

Payne & Dolan, Inc.
Racine Quarry - Village of Caledonia
Recorded Ground Vibration and Airblast Levels for the East Quarry CUP (New) Area
September 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
9/30/2021 12:01	EAST 66	Ellis	2,312	N/T	N/T	N/A
9/30/2021 12:01	EAST 66	St. Rita	2,089	N/T	N/T	N/A
9/30/2021 12:01	EAST 66	Marquette	604	0.185	35.7	111
9/30/2021 12:01	EAST 66	Berkeley	507	0.205	33.3	115
9/30/2021 10:03	EAST 65	Ellis	2,157	N/T	N/T	N/A
9/30/2021 10:03	EAST 65	St. Rita	1,966	N/T	N/T	N/A
9/30/2021 10:03	EAST 65	Marquette	507	0.193	33.3	111
9/30/2021 10:03	EAST 65	Berkeley	670	0.135	35.7	114
9/27/2021 10:29	EAST 64	Ellis	2,108	N/T	N/T	N/A
9/27/2021 10:29	EAST 64	St. Rita	1,907	N/T	N/T	N/A
9/27/2021 10:29	EAST 64	Marquette	534	0.12	33.3	114
9/27/2021 10:29	EAST 64	Berkeley	709	0.165	35.7	113
9/27/2021 9:24	EAST 63	Ellis	2,190	0.025	18.5	112
9/27/2021 9:24	EAST 63	St. Rita	1,896	0.025	15.2	119
9/27/2021 9:24	EAST 63	Marquette	747	0.245	33.3	113
9/27/2021 9:24	EAST 63	Berkeley	626	0.335	27.8	115
9/24/2021 9:14	EAST 62	Ellis	2,177	N/T	N/T	N/A
9/24/2021 9:14	EAST 62	St. Rita	1,964	N/T	N/T	N/A
9/24/2021 9:14	EAST 62	Marquette	561	0.175	38.5	114
9/24/2021 9:14	EAST 62	Berkeley	638	0.188	38.5	121
9/15/2021 10:59	EAST 61	Ellis	2,140	0.03	12.2	102
9/15/2021 10:59	EAST 61	St. Rita	1,856	0.025	11.4	107
9/15/2021 10:59	EAST 61	Marquette	723	0.278	29.4	110
9/15/2021 10:59	EAST 61	Berkeley	672	0.265	45.5	116
9/15/2021 9:29	EAST 60	Ellis	1,915	0.038	19.2	107
9/15/2021 9:29	EAST 60	St. Rita	1,578	0.038	16.1	113
9/15/2021 9:29	EAST 60	Marquette	872	0.258	31.3	111
9/15/2021 9:29	EAST 60	Berkeley	935	0.19	41.7	113
9/9/2021 11:57	EAST 59	Ellis	2,029	0.035	22.7	95
9/9/2021 11:57	EAST 59	St. Rita	1,758	0.028	11.6	105
9/9/2021 11:57	EAST 59	Marquette	703	0.218	19.2	111
9/9/2021 11:57	EAST 59	Berkeley	782	0.19	31.3	114
9/9/2021 10:00	EAST 58	Ellis	1,864	0.038	16.1	113
9/9/2021 10:00	EAST 58	St. Rita	1,531	0.053	12.2	118
9/9/2021 10:00	EAST 58	Marquette	880	0.255	21.7	112
9/9/2021 10:00	EAST 58	Berkeley	984	0.205	23.8	113
9/2/2021 10:29	EAST 57	Ellis	2,156	0.023	29.4	110
9/2/2021 10:29	EAST 57	St. Rita	1,844	0.02	16.7	119
9/2/2021 10:29	EAST 57	Marquette	786	0.225	29.4	113

9/2/2021 10:29	EAST 57	Berkeley	670	0.3	33.3	113
9/2/2021 10:25	EAST 56	Ellis	1,907	N/T	N/T	N/A
9/2/2021 10:25	EAST 56	St. Rita	1,639	N/T	N/T	N/A
9/2/2021 10:25	EAST 56	Marquette	731	0.12	41.7	106
9/2/2021 10:25	EAST 56	Berkeley	906	0.168	33.3	112
9/2/2021 10:18	EAST 55	Ellis	1,785	0.025	16.7	119
9/2/2021 10:18	EAST 55	St. Rita	1,470	0.02	14.3	124
9/2/2021 10:18	EAST 55	Marquette	872	0.12	18.5	103
9/2/2021 10:18	EAST 55	Berkeley	1,054	0.123	17.2	104

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 <u>Measuring System in Hz</u>	<u>Maximum Level in db</u>
2 Hz or lower -- Flat response	123 peak
6 Hz or lower -- Flat response	129 peak

