

**Payne & Dolan, Inc.**  
**Racine Quarry - Village of Caledonia**  
**Recorded Ground Vibration and Airblast Levels for the East Quarry CUP (New) Area**  
**August 2021**

All Ground Vibrations (PPV) were below State of Wisconsin and Village of Caledonia Maximum Limits

All Airblasts (AO) were below State of Wisconsin and Village of Caledonia Maximum Limits

Time	Activity	Location	Distance	PPV	Freq	AO
8/30/2021 9:30	54	Ellis	1,773	0.038	19.2	111
8/30/2021 9:30	54	St. Rita	1,461	0.038	18.5	118
8/30/2021 9:30	54	Marquette	873	0.175	31.3	110
8/30/2021 9:30	54	Berkeley	1,064	0.148	18.5	111
8/26/2021 9:28	53	Ellis	1,783	0.053	20	114
8/26/2021 9:28	53	St. Rita	1,454	0.045	13.5	121
8/26/2021 9:28	53	Marquette	901	0.238	13.9	110
8/26/2021 9:28	53	Berkeley	1,065	0.23	19.2	110
8/24/2021 9:27	52	Ellis	2,104	0.023	19.2	112
8/24/2021 9:27	52	St. Rita	1,799	0.023	12.8	120
8/24/2021 9:27	52	Marquette	771	0.253	31.3	111
8/24/2021 9:27	52	Berkeley	719	0.343	27.8	113
8/19/2021 11:03	51	Ellis	1,632	0.033	11.9	111
8/19/2021 11:03	51	St. Rita	1,353	0.033	19.2	114
8/19/2021 11:03	51	Marquette	890	0.148	20.8	103
8/19/2021 11:03	51	Berkeley	1,195	0.11	23.8	106
8/19/2021 9:11	50	Ellis	1,682	0.065	18.5	113
8/19/2021 9:11	50	St. Rita	1,373	0.075	18.5	118
8/19/2021 9:11	50	Marquette	912	0.338	17.2	110
8/19/2021 9:11	50	Berkeley	1,158	0.17	22.7	112
8/16/2021 10:03	49	Ellis	1,621	0.055	17.9	113
8/16/2021 10:03	49	St. Rita	1,323	0.073	15.6	118
8/16/2021 10:03	49	Marquette	929	0.325	14.3	110
8/16/2021 10:03	49	Berkeley	1,215	0.225	20	109
8/10/2021 11:28	48	Ellis	2,034	0.025	17.2	111
8/10/2021 11:28	48	St. Rita	1,739	0.02	15.2	114
8/10/2021 11:28	48	Marquette	756	0.23	31.3	114
8/10/2021 11:28	48	Berkeley	786	0.243	41.7	112
8/10/2021 9:15	47	Ellis	1,531	0.058	15.6	114
8/10/2021 9:15	47	St. Rita	1,269	0.08	19.2	119
8/10/2021 9:15	47	Marquette	933	0.225	17.2	106
8/10/2021 9:15	47	Berkeley	1,294	0.115	17.9	109
8/4/2021 9:15	46	Ellis	1,993	0.043	16.1	103
8/4/2021 9:15	46	St. Rita	1,704	0.023	13.9	110
8/4/2021 9:15	46	Marquette	750	0.205	17.9	110
8/4/2021 9:15	46	Berkeley	825	0.22	31.3	114

8/2/2021 12:02	45	Ellis	2,009	0.038	20.8	107
8/2/2021 12:02	45	St. Rita	1,691	0.025	14.3	116
8/2/2021 12:02	45	Marquette	812	0.233	31.3	113
8/2/2021 12:02	45	Berkeley	825	0.243	45.5	111
8/2/2021 10:02	44	Ellis	1,461	0.083	41.7	111
8/2/2021 10:02	44	St. Rita	1,225	0.08	23.8	119
8/2/2021 10:02	44	Marquette	950	0.145	29.4	116
8/2/2021 10:02	44	Berkeley	1,359	0.093	23.8	116

N/T - seismograph did not trigger

Ground Vibration (PPV) Limit - The Village of Caledonia explosives use ordinance states that “the ground vibration produced by such blasts does not exceed 0.65 inches per second or the limitations imposed by the Wisconsin Department of Industry, Labor and Human Relations in Section ILHR 7.64(4), Wis. Adm. Code, as amended from time to time, whichever is more stringent”.

Airblast (AO) Limit - The Village of Caledonia explosives use ordinance states that “Airblast shall not exceed the maximum limits listed in Table A-1 at the location of any dwelling, public building, place of employment, school, church or community or institutional building outside and beyond the permitted explosives use area. Notwithstanding this general requirement, an annual permit holder subject to this limitation may exceed the limitation on up to five percent (5%) of the blasts it initiates during the six (6) month period from July 1 to December 31, and during the six (6) month period from January 1 to June 30, without violating this ordinance, provided that the airblast produced by such blasts does not exceed the limitations on airblast imposed by Wisconsin Department of Industry, Labor and Human Relations in Subsection ILHR 7.64(2), Wis. Adm. Code, as amended from time to time.”

TABLE A-1 AIRBLAST  
LIMITS

Lower Frequency Limit of Measuring System in Hz	Maximum Level in db
2 Hz or lower -- Flat response	123 peak
6 Hz or lower -- Flat response	129 peak

