AMEC Foster Wheeler

Gruyere Gold Project

South Dorothy Hills, Western Australia, Australia

Project Summary

Project

The Gruyere Gold Project began in October 2013 when Gold Road Resources Limited discovered one of the largest undeveloped gold deposits in Australia. After its discovery, Gold Road mined 148 million tons of gold, grading 1.3 grams per ton for 6.2 million ounces of contained gold. With this large amount of metal, Gold Road needed a way to manage the project and mine site. AMEC Foster Wheeler was tasked with implementing an integrated engineering system that would lead to the success of this AUD 500 million project in a joint venture with its construction partner Civmec.

Solution

The system includes a large-scale open pit mine feeding a 7.5 million ton per year processing plant. It produces data-rich, spatial 3D models that are ready to link to maintenance schedules and other documentation. The models eliminated the need for 2D deliverables, which reduced design costs by 25 percent and shop detailing costs by 20 percent. The models also help with automatic drawing production, shop detailing, fabrication, construction simulation, and progress tracking. The integrated nature of the system makes up-to-date information easy for site personnel to access on tablets, providing more informed construction operations, greater efficiency, and safer sites.

Outcome

At the end of the project, AMEC provided Gold Road with a data-rich spatial 3D model that links

to maintenance schedules and documentation. The model is also the basis for an asset management and mine site management system, requiring fewer people to operate it, but still producing the same level of quality. The team can now design a process plant with reduced earthworks, minimizing the environmental impact and subsequent restoration landscape. Moreover, the project is providing benefits to the surrounding communities by creating job opportunities during the project's design, construction, and operational phases.

Software

The project team used OpenRoads, AECOsim Building Designer, and OpenPlant to create the integrated 3D modeling system. These applications helped form a centralized data area with change controls that form the design system core and feeds the 3D model. MicroStation and ProjectWise's geo-coordination abilities synchronized the geospatial location of project files, models, and documents. They aided in providing a single source of truth for all parties involved.