USA MINING & CONSTRUCTION

MECHANIZED ROCK EXCAVATION WITH ATLAS COPCO - NO. 1/ 2012

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Atlas Copco

EDITORIAL

Atlas Copco finished 2011 with very strong results. Looking to 2012 we still see a strong demand for metals and energy. The construction and aggregate business seems to be poised for a slight increase and needs an infrastructure and housing boost.

A large part of our success in 2011 comes from our Atlas Copco Distributors. We are very fortunate to have these highly qualified partners.

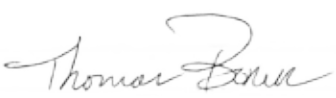
Our dealers carry the "ball" for us, ensuring that our customers get the absolute best equipment and product support. Our dealers focus on providing solutions to our customer's needs and that leads to having a profitable experience with Atlas Copco.

To ensure this profitable experience, our dealers invest in training their service technicians and sales personnel. They provide training for our customers. They invest in facilities and Atlas Copco inventory, allowing them to take care of our customer needs faster and more efficiently.

Major initiatives in 2012 for Atlas Copco and our dealers include

- New and better training for our customers
- Developing systems to predict component replacement
- Product support, delivered on time with accuracy
- Technology to meet our customers' needs

Atlas Copco is very fortunate to have a strong dealer network, I would like to personally thank them for their efforts in 2011 and know that they will be a major part of Atlas Copco's success in 2012.



Thomas Borer
Vice President
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SAFETY FIRST
Atlas Copco is committed to comply with or exceed all global and local safety rules and regulations for personal safety. Some photographs in this magazine may, however, show circumstances that are beyond our control. All users of Atlas Copco equipment are urged to think safety first and always use proper ear, eye, head and other protection as required to minimize the risk of personal injury.

Atlas Copco

ON THE *FAST* TRACK

St. Paul Union Depot rehabbed with 110-foot grouted self-drilling anchors »

(on magazine cover) Business Development Manager, Ground Engineering Products Bill Warfield; Atlas Copco Area Manager Ed Borchardt; Carl Bolander & Sons Foundation Division General Superintendent, Bob Zwirtz.

» Though European contractors have been drilling large diameter, hollow core self-drilling anchors (SDA) to depths of 100 feet or more for some time, Carl Bolander & Sons of St. Paul, Minn., is the first company to take advantage of the technique at such depths in the U.S.

The company is simultaneously drilling and grouting 3-inch Atlas Copco MAI® SDA T76 to 110 feet for a rehab and reconstruction project of the historic St. Paul Union Depot. According to the Ramsey County Regional Railroad Authority, the 1920s-era depot is being renovated to serve as a multi-modal transit hub.

The job of Carl Bolander & Sons is to assure a minimum 100-ton working capacity for each of the 260 friction piles, four to a column. Since the columns were originally formed on wooden piling, the company tested several micropiling techniques. Engineers sought a method that allowed them to support the columns, neither relying on the ancient timbers nor requiring their removal.

They opted for grouted MAI bar and chose Atlas Copco's aggressive 8-inch Double X bit designed for softer soil compositions. The bit worked well in the site's underlying formation, which is sandy with occasional boulders.

Simultaneous grouting

Bolander's grouters achieve the 5.3 batch specification of Type 3 Portland grout by adding three bags to 16 gallons of water in an Atlas Copco Unigrout Flex D grout plant. The Cemag agitator on the Flex D holds a full two batches, so it is not difficult to keep up during simultaneous SDA drilling and grouting. A grouter can also mix and pump at the same time with this grout platform.

Bolander Drill Foreman John Sirek said this was the first Unigrout platform the company had ever used, and he liked it. In addition to the grout plant being easy for operators to learn, he said it also allowed them to control the pump's flow and pressure independently of each other during the grouting.

Flow and pressure control

Independent control of flow and pressure is crucial in simultaneous drilling and grouting. The driller calls for more or less grout from the operator, who adjusts the rate with a lever on the Pumpac, the Unigrout's unique grout pump. Less pressure is needed at the start of a hole than at 110 feet.

Controlling flow and pressure also proves to be an asset at times when drilling slows, such as when the SDA's bit encounters boulders. The Pumpac will not exceed the pressure set by the operator, which prevents damage to the surrounding formation and supports.

Bill Warfield is the Altas Copco U.S. business development manager for Geotechnical Drilling and Exploration (GDE) products, which include both SDA and the grout plants. Warfield personally visits worksites across the nation to observe the equipment in the field.

He explained that while some end users still drill SDA with water to flush cuttings out, most clients have been getting better results when they use the grout itself to flush the cuttings out, as Bolander was doing at Union Depot.

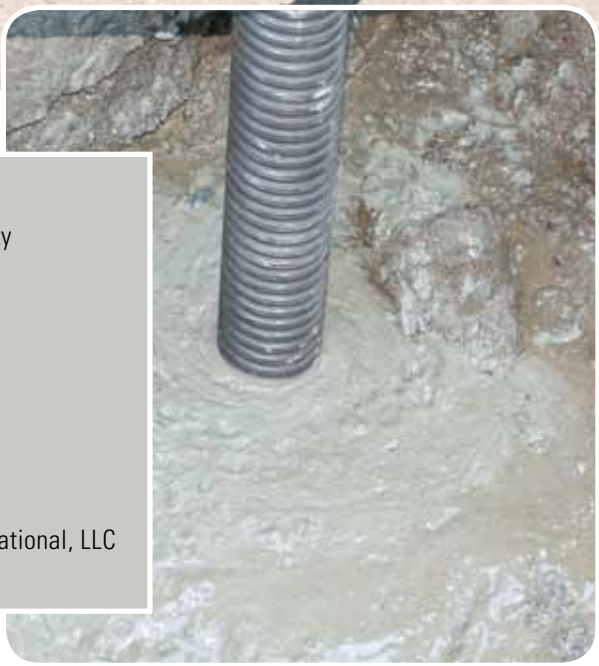
There are several reasons. Even though the holes in this site instantly filled with water, which was amply supplied at depth by the nearby Mississippi River, only grout was being applied under pressure. In general, said Warfield, this will do a better job of filling cracks and voids than it would if high-pressure water had been forced into them first.

Second, he continued, the driller will be looking for grout to come up, not water. If for a time the driller sees only water rising through his grout, he knows he must wait for grout to fill in what is most likely an underground void the bar has encountered. As soon as the operator sees his mix coming up, he knows the hole has been thoroughly grouted and he can continue.

High capacity friction piles

The micropiles at the depot are creating a new support system for concrete columns above them. Most passersby would describe the support columns as giant golf tees. These columns will support the depot's concrete railway deck and its several parallel sidings.

The friction piles are being placed to relieve the original vertical timbers, which the columns stood upon for 90 years. Test piles were push-tested with an



independent, third-party firm to certify for the project's general contractor that they each exceed a 100-ton working capacity. Four micropiles installed at each column provide it with a total working capacity of at least 400 tons.

Other players in this project:

Owner: Ramsey County Regional Railroad Authority
www.co.ramsey.mn.us/rail

General Contractor: Mortenson Construction
www.mortenson.com

Structural Engineer: URS Corporation
www.urscorp.com

Structural Engineer: HGA Architects & Engineers
www.hga.com

Micropile Engineer: Engineering Partners International, LLC
www.engineeringpartners.net

Tying it together

Brad Ames, Bolander's project manager for the foundation aspect of the rehab, described how the system works. The micropiles are drilled just outside the existing column base cap, four to a column. The original concrete caps each have a wide, square groove chiseled out of them all the way around. These square grooves will provide a substantial mechanical connection between the existing cap and the new, larger cap that will encompass it .

In addition, rebar used as steel dowels is inserted all the way around in the groove. These horizontal dowels and the vertical rebar extending up from the micropiles will all be encased in the new 3 ½ foot thick caps, completely tying each column to its four new micropile supports as one integrated structure.

Expected completion

The project is on schedule for a late 2012 launch of the rejuvenated transportation hub for several bus lines, Amtrak high speed rail service to the Pacific Northwest and to Chicago, the Metro transit system, and bicycle and pedestrian traffic. Additional light rail service will commence in 2014.

(photos from left to right):

John Sirek, drill foreman, records data as testing is performed with a third-party technician. The 110-foot columns were push-tested to 200 tons.The independent firm also conducted laboratory break tests to prove the grout exceeded 6,000 psi break strength. The first test results exceeded 7,000 psi.

The driller's helper uses levels to ensure the MAI SDA are drilled correctly. The grouter stations himself where he can watch for signals when to reduce flow. The Unigrout's Pumpac piston grout pump allows him to control pressure and flow independently.

The project requires rehabbing the existing columns as well as creating new columns to replace the demolished area of the railway deck. Trains will run on this deck parallel to the train on the track in the background.

Shown are MAI bars on the work site with their unique bits casting shadows. The ratio used for mixing grout in this job was 5.3, which described in layman's terms had a consistency thicker than gravy but not as thick as pudding.

The **smart choice**

ROC F9C with Rig Control System is a SmartRig for smart business

You can recognize a Scotty's construction jobsite long before you can read the distinctive logo on the sides of the equipment. For example, a road construction project along the route running from Louisville to Bowling Green, Ky., draws attention from passersby because instead of the usual dusty chaos, a long line of bright clean pavers, dozers, and excavators stand side-by-side like a freshly washed family fleet posing for a portrait.

"Scotty's" is short for Scotty's Contracting and Stone. Cutting edge, top-of-the-line equipment is a hallmark of the company. One look at the line of equipment fosters client confidence in maximum productivity with minimal downtime. Scotty's does not cut corners, and it pays off in steady business for them.

Since 1972, when CEO Jim Scott first started Scotty's Contracting & Stone from his experience in the paving industry, it has expanded into a 500-person corporation with a primary service area that extends throughout western Kentucky down to Nashville, Tennessee.

Scott explained that since each piece of equipment on a site represents his company to the public and to potential clients, he wants only the best, most up-to-date equipment on his jobsites, each piece clean and looking good. Of course his eye is also on production capability.

That's why Scott only uses equipment from the most reputable manufacturers. In regard to blasthole drilling, it means his fleet has Atlas Copco rigs. As for which models and which features, he lets his operators themselves decide, saying his guiding principle is, "Make the operator happy, then I'm happy."

One operator, Eddie Arnold, is very happy about their newest surface crawler drill rig, the Atlas Copco ROC F9C with full Rig Control System (RCS) package. It's a SmartRig.

Operator's choice

Of Arnold's 34 years of drilling experience, the last 24 have been with Scotty's. Scott knows Arnold's work personally and speaks highly of the driller: "He can do anything. He can operate any machine we have."

Arnold demonstrated the F9C tophammer rig before an audience that included representatives from Atlas Copco and Brandeis Machinery & Supply Company, as well as a potential customer.

On this job the F9 was set up with a 4-inch bit on T51 steel, though it can run T45 as well, with bits from 3 ½ to 5 inches. Arnold said the specifications he receives most often call for 3 ½ inches for presplit work, and he has personally drilled with 4 ½-inch bits. He saw similar performance in all sizes.

SmartRig advantages

The spot Arnold randomly chose to drill provided an excellent demonstration of the auto-drilling feature on this roadway preparation job. When the drill hit an 8-foot pocket of mud, the rig's computer system immediately adjusted feed pressure. Throughout the process, it was logging the hole. The log is routinely made available for the blasters, who then customize their explosives hole-by-hole for desired effect rather than just, as Arnold put it, "blowing dirt to who knows where."

Arnold likes the automatic fail-safes built into this advanced automation, but he also appreciates the overrides that let him appraise a situation and manually override any of its processes.

He likes the pressure readouts and the electronic display mounted right where he needs it.

He especially likes the GPS. He praised the F9C's computerized pattern layout and its ability to accurately follow ditch line and grade specifications for perfect angles and depths without deviation. As for hole straightness, the opposite side of the roadbed, which was already excavated, showed where the F9C was first put to work on its arrival. A few of the bores made by a previous rig in the cut above rerouted themselves after finding a seam, going off at noticeable angles. This was not evident in the F9C's perfectly parallel bores below. »

On this day Scotty's ROC F9C Smart Rig was sitting by itself at the edge of a completed roadway preparation where a visiting entourage could take a peek at what the most computerized F9 looks like.

Optimized drilling

At this site Arnold has been drilling 1,500 feet a day on average and up to 2,500 feet a day at peak performance. Performance is often skewed by factors unrelated to drilling. For instance, in road construction, drilling is often interrupted or set aside completely while Arnold is waiting on other equipment, while site preparation is going on, or as is most often the case for a cross-trained veteran operator, while he is called away to run other equipment.

This job called for 30-foot blastholes, but Arnold said "40 to 50 feet has been good drilling." He has also drilled more than 60 feet with the F9C without a difference in performance.

It wasn't until Arnold reached 77,000 feet that he replaced the first piece of worn-out steel. As would be expected, it was the first rod above the bit, the one piece in the string that saw all 77,000 feet. It was also the only worn-out steel to date.

All in all, the day's demonstration of the F9C Smart Rig and Arnold's enthusiasm to show what the rig could do prove why a company like Scotty's wants it in their fleet. It's perfectly adapted to the company's successful operating formula. Smart rigs are smart business.

JIM SCOTT
Owner, Scotty's Contracting & Stone

MOVING TOWARD A HIGH-TECH FLEET

Driller Eddie Arnold's smile sums up his opinion of the ROC F9C. CEO Jim Scott explained his guiding principle for buying rigs: "Make the operator happy, then I'm happy."

The decision to go high-tech is not always a dilemma. Scotty's is an example of a technology-oriented company. When they make a purchase, such as this F9C, upper management from all divisions of Scotty's come in to the presentation. In this way, Scott cross-trains his company's leadership on each machine, its capabilities and its utility.

Gene Snowden, the Brandeis Machinery & Supply Company sales representative who has worked with Scotty's for the past eight years, said he and Borer had taken Scotty's personnel to see an F9C demonstrated by a company in Missouri. There Scotty's team heard from the operators themselves about how the smart-rig extended the life of steel, let them spread out their blasthole patterns, and used the built-in GPS for accurate layouts. The cost reduction from decreases in use of blasting powder alone was 30 to 40 percent.

Since Scotty's incorporates such technology on all their equipment, including dozers and excavators for grade work, they wanted the full package for their F9C, too.

Specifications for the GPS came from Scotty's own technology expert, Chris Higgins. His design requirements were created and installed by a third-party surveying software company, ensuring compatibility with the rest of their fleet.

Another factor in choosing the rig was customer support. As Scotty's has evolved into large-scale corporation, Scott and his executive board have streamlined their business tactics for reliable cost-effective operation. One way they have done this is to replace and upgrade equipment through leasing plans.

They much prefer the known costs of leases. Leasing also allows them to move away from retaining a dozen or so full-time maintenance technicians in a company-owned service department. Should a leased rig need to come off production for servicing, another rig is put in its place, guaranteeing the absolute least amount of downtime, without unpredictable expense.

As the region's largest authorized Atlas Copco distributor and service center, Brandeis provides the close technical support that Scotty's needs to keep their equipment up and running. Case in point: until Scotty's new F9C could be delivered to them, Brandeis made sure there was a loaner rig on the site so they did not miss a day's production.

Still on TARGET

First SmartRig F9C steadily maxing productivity

In 2009 Mining & Construction USA ran the story of the first Atlas Copco SmartRig ROC F9C surface drill rig in the U.S. Two years later we returned to the company for a follow-up.

CHRIS UPP
Vice President and General Manager

Conco Driller Matt Cobb especially likes the GPS system. To set up the pattern, the first hole and last hole is set and a computer extrapolates the rest. A memory stick transfers the information to the rig's computer and the operator just follows the screen. "I match up the bull's-eye on the screen with to the transmitter on top of the feed, the computer tells me it's straight or if I need to make adjustments," said Cobb.

The first Atlas Copco SmartRig ROC F9C in the U.S. was delivered to Conco Quarries Inc. of Springfield, Mo., in 2009. Within the first few months, the rig had reduced Conco's drilling costs by 10 to 12 percent. Chris Upp, vice president and general manager, said the savings came from GPS-positioned layouts and automated drilling.

Optimizing the pattern

When Conco Quarries first got the rig, they were using 4-inch bits and T51 steel in a 9-by-13-foot pattern to 27 feet. Drilling up to 2,800 feet per day and blasting twice a week, their goal was for 100,000 tons drilled with 80,000 tons on the ground all the time. Two years later the company has found the optimum pattern to consist of 4 ½-inch holes to 40 feet in a 10-by-14-foot grid. Drilling costs are a steady 10 to 15 percent lower than the previous drill, due to slower wear on steel, bits and hammers. Powder expenses went down by roughly 20 percent.

Maintaining the rig

Conco initially had concerns it would experience a lot of downtime waiting for parts to ship from Sweden. But the F9C has had a 90 to 95 percent operating availability. When an electrical storm fried the automated feed system component, total downtime was just two days.

Upp said the rig has been easy to maintain. "Nice thing is, you can hook it up to a laptop, it tells you what's wrong. It's also nice that most of the automation will let you override it if you decide to."

Long life from their rigs

Mike Curry oversees facilities and rentals at the Springfield branch of Atlas Copco distributor Victor L. Phillips Co. Curry pointed out that Conco has gotten good life from their rigs. Conco does its own routine maintenance but receives maintenance and repair of more sophisticated components, as well as 400-hour servicing, from VLP technicians.

Curry also attributes Conco's rig longevity to their personnel, driller Matt Cobb, for example. "We'd like to take Matt along with us to do rig demonstrations. He's just that good. His drilling is part of the reason the drills stay in good condition."

Conco had traded in a rig with seven years and 14,000 hours on it for the SmartRig. "We were happy to have them have the first F9C. Atlas Copco knew it was in good hands."

So good, Curry said, that VLP showcases them to other drilling companies. "We really like to have people see what they can do with that F9C. We've maybe brought seven, eight companies over and Conco has been very gracious in allowing us to do that."

Adding up the add-ons

Upp said they didn't realize just how productive their F9C's add-ons could be. "People don't think about GPS unless you're talking varying terrain, uneven ground. But we're on flat benches drilling fewer holes per shot, tightening up when we hit chert to get the breakage we're looking for, and expanding it when we can. We have no oversize issue. And with the GPS, it almost looks like a presplit face after the blast."

Upp offered advice for potential SmartRig buyers: "Don't give in to the temptation to skip the add-ons. Think about what precision drilling and precision shot layouts offer. You can expand your pattern size, use less explosive and get the same tonnage. Even if it's only 2 cents a ton, take that times 5 million tons over the life of machine. It's a whole lot more than the GPS cost. These add-ons are well worth the money when you do the cost analysis."

The Minetruck MT42 and our northern neighbors

New to U.S. mines, this agile rig has seen success in Canada

The Minetruck MT42 is relatively new to the Atlas Copco underground product lineup. American miners will be interested in its success in Canada, where the first three Minetruck MT42s landed fresh off the Swedish production line. Two Canadian companies who've found success with the MT42 are featured here: Lake Shore Gold and Rambler Metals and Mining.

Necessity may be the mother of invention, but Atlas Copco is invention's favorite manufacturer. The MT42 works in narrow veins and can run at a good speed up a ramp with a full load. It fills the gap between the MT50 and the MT436.

A surging mining industry has driven some dormant Canadian mines to reopen. National Sales and Business Development Manager for Atlas Copco Canada Reg Labelle said, "Canada has a great deal of older mines whose infrastructure favors the 40-tonne minetrucks. The trucks are now spreading throughout the provinces because they are suitable for both ramped mines and shaft mines."

Canadian mines have been known to try new equipment and innovation before others in the world. It could be due to the adventurous nature of their miners, but it might also have something to do with practicality. They believe it pays to invest in efficiency now while mineral prices are good so that they'll be profitable if prices fall. Atlas Copco has followed suit: the company's service presence in Canada has expanded recently, locating key equipment and personnel throughout the country so Atlas Copco is closer to all customers. And Atlas Copco around the world is always listening to the feedback they get from mines, trying to provide whatever equipment is needed to get the job done right.

Ed Tanner, the Atlas Copco business line manager for Underground Rock Excavation in the United States, said he expects to hear praises of the MT42 from his customers soon. Two mines have just taken possession of new MT42 minetrucks.

The MT42 was launched globally in 2011 after field testing in Sweden and release in Canada and Scandinavia.

FEATURES AND BENEFITS OF THE MINETRUCK MT42

- High power-to-weight ratio provides speed on grades
- Proven powertrain components for reliable performance
- Front axle suspension for superior comfort and productivity
- First-class cab with great visibility, air suspended seat and low noise levels. FOPS/ROPS certified. Air conditioned.
- Spring Applied Hydraulic Released (SAHR) brakes for added safety
- Atlas Copco Rig Control System (RCS) provides service information and diagnostics that are logged as well as displayed on the screen in the cab
- Articulated steering

TECHNICAL DATA

Tramming capacity in metric tonnes, standard box	42 (46 U.S. tons)
Width, dump box	120.08 inch
Height, cabin	106.5 inch
Engine brand/model	Cummins Diesel Engine QSX15, Tier 3/stage IIIA
Power rating	388 kW/250 hp at 2100 rpm
Torque, max (list)	2365 Nm at 1400 rpm
Shifting	Automatic/manual
Gears forward	8
Gears reverse	2
Converter; single stage with automatic lock-up	Yes
Central manual lubrication	Yes
Automatic lubrication system	Optional

THE FASTER YOU MUCK

Ten tonnes more at twice the speed

Bell Creek mine, near Timmins, Ontario, is operated by Lake Shore Gold (LSG), who had been eagerly awaiting the arrival of the mine trucks.

"We had talked a couple years earlier that it would be nice if we could combine the size of the MT436 with the larger capacity and speed of a 50 tonner," said LSG Executive Vice President Brian Hagan. "It's as if Atlas Copco heard us talking."

Hagan said the company had no reservations about taking the first trucks off the line due to its trust in Atlas Copco's products and service. "We have a long-standing relationship with Atlas Copco. We were aware of the MT42 from the beginning and followed it throughout development. We were first in line for it."

LSG produces roughly 550 tons of gold ore a day from Bell Creek's 1,600 feet deep, narrow vein operation. In addition the company is heavily focused at present on advanced exploration to prove out the 1.2 million ounce resource as quickly as possible. This explains why the company wanted a faster mine truck, which Hagan summed up with the simple rule of thumb,"The faster you muck, the faster you go."

Although Bell Creek could accommodate 55-ton mine trucks, the larger units would be more difficult to maneuver in their mine than the agile Minetruck MT42s. MT436s were the ideal size, Hagan said, and the company still has an MT436 in operation at Bell Creek. "The MT is a nice, dependable truck."

The MT42s, however, are rated for a payload 10 tons larger. Their 520 horsepower fuel-efficient, low-emission Cummins engine confidently motors them up the ramp at more than twice the speed of a MT436, climbing out at 5 miles per hour compared to the MT436s' 2 miles per hour.

Other MT42 advantages include greater visibility, shorter turning radius, engine brakes, enclosed cab, a jump seat for a passenger or trainer, and an air-suspended driver seat that greatly improves operator comfort.

Jason Pilcz, one of the MT42 drivers at Bell Creek, said that in the MT42 "shifts don't seem as long as they used to. There's no bouncing around." And the cab's dry, temperature-controlled environment limits the driver's noise level to 80 decibels or less.

At Bell Creek the MT42s are averaging 39 to 42 tons per trip. Working two 10 ½ hour shifts in a 24-hour period, the mine has been hauling up to 1,984 tons of ore and waste per day with their three 42s.

Bell Creek Maintenance Supervisor Paul Meunier said that although the trucks run at least 18 hours a day, they have required no significant downtime since their arrival in at the end of 2010. Maintenance is easy and straightforward, minimizing planned downtime. Meunier noted that his logs show their

> "We were aware of the MT42 from the beginning and followed it throughout development. We were first in line for it."
>
> **Brian Hagan**
> LSG Executive Vice President

It takes only 13 seconds to dump a load. The articulated steering and powerful 520 hp Cummins engine makes the MT42 maneuverable in underground intersections and fast up the ramps. Though they have the right of way underground, operators snaked them around tight corners and glided into sidings to make way for other vehicles effortlessly and without delay.

operational availability to be greater than 90 percent.

The first two units, which were purchased in November 2010, had accumulated more than 2,800 hours in their first six months' operation. The third, commissioned the last week of January 2011, had over 1,700 hours before the end of June.

In addition to the three MT42s, the company also keeps one MT436 at Bell Creek, an ST14, three ST1030s, three ST2Gs, two Boomer 282s and two Boomer 104s.

"We have always had good experience with Atlas Copco gear," Hagan said. "They are right there to make sure it runs. We're very happy with our new 42s."

Initially introduced to just Canada and Scandinavia, reliable high-production MT42s are now operating in locations around the globe.

Although Bell Creek could accommodate 50-ton mine trucks, the MT42 is the perfect size for narrow vein operation. With their shorter turning radius and 5 mph speed up the ramps, the three MT42s can haul up to 1,980 tons of ore and waste per day.

Jason Pilcz said that with the MT42's hydraulic suspension and enclosed cab "shifts don't seem as long as they used to."

COPPER & GOLD

Revived Baie Verte mine moves closer to production

Amazingly the flooded infrastructure of the Ming copper and gold mine on the Baie Vert peninsula of northern Newfoundland was intact after more than 20 years of dormancy. It had closed in 1982 due to low copper prices and the inability to pursue the ore body further, since it expanded past the mine's property boundary at that time.

Reviving the Ming operation as the Rambler mine was a lesson in patience and timing for its founders, explained George Ogilvie, president and CEO of Rambler Metals and Mining PLC headquartered in St. Johns.

Before Ming could be pursued, said Ogilvie, the two properties covering more than 6 square miles had to be consolidated. They were both purchased by Altius Minerals in 2001 to become one property. Rambler Metals and Mining was founded in March of 2005 to develop and operate the mine, as rising copper prices and a promising Chinese demand for copper provided financial security for the ambitious project. A final key factor to fall in place was production support. Said Ogilvie, "I wouldn't think of opening the mine without partnering with Atlas Copco."

The mine purchased its new drill rigs, scoops and haulers from Atlas Copco. And Atlas Copco has opened a warehouse and service center in Pasadena, just two hours'drive from Baie Verte, to provide close technical support and readily available parts and supplies to the mine. After 10 years of careful planning, everything is neatly coming together for the new mining company.

Buried treasure

Ogilvie, who is also chairman of the Mining Industry Newfoundland and Labrador, joined Rambler as its vice president in 2006. In 2008 he was promoted to CEO with the task of developing the exploration company into a full-fledged mining company from the ground up in five to 10 years. But the other part of his attraction to the mine is akin to the excitement of a treasure hunter knowing he possesses a bona fide map to buried treasure. The mineralization here is remarkably rich.

Rambler's Mine Manager Tim Sanford explained the mine plan. The six-year operation will target a 2.3 million ton ore body with a copper reserve rated at 3 ½ to 4 percent. They will initially drill past a substantial gold resource that has a history of yielding as high as 5.8 grams per ton. Sanford said the plan is to keep the copper to gold mining ratio to about 60:40. The mine will extract 690 tons of ore a day to produce 22,000 tons of processed copper concentrate grading at 29 percent copper annually.

However, Sanford said there is an 20 million ton low-grade copper footwall lying below the higher-grade ore. This was not included in the mine's feasibility study. This copper, graded at 1.45 to 2 percent, is predicted to extend mine life another seven

to eight years, bringing 2,755 tons of copper a day.

Sanford explained one theory for the ore body's configuration. The lower zone, or footwall, of low-grade copper was a feeder zone lying on the bottom of the ocean floor millions of years ago. Geothermal action through the ore body plumed up "smokers" similar to those observed on the ocean floor today. This concentrated the copper ore above the sulfide footwall. Now 4,000 feet below the mine's surface, these smokers are the high-grade ore Rambler is targeting in the first phase of production.

Rambler's two Atlas Copco Minetruck MT42 haulers take a break from duty between shifts. A third hauler on order was scheduled to join them in late 2011 as the mine moves closer to commercial production.

Why Atlas Copco

Both Sanford and Ogilvie referred to Atlas Copco as a partner in their operation. Underground production equipment at Rambler initially included three Atlas Copco Scooptram ST1030 scoops, three MT42 mine trucks and two Boomer 282 electric face drills with COP 1838HD drills and a complement of Atlas Copco Secoroc rods and bits.

GEORGE OGILVIE
President and CEO,
Rambler Metals and Mining PLC

Ogilvie had experience with the Atlas Copco brand on previous jobs and said Rambler was confident choosing the company for its equipment because of its worldwide reputation for high equipment availability rates on the job. But it was the guarantee of local support with the new Pasadena store opening up that was the clincher. Rambler's own mechanics service the equipment now, but they may look into a service agreement. "We've got that covered internally at the moment," Ogilvie said, "but we like having that flexibility down the line."

Close customer support means a lot to Rambler's Mine Supervisor Steve Mitchell. "I'll say one thing, they aren't hard to find. When you want them, they're there. Service is top notch." He explained the importance of Atlas Copco's client communication. "They never leave you wondering. Highly accountable." It was a relief for him as mine supervisor that he can depend on timely updates and check-ins, so he always has the most accurate information regarding equipment availability.

Operator acceptance

Mitchell also reported that "operator acceptance is high" for the new MT42 mine trucks on the site. "I would say most of our guys have little or no experience underground. So there has been a little bit of a learning curve. But they're learning to communicate. They're learning to work as a team."

Referring to operator comfort in working the trucks to their full capability, Mitchell said, "If the operators like the trucks, they get used."

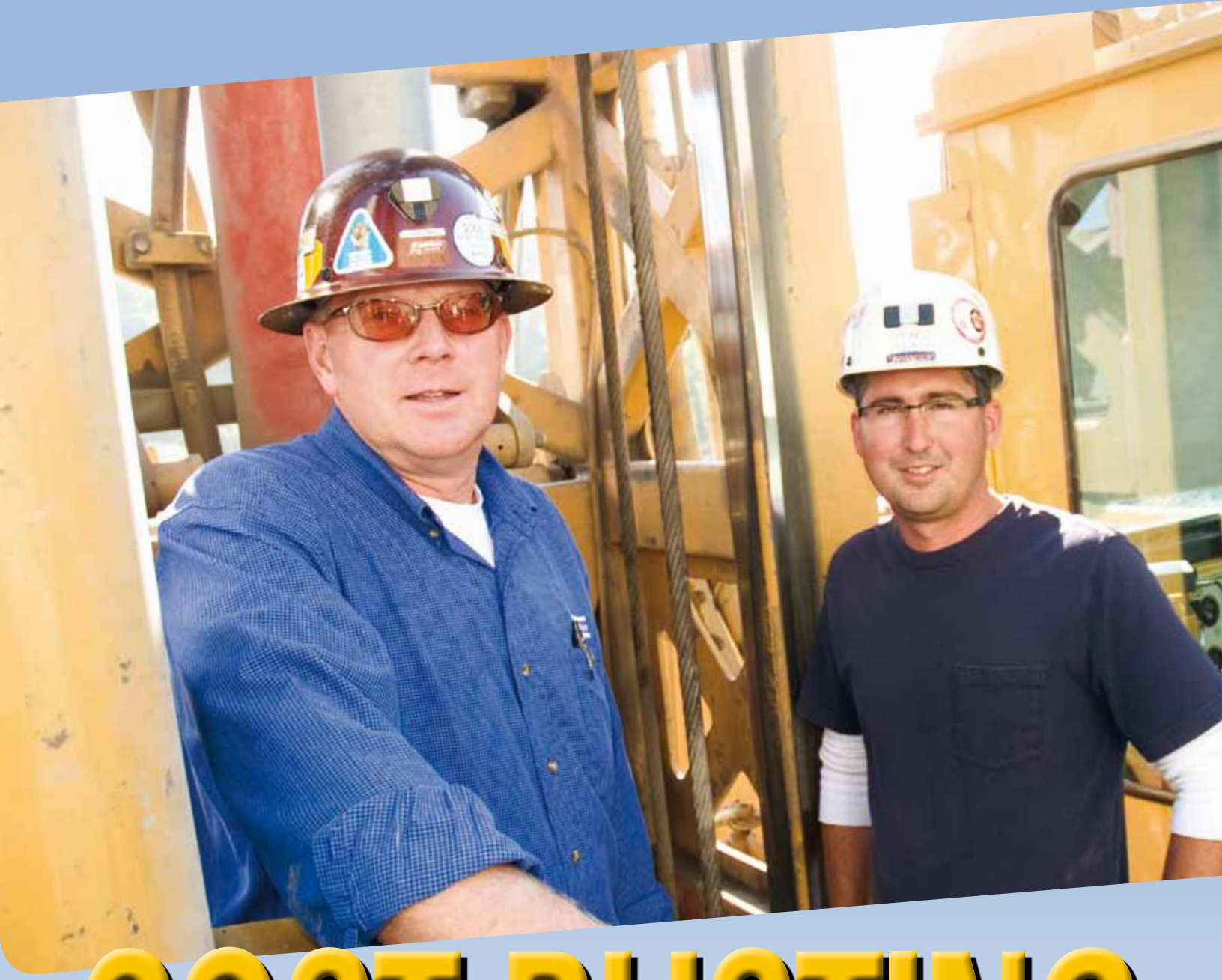
In this mine, "getting used" means running 44-ton payloads up an unusually steep ramp in an open-stoping operation with delayed backfill. Most mine ramps incline 12 to 15 degrees, but at Rambler they average an 18- to 20-degree grade. Steep as the ramp is, the MT42s can climb it fully loaded at 5 miles per hour. Their cabs keep the operators safe and comfortable in conditions that would otherwise bounce them to exhaustion before their shift was done.

Making time

Expanding the infrastructure deeper, crews generally made three to four 3 ½-meter rounds per day, so 39- to 46-foot advances were typical. When they begin production, they will count on the 60-meter range of their remotely controlled Scooptrams to muck the stopes. The radio control Scooptrams, however, can begin mucking immediately after a production blast. Mitchell said even though advances are not limited by mine conditions, which are generally competent rock, they install 4-meter connectible Atlas Copco Swellex for roof support where men are going in, especially at intersections.

Mitchell expects his crews will produce 630 tonnes per day in ore for the crusher at the mill.

Construction at the mine included widening and improving the existing 2.5 meter high by 4.5 meter wide ramp to 4 by 5 meters. At 88 percent or more toward completion in the fall of 2011, the mine may declare commercial production by July 2012. However, that declaration, Ogilvie and Sanford said, is contingent upon completing the first 60 continuous days of full production.



COST BUSTING

Controlling drill pipe erosion keeps drill steel costs down

Sixteen-year veteran driller Kevin Maggard proudly listed several reasons he rates his tenure with James River Coal Service Company (JRCSC) so highly. At the top of his list is the way they keep their equipment up. "Their maintenance program is second to none," he said. One look inside Maggard's blasthole rig cabin leaves no doubt that he cares about his equipment. He keeps it so clean it looks brand new.

Maggard is also proud of his current role in the company's field testing of Atlas Copco Secoroc TEAMALLOY™ drill steel to bring drill steel cost per hour at JRCSC's Montgomery mine back down. Regulations two years ago caused changes in the mine's blasting plan that took its mild steel drill pipe from 400 hours of life down to just 130. Operations such as this in eastern Kentucky have limited their blasthole diameter to 6 ¾ inches and brought their blast pattern in from 18 by 18 to 16 by 16 feet.

Reducing bit size, however, completely reconfigured a highly productive drilling formula that had evolved over years of careful engineering and practical experience with these drills in this mine's ground conditions. In effect, maintaining regulatory compliance doubled and in some instances tripled the drill steel cost per hour drilled.

So JRCSC has been working with Atlas Copco to come up with a solution to get drill steel cost per foot drilled back down to reasonable levels. Maggard has been central to the team effort, which uses his rig and his drilling skills as their test bed.

Because drill pipe can run so long between changes, JRCSC finds it best to calculate the "drill steel cost per hour" by dividing the total cost of the drill pipe by the total "air compressor hours" logged between installing the pipe and removing it. This gives them a reliable and simple basis on which to make a comparison.

Less costs more

The cost increase affects JRCSC across its entire drill fleet, which represents a variety of manufacturers. When the large blasthole crawlers were drilling with 7 ⅞-inch rotary bits on 5 ½-inch mild steel drill pipe, bailing velocity (BV) was almost ideal at 6,000 feet per minute (fpm). Glenn Sharpe, JRCSC drill mechanic in the Montgomery mine, said, "The drill made little 'volcanoes' at the hole made of chips the size of your fingernail."

Sharpe explained that putting 6 ¾-inch bits on the same 5 ½-inch pipe decreased the annulus so much that it doubled the BV to 12,000 fpm. The increased velocity mashed the sandstone into grit that scoured the mild steel drill pipes so aggressively they lasted only one-third of their normal life compared to when they were used to make 7 ⅞-inch holes. Their tricone bits also suffered in these holes, their inserts shearing in half in the various sandstones of the Montgomery site.

But the rate at which drill steel wore down posed a new problem. The gap that quickly widened between the steel and the deck bushing gave dust an escapeway. There was a risk it would not be captured effectively by the rig's dust control vacuum. To operate a rig with uncontrolled dust would put the mine in jeopardy of violating dust level limits. So the mine had to switch drill steel out frequently to keep that gap tight. The result was that JRCSC's rigs were now going through drill steel three times faster than before.

Driller Kevin Maggard pointed out that by resisting erosion, TEAMALLOY drill steel maintains its stiffness, spinning true with less vibration. This increases bit bearing life.

Drill mechanic Glenn Sharpe (left) is not changing bits as frequently. Mild steel pipe had been tougher on bit bearings.

The solutions

Sharpe complimented Maggard's skill as a driller. While Sharpe has seen some drillers go through a top sub in as little as six months, he said Maggard's drill string is still topped by the original, 6-year-old top sub. It is a certainty that JRCSC isn't seeing drill steel cost rise from operator fault or poor drilling technique. It's solely the physics involved in a change of bit size.

Ron Johnson, Atlas Copco's Regional Sales Manager for the 11-state eastern U.S. coal region, performed a complete drill audit, which included an air compressor capacity test. This audit showed that there was much more air than required for adequate bailing, due to the smaller annular area.

One solution was to decrease drill steel diameter, so they replaced the 5 ½-inch steel with 5-inch. But this created its own problems. The 5-inch drill steel was not as rigid. Its flexing caused drill string vibration and chatter. Inefficient drilling will also tend to shorten tool life.

Sharpe then addressed the air issue. Rather than "choke" the compressor intake to reduce the volume, they not only regulated it down but vented excess volume up the mast to decrease air volume in the hole. As finely tuned as they could get it, the sandstone still rapidly eroded their drill steel.

TEAMALLOY

That's when Johnson suggested TEAMALLOY drill steel. Almost every coal company in the eastern U.S. would be keenly interested if TEAMALLOY were to work for JRCSC.

So far it has. While mild steel lasted only 130 hours, the TEAMALLOY drill steel was indistinguishable from new at 300 hours. Approaching 400 hours, the steel was starting to show only minimal wear. The wear was controlled and predictable, showing the embedded alloy wear strips slightly more prominently than when new. Johnson predicted they would likely see 500 hours before they changed it out.

Maggard said that while drilling he could sense that the TEAMALLOY pipe offered greater stabilization and perfect rotation.

It would seem that JRCSC has found a successful formula once again. Dust is down. Drill steel cost per hour is down. Production is up. And Atlas Copco Secoroc's TEAMALLOY drill steel is living up to its billing in their Montgomery mine, the bet that it will beat mild steel in cost per hour in any application, anywhere, every single time.

National Phenomenon

Exploration company thrives on old values, new Christensen rigs

National Exploration, Wells & Pumps based out Woodland, California, started with six operating rigs and thirty-five people in November 2010. Halfway through its first year of operation it had 21 rigs working in four western states, with field offices in Elko, Nev., Gilbert, Ariz., and Salt Lake City, Utah. Fourteen of the rigs are from Altas Copco, 11 exploration core drills and three exploration RC rigs.

James Stephens, client services manager for National EWP, attributed the company's meteoric success to good corporate values, the quality of the people that such values attract, and really good timing.

Quality people

"We want to be the safest, most competent drilling company in the industry," said Stephens, who was the second person hired, back in October 2010.

Today National has a work force of 300-plus and plans to hire an additional 100 employees in early 2012. Third to be hired in the company was Equipment Manager William Weber. Weber, who brought 25 years of drilling industry and equipment experience with him, came out of retirement for what he called "the chance of a lifetime."

He said when National's President, Jeffrey Morgan, came to him with a plan to start a mineral exploration company, he couldn't pass up the challenge of growing a company. Weber said, "When people asked to come onboard with National they knew they would get the best equipment with the best support in the industry." One of the greatest factors too, Stephens said, was that the company came into the market at a time when there was expanding need for their specialty, which includes core and dual-tube reverse exploration drilling, in addition to their direct rotary and flooded-reverse well installation services. Exploration drilling is seeing unprecedented demand as mineral prices set record highs.

Independent dependability

Each National drill rig sets out to a job as a small independent company of its own. For example, each of their six Peterbilt-mounted Atlas Copco Christensen™ CT14s travels with a backhoe, light tower, pipe truck, water truck and F-250 4x4 crew truck. With strategically placed field offices, greater technical support is never more than a couple hours away, which ensures rig availability 24/7.

National's two CT20 rigs, each with the ability to drill to 7,300 feet, were the first of their kind in North America. Their design evolved from their predecessors, the CT3001 and CT4002 series. Safety features of the rigs, such as their emergency stop buttons, safety guard with interlock, and safety fence set the CT20 apart from others in the field. »

Going with Atlas Copco

Stephens summed up the company's reasons for choosing Atlas Copco by saying "Atlas Copco is the best of the best." Weber said, "As we did the research, we agreed that Atlas Copco rigs were better supported and better manufactured. The Christensen line's reputation was a selling point. It was a challenge to find manufacturers who would meet our fleet needs in such a short time. I think it's a mark of honor that Atlas Copco ramped up production to help us grow at this pace, making these rigs to order for us and sending a startup trainer along with each rig."

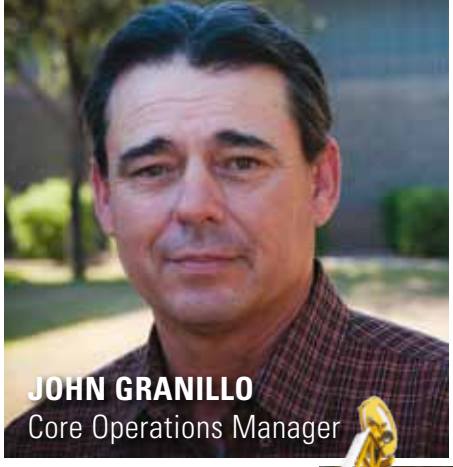
John Granillo, core manager for National, said he based his own input for the decision on personal experience. He had worked with the Atlas Copco brand as a drill supervisor in a previous employment.

"I'm not knocking other manufacturers, by any means," Granillo said. "I like a lot of them. It's just that Atlas Copco has everything we need." He pointed out that the corporate decision to buy all core drilling equipment from one manufacturer meant the tooling was matched. The company has had good luck with Atlas Copco's new lightweight Excore™ rod in HMCO and NMCO, which allows them to build a longer drill string to go deeper. Atlas Copco's customer support network maintains well-inventoried stores and repair shops in the region, with centers in Elko, Nev., Sacramento, Calif., and Tuscon, Ariz.

Matter of priorities

John Wolfe, the Atlas Copco account manager serving National EWP, said, "I want National to know that Atlas Copco is behind them 100 percent." He said Atlas Copco can live up to that commitment because its customer centers work together as a network of support, even across state lines.

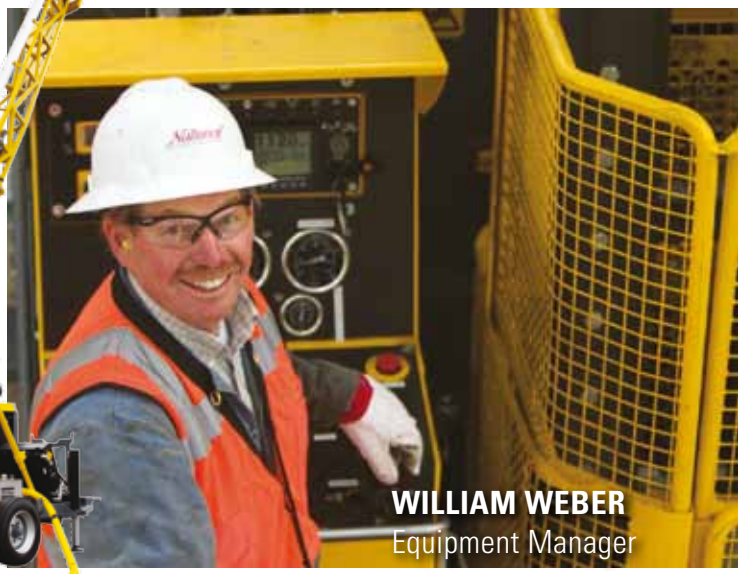
In short, wherever National's business leads them, their needs will be communicated to the nearest customer center so it will have the inventory, product support and customer service that a multistate company like National needs to get the job done correctly and on time. With branches that stretch wide across the western U.S., in National's first year of operation it has assured itself of a long healthy life ahead.



JOHN GRANILLO
Core Operations Manager

JAMES STEPHENS
Client Services Manager

CS14



WILLIAM WEBER
Equipment Manager

ATLAS COPCO CHRISTENSEN DRILL RIGS

It's possible to trace the origins of the reputable Atlas Copco Christensen line back to the 1800s, a continuous evolution from the contributions of design engineers in close communication with seasoned contractors in the field. Today's rigs feature Atlas Copco's improved rotation unit, user-friendly control panel, feed system and safety feature designs.

Today's Christensen line features four core-drilling rigs ranging from the light-weight, trailer-mounted Christensen P4 capable of depths to 2,000 feet (610 meters), to the newest addition, the track-mounted CT20, which can reach depths in excess of 8,000 feet (2,450 meters), depending on choice of steel.

The CT20 rig's Tier III engine, spill-protected power pack and sound-reducing engine canopy increase its value as an environmentally conscious drill rig. Its emergency stop buttons, interlock safety fence and automated operation make it one of the safest, most user-friendly exploration rigs available. An extension option adapts the mast to handle 30-foot (9-meter) rods. The CT20 rig's lift capacity is 45,000 pounds (200 kN). Main hoist capacity is rated to 45,000 pounds (200 kN).

The most versatile Christensen exploration rig comes in two carrier configurations, the crawler- or trailer-mounted CS14 and the truck-mounted CT14. The CT14 is the smallest truck-mounted core drilling rig. Both rigs can drill to 3,937 feet (1,200 meters). Feed lift capacity for the rigs is 31,020 pounds (138 kN). Main hoist capacity is rated to 18,000 pounds (80 kN).

The CS10 might be looked upon as a smaller, more mobile version of the CS14. Its more compact size three-section mast mean it can be used in more difficult and remote areas, yet it can still drill to depths of 2,625 feet (800 meters) and handles up to 20 foot (6 meter) core barrels. Feed lift capacity is 20,200 pounds (90 kN). Pull length is 20 feet (6 meters). Main hoist is capable of 12,000 pounds (53.5 kN).

For ultimate portability to the most remote sites, the little Christensen P4 can easily be disassembled to its major components and flown in by helicopter. As its name implies, the rig handles P-size rods in addition to B-size rods, the same as the larger models. Feed lift capacity is 20,000 pounds (89 kN). Main hoist capacity is 9,000 pounds (40 kN).

Atlas Copco provides customizable financing and Christensen Care service plans for the rigs. They also provide a full complement of core drilling tools and accessories. These include diamond impregnated, diamond surface set, tungsten carbide and PDC core drilling bits; both conventional and wireline core barrels; and lightweight composite or aluminum drill rods.

Atlas Copco continues to develop these rigs based on end-user requirements, keeping the focus as always on their customers' sustainable productivity.

Arizona college benefits from Atlas Copco rig donation

The Atlas Copco Boomer, restored to its former showroom glory by Asarco service engineers and ready for a new lease on life at the San Xavier mine.

University of Arizona's College of Engineering is the home for a 40 foot long drilling rig, thanks to industry partners Asarco and Atlas Copco.

The diesel-powered Atlas Copco Boomer™ will be used by mining engineering students to carve out new tunnels at the UA's San Xavier Underground Mining Laboratory, about 23 miles south of Tucson, Ariz.

The Boomer was formally donated Aug. 11 by Asarco president Manuel Ramos and Arsarco's silver and gold Ray mine general manager, Steve Holmes. Holmes is a UA mining engineering alumnus.

Holmes enlisted the help of Atlas Copco Tucson to refurbish the drill after its 10 years of operation at the Ray mine near Kearny, Ariz. "The drill was sitting around for a while, so I saw a use for it," Holmes said during the donation ceremony at the San Xavier Mine.

Bob Evans, truck shop general supervisor at Ray, oversaw the drill's refurbishment. Evans noted that even though this 1997 rig isn't fully computerized like the newest models, it's still a complex piece of equipment that will provide students with invaluable operational experience. "Students get a head start on training," Evans said. "Even the latest hi-tech models use hydraulic and mechanical systems."

Atlas Copco is providing much more than a rebuilt, repainted drill jumbo, however. The company will also provide parts, service and training to keep the rig safe and operational. Michelle Pettit, Atlas Copco service administrator, said: "Our mechanics have worked tirelessly to make the drill look like it just came off the factory floor. It doesn't end today with the donation of the drill, and it's so exciting knowing how this will affect students' futures."

University Distinguished Professor Mary Poulton, head of the department of mining and geological engineering and director of the UA's Lowell Institute for Mineral Resources, described it as a "tremendous gift."

She already has the drill's first project lined up: blasting a bigger "decline," or inclined access road, into the San Xavier mine. "This drill jumbo will help us build a new decline in the mine, which we couldn't do with our existing drills," Poulton said. "It will open up lots more research opportunities for students. We need a bigger opening to do better research using more modern equipment, including autonomous mine vehicles and advanced communication systems."

Poulton and Holmes have no doubt that this industry-university partnership makes the San Xavier mine a leader in education, training and research. "The vision is for San Xavier to be a world-class lab, unique to the UA," Holmes said. "No other mine has this much potential, but support is needed from industry and alumni."

Poulton concurred: "One of the best measures to assure a great program is passion," she said. "Atlas Copco, Asarco and others in the industry, plus faculty and students, have that. Which is why we have such a great program."

The San Xavier Underground Mining Laboratory is also used as a training resource by federal and state agencies as well as organizations involved in underground research, tunnel safety, and mine rescue. Tours and community activities are also conducted to educate the general public on the importance of the mineral and construction industries.

Giving rigs a second life

Rig rebuild capabilities of Louisville Brandeis

How would you like to own a new rig at half to two-thirds its price? Wes Broyles and his management have thought about the possibility of offering that to their customers for a long time.

Broyles is the service manager at the Louisville headquarters of Brandeis Machinery & Supply Company. Their vision for a full-time rebuild shop at Brandeis took its first steps toward becoming a reality when the company received the rebuild order for two Atlas Copco DM-45 blasthole rigs in 2011.

"The shop had dabbled in it before," Broyles said, and "has serviced Ingersoll-Rand and Atlas Copco rigs." So taking on the DM-45 rebuild projects was a logical next step.

Wes Broyles
Service Manager

Rebuild vs. refurbish

Broyles explained that rebuilding differs from refurbishing in that it is a complete rig makeover, almost as if it were coming off the line new again. It is not just replacing worn out parts and restoring its appearance. "In a rebuild, we take them completely down and then build them back up."

Unless the owner has recently replaced them, everything will be made new again. If there are upgraded parts newly available in that model, they will be added. This includes upgrading or replacing the engine, air end, gear box, electronics, fixtures, hoses, fittings, undercarriage, bushings and wiring and even align-boring. The rig gets completely repainted and receives all new decals inside and out.

At Brandeis it is referred to in-house as the Second Life program.

Nearly new

Broyles said that it's too difficult to predict precisely how long a specific rig's second life would be. Since it is being rebuilt upon its original frame, the figure will not be 100 percent of the expected life of a new unit. But he estimated 85 to 95 percent of its original life would not be an unreasonable expectation.

For a customer the primary distinction between a rebuilt rig and a new one is cost. Broyles said a rebuilt rig will sell at roughly 50 to 65 percent of the cost of its market price new.

Technician Mike Krow works in the Louisville Brandeis shop.

Candidate rigs

Broyles cautions that not all rigs lend themselves to rebuild: "Certain rigs you can, certain you can't." First there are some models that generally do not rebuild well. Then the specific rig has to be assessed. If the frame, for instance, is found defective, then rebuilding is not an option.

The Atlas Copco DM-45 rigs Brandeis received were good candidates for rebuilding. They were shipped to Louisville from a coal mine nearly 200 miles away with help from the Brandeis branch in Stanville. Originally purchased under the Ingersoll-Rand brand, they each had served into the 20,000 hour range. Air ends and engines had been replaced earlier, so they were not replaced as a part of this reman order. The order also included instructions to repaint them in Atlas Copco yellow, though the paint shop at Brandeis would have painted them to any scheme the customer required.

Broyles said rigs can be down for about 90 to 120 days during the process. In this customer's case, the first DM-45 rig was completed in just over 90 days, and the second was right on the 90 day mark, which Broyles said is their goal.

The next step

Brandeis has scheduled more rebuild jobs into next year and said that he personally would like to see a continual flow of rebuild projects through the shop, creating a full-time Second Life program there.

Broyles described how a steady rebuilding program will improve shop efficiency. First, two reman technicians are dedicated to a project. Whereas service personnel are typically generalists, these dedicated technicians become experts in the rig.

Once the technicians are assigned a rebuild project, they belong to that project through its completion, and that also promotes efficiency. They won't be pulled from this job to other projects.

Next, a shop dedicated to rebuilding is an environment where these expert technicians are surrounded by the right tools and supplies for the job. The increase in efficiency reduces not only labor costs but also the time the rigs must be pulled from production.

Bottom line

The region's customers benefit from Brandeis' expanding rebuild capabilities two-fold. It keeps high quality rigs available in the used rig market. It also offers owners a cost-saving alternative to fleet replacement. Brandeis' Second Life program is just one more way this market leader helps its clients improve their bottom line.

The 72nd Street Station Structure contract includes construction of access shafts and cavern mining. This portion of the contract is expected to take approximately 37 months to complete.

Atlas Copco service successful in **New York subway project**

SSK Constructors Joint Venture – comprised of Schiavone, JF Shea and Kiewit – (SSK JV) recently began underground station cavern mining for the future 72nd Street and 2nd Avenue subway stations in New York City. Part of the Metropolitan Transportation Authority's (MTA) Second Avenue Subway Project Phase 1, the $431,180,260 project was awarded to SSK JV in October 2010, with work commencing early in 2011.

Phase 1 of the Second Avenue Subway includes a two-track line along Second Avenue from 96th Street to 63rd Street with a connection from Second Avenue through the 63rd Street tunnel to existing subway lines. The total project cost is $4.45 billion and is scheduled for revenue service in December 2016.

The 72nd Street Station Structure contract includes construction of access shafts and cavern mining. This portion of the contract is expected to take approximately 37 months to complete.

SSK JV has three Atlas Copco E2C Boomers and two ROC D3 crawler drills on the project, as well as all related consumables and parts for these machines. Atlas Copco sales representative Joe Mela and the team at Atlas Copco's company store in Clarks Summit, Pennsylvania, have been working closely with SSK JV to support the project.

To accomplish this, Atlas Copco and SSK JV developed a program that will help maintain the equipment and ensure its availability and uptime. All the parts on site, including the RDT accessories, drill steel and tophammer consumables, will be stocked on a consignment agreement with SSK JV. The Clarks Summit store will assist them with cycle counts on a monthly basis. SSK JV will monitor the inventory daily and issue any purchase orders as needed. SSK JV purchased two 20-foot shipping containers equipped with shelving to store the parts and consumables; these containers are kept on the job site.

"Working with the URE business line and our Inventory Control and Logistics Department, we came to an agreement to consign the parts to SSK JV in order to maintain equipment availability and uptime," said Tim Tinsley, Store Manager – Clarks Summit. "The customer won't be down due to mechanical failures, and this will increase their productivity."

Phase 1 of the Second Avenue Subway includes a two-track line along Second Avenue from 96th Street to 63rd Street with a connection from Second Avenue through the 63rd Street tunnel to existing subway lines. The total project cost is $4.45 billion.

Tim Tinsley explained that similar programs have worked well with other customers in the past. By providing this type of equipment support, the Clarks Summit store has increased its machine sales and aftermarket sales with other customers in the New York City area as a result.

Atlas Copco launches Boomer M1 L single-boom drill rig

The latest single-boom face drilling rig from Atlas Copco is designed for development and production drilling in low- to medium-height mines, including applications with extensive tramming.

With a machine height of 5.9 feet the Boomer M1 L is sized for room and pillar mines with back heights from 7.2 to 8.2 feet. It has a strong carrier with heavy-duty axles and a reinforced articulation section as well as oversized wheels compared to similar rigs in the range.

Components and systems from existing drill rigs such as the Boomer S1 L and the Boomer M2 D were incorporated into the design of the Boomer M1 L in order to respond to customer demand for a more robust single-boom face drilling rig for low height applications.

Peter Bray, product manager at Atlas Copco's underground equipment division, said, "Typically, rigs of this type have to cover distances of 6 to 12 kilometers a day and that requires a machine that can really take a lot of wear and tear. The Boomer M1 L can handle this with no problem. Its strong components are built to withstand tramming on rough roadways over long periods of time."

The Boomer M1 L has a spacious, fully enclosed, air conditioned cabin, and an ergonomic control panel, contributing to operator safety and comfort. Power is provided by the environmentally friendly, low emission Deutz 80kW Tier 3 engine.

The latest Boomer model comes with an improved flexible boom, simple controls (Direct Control System 2), as well as a choice of COP 1638 or COP 1838 rock drills. The rig is also designed to be easy to service, with easily accessible service points behind protective hatches.

A prototype of the Boomer M1 L was successfully tested by the Polish mining company KGHM which has since placed orders for several units.

Atlas Copco has provided a video of the new Boomer M1 L in action at www.youtube.com/AtlasCopcoUG.

Atlas Copco acquires GIA, broadens offering in mining and tunneling

Atlas Copco AB has agreed to acquire the underground business of GIA Industri AB from Vätterledens Verkstad AB. With the acquisition, Atlas Copco broadens its offering with products including electric mine trucks, utility vehicles and ventilation systems.

"This is an important acquisition for the U.S. market," noted Ed Tanner, Atlas Copco's business line manager for Underground Rock Excavation equipment in the United States.

"The acquisition of GIA is a good strategic fit for Atlas Copco," said Bob Fassl, Business Area President for Atlas Copco Mining and Rock Excavation Technique. "We especially look forward to offering our customers the Kiruna Electric haulage truck with its strong environmental profile.

GIA's products also include locomotives and shuttle car systems for underground transportation, charging and service trucks, scaling and cable bolting equipment, digging arm loaders (Häggloader) and complete ventilation systems. GIA is mainly represented through distributors. For more information about GIA, see www.gia.se.

Atlas Copco announces personnel changes

JOHN WOLFE has accepted the position of Technical Support Manager for the Geotechnical Drilling and Exploration business line.

KEITH BECKER has been appointed Product Manager for the South/Central United States for Atlas Copco Construction Tools. Becker has been a product specialist for hydraulic attachments with Atlas Copco for over seven years

DARRELL ENGLE has been appointed Product Development Specialist, Western US for Atlas Copco Construction Equipment.

RON PIKULIK is the new regional channel manager for Atlas Copco Construction Equipment.

EDDIE VALENTIN is the new Generator Sales Manager for Atlas Copco Construction Equipment, covering the western United States.

BRAD BURRUSS has accepted the position of regional channel manager for Atlas Copco Construction Equipment

Atlas Copco upgrades silence kit

Atlas Copco has develped a newly upgraded silence kit for its SmartROC T35 and T40 surface drill rigs. The original kit had a distinctive hood enclosing the drill rod. The new silence kit, developed in cooperation with experienced users, reduces the noise generated from the feed by an additional 2 dB(A).

Without the silence kit, the noise level of the SmartROC T35 and T40 is 127 dB(A) at peak power. With the upgraded silence kit, tests show that the noise level drops to 115 dB(A). Site personnel positioned at the recommended distance from the rig can converse with colleagues without having to shout, can use a phone and more easily hear other noise around them while still wearing ear protection.

Also, the new kit has five access hatches that can be opened two at a time with the touch of a button, and is equipped with an improved lighting system.

WHERE TO FIND US

Please contact your nearest Atlas Copco Customer Center. Visit the store website to see regional news and product information focused to its location.

State	City	Phone	Website
GA	Atlanta	888-762-3745	www.atlascopco.us/atlanta
MD	Baltimore	877-797-0987	www.atlascopco.us/baltimore
PA	Clarks Summit	800-950-1049	www.atlascopco.us/clarkssummit
CO	Denver	866-466-9777	www.atlascopco.us/denver
NV	Elko	775-777-2204	www.atlascopco.us/elko
TN	Knoxville	888-339-0344	www.atlascopco.us/knoxville
MA	Ludlow	413-589-7439	www.atlascopco.us/ludlow
FL	Miami	954-977-1041	www.atlascopco.us/miami
WI	Milwaukee	866-254-8511	www.atlascopco.us/milwaukee
TN	Nashville	615-641-3000	www.atlascopco.us/nashville
AZ	Phoenix	623-780-0200	www.atlascopco.us/phoenix
CA	Sacramento	916-655-3005	www.atlascopco.us/sacramento
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