Comparison Graphs
(Field Hardness vs. Lab Hardness)

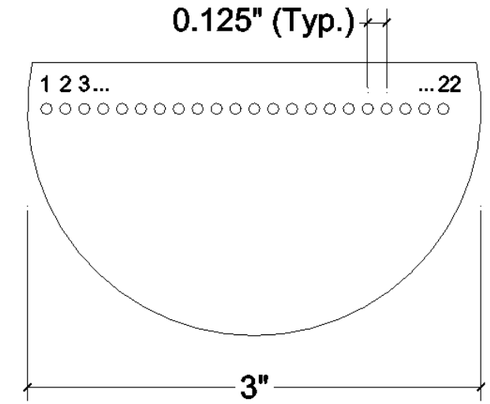
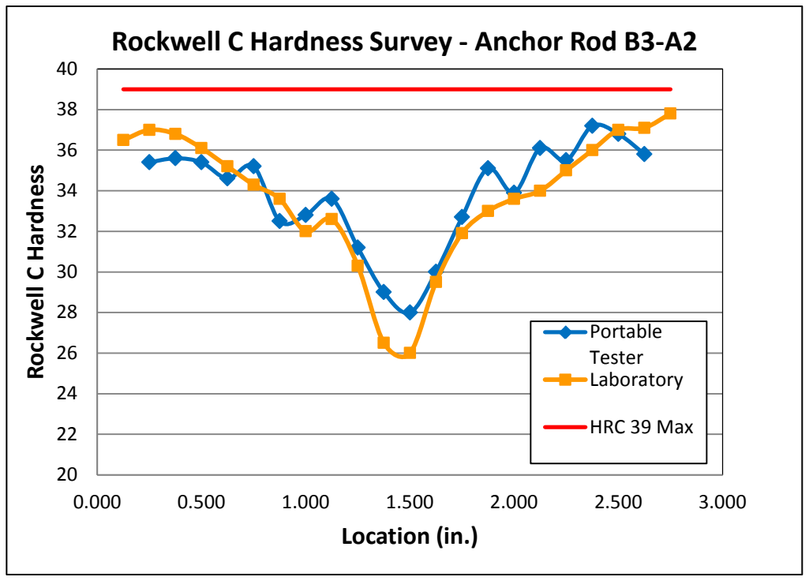
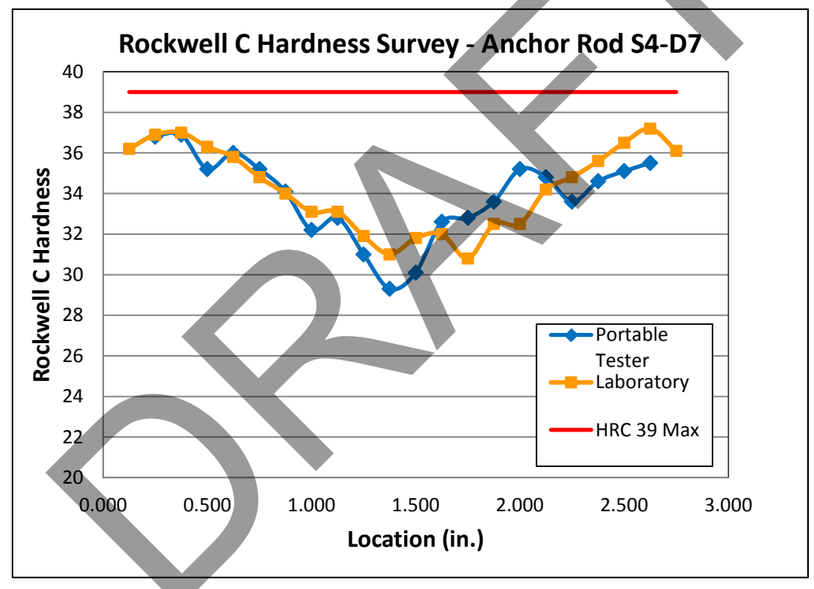


Figure 1: Typical sample with 22 measurement locations

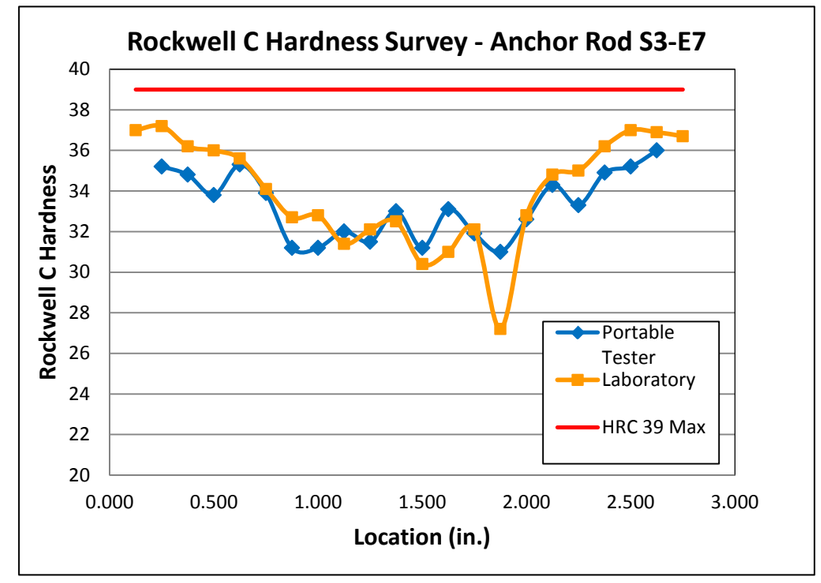
- Field hardness values were measured using an Ultrasonic Contact Impedance (UCI) probe Type GE/Krautkramer MIC 10 per ASTM A1038.
- Per the "APPLICTION GUIDE FOR HARDNESS TESTERS", Section 6.2, variations in field hardness measurements are averaged out at each point so that consistent hardness values can be achieved.
- Laboratory results were obtained from testing of (3) 2010 anchor rods extracted from the bridge and pulled to failure on 4/26/2013.



Location	Portable Tester (HRC)	Laboratory (HRC)	Location	Portable Tester (HRC)	Laboratory (HRC)
1	N/A	36.5	12	28.0	26.0
2	35.4	37.0	13	30.0	29.5
3	35.6	36.8	14	32.7	31.9
4	35.4	36.1	15	35.1	33.0
5	34.6	35.2	16	33.9	33.6
6	35.2	34.3	17	36.1	34.0
7	32.5	33.6	18	35.5	35.0
8	32.8	32.0	19	37.2	36.0
9	33.6	32.6	20	36.8	37.0
10	31.2	30.3	21	35.8	37.1
11	29.0	26.5	22	N/A	37.8



Location	Portable Tester (HRC)	Laboratory (HRC)	Location	Portable Tester (HRC)	Laboratory (HRC)
1	N/A	36.2	12	30.1	31.8
2	36.8	36.9	13	32.6	32.0
3	36.9	37.0	14	32.8	30.8
4	35.2	36.3	15	33.6	32.5
5	36.0	35.8	16	35.2	32.5
6	35.2	34.8	17	34.8	34.2
7	34.1	34.0	18	33.6	34.8
8	32.2	33.1	19	34.6	35.6
9	32.8	33.1	20	35.1	36.5
10	31.0	31.9	21	35.5	37.2
11	29.3	31.0	22	N/A	36.1



Location	Portable Tester (HRC)	Laboratory (HRC)	Location	Portable Tester (HRC)	Laboratory (HRC)
1	N/A	37.0	12	31.2	30.4
2	35.2	37.2	13	33.1	31.0
3	34.8	36.2	14	31.9	32.1
4	33.8	36.0	15	31.0	27.2
5	35.3	35.6	16	32.6	32.8
6	33.9	34.1	17	34.3	34.8
7	31.2	32.7	18	33.3	35.0
8	31.2	32.8	19	34.9	36.2
9	32.0	31.4	20	35.2	37.0
10	31.5	32.1	21	36.0	36.9
11	33.0	32.5	22	N/A	36.7

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