



EXTERNAL MEMORANDUM

To: Mr. Lance Pollman
L.G. Everist, Inc.
350 S Main Ave, Suite 400
Sioux Falls, SD 57104

cc: John Morgan, RESPEC

From: Mr. Pete Rausch
RESPEC
P.O. Box 725
Rapid City, SD 57709

Date: January 25, 2021

Subject: L.G. Everist East Sioux Quarry – Noise Study

Mr. Pollman:

This memo describes methods and results of the Noise Study conducted at the East Sioux Quarry. If you have any questions, please feel free to contact me by phone (605.394.6543) or email (peter.rausch@respec.com).

Noise Study

As stated in the existing Conditional Use Permit (MC97-83), to allow the operation of the East Sioux Quarry, the sound level from on-site operations, excluding blasting, shall not exceed the following limits:

- L_{10} (level exceeded for 6 minutes of an hour) – 65dBA
- L_{50} (level exceeded for 30 minutes of an hour) – 60dBA

Resolution MC97-83 also states that sound measurements shall be made at a point of human activity which is nearest to the noise source and conducted at the operator's expense. Off-site activities which contribute to background sound levels shall be disregarded when measuring sound.

Two Instantel MicroMates with A weighted microphones were installed at two different locations in the East Sioux Quarry: one referred to as "Red Rock", located near quarry entrance and close to the Red Rock Bar & Grill, and the second at the SW corner of the property referred to as "SW Field Entrance". Measurements of the L_{10} , L_{15} , and L_{EQ} were collected in 1 minute of time intervals during an approximate 2-weeks period. A resultant L_{10} and L_{50} were calculated to represent the average for the 2-weeks sound level data collected.

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Figure 1 shows the sound level data for the Red Rock location. A test of the equipment was conducted on September 29th. Consecutive measurements started on September 30th up to October 13th. The dates shown in red at the top of the figure represent weekends when no operation occurs at the quarry.

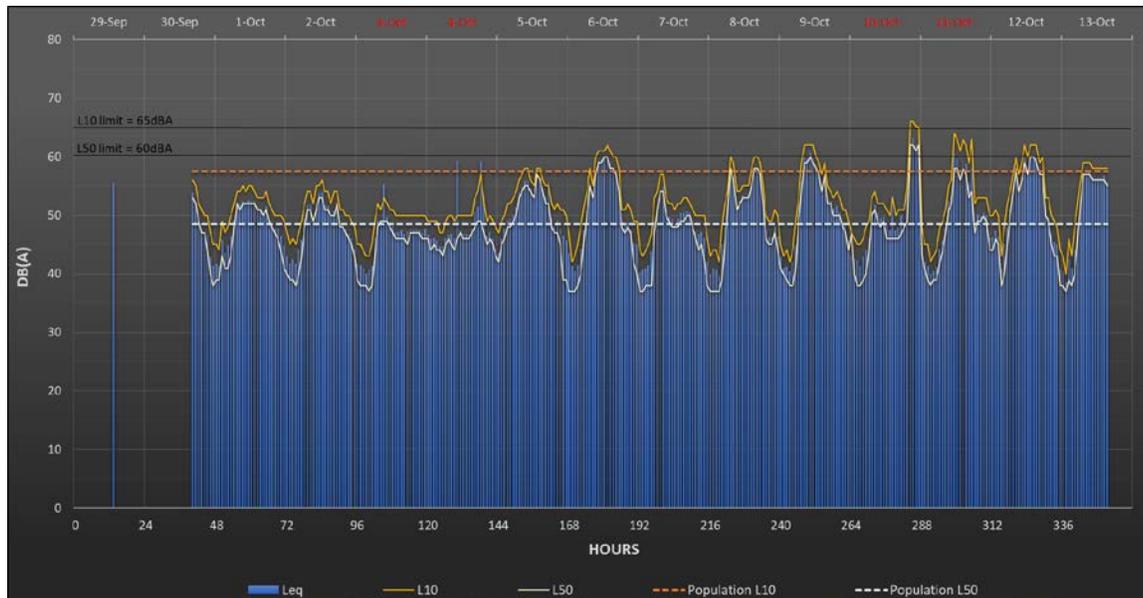


Figure 1. Sound level data at the Red Rock location

The L₅₀ measurement did not exceed the maximum of 60dBA for 30 minutes of an hour during the period the data was collected and the quarry was operating. The same is true for the L₁₀ result; the sound level data indicates that during the weekdays the L₁₀ is below the maximum limit of 65dBA for 6 minutes of an hour. The L₁₀ resultant for the 2-weeks of data collected at this location was 57.5dBA, and the L₅₀ was 48.5dBA.

Figure 2 shows the sound level data for the SW Field Entrance location. Consecutive measurements started on September 29th up to October 14th. The dates shown in red at the top of the figure represent weekends when no operation occurs at the quarry.

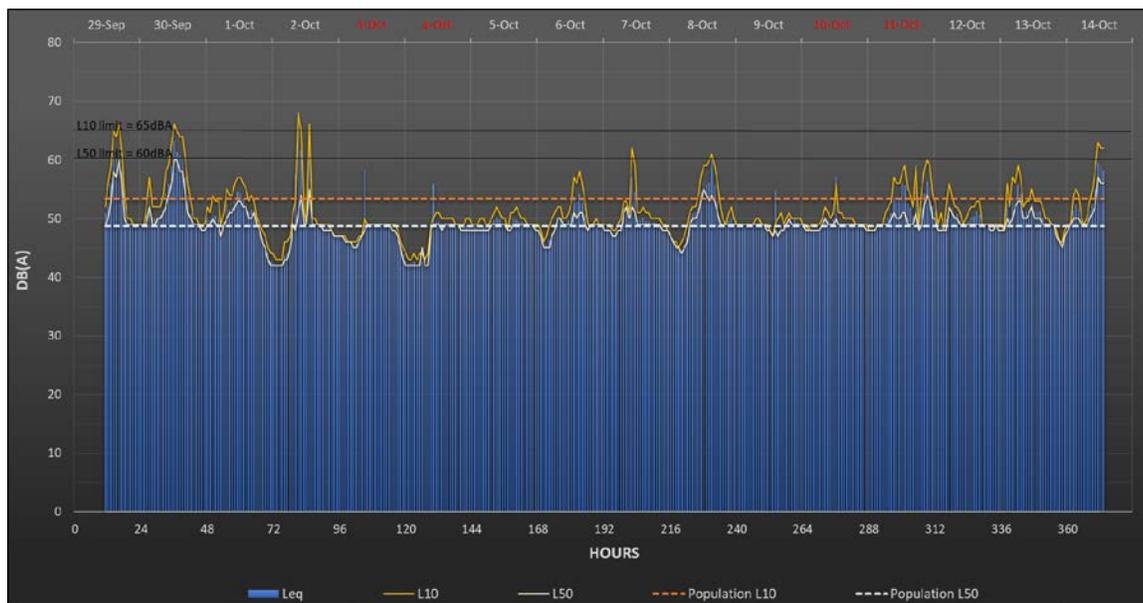


Figure 2. Sound level data at the SW Field Entrance

The sound level results indicate that the L₁₀ exceeded the maximum of 65dBA on September 29th, 30th, and on October 2nd. Between September 29th and October 2nd there was dirt work going on at the southwest corner of the field near the sound monitoring equipment. This activity was due to dirt being hauled, dumped, and graded by heavy equipment to fill in the entrance of the field from the county road to create the berm. This is not a recurrent type of activity and it explains the higher sound levels obtained for these dates during certain time periods only (On September 29th it occurred from 2pm to 5pm; on September 30th from 12pm to 4pm; and on October 2nd from 9am to 11am, and again between 1pm to 2pm). Blasting activity also occurred on September 30th at about 12pm.

There were also vibration readings due to the dirt work going on near this location on October 2nd. It is also important to add that very windy days occurred during this period: September 30th, 46 mph NW, and on October 14th it measured 49 mph NW, which can increase the background sound level and explain some of the higher noise level results collected by the equipment. The L₁₀ resultant for the 2-weeks of data collected at this location was 53.4dBA, and the L₅₀ was 48.7dBA.