

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

Please Return to
City of San Diego Water Dept.
Room 903 Civic Center

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 cut or fill and side 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.

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	.79	.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	.771	.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	.885	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.

BLACK CANYON TUNNEL, X-SECTIONS.

STATION 163+63 TO 156+00.

MAY 9, 1953

D. LEONARD

HARD GRANITE DRIPPING WET
EXTRA SECTIONNOTE: READINGS TAKEN AT TOES AND AT 150°
180° AND 210° MAKE ALLOWANCE FOR LOOSE
MATERIAL IN BOTTOM OF TUNNEL.

Leonard

HARD GRANITE DRIPPING WET

D. BROWN - NOTES

163+63	0°	5.15'	10°	5.12'	15°	5.15'
	20°	4.65'	30°	4.3'	45°	4.4'
	50°	4.65'	60°	4.6'	70°	4.75'
	90°	4.5'	98°	4.3'	110°	5.2'
	117°	4.9'	125°	4.9'	150°	4.2'
	180°	3.6'	210°	3.7'	225°	3.8'
	255°	3.8'	260°	3.1'	270°	3.55'
	275°	3.3'	290°	3.8'	305°	4.9'
	320°	4.9'	330°	4.0'	334° 335°	4.9'
	350°	5.3'	357°	4.25'		

163+60	0°	4.7	10°	4.45'	20°	4.6'
	30°	4.0'	40°	4.3'	50°	4.3'
	60°	4.25'	65°	4.1'	77°	4.5'
	90°	4.55'	95°	5.0'	110°	4.8'
	120°	5.3'	150°	4.75'	180°	3.65'
	210°	3.7'	230°	3.5'	250°	3.6'
	275°	4.5'	290°	3.55'	298°	3.4'
	310°	4.0'	325°	3.9'	332°	4.2'
	340°	4.1'	350°	4.35'	355°	4.6'

HARD GRANITE - WET
EXTRA SECTION

HARD GRANITE - WET

MAY 9, 1953

D. LEONARD

D. BROWN - NOTES

163+58	0°	4.0'	40°	3.95'	25°	4.85'
	40°	4.15'	50°	3.75'	60°	3.85'
	75°	4.25'	87°	4.6'	95°	4.1'
	110°	5.3'	125°	5.0'	150°	4.0'
	180°	3.65'	210°	3.7'	230°	4.0'
	250°	4.0'	255°	4.25'	260°	4.05'
	270°	3.95'	286°	4.05'	290°	3.5'
	295°	3.65'	316°	4.2'	340°	3.65'
	358°	4.25'	355°	4.05'		
163+55	0°	4.95'	10°	5.05'	15°	5.0'
	35°	4.4'	50°	4.25'	60°	3.8'
	70°	3.65'	80°	3.7'	90°	4.05'
	102°	4.7'	105°	4.55'	112°	5.25'
	125°	5.2'	150°	4.2'	180°	3.7'
	210°	3.8'	230°	4.0'	245°	3.8'
	265°	3.6'	270°	3.3'	285°	3.3'
	300°	3.45'	315°	3.6'	325°	3.75'
	336°	4.1'	345°	4.25'	350°	4.45'

MAY 12, '53

LEONARD
SPURLING.HARD GRANITE WET
EXTRA SECTION

163+52	0°	43'	110'	4.7	125°	5.0'
	10°	4.5'	150	4.0	180	3.7
	20°	4.5	210	3.8	230	4.0
	35°	4.1	250	3.95	270	3.4
	50°	3.75	285	3.6	295	3.1
	60°	3.4	310	3.3	320	3.2
	75°	3.35	330	3.5	340	2.65
	85°	3.35	350	4.15		
	95°	4.1				

HARD GRANITE WET

163+50	0°	4.5'	10°	4.9'	17°	5.25
	30°	5.2'	40°	3.9	45°	3.65
	60°	3.7'	70	3.8	80°	3.65
	90°	3.8	108°	4.6	120°	4.7
	130°	4.8	150	4.0	180	3.7
	210	3.8	230°	4.0	250	3.9
	270	3.4	290	3.4	310	3.45
	330	4.0	340	4.15	350	4.4

HARD GRANITE WET

163+45	0°	4.35	10°	4.9	15°	4.85
	30°	4.3	40°	4.25	60°	3.7
	75°	3.8	90°	4.25	95°	3.85
	110°	4.1	130°	4.7	150°	4.0
	180°	3.6	210	3.75	220	3.6
	240°	3.45	255	3.2	270	3.05
	290°	3.3	305	3.65	325	3.95
	340	4.25	350	4.25		

HARD GRANITE DAMP

163+40	0°	4.7	10°	4.4	20°	4.8
	40°	4.75	45°	4.95	55	4.45
	75°	4.2	82	4.15	90	3.75
	105°	3.45	115°	4.3	127	4.7
	150	4.0	180	3.6	210	3.8
	225	3.6	240	3.45	260	3.45
	270	3.35	293	4.0	310	4.05
	335	4.05	345	4.2	3.55	4.6

Ditto

163+35	0°	3.9	10°	4.0	25°	3.9
	35	3.75	43	4.0	60°	3.55
	90°	3.65	120	4.85	130	4.8
	150	4.0	180	3.65	210	3.45

cont'd

163+35	225	3.8	245	3.15	260	3.3
	270	3.15	290	2.9	315 ⁰	3.15
	335	3.45	345	3.65	3.55	3.85

HARD GRANITE DAMP

163+30	0°	4.3	10°	4.3	20	4.3
	30	3.75	40	3.6	45	3.85
	55	3.6	65	3.9	80°	4.35
	90	4.3	110°	4.4	130°	4.7
	150	4.2	180	3.75	210	3.9
	225	3.8	235	3.25	260	2.85
	270	2.8	295	2.8	310	3.2
	335	3.35	347	4.25	352	4.45

HARD GRANITE, DAMP,

163+25	0°	4.65	5°	4.5	25°	3.9
	35	3.85	45°	3.95	50	3.6
	60°	3.75	70°	3.75	75°	4.1
	80°	4.2	85°	3.95	95°	4.4
	107	4.2	115	4.65	130	4.9
	150	4.1	180	3.8	210	3.8
	220	3.8	227	3.55	247	3.7
	255	3.35	270	3.0	275	3.25
	290	3.05	310	3.25	320	3.35

EXTRA SECTION

CONT'D

163+25 322° 3.7 330° 4.05 340° 4.75
350 4.75

163+20 0° 6.0 10° 5.9 25° 4.6
40° 4.3 50° 4.25 55 3.85
75° 3.8 90° 4.0 102° 4.45
112° 4.6 120° 4.35 130° 4.7
150° 4.0 180° 3.8 210° 4.0
235 4.2 242 4.4 256 4.0
260 3.7 270 3.7 290 3.45
310 4.0 325° 4.4 340 4.4
346 4.45 365 5.55

EXTRA SECTION

163+19 0° 4.1 10° 4.2 20° 4.3
25° 4.0 32° 3.8 53 4.15
65 3.75 70 4.2 90 3.9
100 3.85 110 4.1 130° 4.7
150 4.0 180 3.85 210 4.0
230 4.5 240 4.25 255 4.0
270 3.8 280 3.7 287 3.4
310 3.4 325 3.5 330 4.0
340 3.95 350 3.95 355 4.1

SOLID GRANITE DAMP
BEGIN CAR PASS RT SIDE

163+15

0°	4.3	10°	4.4	20°	4.2
30°	4.3	45°	4.0	60°	3.55
65°	4.0	76°	3.45	85°	4.35
90°	4.3	105°	4.3	120°	4.8
150°	4.0	180°	3.85	210°	4.0
225°	4.2	245°	4.15	260°	4.05
270°	3.6	285°	3.8	300°	4.1
320°	4.2	330°	4.15	340°	4.25
350°	4.4				

EXTRA SECTION
SOLID GRANITE, DAMP.

163+13

0°	4.65	15°	4.8	35°	4.2
40°	4.45	55°	4.3	68°	4.4
90°	4.75	100°	5.2	120°	6.7
150°	4.0	180°	3.65	210°	4.0
225°	4.2	245°	4.5	260°	4.1
270°	3.85	285°	3.55	300°	3.9
312°	4.25	325°	4.3	335°	4.25
340°	4.3	350°	4.35	355°	4.6

HARD GRANITE, DAMP.

163+10

0°	4.9	10°	5.1	15°	4.6
20°	4.2	35°	4.55	45°	5.0
50°	5.3	78°	6.4	90°	5.9

CONT'D

163+10

110°	6.1	120°	6.4	150°	4.0
180°	3.7	210	4.0	225°	4.2
235	4.15	250°	3.9	270	3.7
290	3.95	310	4.15	320	4.25
330	4.35	340	4.6	352	4.45

163+05

0°	4.75	5°	4.9	15°	4.4
25°	4.5	40	4.2	60	4.25
70	4.6	75°	5.6	90°	5.4
110°	6.5	120°	6.7	150°	3.8
180°	3.9	210°	3.9	225	4.25
250°	3.5	270	3.2	295	3.7
310	3.95	320	4.3	335	4.8
345	4.75	355	4.7		

163+04

0°	4.6	10°	4.25	20°	4.4
40	3.95	60°	3.9	70°	3.8
90°	3.8	110°	4.1	130°	4.9
150	3.85	180°	3.8	210°	3.7
225	4.3	235	4.25	265	3.05
270°	2.95	295	3.95	305	3.75
325°	3.7	335	4.2	350	4.25

END OF CAR PASS
HARD GRANITE DAMP

EXTRA SECTION

HARD GRANITE DAMP

162+00

0°	4.4	10°	4.2	20°	4.0
40°	3.85	60°	3.9	75°	3.5
90°	3.8	110°	4.1	120°	4.25
135°	4.6	150°	3.9	180°	3.85
210°	4.0	225°	4.3	240°	3.45
262°	3.7	270°	3.7	280°	3.7
282°	3.35	295°	3.6	310°	3.85
320°	3.65	330°	3.85	340°	4.0
345°	4.1	350°	4.35	355°	4.3

HARD GRANITE DAMP.

162+95

0°	4.6	10°	4.45	20°	4.2
40°	4.3	50°	4.2	60°	3.75
70°	3.7	80°	3.5	90°	3.35
105°	3.55	120°	4.1	135°	4.55
150°	3.85	180°	3.7	210°	4.0
230°	4.5	235°	4.15	245°	3.5
270°	3.45	285°	3.6	290°	3.8
300°	3.9	320°	3.75	330°	3.85
340°	4.0	350°	4.2	355°	4.5

HARD GRANITE DAMP,
SIDES DRY OVER HEAD.

DITTO

162+90	0°	4.4	10°	5.0	20°	4.8
	30°	4.8	40°	4.85	50°	4.4
	60°	4.25	72°	4.0	80°	4.4
	90°	4.4	100°	4.15	115°	3.5
	120°	4.1	135°	4.5	150°	3.9
	180°	3.7	210°	3.9	225°	4.4
	235°	4.0	255°	3.95	270°	3.8
	285°	3.2	295°	3.1	310°	3.4
	325°	4.1	335°	4.3	350°	4.2
162+85	0°	4.15	10°	4.0	20°	4.3
	30°	4.0	45°	3.6	50°	3.5
	60°	3.6	75°	3.55	90°	3.5
	105°	3.35	120°	4.0	135°	4.4
	150°	3.9	180°	3.8	210°	4.0
	225°	4.4	240°	3.95	255°	3.55
	270°	3.35	280°	3.15	295°	3.2
	310°	3.2	320°	3.75	335°	3.75
	345°	4.1	355°	4.25		

HARD GRANITE DAMP
SIDES DRY OVERHEAD

DITTO

162+80

0	3.85	10°	3.55	150°	3.5
30°	3.4	45°	3.45	60°	3.45
75°	3.6	90°	3.6	110°	3.95
135°	4.55	150°	3.9	180°	3.8
210°	4.0	225°	4.5	240°	3.85
250°	3.35	270°	3.5	285°	3.1
310°	2.8	320°	3.3	330°	3.35
340°	3.45	350°	3.75		

162+75

0°	4.5	5°	4.6	20°	4.15
30°	3.1	40°	3.5	55°	3.45
65°	3.55	80°	3.5	90°	3.85
110°	4.1	130°	5.0	150°	4.0
180°	3.9	210°	4.1	225°	4.5
250°	3.95	270°	3.75	277°	3.8
290°	3.6	300°	3.6	3.15°	3.8
330°	3.95	340°	4.1	350°	4.25

MAY 23, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

162+70	0°	4.75'	10°	4.95'	35°	3.8'
	40°	3.9'	60°	3.4'	90°	3.9'
	110°	3.9'	132°	4.6'	150°	4.0'
	180°	3.9'	210°	4.0'	235°	4.8'
	250°	4.55'	270°	4.3'	290°	4.3'
	310°	4.5'	330°	4.8'	340°	4.6'
	350°	4.25'				

HARD GRANITE DAMP

162+65	0°	4.0'	10°	3.75'	35°	3.45'
	50°	3.3'	60°	3.45'	80°	3.4'
	90°	3.3'	110°	3.8'	133°	4.55'
	150°	3.9'	180°	3.8'	210°	3.9'
	235°	4.6'	250°	4.1'	270°	3.8'
	290°	3.8'	300°	4.35'	320°	4.0'
	330°	3.75'	340°	3.85'	350°	4.0'

HARD GRANITE DAMP

162+60'	0°	4.2'	10°	4.1'	35°	3.6'
	50°	3.75'	70°	3.55'	90°	3.5'
	110°	3.5'	135°	4.3'	150°	3.9'
	180°	3.7'	210°	4.0'	230°	4.4'
	240°	4.9'	260°	4.15'	270°	4.0'
	285°	3.95'	305°	4.4'	320°	4.6'

MAY 23, 1953

D. LEONARD
D. BROWN - NOTESHARD GRANITE DRY OVERHEAD
DAMP SIDES

162+60 CONT.	330°	4.45'	345°	4.55'		
162+55'	0°	3.95'	10°	3.8'	30°	3.45'
	50°	3.65'	20°	3.3'	90°	3.4'
	110°	3.4'	133°	4.2'	150°	3.9'
	180°	3.65'	210°	3.8'	230°	4.3'
	245°	4.2'	260°	4.05'	270°	4.05'
	285°	4.3'	300°	4.2'	310°	4.3'
	325°	4.25'	335°	4.25'	350°	4.1'

HARD GRANITE DRY OVERHEAD
DAMP SIDES

162+50	0°	4.15'	10°	4.1'	35°	3.65'
	50°	4.05'	70°	3.55'	90°	3.5'
	102°	3.5'	108°	3.15'	115°	3.4'
	140°	3.85'	150°	3.75'	180°	3.5'
	210°	3.8'	225°	4.1'	240°	4.0'
	250°	4.0'	270°	3.8'	290°	3.65'
	305°	3.9'	320°	3.9'	330°	4.15'
	345°	4.15'	358°	4.25'		

HARD GRANITE EXTRA SECTION
DRY TOP HALF DAMP SIDES

162+48	0°	4.45'	10°	4.5'	32°	3.5'
	50°	2.8'	25°	2.5'	90°	2.5'
	115°	3.0'	137°	3.7'	150°	3.9'
	180°	3.6'	210°	3.9'	230° 235°	4.35'

MAY 23, 1953

D. LEONARD

D. BROWN - NOTES

162+48 CONT.	250° 3.95'	270° 3.7'	290° 3.75'
	310° 3.95'	325° 3.95'	340° 4.45'
	350° 4.5'		

HARD GRANITE DAMP

162+45	0° 4.6'	10° 4.55'	30° 4.6'
	35° 4.4'	50° 3.45'	65° 75° 2.75'
	90° 2.6'	105° 2.55'	125° 3.4'
	135° 3.9'	160° 3.7'	180° 3.5'
	210° 3.9'	225° 4.2'	240° 4.45'
	270° 3.9'	285° 3.6'	300° 4.2'
	325° 4.1'	340° 4.2'	346° 4.7'
	355° 4.6'		

HARD GRANITE DAMP

162+40	0° 4.8'	10° 4.8'	20° 4.95'
	35° 4.0'	45° 3.8'	55° 3.75'
	75° 3.35'	90° 3.4'	105° 3.3'
	115° 3.25'	137° 3.95'	150° 3.9'
	180° 3.6'	210° 3.9'	225° 4.1'
	240° 4.2'	255° 3.7'	270° 3.6'
	285° 3.7'	295° 3.7'	305° 4.0'
	320° 5.15'	335° 5.4'	350° 4.9'

MAY 23, 1953

D. LEONARD
D. BROWN - NOTES

HARD GRANITE DAMP

162+35

0°	4.55'	15°	4.5'	35°	4.1'
45°	4.0'	40°	3.6'	80°	3.1'
70°	3.2'	105°	3.4'	115°	3.3'
136°	4.1'	150°	4.0'	180°	3.6'
210°	3.6'	227°	4.3'	240°	4.15'
255°	3.55'	270°	3.7'	282°	3.85'
294°	3.6'	305°	3.9'	315°	4.05'
325°	4.35'	335°	4.95'	345°	5.0'

HARD GRANITE EXTRA SECTION DAMP

162+33

0°	5.0'	15°	4.9'	35°	4.9'
40°	4.2'	50°	4.1'	56°	3.55'
70°	3.4'	90°	3.2'	110°	3.5'
135°	4.2'	150°	4.0'	180°	3.7'
210°	4.0'	227°	4.25'	240°	4.25'
252°	3.9'	260°	3.45'	270°	3.5'
290°	3.3'	295°	3.7'	305°	3.7'
315°	4.4'	338°	5.3'	340°	5.3'
350°	5.2'				

HARD GRANITE DRY TOP HALF
DAMP SIDES

162+30

0°	4.35'	8°	4.4'	15°	4.2'
35°	4.0'	45°	4.1'	55°	3.8'
70°	3.8'	90°	3.7'	110°	4.05'

MAY 23, 1953

D. LEONARD

D. BROWN - NOTES

162+30 CONT.

125°	4.8'	135°	4.3'	150°	4.0'
180°	3.65'	210°	4.0'	225°	4.25'
235°	3.65'	255°	3.25'	270°	3.9'
295°	3.35'	315°	3.75'	330°	3.95'
340°	4.4'	350°	4.4'		

HARD GRANITE DRY TOP + RT. SIDE

162+25

DAMP LEFT SIDE

0°	4.6'	10°	4.4'	20°	4.6'
35°	4.3'	40°	4.3'	50°	3.9'
60°	3.55'	70°	3.45'	80°	3.35'
90°	3.35'	110°	3.6'	125°	4.25'
135°	4.3'	150°	4.0'	180°	3.75'
210°	4.0'	222°	4.15'	235°	3.4'
250°	3.1'	270°	2.85'	290°	3.15'
310°	4.0'	325°	4.45'	335°	4.95'
345°	4.8'	355°	4.6'		

HARD GRANITE DAMP

162+20

0°	5.2'	10°	4.85'	20°	4.8'
25°	4.2'	35°	4.05'	50°	3.9'
60°	3.95'	70°	4.0'	80°	3.8'
90°	3.65'	115°	3.6'	137°	4.15'
150°	4.0'	180°	3.75'	210°	3.9'
225°	4.1'	240°	4.3'	250°	4.2'

MAY 23, 1953

D. LEONARD

D. BROWN - NOTES

162+20 CONT	270° 3.6'	280° 3.35'	290° 3.4'
	300° 3.5'	310° 4.0'	330° 4.4'
	340° 4.75'	350° 4.9'	355° 5.15'

HARD GRANITE EXTRA SECTION DAMP

162+17	0° 5.5'	10° 5.15'	20° 5.0'
	40° 4.3'	50° 4.2'	60° 4.05'
	70° 4.1'	80° 3.9'	90° 3.85'
	110° 3.95'	135° 4.3'	150° 3.9'
	180° 3.6'	210° 3.8'	225° 4.05'
	235° 3.8'	250° 3.4'	270° 3.25'
	290° 3.65'	310° 4.05'	320° 3.95'
	325° 4.35'	335° 4.75'	342° 5.25'
	347° 4.95'	355° 5.2'	

HARD GRANITE DAMP

162+15	0° 4.3'	10° 4.2'	20° 4.2'
	40° 3.85'	50° 3.7'	60° 3.7'
	75° 3.6'	90° 3.7'	105° 3.9'
	125° 4.3'	135° 4.5'	150° 4.0'
	180° 3.75'	210° 3.9'	225° 4.0'
	235° 3.85'	255° 3.2'	270° 3.05'
	282° 2.9'	297° 3.0'	320° 3.6'
	335° 3.85'	346° 4.2'	350° 4.45'

MAY 23, 1953

D. LEONARD
D. BROWN - NOTES

HARD GRANITE DAMP

162+10

0°	4.6'	10°	4.2'	20°	4.1'
40°	3.95'	50°	3.4'	60°	3.3'
70°	3.4'	80°	3.45'	90°	3.5'
110°	3.65'	125°	4.25'	135°	4.3'
150°	3.9'	180°	3.75'	210°	3.9'
225°	4.1'	235°	3.75'	270°	3.15'
290°	3.05'	310°	3.35'	320°	3.6'
330°	3.8'	340°	4.0'	350°	4.15'

CRUMBLY ROCK DAMP

162+05

0°	4.3'	15°	4.15'	40°	4.5'
55°	4.2'	65°	3.45'	75°	3.3'
90°	3.3'	110°	3.25'	130°	4.2'
135°	4.3'	150°	3.8'	180°	3.6'
210°	3.8'	225°	4.2'	240°	4.2'
255°	3.9'	270°	3.9'	280°	3.9'
295°	4.1'	310°	4.1'	320°	4.4'
335°	4.3'	340°	4.5'	350°	4.45'

CRUMBLY ROCK DAMP

162+00

0°	5.0'	10°	5.0'	20°	5.0'
30°	4.5'	40°	4.25'	50°	3.8'
60°	3.75'	70°	3.8'	90°	3.9'
110°	4.05'	130°	4.6'	150°	3.8'

MAY 23, 1953

D. LEONARD

D. BROWN-NOTES

162+00 CONT.

180°	3.6'	210°	3.8'	230°	4.5'
545°	4.2'	270°	4.4'	285°	4.35'
300°	4.4'	315°	4.8'	325°	5.3'
335°	5.4'	340°	5.1'	350°	5.05'

HARD GRANITE TOP DRY SIDES RAMP

161+75

0°	5.0'	10°	4.9'	25°	4.1'
40°	3.6'	50°	3.5'	60°	3.4'
70°	3.5'	90°	3.6'	110°	3.85'
130°	4.5'	150°	3.9'	180°	3.6'
210°	3.8'	230°	4.6'	250°	4.4'
275°	4.65'	285°	4.3'	300°	4.45'
310°	4.6'	325°	4.9'	330°	5.05'
335°	5.5'	340°	5.65'	350°	5.45'

HARD GRANITE DRY

161+90

0°	4.15'	10°	4.1'	30°	3.65'
40°	3.3'	50°	3.3'	60°	3.35'
70°	3.2'	90°	3.4'	105°	3.8'
120°	4.15'	135°	4.3'	150°	4.0'
180°	3.6'	210°	3.9'	225°	4.2'
240°	4.25'	255°	3.75'	280°	4.0'
283°	3.55'	300°	3.55'	315°	3.8'
330°	4.35'	390°	4.4'	350°	4.45'

MAY 23, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRY

161+85	0°	4.5'	10°	4.4'	30°	4.35'
	40°	4.1'	50°	3.65'	65°	3.25'
	90°	3.3'	95°	3.5'	105°	3.9'
	120°	4.2'	135°	4.4'	150°	3.8'
	180°	3.7'	210°	3.7'	225°	4.2'
	235°	4.0'	255°	3.55'	270°	3.2'
	285°	3.1'	300°	3.4'	310°	3.85'
	320°	4.45'	330°	4.5'	340°	4.3'
	350°	4.35'				

HARD GRANITE DRY

161+80	0°	4.7'	10°	4.6'	20°	4.8'
	35°	5.0'	40°	4.8'	50°	4.6'
	60°	4.45'	72°	4.4'	85°	3.7'
	90°	3.8'	95°	4.25'	110°	4.3'
	130°	4.6'	150°	4.0'	180°	3.75'
	210°	3.8'	225°	4.1'	235°	3.8'
	250°	3.8'	260°	3.45'	270°	3.35'
	290°	3.55'	300°	3.75'	310°	3.9'
	320°	4.0'	330°	4.45'	335°	4.7'
	340°	4.45'	350°	4.65'	355°	4.5'

HARD GRANITE DRY

HARD GRANITE DRY

MAY 23, 1953

D. LEONARD

D. BROWN - NITES

161+75

0°	4.6'	5°	4.45'	10°	4.75'
20°	4.8'	38°	4.8'	50°	5.25'
60°	4.45'	70°	4.0'	80°	3.8'
90°	3.7'	110°	4.1'	135°	4.35'
150°	4.0'	180°	3.8'	210°	4.0'
230°	4.4'	240°	4.0'	250°	3.8'
270°	3.6'	280°	3.75'	300°	3.3'
305°	3.65'	315°	3.75'	320°	3.6'
335°	4.15'	340°	4.75'	345°	4.6'
350°	4.35'	355°	4.25'		

161+70

0°	4.4'	10°	4.25'	20°	4.15'
45°	4.0'	55°	3.25'	70°	3.45'
80°	3.3'	90°	3.55'	110°	3.9'
135°	4.3'	150°	4.0'	180°	3.8'
210°	4.0'	225°	4.15'	240°	4.2'
255°	4.1'	270°	3.8'	285°	3.5'
300°	3.4'	310°	3.35'	320°	3.65'
330°	3.8'	335°	4.1'	340°	4.2'
350°	4.55'	355°	4.3'		

HARD GRANITE DRY

HARD GRANITE DRY

MAY 23, 1953

D. LEONARD

D. BROWN

161+65	0°	5.1'	10°	4.55'	20°	4.4'
	40°	3.9'	50°	3.8'	65°	4.25'
	75°	4.1'	90°	4.1'	110°	4.3'
	120°	4.25'	135°	4.3'	150°	4.0'
	180°	3.8'	210°	4.0'	225°	4.2'
	240°	4.15'	260°	4.0'	270°	3.4'
	290°	3.1'	305°	3.3'	315°	3.25'
	330°	4.05'	335°	5.0'	340°	4.7'
	350°	4.95'	355°	5.15'		

161+60	0°	5.4'	10°	5.0'	20°	5.0'
	30°	3.8'	40°	4.0'	57°	4.65'
	60°	4.55'	70°	4.3'	90°	4.4'
	95°	3.65'	102°	3.7'	120°	4.3'
	135°	4.4'	150°	4.0'	180°	3.85'
	210°	4.0'	220°	4.0'	240°	3.6'
	250°	3.7'	270°	3.35'	290°	3.6'
	300°	4.0'	305°	4.25'	315°	4.2'
	325°	4.4'	335°	4.25'	340°	5.2'
	350°	5.05'	355°	5.2'		

MAY 23, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRY

161755'	0° 4.5'	10° 4.45'	20° 4.2'
	35° 3.6'	50° 3.25'	60° 3.3'
	75° 3.4'	90° 3.35'	100° 3.4'
	110° 3.95'	112° 4.65'	125° 4.35'
	135° 4.3'	150° 3.9'	180° 3.7'
	210° 3.9'	225° 4.2'	240° 3.8'
	260° 3.4'	270° 3.45'	295° 3.7'
	295° 3.9'	300° 4.2'	310° 4.2'
	320° 4.2'	330° 4.25'	340° 4.45'
	350° 4.5'		

HARD GRANITE DRY

161750	0° 5.75'	10° 5.25'	30° 4.9'
	40° 4.6'	50° 3.75'	50° 3.9'
	70° 3.5'	80° 3.45'	90° 3.65'
	110° 3.75'	120° 4.0'	137° 4.15'
	150° 3.8'	180° 3.65'	210° 3.85'
	225° 4.1'	240° 4.05'	250° 4.10'
	270° 3.85'	290° 3.6'	290° 4.0'
	300° 4.25'	315° 4.45'	330° 5.0'
	340° 5.15'	345° 5.3'	350° 5.5'
	355° 5.75'		

MAY 23, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE WET.
QUARTZ VEINS

16145	0° 5.4'	5° 5.65'	10° 5.6'
	30° 5.1'	40° 4.85'	45° 4.9'
	50° 5.05'	60° 4.6'	70° 4.15'
	75° 3.7'	85° 3.2'	90° 3.4'
	105° 3.4'	110° 3.65'	120° 3.6'
	135° 4.2'	150° 3.8'	180° 3.6'
	210° 3.9'	220° 4.0'	235° 3.9'
	250° 3.6'	270° 3.65'	280° 3.9'
	290° 4.0'	300° 3.9'	310° 4.35'
	320° 4.85'	330° 5.25'	340° 5.6'
	350° 5.2'	355° 5.5'	

HARD GRANITE WET
QUARTZ VEINS

16142	0° 5.3'	10° 5.3'	20° 5.3'
	30° 5.0'	40° 4.95'	50° 4.3'
	60° 3.9'	70° 3.35'	80° 2.9'
	90° 2.8'	100° 3.4'	110° 3.5'
	125° 3.6'	140° 3.9'	160° 3.7'
	180° 3.6'	210° 3.8'	220° 4.0'
	230° 4.15'	245° 3.95'	270° 3.9'
	290° 3.8'	300° 4.5'	310° 4.25'
	315° 4.55'	330° 4.95'	340° 5.7'

MAY 23, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

141 + 40 CONT	345° 5.4'	350° 5.25'	355° 6.35'
141 + 35	0° 4.45'	10° 4.2'	35° 3.65'
	45° 3.1'	60° 3.0'	70° 3.1'
	80° 3.1'	90° 3.3'	100° 3.15'
	115° 3.2'	120° 3.5'	140° 3.85'
	160° 3.6'	180° 3.6'	210° 3.9'
	230° 4.5'	245° 4.5'	260° 4.25'
	270° 4.0'	280° 3.8'	290° 3.85'
	300° 4.1'	310° 3.9'	320° 4.25'
	330° 4.7'	340° 4.5'	350° 4.65'
	353° 4.8'		

HARD GRANITE DAMP

141 + 30

0° 3.65	10° 3.25	35° 2.7
45° 2.7'	60° 2.85'	70° 2.9'
90° 3.05'	100° 2.9'	115° 3.2'
130° 3.7'	140° 3.8'	155° 3.8'
180° 3.7'	210° 3.9'	225° 4.3'
235° 4.55'	250° 4.3'	270° 3.95'
285° 4.35'	300° 4.3'	315° 4.25'
330° 4.3'	340° 4.1'	350° 3.95'

MAY, 23, 1953

D. LEONARD
D. BROWN - NOTES

HARD GRANITE DAMP

161 + 25

0°	3.8'	15°	3.8'	35°	3.3'
50°	3.55'	65°	3.2'	70°	3.1'
80°	3.05'	70°	2.85'	100°	2.7'
110°	2.7'	120°	2.75'	130°	3.0'
145°	3.7'	160°	3.6'	180°	3.75'
210°	4.0'	225°	4.4'	235°	4.4'
240°	4.0'	250°	3.9'	260°	3.55'
270°	3.75'	276°	4.05'	280°	3.9'
300°	4.1'	310°	4.35'	320°	4.65'
330°	4.6'	335°	4.05'	340°	4.15'
345°	4.5'	350°	4.85'	355°	4.0'

JUNE 6, 1953

D. LEONARD D. BROWN - NOTES

HARD GRANITE DAMP

161 + 20

0°	3.7'	30°	3.25'	45°	3.0'
60°	2.7'	70°	2.75'	90°	2.8'
110°	2.85'	120°	3.05'	135°	3.25'
150°	3.6'	180°	3.75'	210°	4.0'
230°	4.55'	240°	4.7'	255°	4.7'
270°	4.6'	285°	4.75'	300°	4.35'
310°	4.55'	325°	4.8'	340°	4.3'
350°	4.0'	353°	3.65'		

JUNE 6, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

161715

START CAR PASS HOLE #7.

0°	4.05'	30°	3.45'	15°	4.10'
35°	3.15'	50°	3.05'	65°	2.95'
90°	3.2'	110°	3.85'	130°	4.8'
150°	4.0'	180°	3.65'	210°	3.9'
235°	4.7'	245°	4.9'	255°	4.75'
270°	4.35'	290°	3.85'	305°	4.0'
330°	4.3'	345°	4.15'	355°	4.15'

HARD GRANITE DAMP

161713

EXTRA SECTION

0°	3.8'	10°	3.7'	30°	3.3'
50°	3.65'	57°	3.5'	65°	4.1'
75°	3.95'	77°	4.2'	90°	4.35'
105°	5.3'	110°	5.25'	122°	5.75'
135°	4.6'	150°	3.8'	180°	3.75'
210°	3.8'	225°	4.4'	235°	4.6'
250°	4.7'	270°	4.6'	280°	4.0'
295°	3.9'	310°	3.8'	320°	4.05'
330°	4.1'	340°	3.85'	350°	3.75'

HARD GRANITE DAMP

161710

0°	4.2'	10°	4.2'	30°	3.9'
45°	3.85'	60°	4.3'	70°	5.4'
80°	5.95'	90°	5.2'	105°	5.3'
125°	5.75'	140°	4.4'	150°	3.9'

JUNE 6, 1953

D. LEONARD

D. BROWN - NOTES

161+10 CONT.

180°	3.85'	210°	3.8'	225°	4.4'
237°	4.55'	250°	4.35'	250°	4.05'
270°	4.25'	280°	4.2'	300°	3.4'
323°	3.65'	335°	3.25'	345°	4.1'

HARD GRANITE DAMP

EXTRA SECTION END OF CAR-PASS

161+07

0°	3.9'	10°	4.0'	30°	4.0'
45°	3.9'	56°	4.5'	70°	4.7'
80°	4.7'	90°	5.0'	110°	5.7'
120°	6.0'	135°	4.5'	150°	3.8'
180°	3.75'	210°	3.8'	230°	4.5'
240°	4.6'	252°	5.3'	270°	4.6'
290°	4.7'	310°	4.65'	325°	4.6'
340°	4.2'	350°	4.15'		

HARD GRANITE DAMP

161+05

0°	4.15'	10°	4.2'	30°	4.4'
40°	4.0'	55°	3.75'	70°	4.15'
80°	3.75'	90°	3.15'	110°	3.2'
135°	4.4'	150°	3.8'	180°	3.65'
210°	3.85'	225°	4.4'	245°	5.0'
260°	4.4'	270°	4.3'	282°	4.65'
295°	4.2'	310°	4.3'	320°	4.75'
335°	4.5'	345°	4.4'	350°	4.55'

JUNE 6, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

161+00

0°	4.4'	100°	4.25'	25°	4.2'
40°	3.7'	50°	4.1'	60°	3.5'
70°	3.3'	80°	3.15'	90°	3.0'
105°	3.0'	120°	3.15'	130°	3.25'
142°	4.0'	150°	4.0'	180°	3.7'
210°	3.8'	227°	4.45'	240°	4.6'
255°	4.7'	270°	4.55'	290°	4.6'
305°	4.3'	320°	3.95'	335°	4.25'
350°	4.5'				

HARD GRANITE WET

160+95

0°	3.8'	10°	3.7'	40°	3.05'
55°	3.3'	75°	3.2'	90°	2.9'
100°	3.0'	115°	3.05'	130°	3.3'
145°	3.8'	160°	3.6'	180°	3.7'
210°	3.9'	225°	4.25'	245°	4.6'
257°	4.05'	270°	4.4'	290°	4.65'
300°	4.25'	315°	4.05'	335°	3.75'
350°	3.9'				

JUNE 6, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

160+90

0°	4.45'	10°	4.45'	20°	4.4'
35°	4.25'	55°	4.0'	70°	4.0'
80°	3.7'	90°	3.75'	110°	3.75'
130°	4.15'	140°	4.4'	150°	3.9'
180°	3.75'	210°	3.9'	225°	4.3'
240°	4.55'	255°	4.05'	270°	3.9'
285°	4.0'	302°	3.7'	322°	4.1'
335°	4.15'	340°	4.2'	350°	4.4'

HARD GRANITE DAMP

160+85

0°	4.9'	8°	4.65'	10°	4.05'
30°	3.9'	45°	3.9'	60°	3.95'
75°	3.85'	90°	3.8'	110°	4.05'
130°	4.5'	145°	4.0'	160°	3.8'
180°	3.75'	210°	4.0'	225°	4.3'
235°	4.45'	250°	4.2'	270°	3.95'
285°	3.6'	295°	3.7'	310°	4.0'
320°	4.15'	330°	4.05'	335°	4.45'
345°	4.4'	355°	4.5'		

JUNE 6, 1953

D. LEON ARR

D. BROWN - NOTES

HARD GRANITE DAMP

160+80	0°	4.6'	10°	4.45'	30°	4.1'
	40°	3.95'	52°	3.55'	70°	3.7'
	90°	3.65'	110°	4.05'	130°	4.6'
	150°	3.9'	180°	3.7'	210°	4.0'
	225°	4.3'	235°	4.15'	255°	3.7'
	270°	3.6'	285°	3.65'	300°	3.7'
	320°	4.05'	335°	4.3'	345°	4.5'

HARD GRANITE DAMP

160+75	0°	4.3'	45°	4.2'	35°	3.7'
	50°	3.45'	62°	3.25'	75°	3.45'
	80°	3.5'	90°	3.58'	105°	3.9'
	115°	4.1'	135°	4.4'	150°	3.8'
	180°	3.65'	210°	3.8'	225°	4.2'
	235°	4.2'	240°	4.2'	260°	3.8'
	270°	3.95'	285°	4.1'	300°	4.1'
	310°	4.1'	325°	4.0'	335°	3.95'
	345°	4.05'	350°	4.05'		

HARD GRANITE DAMP

160+70	0°	4.4'	10°	4.4'	20°	4.15'
	40°	4.0'	50°	4.0'	70°	3.8'
	90°	3.85'	100°	3.85'	110°	4.0'
	125°	4.1'	135°	4.3'	150°	3.9'

JUNE 6, 1953

D. LEONARD
D. BROWN - NOTES

HARD GRANITE DRY OVERHEAD
SIDES DAMP

160+70 CONT.	180°	3.6'	210°	3.85'	225°	4.3'
	240°	4.05'	255°	3.65'	270°	3.6'
	290°	3.75'	305°	3.7'	320°	4.1'
	330°	4.3'	340°	4.35'	350°	4.45'
160+65	0°	4.7'	5°	4.8'	15°	4.5'
	25°	4.6'	40°	4.4'	50°	4.0'
	65°	3.75'	90°	3.8'	90°	3.7'
	100°	3.8'	115°	3.75'	135°	4.3'
	150°	4.0'	180°	3.6'	210°	3.9'
	225°	4.3'	235°	3.9'	250°	3.5'
	260°	3.15'	270°	2.8'	290°	3.0'
	310°	3.7'	330°	4.15'	390°	4.35'
	350°	4.55'	355°	4.55'		

HARD GRANITE TOP DRY SIDES DAMP

160+60	0°	4.15'	15°	4.2'	25°	3.8'
	40°	3.85'	60°	3.8'	75°	3.7'
	90°	3.7'	100°	3.9'	115°	4.1'
	120°	4.05'	133°	4.3'	150°	3.9'
	180°	3.6'	210°	3.8'	222°	3.65'
	235°	3.15'	250°	3.2'	260°	3.3'
	270°	2.9'	290°	3.15'	305°	3.4'

JUNE 6, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRY OVERHEAD
SIDES DAMP

160+60 CONT.	325° 3.95'	335° 3.95'	345° 3.9'
	355° 4.0'		
160+55	0° 4.8'	5° 4.8'	15° 4.7'
	20° 4.5'	35° 4.4'	40° 4.25'
	55° 3.75'	65° 3.6'	80° 3.45'
	90° 3.4'	105° 3.3'	125° 3.8'
	135° 4.2'	150° 3.9'	180° 3.5'
	210° 3.85'	225° 3.7'	235° 3.4'
	250° 3.2'	270° 2.8'	285° 3.0'
	290° 3.2'	300° 3.2'	310° 3.55'
	320° 3.75'	335° 4.5'	345° 4.8'
	350° 4.65'	355° 4.65'	

HARD GRANITE DRY OVERHEAD
SIDES DAMP

160+50	0° 5.1'	15° 4.95'	20° 5.2'
	30° 5.4'	40° 5.1'	47° 5.0'
	50° 4.65'	60° 4.15'	75° 4.15'
	82° 3.75'	90° 3.8'	100° 4.0'
	110° 4.0'	115° 3.9'	120° 4.15'
	135° 4.4'	150° 4.0'	180° 3.6'
	210° 3.8'	215° 3.5'	235° 2.95'
	255° 2.8'	270° 2.75'	290° 3.15'

JUNE 6, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRY OVER HEAD
SIDES DAMP

160+50 cont.	305° 4.0'	325° 4.9'	340° 4.85'
	350° 4.85'	355° 5.2'	
160+45	0° 4.9'	10° 4.65'	20° 4.6'
	40° 4.5'	60° 4.1'	70° 3.8'
	90° 4.0'	110° 4.1'	130° 4.4'
	150° 4.0'	180° 3.6'	210° 3.5'
	230° 2.95'	240° 2.65'	250° 2.6'
	260° 2.6'	270° 2.7'	280° 3.0'
	290° 3.05'	305° 3.6'	320° 4.15'
	335° 4.5'	345° 4.65'	355° 4.95'

HARD GRANITE DRY OVER HEAD
SIDES DAMP

160+40	0° 4.8'	10° 4.8'	25° 5.0'
	35° 5.0'	45° 4.7'	50° 4.35'
	65° 4.2'	80° 4.0'	90° 3.85'
	110° 3.85'	125° 4.05'	135° 4.3'
	150° 4.0'	180° 3.7'	210° 3.9'
	220° 4.0'	235° 3.55'	250° 3.4'
	270° 3.4'	285° 3.4'	300° 3.6'
	310° 3.75'	330° 4.7'	340° 4.85'
	345° 5.0'	350° 4.8'	355° 4.8'

JUNE 6, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRY OVER HEAD
SIDES DAMP

160+35	0°	5.1'	10°	5.1'	20°	4.95'
	30°	4.8'	45°	4.6'	60°	4.45'
	75°	4.15'	90°	4.05'	105°	4.4'
	120°	4.5'	135°	4.8'	150°	4.2'
	180°	3.7'	210°	3.9'	220°	4.0'
	235°	3.6'	250°	3.6'	270°	3.45'
	285°	3.8'	300°	3.9'	315°	4.1'
	330°	4.5'	345°	4.75'	353°	5.3'

HARD GRANITE DAMP

160+30	0°	4.8'	10°	4.65'	25°	4.35'
	45°	4.4'	60°	4.25'	75°	4.2'
	90°	4.3'	110°	4.55'	130°	4.8'
	150°	4.2'	180°	3.7'	210°	3.8'
	225°	4.5'	240°	3.8'	270°	3.6'
	285°	3.9'	300°	4.05'	310°	4.6'
	325°	4.25'	340°	4.1'	350°	4.8'

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

160+25

0°	4.25'	10°	4.1'	20°	3.85'
45°	3.85'	55°	3.4'	70°	3.55'
80°	3.55'	90°	3.5'	105°	3.85'
120°	4.15'	130°	4.65'	135°	4.7'
150°	4.0'	180°	3.8'		
210°	3.8'	225°	4.2'	240°	3.9'
255°	3.5'	270°	3.5'	285°	3.65'
300°	3.8'	315°	3.7'	325°	4.1'
335°	4.15'	340°	4.15'	350°	4.1'

HARD GRANITE DAMP

160+20

0°	4.85'	10°	4.75'	20°	4.75'
30°	4.4'	45°	4.45'	60°	4.45'
75°	4.35'	85°	4.5'	90°	4.45'
100°	4.45'	110°	4.75'	130°	5.0'
150°	4.25'	180°	3.75'	210°	3.8'
225°	4.0'	245°	3.7'	255°	3.05'
270°	2.95'	290°	3.0'	300°	3.05'
315°	3.25'	330°	4.05'	345°	4.55'
350°	4.5'	3.55°	4.6'		

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

160+15

0°	4.6'	10°	4.7'	20°	4.45'
30°	4.2'	45°	4.1'	60°	4.35'
70°	4.35'	80°	4.2'	90°	4.4'
100°	4.1'	110°	4.0'	125°	4.35'
135°	4.5'	150°	4.2'	180°	3.8'
210°	3.8'	225°	4.0'	240°	3.75'
255°	3.45'	270°	3.25'	275°	3.2'
285°	2.9'	298°	2.9'	305°	3.1'
315°	3.3'	325°	3.75'	340°	4.5'
350°	4.45'				

HARD GRANITE DAMP

160+10

0°	4.05'	10°	3.95'	20°	3.9'
30°	3.7'	45°	3.9'	55°	4.0'
70°	4.0'	80°	4.1'	90°	4.05'
105°	4.2'	120°	4.65'	130°	4.8'
150°	4.0'	180°	3.8'	210°	3.8'
230°	4.0'	240°	3.85'	250°	3.7'
260°	3.3'	270°	3.25'	280°	3.1'
290°	3.2'	300°	3.2'	310°	3.5'
325°	3.7'	340°	3.95'	350°	4.0'

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

160+05

0°	4.05'	10°	3.8'	20°	3.9'
30°	4.1'	45°	4.3'	55°	4.25'
60°	4.45'	70°	4.95'	90°	4.65'
100°	4.85'	110°	5.1'	125°	5.2'
150°	4.1'	180°	3.8'	210°	3.9'
225°	3.8'	240°	3.45'	255°	3.2'
270°	2.85'	285°	2.7'	295°	3.0'
300°	3.15'	310°	3.3'	320°	4.0'
330°	4.25'	340°	4.45'	350°	4.2'

HARD GRANITE DAMP

160+00

0°	4.75'	10°	4.8'	20°	4.85'
30°	4.8'	45°	4.8'	50°	4.65'
60°	4.7'	70°	4.5'	80°	4.4'
90°	4.65'	100°	4.75'	110°	5.0'
125°	5.5'	150°	4.0'	180°	3.75'
210°	3.8'	225°	4.1'	235°	3.85'
255°	3.4'	260°	3.6'	270°	3.95'
285°	3.4'	300°	3.2'	310°	3.45'
320°	3.6'	330°	4.05'	340°	4.55'
350°	4.55'	355°	4.85'		

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

159+95

0°	4.55'	10°	4.6'	20°	4.95'
25°	4.45'	30°	3.8'	50°	3.85'
60°	4.05'	70°	4.25'	80°	4.15'
90°	4.2'	100°	4.2'	110°	4.6'
125°	5.0'	150°	4.0'	180°	3.8'
210°	3.9'	225°	4.4'	240°	4.1'
250°	4.3'	260°	4.3'	270°	4.45'
280°	4.3'	290°	4.1'	300°	3.8'
310°	3.75'	320°	3.9'	330°	3.9'
340°	4.1'	350°	4.35'		

HARD GRANITE DRIPPING WET

159+90

0°	4.3'	10°	4.7'	20°	4.8'
30°	3.6'	50°	3.25'	60°	3.1'
70°	3.0'	80°	3.05'	90°	3.35'
100°	3.65'	110°	3.8'	120°	4.05'
135°	4.5'	150°	4.1'	180°	3.7'
210°	4.0'	230°	4.5'	240°	4.6'
255°	4.05'	265°	4.2'	270°	4.2'
275°	3.9'	280°	4.0'	290°	3.9'
300°	3.9'	310°	3.9'	320°	3.75'
327°	3.7'	335°	4.0'	340°	4.1'
				350°	4.1'

JUNE 13, 1953.

D. LEONARD

D. BROWN - NOTES

EXTRA SECTION HARD GRANITE
DRIPPING WET

159+88	0°	4.35'	12°	5.55'	20°	5.5'
	35°	5.5'	37°	3.0'	40°	3.0'
	50°	3.0'	60°	2.75' 2.85'	70°	2.95'
	80°	2.85'	90°	2.85'	100°	2.75'
	110°	3.1'	115°	3.45'	130°	3.7'
	142°	4.0'	160°	4.0'	180°	3.8'
	210°	4.0'	230°	4.5'	240°	4.5'
	255°	4.25'	270°	4.1'	283°	4.1'
	298°	3.8'	305°	3.9'	320°	4.1'
	330°	3.95'	335°	4.25'	345°	4.35'
	350°	4.3'				

HARD GRANITE DRIPPING WET

159+85	0°	4.2'	10°	4.3	20°	4.2'
	30°	4.1'	50°	3.75'	60°	3.45'
	70°	3.35'	75°	2.95'	80°	2.95'
	90°	2.85'	100°	2.85'	110°	3.0'
	120°	3.25'	125°	3.7'	140°	4.1'
	160°	3.8'	180°	3.7'	210°	3.8'
	225°	4.3'	240°	4.3'	250°	4.35'
	260°	4.3'	270°	4.25'	280°	4.5'
	295°	4.4'	300°	4.5'	310°	4.4'

HARD GRANITE DRIPPING WET
BEGIN SIDING

HARD GRANITE, WET

JUNE 13, 1953

J. LEONARD

D. BROWN - NOTES

159+85
CONT.

328° 4.5'	330° 4.25'	340° 4.65'
345° 4.65'	350° 4.35'	355° 4.2'
0° 4.1'	10° 4.1'	20° 4.2'
25° 4.25'	35° 4.3'	50° 3.75'
60° 3.3'	70° 3.35'	80° 3.15'
90° 3.1'	100° 3.05'	105° 3.45'
120° 3.65'	130° 3.75'	140° 4.05'
180° 3.8'	210° 4.1'	230° 4.8'
237° 4.8'	245° 4.35'	260° 4.1'
270° 4.25'	280° 4.6'	290° 4.65'
300° 4.45'	310° 4.5'	320° 4.75'
330° 4.55'	340° 4.55'	350° 4.3'

159+75

0° 4.6'	10° 4.45'	20° 4.45'
30° 4.2'	40° 4.0'	50° 3.9'
60° 3.8'	70° 3.75'	80° 3.8'
90° 4.05'	100° 4.2'	110° 4.25'
120° 4.6'	135° 5.0'	150° 4.2'
180° 3.75'	210° 4.0'	220° 4.45'
230° 4.2'	245° 3.7'	260° 3.45'
270° 3.55'	280° 3.45'	290° 3.45'

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

159+75
CORR

305°	3.85'	315°	4.2'	330°	3.8'
340°	4.0'	350°	4.45'	355°	4.55'
0°	4.25'	10°	4.1'	20°	4.2'
30°	4.15'	55°	3.75'	70°	3.75'
85°	3.9'	90°	3.95'	100°	4.0'
110°	4.0'	120°	4.25'	135°	4.9'
150°	4.25'	180°	3.8'	210°	4.05'
222°	4.5'	235°	3.85'	250°	3.6'
260°	3.4'	270°	3.3'	280°	3.25'
290°	3.1'	300°	3.2'	310°	3.95'
315°	3.7'	320°	3.75'	330°	3.8'
340°	3.75'	350°	4.0'		

159+65

0°	4.1'	5°	3.85'	12°	3.95'
20°	3.7'	30°	3.7'	55°	4.1'
70°	4.1'	80°	4.05'	90°	4.05'
100°	4.0'	115°	4.85'	130°	5.3'
150°	4.2'	170°	3.7'	210°	4.1'
216°	4.25'	225°	3.8'	245°	3.3'
260°	3.3'	270°	3.1'	280°	3.2'
290°	3.25'	300°	3.3'	315°	3.75'

HARD GRANITE DAMP

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

159+65 cont.	325° 4.05'	340° 4.15'	350° 4.2'
159+60	0° 3.8'	10° 3.85'	20° 3.9'
	30° 4.2'	55° 4.2'	70° 3.9'
	80° 3.85'	90° 4.0'	105° 4.4'
	115° 4.3'	125° 4.8'	135° 5.0'
	150° 4.3'	180° 3.8'	213° 4.25'
	220° 3.85'	235° 3.5'	245° 3.55'
	255° 3.5'	270° 3.4'	285° 3.6'
	300° 3.85'	310° 4.25'	315° 4.7'
	330° 4.6'	335° 4.35'	345° 4.2'

HARD GRANITE DAMP

159+55	0° 4.3'	10° 4.2'	20° 4.1'
	30° 4.0'	50° 3.8'	65° 3.75'
	70° 3.9'	80° 3.7'	90° 3.6'
	100° 3.45'	110° 3.9'	125° 4.45'
	134° 4.9'	150° 4.1'	180° 3.85'
	210° 4.1'	218° 4.4'	225° 4.05'
	240° 3.6'	255° 3.9'	270° 3.45'
	280° 3.55'	290° 4.1'	296° 4.3'
	300° 4.0'	310° 4.3'	325° 4.3'
	335° 4.3'	345° 4.2'	356° 4.2'

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE TOP DRY SIDES DAM 159+50

0°	4.3'	10°	4.15'	20°	4.1'
30°	4.1'	50°	3.9'	60°	3.9'
70°	3.85'	80°	3.95'	90°	4.15'
100°	4.2'	115°	4.4'	130°	4.9'
135°	5.0'	150°	4.2'	180°	3.8'
210°	4.2'	225°	4.7'	240°	4.05'
250°	3.9'	265°	4.05'	270°	3.85'
280°	3.7'	290°	3.8'	300°	4.1'
310°	4.25'	315°	4.35'	320°	4.15'
330°	4.1'	340°	3.95'	350°	4.5'

HARD GRANITE DAM

159+45

0°	3.9'	10°	3.85'	20°	4.05'
30°	4.5'	50°	4.7'	60°	4.65'
70°	4.6'	80°	4.6'	90°	4.6'
100°	4.45'	110°	4.55'	130°	5.3'
150°	4.2'	180°	3.7'	210°	4.2'
230°	5.2'	240°	5.0'	250°	5.0'
260°	5.1'	270°	4.7'	280°	4.8'
290°	4.55'	305°	4.4'	315°	4.25'
320°	4.1'	330°	3.95'	340°	4.0'
350°	4.05'	355°	3.9'		

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

159+40

0°	3.75'	10°	4.0'	20°	3.9'
30°	4.2'	50°	4.2'	60°	4.1'
70°	4.05'	80°	4.1'	90°	4.25'
100°	4.5'	110°	4.6'	120°	4.85'
133°	5.0'	150°	4.3'	180°	4.0'
210°	4.3'	230°	5.35'	240°	5.0'
250°	5.0'	260°	5.15'	270°	5.3'
280°	5.25'	290°	4.95'	300°	4.8'
310°	4.75'	320°	4.4'	330°	4.2'
340°	3.95'	350°	3.9'		

HARD GRANITE DAMP

159+35

0°	3.9'	10°	3.95'	20°	3.75'
30°	3.85'	55°	3.8'	65°	3.9'
75°	4.1'	90°	4.05'	100°	3.95'
110°	4.4'	120°	4.75'	130°	5.2'
150°	4.3'	180°	3.9'	210°	4.2'
227°	5.3'	235°	4.8'	255°	4.75'
270°	4.95'	275°	5.15'	285°	4.65'
295°	4.95'	300°	4.3'	310°	4.15'
320°	3.9'	330°	3.9'	340°	3.8'
350°	3.85'				

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

159+30

0°	3.95'	10°	3.85'	20°	3.9'
30°	3.75'	55°	4.3'	60°	4.4'
70°	4.25'	80°	4.15'	90°	4.25'
100°	4.35'	110°	4.4'	115°	4.45'
125°	5.15'	135°	5.25'	150°	4.2'
180°	3.7'	210°	4.1'	225°	5.0'
240°	4.85'	250°	4.55'	260°	4.65'
270°	4.5'	280°	4.3'	290°	4.2'
300°	4.4'	310°	3.8'	320°	3.8'
330°	3.9'	340°	3.85'	350°	3.85'

HARD GRANITE WET

159+25

0°	3.55'	10°	3.45'	20°	3.6
30°	3.9'	55°	4.5'	65°	4.7'
80°	4.7'	90°	4.75'	100°	4.85'
110°	4.75'	120°	5.4'	130°	5.7'
150°	4.3'	180°	3.8'	210°	4.1'
230°	5.0'	240°	4.9'	250°	4.95'
260°	4.0'	270°	3.8'	280°	3.6'
290°	3.55'	300°	3.85'	310°	4.1'
320°	4.25'	330°	4.25'	340°	3.9'
350°	3.65'				

JUNE 13, 1953

D. LEO NARD

D. BROWN - NOTES

HARD GRANITE WET

159+20

0°	3.85'	10°	3.7'	20°	3.9'
30°	4.05'	40°	4.4'	55°	4.3'
65°	4.45'	75°	4.8'	90°	5.1'
100°	5.0'	110°	5.15'	125°	5.8'
150°	4.0'	180°	3.8'	210°	4.2'
228°	5.4'	240°	4.85'	250°	4.6'
270°	4.05'	285°	4.1'	300°	4.2'
305°	4.25'	320°	4.1'	335°	4.15'
340°	3.95'	350°	3.7'		

HARD GRANITE WET

159+15

0°	3.65'	10°	3.65'	25°	3.9'
33°	3.5'	45°	4.2'	65°	4.05'
75°	4.4'	90°	4.2'	105°	4.15'
110°	4.8'	126°	5.5'	150°	4.1'
180°	3.7'	210°	4.05'	225° 225°	4.9'
240°	4.8'	250°	4.3'	260°	4.0'
270°	4.2'	285°	4.4'	300°	4.15'
305°	4.3'	315°	4.1'	330°	4.25'
340°	4.0'	350°	3.8'		

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE WET

159+10

0°	3.95'	10°	3.75'	20°	3.75'
35°	3.85'	55°	4.3'	70°	4.65'
80°	4.45'	90°	4.6'	100°	4.5'
110°	4.5'	120°	4.7'	135°	5.0'
150°	4.1'	180°	3.7'	210°	4.05'
228°	4.9'	240°	4.5'	250°	4.5'
270°	4.3'	285°	4.1'	290°	3.75'
305°	3.8'	320°	3.9'	330°	4.0'
340°	3.95'	350°	4.05'		

HARD GRANITE DAMP

159+05

0°	4.2'	10°	4.3'	20°	4.45'
30°	4.25'	35°	4.2'	60°	4.8'
70°	4.85'	78°	4.8'	90°	5.3'
100°	4.95'	110°	4.9'	120°	5.05'
130°	5.25'	150°	4.2'	180°	3.9'
210°	4.1'	230°	5.25'	240°	5.3'
250°	5.25'	260°	5.2'	270°	4.85'
280°	4.6'	295°	4.4'	302°	4.45'
315°	4.35'	327°	4.4'	340°	4.25'
350°	3.95'				

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

159+00

0°	3.95'	10°	3.85'	20°	4.1'
30°	4.3'	55°	4.5'	65°	4.8'
80°	5.2'	90°	5.8'	103°	5.9'
110°	5.9'	120°	6.1'	150°	4.1'
180°	3.8'	210°	4.1'	233°	5.5'
245°	5.4'	260°	4.85'	270°	4.55'
280°	4.1'	295°	3.95'	310°	3.7'
320°	3.65'	330°	3.7'	340°	3.8'
350°	3.85'				

HARD GRANITE DAMP

158+95

0°	3.9'	10°	3.95'	20°	3.9'
30°	4.0'	50°	5.0'	60°	5.1'
70°	5.25'	80°	5.35'	90°	5.5'
100°	6.1'	110°	6.6'	125°	6.5'
150°	4.1'	180°	3.7'	210°	4.0'
233°	5.3'	250°	4.5'	260°	4.1'
270°	4.0'	290°	4.3'	300°	4.05'
315°	3.85'	332°	4.2'	340°	4.15'
350°	3.95'				

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP

158+90

0°	4.0'	10°	4.05'	20°	4.2'
45°	4.2'	60°	4.15'	70°	4.3'
80°	4.55'	90°	5.2'	105°	5.6'
125°	6.2'	150°	4.1'	180°	3.6'
210°	4.0'	232°	5.25'	245°	4.95'
260°	4.65'	270°	4.6'	290°	4.3'
300°	4.05'	310°	3.85'	320°	4.1'
330°	4.05'	340°	4.0'	350°	3.95'

SPRING OVERHEAD AT 158+82 10 GALS MIN 158+85

HARD GRANITE DRIPPING WET

0°	4.2'	10°	4.15'	20°	4.1'
30°	4.1'	50°	4.1'	65°	4.1'
75°	4.05'	90°	4.35'	105°	4.6'
115°	5.9'	125°	5.3'	150°	3.85'
180°	3.7'	210°	4.1'	235°	5.8'
240°	6.0'	250°	5.65'	260°	5.2'
270°	4.65'	285°	4.45'	300°	4.25'
310°	4.25'	320°	4.2'	330°	4.1'
340°	4.1'	350°	4.2'		

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRIPPING WET

158+80	0°	5.0'	10°	4.8'	20°	4.8'
	30°	4.9'	50°	5.1'	65°	5.5'
	75°	5.3'	90°	5.4'	105°	5.2'
	115°	5.5'	125°	5.7'	150°	4.0'
	180°	3.6'	210°	3.9'	235°	5.9'
	250°	5.9'	270°	5.5'	290°	5.5'
	305°	5.2'	320°	5.4'	330°	5.6'
	340°	5.0'	350°	4.9'		

HARD GRANITE DRIPPING WET

158+75	0°	5.4'	10°	5.1'	20°	5.15'
	30°	5.0'	50°	4.75'	60°	4.5'
	70°	4.65'	80°	5.0'	90°	4.85'
	100°	5.1'	120°	6.0'	150°	3.8'
	180°	3.7'	210°	3.8'	225°	4.8'
	235°	5.7'	250°	5.75'	260°	5.35'
	270°	5.1'	285°	5.2'	295°	5.55'
	305°	5.05'	315°	5.5'	320°	5.3'
	330°	5.4'	340°	6.55'	350°	5.55'

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRIPPING WET

158+70

0°	4.6'	10°	4.5'	20°	4.4'
45°	4.05'	60°	4.1'	70°	3.85'
80°	3.7'	90°	3.7'	105°	3.25'
120°	4.2'	130°	4.5'	150°	3.8'
180°	3.6'	210°	3.8'	230°	4.5'
240°	4.55'	255°	4.1'	270°	4.0'
280°	4.2'	290°	4.25'	305°	4.55'
320°	4.45'	330°	4.6'	340°	4.4'
348°	4.4'	355°	4.75'		

HARD GRANITE DRIPPING WET

158+65

0°	3.8'	10°	3.7'	30°	3.35'
45°	3.15'	50°	3.5'	60°	2.9'
70°	3.05'	80°	2.8'	90°	3.0'
110°	3.4'	120°	3.5'	135°	4.15'
155°	3.8'	180°	3.6'	210°	4.0'
230°	4.5'	240°	4.3'	255°	4.35'
270°	4.1'	280°	4.15'	290°	4.25'
305°	4.3'	320°	4.0'	330°	3.85'
340°	3.95'	350°	4.0'		

JUNE 13, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRIPPING WET

158+60	0°	4.25'	10°	4.1'	35°	4.2'
	50°	4.25'	65°	4.35'	75°	4.05'
	90°	3.85'	105°	3.75'	120°	4.1'
	135°	4.4'	150°	3.8'	180°	3.7'
	210°	3.7'	230°	4.8'	240°	4.0'
	250°	3.9'	260°	3.85'	270°	3.8'
	280°	3.75'	290°	3.85'	300°	3.9'
	310°	4.2'	320°	4.4'	330°	4.55'
	340°	4.6'	350°	4.55'		

JUNE 20, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE WET

158+55	0°	4.35'	10°	4.3'	120°	4.3'
	40°	4.7'	50°	4.7'	60°	4.3'
	70°	4.4'	80°	4.3'	90°	4.6'
	100°	4.1'	115°	4.5'	140°	4.3'
	150°	3.9'	180°	3.6'	210°	4.0'
	228°	4.6'	240°	3.75'	255°	3.75'
	270°	3.8'	280°	4.2'	290°	4.1'
	300°	4.1'	315°	4.25'	330°	4.2'
	340°	4.1'	350°	4.4'		

JUNE 20, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE WET

NORTH SWITCH, END OF SIDING

158+50

0°	3.75'	10°	4.1'	20°	4.25'
40°	4.4'	55°	4.05'	70°	4.1'
90°	4.2'	105°	4.2'	115°	4.95'
130°	4.8'	150°	4.0'	180°	3.75'
210°	4.0'	225°	4.3'	240°	4.05'
255°	3.65'	270°	3.6'	285°	3.4'
300°	3.75'	310°	3.8'	312°	4.15'
325°	3.55'	335°	3.9'	350°	3.75'

HARD GRANITE WET

158+45

0°	4.9'	10°	4.65'	25°	4.25'
40°	4.9'	45°	4.4'	60°	4.0'
63°	3.65'	75°	3.25'	85°	3.85'
90°	3.6'	105°	3.6'	115°	4.3'
135°	4.2'	150°	3.8'	180°	3.6'
210°	3.8'	225°	4.0'	235°	3.8'
260°	3.65'	270°	3.5'	285°	3.5'
300°	3.8'	315°	4.05'	325°	4.25'
335°	4.1'	340°	4.5'	350°	5.05'

HARD GRANITE WET

158+40

0°	4.75'	10°	4.6'	25°	4.45'
30°	4.3'	45°	4.1'	60°	4.05'
70°	4.05'	80°	4.1'	90°	3.85'

JUNE 20, 1953

D. LEONARD

ABROWN-NOTES

158+40 CONT.

100°	3.8'	120°	4.3'	132°	4.5'
150°	3.8'	180°	3.5'	210°	3.9'
225°	3.9'	240°	3.45'	250°	3.25'
262°	3.85'	270°	3.85'	290°	3.75'
295°	4.0'	305°	4.1'	315°	4.55'
325°	4.5'	340°	4.55'	350°	4.8'

HARD GRANITE WET

158+35

0°	5.3'	10°	5.2'	20°	5.35'
25°	5.35'	40°	5.1'	50°	4.7'
60°	4.9'	75°	4.6'	90°	4.9'
105°	4.3'	120°	4.4'	130°	4.85'
150°	3.8'	180°	3.5'	210°	3.85'
230°	4.35'	240°	4.25'	270°	4.05'
280°	4.4'	290°	4.1'	294°	4.45'
305°	4.5'	325°	4.55'	335°	5.35'
390°	5.45'	350°	5.5'		

HARD GRANITE PIPPING WET
 ROTTEN QUARTZ ON RIGHT SIDE

158+30

0°	5.65'	10°	5.25'	25°	5.8'
45°	6.4'	55°	6.3'	58°	5.4'
65°	4.85'	75°	4.55'	90°	4.45'
100°	4.75'	110°	4.7'	120°	5.0'
150°	3.8'	180°	3.5'	210°	3.85'

JUNE 29 1953

D. LEONARD

DBROWN-NOTES

158+30 cont.

230°	4.3'	245°	4.05'	255°	3.65'
270°	3.6'	285°	4.0'	300°	4.9'
315°	5.6'	325°	5.4'	330°	6.2'
340°	5.75'	345°	6.0'	350°	5.75'

HARD GRANITE DRIPPING WET

158+25

0°	5.0'	15°	4.9'	25°	4.8'
40°	4.5'	60°	4.3'	75°	3.75'
90°	3.65'	110°	4.4'	130°	4.5'
150°	3.8'	180°	3.45'	210°	3.7'
225°	3.8'	235°	3.55'	260°	3.15'
270°	2.85'	280°	2.85'	300°	3.25'
310°	3.9'	320°	4.15'	325°	4.35'
335°	4.25'	345°	4.4'	350°	4.65'

HARD GRANITE DRIPPING WET

158+20

0°	4.55'	15°	4.65'	25°	4.1'
40°	4.2'	50°	4.15'	60°	3.8'
75°	3.6'	90°	3.6'	100°	4.1'
115°	4.45'	130°	4.6'	150°	3.75'
180°	3.45'	210°	3.7'	225°	3.6'
235°	3.4'	245°	3.25'	260°	3.2'
270°	3.3'	285°	3.6'	295°	3.7'
305°	4.05'	315°	4.5'	325°	4.25'

JUNE 20, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRIPPING WET

158+20 CONT	338° 4.9'	345° 4.6'	355° 4.5'
158+15	0° 4.25'	15° 4.1'	35° 5.05'
	42° 4.8'	50° 4.1'	60° 3.25'
	70° 3.0'	90° 2.8'	105° 3.0'
	112° 3.7'	132° 3.8'	135° 4.0'
	150° 3.9'	180° 3.45'	210° 3.8'
	225° 3.85'	240° 3.85'	260° 3.95'
	277° 4.2'	290° 4.3'	300° 4.7'
	315° 5.0'	325° 4.7'	331° 5.05'
	340° 4.8'	350° 4.45'	355° 4.35'

HARD GRANITE DRIPPING WET

158+10	0° 4.75'	10° 4.6'	20° 4.6'
	30° 3.9'	40° 3.9'	50° 3.6'
	65° 3.4'	77° 3.05'	90° 3.4'
	105° 3.4'	112° 3.4'	132° 3.9'
	150° 3.8'	180° 3.5'	210° 4.75'
	227° 4.0'	245° 4.0'	258° 3.75'
	264° 3.3'	270° 3.4'	285° 3.7'
	300° 3.75'	310° 3.7'	315° 4.4'
	325° 4.35'	335° 4.85'	345° 5.05'

JUNE 20, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRIPPING WET

158+05

0°	4.8'	10°	4.9'	20°	5.2'
30°	5.05'	40°	4.25'	50°	4.3'
60°	4.0'	72°	4.05'	76°	3.75'
90°	3.75'	105°	4.1'	120°	4.2'
135°	4.0'	150°	3.8'	180°	3.4'
210°	3.8'	225°	3.8'	235°	3.8'
245°	3.4'	265°	3.2'	270°	3.35'
290°	3.8'	300°	4.3'	314°	4.75'
325°	4.6'	333°	4.6'	343°	5.6'
350°	5.3'				

HARD GRANITE DRIPPING WET

158+00

0°	3.8'	10°	5.4'	20°	5.0'
30°	5.15'	40°	4.45'	50°	3.65'
60°	3.55'	75°	3.3'	90°	3.5'
105°	3.65'	120°	3.75'	135°	4.0'
150°	3.8'	180°	3.45'	210°	3.8'
230°	3.9'	240°	3.9'	250°	3.7'
270°	3.65'	290°	3.95'	300°	4.2'
307°	4.25'	320°	3.8'	330°	4.4'
340°	4.9'	350°	5.4'	355°	5.5'

JUNE 20, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRIPPING WET

157195

0°	4.7'	10°	4.6'	30°	4.45'
40°	4.1'	52°	3.95'	60°	3.6'
65°	3.25'	75°	3.05'	90°	3.3'
110°	3.4'	125°	4.25'	132°	4.2'
150°	3.8'	180°	3.4'	210°	3.75'
225°	3.7'	240°	4.1'	260°	3.8'
270°	4.0'	282°	4.65'	290°	4.7'
300°	4.5'	315°	5.05'	328°	4.5'
340°	4.5'	350°	4.8'		

HARD GRANITE DRIPPING WET

157190

0°	4.6'	15°	4.5'	35°	4.5'
40°	3.95'	50°	3.45'	60°	3.0'
75°	2.8'	85°	3.05'	90°	2.9'
107°	2.75'	111°	3.3'	120°	3.6'
134°	4.0'	150°	3.25'	180°	3.4'
210°	3.8'	232°	4.2'	245°	4.1'
270°	3.6'	280°	3.2'	290°	3.0'
305°	3.4'	322°	4.0'	330°	4.1'
340°	4.45'	350°	4.25'		

HARD GRANITE DRIPPING WET

HARD GRANITE DRIPPING WET

JUNE 20, 1953

D. LEONARD

D. BROWN - NOTES

167+85	0	4.5'	15°	4.65'	75°	4.8'
	35°	4.45'	50°	3.9'	65°	3.5'
	80°	3.5'	90°	3.6'	105°	3.5'
	120°	3.8'	130°	4.1'	150°	3.8'
	180°	3.4'	210°	3.8'	228°	4.0'
	235°	3.75'	250°	3.1'	260°	2.8'
	270°	2.7'	285°	3.15'	310°	3.9'
	323°	3.65'	337°	3.9'	345°	4.2'
167+80	0°	4.7'	10°	4.5'	20°	4.4'
	36°	4.1'	45°	4.0'	55°	4.0'
	66°	3.45'	80°	3.6'	90°	3.6'
	105°	3.9'	115°	4.2'	130°	4.4'
	150°	3.85'	180°	3.4'	210°	3.8'
	225°	3.7'	240°	3.5'	250°	3.25'
	270°	3.15'	285°	2.9'	285°	3.25'
	305°	3.65'	325°	4.0'	335°	4.6'
	345°	4.85'	350°	5.0'		

JUNE 29, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRIPPING WET

157+25	0°	4.8'	6°	5.05'	15°	4.75'
	35°	3.8'	42°	3.65'	65°	4.0'
	80°	3.7'	90°	3.55'	105°	3.6'
	115°	3.7'	135°	4.0'	150°	3.8'
	180°	3.45'	210°	3.8'	220°	3.9'
	235°	3.3'	250°	3.25'	270°	3.3'
	285°	3.55'	300°	3.55'	315°	3.9'
	325°	4.05'	335°	4.35'	340°	4.45'
	350°	4.65'				

HARD GRANITE DRIPPING WET

157+70	0°	4.0'	15°	4.0'	25°	4.0'
	35°	3.8'	45°	3.8'	60°	3.55'
	70°	3.75'	80°	3.7'	90°	3.8'
	110°	4.1'	120°	4.1'	135°	4.3'
	150°	3.8'	180°	3.45'	210°	3.8'
	230°	4.0'	240°	3.8'	255°	3.55'
	270°	3.5'	280°	3.65'	295°	3.5'
	310°	3.8'	320°	3.85'	330°	3.8'
	340°	3.65'	350°	3.85'		

JUNE 20, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DAMP
START CAR-PASS HOLE #8.

157+65'	0°	4.2'	10°	4.15'	20°	3.9'
	35°	3.6'	43°	3.45'	55°	3.6'
	70°	3.7'	80°	3.7'	90°	3.55'
	100°	4.5'	115°	4.4'	130°	4.6'
	150°	3.8'	180°	3.45'	210°	3.8'
	230°	4.4'	248°	3.85'	255°	3.35'
	270°	3.2'	276°	3.15'	290°	3.25'
	300°	3.4'	310°	3.3'	320°	3.55'
	330°	3.7'	340°	3.9'	350°	4.15'

HARD GRANITE DRY OVER HEAD, DAM SIDES
EXTRA SECTION

157+64	0°	4.0'	10°	4.1'	15°	3.8'
	35°	3.7'	45°	3.75'	60°	3.95'
	70°	3.9'	75°	3.25'	90°	4.55'
	100°	4.8'	110°	5.65'	120°	5.6'
	130°	4.25'	150°	3.9'	180°	3.5'
	210°	3.8'	227°	4.0'	235°	3.85'
	250°	3.45'	270°	3.3'	280°	3.3'
	290°	3.5'	310°	3.45'	325°	3.65'
	342°	3.8'	350°	3.5'		

JUNE 27, 53

D. LEONARD - K
D. BROWN - NOTES.

HARD GRANITE WET

157+60	0°	3.9	10°	4.1	35°	4.2
	48°	4.5	55°	5.0	65°	5.6
	80°	5.3	90°	5.2	100°	5.45
	118 120	6.0	150°	3.7	180°	3.5
	210°	3.6	230°	4.3	240°	4.2
	250°	3.85	270°	3.45	290°	3.25
	310°	3.65	335°	4.25	340°	3.85
	350°	3.75				

HARD GRANITE WET

157+55	0°	4.1	10°	4.15	35°	4.2
	50°	4.3	60°	5.3	80°	5.1
	90°	4.9	120°	5.5	150°	3.8
	180°	3.45	210°	3.6	230°	4.3
	248°	4.3	260°	3.75	270°	4.05
	283°	3.9	295°	3.5	307°	3.9
	314°	4.6	338°	4.55	350°	4.3

HARD GRANITE WET

EXTRA SECTION END OF CAR-PASS

HOLE 28.

157+53	0°	4.05	10°	4.2	40°	4.2
	50°	3.85	70°	3.2	90°	3.25
	105°	3.7	120°	3.85	133°	3.9
	150°	3.6	180°	3.35	210°	3.6
	230°	4.0	237°	4.5	250°	4.35

JUNE 27, 1953

D. LEONARD

D. BROWN - NOTES

157+53 CONT.

260° 3.8'	270° 3.9'	285° 3.7'
300° 3.9'	310° 3.95'	330° 3.95'
340° 4.2'	350° 4.15'	

HARD GRANITE WET

157+50

0° 3.9'	15° 3.9'	20° 3.5'
40° 3.95'	60° 3.7'	75° 3.2'
90° 2.8'	110° 3.0'	133° 4.0'
150° 3.65'	180° 3.35'	210° 3.6'
235° 4.3'	250° 3.95'	270° 3.6'
290° 4.0'	310° 3.75'	330° 3.9'
340° 3.85'	350° 4.05'	

HARD GRANITE WET

157+45

0° 4.45'	10° 4.4'	30° 3.85'
45° 3.0'	60° 2.9'	75° 2.9'
90° 2.9'	100° 3.25'	115° 3.75'
133° 4.0'	150° 3.65'	180° 3.3'
210° 3.6'	230° 4.15'	240° 4.3'
260° 4.0'	270° 4.0'	285° 3.95'
300° 4.25'	315° 4.75'	320° 4.6'
330° 4.9'	340° 4.85'	350° 4.6'

JUNE 27, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE

WET

157+40

0°	4.1'	10°	4.3'	30°	4.4'
40°	3.85'	50°	3.3'	60°	2.95'
70°	2.85'	80°	2.8'	90°	2.85'
110°	3.0'	125°	3.5'	138°	3.5'
150°	3.6'	180°	3.3'	210°	3.6'
230°	4.2'	245°	4.3'	260°	4.15'
270°	4.0'	285°	4.4'	300°	4.6'
310°	5.0'	325°	4.25'	335°	4.5'
345°	4.05'	355°	4.1'		

HARD GRANITE

WET

157+35

0°	4.1'	20°	4.6'	30°	4.25'
50°	3.7'	60°	3.1'	75°	2.25'
90°	2.55'	105°	2.65'	120°	2.75'
135°	3.5'	145°	3.6'	160°	3.5'
180°	3.3'	210°	3.7'	235°	4.7'
250°	4.7'	270°	5.0'	290°	5.1'
305°	5.0'	315°	4.8'	330°	4.7'
340°	4.7'	350°	4.35'		

HARD GRANITE

WET

157+30

0°	4.6'	10°	4.3'	30°	4.7'
40°	4.1'	50°	2.9'	70°	2.6'
90°	2.55'	110°	3.0'	125°	3.1'

JUNE 27, 1953

D. LEONARR

D. BROWN - NOTES

157+30 CONT

135° 3.7'	150° 3.5'	180° 3.4'
210° 3.6'	236° 4.7'	245° 4.55'
255° 4.3'	270° 4.3'	290° 4.5'
305° 5.0'	328° 5.2'	325° 5.45'
335° 5.0'	345° 4.6'	350° 4.7'

HARD GRANITE DRIPPING WET

157+25

0° 5.6'	10° 5.6'	20° 5.5'
30° 4.6'	40° 4.1'	50° 3.55'
60° 3.25'	75° 2.5'	90° 2.8'
105° 3.0'	120° 3.3'	132° 3.2'
150° 3.8'	180° 3.4'	210° 3.7'
235° 4.6'	245° 4.45'	255° 4.05'
270° 4.0'	280° 3.95'	293° 4.45'
300° 4.8'	315° 5.1'	327° 5.6'
335° 5.3'	345° 5.5'	350° 5.4'

HARD GRANITE DRIPPING WET

157+23

0° 4.2'	10° 4.2'	20° 4.3'
30° 3.9'	40° 3.4'	60° 3.3'
70° 3.0'	90° 2.7'	115° 2.7'
127° 3.5'	138° 136° 3.7'	150° 3.65'
180° 3.3'	210° 3.7'	225° 4.1'
240° 4.05'	255° 3.45'	270° 3.7'

EXTRA SECTION

JUNE 23 1953

D. L. EDWARD

D. BROWN - NOTES

157+23 CONT. 295° 4.1' 320° 4.4' 335° 3.9'
350° 4.1'

HARD GRANITE DRIPPING WET

157+20 0° 4.0' 10° 4.2' 30° 3.9'
45° 4.0' 70° 2.7' 90° 2.75'
100° 5.8' 110° 2.8' 125° 2.95'
138° 3.6' 150° 3.7' 180° 3.8'
210° 3.7' 228° 4.0' 240° 3.7'
255° 3.3' 270° 3.0' 280° 3.0'
295° 3.3' 315° 3.45' 330° 3.8'
345° 4.0' 350° 3.95'

HARD GRANITE DRIPPING WET

157+15 0° 4.1' 10° 4.35' 20° 4.4'
40° 3.55' 55° 3.25' 65° 3.3'
80° 3.2' 90° 3.4' 105° 3.35'
120° 3.6' 135° 4.0' 150° 3.75'
180° 3.9' 210° 3.7' ^{225°} 3.6' 235°
3.4' 250° 3.1' 270° 3.15' 285°
3.7' 300° 3.5' 310° 3.55'
320° 3.7' 330° 3.7' 340° 3.8'
350° 4.0'

JULY 11, 1953

D. LEONARD

D. BROWN-NITES

HARD GRANITE DAMP

157+10	0°	4.05'	15°	4.2'	10°	4.0'
	30°	4.1'	45°	3.75'	60°	3.65'
	75°	3.5'	90°	3.45'	110°	3.6'
	130°	4.4'	150°	3.8'	180°	3.7'
	210°	3.7'	225°	4.2'	240°	3.7'
	260°	3.35'	270°	3.4'	275°	3.65'
	290°	3.6'	300°	3.65'	320°	4.0'
	330°	4.1'	340°	4.1'	350°	4.15'

HARD GRANITE DAMP

157+05	0°	4.15'	10°	4.15'	20°	4.25'
	40°	3.95'	50°	3.85'	60°	3.85'
	75°	3.75'	90°	3.65'	100°	3.8'
	115°	3.95'	130°	4.2'	150°	3.7'
	180°	3.6'	210°	3.7'	230°	4.2'
	240°	3.95'	255°	3.9'	270°	3.7'
	290°	3.85'	300°	3.65'	320°	3.85'
	330°	3.95'	345°	3.95'	350°	4.25'

HARD GRANITE DRIPPING WET

157+00	0°	4.05'	15°	4.0'	30°	3.9'
	45°	3.7'	60°	3.7'	75°	3.55'
	90°	3.4'	100°	3.95'	110°	3.35'
	130°	3.8'	150°	3.7'	180°	3.4'

JULY 11, 1953

D. LEONARD

D. BROWN - NOTES

157+00 CONT	210° 3.5'	232° 4.1'	245° 3.9'
	255° 3.8'	270° 3.7'	280° 3.0'
	295° 3.0'	310° 3.5'	325° 3.7'
	335° 4.05'	345° 4.15'	350° 4.2'

HARD GRANITE DRIPPING WET

156+95	0° 5.2'	10° 5.5'	16° 4.75'
	35° 4.05'	50° 3.75'	65° 3.7'
	75° 3.6'	90° 3.6'	105° 3.5'
	120° 3.65'	135° 4.0'	150° 3.6'
	180° 3.2'	210° 3.5'	235° 3.8'
	245° 3.6'	260° 3.5'	270° 3.4'
	280° 3.45'	290° 3.75'	305° 4.05'
	320° 4.9'	330° 5.0'	340° 5.3'
	350° 5.4'		

HARD GRANITE DAMP

156+90	0° 5.0'	10° 5.55'	15° 4.8'
	35° 4.55'	42° 3.9'	60° 3.9'
	70° 3.8'	80° 3.9'	90° 3.75'
	100° 3.6'	115° 3.55'	135° 3.9'
	150° 3.5'	180° 3.2'	210° 3.5'
	225° 3.7'	230° 3.6'	250° 3.65'
	270° 3.5'	280° 3.85'	290° 3.95'

JULY 11, 1953

D. LEONARD

D. BROWN

HARD GRANITE DAM

156790 CONT	300°	3.9'	310°	4.1'	315°	4.9'
	325°	4.85'	340°	4.55'	345°	4.9'
	350°	4.0'	355°	5.0'		
156785	0°	4.65'	10°	5.05'	20°	5.05'
	30°	5.0'	40°	4.8'	60°	4.15'
	65°	3.65'	70°	3.25'	80°	3.3'
	90°	3.5'	100°	3.7'	115°	4.0'
	130°	4.2'	150°	3.6'	180°	3.1'
	210°	3.4'	230°	3.8'	250°	3.4'
	260°	3.5'	270°	3.4'	285°	3.5'
	300°	4.0'	310°	3.9'	320°	4.2'
	330°	4.45'	340°	4.35'	350°	4.45'

HARD GRANITE DAM

156780	0°	4.9'	10°	4.65'	20°	4.7'
	30°	4.8'	40°	4.25'	60°	3.9'
	70°	3.45'	82°	3.6'	90°	3.55'
	105°	3.8'	115°	4.2'	130°	4.4'
	150°	3.5'	180°	3.1'	210°	3.3'
	220°	3.2'	230°	3.15'	240°	2.9'
	260°	3.0'	270°	3.05'	280°	3.05'
	285°	3.3'	300°	3.6'	310°	3.8'

JULY 11, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRY

156780 CONT	325° 4.05'	335° 4.12'	345° 4.35'
	350° 4.6'	355° 4.7'	
156775	0° 4.7'	10° 4.6'	20° 4.95'
	30° 4.4'	40° 4.3'	50° 3.9'
	60° 3.8'	70° 3.7'	80° 3.5'
	90° 3.4'	100° 3.6'	115° 3.95'
	130° 4.0'	150° 3.5'	180° 3.1'
	210° 3.3'	245° 3.4'	245° 3.0
	260° 3.15'	270° 3.2'	285° 3.3'
	300° 3.6'	315° 4.25'	325° 4.7'
	335° 5.0'	345° 4.85'	350° 4.75'

HARD GRANITE DRY

156770	0° 4.8'	10° 4.8'	20° 4.6'
	30° 4.4'	40° 4.45'	50° 3.85'
	65° 3.65'	75° 3.55'	85° 3.35'
	90° 3.35'	105° 3.65'	110° 4.05'
	130° 4.4'	150° 3.4'	180° 3.1'
	210° 3.4'	225° 3.2'	235° 3.1'
	245° 3.0'	270° 3.0'	270° 3.35'
	300° 3.55'	315° 3.9'	325° 4.25'
	330° 4.3'	340° 4.4'	350° 4.45'

July 11, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE DRY

156+65	0° 4.1'	10° 4.25'	20° 4.3'
	30° 4.0'	40° 3.85'	50° 3.85'
	65° 3.65'	80° 3.95'	90° 3.4'
	105° 3.35'	115° 3.7'	130° 4.0'
	150° 3.5'	180° 3.0'	210° 3.2'
	230° 3.7'	250° 3.6'	260° 3.65'
	270° 3.8'	285° 3.8'	300° 3.75'
	310° 4.0'	325° 4.05'	330° 4.0'
	340° 4.05'	350° 3.75'	355° 4.0'

HARD GRANITE DRY

156+60	0° 4.4'	6° 4.25'	15° 4.6'
	35° 4.3'	45° 4.1'	50° 3.8'
	60° 3.25'	70° 3.3'	80° 3.15'
	90° 3.05'	105° 3.25'	120° 3.7'
	130° 4.0'	150° 3.4'	180° 3.0'
	210° 3.3'	230° 3.8'	250° 3.95'
	270° 3.75'	285° 4.0'	290° 3.95'
	300° 3.95'	310° 4.1'	320° 4.25'
	330° 4.35'	340° 4.25'	350° 4.25'

JULY 11, 1953

D. LEONARD

D. BROWN

HARD GRANITE DRY

156+55

0°	4.25'	10°	4.55'	20°	4.4'
35°	4.2'	50°	4.0'	60°	3.7'
70°	3.45'	80°	3.2'	90°	3.3'
100°	3.5'	110°	3.8'	130°	4.2'
150°	3.4'	180°	3.0'	210°	3.3'
230°	3.8'	240°	3.5'	255°	3.55'
270°	3.45'	285°	3.3'	300°	3.55'
310°	3.85'	322°	3.05'	330°	3.95'
340°	4.25'	350°	4.5'		

HARD GRANITE DRY

156+50

0°	4.5'	10°	4.8'	20°	4.4'
35°	4.6'	45°	3.85'	60°	3.6'
80°	3.75'	90°	3.7'	105°	3.5'
123°	4.05'	138°	4.3'	150°	3.4'
180°	3.0'	210°	3.4'	230°	3.9'
245°	3.65'	270°	3.45'	290°	3.6'
305°	3.8'	320°	4.5'	330°	4.3'
340°	4.4'	350°	4.45'	355°	4.05'

HARD GRANITE DRY

156+45

0°	4.15'	15°	4.35'	35°	4.15'
45°	4.3'	60°	4.15'	75°	4.05'
90°	3.95'	105°	4.05'	120°	4.1'

July 11, 1953

D. LEONARD

D. BROWN NOTES

156+45 cont.	130° 4.3'	150° 3.4'	180° 2.95'
	210° 3.3'	230° 3.6'	240° 3.55'
	255° 3.3'	270° 3.2'	285° 3.05'
	300° 3.3'	315° 3.6'	325° 4.0'
	330° 4.15'	340° 3.9'	350° 3.9'

HARD GRANITE ^{TOP} DAMP SIDES WET

156+40	0° 4.5'	10° 4.55'	20° 4.5'
	40° 4.25'	50° 4.15'	65° 3.8'
	80° 3.85'	90° 3.75'	110° 3.8'
	123° 3.9'	130° 4.0'	150° 3.3'
	180° 2.95'	210° 3.2'	225° 3.2'
	240° 3.55'	270° 3.0'	290° 3.1'
	310° 3.55'	325° 4.0'	335° 4.25'
	345° 4.4'	350° 4.4'	

HARD GRANITE WET

156+35	0° 4.6'	15° 4.8'	25° 4.3'
	40° 4.2'	50° 4.0'	65° 3.6'
	75° 3.35'	90° 3.4'	105° 3.2'
	120° 4.05'	130° 4.1'	150° 3.3'
	180° 2.9'	210° 3.2'	230° 3.5'
	240° 3.5'	255° 3.1'	270° 2.85'
	280° 2.95'	290° 2.8'	315° 3.5'

JULY 11, 1953

D. LEONARD

A. BROWN

HARD GRANITE DAMP

156+35 cont.	325° 3.6'	330° 3.7'	340° 4.2'
	350° 4.3'	355° 4.25'	
156+30	0° 4.55'	15° 4.7'	20° 4.0'
	35° 4.25'	45° 4.1'	60° 3.95'
	80° 4.3'	90° 4.5'	105° 3.95'
	120° 4.1'	130° 4.3'	150° 3.3'
	180° 2.9'	210° 3.1'	230° 3.7'
	240° 3.4'	255° 3.1'	270° 2.8'
	280° 3.05'	300° 3.5'	315° 3.55'
	330° 4.1'	340° 4.4'	350° 4.05'

HARD GRANITE DAMP

156+25	0° 4.8'	15° 4.95'	35° 5.3'
	45° 5.1'	60° 4.4'	70° 3.9'
	80° 3.9'	90° 4.3'	110° 4.15'
	130° 4.4'	150° 3.3'	180° 3.0'
	210° 3.1'	230° 3.5'	245° 3.1'
	260° 3.05'	270° 3.2'	290° 3.4'
	305° 3.8'	320° 4.3'	330° 4.4'
	340° 4.6'	350° 4.75'	

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July 11, 1953

D. LEONARD

D. BROWN - NOTES

HARD GRANITE WET

EXTRA SECTION BEGIN CAR-PASS

156+23

0°	4.85'	15°	4.7'	35°	5.25'
40°	5.15'	50°	4.8'	70°	4.9'
70°	5.0'	110°	6.0'	115°	6.2'
150°	3.3'	180°	2.9'	210°	3.2'
230°	3.2'	240°	3.3'	255°	3.1'
270°	3.2'	290°	3.55'	300°	3.2'
325°	4.4'	335°	4.7'	340°	4.7'
358°	5.1'				

HARD GRANITE WET

SPRING ON LOWER RT. SIDE

156+20

0°	4.9'	15°	5.1'	25°	4.6'
35°	4.7'	50°	4.8'	56°	5.5'
65°	5.5'	70°	5.7'	100°	6.65'
115°	6.4'	150°	3.3'	180°	2.9'
210°	3.1'	230°	3.8'	240°	3.75'
255°	3.5'	270°	3.55'	290°	3.8'
310°	4.3'	325°	4.7'	335°	4.6'
340°	4.75'	350°	4.8'	355°	4.9'

HARD GRANITE WET

VEIN OF QUARTZ 7IN. THICK, SLOPING
UPWARD TO THE SOUTH AT 40°

156+15

0°	4.8'	15°	4.8'	35°	5.2'
45°	5.15'	55°	5.65'	65°	5.9'
70°	6.3'	90°	6.1'	95°	6.0'
110°	6.3'	150°	3.2'	180°	2.9'

July 11, 1953

D. LEONARD

D. BROWN - NOTES

156+15 CONT	210°	3.2'	230°	3.8'	240°	3.65'
	255°	3.55'	270°	3.65'	285°	3.9'
	305°	3.85'	323°	4.6'	335°	4.2'
	340°	4.5'	350°	4.6'		

HARD GRANITE WET
EXTRA SECTION END OF CAR-PASS

156+13	0°	4.7'	15°	4.8'	20°	4.5'
	40°	5.0'	50°	5.6'	60°	5.5'
	75°	5.8'	90°	5.95'	100°	5.8'
	115°	6.5'	150°	3.2'	180°	3.0'
	210°	3.1'	230°	3.8'	240°	3.25'
	260°	3.8'	270°	3.85'	270°	3.8
	310°	3.85'	325°	4.0'	330°	4.0'
	3.40°	4.5'	350°	4.5'		

HARD GRANITE WET
SPRING AT UPPER RTSIDE AT 55°
10 GALS. PER MIN. WHEN FIRST OPENED
ON JUNE 23.

156+10	0°	5.0'	20°	5.3'	35°	4.7'
	45°	5.4'	55°	4.2'	70°	3.8'
	90°	3.8'	110°	4.2'	130°	4.4'
	150°	3.3'	180°	3.0'	210°	3.2'
	235°	3.8'	245°	3.8'	260°	3.55'
	270°	3.6'	285°	3.6'	290°	3.8'
	300°	3.8'	310°	3.9'	325°	4.1'
	330°	4.5'	340°	4.85'	350°	5.1'

NOTE: THIS SPRING WENT DRY JULY 14TH.

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July 11, 1953

D. LEONARD
D. BROWN - NOTES

HARD GRANITE DAMP

156+05	0°	4.5'	10°	4.2'	20°	4.45'
	40°	4.7'	50°	4.0'	65°	4.1'
	70°	3.85'	90°	3.8'	110°	4.0'
	130°	4.2'	150°	3.3'	180°	3.2'
	210°	3.3'	230°	4.0'	250°	3.85'
	270°	3.95'	300°	4.0'	320°	4.65'
	335°	4.95'	340°	4.85'	350°	4.65'

HARD GRANITE DAMP

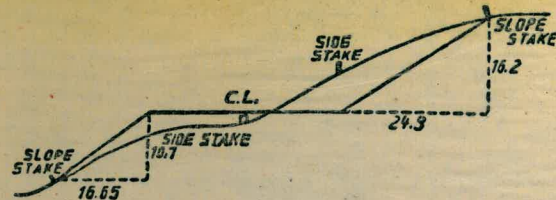
156+00	0°	4.0'	10°	4.65'	20°	4.6'
	40°	4.55'	50°	4.2'	65°	4.1'
	80°	3.25'	90°	3.2'	100°	3.4'
	120°	3.55'	130°	3.8'	150°	3.3'
	180°	2.9'	210°	3.2'	230°	4.0'
	245°	3.55'	260°	3.5'	270°	3.1'
	290°	3.1'	310°	3.4'	325°	3.9'
	335°	4.3'	340°	4.35'	350°	4.55'

Continued in F.R. #845.

DL

SPAD NO.	STATION	CUT		
#19	164+22.07	4.95	B.M.	1896.50
#20	163+76.7	4.15	"	PIN NEAR 1ST. CORE HOLE. 1892.63
#21	163+26	4.68	"	DRILL ROD. 1894.44.
#22	162+74	4.47		
#23	162+25	4.35		
#24	161+74.78	3.83		
#25	161+24.98	3.40		
#26	160+75.96	4.51		
#27	160+28.11	4.08		
#28	159+72.97	4.34		
#29	159+22.21	3.45		
#30	158+58.63	3.94		
#31	158+11.95	4.25		
#32	157+61.90	3.92		
#33	157+11.68	3.62		
#34	156+54.30	4.35		
#35	156+06.03	4.78		
#36	155+50.41	4.27		
#37	154+97.28	4.17		

Please Return to
 City of San Diego Water Dept.
 Room 903 Civic Center



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 1/2 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	71.25	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
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