

# Americas'

FIRST ISSUE 2009

## MINES & QUARRIES

# Phoenix mine rises

### A TESTAMENT TO SMART ENGINEERING, PERSEVERANCE, SMART MANAGEMENT, AND DEDICATED EMPLOYEES.

The community of Battle Mountain is located in north central Nevada and in the middle of the most prolific gold belts (the Getchell and Carlin trends) in the Western Hemisphere. The gold fields were pioneered by miners looking for gold in the area just after the Civil War. Today, those fields are still being worked, but hydraulic equipment like Hitachi shovels have replaced the pickaxes and scientific advances have greatly improved yields.

There are a multitude of mining operations near the town, but the one known today as the Phoenix Mine (10 miles south), has had a rough time. Called one of the most undeveloped gold properties in North America, it has a lot of lower grade gold and copper. After successfully operating the high grade and very profitable Fortitude mine deposit during the late '80s and early '90s, Battle Mountain Gold Company tried to develop the Phoenix property: the lower grade, outer shell of the Fortitude deposit. But when the price of gold collapsed in the late '90s, the project was put on hold and eventually put up for sale under the moniker Phoenix Reserves.

In 2001, Newmont Mining Corporation bought Battle Mountain Gold and its established Phoenix Reserves. The lower grade ore didn't deter them. A few years earlier, the company had acquired Santa Fe Pacific Gold Company's mines (Twin Creeks and the Lone Tree Complex) and found Nevada-wide cost-saving synergies for maximizing profit out of the

depressed gold market. The new property was aptly renamed the Phoenix Mine in the context of it rising from the ashes of the dreams and efforts of the previous mine owners.

### USED HITACHI SHOVELS TO THE RESCUE

Newmont had done a significant amount of research in their decision to acquire and resurrect Phoenix. The goal was to start production in 2006 and process in the range of 225- to 275-thousand ounces of gold and 20-million pounds of copper a year. To be successful, all operating and capital costs had to be kept on a short leash. An important part of this exercise in belt-tightening was the use of four previously owned Hitachi shovels.

Two EX3500 front shovels from Newmont's nearby Lone Tree Mine started developing the renewed Phoenix property in 2004. They were followed by an additional EX3500 and an EX2500 — the first delivered to the United States (to the Lone Tree Mine) several years ago. Eventually a new EX5500 was added to their fleet in 2007.

"When we purchased the EX3500s in the mid-'90s, their service life was budgeted for about 45,000 hours," says Mark Evatz, Mine Manager, Phoenix



This older EX3500 now has over 90,000 hours on it.

Mine. "And here we are at the Phoenix mine today, and we're still utilizing those same 3500s and they're approaching 90,000 hours. So, not only have we doubled our life of the asset through an effective maintenance program, we've achieved a lot more production. The same could be said about the other Hitachi shovels in Newmont's Nevada Operations' portfolio of mines.

"We're extremely happy with Hitachi products. They are extremely reliable, as we've witnessed over the course of the past 90,000 hours. Our relationship with Hitachi and their dealer, Arnold Machinery, has been good. We plan to continue to use Hitachi shovels, based on their record of reliability and their proven productive capabilities."

*Phoenix Mine is serviced by  
Arnold Machinery, Elko, Nevada.*



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# Unlocking Fort Knox gold vault

Since 1902, Alaskan miners on the hunt for gold in the Fairbank area thought only the roots of gold veins remained and there wasn't much of a mother lode left to find. Fortunately, dogged exploration resulted in the 1984 gold strike on what is now the Fort Knox Mine.

Bought by Kinross Gold Corporation in 1998, Fort Knox is the state's largest open-pit gold mine and has produced about 4.61 million ounces. The mine is adding a heap-leach pad which, along with other expansion measures, will extend the mine's life a number of years.

## GOOD AS GOLD

Since the very beginning, Hitachi excavators have been there — first in the construction phase of the mine, then later as the main loading units. The mine purchased an EX3500 in 2000, added their first EX3600 in 2004, a second in 2005, and then an EX5500-6 in October 2008. There's no doubt that Fort Knox has put a lot of faith in Hitachi.

"They're obviously doing pretty good for us, or we wouldn't have them here," says Dan Snodgress, Operations Manager. "The Hitachis are our bread and butter. Our original 3500 has about 70,000 hours on it now. When we got the 3600s, we had some issues with the engines. And that's when we really found out what kind of support we could count on from Hitachi and CMI, the area dealer. I'm happy to say it was excellent — they gave us a standout performance."

The mine operates 24/7, 365 days a year. Pit temperatures range from 50 below to 100 plus, but despite the challenging conditions, they've only lost one production day for weather over the last 12 years. If it gets extremely cold, they might reduce the payload on the trucks, but they'd rather keep moving and generating heat rather than shut down and try to start back up when it gets warmer. They move about 2,500 tons an hour with each of its 3600s and nearly 3,400 tons an hour with its 5500. Currently they process about 42,500 tons a day through their mill.

## ON THE MARC

"We've learned a lot about equipment over the years," continues Snodgress. "Preventive maintenance schedules are critical and we honor them. And when it's cold, lubing is especially critical. In the past, we've

had CMI out here to assist with PM on the 3600s, but not under a MARC program. With the purchase of the EX5500-6 however, we did get a maintenance and repair contract. Why? We're really counting on the excavator to produce. We're moving into Phase 7 here at the mine and it's critical we hit our production targets. So we can see the value in a MARC for the shovel, especially since we also have a MARC for our newer haul-truck fleet."

## BIRD'S EYE VIEW

Perched up high in the EX5500-6 cab, all the machine's operators are loving the electronic fly-by-wire controls, the video cameras, and the new monitor. Since the mine loads from both sides of the excavator, anything that enhances visibility and makes machine operation easier is a plus — which is why the mine is adding more lights to the counterweights. Much of the loading is done at night and trucks don't always work the same machine. One might get a load from a 3600 and the next from a 5500 — two very different-sized machines. So the extra lighting makes it easier for the drivers to gauge distance, improving safety and efficiency.

When the mine opened its doors for pit development in 1995, it introduced a new scale of mining to Alaska. But despite all the gold it outputs, people and their safety are more important to Fort Knox. Four times they have achieved over one-million man hours worked without a lost-time accident. The implementation of GPS dispatching has certainly been a factor.

Several years ago, the mine made a substantial investment in GPS technology and software. As additional satellite coverage now provides greater precision, Fort Knox is utilizing the software for grade control and drilling as well as dispatching. Not only does it increase accuracy for bench grade and shot patterns, it increases safety by cutting down foot traffic on the ground. The mine also uses the software to record alarms and events.

Yes, the gold pans and pickaxes are long gone from the Alaskan gold mining landscape. Fortunately, Hitachi shovels — and other sophisticated tools — will keep Fort Knox's vault brimming with precious ore for years to come.

*Fort Knox Gold is serviced by CMI,  
Fairbanks, Alaska.*



The Phase 7 expansion extends the open pit to the year 2015. The new heap-leach project, stacking, and processing facilities will extend out to 2021.



"We've been committed to supporting this mine from its first development. Last year, we went to a MARC contract with our sale of a new EX5500-6 to the mine. This will see us even more involved in the mine's success." — Robert Gerondale, Operations Manager, CMI.



"The mine operates 24/7, 365 days a year. We had some issues with the 3600 engines and that's when we really found out what kind of support we could count on with our dealer and Hitachi." — Dan Snodgress, Operations Manager, Fort Knox Gold.

# Ox's



**“The Hitachis are our  
bread and butter.”  
— Dan Snodgress,  
Operations Manager**

# Hitachi Global e-Service

You're in New York and your machine's in the Rockies — keeping tabs is now just a click away. That's because Hitachi's exciting new e-Service technology lets you monitor the status of your Hitachi fleet from the comfort of your computer station. No more expensive and time-consuming trips to the jobsite to download data on alarms/faults, engine load, hydraulic temps, pump pressures, hours of operation, and more.

By using your own office computer and accessing the easy-to-use Hitachi e-Service web site, you have online access to Machine Information Data (MIC) and more. Coming in 2009, much of the Machine Information Center (MIC) data will be transferrable and compatible with a number of aftermarket mine-management software programs, which will increase your mining efficiency and productivity.

## The machine information available includes:

- Machine location via GPS
- Current machine hours
- Machine history
- Maintenance information
- Download updates of Hitachi's Data Viewer software
- View the Machine Information Center (MIC) data from a once-a-day download via satellite

## HOW IT WORKS

Dash-6 excavators report via satellite to the Hitachi server on a daily basis. You access this information through [www.hitachimining.com](http://www.hitachimining.com), Services & Support.

Once you've logged onto the e-Service Owner's Site section, you'll see several tabs: Machine, Operation, Maintenance, Comments, and Location. Let's look at a few.

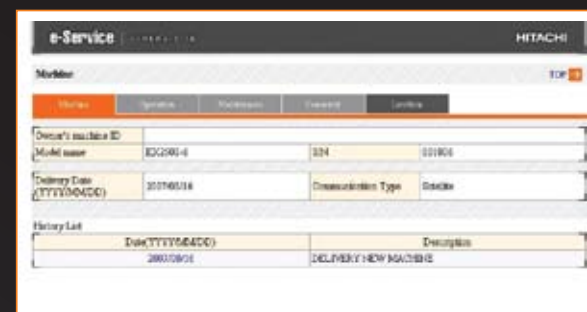
Under the Operation tab you can see how long and hard (engine load factor) the machine was operated each day. Clicking the Operation Data Download button opens the menu for downloading MIC data. For a full download of all MIC data, a manual download with a laptop or palm connection is still required. However, if this full download is sent to Hitachi or the Hitachi dealer, the complete file can be uploaded to the Hitachi server and thus be accessible to you through e-Service.

The Dash-6 excavators with the CAN Network and new DLU2 Data Logger record four times the information over the previous system on the Dash-5s. This includes enhancements in recording basic machine, engine, hydraulic, and operational data.

The Maintenance tab provides several useful PDF file charts including a Daily Inspection List and a Preventive Maintenance List that can be printed and used by operators and technicians. By tracking the operational hours of a number of components, preventive maintenance of the machine can be more accurately planned.

Location opens up Google Maps to show the location of the machine. At the bottom of the page is the machine information, including the longitude and latitude of the unit as shown on the map. By clicking the satellite button on this page, you can bring up Google Maps' satellite view of the machine's location. The machine itself is not shown, as Google Maps are not necessarily current.

Hitachi's Global e-Service is available on the Dash-6 mining-sized machines EX1200 through EX8000. Contact your Hitachi dealer for more information.



Just go to the web site to find model names, serial numbers, delivery data, a communication history with e-Service, and a whole lot more.



The operation page shows data of the machine's operation. The owner can see how long and how hard (engine-load factor) the machine was operated each day. This page also has the ability to filter the data into several time frames, making viewing of the previous week or month as easy as clicking the mouse.



The location page opens up Google Maps to show the location of the machine. The machine information includes the longitude and latitude of the unit on the map. By clicking the satellite button on this page, Google Maps provide a satellite view of the machine's location.



## A perfect blend of orange.

Hitachi delivers the perfect blend of productivity, economy, and reliability.

For the long haul, a steel-tracked Hitachi excavator, shovel or backhoe can't be beat for lowest cost per ton. You'll benefit from lower operating costs, excellent breakout, and long life. A Hitachi rigid-frame haul truck provides similar low operating costs.

For more, visit [www.hitachimining.com](http://www.hitachimining.com).

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