

Payne & Dolan, Inc.
Racine Quarry - Village of Caledonia
Recorded Ground Vibration and Airblast Levels for the East Quarry CUP (New) Area
September 2020

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
9/29/2020 11:46	89	St. Rita	1,944	N/T	N/T	N/A
9/29/2020 11:46	89	Marquette	821	0.095	17.9	108
9/29/2020 11:46	89	Ellis	2,266	N/T	N/T	N/A
9/29/2020 11:46	89	Berkeley	566	0.158	50	117
9/29/2020 11:43	88	St. Rita	1,564	0.058	15.6	112
9/29/2020 11:43	88	Marquette	901	0.2	17.2	107
9/29/2020 11:43	88	Ellis	1,914	0.06	21.7	104
9/29/2020 11:43	88	Berkeley	947	0.185	26.3	112
9/28/2020 11:47	87	St. Rita	1,557	0.045	15.2	110
9/28/2020 11:47	87	Marquette	954	0.16	16.1	99
9/28/2020 11:47	87	Ellis	1,935	0.05	22.7	106
9/28/2020 11:47	87	Berkeley	952	0.185	23.8	109
9/28/2020 11:44	86	St. Rita	1,144	0.025	19.2	111
9/28/2020 11:44	86	Marquette	999	0.073	26.3	106
9/28/2020 11:44	86	Ellis	1,312	0.03	38.5	108
9/28/2020 11:44	86	Berkeley	1,498	0.028	26.3	106
9/23/2020 9:58	85	St. Rita	1,368	0.025	17.2	115
9/23/2020 9:58	85	Marquette	858	0.105	29.4	106
9/23/2020 9:58	85	Ellis	1,624	0.035	18.5	107
9/23/2020 9:58	85	Berkeley	1,194	0.075	31.3	111
9/18/2020 11:03	84	St. Rita	1,914	N/T	N/T	N/A
9/18/2020 11:03	84	Marquette	857	0.093	31.3	104
9/18/2020 11:03	84	Ellis	2,253	0.02	12.5	95
9/18/2020 11:03	84	Berkeley	594	0.155	38.5	118
9/18/2020 10:59	83	St. Rita	1,278	0.035	19.2	110
9/18/2020 10:59	83	Marquette	919	0.14	31.3	106
9/18/2020 10:59	83	Ellis	1,532	0.038	15.6	106
9/18/2020 10:59	83	Berkeley	1,290	0.04	35.7	106
9/14/2020 12:33	81	St. Rita	1,627	N/T	N/T	N/A
9/14/2020 12:33	81	Marquette	828	0.11	33.3	107
9/14/2020 12:33	81	Ellis	1,947	0.025	13.9	107
9/14/2020 12:33	81	Berkeley	890	0.113	33.3	111
9/14/2020 12:29	80	St. Rita	1,275	N/T	N/T	N/A
9/14/2020 12:29	80	Marquette	938	0.135	31.3	107
9/14/2020 12:29	80	Ellis	1,551	0.04	11.4	106
9/14/2020 12:29	80	Berkeley	1,279	0.04	31.3	107
9/1/2020 11:34	79	Marquette	850	0.145	35.7	107
9/1/2020 11:34	79	Ellis	1,926	0.025	27.8	106

9/1/2020 11:34	79	Berkeley	917	0.12	38.5	110
9/1/2020 11:29	78	Marquette	970	0.09	31.3	106
9/1/2020 11:29	78	Ellis	1,540	0.055	12.8	106
9/1/2020 11:29	78	Berkeley	1,297	0.045	15.2	105

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

