

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

| Time | Activity | Location | Distance | PPV | Freq | AO |
|-----------------|----------|-----------|----------|-------|------|-----|
| 7/27/2020 9:59 | EAST 10 | Ellis | 2,229 | 0.02 | 9.6 | 102 |
| 7/27/2020 9:59 | EAST 10 | St. Rita | 1,857 | 0.02 | 17.9 | 111 |
| 7/27/2020 9:59 | EAST 10 | Marquette | 932 | 0.1 | 21.7 | 108 |
| 7/27/2020 9:59 | EAST 10 | Berkeley | 657 | 0.095 | 27.8 | 111 |
| 7/22/2020 10:04 | EAST 9 | Ellis | 2,330 | N/T | N/T | N/T |
| 7/22/2020 10:04 | EAST 9 | St. Rita | 1,949 | N/T | N/T | N/T |
| 7/22/2020 10:04 | EAST 9 | Marquette | 972 | 0.103 | 25 | 112 |
| 7/22/2020 10:04 | EAST 9 | Berkeley | 576 | 0.315 | 38.5 | 115 |
| 7/22/2020 10:01 | EAST 8 | Ellis | 1,874 | 0.035 | 14.3 | 110 |
| 7/22/2020 10:01 | EAST 8 | Berkeley | 1,003 | 0.09 | 31.3 | 108 |
| 7/22/2020 10:01 | EAST 8 | Marquette | 946 | 0.123 | 31.3 | 107 |
| 7/22/2020 10:01 | EAST 8 | St. Rita | 1,507 | 0.03 | 14.7 | 110 |
| 7/16/2020 10:06 | EAST7 | St. Rita | 1,848 | N/T | N/T | N/T |
| 7/16/2020 10:06 | EAST7 | Ellis | 2,228 | 0.028 | 13.9 | 104 |
| 7/16/2020 10:06 | EAST7 | Marquette | 953 | 0.063 | 12.5 | 110 |
| 7/16/2020 10:06 | EAST7 | Berkeley | 670 | 0.173 | 31.3 | 112 |
| 7/9/2020 10:02 | EAST 6 | Berkeley | 604 | 0.253 | 35.7 | 111 |
| 7/9/2020 10:02 | EAST 6 | Ellis | 2,300 | 0.03 | 12.8 | 105 |
| 7/9/2020 10:02 | EAST 6 | St. Rita | 1,918 | 0.023 | 13.2 | 107 |
| 7/9/2020 10:02 | EAST 6 | Marquette | 966 | 0.105 | 14.3 | 109 |
| 7/9/2020 9:58 | EAST 5 | Ellis | N/A | 0.04 | 15.6 | 106 |
| 7/9/2020 9:58 | EAST 5 | St. Rita | N/A | 0.02 | 19.2 | 109 |
| 7/9/2020 9:58 | EAST 5 | Marquette | N/A | 0.095 | 31.3 | 106 |
| 7/9/2020 9:58 | EAST 5 | Berkeley | N/A | 0.128 | 27.8 | 111 |
| 7/8/2020 11:01 | EAST 4 | Ellis | 2,309 | 0.035 | 12.8 | 108 |
| 7/8/2020 11:01 | EAST 4 | Marquette | 1,024 | 0.13 | 20.8 | 107 |
| 7/8/2020 11:01 | EAST 4 | Berkeley | 635 | 0.213 | 41.7 | 109 |
| 7/8/2020 11:01 | EAST 4 | St. Rita | 1,904 | 0.045 | 18.5 | 113 |
| 6/25/2020 10:00 | EAST 3 | Ellis | 2,310 | 0.028 | 18.5 | 112 |
| 6/25/2020 10:00 | EAST 3 | St. Rita | 1,896 | 0.02 | 13.9 | 118 |
| 6/25/2020 10:00 | EAST 3 | Marquette | 1,045 | 0.093 | 18.5 | 114 |
| 6/25/2020 10:00 | EAST 3 | Berkeley | 650 | 0.145 | 20.8 | 110 |
| 6/16/2020 10:58 | EAST 2 | Ellis | 2,208 | 0.035 | 14.3 | 111 |
| 6/16/2020 10:58 | EAST 2 | St. Rita | 1,805 | 0.03 | 13.5 | 117 |
| 6/16/2020 10:58 | EAST 2 | Marquette | 1,002 | 0.138 | 29.4 | 107 |
| 6/16/2020 10:58 | EAST 2 | Berkeley | 722 | 0.258 | 29.4 | 109 |
| 6/12/2020 10:58 | EAST 1 | St. Rita | 1,621 | N/T | N/T | N/T |
| 6/12/2020 10:58 | EAST 1 | Marquette | 959 | 0.105 | 20.8 | 110 |
| 6/12/2020 10:58 | EAST 1 | Ellis | 2,006 | 0.023 | 11.9 | 102 |
| 6/12/2020 10:58 | EAST 1 | Berkeley | 890 | 0.138 | 33.3 | 108 |

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

| <u>Lower Frequency Limit of 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 |