

## Planning a World-Class Longwall Mine



*Nate Waters, Mine Manager, Leer South Mine, Arch Resources Addresses Symposium*

Nate Waters, Mine Manager, Leer South Mine, Arch Resources gave a presentation to the Bluefield Coal Symposium held at the Chuck Mathena Center in Princeton, August 12-14 presented by the Chamber of Commerce of the Two Virginias and CoalZoom.com. The event was chaired by Bill Reid, managing Editor of CoalZoom.

Leer South is located in Northern App. Region in Barbour County WV (see presentation [here](#)). It is a 3MM + tons per year longwall mine in the Lower Kittanning seam mining high vol “A” met coal. The prep plant is 1,600 TPH. In addition to longwall production, Leer South utilizes six continuous miner units for mine development. CSX services the mine loading up to 130 cars per train, transporting just under 15,000 tons. There are 620 skilled workers.

This was a major expansion and upgrade at an existing operation with existing CM production in the Clarion seam comprised 7 continuous miners, transitioning to 6 CMs and the LW in the Lower Kittanning Seam. Output capacity was increased from 2,500 TPH to 4,000 TPH. Existing infrastructure required upgrading with the prep plant capacity increased from 600 TPH to 1600 TPH. Lower Kittanning development began in Q1-2019 and LW production began in Q3-2021.

The longwall is unique in that it is operated remotely from the surface. This results in expedited trouble shooting and provides reduced dust exposure for operators and maintenance crews. It includes a landmark system for face straightening. Infrastructure monitoring includes fan data; water source volume and pressures throughout the system; conveyor belt drives; bunker capacities and feeder rates; emulsion tank; and rock dust.

Waters outlined the keys to a successful project. Stay true to core values with safety considerations in all phases of design, planning and execution. In planning, have timelines and engineering designs with technology considerations and expect change and be ready to adapt. Include stakeholder engagement with employees, management, corporate, MSHA (both inspectors and district), WV MHS&T, and the community. Seek continuous improvement and assemble the right team. Develop a strong culture for providing greater safety and company values.



Nate Waters and Bill Reid



Nate Waters Describes Lear South Mine