

Payne & Dolan, Inc.
Racine Quarry - Village of Caledonia
Recorded Ground Vibration and Airblast Levels for the East Quarry CUP (New) Area
November 2024

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
11/25/2024 12:00	EAST 71	Ellis	1,652	0.0375	11.4	113
11/25/2024 12:00	EAST 71	St. Rita	1,435	0.0325	31.3	120
11/25/2024 12:00	EAST 71	Marquette	774	0.21	33.3	113
11/25/2024 12:00	EAST 71	Berkeley	1,156	0.1525	35.7	110
11/25/2024 9:44	EAST 70	Ellis	1,693	0.035	10.4	111
11/25/2024 9:44	EAST 70	St. Rita	1,394	0.0375	18.5	116
11/25/2024 9:44	EAST 70	Marquette	888	0.1525	15.6	112
11/25/2024 9:44	EAST 70	Berkeley	1,141	0.1625	19.2	112
11/18/2024 12:45	EAST 69	Ellis	2,134	0.0225	11.6	117
11/18/2024 12:45	EAST 69	St. Rita	1,822	0.0225	16.7	119
11/18/2024 12:45	EAST 69	Marquette	786	0.14	50	118
11/18/2024 12:45	EAST 69	Berkeley	693	0.2275	35.7	113
11/18/2024 10:28	EAST 68	Ellis	2,127	0.0325	11.9	113
11/18/2024 10:28	EAST 68	St. Rita	1,753	0.0275	14.3	116
11/18/2024 10:28	EAST 68	Marquette	930	0.1175	21.7	119
11/18/2024 10:28	EAST 68	Berkeley	759	0.1875	12.2	112
11/7/2024 13:30	EAST 67	Ellis	2,141	0.025	22.7	113
11/7/2024 13:30	EAST 67	St. Rita	1,860	0.0225	20.8	117
11/7/2024 13:30	EAST 67	Marquette	716	0.1725	35.7	118
11/7/2024 13:30	EAST 67	Berkeley	670	0.2025	33.3	113
11/7/2024 10:32	EAST 66	Ellis	2,476	N/T	N/T	N/A
11/7/2024 10:32	EAST 66	St. Rita	2,236	N/T	N/T	N/A
11/7/2024 10:32	EAST 66	Marquette	701	0.13	50	115
11/7/2024 10:32	EAST 66	Berkeley	348	0.205	62.5	116
11/6/2024 13:28	EAST 65	Ellis	2,061	0.025	17.2	109
11/6/2024 13:28	EAST 65	St. Rita	1,749	0.0275	16.1	111
11/6/2024 13:28	EAST 65	Marquette	791	0.17	26.3	114
11/6/2024 13:28	EAST 65	Berkeley	767	0.16	41.7	112
11/6/2024 10:29	EAST 64	Ellis	2,056	0.0275	12.8	108
11/6/2024 10:29	EAST 64	St. Rita	1,666	0.0225	31.3	112
11/6/2024 10:29	EAST 64	Marquette	966	0.135	17.2	117
11/6/2024 10:29	EAST 64	Berkeley	846	0.16	45.5	111
11/1/2024 11:59	EAST 63	Ellis	1,346	0.05	20.8	107
11/1/2024 11:59	EAST 63	St. Rita	1,192	0.0625	19.2	114
11/1/2024 11:59	EAST 63	Marquette	951	0.3425	23.8	112
11/1/2024 11:59	EAST 63	Berkeley	1,462	0.21	33.3	114
11/1/2024 9:58	EAST 62	Ellis	1,473	0.1125	45.5	108
11/1/2024 9:58	EAST 62	St. Rita	1,257	0.0875	27.8	115
11/1/2024 9:58	EAST 62	Marquette	912	0.1675	25	110
11/1/2024 9:58	EAST 62	Berkeley	1,340	0.08	21.7	110

N/T - seismograph did not trigger

Ground Vibration (PPV) Limit - The Village of Caledonia explosives use ordinance states that "The maximum ground vibration at the location of any dwelling, public building, place of employment, school, church or community or institutional building outside or beyond the permitted explosives use area shall have a maximum peak-particle-velocity limit as provided by the Department, the scaled-distance equation of paragraph (ii), or the blasting level chart of paragraph (iii), whichever is applicable hereunder. Notwithstanding this general requirement, an annual permit holder who is subject to the limitations of paragraph (iii)a (Figure A, incorporated by herein reference), below, may exceed the limitation of Figure A 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 Section, provided 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

