

Payne & Dolan, Inc.
Racine Quarry - Village of Caledonia
Recorded Ground Vibration and Airblast Levels for the East Quarry CUP (New) Area
May 2022

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
5/24/2022 9:11	EAST 23	Ellis	1,756	0.055	13.9	100
5/24/2022 9:11	EAST 23	St. Rita	1,567	0.058	15.2	102
5/24/2022 9:11	EAST 23	Marquette	655	0.223	23.8	112
5/24/2022 9:11	EAST 23	Berkeley	1,051	0.12	23.8	119
5/23/2022 9:57	EAST 22	Ellis	1,754	0.068	15.2	100
5/23/2022 9:57	EAST 22	St. Rita	1,519	0.04	23.8	101
5/23/2022 9:57	EAST 22	Marquette	739	0.275	23.8	113
5/23/2022 9:57	EAST 22	Berkeley	1,055	0.113	27.8	117
5/19/2022 13:27	EAST 21	Ellis	1,816	0.06	17.9	100
5/19/2022 13:27	EAST 21	St. Rita	1,614	0.03	15.2	102
5/19/2022 13:27	EAST 21	Marquette	642	0.353	29.4	112
5/19/2022 13:27	EAST 21	Berkeley	991	0.16	22.7	119
5/17/2022 9:47	EAST 20	Ellis	1,771	0.048	16.7	100
5/17/2022 9:47	EAST 20	St. Rita	1,521	0.038	17.9	103
5/17/2022 9:47	EAST 20	Marquette	757	0.218	20.8	112
5/17/2022 9:47	EAST 20	Berkeley	1,040	0.088	26.3	120
5/11/2022 14:29	East 19	Ellis	1,854	0.04	13.2	89
5/11/2022 14:29	East 19	St. Rita	1,636	0.03	13.9	97
5/11/2022 14:29	East 19	Marquette	652	0.29	29.4	111
5/11/2022 14:29	East 19	Berkeley	953	0.13	27.8	115
5/11/2022 11:00	East 18	Ellis	1,841	0.048	22.7	101
5/11/2022 11:00	East 18	St. Rita	1,574	0.033	23.8	103
5/11/2022 11:00	East 18	Marquette	755	0.225	25	113
5/11/2022 11:00	East 18	Berkeley	973	0.105	16.1	121
5/11/2022 9:31	East 17	Ellis	1,914	0.038	11.6	100
5/11/2022 9:31	East 17	St. Rita	1,684	0.03	25	97
5/11/2022 9:31	East 17	Marquette	648	0.275	27.8	113
5/11/2022 9:31	East 17	Berkeley	892	0.12	33.3	119
5/4/2022 9:30	EAST 16	Ellis	1,905	0.048	19.2	101
5/4/2022 9:30	EAST 16	St. Rita	1,645	0.03	13.5	101
5/4/2022 9:30	EAST 16	Marquette	715	0.27	18.5	117
5/4/2022 9:30	EAST 16	Berkeley	905	0.103	14.3	124
5/2/2022 10:55	EAST 15	Ellis	1,668	N/T	N/T	N/A
5/2/2022 10:55	EAST 15	St. Rita	1,559	N/T	N/T	N/A
5/2/2022 10:55	EAST 15	Marquette	598	0.075	23.8	107
5/2/2022 10:55	EAST 15	Berkeley	1,155	0.03	29.4	106
5/2/2022 9:46	EAST 14	Ellis	1,806	N/T	N/T	N/A
5/2/2022 9:46	EAST 14	St. Rita	1,683	N/T	N/T	N/A
5/2/2022 9:46	EAST 14	Marquette	506	0.093	17.9	111
5/2/2022 9:46	EAST 14	Berkeley	1,023	0.045	29.4	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

