

Payne & Dolan, Inc.
Racine Quarry - Village of Caledonia
Recorded Ground Vibration and Airblast Levels for the East Quarry CUP (New) Area
March 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
3/25/2021 11:00	8	Ellis	1,442	0.085	13.9	99
3/25/2021 11:00	8	St. Rita	1,220	0.098	13.9	110
3/25/2021 11:00	8	Marquette	946	0.135	14.3	108
3/25/2021 11:00	8	Berkeley	1,375	0.09	17.9	109
3/17/2021 12:13	7	Ellis	2,387	N/T	N/T	N/A
3/17/2021 12:13	7	St. Rita	2,052	N/T	N/T	N/A
3/17/2021 12:13	7	Marquette	881	0.075	29.4	107
3/17/2021 12:13	7	Berkeley	457	0.178	45.5	115
3/17/2021 9:32	6	Ellis	1,552	0.05	11.4	104
3/17/2021 9:32	6	St. Rita	1,294	0.068	13.2	110
3/17/2021 9:32	6	Marquette	911	0.233	23.8	106
3/17/2021 9:32	6	Berkeley	1,270	0.113	20	109
3/12/2021 12:59	5	Ellis	2,219	0.033	14.7	107
3/12/2021 12:59	5	St. Rita	1,848	N/T	N/T	N/A
3/12/2021 12:59	5	Marquette	928	0.12	33.3	111
3/12/2021 12:59	5	Berkeley	666	0.185	27.8	114
3/12/2021 9:28	4	Ellis	1,612	0.053	14.7	103
3/12/2021 9:28	4	St. Rita	1,337	0.045	14.3	111
3/12/2021 9:28	4	Marquette	896	0.208	21.7	115
3/12/2021 9:28	4	Berkeley	1,214	0.138	20	116
3/5/2021 11:13	3	Ellis	2,057	0.028	12.8	101
3/5/2021 11:13	3	St. Rita	1,703	N/T	N/T	N/A
3/5/2021 11:13	3	Marquette	886	0.128	33.3	108
3/5/2021 11:13	3	Berkeley	806	0.118	31.3	112
3/5/2021 9:30	2	Ellis	1,925	0.033	22.7	107
3/5/2021 9:30	2	St. Rita	1,587	0.02	23.8	111
3/5/2021 9:30	2	Marquette	872	0.123	35.7	109
3/5/2021 9:30	2	Berkeley	926	0.118	45.5	112

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

