

Payne & Dolan, Inc.
Racine Quarry - Village of Caledonia
Recorded Ground Vibration and Airblast Levels for the East Quarry CUP (New) Area
July 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
7/28/2021 10:30	43	Ellis	1,499	0.048	26.3	111
7/28/2021 10:30	43	St. Rita	1,227	0.06	25	115
7/28/2021 10:30	43	Marquette	972	0.275	16.7	109
7/28/2021 10:30	43	Berkeley	1,331	0.14	17.2	110
7/22/2021 10:49	42	Ellis	1,409	0.048	35.7	112
7/22/2021 10:49	42	St. Rita	1,162	0.058	33.3	116
7/22/2021 10:49	42	Marquette	1,006	0.15	22.7	108
7/22/2021 10:49	42	Berkeley	1,417	0.083	27.8	106
7/21/2021 10:34	41	Ellis	2,267	0.02	26.3	98
7/21/2021 10:34	41	St. Rita	2,038	N/T	N/T	N/A
7/21/2021 10:34	41	Marquette	605	0.145	31.3	110
7/21/2021 10:34	41	Berkeley	547	0.185	23.8	113
7/21/2021 9:19	40	Ellis	2,072	N/T	N/T	N/A
7/21/2021 9:19	40	St. Rita	1,865	N/T	N/T	N/A
7/21/2021 9:19	40	Marquette	554	0.128	29.4	111
7/21/2021 9:19	40	Berkeley	740	0.188	38.5	114
7/16/2021 12:25	39	Ellis	1,309	0.07	45.5	107
7/16/2021 12:25	39	St. Rita	1,116	0.068	41.7	113
7/16/2021 12:25	39	Marquette	1,029	0.165	33.3	106
7/16/2021 12:25	39	Berkeley	1,506	0.073	41.7	111
7/16/2021 10:13	38	Ellis	1,328	0.063	13.5	111
7/16/2021 10:13	38	St. Rita	1,114	0.093	29.4	117
7/16/2021 10:13	38	Marquette	1,036	0.16	31.3	109
7/16/2021 10:13	38	Berkeley	1,492	0.09	38.5	110
7/16/2021 9:12	37	Ellis	2,188	N/T	N/T	N/A
7/16/2021 9:12	37	St. Rita	1,950	N/T	N/T	N/A
7/16/2021 9:12	37	Marquette	616	0.125	27.8	109
7/16/2021 9:12	37	Berkeley	620	0.145	31.3	116
7/9/2021 11:32	36	Ellis	2,297	N/T	N/T	N/A
7/9/2021 11:32	36	St. Rita	2,039	N/T	N/T	N/A
7/9/2021 11:32	36	Marquette	677	0.163	45.5	113
7/9/2021 11:32	36	Berkeley	510	0.198	35.7	114
7/9/2021 10:05	35	Ellis	2,052	0.02	31.3	96
7/9/2021 10:05	35	St. Rita	1,821	N/T	N/T	N/A
7/9/2021 10:05	35	Marquette	610	0.155	25	109
7/9/2021 10:05	35	Berkeley	755	0.188	38.5	113

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

