

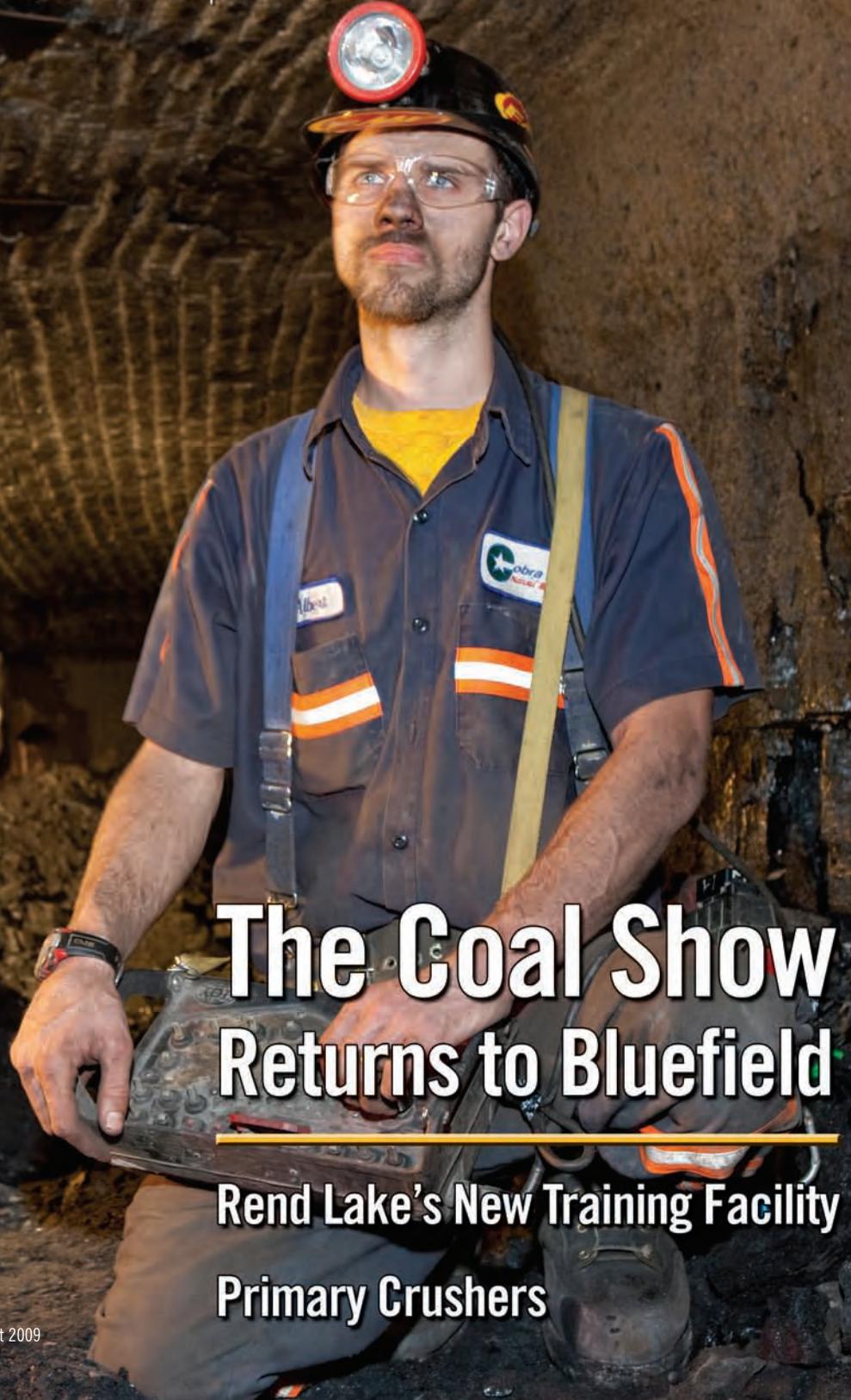
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The Coal Show Returns to Bluefield

Rend Lake's New Training Facility

Primary Crushers

NEW AFFORDABLE OPTIONS FOR INFRASTRUCTURE AND ASSET PROTECTION



An idled Midwest mine uses a Mobile Surveillance Unit to try to catch thieves in the act.

Securing assets in a mining complex is difficult. Protecting infrastructure and equipment on a limited budget approaches the impossible. Mining facilities are usually remote, often with limited power and broadband connectivity across the site, and law enforcement response comes late or not at all. Assets are typically spread over the mining complex and not concentrated in a single building or shed. Risk has grown as rising commodity prices mean thieves are often stealing the infrastructure itself instead of just the typical high-value targets such as vehicles and equipment. Electric cables have been particularly vulnerable and can financially impact mine operations far beyond their replacement cost.

This vulnerability was highlighted in August 2009 when CONSOL Energy's Robinson Run mine in West Virginia lost more than \$30,000 of copper cable that thieves simply hooked to their ATVs and dragged 4 miles to where they hauled it away. Infrastructure theft is worse during reclamation projects where only limited personnel are on site and then only during daylight hours. Thieves know their local mines. They know what type of work is being done and when it is being done.

Beyond stolen assets or reduced productivity, mines have liability risks to ensure that even illegal activities do not result in the loss of life. It's one thing to have some copper wire stolen from a site, it

is another problem if you have a thief that winds up being fatally injured or killed while performing his illegal activities. Apprehending intruders before they steal or get injured is the goal.

Unfortunately, economic pressures that mothball a mine or close a facility also mean that budgets to protect the site shrink, creating nearly impossible problems for security directors and facility managers. The economic downturn and increasing financial pressures have demanded innovative solutions in securing remote assets.

Securing Remote Assets

Securitas is one of the leaders evolving with technology and delivering new forms of affordable security. The company provides local security services to some of the nation's largest utilities, petrochemical plants, and mining operations including a large mothballed coal mine in the central United States. This mine was the victim of repeated thefts with losses of tens of thousands of dollars over a 10-year period that targeted infrastructure and equipment. As the losses mounted the owner contracted with the local Securitas office to protect the facility.

"This facility presented many complexities," said Kory Best, Securitas branch manager, based in Marion, Ill. "The mine consisted of two sites, located 15 miles

apart and miles from the nearest town, no power or communications. There are multiple buildings on more than 150 acres."

The mine's budget only allowed for two security officers who were responsible for patrolling each of the sites after normal business hours and on weekends. These patrols were very time intensive as they consumed more than one hour to effectively perform. During the patrols, they would check buildings to ensure they were locked, verify gates were closed and observe any potential safety hazards to report back to the client. Though the officer's duties were fairly simple, they become complicated when they are not capable of physically observing all necessary targets at once.

The remoteness and sheer size of the site meant that providing adequate guard service was unaffordable on a limited budget. Although only two officers were far from optimal, they did provide some level of deterrence and there was more than one occasion where the guards gave chase to intruders. Nevertheless, the security officers were never able to apprehend anyone. Over time the thieves became more sophisticated in their efforts and began posting lookouts to monitor security patrols and the thefts continued. The fixed budget meant that adding personnel was out of the question; Securitas began exploring new options to address the problem.

Mobile Surveillance Units

As a first step, Securitas replaced the security officers with new Mobile Surveillance Units (MSUs). These are self contained trailers equipped with two high end pan/tilt/zoom cameras that sit atop a 30-ft mast. The MSUs are linked to the Securitas Monitoring Center and can provide services like "virtual guard tours" using a satellite link from the trailer to the surveillance operators. The tight budget meant that they could only deploy three surveillance units instead of the six or seven needed to properly lock down the site.

"The main advantage the MSUs provided was the ability to monitor the site more comprehensively than what was possible with the patrolling security offi-

cers,” Best said. “This allowed more aspects of the site to be monitored and reduced the opportunity for an undetected intrusion. Having ‘eyes in the sky’ that don’t need a lunch break greatly enhanced the site’s ability to minimize risk.”

Although this was a significant improvement, there were still deficiencies in the program as only the main threat areas were able to be monitored which left the site vulnerable at secondary access points. The MSUs deliver high quality video but in this facility, three systems could not provide 100% coverage. The camera is only looking at one place at a time.

Securitas made several visits to the mining complex to optimize the positioning of the MSUs and attempt to improve their performance, but the limitations of the MSUs were highlighted when the mine was hit again with a significant theft. If traditional guards or surveillance were too expensive to provide adequate coverage, the obvious question was: Is it even possible to provide adequate security to a remote facility of this size with the limited budget available?

Apprehending the Thieves

During this time, Best had begun to test a new wireless video security system called Videofied which used outdoor MotionViewers. Different from the typical closed-circuit television surveillance camera, the simple wireless MotionViewers combine a passive infrared motion detector, infrared illuminators for night vision, and a digital video camera into a device the size of a fist that can literally be placed anywhere. The MotionViewer detects movement and sends a 10 second clip of the intrusion over the cell network to a monitoring operator for immediate review and dispatch. Videofied MotionViewers are designed for outdoor applications (-20°F to +140°F) and operate up to four years on a set of AA batteries. More importantly, Videofied also fit within the tight budget.

One Sunday in June 2009, thieves stuck again. Something needed to change and Best spoke to the owner about testing the new system. On Monday, Securitas installed MotionViewers at building entrances, choke points and near high-value assets. Because the entire system is wireless, installation was fin-



Using small outdoor motion viewers as part of a wireless security system, the mine was able to apprehend the thieves.

ished in a couple hours. Best left one MSU on site as a backup surveillance system and to provide high resolution video during an incident.

The following Wednesday evening the thieves hit again, but this time response

was different. Within seconds of the incident, Securitas monitoring operators saw a 10 second clip of the intruders on site. They alerted the plant engineer, the local sheriff, and Best. He then logged into the MSU and tracked the thieves while the sheriff and the plant engineer surrounded the facility.

An hour later they apprehended two thieves as they tried to leave the mine with their arms full of pillaged copper. The mine owner was elated. This was the first apprehension in over 10 years of trying and an affordable solution for other facilities. The Videofied system proved to be a significant evolution in cost-effective outdoor security.

After pleading guilty the perpetrators now await sentencing. The mine has placed ads in the local papers of the surrounding communities getting out the message, “If you try to steal from us, we will catch you.” It was a big win for the mine and it proved how effective wireless video security could perform in such difficult environment. Securitas is now deploying Videofied as part of their service offering to other mines across the country.



← This MotionViewer was mounted directly on the front gate. Because they are “unplugged” and require no AC power, they can be installed where they are most effective.

← A MotionViewer on a large piece of pipe protected the fence line at the facility perimeter. MotionViewers provide flexibility to secure specific assets and entry points without trenching or running wires.

To see videos of apprehensions visit www.intrusionvideos.com

BLENDDED VIDEO



MotionViewer™



PTZ Camera



TRADITIONAL SURVEILLANCE

- > Many CCTV cameras with limited functionality
- > Costly wired installation
- > Stationary Placement



BLENDDED VIDEO ARCHITECTURE

- > Unplugged MotionViewers detect intrusion and send video over cell network, alerting owner.
- > Megapixel PTZ cameras then stream and document high resolution video over IP



ENHANCE EXISTING SURVEILLANCE

Add unplugged remote sentries that detect intruders and notify over the cell network.

Blended Videos combines portable MotionViewers and megapixel PTZ cameras for better surveillance at lower cost. Instead of many wired cameras (and expensive installation), inexpensive wireless "Remote Sentries" support fewer but more powerful PTZ cameras. MotionViewers deliver a 10 second video of the intrusion over the cell network to operators who review the clip and notify the owners. Once alerted, property owners, guards, or law enforcement log into their surveillance cameras to coordinate real time response.

The wireless MotionViewer operates outdoors for up to 4 years on 3 AA batteries. Up to 24 MotionViewers share a single cell modem.

UNPLUGGED, PORTABLE

"Bucket Cam" installation with 2 MotionViewers mounted on a 5 gal bucket of cement. Move the bucket as the security needs change.



Gate Mounted MotionViewer



Protect Fence Line



Storage Lots



Harsh Environments



Free-standing



Mount Anywhere