

**Client Contact:**  
**Gila National Forest**  
**Silver City, New**  
**Mexico**

**Services Provided:**

- **Geotechnical Study**
- **Testing**
- **Recommendations for Roadway Surfacing and Retaining Walls**
- **Design Recommendations**

**Project Summary:**

Cesare, Inc. (Cesare) performed a geotechnical study of three bridges in Gila National Forest. The bridges were located in Black Canyon, Black Canyon Tributary, and East Indian Creek. Testing was performed to obtain pertinent information for the future replacement/rehabilitation of these three bridges. Cesare also provided recommendations for roadway surfacing and for retaining walls.

Cesare drilled six exploratory borings and excavated ten test pits across the different sites. Samples were obtained and laboratory testing was performed. Sampling included bulk sampling, California liner sampling, and core sampling. Samples were used to determine rock quality designations (RQD), unconfined compressive strength,

Atterberg limits, gradations, and visual subsurface conditions. Cesare provided design recommendations for hot mix asphalt (HMA) pavement, subgrade preparation, bridge foundations, and retaining structures using load resistant factored design (LRFD) methodology.

