110.31 5.75 X		111.10		108.25 T 111.07	110.06 111.82 4.24	111.82 4.18 3.27 C 0.91
W.L. Jewell 0+00	111.00 5.00	111.00	110.50		111.20		111.25	112.00	112.00 4.00 Not set.
					N.W. Prop. E.C. on Jewell				116.00 114.44 1.56 2.04 F 0.48.

INDEXED
W.K
DEC 5 1949

Chalcedony

Jewell to Ingraham

	Rough	obs.	gutter		1/4	&	1/4	gutter	obs.	Rough
				↑ 116.00						103.78
4+50	107.76			761						5.59
	6.61			108.39						2.18
	6.68			0.98						C-2.41
	-0.07			109.37						
										104.70
4+00	103.67									4.67
	5.70									1.95
	5.69									C 2.72
	+0.01									
	↙									109.37π
										105.61
3+50	104.59									3.76
	4.78									1.30
	4.77									C-2.46
	0.01									
	↙									T.P. 116.00x
		Rake	Rake		Rake			Rake	Rake	↘ 106.52
	116.00									9.48
3+00	105.50									7.61
	10.50									C 1.87
	10.45									
	+0.05									
										107.44
2+50	106.42									8.56
	9.58									7.07
	9.60									C-1.49
	-0.02									
										116.00x
2+00	107.33									108.35
	8.67									7.65
	8.67									6.68
	x									C0.97

Chalcedony
Jewell to Ingraham.

101.54 BM #1
5.74
107.28

109.37 ✗
N.E. Prop. E.C. on Ingraham } 102.20
7.17
3.23
C- 3.94

	South				1/4	℄	1/4	North		
	Rough	℄	gutter					gutter	℄	Rough
E.L. Ingraham	109.37									
5+20	101.27	101.27	100.72			101.08		101.45	102.72	102.72
	8.10	6.01								6.65
										5.26
										C-1.39
North only Prop. B.C.										
5+03	—							102.07	102.82	102.82
										6.55
										4.07
										C-2.48
℄ B.C.	109.37✗							104.25✗	107.28✗	109.375
5+00	101.84	101.84	101.34			102.10		102.12	102.87	102.87
	7.53	5.44	5.94 ✗					6.13 ✗	4.41	6.50
	7.47	5.36								3.98
	+0.06	+0.08		BM #23 102.93 5.32 108.25						C-2.52
So. Prop. B.C.										
4+95		101.98	101.48			101.10				
						Rake		Rake	Rake	

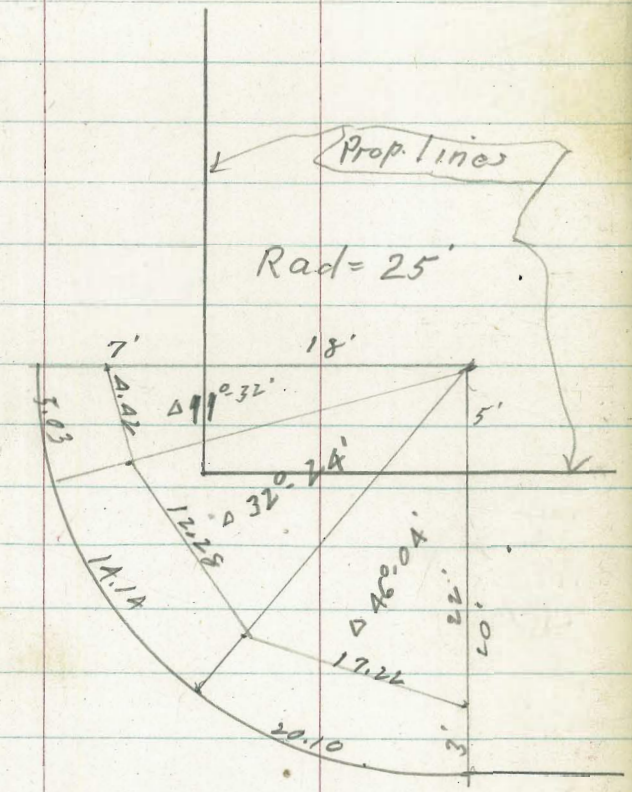
Sewer Laterals

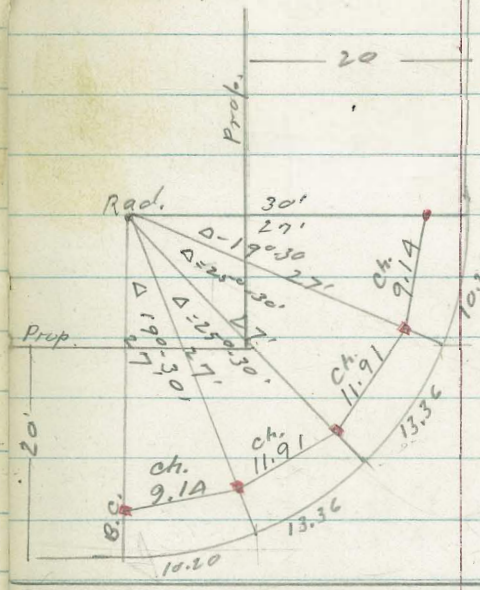
Lat. #1 (7450-L) on Law - 60' E. of Jewell

BM. #4 - 131.51
7.65
139.16 ✕

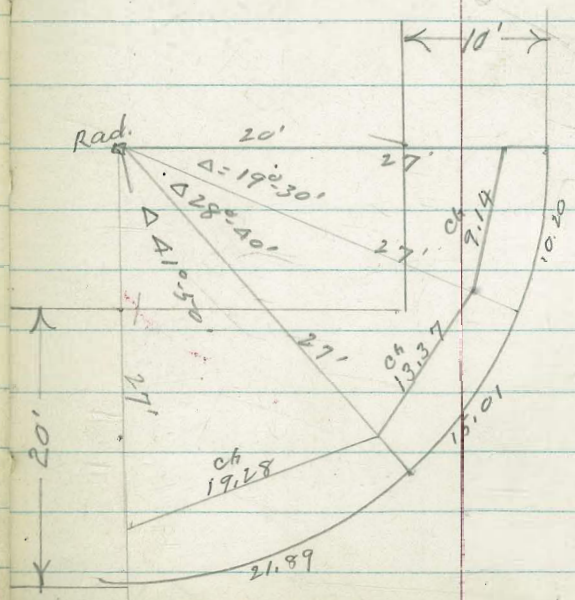
139.16 ✕
EL. = 128.79 stake
10.37 5' Back
1.31
C - 9.06

Sample Returs - 30 Rad





20' Curbs
stakes set
3' back of ch.



10 & 20' Cbs.
Rad.=30'
stakes set
3' back cbs.

CHALCEDONY - 7444-L

Ingraham to Haines

Sept. 6, '49

	South Rough grade	South Ch.	South Gutter	South ℄	South ¼A	℄	¼A	North Gutter	North Ch.	North Rough grade
				B.M.#4-P80						
1+50	94.11	94.11	93.61	101.54		94.39		94.36	95.11	95.11
	8.89	7.65	9.08	1.15				8.33	6.87	7.89
	9.74	x	x	103.00 x				x	x	5.67
	F0.85			x-p22						C-2.22
				97.33						
				3.15						
				94.18						
1+30	94.71	94.71	94.21	7.80		94.99		94.96	95.71	95.71
	8.29	7.05	8.48	101.98				7.73	6.27	7.29
	8.96	x	x					x	x	5.23
	F0.67			BM#4						C-2.06
				P.80						
P.V.C.				101.54						
1+10	95.43	95.43	94.93	2.2		95.71		95.68	96.43	96.43
	7.57	6.33	7.76	101.76		7.80		9.01	5.55	6.57
	8.10	x	x					x	x	5.30
	F0.53			B.M.#23						C-1.27
				102.93					Rock	
			6.58	0.25				5.82	98.20	
			x	103.18				x	9.21	
						6.02		cut	98.20	98.20
0+65	97.20	97.20	Rake cut						3.78	4.80
	5.80	4.56							x	5.24
	6.07	x	5.40			Rake		4.64		
2+45	F0.27		x					x		F0.44
								Rake		
Ch. E.C.		101.76 x	102.69 x					102.69 x	101.98 x	
0+20	98.98	98.98	98.48			99.26		99.23	99.98	99.98
	4.02	2.78	4.21			2.25		3.46	2.00	3.02
	4.04	x	x					x	x	2.63
	F0.02									C-0.39
	103.00 x									
W.L. Ingraham.	99.65	101.98	99.20	BM#21 P.78		99.60		99.98	100.65	100.65
0+00	3.35	99.65		109.43					1.33	2.35
	3.98	2.33		10.29						1.35
	F0.63			99.14						C-1.00
				3.55						
				102.69						

CHALCEDONY

Ingraham to Haines

	Rough Gr.	Cl.	Gutter		1/4	℄	1/4	Gutter	Cl.	Rough Gr.
2+90	T.P. 92.50 10.50 11.10 F 0.60	93 Rake	Rake	T-P.19 103.00		Rake		Rake	Rake	103.00 T 93.50 9.50 8.64 C-0.86
6 x 20										
E.V.C. 2+50	92.70 10.30 10.97 F 0.67	92.70 9.06 x	92.20 10.49 x			92.98		92.95 9.74 x	101.98 T 93.70 8.28 x	93.70 9.30 8.43 C 0.87
2+30	92.80 10.20 10.71 F 0.51	92.80 8.96 x	92.30 10.39 x			93.08		93.05 9.64 x	93.80 8.18 x	93.80 9.20 8.03 C-1.17
2+10	92.96 10.04 10.50 F 0.46	92.96 8.80 x	92.46 10.23 x			93.24		93.21 9.48 x	93.96 8.02 x	93.96 9.04 7.77 C-1.27
1+90	93.22 9.78 10.58 F 0.80	93.22 8.54 x	92.72 9.97 x			93.50		93.47 9.22 x	94.22 7.76 x	94.22 8.78 7.09 C-1.69
1+70	93.61 9.39 10.50 F-1.11	101.76 T 93.61 8.15 x	102.69 T 93.11 9.58 x			93.89		102.69 T 93.86 8.83 x	94.61 7.37 x	94.61 8.39 6.62 C-1.77

CHALCEDONY

Ingraham to Haines

	Rough Gr.	Cl.	Gutter	P.20	1/4	℄	1/4	Gutter	Cl.	Rough Gr.
E. Line Haines		97.33 T		103.00					97.33 T	
5+00	91.45	91.45	90.90	11.10		91.52		91.76	92.50	92.50
	7.48	5.88		91.90					1.83	6.43
	7.77	X		7.03					X	4.66
	F 0.29			98.93						C-1.77
Cl. B.C.		97.33 T	96.77 T					96.77 T	97.33 T	
A+90	91.55	91.55	91.05			91.83		91.80	92.55	92.55
	7.38	5.78							4.78	6.38
	7.72	X							X	4.26
	F 0.34			#13 T-80						C-2.12
				94.41						
				236						
				96.77						
4+50	91.74									92.74
	7.19									6.19
	7.67									4.27
	F 0.48									C-1.92
4+10	91.93									92.93
	7.00	Rake	Rake			Rake		Rake	Rake	6.00
	7.30									4.88
	F-0.30									C-1.12
3+70	92.12									
	6.81									93.12
	6.80									5.81
	C-0.01									4.77
										C-1.04
	TP 10 [illegible]									
3+30	92.31									93.31
	6.62									5.62
	6.69									4.75
	F 0.07									C-0.87

Chalcedony
Haines to Gresham

#7443-L

	Rough Gr.	Cl.	Gutter	From P.22 ℄	¼	℄	¼	Gutter	Cl.	Rough Gr.
	96.56 ℄			98.93						96.56 ℄
2+02	90.08			8.09						91.08
	6.48			90.84						5.48
	6.32			5.72						3.38
	C-0.16			96.56						C-2.10
				B.M.41						
	T.P.			89.34						
1+54	90.30			4.53						91.30
	8.63			93.87						7.63
	8.09			3.70						5.50
	C 0.54			90.17						C-2.13
				7.16						
				97.33 ℄						
1+06	90.51			2.92						91.51
	8.42			94.41						7.42
	7.33	Rake	Rake			Rake		Rake	Rake	4.76
	C-1.09									C-2.66
	X-in Conc.									X-in walk
0+58	90.73									91.73
	8.20									7.20
	7.41									4.42
	C-0.79									C-2.78
H.O.C.		97.39 ℄							97.33 ℄	
0+10	90.95	90.95	90.45			91.22		91.20	91.95	91.95
	7.78	6.38							5.38	6.98
	7.46	X							X	4.98
	C-0.52									C-2.00
W.L. Haines	98.93 ℄									
0+00	91.00	91.00	90.54			91.27		91.27	92.00	92.00
	7.93									6.93
	7.23									5.06
	C-0.70									C-1.87

Chalcedony
Haines to Gresham

	Rough	Cl. 93.87x	gutter		1/4	℄	1/4	gutter	Cl. 93.87x	Rough Gr.
5+00 W.L. Gresham	88.70	88.70	88.13			89.05		89.12	89.75	89.75
	7.86	5.17		96.56x					4.12	6.81
	7.90	5.15	88.13	7.26					4.14	
	-0.04			89.30					OK	
				+0.04				out		
4+90	88.77	88.77	88.27			89.05		~~89.02~~	89.77	89.77
	7.79	5.10							4.10	6.79
	7.43			P.23						4.51
	C 0.36			x						C-2.28
				93.87						
4+42	88.99	88.77	88.27							x-in Conc.
	7.57									89.99
	7.43									6.57
	C-0.14									5.08
										C-1.49
3+94	89.21									90.21
	7.35									6.35
	7.79									5.11
	F 0.44									C-1.24
3+46	89.42	Rake	Rake			Rake		Rake		90.42
	7.14									6.14
	7.30									4.97
	F 0.16									C-1.17
2+98*	89.64						Brk→	89.89		90.64
	6.92							Set.		5.92
	6.99									4.67
	F 0.07									C-1.25
2+50	96.56x									90.86
	89.86									5.70
	6.70									4.28
	6.61									C-1.42
	C-0.09									

Law

Lamont to Kendall (7451-L)

	Rough	ob.	gutter	
1+00	146.82	146.82	146.15	
	6.26	5.91		BM #8
	7.00	×		A 80
	F 0.74			131.51
				10.71
				142.22
				3.29
0+80	146.27	146.27	145.60	138.93
	6.81	6.46		BM. #9
	8.11	×		= S.E. Hydt.
	F 1.30			Kendall
				& Law
0+60	145.57	145.57	144.90	138.93
	7.51	7.16		12.52
	8.43	×		151.45
	F 0.92			4.57
				146.88
				6.20
				153.08
0+40	144.73	144.73	144.06	9.98
	8.35	8.00		143.10
	9.89	×		N.W. 7'
	F 1.54			Lt.
				Lamont
				& Law
				153.08 ×
C.L.S.				
0+20	143.77	143.77	143.10	BM. #10
	9.31	8.96		143.10
	10.17	×		9.63
	F 0.86			152.73
W.L. Lamont				
0+00	142.63	143.63	142.02	
	10.45	10.10		
		10.30		
		-0.20		

	¼	℄	¼	gutter	ob.	Rough
		146.80		146.65	147.32	147.32
					5.41	5.76
					×	3.03
						C-2.73
		146.25		146.10	146.77	146.77
					5.96	6.31
					×	3.78
						C-2.53
		145.55		145.40	146.07	146.07
					6.66	7.01
					×	4.70
						C-2.31
		144.71		144.56	145.23	145.23
					7.50	7.85
					×	5.05
						C-2.80
		143.75		143.60	144.27	144.27
					8.46	8.81
					×	5.43
						C-3.38
		142.53		142.47	143.13	143.13
					9.60	9.95
					9.80	
					-0.20	

Lawn.

Lamont to Kendall

		Rough	Ch.	Gutter		1/4	℄	1/4	Gutter	Ch.	Rough
		152.55									152.55
2+20		147.41	147.41	146.74			147.39		147.24	147.91	147.91
		5.14	5.32		153.08					4.82	4.64
		5.83	X		6.36					X	0.93
		F 0.69			146.72						C-3.71
					5.83						
					152.55						
2+00	T.P.	147.65	147.65	146.98			147.63		147.48	148.15	148.15
		5.43	5.08							4.58	4.93
		6.36	X							X	+2.00
		F 0.93									C. 6.93
1+80		147.76	147.76	147.09			147.74		147.59	148.26	148.26
		5.32	4.97							4.47	4.82
	X	6.09	X							X	Not set.
		F 0.77									
		x - in walk									Tack on line
1+60		147.72	147.72	147.05			147.70		147.55	148.22	148.22
		5.30	5.01							4.51	4.85
		6.11	X							X	+2.87
		F 0.75									C-7.73
1+40		147.55	147.55	146.88			147.53		147.38	148.05	148.05
		5.53	5.18							4.68	5.03
		6.20	X							X	0.63
		F 0.67									C-4.40
		153.08								152.73	
1+20		147.26	147.26	146.59			147.24		147.09	147.76	147.76
		5.82	5.47							4.97	5.32
		6.47	X							X	1.59
		F 0.65									C-3.73

LAW

Lamont + Kendall

	Rough.	ch.	gutter						
E.V.C.									
3+40	143.24	143.24	142.57						
	9.31	6.71							
	9.77	X							
	F 0.46								
	X-in Drive								
3+20	144.26	144.26	143.59						
	8.29	5.69							
	8.67	X							
	F 0.38								
3+00	145.16	145.16	144.49						
	7.39	4.79							
	6.29	X							
	C- 1.10								
2+80	145.92	145.92	145.25						
	6.63	4.03							
	5.83	X							
	C- 0.80								
2+60	146.56	146.56	145.80						
	5.99	3.39							
	5.91	X							
	C- 0.08								
		149.95 T							
2+40	147.05	147.05	146.38						
	5.50	2.90							
	6.03	X							
X	F 0.53								

NH 7' left Lamont to Low
143.10
6.85
149.95 T

TP 11.03
138.92
9.03
142.95 T

1/4	℄	1/4	gutter	ch.	Rough.
	143.22		143.07	143.74	143.74
				6.21	8.81
				X	6.38
					C-2.43
	144.24		144.09	144.76	144.76
				5.19	7.79
				X	5.84
					C-1.95
	145.14		144.99	145.66	145.66
				4.29	6.89
				X	4.93
					C-1.96
	145.90		145.75	146.42	146.42
				3.53	6.13
				X	2.65
					C-3.48
	146.54		146.39	147.06	147.06
				2.89	5.49
				X	1.89
					C-3.60
				149.95 T	
	147.03		146.88	147.55	147.55
				2.40	5.00
				X	1.39
					C-3.61

LAWN.

Lamont to Kendall

	Rough	Cb.	gutter	1/4	℄	1/4	gutter	Cb.	Rough
E. L. Kendall									
5+00	134.55		133.88		134.38		134.53	~~135.20~~	135.20
	9.79								9.14
	7.80								3.23
	C-1.99								C-5.91
cl. B.C.									x-walk
4+90	135.06	135.06	134.39		135.00		134.87	135.54	135.54
	9.28	7.89						7.41	8.80
	7.69 x	x						x	3.12
	C 1.59								C-5.68
4+40	137.79	137.79			135.00			138.27	138.27
	6.55	5.16						4.68	6.07
	6.85	x						x	2.77
	F 0.30								C-3.30
3+90	140.52	140.52	Rake		Rake		Rake	141.00	141.00
	12.03	2.43						1.95	11.55
	12.95	x						x	8.15
	F-0.92								C-3.40

136.50
7.84
3.23
C-4.61

133.65
10.69
7.80
C-2.89

152.55 x
12.95
139.60
4.74
144.34 x

142.95 x Page

152.55 x

142.95 x

144.34 x

LAW.

Kendall to Jewell (7450-L)

	Rough	ct.	gutter		¼	℄	¼	gutter	ct.	Rough
1+34	139.96 ↑ 133.62 6.34 7.58 F-1.24			144.34 ↑ 12.52 131.82 8.14 139.96						139.96 ↑ 134.34 5.62 3.85 C 1.77
1+03	144.34 ↑ 133.50 10.84 12.52 F-1.68			B.M.#8 131.51 8.26 139.77 ↑						144.34 ↑ 134.21 10.13 8.40 C-1.73
0+72	133.38 10.96 12.32 F-1.36	Rake	Rake			Rake		Rake	Rake	134.09 10.25 8.33 C-1.92
0+41	133.26 11.08 12.36 F 1.28									133.96 10.38 8.37 C-2.01
ch. B.C. 0+10	133.14	139.02 ↑ 133.14 5.88 X	132.47			133.22		133.17	139.02 ↑ 133.184 5.18 X	on wall 133.184 10.50 2.74 C-7.76
	11.20 11.80 F 0.60			SE Fire Hyd. Kendall + Law 138.92 0.10 139.02 ↑						
W.L. Kendall 0+00	144.34 ↑ 133.10 11.24 11.81 F 0.57		132.45	TP. 5.88 133.20 6.57 139.77 ↑		133.10		133.30		144.34 133.80 10.54 2.41 C-8.13
	132.70 11.64 11.81 C 0.17			8.26 X 131.51 BM#8						135.75 8.59 2.41 C-6.18

Lawn.

Kendall to Jewell

	Rough.	ctr.	gutter		1/4	℄	1/4	gutter	ctr.	Rough
P.V.C.	141.60	139.77 ℄ P.28							139.77 ℄	141.60 ℄
3+20	134.33	134.33	133.66	↑ 139.96		134.44		134.41	135.08	135.08
	7.27	5.44		7.62					4.69	6.52
	7.87	×		132.34					×	2.26
	F 0.60			9.26						C-4.26
T.P.	139.96 ℄ x-drive			141.60						139.96 ℄
2+89	134.22									134.96
	5.74									5.00
	7.62									1.20
	F 1.88									C 3.80
2+58	134.10									134.84
	5.86									5.12
	7.74									1.42
	F-1.88									C 3.70
2+27	133.98									134.71
	5.98									5.25
	7.68									2.66
	F 1.70									C 2.59
		Rake	Rake			Rake		Rake	Rake	
1+96	133.86									134.59
	6.10									5.37
	7.47									3.02
	F 1.37									C-2.35
	139.96 ℄									139.96 ℄
1+65	133.74									134.46
	6.22									5.50
	7.25									3.03
	F 1.03									C 2.47

LAW

Kendall to Jewell

	Rough.	ch.	gutter
4+40	133.10	133.10?	132.57
	8.50	6.67	
	8.09	X	
	C-0.41		
	x-in walk		
4+20	133.65	133.65	132.98
	7.90	6.12	
	7.73	X	
	C 0.17		
4+00	133.98	133.98	133.31
	7.62	5.79	
	7.65	X	
	F 0.03		
3+80	134.21	134.21	133.54
	7.39	5.56	
	6.80	X	
	C 0.59		
3+60	134.36	134.36	133.69
	7.24	5.41	
	6.85	X	
	C-0.39		
	x-in ws	Pg 28	
	141.60*	139.77	
3+40	134.41	134.41	133.74
	7.19	5.36	
	7.36	X	
	F 0.17		

	¼	℄	¼	gutter	ch.	Rough.
4+40		133.25		133.12	133.79	133.79
					5.98	7.81
					X	3.74
						C-4.07
4+20		133.68		133.59	134.26	134.26
					5.51	7.24
					X	3.75
						C 3.49
4+00		13404		133.95	134.62	134.62
					5.15	6.98
					X	3.79
						C-3.19
3+80		134.28		134.21	134.86	134.86
					4.91	6.74
					X	3.40
						C-3.34
3+60		134.43		134.37	135.04	135.04
					4.73	6.56
					X	3.00
						C-3.56
					139.77*	
3+40		134.49		134.44	135.11	135.11
					4.66	6.49
					X	2.67
						C-3.82

LAW
Kendall to Jewell

	Rough	ob	gutter	↑ 141.60
E.L. Jewell 5+00		131.1/2 ~~8.45~~	130.72	
ob. B.C. 4+90	131.50 10.10 8.77 C-1.33	131.50 8.27	131.00	
4+80	131.86 9.74 8.53 C-1.21	131.86 7.91	131.36	
4+60	141.60 × 132.54 9.06 8.13 C-0.93	139.77 ↑ 132.54 7.23 ×	132.04	

¼	℄	¼	gutter	ob.	Rough
	135.82 ↑ 131.42 4.40 +.33 4.73		131.33		132.00
			131.62	139.77 ↑ 132.29 7.48 ×	132.29 9.31 4.78 C-4.53
	135.82 ↑ 132.04 3.78 +.33 4.11		131.91	132.58 7.19 ↓	132.58 9.12 4.38 C-4.74
	132.70		132.57	133.24 6.53 ×	133.24 8.36 3.70 C-4.66

LAW

#7448-L

Haines to Gresham

	Rough	cl.	Gutter	B.M.#1 P. 80
	x-in walk			
2+02	100.84			89.34
	6.12			11.46
	5.58			100.80
	C-0.54			.051
				100.29
	x-in walk			6.67
1+54	101.11			106.96
	5.85			
	5.51			P. 80
	C-0.34			B.M.#11
				98.68
				5.68
1+06	101.39			104.36
	5.57			2.69
	5.61			101.67
	F 0.04			5.61
		Rake	Rake	107.28
				1.99
0+58	101.66			105.29
	5.30			Top. Hydt. Haines + Law
	5.23			B.M.#12
	C-0.07			
cl. E.C.		107.28		
0+10	101.94	101.94	101.44	
	5.02	5.34 x		
	4.61			
	C-0.41			
	106.96			
W.L. Haines				
0+00	102.00	102.00	101.50	
	4.96			
	4.76			
	C-0.20			

1/4	℄	1/4	Gutter	cl.	Rough
					101.84
					5.12
					2.85
					C-2.27
					102.11
					4.85
					2.49
					C-2.36
					102.39
		Rake		Rake	4.57
					1.80
					C-2.77
					102.66
					4.30
					1.44
					C-2.86
				107.28	
	Rake		102.19	102.94	102.94
				4.34 x	4.02
					1.81
					C-2.21
	102.28		102.25	103.00	103.00
					3.96
					1.81
					C-2.15

LAW.

Haines to Gresham

Next Page

	Rough	Ch.	gutter		1/4	℄	1/4	gutter	ch.	
a. B.C.		104.36							104.36	
4+90	99.18	99.18	98.68					99.43	100.18	100.18
	7.78	5.18	5.43					4.68	4.18	6.78
	7.62	X	X					X	X	5.44
	C-0.16		98.68	B.M.#11					105.36 X	C-1.34
			5.43	98.68					100.18	
			1041	6.68					5.18	
4+42	99.46			105.36						100.46
	7.50									6.50
	7.01									4.65
	C-0.49									C-1.85
3+94	99.73									100.73
	7.23									6.23
	7.46									4.23
	F 0.23									C-2.00
3+46	100.01									101.01
	6.95	Rake	Rake		Rake	Rake	Rake	Rake	Rake	5.95
	6.76									3.89
	C-0.19									C-2.06
2+98	100.28									101.28
	6.68									5.58
	6.56									3.39
	GO.12									C-2.19
	106.96									
2+50	100.56									101.56
	6.40									5.40
	6.17									3.09
	C-0.23									C-2.31

LAW

Haines to Gresham

	Rough	cl.	gutter
E. L. Gresham		104.36	
5+00	99.12	98.93	98.30
	7.84	5.43	
		5.39	
		+0.04	

	1/4	℄	1/4	gutter	cl.	Rough
					104.36	
		99.40		99.31	99.90	100.12
					4.46	6.84
					4.44	7.04
					+0.02	-0.20

Beryl

Lamont to Emelene (7454-L)

	Rough	cl.	gutter	BM #10 Pg 24	¼	℄	¼	gutter	cl.	Rough
	+5' Blk Driveway			14310						
1+60	162.76	162.76	162.09	13.07		162.74				163.22
	8.66	6.04	5.94	156.17						8.20
	10.17	×	×	0.17						3.33
	F 1.51			156.00						C 4.87
				12.97						
	171.42 ℸ			168.97 ℸ				BM 17		171.42 ℸ
				6.95				162.02		
1+40	162.55	162.55	161.88	162.02		162.53		6.01		163.08
	8.87	6.25	6.15	set BM				168.03 ℸ		8.34
	9.64	×	×	NW 7½T						3.08
	F 0.78			Lamont +						C 5.26
				Beryl						
	168.97 ℸ			168.97 ℸ						168.97 ℸ
P.V.C. on So.				TP 5.98						
1+20	162.37	162.37	161.70	162.99		162.35				162.95
	6.60	6.43	6.33	+ 8.43						C 6.02
	6.80	×	×	171.42 ℸ						0.02
	F 0.20	5.66								C 6.00
		↓								
	BM #17		6.53 = 0+95							
	162.02		×							
0+70	6.78	161.98	161.98	6.73 = 0+70						162.61
	168.80 ℸ	6.99	6.82	×						6.36
		6.64	×							0.75
		C 0.33		6.93 = 0+45						C 5.61
				×						
0+20		161.58	161.58	160.91		161.56		161.55		162.28
		7.39	7.22	7.12				6.47		6.67
		6.83	×	×				161.48		0.60
		C 0.56	6.45							C 6.07
W.L. Lamont										
0+00	161.42	161.42	160.78?			161.32		161.27	162.15	162.15
	7.55	7.38	7.25					7.70	6.65	6.82
168.80	7.93	7.73	7.56					7.80	6.95	7.13
7.93										
160.87	- 0.38	- 0.35	- 0.31					- 0.10	+ 0.30	± 0.31
			High							

Rake

Rake

Beryl

Lamont to Emelene

	Rough	cl.	gutter	1/4	℄	1/4	gutter	cl.	Rough
2+40	163.94	163.94	168.03 163.27		163.92				
	7.48	48.6 x	4.76						
	1050								
	F 3.02								
North only 2+35 ~~57~~	End of Return 25' cl. Rad. (on Rad. 1/2)								166.00
									5.12
									4.88
									C 0.24
2+20	163.59	163.59	162.92		163.57				
	7.83	5.21 x	5.11						
	1053								
	F 2.72								
North cl. B.C. 2+17 ~~27~~								168.80 ℄ 4.61	
							163.52	164.19	164.19
							4.51 x		7.23
									4.88
									C 2.35
2+00	163.27	163.27	162.60		163.25		163.03	163.70	163.70
	8.15	5.53 x	5.43 x				5.00 x	5.10 x	7.72
	1042								4.89
	F 2.27								C 2.83
	~~171.42~~								171.42 ℄
1+80	163.00	163.00	162.33		162.99		162.68	163.35	163.35
	8.42	5.80 x	5.70 x				5.35	5.45 x	8.07
	10.70								4.50
	F 2.28								C 3.57
								4.58	

Beryl

Emelene to Kendall (7454-L)

	Rough	cl.	gutter		¼	¼	gutter	cl.	Rough
3+40	166.02			2+17.27 Rt.					166.54
	8 7 3			164.19					8.2 1
	11.80			# Cutt. 2.35					3 0 2
	F-3.07			stake 166.54					C 5.1 9
E.C. North cl.				8.21					
	X-5'			174.75 A					174.75 A
3+03 27	165.22	165.22					165.07	165.74	165.74
	9.53	3.58 X							7.01
	12.77								3.70
	F-3.24								C-5.31
		Rake	Rake						
3+60 omit 17.0									
					Rake				
~~2+85~~ North only 27	End of Return	25' Rad. (OH Rad ½)							166.50
									8 25
									3 70
									C 4.55
E.V.C..	174.75								
2+80	164.73	164.73	164.06		164.71				
	10.02	4.07 X	3.97						
	13.43								
	F 3.41								
	171.4 A								
2+60	164.32	164.32	163.65		164.30				
	7.10	4.48 X	4.38 X						
	10 53								
	3.43								

Beryl

Emelene to Kendall

	Rough	ch.	gutter	
E.L. Kendall to No. 5+37				
Ch. B.C. to No. 5+12				174.75 ↗ 4.34 170.41 8.03 178.44 ↗
End of ch. →	167.80 10.64 12.79 F 2.15	169.50	168.83	
E.L. Kendall to So. 5+00				
B.C. To So 4+90	169.28 9.16 12.79 F 3.63	169.28	168.61	
4+60	168.62 9.82 14.80 F 5.00			
4+20	178.44 ↗ 167.76 10.68 14.51 F 3.83			
3+80	174.75 ↗ 166.89 7.86 11.10 F 3.24			

Rake — Rake — Rake

38

	¼	℄	¼	gutter	ch.	Rough.
		on. Rad'l. End of ch.				172.50 5.94 2.40 C 3.54
				169.69	170.36 5.03	170.36 8.08 2.40 C 5.68
		169.48		169.33	170.00 5.39 5.29 +0.10	170.00 8.44
		169.26				169.78 8.66 2.73 C 5.93
						169.14 9.30 2.84 C 6.46
						178.44 168.28 10.16 3.50 C 6.66
						174.75 ↗ 167.41 7.34 4.8 C 6.86

Rake — Rake

BERYL

Kendall to Jewell (7453-L)

		Rough	Cl.	Gutter		¼	℄	¼	Gutter	Cl.	Rough
P.V.C. 1+20		165.83	171.02 ↑ 165.83	165.16			165.81		165.66	173.86 16633	173.20 ↑ 166.33
		−0.23	5.17 X		178.44 ↑					7.53 ↑	6.87
		6.08			12.27						2.82
		F 6.31			166.17						C 4.05
					7.03						
					173.20						178.44 ↑
0+80		167.16									167.66
		−1.53									1078
		3.63									3.33
		F 5.10			From P.61 165.70 ↑		Rake		Rake	Rake	C 7.45
0+40	check 169.49	178.44 ↑ 168.49									168.99
	2.80	9.95									945
	1.47	14.28									174
	F 4.33	F 4.33	Rake	Rake							C 7.71
Cl. E.C.-No. 0+18							169.23		169.06	169.73	169.73
										4.13 ↓	8.71
										171.02 ↑	129
										169.73	C 7.42
										1.29 ↓	
Cl. E.C.-So. 0+10		178.44 ↑ 169.50	169.50	168.83			169.50				
		8.94	1.52 X							173.86 ↑ - P.61	10.10
		12.53									
		F 3.59									
W.L. Kendall 0+00		167.45	℄ End of Cl.								170.9
		167.45							End of Cl. →		172.50
		10.99									5.94
		12.53									129
		F 1.54									C 4.65

BERYL

Kendall to Jewell

	Rough	cl.	gutter
2+40	165.63 162.64 2.99 11.17 F 8.18	171.02 x 162.64 8.38 x	161.97
2+20	163.07 2.56 9.91 F 7.35	163.07 7.95 x	162.40
2+00	163.52 2.11 8.66 F 6.55	163.52 7.50 x	162.85
1+80	164.04 1.59 7.94 F 6.35	164.04 6.98 x	163.37
1+60	164.59 1.04 7.45 F 6.41	164.59 6.43 x	163.92
1+40	165.19 0.44 6.91 F 6.47	165.19 5.83 x	164.52

	1/4	℄	1/4	gutter	cl. x	Rough
2+40		162.62		162.47	173.86 163.14 10.72 x	173.20 x 163.14 10.06 7.74 C-2.32
2+20		163.05		162.90	163.57 10.29 x	163.57 10.63 7.56 C-3.07
2+00		163.50		163.35	164.02 9.84 x	164.02 9.18 7.82 C-7.3 C
1+80		164.02		163.87	164.54 9.32 x	164.54 8.66 6.05 C 2.61 Replaced = C+L 8
1+60		164.57		164.42	165.09 8.77 x	165.09 8.11 5.30 C-2.81
1+40		165.17		165.02	173.86 165.69 8.17 x	165.69 7.51 3.70 C-3.81

Beryl

Kendall to Jowell

		Rough	cl.	gutter			¼	¼	gutter	cl.	Rough
4+05		165.63 x 160.52 5.11 8.00 C-2.89								161.02	161.02 12.18 4.47 C-7.71
3+62 E	13.08	160.98 4.65 5.70 F 1.05	Rake	Rake	x -9.61 165.70 4.02 161.68 9.34 171.02 x		Rake		Rake	Rake	161.48 11.72 2.76 C-8.96
(4+42 E)											
E.V.C. v 3+20	12.68	161.43 4.20 8.69 F 4.49	161.43 4.27 x	160.76			161.41		161.26	173.86 x 161.93 11.93 x	161.93 11.27 4.03 C-7.24 v
3+00	12.38	161.67 3.96 9.63 F 5.67	165.70 x 161.67 4.03 x	161.00			161.65		161.50	162.17 11.69 x	162.17 11.03 4.53 C-6.50 v
2+80 v	12.18	161.94 3.69 10.25 F 6.96	174.02 161.94 9.08 x	161.27			161.92		161.77	162.44 11.42 x	162.44 10.76 4.60 C-6.16 v
2+60		165.63 x 162.27 3.36 11.70 F 8.34	162.27 8.75 x	161.60			162.25		162.10	162.77 11.09 x	173.20 x 162.77 v 10.43 7.31 C-3.12

BERYL

Kendall to Jewell

173.20 ℄
11.02
162.18
162.19
B.M. ⌀ 1/4 ⇅ -.01
162.19
3.44
165.63 ℄

	Rough	ch.	gutter		1/4	℄	1/4	gutter	ch.	Rough
E.L. Jewell 5+00	~~159.50~~					~~159.41~~				~~160.00~~
								End of ch. →		162.00
										11.20
										4.96
										C- 6.34
Ch. B.C. 4+90	165.63 ℄									
	159.61	159.61	158.94			159.59		159.44	160.11	160.11
	6.02									1.309
	11.57									4.86
	F 5.45									C- 8.23
4+47 5	160.06									173.20 ℄
	5.57									160.56
	10.14									12.64
	F 4.57									4.75
										C- 7.89
		Rake	Rake			Rake		Rake	Rake	

BERYL

Jewell to Ingraham

		CL.	gutter
3+00		160.11 150.94 9.17 9.36 F 0.19	150.27
2+80		160.11 152.20 7.91 8.11 F 0.20	151.53
2+60		160.11 153.25 6.86 7.08 F 0.22	152.58
2+40		160.11 154.09 6.02 6.18 F 0.16	153.42
2+20	154.74	154.74	160.11 154.07 6.04 6.23 F 0.19
P.V.C. 2+00	155.17	160.11 155.17 4.94 5.07 F 0.13	160.11 154.50 5.61

1/4	℄	1/4	gutter	CL.	Rough
	150.92		150.77	151.44 8.09 x	151.44
	152.18		152.03	152.70 6.83 x	152.70
	153.23		153.08	153.75 5.78 x	153.75
	154.07		153.92	59.53 154.59 4.94 x	154.59
	154.72		154.57	59.53 155.24 4.29 x	153.24
	155.15		155.00	59.53 155.67 3.86 x	155.67

BERYL

Jewell to Ingraham

		Cl.	gutter
3+00		160.11 150.94 9.17 9.36 F 0.19	150.27
2+80		160.11 152.20 7.91 8.11 F 0.20	151.53
2+60		160.11 153.25 6.86 7.08 F 0.22	152.58
2+40		160.11 154.09 6.02 6.18 F 0.16	153.42
2+20	154.74	154.74	160.11 154.07 6.04 6.23 F 0.19
P.V.C. 2+00	155.17	160.11 155.17 4.94 5.07 F 0.13	160.11 154.50 5.61

	¼	℄	¼	gutter	Cl.	Rough
		150.92		150.77	151.44 8.09 X	151.44
		152.18		152.03	152.70 6.83 X	152.70
		153.23		153.08	153.75 5.78 X	153.75
		154.07		153.92	59.53 154.59 4.94 X	154.59
		154.72		154.57	59.53 155.24 4.29 X	155.24
		155.15		155.00	59.53 155.67 3.86 X	155.67

BERYL

Jewell to Ingraham

		cb.	gutter		V/A	℄	V/A	gutter	cb.	Rough
				X 146.54 13.04 133.50 2.02						
E.V.C. 4+00		146.54 141.58 4.96 D TVD	140.91 5.63 5.82 F 0.19	135.52 0.05 135.47 13 00 148.47 52		141.56		141.41	142.08 4.46 ×	142.08
3+80		143.86 2.68 1.91 F 0.23	143.19	147.95 12.16 160.11		143.84		143.69	46.54 144.36 2.18 ×	144.36
3+60		145.93 0.61 D TVD	145.26 1.28 1.47 F 0.19			145.91		145.76	T.P. 146.43 13.10 ×	146.43
3+40		148.47 147.81 0.66 8.8 F 0.22	147.14			147.79		147.64	148.31 11.22 ×	148.31
3+20		160.11 149.58	160.11 148.91 11.20 11.46 F 0.26			149.46		149.31	149.98 9.55 ×	149.98

BERYL

Jewell to Ingraham

		cb.	gutter			¼	℄	¼	gutter	cb.	Rough
E.L. Ingraham											
5+20±		127.70	127.25				128.06		127.96	128.70 6.8 2	
5+08		128.70 6.8 2	128.03				128.68		128.53	129.20 6.5 2	129.20
So. cb. + B.											
5+03		129.30									
cb. B.C. on So.											
5+01		129.53	Rake				Rake		Rake	Rake	
4+54											135.64

JEWELL

Chalcedony to Lawn, El. cb. E.C. Alley 7455-L

	Rough	cb.	gutter	
S. Line Alley				
1+25 122.20	122.00	122.63*	121.33	B.M. #5
	2.57	122.00		115.41
	3.92	122.04		9.16
	F 1.35	0.59		124.57
End Alley Cb. →	122.63	0.91		1.19
	122.20	F 0.32		123.38
	0.43	on 4' Rad.		12.00
Alley cb. B.C.	1.43	Stake	131.75	135.38
1+21	F 1.00	122.63	121.05	
		121.72	10.70	115.41
		0.91		7.22
				122.63
0+86	119.31			
	5.26			
	4.93			
	C 0.33			
3+38.3				
0+48.3	116.63	Rake	Rake	
	7.74			
	8.76			
	F 0.82			
cb. E.C.	124.57	122.63		
0+10	113.95	113.95	113.28	
	10.62	8.68		
	11.18			
	F 0.56			
N.L. Chalcedony				#8
0+00				131.51
				0.24
				131.75

	℄	¼	gutter	cb.	Rough
			121.83	122.50	122.50
				4.33	2.07
				End cb.	1.06
				0.20 Higher	C 1.01
			131.75		
			121.55	122.22	
			10.20		
					A-2'17.
					119.81
					4.76
					4.05
					C 0.71
	Rake		Rake		4'-0
					117.13
					7.44
					6.02
					C 1.42
	113.93		113.78	126.83	124.57
				114.45	114.45
				12.38	10.12
					7.38
					C 2.74
				B.M. #5	
				115.41	
				11.42	
				126.83	

Jewel

Chalcedony to Law

	Rough	ch.	gutter	
2+30	128.58	128.58	131.75 x 127.91	126.83 x
		6.80	3.84 x	119
		6.98		125.64
		-0.18		9.34
				1349 8 x
2+10	127.61	127.61	131.75 x 126.94	
		7.77	4.81 x	
		7.92		
		-0.15		
1+90	126.46	126.46	131.75 x 125.79	
		8.92	5.96 x	
		9.03		
		-0.11		
1+70	125.15	125.15	131.75 x 124.48	
		10.23	7.27 x	
		10.35		
		-0.12		
Alley ch. EC.			131.75 x	
1+49		123.68	123.01	
			8.74 x	
No. Line Alley	135.38 x			
1+45	123.40	123.40	122.73	
	11.98	1.17		
		1.20		
		-0.03		

	¼	℄	¼	gutter	ch.	Rough
				131.75 x		
		128.56		128.41	129.08	129.08
				3.34 x	5.90 x	6.80
						3.63
						C 2.67
				131.75 x		x=3'
		127.59		127.44	128.11	128.11
				4.31 x	6.87 x	7.27
						4.25
						C 3.02
				131.75 x	134.98 x	N. 05 in
		126.44		126.29	126.96	126.96
				5.46 x	8.02 x	8.42
						5.83
						C 2.59
				131.75 x	126.83 x	N. 0.5 in St.
		125.13		124.98	125.65	125.65
				6.79 x	1.18 x	9.73
						7.37
						C 2.36
				131.75 x		
				123.51	124.18	
				8.24 x		
						N. 05 in
				123.23	123.90	123.90
					2.93 x	11.48
						8.94
						C 2.54
		Rake			End ch. 0.120 Higher	

Jewel
Chalcedony to Law

	Rough	cl.	gutter		¼	℄	¼	gutter	cl.	Rough
						129.80				
S. Line Law. 2+70	~~129.58~~		129.05			129.80				
cl. B.C. 2+60	129.32	135.38* 129.32 6.06 5.96 C 0.10	131.75* 128.87 2.88					131.75* 129.52 2.23 ×	130.20 4.78 ×	*From P 31 141.60 130.20 11.40 9.04 C 2.36
2+50	129.10	129.10 6.28 6.28 ×	131.75* 128.70 3.05 ×			134.78* 129.36 5.42 ×		131.75* 129.22 2.53 ×	134.98 129.89 5.09 ×	129.89 5.49 3.10 C 2.39

JEWELL

Law to Beryl (7455-L)

	Rough	℄	gutter		¼	℄	¼	gutter	℄	Rough
1+15	139.36	139.36	138.69	135.39		139.34		139.19	149.00π 139.86	139.86
	403	4.03		3.88					9.14	3.53
				131.50						25.1
				11.89						C 1.02
				143.39						
0+95	137.78	137.78	137.11			137.76		137.61	149.00π 138.28	138.28
		5.61							10.72	5.11
		5.57								3.38
		+0.04								C 1.73
P.V.C.										
0+75	136.39	136.39	135.72			136.37		136.22	149.00π 136.89	136.89
		7.00							12.11	6.50
		7.07								3.77
		−0.07								C 2.73
S.										
0+42.5	134.27	134.27	133.56			134.30		134.10	149.00π 134.77	134.77
		9.12							14.23	8.62
		9.25								5.84
		−0.13								C 2.78
O.E.C.										
0+10	132.15	132.15	131.39			132.23		131.98	132.65	π From P.31 141.60 132.65
		11.24								8.95
		11.34								4.97
		−0.10								C 3.98
N.L. Law,										
0+00	131.50									

JEWELL

Law to Beryl

	Rough	Ch.	gutter	
1+55	143.07	143.07 6.31 0.38 −0.07	142.40	143.39 T 0.35 143.04 12.58 155.62 T
Alley Ch. E.C. 1+49	142.48	142.48	141.81	
N.L. Alley 1+45	142.09	142.09 13.53	141.42	
Z Alley 1+35 (prop 140.75)			140.45	
S.L. Alley 1+25	140.24	140.24 3.15 3.26 −0.11	139.57	
Alley Ch. B.C. 1+21	140.24	139.89	139.22	

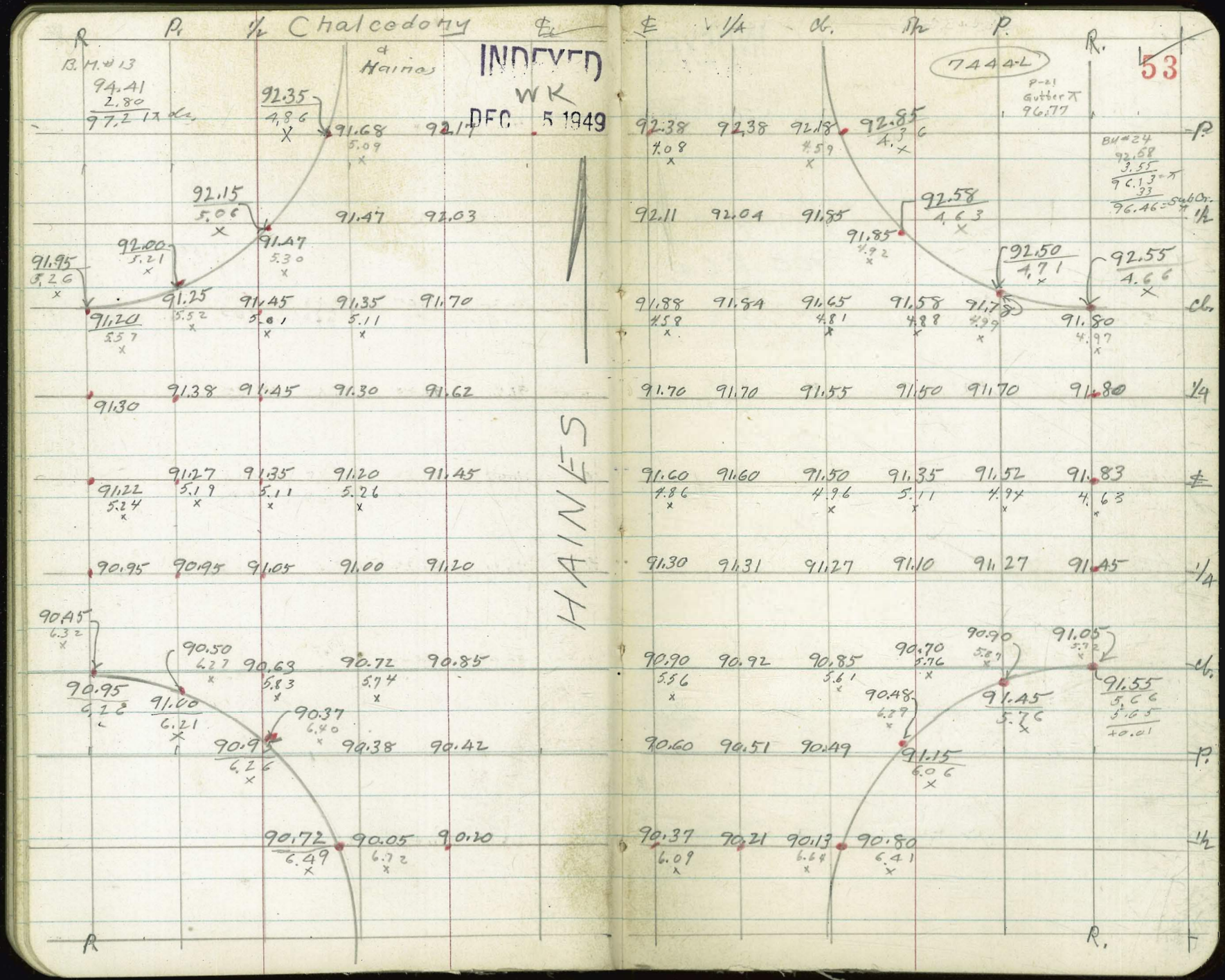
	1/4	℄	1/4
		143.05	
	132.33 11.57 143.90 T 33 144.23 Sub. Gr. T		
	135.65 B.M. 11.57 147.22 T 33 147.55 Sub Gr. T		
		141.10	

	gutter	Ch.	Rough
	142.90	149.00 T 143.57 5.43 X	155.62 T 143.57 12.05 9.44 C 2.61
	142.31	142.98	
	141.92	149.00 T 142.59 6.41 X1	142.59 13.03 10.00 C 3.03
	140.95		(141.31 Prop.)
	140.07	149.00 T 140.74 3.26 3 x C	143.39 T 140.74 2.65 2.26 C 0.39
	139.72	140.39	

JEWELL

Law to Beryl

	Rough	cl.	gutter		1/4	℄	1/4	gutter	cl.	Rough
				155.62℄ 043 155.19 10.60 165.79 3.60 162.19 = B.M.# Top Hydt. Beryl + Jewell						
S.L. Beryl. 2+70	156.50		155.83			156.65		156.33		157.00
ob. B.C. 2+60	155.30	155.30 0.32 0.42 −0.10	154.63			155.28		155.13	160.13℄ 155.80 4.33	155.62℄ 155.80 −0.18 2.92 F 3.10
2+27.5	151.40	151.40 4.42 4.31 +0.11	150.83						160.13℄ 151.90 8.23	151.90 3.72 5.32 F 1.60
1+95 EVC	147.50	147.50 8.12 8.22 −0.10	146.83			147.48		147.33	160.13℄ 148.00 12.13	148.00 7.62 6.89 C 0.73
1+75	145.19	155.62 145.19 10.43 10.50 −0.07	144.52	148.18 157.87 3.26 160.13℄ 12.13 148.00℄ 1.00 149.00℄		145.17		145.02	149.00℄ 145.69 3.31	155.62 145.69 9.93 9.47 C 0.46


R
P.
1/2
Chalcedony
E
B.M. #13
94.41
2.80
97.21
Haines
INDEXED
WK
DEC 5 1949
92.35
4.86
91.68
5.09
92.14
92.15
5.06
91.47
5.30
92.03
92.00
5.21
91.95
3.26
91.25
5.52
91.45
5.01
91.35
5.11
91.70
91.20
5.57
91.30
91.38
91.45
91.30
91.62
91.27
5.19
91.35
5.11
91.20
5.26
91.45
91.22
5.24
90.95
90.95
91.05
91.00
91.20
90.45
6.32
90.50
6.27
90.63
5.83
90.72
5.74
90.85
90.95
6.22
91.00
6.21
90.37
6.40
90.98
6.26
90.38
90.42
90.72
6.49
90.05
6.72
90.20
R
HAINES
E
1/4
Ch.
Sh
P.
7444-L
R.
53
P-21
Gutter
96.77
92.38
4.08
92.38
92.18
4.59
92.85
4.36
BM #24
92.68
3.55
96.13
33
96.46
Sub Gr.
1/2
92.11
92.04
91.85
91.85
4.92
92.58
4.63
92.50
4.71
92.55
4.66
91.88
4.58
91.84
91.65
4.81
91.58
4.88
91.79
4.99
91.80
4.97
Ch.
91.70
91.70
91.55
91.50
91.70
91.80
1/4
91.60
4.86
91.60
91.50
4.96
91.35
5.11
91.52
4.94
91.83
4.63
E
91.30
91.31
91.27
91.10
91.27
91.45
1/4
90.90
5.56
90.92
90.85
5.61
90.70
5.76
90.90
5.89
91.05
5.72
Ch.
90.48
6.29
91.45
5.76
91.55
5.66
5.05
+0.01
90.60
90.51
90.49
91.15
6.06
P.
90.37
6.09
90.21
90.13
6.64
90.80
6.41
1/2
R.

Rad.

CHALCEDONY

INDEXED
WK
DEC 5 1949

Ingraham

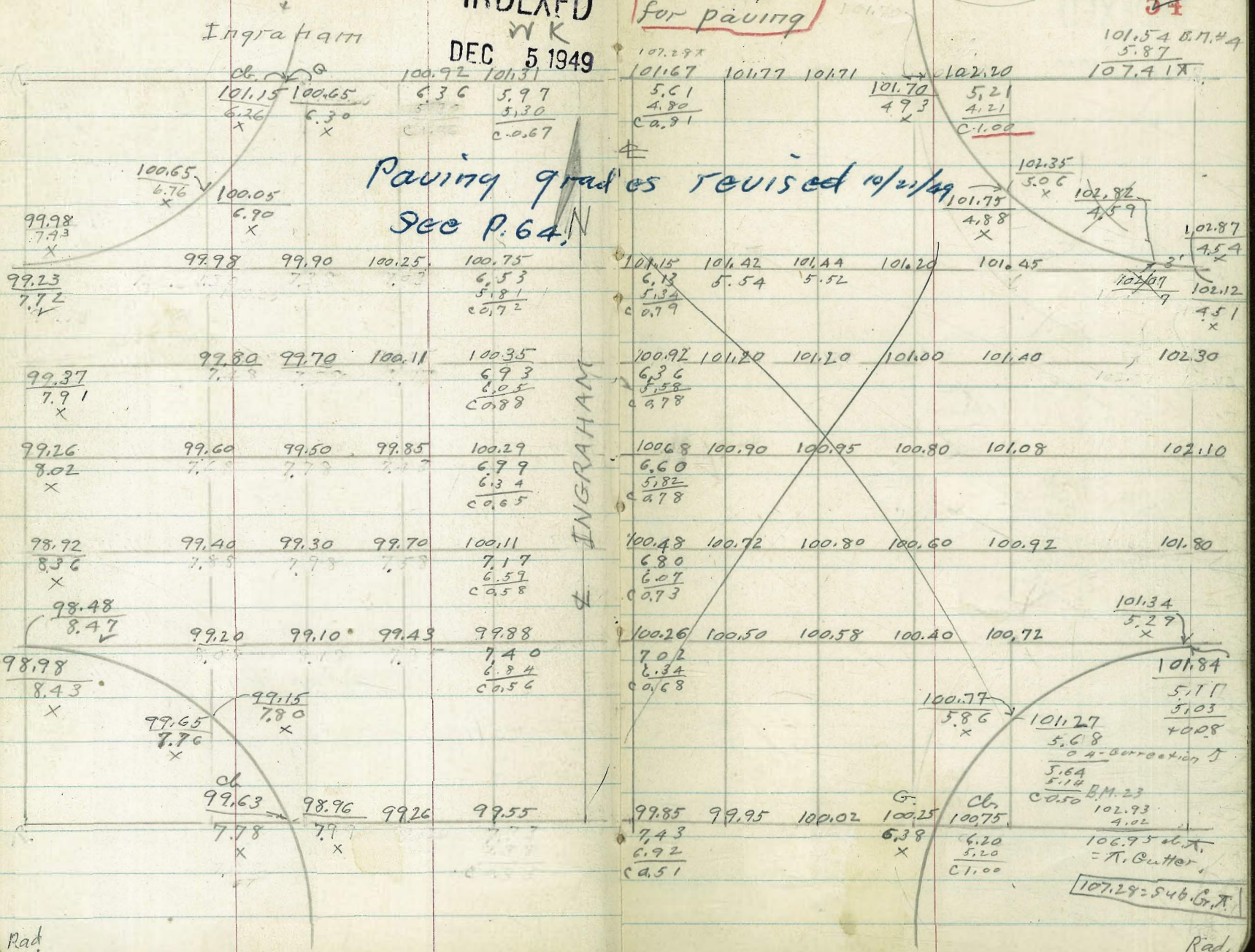
See P. 64 for paving

7445-L

R.P. 54

Paving grades revised 10/21/49

See P. 64

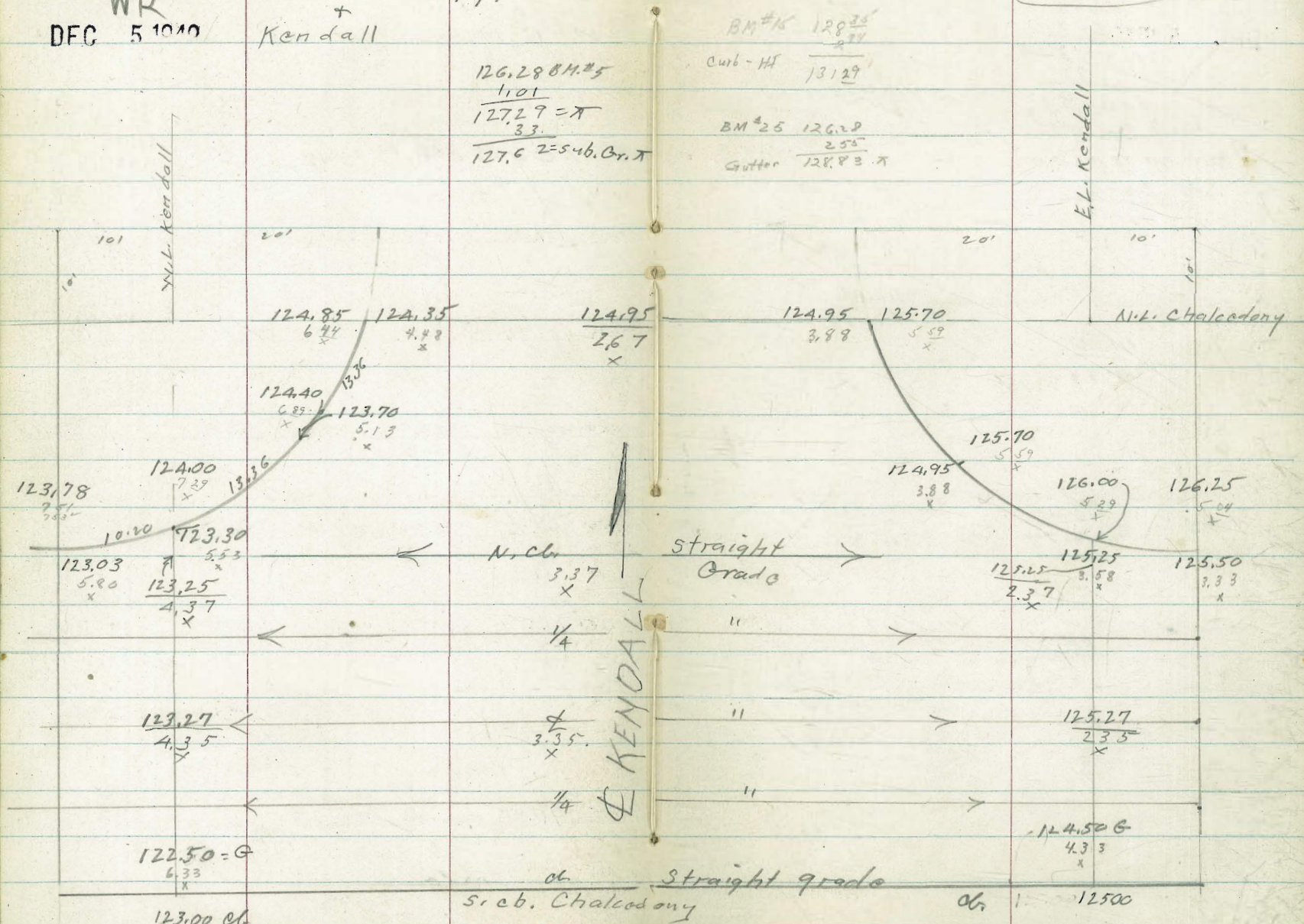


INDEXED
WK
DEC 5 1940

CHALCEDONY.
+
Kendall

7447-L

55



INDEXED

DEC 5 1949

CHALCEDONY + Jewell

7446-L

56

Sub. Gr. at

Revised grade

10-24-49

Raised Gr. 0.20 to 112.42

Date top valve El. 112.28

New Gr.

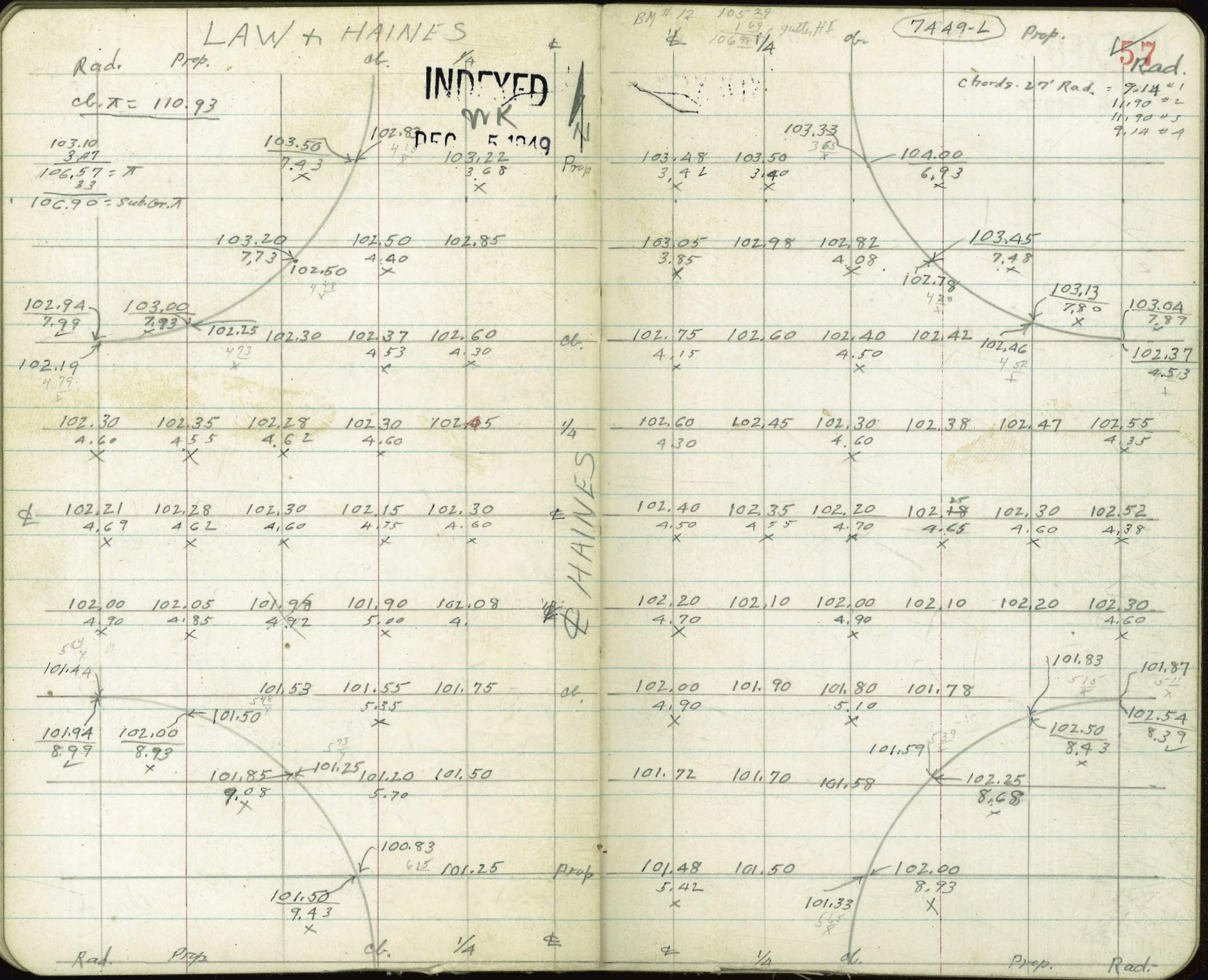
JEWELL

LAW + HAINES

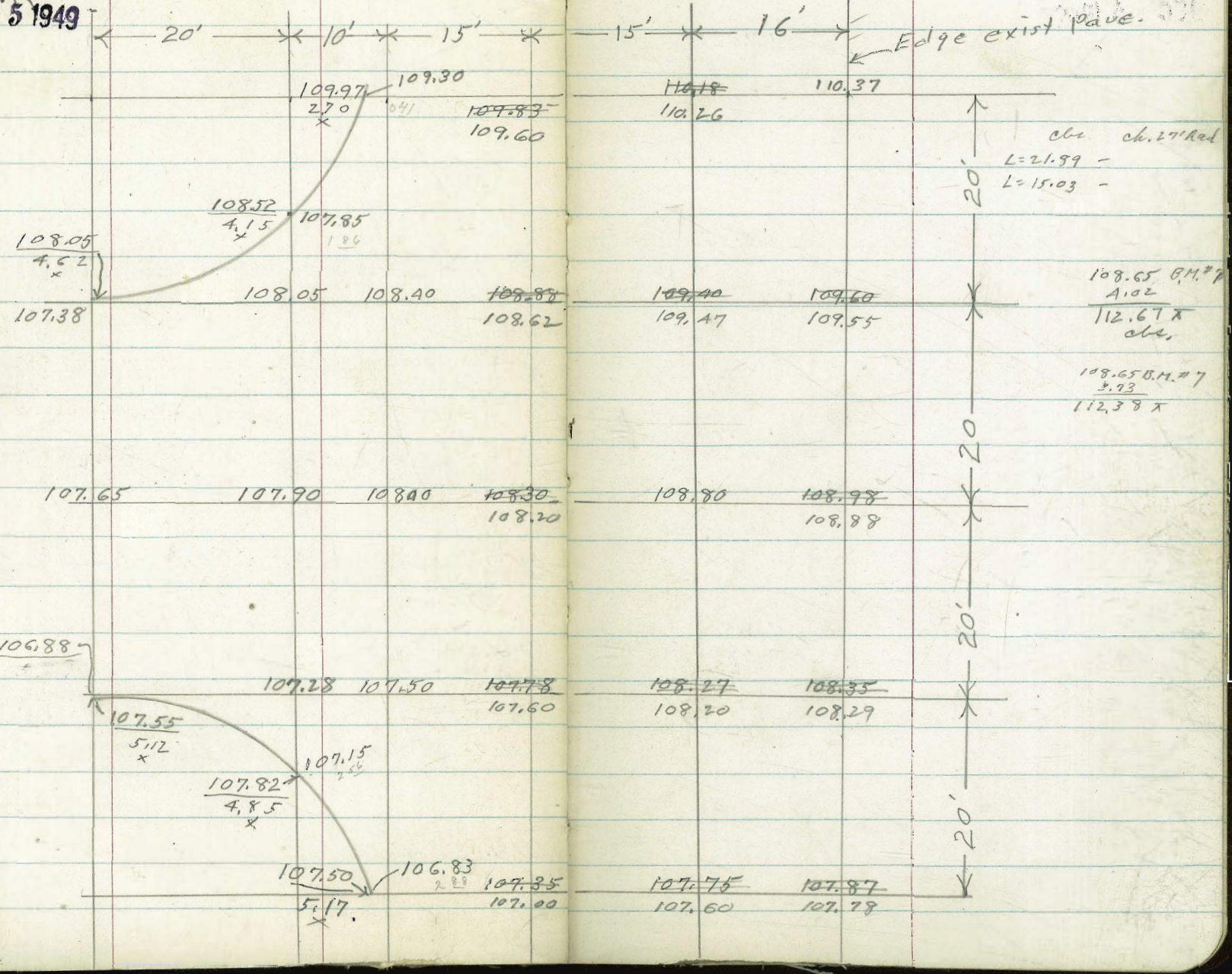
INDEXED
WK
DEC 5 1949

7449-L

57



LAW + Ingraham
(7449-L)



INDEXED

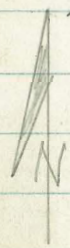
DEC WK

LAW & JEWELL

L 7455

59

BM #27
132.33
2.12
134.45 -
3.7
134.78 = Sub. Gr. ±



℄ LAW St.

132.33 B.M. #27
6.77
139.10
4.70
134.40
3.63
138.03 ±

131.39

131.02
3.43 Pave

130.43
4.02 Pave

129.98
4.47 Pave

129.55
4.90 Pave

129.05
5.40 Pave

℄ Jewell

132.23
2.55 ×

131.98
3.84 ×

132.65
5.91 ×

131.45
4.37
4.30 ×

131.80
2.98 ×

131.48

132.12
6.34 ×

#8
131.51
6.95
CL = 138.46 ±

Cutler ± 135.82

131.82
6.64 ×

131.15
4.67 ×

132.00
6.46 ×

132.29
6.17 ×

131.30
4.52 ×

131.33

131.62
4.20 ×

131.20
3.58 ×

131.00
3.78 ×

130.70
4.08 ×

130.65
4.13 ×

131.42
3.36 ×

10'

132.04
2.78 ×

130.72

130.57
3.25 ×

131.00
4.82

130.25
4.53 ×

130.30
4.48 ×

131.12
7.34 ×

131.50
6.96

130.20
5.62

130.80
7.66 ×

129.80
6.04 ×

129.80
4.78 ×

129.82

130.45
8.01 ×

129.53
6.29

130.20
8.26

LAW & KENDALL

Gutter
138.03 From P. 59

B.C. Prop. 135.75 3.95 Cl. 135.08 2.95 1/4 135.50 1.70 Prop.

134.70 5.00 134.05 3.15 134.50 2.70 134.03 4.00

134.07 5.68 133.84 5.56 133.17 4.86 133.35 4.68 Cl.

133.20 4.00 133.30 3.90 133.70 3.50

1/4 133.17 4.03 133.15 4.05 133.10 4.10 133.05 4.15 133.40 3.80

℄ 133.22 3.98 133.10 4.10 133.00 4.20 132.95 4.25 133.25 3.95

1/4 132.90 4.30 132.76 4.44 132.63 4.57 132.65 4.55 133.00 4.20

132.47 5.56 Cl. 133.14 5.32 133.05 5.41

132.35 4.85 132.30 4.90 132.80 4.40 133.10 4.10

132.38 5.65 132.23 5.80 132.18 5.02 132.60 4.60 132.90 4.30

B.M.#9 138.93 + 0.47 = 139.40 Prop. 132.90 5.56

132.03 6.00 132.40 4.80 132.80 4.40

132.70 5.76

Kendall 11

B.M.#28 135.65 1.22 136.87 .33 137.20 Sub. Gr. 60

Prop. B.C. 135.54 M.L. 139.70

1/4 135.83 Cl. 2.20 135.80 1.40 136.50 3.20 135.36 1.84

134.85 2.35 134.90 2.30 134.80 2.40 135.60 4.10 134.93 3.10

135.10 4.50 135.54 4.16 = 4.19 134.87 3.16 134.53 3.508

134.10 3.10 134.25 2.95 134.05 3.15 134.15 3.05

2.33

133.75 3.45 133.72 3.48 133.60 3.60 134.10 3.10 134.75 2.45 135.00 2.20

133.50 3.70 133.50 3.70 133.30 3.90 133.75 3.45 134.38 2.82 135.00 2.20

2.58 C 1.12 on M.H. Rim

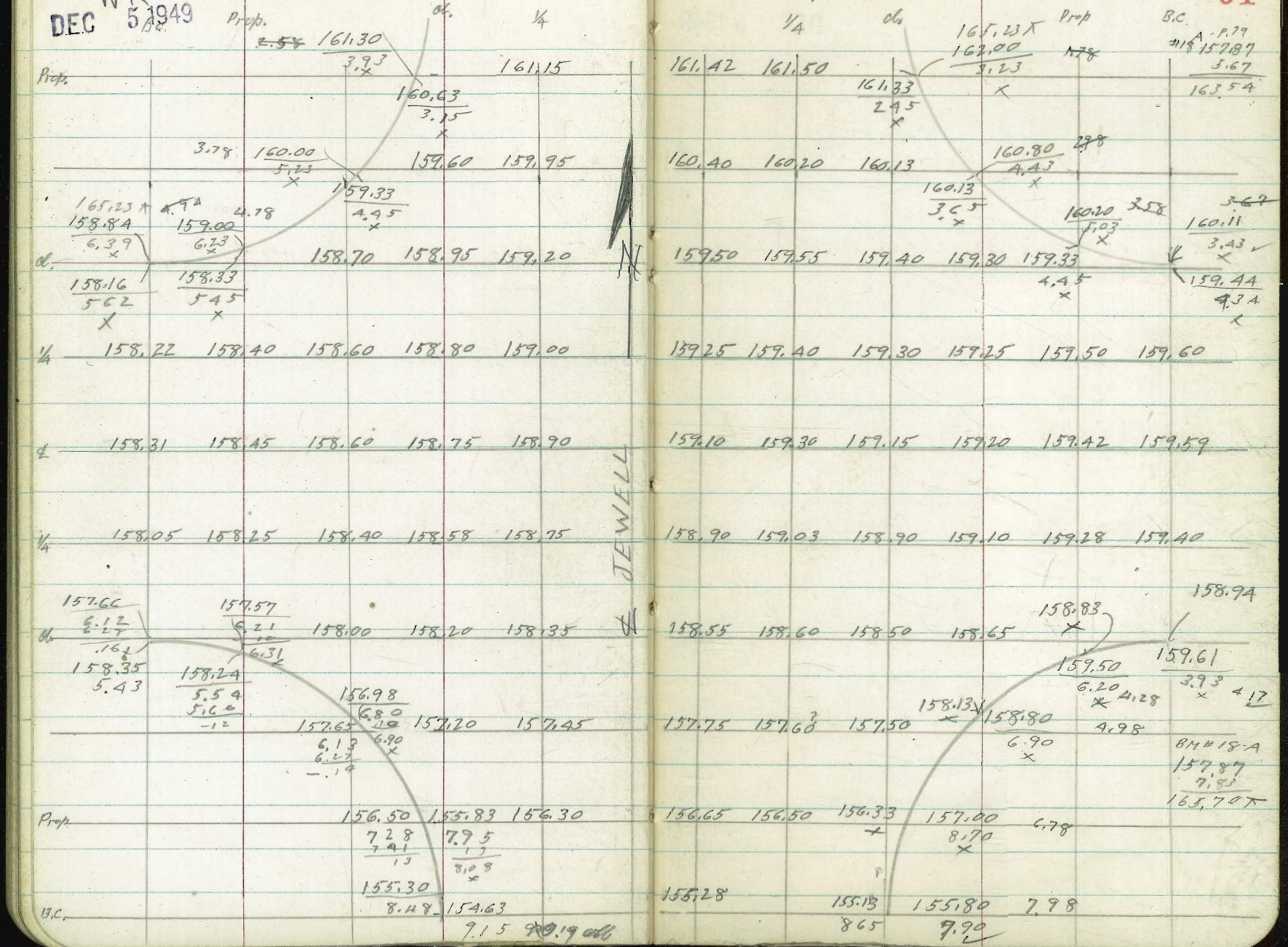
133.25 3.95 133.10 4.10 133.15 4.05 133.52 3.68 134.05 3.15 134.80 2.40

134.39 3.64 133.05 4.15 133.00 4.20 133.37 3.83 133.88 4.15 134.55 391 135.06 3.40

133.33 4.70 134.00 446 132.90 4.30 132.98 4.22

132.70 4.50 133.65 4.81 132.98 5.05 39

BERYL + JEWELL

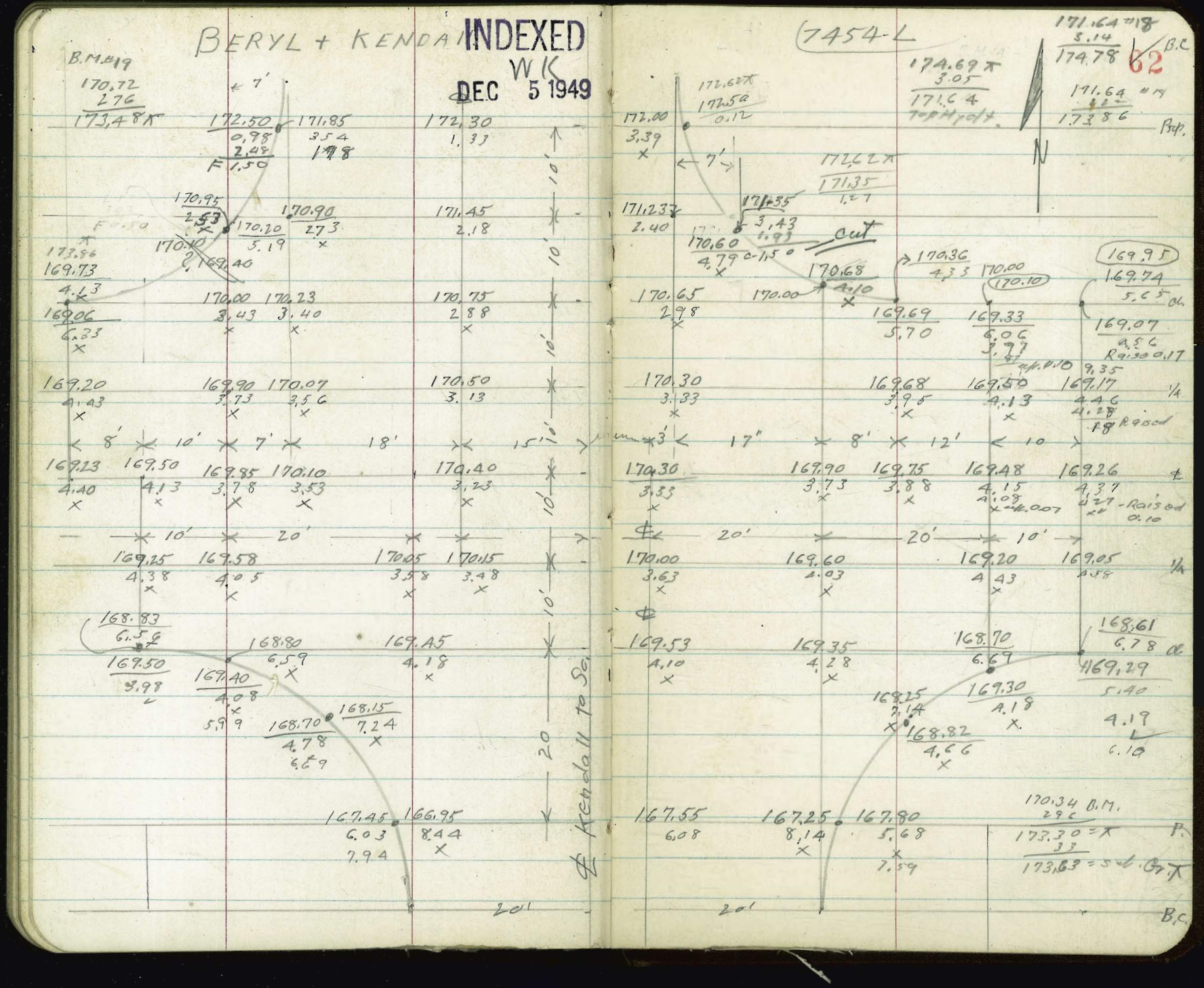


BERYL + KENDALL

INDEXED
WK
DEC 5 1949

7454-L

62



INDEXED
WK
DEC 5 1949

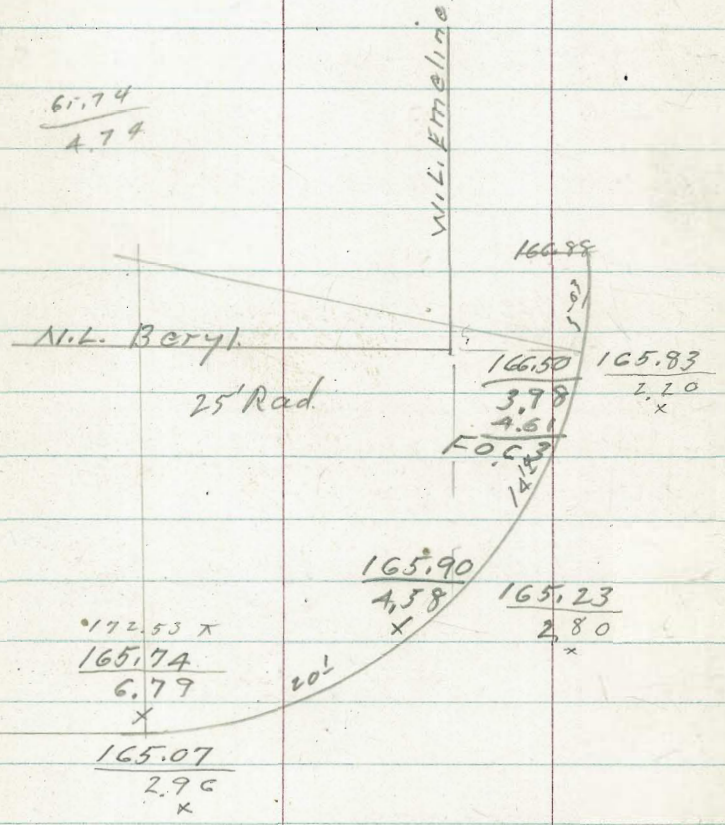
BERYL + EMELENE

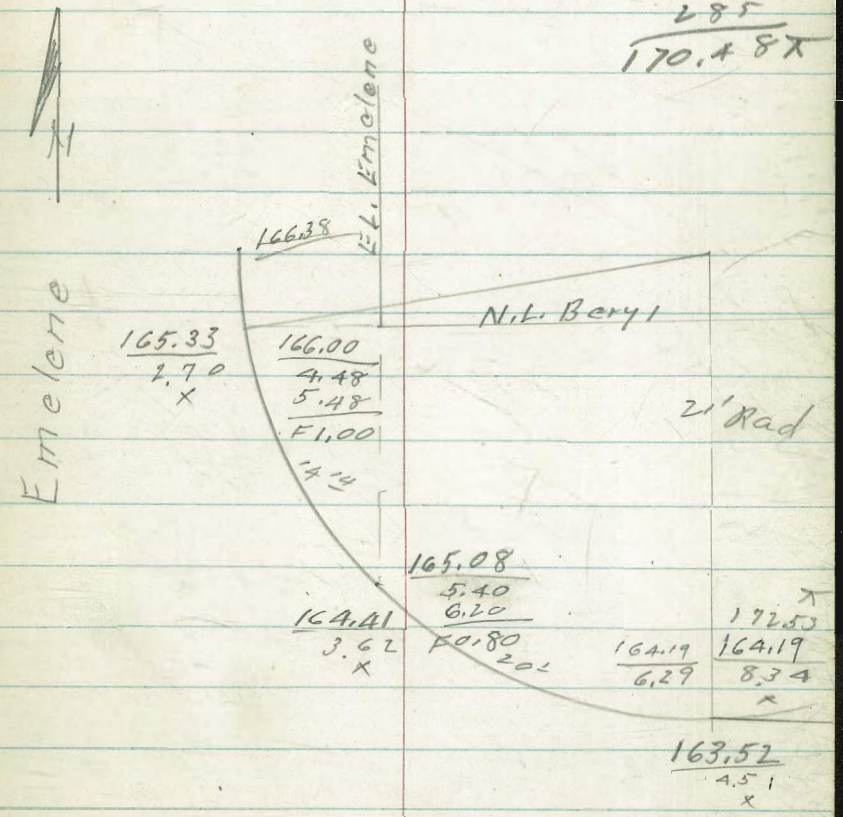
7454L

63

174.69 P.62
4.33
170.36
2.17
172.53 X

X P.62 174.78
7.15
167.63
2.85
170.48 X





Beryl St.

Ingraham & Chalcedony

10' 70' 10'

See P. 5A for ch. returns

102.93 BM#23
2.34
105.27 ℄
.33
105.60 = Sub Gr. ℄

100.65 | 101.06 | 101.66
4.95 | 4.54 | 3.94
3.95 | 3.54 | 2.94
L | 3.65 | 3.11
| F0.11 | F0.17

INDEXED
DEC 5 1949

	99.98	99.90	100.34	101.00
99.23	5.62	5.70	5.26	4.60
6.37	4.62	4.70	4.26	3.60
5.37	4.83	4.73	4.30	3.69
	F0.21	F0.03	F0.04	F0.09
99.37	99.80	99.70	100.13	100.75
6.23	5.80	5.90	5.47	4.85
5.23	4.80	4.90	4.47	3.85
5.31	4.98	4.97	4.52	3.95
F0.08	F0.18	F0.07	F0.05	F0.10
℄ 99.26	99.60	99.50	99.90	100.52
6.34	6.00	6.10	5.70	5.08
5.34	5.00	5.10	4.70	4.08
5.42	5.17	5.17	4.76	4.22
F0.08	F0.17	F0.07	F0.06	F0.14
98.92	99.40	99.30	99.62	100.26
6.68	6.20	6.30	5.98	5.34
5.68	5.20	5.30	4.98	4.24
5.72	5.47	5.34	5.02	4.49
F0.04	F0.27	F0.04	F0.04	F0.15
98.48	99.20	99.10	99.45	100.00
7.12	6.40	6.50	6.15	5.60
	5.40	5.50	5.15	5.60
	5.64	5.53	5.21	5.73
102.93 = BM 23	F0.24	F0.03	F0.06	F0.13
1.67				
104.60 = ℄				

Ink = Finish Gr.

98.96	99.02	99.57
6.64	6.58	6.03
L	5.58	5.03
	L	V

Grade change 10/21/49

℄ 10 10 10

102.05 | 102.09 | 101.98 | 101.70 - Sct.
3.55 | 5.36 | 5.47
2.53 | 5.50 | 5.72
V | F0.14 | F0.35

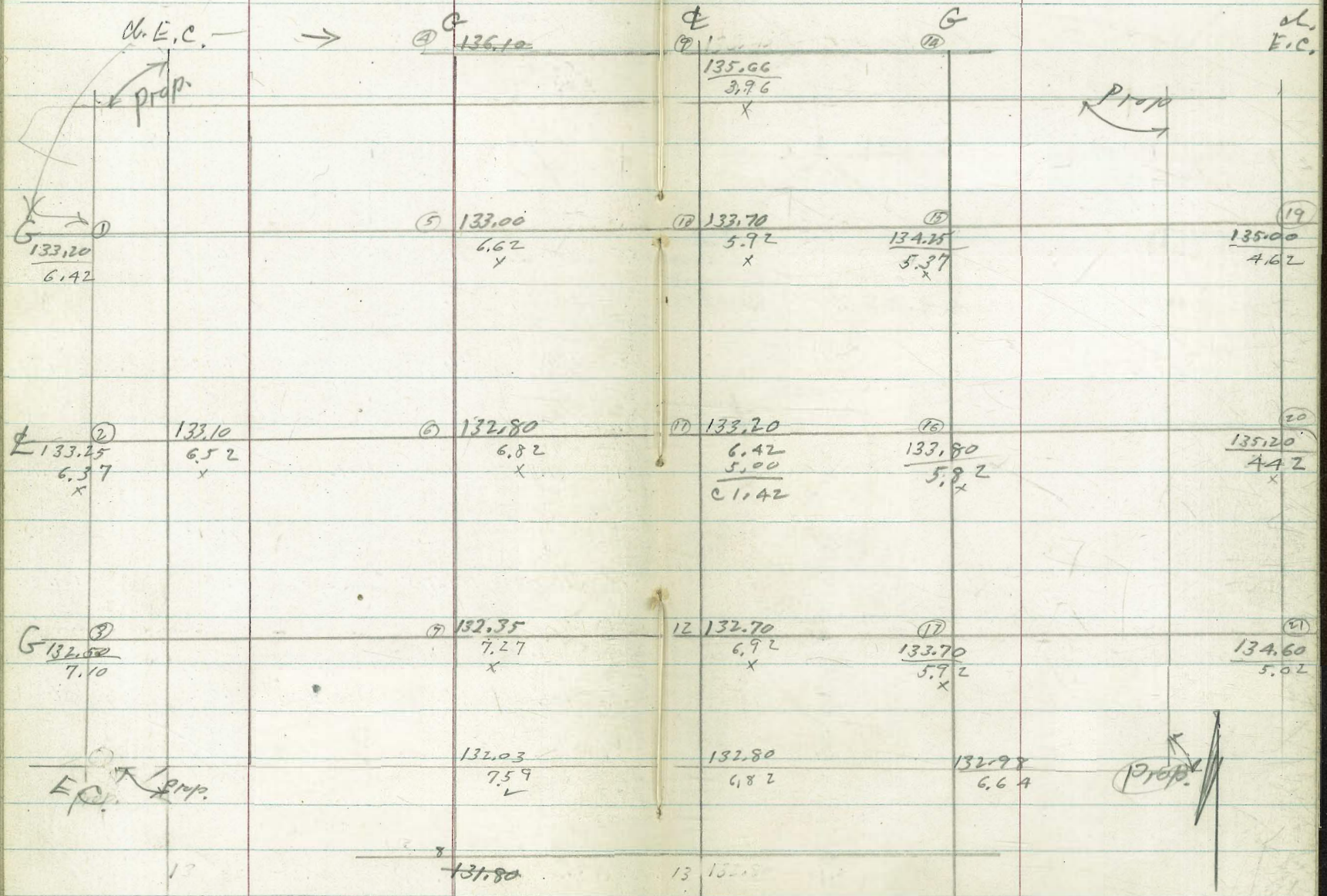
102.93 = B.M. #23
3.90
106.83 = ℄
.33
106.96 = Sub Gr. ℄

102.93
4.52
107.45 = Fin. HI

4.55	101.63	101.50	101.30	101.45	
4.05	5.33	5.46	5.66	5.51	102.12
3.67	5.87	5.95	6.15	6.00	5.33
3.05	6.06	6.10	6.26	6.00	
3.01	F0.24	F0.15	F0.11	Grade	
2.04					
1.28	101.35	101.25	101.00	101.40	102.30
1.32	5.61	5.71	5.96	5.56	
2.90	6.10	6.20	6.45	6.46	F0.10
3.42	6.27	6.35	6.48	6.46	
3.32	F0.17	F0.15	F0.03	F0.11	
3.23					
2.09					
1.04	101.12	101.00	100.80	101.08	102.10
4.56	5.84	5.96	6.16	5.88	
4.13	6.33	6.45	6.65	6.39	
0.43	6.51	6.58	6.71	6.37	
3.56	F0.18	F0.13	F0.06	Grade	
3.47					
0.09					
5.78	100.88	100.75	100.60	100.92	101.80
1.82	6.08	6.21	6.36	6.04	
4.38	6.57	6.70	6.85	6.53	
0.44	6.75	6.83	6.98	6.64	
4.82	F0.18	F0.13	F0.13	F0.11	
3.72					
0.10					
1.00.53	100.64	100.50	100.40	100.70	101.34
5.07	6.32	6.46	6.56	6.22	
4.64	6.81	6.95	7.05	6.73	
0.43	7.00	7.07	7.10	6.88	
4.07	F0.19	F0.12	F0.05	F0.13	
3.98					
0.09					

100.05	100.15	100.04	100.25
5.55	7.30	7.41	
4.55	L	L	
L			

Law + Kendall



Tie Points set on Chalcedony — Law

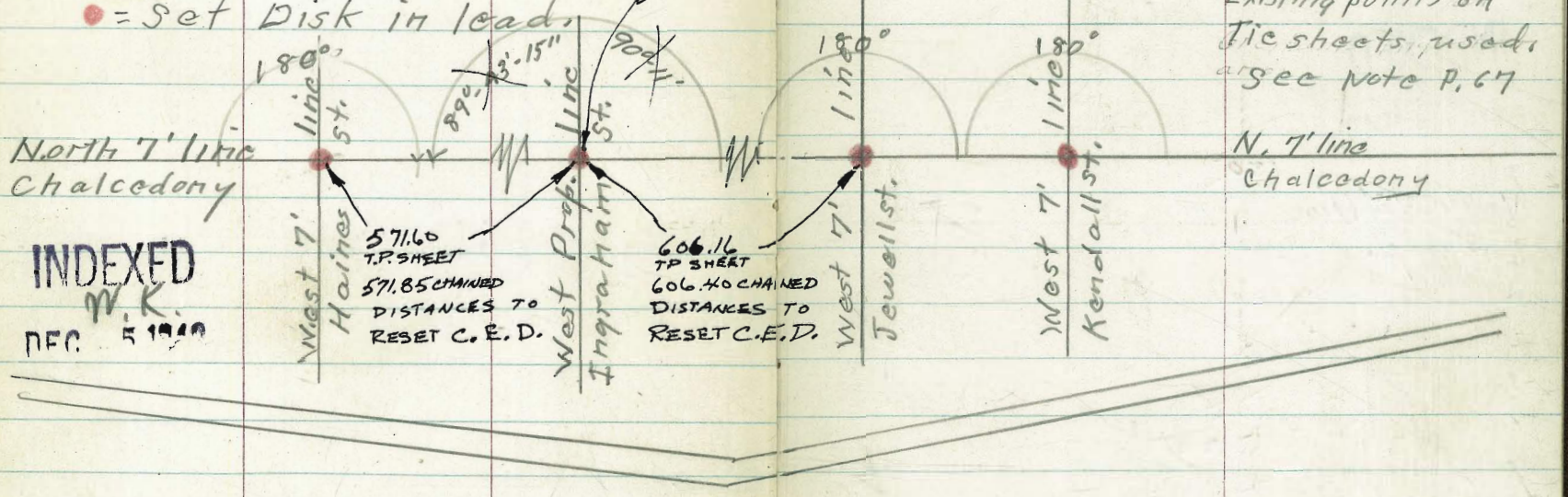
FR

11/22/49
Sommermeyer

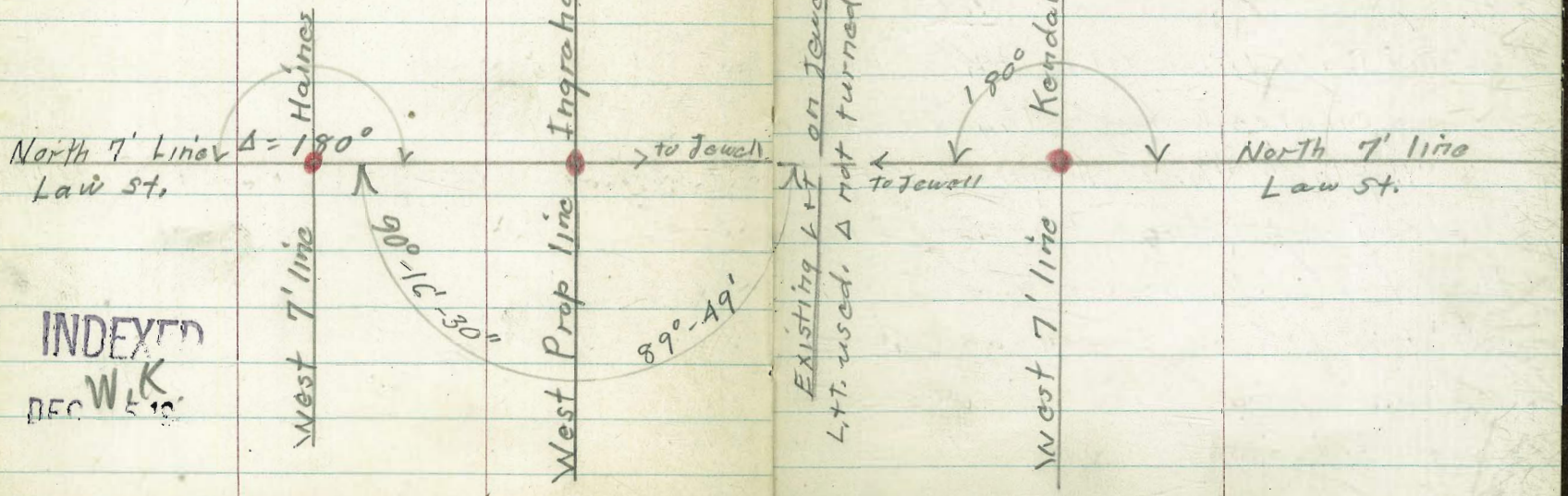
● = Set Disk in lead.

WAS IN ERROR BY 1.00'
MOVED TO FIT DESCRIPTION.
5-4-73 RFR

Existing points on Tie sheets, used. see Note P. 67



INDEXED
W.K
DEC 5 1949

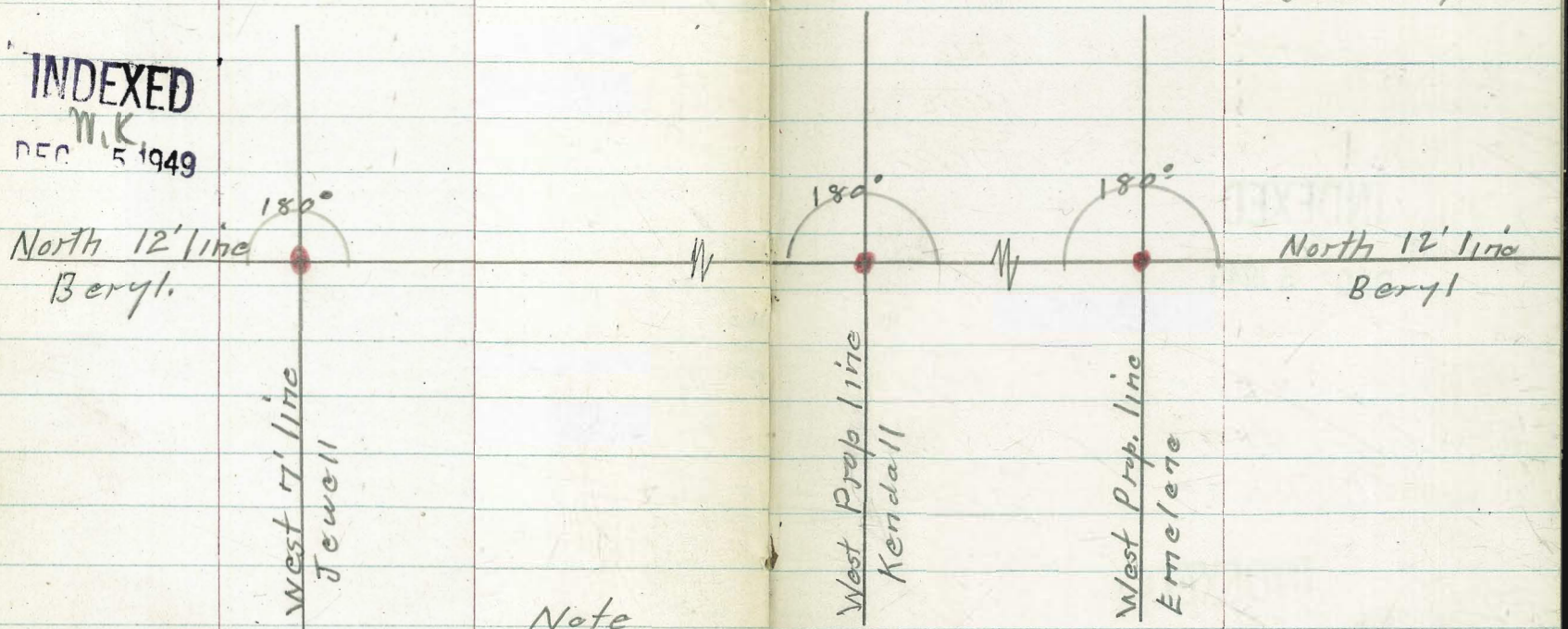


INDEXED
W.K
DEC 5 19[illegible]

Tie points set on Beryl St.

FP

11/22/49
Sommermeyer



Note

North + South lines plug thru from Beryl to Chalcedony.
Law & Chalcedony. plug thru Gresham to Ingraham. Δ at Ingraham.
" St. plugs thru Jewell St. to Lamont.
Chalcedony plugs thru - Ingraham to Lamont.
Beryl St. plugs thru. - Ingraham to Lamont.
Existing L+t° on Jewell and Beryl are o.k. as shown.
Used existing L+t° on Gresham at Law + at Chalcedony
Used existing L+t° on Lamont at Law - Chalcedony + Beryl.
Used existing L+t° on Law St. at Jewell

Benches Set, ORFD

These benches run from Diamond + Gresham
(These benches also shown on pages 78 to 80)

	Beryl St.	EL.=
Jewell -	N.E. B.P.	160.15
Kendall	N.E. B.P.	170.34

	Law St.	
Haines	N.E.B.P.	103.10
Jewell	N.E.B.P.	132.33
Kendall	N.E.B.P.	135.65

	Chaucedomy	
Gresham	N.E.B.P.	89.82
Haines	N.E.B.P.	92.58
Ingraham	N.E.B.P.	102.93
Jewell	N.E.B.P.	113.28
Kendall	N.E.B.P.	126.28

Transfer BM's to Bench Plugs.

BM #12 to N.E.B.P. Law + Haines

105.49 BM #12
1.69
106.98 #1
3.88
103.10
103.10 Elv. = B.M. #21

Set N.E.B.P. Chalcedony + Jewell	3.50	113.28 = B.M. #22		
5.68	116.78	—	111.10	B.M. # 16-P.80
set N.E.B.P. Chalcedony & Ingraham	6.50	102.93 = BM 23		
0.78	109.43		108.65 = #7	
set N.E.B.P. Chalcedony & Haines	4.19	92.58 = BM #24		
2.36	96.77		94.41 #13	
set N.E.B.P. Chalcedony & Kendall	2.55	126.28 = BM #25		
0.48	128.83		124.35 #15	
N.E.B.P. Gresham + Chalcedony	3.72	89.82 = B.M. #26		
4.20	93.54	—	89.34	B.M. #1

B.M. #31

Set. N.E.B.P. Gresham + Law			0.94	100.26
BM #26	11.38	101.20	—	89.82
Set. Beryl N.E.B.P. + Jewell	3.63	160.15	= B.M. #30	
5.91	163.78	157.87	B.M. #18 A	
N.E. B.P. Beryl + Kendall			5.05	= B.M. #29 170.34
B.M. #19	4.67	175.39	—	170.72
Set. N.E.B.P. Law + Kendall	= B.M. #28		2.38	#28 135.65
From P. 59	138.03			
Set. N.E.B.P. Law + Jewell	= BM #27		3.49	B.M. #27 132.33
B.M. #8 P.80	4.31	135.82	—	131.51

Set B.M. S.W. Beryl & Jewell
7×14" Cross in Ch. 4.78 157.87 = B.M. #18

0.46 162.65 162.19 B.M. #14

Set { Back walk. N.E.ly.BC. 190 170.72 = BM #19
. 15" Rad. Ref.

B.M. #18 0.98 172.62 — 171.64

Beryl.

Jewell Top. S.E. Fire Hydt. (P.52) ~~B.M. #14~~ 162.19

Lamont N.W. L&T. (P 35) 162.02 #17

Kendall Top. S.E. Hydt. (P.62) taken out #18 11/2/49 171.64

INDEXED
W.K.
DEC 5 1949

Benches Set
Levels in G259-P23

	Chalcedony	
At Gresham	N.W. 7' L+T.	89.34 = #1
Famuel	N.E. "	85.26 = #2
Everts	N.E. "	79.11 = #3
Ingraham	S.E. "	101.54 = #4
Jewell	S.E. Fire Hydt.	115.41 = #5
Haines	Top Fire Hydt.	94.41 = #13
Kendall	" " " (P.9)	128.35 #15
Jewell	(L+T. on S. 7') S.W. 3' Tie Back	111.10 #16
	Lamont	
at Ingraham	S.E. 7' L+T.	108.65 = #7
Jewell	Top S.W. Fire Hydt.	131.51 = #8
Kendall (P.24)	Top S.E. " "	138.93 #9
Lamont (P.24)	N.W. 7' L+T.	143.10 #10
Gresham (opposite page)	S.E. 7' L+T.	98.68 = #11
Haines	Top Hydt.	105.29 #12
	Beryl. P. 79	

89.34 = B.M. #1
12.00
101.34
2.66
98.68 = Set. B.M. #11

115.41 = B.M. #5
0.33
115.74 = x
4.64
111.10
115.74 x

41-50
18.40
70 30

126.01 S.W.L. & T. Lamont & Chalcedony

Set 7x1

101.20
98.68
2.52

90.64
75
89.89

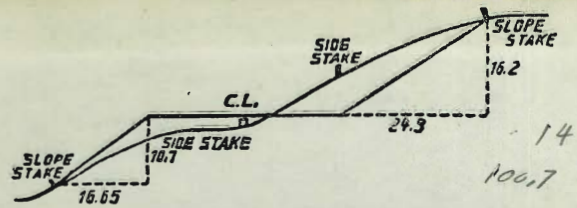
12
3
15.1
36
11.5

74
47
27

425
69.7
2.8

99.90
100.80
20430
100.04
100.115
.99

19990
99.95



14

100.7

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.20	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

THE NATIONAL BLANK BOOK COMPANY
HOLYOKE MASSACHUSETTS
NEW YORK CHICAGO BOSTON SAN FRANCISCO