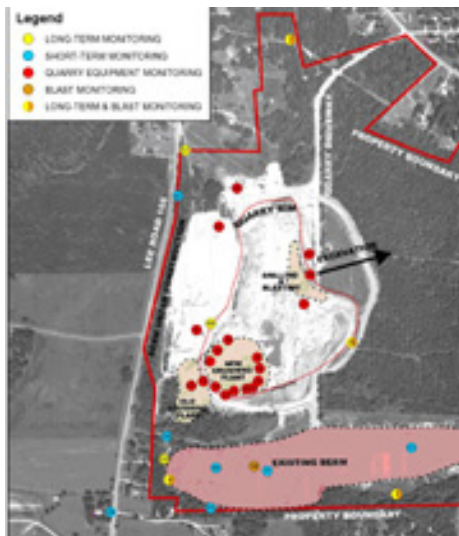




DATA ■ ANALYSIS ■ SOLUTIONS

NOISE CONTROL ENGINEERING: ENVIRONMENTAL NOISE



RSG measured sound at more than 50 locations in and around the quarry to account for every major aspect of the company's normal operations and equipment.

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Measuring noise impacts from a quarry

CHALLENGE

Southern Ready Mix Aggregates in Opelika, Alabama, planned to make several changes in its equipment and operations. Before it could implement these changes, however, the quarry needed to determine the relative noise impacts on adjoining residences.

INITIATIVE

To assess sound levels from the quarry's operations, RSG:

- Visited the Opelika quarry six times over a one-year period taking sound-level measurements at over 50 locations in and around the site
- Determined sound emission levels from all the operational equipment including the crusher, loaders, dump trucks, scrapers, haul trucks, excavators, hammers, as well as noise from drilling and blasting
- Performed statistical analyses to correlate quarry noise with noise monitored along the property lines and at more than 40 homes and properties
- Conducted sound modeling to determine changes in sound levels resulting from modifications to the quarry and its operations

RESULTS

The monitoring data showed that existing sound levels outside the quarry did not exceed federal guidelines, and that there was no correlation between quarry noise and sound levels monitored at the south, southwest, and northern property lines. Our results indicated that the quarry, while audible from time to time, did not dominate background noise at these locations. The modeling found that the proposed quarry changes, which included constructing a 60-ft-high berm to the south and a 30-ft-high berm to the west, and moving the crusher to the quarry floor, would reduce noise levels at most of the sites.