Big Sky Acoustics
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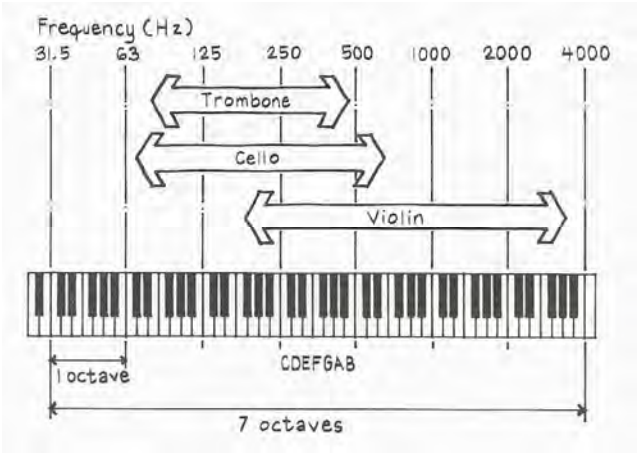
PROJECT PROFILE: MINE SMELTER



PROJECT: STILLWATER MINE SMELTER
Columbus, Montana

The Stillwater Smelter received a complaint about tonal noise from a resident located 2 miles southeast of the plant. Big Sky Acoustics was hired to determine if the tonal noise was originating from the smelter equipment or from another source.

BSA's SERVICES AND SOLUTIONS:

- Measured the ambient noise levels within 2.5 miles of the smelter. Evaluated the plant equipment and measured the noise levels of the smelter fans.
- Determined the frequency of the Process Fan and Secondary Fan and ascertained if damper position affected the tonal noise levels. Concluded that the fans were the dominant noise sources at the smelter.
- Met with the complaining resident who, using his musical expertise, was able to identify the disturbing tones at F and F# frequencies.
- Documented the fieldwork and noise analysis in a comprehensive technical report that included mechanical noise control mitigation options to reduce the tonal noise.

By comparing the measured fan tonal frequencies to the frequencies of the musical notes identified by the resident, BSA verified that the smelter fans were producing tones that were audible in the surrounding area, and provided Stillwater design alternatives to reduce the noise levels.

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