

**Payne & Dolan, Inc.**  
**Racine Quarry - Village of Caledonia**  
**Recorded Ground Vibration and Airblast Levels for the East Quarry CUP (New) Area**  
**June 2023**

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
6/28/2023 11:59	EAST 27	Ellis	1,322	0.058	35.7	113
6/28/2023 11:59	EAST 27	St. Rita	1,150	0.08	31.3	119
6/28/2023 11:59	EAST 27	Marquette	993	0.115	20	111
6/28/2023 11:59	EAST 27	Berkeley	1,489	0.043	14.7	110
6/28/2023 9:34	EAST 26	Ellis	1,385	0.04	14.7	111
6/28/2023 9:34	EAST 26	St. Rita	1,208	0.073	16.1	117
6/28/2023 9:34	EAST 26	Marquette	940	0.128	19.2	115
6/28/2023 9:34	EAST 26	Berkeley	1,425	0.043	12.2	116
6/22/2023 11:44	EAST 25	Ellis	1,038	0.133	26.3	108
6/22/2023 11:44	EAST 25	St. Rita	971	0.16	31.3	109
6/22/2023 11:44	EAST 25	Marquette	1,191	0.138	23.8	115
6/22/2023 11:44	EAST 25	Berkeley	1,770	0.038	18.5	115
6/22/2023 9:18	EAST 24	Ellis	1,142	0.088	35.7	111
6/22/2023 9:18	EAST 24	St. Rita	1,196	0.11	33.3	112
6/22/2023 9:18	EAST 24	Marquette	1,001	0.123	19.2	115
6/22/2023 9:18	EAST 24	Berkeley	1,684	0.038	20	115
6/14/2023 14:17	EAST 23	Ellis	1,013	0.123	27.8	110
6/14/2023 14:17	EAST 23	St. Rita	865	0.13	35.7	117
6/14/2023 14:17	EAST 23	Marquette	1,285	0.155	9.4	114
6/14/2023 14:17	EAST 23	Berkeley	1,813	0.053	10.4	112
6/14/2023 11:16	EAST 22	Ellis	926	0.115	15.6	110
6/14/2023 11:16	EAST 22	St. Rita	748	0.135	17.2	123
6/14/2023 11:16	EAST 22	Marquette	1,407	0.058	7.2	105
6/14/2023 11:16	EAST 22	Berkeley	1,921	0.035	14.7	106
6/14/2023 11:00	EAST 21	Ellis	1,128	0.133	27.8	112
6/14/2023 11:00	EAST 21	St. Rita	1,116	0.135	31.3	111
6/14/2023 11:00	EAST 21	Marquette	1,054	0.113	25	119
6/14/2023 11:00	EAST 21	Berkeley	1,682	0.04	22.7	115
6/2/2023 12:44	EAST 20	Ellis	1,201	0.105	31.3	108
6/2/2023 12:44	EAST 20	St. Rita	1,252	0.093	27.8	111
6/2/2023 12:44	EAST 20	Marquette	938	0.12	17.2	115
6/2/2023 12:44	EAST 20	Berkeley	1,632	0.058	22.7	118
6/2/2023 11:01	EAST 19	Ellis	1,074	0.145	23.8	111
6/2/2023 11:01	EAST 19	St. Rita	893	0.103	38.5	113
6/2/2023 11:01	EAST 19	Marquette	1,249	0.123	12.2	119
6/2/2023 11:01	EAST 19	Berkeley	1,755	0.05	12.8	118
6/2/2023 9:13	EAST 18	Ellis	965	0.283	16.1	112
6/2/2023 9:13	EAST 18	St. Rita	781	0.19	15.6	122
6/2/2023 9:13	EAST 18	Marquette	1,368	0.208	10.2	109

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

