

The first half of 2006 was a major turning point in the coal industry. On January 2<sup>nd</sup>, 2006, an explosion in a sealed area of the mine at the Sago Mine resulted in the death of 12 miners and the serious injury of one miner. On January 19<sup>th</sup>, 2006, a fire at the Aracoma Mine resulted in the death of 2 miners. On May 20<sup>th</sup>, 2006, five miners died due to an explosion in a sealed area. In all, 47 miners lost their lives in coal mine related accidents in 2006.

To help combat this wave of miner deaths, President Bush enacted the MINER Act of 2006 on May 20<sup>th</sup>. This is the most significant safety legislation for miners during most of our careers. Major parts of the MINER Act included written emergency response plans, increased strength of mine seals, additional mine rescue teams, immediate notification of MSHA of serious accidents, better mine training, and mine refuge chambers. The Act was put into effect immediately with updates and changes still happening.

Strata Mine Services, Inc. and Strata Products, Inc are major suppliers of material and labor to the mining industry. Strata management decided to continue to support the mining industry by offering mine rescue chambers and improved mine seals. They contacted ECSI to assist in the engineering of the refuge chambers and the seals.

With ECSI's help, Strata currently have refuge chambers available for the hard rock and coal industry. MSHA has yet to come with a final ruling on the refuge chambers in coal mines, but West Virginia has enacted laws that require them in underground mines in that state. ECSI was successful in helping Strata get an approved 120 psi seal under the ETS (Emergency Temporary Standard). Previous ECSI personnel Mike Amick, Kevin Houston, and Paul Sainato with the help of Braden Lusk of UK and Dave Newman of Geolab did the work on the seals under the ETS.

On October 20<sup>th</sup>, 2008, the industry could no longer build seals under the ETS, but now had to build under the final ruling. Strata, with the help of Steve Gardner, Braden Lusk, Dave Newman, and Charlie Reeves, revised their seals to comply with the final ruling. With our assistance, they were able to have the first seal approved under the final ruling, a 120 psi seal and also to receive the first approval for a 50 psi seal under the final ruling.

Strata is not stopping there. They are having ECSI assist them in designing an approved Packsetter seal and other seal designs. The Packsetter seal is a proprietary design by Strata that could end up being the "seal of choice" for the mining industry because of the reduced cost and the simplicity of design.

The work for Strata has given ECSI additional work in certifying construction of seals, one of the requirements of the new law. Andy Willis and Charlie Reeves have helped various operators in the professional engineering certification of the mine seals.