

Payne & Dolan, Inc.
Racine Quarry - Village of Caledonia
Recorded Ground Vibration and Airblast Levels for the East Quarry CUP (New) Area
September 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
9/29/2022 14:30	EAST 61	Ellis	1,953	0.03	31.3	107
9/29/2022 14:30	EAST 61	St. Rita	1,769	N/T	N/T	N/A
9/29/2022 14:30	EAST 61	Marquette	537	0.295	20.8	113
9/29/2022 14:30	EAST 61	Berkeley	861	0.12	26.3	111
9/29/2022 12:34	EAST 60	Ellis	1,824	0.035	12.8	111
9/29/2022 12:34	EAST 60	St. Rita	1,670	0.033	14.3	117
9/29/2022 12:34	EAST 60	Marquette	549	0.29	20	116
9/29/2022 12:34	EAST 60	Berkeley	993	0.13	20	112
9/29/2022 11:02	EAST 59	Ellis	1,351	0.078	12.5	109
9/29/2022 11:02	EAST 59	St. Rita	1,259	0.073	14.7	113
9/29/2022 11:02	EAST 59	Marquette	881	0.175	14.7	118
9/29/2022 11:02	EAST 59	Berkeley	1,458	0.068	16.1	117
9/23/2022 12:44	EAST 58	Ellis	1,658	0.033	45.5	111
9/23/2022 12:44	EAST 58	St. Rita	1,527	0.048	14.3	111
9/23/2022 12:44	EAST 58	Marquette	638	0.215	27.8	109
9/23/2022 12:44	EAST 58	Berkeley	1,157	0.078	20	111
9/23/2022 10:20	EAST 57	Ellis	1,485	0.088	13.2	109
9/23/2022 10:20	EAST 57	St. Rita	1,394	0.128	12.5	110
9/23/2022 10:20	EAST 57	Marquette	747	0.195	20.8	119
9/23/2022 10:20	EAST 57	Berkeley	1,330	0.098	17.9	118
9/19/2022 9:18	EAST 56	Ellis	1,828	0.03	21.7	111
9/19/2022 9:18	EAST 56	St. Rita	1,657	0.035	18.5	114
9/19/2022 9:18	EAST 56	Marquette	576	0.36	27.8	117
9/19/2022 9:18	EAST 56	Berkeley	984	0.135	38.5	119
9/14/2022 11:58	EAST 55	Ellis	1,444	0.083	20.8	104
9/14/2022 11:58	EAST 55	St. Rita	1,297	0.073	21.7	106
9/14/2022 11:58	EAST 55	Marquette	850	0.158	12.8	114
9/14/2022 11:58	EAST 55	Berkeley	1,362	0.073	20	120
9/8/2022 11:33	EAST 54	Ellis	1,988	N/T	N/T	N/A
9/8/2022 11:33	EAST 54	St. Rita	1,787	N/T	N/T	N/A
9/8/2022 11:33	EAST 54	Marquette	562	0.483	33.3	111
9/8/2022 11:33	EAST 54	Berkeley	822	0.143	31.3	110
9/8/2022 10:00	EAST 53	Ellis	1,655	0.03	22.7	105
9/8/2022 10:00	EAST 53	St. Rita	1,516	N/T	N/T	N/A
9/8/2022 10:00	EAST 53	Marquette	651	0.288	31.3	108
9/8/2022 10:00	EAST 53	Berkeley	1,158	0.095	29.4	106
9/1/2022 11:14	EAST 52	Ellis	1,801	0.035	17.9	110
9/1/2022 11:14	EAST 52	St. Rita	1,618	0.033	14.7	114
9/1/2022 11:14	EAST 52	Marquette	617	0.315	27.8	116

9/1/2022 11:14	EAST 52	Berkeley	1,007	N/T	N/T	N/A
9/1/2022 9:28	EAST 51	Ellis	1,973	0.035	21.7	114
9/1/2022 9:28	EAST 51	St. Rita	1,761	N/T	N/T	N/A
9/1/2022 9:28	EAST 51	Marquette	591	0.388	33.3	112
9/1/2022 9:28	EAST 51	Berkeley	835	0.14	31.3	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

