

PREMIER CHEMICALS

When you think of historic mines in the western U.S.A., all kinds of images come to mind — grizzled prospectors coaxing donkeys through the desert; rickety shafts carved into mountainsides filled with peril as well as precious ore; railroads carrying payroll, bullion, and tycoons. But the historic mining operation we're here to see in Gabbs, Nevada, doesn't fit any of those stereotypes. Owned today by Premier Chemicals, it is an open-pit magnesium mine that's been around since 1929, making it one of, if not the oldest, continuously operating mines west of the Mississippi River.

Brucite, a magnesium-based mineral, was first mined here by jackhammers, with the ore loaded by hand into skips and then



Adam Knight, General Manager, Premier Chemicals operation at Gabbs, Nevada.

trucked to the crusher. In fact, the primary crusher still in use is a 1925 Allis Chalmers crusher, which most certainly is one of the oldest crushers still operating in the world. The company's MSHA number is #2.

The original products were used in open-hearth furnaces for steel production. During WWII, a time when most of the plant was built, the operation focused on a magnesium concentrate which was reduced to magnesium metal for airplane production. After the war, the plant focused on making magnesium bricks used in steel manufacturing. As the U.S. steel industry declined in the 1980s, the operation slowly re-invented itself into a chemical operation focused on mining, crushing, and producing multiple magnesium oxide-based products.



MODERNIZATION BEGINS

Over the past number of years, Premier Chemicals had migrated from using a small cable shovel bought in the 1960s to medium-sized wheel loaders. “We had previously purchased Caterpillar 990 loaders. It is a fantastic loader and we’re very pleased with them,” notes Knight. “That size loader fits our 65-ton rigid haulers and our crusher.”

In 2005, company management decided to increase production by 50 percent in anticipation of the increased demand for their finished products. These include variations of magnesium oxide which are in high demand for minimizing odors in waste water operations, minimizing the acid rain from coal powered electric generating plants, and for boosting the health and growth of livestock as a trace mineral in animal feeds.

“It takes a while to effect such a large increase in production. The 2005 decision was ultimately implemented during 2007



Most product ships by bulk but the company also has a bagging facility that ships special mixes in 50-lb. to 2-metric-ton bags.

which was a time of tightening budgets with many of the municipalities that we sold to. So, while there was high demand for our

product, there were market limits to prices that we could charge,” says Knight.

MORE LOADING POWER REQUIRED

As the company became ready to actually purchase an additional loader and add to their truck fleet, it became evident that Caterpillar’s loader prices had increased substantially. “Even though we were best of friends with our Cat dealer, the price of a new loader that matched our older 990s had increased by 40 percent.” In short, the company had a case of sticker shock. They had to look at alternatives.

“Now by coincidence, we were looking at a number of loader sizes for other applications. In our search, we saw a used Kawasaki loader for sale; I believe it was the 70 model. I operated it at the dealership and I was impressed with it. So, I did some research and learned that Kawasaki made a loader about the same weight class as the loader I was looking for.”

“**The Kawasaki 135 has more horsepower, more breakout force, and more stability which means that each truck is 100% full.**”

– Adam Knight, General Manager, Premier Chemicals



BEST ALTERNATIVE

"On paper, the Kawasaki 135 was quite impressive to the 990," says Knight. "It was substantially less expensive. It had more horsepower and more cooling capacity in the engine, transmission and hydraulic system. I believe Caterpillar uses Kawasaki hydraulic pumps. We did a bunch more research and learned that there's an outfit in Las Vegas that runs Caterpillar side-by-side with the Kawasaki equipment. They had a total of 100 or 160 loaders and were quite happy with the Kawasaki-brand loaders.

"Anyway, we got the 135 and we've had it for about a year. It's as powerful as advertised. It's a little more stable than the loaders we've been using because of its weight distribution. The Kawasaki loader is a little bit longer so when it's digging into muck, the operator's not spinning the tires as much. I think we have less tire wear on the 135 than we do with the other loaders we're using."



The on-site plant crushes, processes, and blends the mined ore creating over 40 specialized products.

MORE BREAKOUT

"Another thing we really like about the 135 is that it mucks up the pile. The Kawasaki has more breakout force, so the operator can load all the way up the pile and he gets a bigger bucket full. Our 65-ton trucks take three bucket loads. So, when they're filled with the Kawasaki loader, it's going to have

65 tons on it. When he sends up a truck with the 990, it's going to have 55 tons on it. We're not going to mess around with a portion of a bucket. **Over the course of a day, the difference in tons moved is, of course, significant.**"

A GOOD FIT

The Kawasaki loader, complemented by the Euclid trucks, has been a good fit. "Although we're still in warranty, the only repair that we've had was the cab air conditioning, and both Kawasaki and our servicing dealer, Shafer Equipment, were quick to remedy the problem...which we take as a good omen for the future," notes Knight. "Although our product is in demand and the market future is positive, there are constant pressures on our pricing, which means that we must be economical in our mining and processing."

Premier Chemicals is serviced by Shafer Equipment, Sparks, Nevada.



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