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Volume 15 • Number 3 • March 2010 • *English Edition*



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A Brief Word...

Hopefully by the time you are reading this the snow will have stopped and the debut of spring will be evident.

For InfraStructures, our first sign of spring was the flood of shows we'll be telling you about this month. From the 'White Stuff' to the 'Blacktop', you'll read about what's going on in your industry first-hand.

It's been like a Winter Olympic Marathon of industry events and news this month, and InfraStructures has been there to provide Gold Medal coverage. From what we have seen, Canada's Olympic Spirit has seeped into the economy with commercial activity benefiting not only from government spending, but a renewed sense of optimism generally.

As you wait for the snow to melt and the flowers to bloom, catch-up with what we have in store for you this issue. Think of it like Spring Training. You may need it, after all our 'World Cup' event is fast approaching!



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On the cover: a Pegasus 40.25 rotating telescopic lift truck in operation at a Simard-Beaudry Construction jobsite.

Dieci offers a complete range of telescopic lift trucks, with 2500 kg to 21 000 kg capacity and a lift height of up to 33,5 m.

SUMITOMO TO EMBARK ON EQUIPMENT RENTAL BUSINESS IN THE UNITED STATES

Sumitomo Corporation, through its 100% subsidiary, SMS International Corporation, has invested US\$50 million in convertible preferred interests of Sunstate Equipment Co., LLC.

Founded in 1977, Sunstate is one of the major equipment rental companies in the United States, with branch locations in eight states in the southwestern U.S.

Sumitomo has been actively searching for an investment opportunity in the U.S. in particular – with the world's largest market of more than US\$30 billion and rental penetration rates that have continued to increase year after year (from 25% to 40% over the past decade), the U.S. is the most attractive equipment rental market. Although the U.S. construction equipment rental industry has been experiencing a severe downturn since the financial crisis,

given the long-term growth prospects of this market, Sumitomo believes that it is an excellent opportunity to enter the industry by making this full scale investment.

Sumitomo is the first Japanese company to make a full scale investment in the U.S. equipment rental industry.

Sumitomo currently operates construction equipment dealerships in North America with annual turnover of about ¥150 billion (\$1,76 billion). Sumitomo also has an existing equipment rental business in Canada with 15 branch locations operating under the name "SMS Rents" and "Location SMS". Together with this new investment in Sunstate, Sumitomo is determined to expand its equipment rental business portfolio and become a leading company in the North American equipment rental market.

Source: Sumitomo Corporation

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ALL AERIALS LAUNCHES ALL-NEW WEBSITE

ALL Aerials, a member of the ALL Erection & Crane Rental Corp. Family of Companies, announces the launch of its completely revamped website at www.allaerials.com.

The new site details both new and used aerial equipment for sale, new and used parts, expert 24/7 service, and a jobsite photo gallery. Easy to navigate and deep with features, the site includes a convenient used equipment inventory that is searchable by type, make, model, and year. Users can submit a fast quote request for a purchase or rental and also submit a credit application online.

The site also features downloadable load charts for all of their aerial equipment. In addition, users who have recently done business with ALL Aerials can take an online survey and be entered in a monthly drawing to win ALL logo gear. And for those looking for a position in the equipment rental industry, the site lists job postings for the ALL Family of Companies' branch locations.

Source: ALL Erection & Crane Rental Corp.

AGGREGATE INDUSTRIES TEAMS UP WITH HARVARD SCHOOL OF PUBLIC HEALTH AT CHELMSFORD PLANT

A group of 20 graduate students and two professors from the Harvard School of Public Health visited the Aggregate Industries Chelmsford Asphalt Plant in Chelmsford, Massachusetts. The group

of students, led by professors Tom Smith and Bob Herrick, are taking a course on the introduction to occupational medicine. The visit to the Chelmsford Asphalt Plant introduces the students to an industrial setting and the type of health and safety exposures industrial workers face.

Aggregate Industries Northeast Region operations manager Jeff Ciampa has a longstanding relationship with the Harvard School of Public Health and professors Tom Smith and Bob Herrick. He has been conducting similar site visits for students from the school for over five years. "We are honored to have the Harvard School of Public Health and the graduate students visit our Chelmsford Asphalt Plant. This is a great example of Aggregate Industries Northeast Region working together with public and private institutions to help promote education of construction materials," noted Ciampa.

The Harvard School of Public Health was established in 1922 and is the nation's first graduate training program in public health. In the years since its inception, the School's faculty members have made landmark contributions to the development of public health.

Source: Aggregate Industries Management, Inc.

AVANTI MINING SELECTS ACONEX ONLINE PROJECT MANAGEMENT SYSTEM

Aconex has been selected by Avanti Mining to provide its online project management system to the Kitsault Molybdenum Project being developed in British Columbia.

One of the world's top five primary Molybdenum deposits, the project involves a feasibility study in 2010, followed by detailed engineering, procurement and construction of the mine.

Aconex, a web-based system for managing project information such as documents and correspondence, will be used to link the engineering consultants and organizations involved in the development. The system will allow Avanti Mining and its project partners to access, distribute, track and archive their files in real-time, using a single, common platform.

Thomas Gunthardt, project manager at Avanti Mining, said: "During the feasibility study alone, a large amount of documentation will be generated that will need to be efficiently managed and shared. Being able

to track the status of our files on Aconex will give us more visibility and control over the flow of information. Then, as the project progresses to construction, we will have a complete archive of feasibility, design and procurement data."

Doug Rubingh, Aconex vice president Engineering & Resources, said: "Managing information in a structured way is a core element of successfully delivering a project. Aconex streamlines commu-

nication processes by ensuring that all data – including drawings, plans, reports, tenders and schedules – is centrally stored and easily retrievable. Every file is logged and tracked, so at any time, it is easy to see the status of tasks. This reduces the risk of disputes and delays by ensuring there is one version of the truth, and speeds up the flow of information between project members."

Aconex is the world's largest provider

Record-Breaking 2010 World of Asphalt and AGG1 Shows

The co-located 2010 World of Asphalt Show & Conference and AGG1 Aggregates Forum & Expo, which were held February 15-18, 2010 at the Duke Energy Center in downtown Cincinnati, Ohio, posted record numbers for registrants, amount of exhibit space taken and number of education session tickets purchased.

Final registration numbers topped a record-breaking 6200 for the two shows compared to 5795 for the 2009 events, and included registrants from all 50 states, all 10 Canadian provinces, and more than 30 other countries worldwide. More than 340 exhibitors

showcased the latest technologies, equipment and products for aggregates, asphalt, pavement maintenance, and traffic safety professionals.

"Our industry has been hit hard by this recession but there is some optimism looking ahead. We received very favorable feedback about the shows' value in fostering these industry connections to help participants succeed," stated show director Melissa Magestro.

AGG1 and World of Asphalt are industry-run shows, and industry support has been key to their success, explained Mrs. Magestro. "We understand that attendees and exhibitors need to carefully evaluate their budgets and time and make choices. Our industry partnerships and co-located events broaden the depth of the show experience for all participants and provide maximum return on investment," she added.

The shows are not held during CONEXPO-CON/AGG show years so in 2011, World of Asphalt and AGG1 exhibitors and products will be spotlighted at CONEXPO-CON/AGG, in March 2011 in Las Vegas, Nevada. The co-located shows return in 2012 - March 12-15 in Charlotte, North Carolina.

AGG1 is owned by the National Stone, Sand and Gravel Association (NSSGA); World of Asphalt is owned by the National Asphalt Pavement Association (NAPA) and Association of Equipment Manufacturers (AEM). AEM is the show producer.

Source: Association of Equipment Manufacturers



of online project management solutions to the construction, mining and energy industries. From its 35 offices worldwide, the company services \$230 billion worth of projects across 65 countries.

Source: Aconex

FIRST-EVER AWP EQUIPMENT DOCUMENT ON GENERAL TRAINING AND MODEL-SPECIFIC FAMILIARIZATION

The American Rental Association (ARA),

the Association of Equipment Manufacturers (AEM), the Associated Equipment Distributors (AED), the International Powered Access Federation (IPAF) and the Scaffold Industry Association (SIA) have joined forces for a first-of-its-kind industry initiative to develop an educational document to clarify what is required for general training and model-specific familiarization of aerial work platform (AWP) equipment.

The result of this joint initiative is the

Statement of Best Practices of General Training and Familiarization for Aerial Work Platform Equipment, the first such document that is applicable for use by everyone in the industry. The content addresses:

- Educating the industry on the industry-recognized-and-supported standards, including the American National Standards Institute/Scaffold Industry Association (ANSI/SIA) A92 Standards and the Occupational Safety & Health Administration (OSHA) regulations.
- Presenting best practices and minimum general training guidelines for AWP operators.
- Emphasizing the differences between general training and familiarization to all parties responsible.
- Clarifying minimum qualifications of the trainer.

The purpose of this joint initiative and document is the increased safe use of AWP equipment and expanded risk management knowledge for use of these machines throughout the country.

The Statement of Best Practices of General Training and Familiarization for Aerial Work Platform Equipment document were unveiled during The Rental Show, the ARA's convention and trade show, that was held February 7-10, 2010, in Orlando, Florida.

Source: Association of Equipment Manufacturers



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ATLAS COPCO AND RIO TINTO TO EXPLORE ADVANCED TUNNELING EQUIPMENT FOR DEEP UNDERGROUND MINES

Atlas Copco has been selected by Rio Tinto to develop one of two rapid tunneling concepts for underground block cave projects. The new machine will enable fast and cost-effective construction of mines which are safe, productive and have a minimal impact on the environment.

Rio Tinto's development of projects such as Resolution Copper in Arizona and Oyu Tolgoi in Mongolia will use an underground block cave mining method. This method requires construction of significant underground infrastructure prior to the production of ore. In anticipation of this need, Rio Tinto Technology and Innovation began investigating alternative construction methods to further improve both safety and speed of constructing underground block cave infrastructure such as shafts and tunnels.

The Atlas Copco Modular Mining Machine (MMM) is a new tunneling machine that utilizes the learnings of the Atlas Copco Robbins Mobile Miner. This mechanical rock excavation system is anticipated to be able to achieve more than twice the performance of normal tunneling methods in the expected ground conditions. The cooperation between Rio Tinto and Atlas Copco on the development of this machine has been underway for some time and is approaching reality. The Rio Tinto and Atlas Copco team have agreed to share further information on this mining breakthrough with the mining community at SME conference that was held in Phoenix Arizona, March 1-3, 2010.

Source: Atlas Copco

BALQON COMPLETES COLD WEATHER TESTING ON LITHIUM-ION BATTERY POWERED ELECTRIC TRACTOR

Balqon Corporation, an emerging developer and manufacturer of zero-emissions heavy-duty electric vehicles for Class 7 and Class 8 applications, recently announced successful completion of cold weather testing on its lithium-ion battery-powered electric tractor, the Nautilus XE20.

The successful cold weather testing of Balqon's newest product, the Nautilus XE20, is a continuation of the engineering developments at Balqon. "Our demonstration of the performance of the Nautilus XE20 in actual warehouse applications at temperatures below -12°C under loads exceeding 22,6 t validates our belief that the durability, range and performance of our heavy-duty electric vehicles would not be diminished due to the effects of cold weather," said Balwinder Samra, Balqon Corporation's president and CEO. "We believe that the four weeks of successful testing validates the Nautilus XE20 as a viable alternative to diesel fuel-powered vehicles in cold weather conditions. Based upon the fuel cost data we recorded, we also believe that Balqon's heavy-duty electric vehicles will provide significant fuel cost savings as compared to diesel fuel-powered heavy-duty vehicles that must remain idle all day in cold weather conditions to prevent fuel line freeze-up," added Mr. Samra.

The Nautilus XE20, released earlier this month, is designed, integrated, and built in cooperation with Autocar® Truck and their Xspotter® yard tractor team. "Supported by Autocar® locations coast to coast in U.S.

and Canada, we believe that the Nautilus XE20 is truly a commercially viable zero emissions alternative to traditional diesel-powered yard tractors currently in use in warehouse distribution centers, marine terminals, intermodal facilities, industrial plants and railyards," said Autocar's Eric Schwartz, vice president Specialty Vehicle Business of Autocar LLC.

The Nautilus XE20 is designed for off-highway container or semi-trailer "spotting" applications, and is equipped with Balqon's proprietary heavy-duty drive system and lithium-ion battery management system. The Nautilus XE20 is designed to travel at speeds of up to 40 km/h and

is capable of towing loads of up to 36,3 t. Field demonstrations conducted at both a large beverage distribution warehouse and an industrial manufacturing facility showed lower energy consumption over competitive diesel-powered vehicles operated in a similar environment.

Source: Balqon Corporation

NEW BIODIESEL PRODUCTION PROCESS USES CATALYTICALLY ACTIVE PARTICLES

Sachtleben, a unit of Rockwood Holdings Inc. and the leading producer of specialty titanium dioxide and functional additives has developed catalytically active particles that stand to revolutionize the production

Volvo Construction Equipment Enters a Strategic Alliance with VT LeeBoy

Volvo Construction Equipment and VT LeeBoy have finalized a strategic alliance agreement for LeeBoy to supply certain pavers and road wideners to Volvo dealers under the Blaw-Knox brand. LeeBoy will also take full responsibility for product support of these machines, including the existing field population.

The equipment will be marketed under the Blaw-Knox brand under a five-year brand licensing agreement with Volvo Construction Equipment and distributed through Volvo road machinery dealers who will thus maintain access to these models in order to continue serving their customers in a variety of road development operations.

"The agreement with LeeBoy enables Volvo to concentrate its road machinery technical and engineering expertise and production operations on high-volume Volvo paving, compaction and motor grader equipment that serves our industrial and commercial customer bases," said Göran Lindgren, president of Volvo Construction Equipment North America. "In addition, this strong relationship fosters other growth opportunities for the Blaw-Knox brand, which will give Volvo Construction Equipment dealers in North America, Australia and New Zealand access to the broadest product offering of any manufacturer in the asphalt paving industry."

Production of upgraded and redesigned Blaw-Knox road wideners (models RW100 and RW195D) and pavers (models PF150 and PF161) is expected to begin within the next few months at the LeeBoy production facilities in Lincolnton, North Carolina.

"It is with a great deal of pride that we have announced the agreement to our employees. Blaw-Knox is one of the most prominent road building brands in North America. We look forward to working with the Volvo Construction Equipment distribution channel to provide Blaw-Knox commercial pavers and road wideners for their customers," said LeeBoy's president and CEO, Kelly Majeskie.

Volvo Construction Equipment, one of the world's largest manufacturers of construction equipment and road machinery, acquired the Blaw-Knox product line in its purchase of the Ingersoll Rand road machinery business in 2007.

Source: Volvo Construction Equipment North America, Inc.



of biofuels using sustainable and environmentally friendly means.

Sachtleben is working with Augsburg College and biodiesel producer Ever Cat Fuels LLC, which is currently designing the first commercial-scale pilot plant incorporating this innovative fluidized-bed catalyst system at Isanti, Minnesota.

The new process is simpler, sustainable and more energy efficient, as opposed to existing biodiesel production that often relies on expensive food crops, primarily cereal grains and soy. In addition, the production of biodiesel, as practiced for many years, involves a catalytic process followed by complex removal of the dissolved catalyst and purification of the biodiesel.

The new process, developed by Prof. Arlin Gyberg from Augsburg College in Minneapolis and Dr. Clayton McNeff, co-founder of Ever Cat Fuels LLC., a biodiesel company, uses highly catalytically active particles supplied by Sachtleben. The process will also permit the conversion of inferior fats, paper-industry waste and algae oil to high-quality diesel fuel.

Source: Rockwood Holdings, Inc.

CANAM GROUP ACQUIRES ASSETS OF INTELIBUILD LIMITED IN HONG KONG

Technyx, a division of Canam Group that markets Building Information Modeling (BIM) services and the outsourcing of technical detailing resources, announced recently that it has acquired assets of IntelliBuild Limited located in Hong Kong as well as the right to use its trademark. The financial terms of the sale were not disclosed.

IntelliBuild is well known for its consulting services to clients in Asia, China and the Middle East on construction projects that use BIM and 3D digital models. In 2008, the company received the BIM Award from Autodesk, a world leader in software design, for its work on the Cathay Pacific Cargo Terminal project in Hong Kong.

The newly created entity will now pursue its activities under the name of IntelliBuild Technyx Asia, a joint venture in which Canam Group holds the majority of shares.

"Bringing the IntelliBuild team on board will help us consolidate our position as a leading technical service provider in the construction sector, while broadening our activities on the Asian market," said Jean Thibodeau, president of Technyx. Technyx will also be able to tap into IntelliBuild's

expertise and use it to offer cutting-edge BIM services to its North American and European customers.

IntelliBuild managing director Ronan Collins will be at the helm of the new joint venture. "Our partnership with Technyx will provide financial stability and the managerial expertise needed to ensure our long-term growth and expand our service offerings," he stated. IntelliBuild Limited was founded in 2003.

Source: Canam Group Inc.

PEOPLE'S CHOICE AWARD FOR THE BEST NEW/GREEN PRODUCT AT CONGRESS 2010

Landscape Ontario is pleased to announce the winner of the People's Choice Award for the best new/green product, presented at Congress 2010, last January. Congress, Canada's largest international, horticultural, lawn and garden trade show and conference, presented over 600 exhibitors before an enthusiastic audience of 12 960 industry professionals.

The winner of the 2010 People's Choice

Award is the Xero Flor Canada's XF 301® green roof system, that consists of a pre-cultivated moss-sedum vegetation blanket, a retention fleece, a drainage layer and a root barrier that are simply and easily rolled onto the rooftop. The XF 301® flowers in the summer, goes dormant in the winter and requires no permanent irrigation system. The benefits are many, including reducing storm water pollution, decreasing a building's energy use, cleaning the air and beautifying the urban landscape – from the rooftops. Specially designed Xero Flor® green roofs will be found on the Vancouver 2010 athletic village rooftops.

Xero Flor® Canada, based in Mississauga, Ontario, manufactures, grows, designs and installs patented green roof systems. The team of professionals offers a variety of green roof services from coast to coast across Canada. They are recognized worldwide as the pioneer in green roof technology.

The People's Choice Award is designed

Jenstar's Equipment Fleet Expands With Addition of New Wirtgen W 210 Milling Machine

Jenstar Ltd. is pleased to announce the acquisition of its new Model W 210 Wirtgen Milling Machine. This powerful, high performance machine will enable Jenstar's crews to remove large areas of highway pavement to a depth of 30 cm in just a single pass leaving a perfectly cut surface that is ready for repaving.

The purchase of the Wirtgen W 210 milling machine compliments Jenstar's existing fleet of road milling equipment and will help customers control costs and stay on schedule.

The W 210 runs on four heavy-duty crawler tracks and, when used on city streets, can be steered right up to flush-cut against the curb edge. This feature means more efficient and consistent milling and eliminates the need for expensive reworking.

Driven by two powerful 6-cylinder, 340 hp Cummins diesel engines, the W 210 sets new standards in ecological acceptability. Significantly reduced exhaust emission levels meet EPA Tier III standards while lower fuel consumption means fewer milling interruptions and faster completion of every job.

Source: Jenstar Ltd., www.jenstarltd.com



to engage and get market feedback from industry professionals who actually purchase and use the products. New Product Showcase visitors were invited to review all the new and green products on display. They then cast their vote indicating their favorite new and/or product for the 2010 spring buying season.

Be sure to mark Landscape Ontario's Congress on your calendar for next year, which will take place January 11-13, 2011 at the Toronto Congress Centre.

Source: Landscape Ontario

WATERSMART INNOVATIONS CONFERENCE AND EXPOSITION OPENS EXPO HALL REGISTRATION

General exhibitor booth selections for the third WaterSmart Innovations Conference and Exposition is now open.

"WSI 2010 is the perfect venue to reach potential clients—especially those with buying power – from across the country and around the world," said WSI program chairman Doug Bennett.

Exhibit space is limited, so prospective exhibitors are encouraged to make their space reservations and travel plans well in advance of the conference.

The third WSI, the world's largest urban water-efficiency conference, is slated for October 6-8, 2010, at the South Point Hotel and Conference Center in Las Vegas. Event organizers hope to build upon the success of the first two WSI conferences, created to broaden the knowledge of innovations in water conservation including products, programs and outreach.

In October 2009, the second WSI drew nearly 1200 participants from 43 states and 13 nations. WSI '09 featured more than 130 professional sessions and an expo hall with 100 exhibitors; keynote speakers were Dan Bena, director of Sustainability, Health, Safety, and Environment for PepsiCo, and Dr. Jim Gill, inaugural chairman of Water Australia.

The WaterSmart Innovations Conference and Exposition is presented by the Southern Nevada Water Authority in partnership with the U.S. Environmental Protection Agency's WaterSense Program, the American Water Works Association and other forward-thinking organizations.

Visit www.WaterSmartInnovations.com for more information.

Source: Southern Nevada Water Authority

Port of Los Angeles to Evaluate Zero-Emission Hybrid-Electric Trucks

Expanding its commitment to bringing cutting-edge, zero-emission solutions to port operations, the Port of Los Angeles is entering into negotiations with Vision Industries for the purchase and evaluation of Vision's hydrogen fuel cell hybrid-electric trucks. The heavy-duty big-rigs will be tested to evaluate their suitability for drayage operations.

Vision Industries has been marketing its Class 8 zero-emission hydrogen fuel cell hybrid-electric truck for more than a year and will now work with the Port of Los Angeles to further evaluate its performance in the rigorous port trucking environment. The Vision trucks are powered by a combination of a hydrogen fuel cell and lithium batteries and have a potential range of up to 645 km.

The Port's Clean Truck Program, which began in October 2008, has removed thousands of polluting trucks from the Port and delivered at least an 80% reduction in air emissions while maintaining an efficient drayage fleet.

The Port of Los Angeles will continue working with Balqon Corporation, another Class 8 electric vehicle manufacturer, through an existing contract to demonstrate the use of its fully electric vehicle.

Source: Port of Los Angeles





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Aquajet on Canadian Highway Tunnel

GTS, an major infrastructure and general contractor, has taken delivery of the latest generation HVD Evolution robot from Sweden's Aquajet Systems AB, to use hydrodemolition techniques on its contract in Montreal's Ville Marie Tunnel.

Purpose-ordered through local distributor Pompacktion, it is the first HVD Evolution hydrodemolition machine in Quebec and the Maritime Provinces.

The use of hydrodemolition techniques on the project will ensure no rebar damage, minimized risk of good concrete removal, elimination of dust and crystalline silica and provide a superior bond surface.

It is also a substantially faster technique than mechanical removal methods and is also considerably less labor intensive.

VILLE MARIE TUNNEL

Opened in the mid 1970's, the 3 km long tunnel is part of Highway 720, a key arterial east-west highway across the city. With more than 100 000 vehicle movements a day, it is essential that traffic restrictions are minimized.

The GTS contract involves replacing approximately 1 km of concrete on both sides of the eastern portals directly below the Palais des congrès de Montréal (convention center).

Concrete is being removed to a depth of 125 mm exposing the old rebar. An additional 100 mm and new rebar for further strength, making 225 mm thickness, is being added.

In replacing the old concrete, the opportunity is also being taken to reroute electrical and telecoms cables and fiber optics into a common conduit and install new improved lighting in the tunnel.

Chequered pattern of concrete removal was specified taking into account structural design loadings of the tunnel wall. Alternate sections measuring 2,4 m x 5 m height along the bottom level and 0 – 15 m along the upper level at the portal, are undertaken at a time.

Close to the portal exit two areas over a length of 15 m were found to be particularly unsound and in very poor condition. The client therefore specified that for safety of the workforce, the entire section should be removed in a single operation.

GTS had initially allocated two shifts a day for the hydrodemolition process but such is the speed and efficiency of the Aqua Cutter Evolution that the contractor is working just a single daily shift for the operation.

Project manager, Michel Francoeur had previous experience with hydrodemolition techniques using a standard Aqua Cutter robot rented from Toronto for a bridge deck slab project in Montreal.

"We had been very impressed with the performance and quality of work recognizing the potential for this tunnel project," he said, adding, "On winning this contract we took delivery of the new unit together with the Power Pack – a PP700 and we have not been disappointed."

GTS started work on the contract in mid-August with an October 2010 completion date.

Operating in "live" traffic conditions with very heavy traffic flows and working at heights of up to 15 m, it was essential that the contractor protected both its workforce and passing traffic from falling debris.

As a result the robot is installed behind a protected frame and positioned on a telescopic handler for ease of access for the extended height operations.

The Aqua Cutter is thought to be the only robot in the world that is able to operate at these heights of up to 15 m and this was a key factor in GTS purchasing the Aquajet system.



Operating at 1000 bar the Aquajet system is using a water flow rate of 260 l/min and is achieving a removal rate in the deteriorated concrete of up to 1,5 m³/h.

"Without the Aqua Cutter GTS would have used conventional jackhammers to remove the concrete," confirmed Michel Francoeur.

Using the Aqua Cutter removes damaged concrete at the speed of several hydraulic jackhammers and more than 25 times faster than hand held hammers. It also requires just 1 or 2 operatives compared with one per hammer. Hydrodemolition also eliminates the risk of "Vibration White Finger" (also known as hand-arm vibration syndrome and dead finger) triggered by continuous use of vibrating hand-held machinery.

Source: Aquajet Systems AB

Bauma 2010 A1, 318

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Toronto Rental Firm Hammers Out Niche

Congestion. It is a pain whether it is related to traffic, breathing, or the air space we travel. And right now, congestion rules the equipment rental market in the Toronto area, which apparently did not get the memo about a construction slowdown. To stand out in this burgeoning construction market, Ontario Laser Rentals has positioned itself as being one of the most versatile and reliable players in the game. The versatility comes through a full line of more than 70 specialized attachments. The reliability is courtesy of a fleet of 30 excavators that is now more than two-thirds Hitachi — and growing.

HARD-ROCK SPECIALISTS

Started in 1974 as a supplier of laser equipment to the construction industry, Ontario Laser Rentals grew steadily, adding a second location in Ottawa and expanding its business to include trench boxes and other tools for sewer and water contractors. According to company manager Doug O'Malley, tapping that industry changed the firm's focus.

"We are located in Toronto, near the Niagara Escarpment, a massive shelf of limestone, dolostone, and shale," says Mr. O'Malley. "So we soon started renting hammers to help our customers deal with the rock that is present on almost any job. It just made sense for us to also rent a machine for those attachments. We purchased a trio of Hitachi excavators — a pair of EX400s and an EX300 — based on the excellent reputation they had. Their power and reliability proved to be just what we needed, and we were on our way."

Today, Ontario Laser Rentals' Hitachi Zaxis fleet ranges from a Zaxis 80 up to the new 450LC-3, and the company has

become the go-to equipment source for most any application. What started as a selection of hammers and compactors now includes a full line of over 70 different accessories from Magnum Attachments, including shears, grapples, multiprocessors, specialized buckets, and more.

"While others in the area regularly rent machines with standard buckets, that's not the case for us. Customers turn to us for a specialized tool — and with the full line of attachments we offer, we can be relied on to meet almost any need. We also feel many of those same customers rent from us because they know our Hitachi machines will be up to the task and keep them on track. Hitachi has become an integral part of our business."

A dedicated rental house, Mr. O'Malley says they do occasionally sell a unit, but only when it makes sense from a custom-



er's perspective. "If a customer is involved in a longterm project and has been renting for a while, he might ask about an outright purchase. That just makes good business sense for them, and we will go ahead with the sale. But we are first and foremost a



rental organization and prefer it that way."

Smaller by comparison to other Toronto-area rental houses, Ontario Laser Rentals has shown a knack for getting Hitachi units involved on several prominent projects. The company had several at work during Pearson International Airport's massive apron removal. They recently had an EX450 placing boulders for the showcase Brant Street Pier in nearby Burlington, and currently have several Hitachi excavators working a major hydro project in downtown Toronto.

"The pier job was challenging from so many different angles," says Mr. O'Malley. "It involved placing massive boulders to provide erosion control in an area prone to high winds and waves. The rocks averaged between four and eight tons, but often exceeded that, and had to be placed to provide the best fit. The contractor says the older EX450 was excellent throughout that phase of the project, providing both power for the lift and stability for the placement. We weren't surprised they gave the machine high grades; it happens all the time."

Doug O'Malley adds that the rental experience is rounded out by the best support possible, courtesy of Ontario Laser Rentals' own service crew and backing from their local Hitachi dealer. "Today the Hitachi units are flat-out the best machines we have in the fleet. And we really can't say enough about how the dealer has supported us over the years. We see continued growth on the horizon and, despite all the congestion in this market, feel we have all the pieces in place to make that happen."

Source: Hitachi

An ECL Compatible Oil or Lubricant... What Is It?

*Luc tanguay, Enviro-Énergie Distribution
Special Collaboration*

An oil-based lubricant containing additives can be considered "eco compatible" if it is biodegradable and nontoxic to flora, fauna and humans through ingestion, inhalation, skin or eye contact. Any additional features which focus on potential accumulation, the nature of emissions and/or factors and aspects of renewable materials can have a favorable environmental impact.

Risk assessment of a chemical product is an operation that seeks to characterize the toxicity of the product and the possibility of exposure, as well as to ascertain the potential impact on human and environmental health. Eco Compatible Lubricant oils (ECL) are easily recognizable because they have country-specific labels: Blue Angel in Germany, PA in Sweden, European Eco Label on a European level, etc...

From where and how these "green" oils are produced? There are several kinds and we can identify four main sources: They are readily distinguishable from each other by their performance and features.

First are the vegetable bases such as soya, rapeseed and canola oils. Aside from being expensive, they are also less efficient due to their lower resistance to oxidation which results in a rapid deterioration and

frequent oil drain (every 1000 h). Moreover, their fluidity in cold weather is often poor which makes them difficult to use in winter conditions.

These are closely followed by the unsaturated esters, which provide a slight improvement in resistance to oxidation and pour point. However, considering they are part of the synthetic oil family, their performance is inadequate in terms of longevity, (3000 to 4000 h), and they are susceptible to hydrolysis for which the quality versus value ratio makes the price hard to handle.

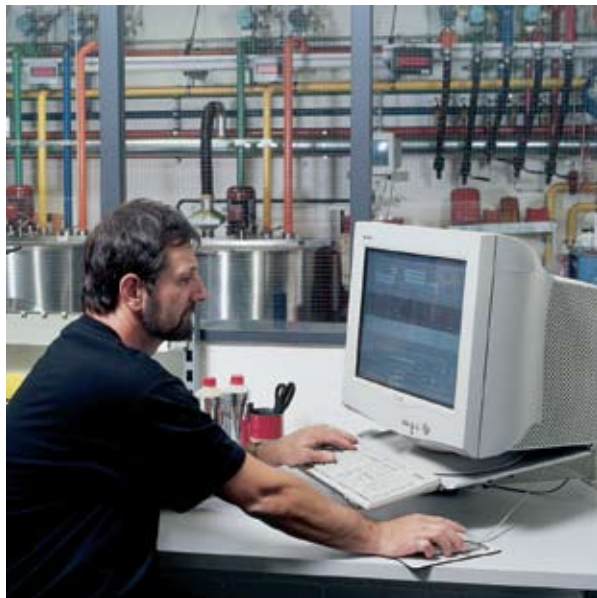
Certain glycols make up third source and offer interesting properties of biodegradability and eco toxicity. They are usually preferred for their fire-resistant characteristics, though they create significant constraints to users because these fluids are incompatible with a wide variety of gaskets, paint and other coatings, as well as soft metals. Moreover, glycol being an aqueous fluid, it becomes occasionally necessary to calibrate the TAN (antioxidant) value because evaporation or water seepage can affect it. Subsequently, as these fluids have a higher density, care must be taken to pressurize the hydraulic tank in order to prevent the risk of cavitation.

In the last group we find the oils made from saturated synthetic esters, some of which have certain exceptional thermo-oxidative resistance properties exceptionally allowing them to be classified as "Fill for Life" or no replacement needed, this being based on the life a hydraulic pump. The saturated synthetic esters oil-based formulation was the choice of Panolin, who claims a life expectancy of between 6 and 8 times longer over its Panolin HLP Synth oil when compared to conventional mineral hydraulic oils.

ENVIRONMENTAL IMPACT

Environmentally-friendly (ECL) lubricants must pass rigorous toxicology and eco toxicology tests and meet technical requirements as defined by the product manufacturers (for anti-wear performance and resistance to oxidation). Further environmental tests are conducted to measure the lubricants biodegradability.

In fact, naturally occurring "aerobic" bacteria in the environment eliminate the ECL lubricants, while non-biodegradable lubricants can affect the ecosystem for many years. The use of ECL products is recommended and in some countries mandatory regulation is in place to protect areas deemed sensitive against pollution hazards. Contact with lubricants containing toxic substances can dangerously affect mammals and fish. Yet non-toxic lubricants can be equally hazardous to wildlife by



covering them with oil film and interfering with their respiratory system.

"BIO" OIL

The rheological properties of saturated ester-based lubricants ensure proper lubrication of equipment in all operating conditions – whether from cold start to continuous operation at high temperatures.

Saturated esters offer optimal viscosities in all temperature ranges. A low freezing point guarantees its pumpability at low temperatures and a high natural viscosity index ensures a protective film, whatever the temperature. The main advantages are: Saving resources; a drastic decrease of machine downtime for oil changes, which are potentially risky, not to mention the reduction in product inventory (new oil, used oil). Major machinery manufacturers are now looking for reliable solutions for environmental lubricants.

Though the purchase price is still significant, Panolin, who is recognized as a world leader in the field of biodegradable lubricants, offers an efficient solution. Panolin recommends direct filling of the biodegradable oil at the manufacturer's plant location in order to avoid long and expensive operation conversions (in the case of an excavator, about 2 x 8 hours of work and 1.5 times the tank volume).

BIODEGRADABILITY

Primary biodegradation is generally distinguished by the minimum change

or transformation in which the primary physical characteristics of a compound changes while leaving a substantial part of the molecule intact. (According to Standard CEC L-33 A-93, reserved only for the oil for 2 stroke engines.)

Following primary biodegradation is secondary biodegradation and this is divided into two distinct categories.

The first category: The biodegradability "potential, inherent or intrinsic" - is defined as having the ability to biodegrade without temporal indication or degree of biodegradation. The latter would be achieved under optimum conditions. There are many lubricants on the market displaying an inherent biodegradability. These types of products can persist in the environment, and they are typically inorganic-based with a biodegradation rate of only between 20 % and 60% in 28 days (according to standard OECD and therefore should not even be considered legitimate for environmental protection. Note that even a conventional mineral oil may have a level of biodegradability of 30% to 35% (depending on viscosity), and some

mineral-based lubricant manufacturers use a play on words to capitalize on the fact that users are uninformed on biodegradable lubricants.

Second category: Biodegradation "basic, total or ultimate" - This is a phase where the molecules are completely converted into a finished product and non-hazardous forming biomass and mineral elements such as CO₂ (aerobic fitness) or CH₄ (anaerobic condition). Products in this category display a level of biodegradability and must have a biodegradation exceeding 60% in 28 days (according to standard OECD). Only these lubricants can be considered eco-compatible.

CONCLUSION


In conclusion, it is important to learn just how biodegradable the oil that is being proposed to you is before investing time and money in the conversion of your equipment. Be sure to choose the lubricants that provide basic biodegradation, total or ultimate. By doing this, you will avoid unbelievably costly surprises.

PANOLIN

 A4, 212

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Vermeer Flex-Angle Drill for Geothermal Loop Installations

Vermeer Corporation has introduced two new products designed specifically to assist with geothermal field loop installations. The D20x22FX Series II will be the industry's first flex-angle drill capable of drilling at any specified angle ranging from 18 to 90°. Engineered with input and feedback from contractors who specialize in geothermal loop system installations, specifically for residential applications, the D20x22FX Series II is another Vermeer product innovation in response to the increasing worldwide focus on renewable energy.

Capable of completing vertical and steep-angle geothermal loop installations, the D20x22FX Series II is also a fully functioning horizontal directional drill that can install horizontal loops as well as conventional utilities. This feature offers exceptional adaptability in meeting varying project specifications.

The Navigator D20x22FX Series II flex-angle drill comes equipped with an automated rod loader that is modeled after a conventional HDD rod loader with modifications to operate at the fully vertical position. This feature eliminates the need to manually handle each rod, enhancing productivity and operator safety. The auto-drill feature allows the operator to set thrust / pullback speed, pressure or rotation modes and revert back to original setting with the simple push of a button.

At only 165 cm in width, the D20x22FX Series II offers greater maneuverability in confined spaces making it an ideal drill for residential vertical loop installations. The machine is self-propelled on rubber tracks controlled from the rear of the machine



which help to evenly disperse weight for minimal ground surface disturbance.

The drill is also equipped with an adjustable, swing-out operator station that provides a range of positions for operator visibility and comfort at any drilling angle. And the rack-and-pinion design offers smooth and efficient carriage motion that helps

to reduce maintenance often associated with chain-drive systems. The drilling fluid pump of the D20x22FX Series II, rated at a maximum of 94,6 l/min, offers efficient fluid flow for conventional HDD bores while an optional 378,5 l/min high flow pump is available in addition to the standard unit.

To complement the D20x22FX Series II, Vermeer has also introduced the GM30 grout mixer. The GM30 model will provide convenient and efficient mixing of grout for residential or commercial geothermal loop installations. The unit will be available with either single or dual tank configurations, as well as a centrifugal or



high-pressure piston pump to meet the specific needs of contractors.

Source: Vermeer Corporation

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The World's Fastest Snow Plow

*Carl Garden, on behalf of
Volvo Construction Equipment
Special Collaboration*



In less than ten minutes, Volvo's specially-built articulated haulers clear the snow off the runways at Stockholm's Arlanda Airport, thus allowing businesspeople to get to their meetings, tourists to reach their holiday destinations and cargo to be delivered the world over.

The snow and cold temperatures have maintained a steady grip on Europe and large parts of the northern hemisphere. Britain has been hit by the harshest winter weather in 30 years and in Germany, people are being advised to stock up on food and medicines, while Frankfurt Airport, the third largest in Europe, was recently forced to cancel more than 200 flights in one single day. Even countries like the USA and China have been struck by some unusually

extreme winter weather.

At Arlanda Airport just outside Stockholm, aircraft take off and land almost every second minute round the clock. More than 18 million people travelled to or from Arlanda in 2008 and more than 200 000 t of cargo were handled by the airport. During the winter months, heavy snowfall is not unusual and even if flights are occasionally delayed owing to particularly heavy snowfall, the airport

has never once been shut down by snow since its opening back in 1962.

To keep the airport moving, a team of 130 people work with tackling snow and ice in the high season. They are aided by

a wide-ranging fleet of Volvo products featuring specially built accessories. The most advanced vehicles are the PSB machines. PSB stands for Plow, Sweep and Blow, and they are based on Volvo Construction Equipment's A25D articulated hauler. At the front of the vehicle is a 7,3 m wide plow that shovels most of

the snow off the tarmac. It is followed by a brush that sweeps away snow and ice, and the job is rounded off by a blower which with an extraction speed of 130 m/s blows away the rest. By driving nine such

machines alongside each other, it is possible to clear a 3,3 km long and 45 m wide runway in less than ten minutes.

"This makes us the world's fastest



airport snow-plow team," says Stefan Sundkvist, field coordinator at Arlanda Airport.

In addition to the Volvo A25D, there is a fleet of Volvo wheel loaders which are equipped with snow-plows, sweepers and snow blowers in the winter.

"Volvo's machines are compact and easy to handle, which was decisive in our choice of product," says Stefan Sundkvist.

At an airport, safety is absolutely everything. That is why the snow "sweepers" as they are called in the language of international aviation are an integrated part of traffic planning and are in constant contact with the control tower. Just as an aircraft gets its precise take-off and landing times, so too do the sweepers get a precisely calculated slot in the air traffic to clear the snow and ice off the tarmac.

"We have a total of 250 000 m² to clear from snow and ice, at the same time as the aircraft have to continue taking off and landing. There's absolutely no room for driving around haphazardly – all the traffic has to be controlled and planned down to the tiniest detail," says Stefan Sundkvist.

Volvo Construction Equipment

Baum
2010
C4, 623/723
ext. F5, 501/503/1

FACTS ABOUT SNOW-CLEARING OPERATIONS AT ARLANDA AIRPORT:

- There are 17 Volvo A25D articulated haulers, 9 wheel loaders of various Volvo models and a number of Volvo trucks
- 2 cm of snow means 1200 truck-loads to be transported to the snow tip
- 1 cm of snow means four days of work, round-the-clock
- It takes 10 minutes (including carrying out friction assessments) to clear snow off Arlanda's main 3300 m long runway
- All told, snow from an area covering 700 ha is cleared between 10 and 50 times daily during a typical winter's day
- Arlanda has among of the world's largest snow blowers, and they are powered by Volvo

A Brief Preview of the Upcoming bauma 2010 Show



SCHWING-Stetter is presenting new and further developments of products in all fields of concrete transport technology: concrete mixing plants, truck mixers and concrete pumps as well as placing booms. Moreover, visitors are invited to post-celebrate together with SCHWING the company's recent 75th anniversary and to inform themselves about current milestones in concrete pumping such as the new pumping height record of 715 m which will be documented at the fair stand. The company will also present details of its new focus on consistent ECO-Engineering – i.e. saving on resources and making profits with SCHWING-Stetter.



Among other things, SCHWING-Stetter will present two new truck-mounted concrete pumps – one in the 20 m class, and another one in the 40 m full-size boom

class. There will also be innovations in the new stationary concrete pumps. A new separate placing boom and a new mixing plant rounding off the range of products in this segment will also be presented. SCHWING-Stetter, the leading systems supplier for concrete construction machinery will exhibit its range of products at the BAUMA 2010 on a surface of 2120 m².

SCHWING GmbH

Bauma 2010 F10, stand 1005/1

Sandvik Mining and Construction has introduced a new electric LHD which exhibits a very low emission count, making it ideal for higher productivity and lower total cost in various applications while ensuring a better working environment.



Like all Sandvik loaders, the 14 t electric-powered LHD incorporates key features of the recently launched diesel machines, such as upgraded cabin design and Vehicle Control and Management system (VCM). The electronic control system incorporates a state-of-the-art user interface with enhanced diagnostics and a platform for Sandvik's Automine technology, plus an upgraded electric system that are designed to interface optimally with the electronic control system.

Sandvik loaders' specialty upgraded electric and hydraulic systems and improved tramming capacity deliver excellent productivity, reliability and performance. Offering extended operating range with up to 400 m of cable, they are ideal for use in all applications where the hauling distance is short and operations are repetitive.

The use of Sandvik eLHDs can reduce

compound costs – lower operating costs, lower ventilation costs, lower service costs, lower emission levels and improve performance where a balance of flexibility, productivity and safety is required.

Sandvik Mining and Construction

Bauma 2010 ext. F6, 605/1

In the last forty years, **BAUER Maschinen** has developed into the leading manufacturer of the entire range of specialist foundation engineering equipment.



In 1970, the very first Bauer rig, the UBW 01 anchor drill, was delivered to site and was a sweeping success. A few years later, the first rotary drilling rig followed, the legendary Bauer BG 7. Its concept established the basis for pile drilling rigs offered today by many manufacturers throughout the world. Since then, the design department has turned its special attention to all types of drilling tools and in particular to drilling in rock, where Bauer achieved outstanding successes.

The BAUER Maschinen GmbH is a company of the BAUER AG. Bauer has production facilities in the US, China, Russia, Italy and Sweden.

BAUER Maschinen Group

Bauma 2010 ext. F6, 604/1

HAZEMAG & EPR introduces the HAZEMAG VARIOwobbler®, which features the possibility for infinitely varying the gap between the individual shafts by means of an effective hydro-mechanical control system without the use of any tools. This system allows for quick and flexible reaction to changing requirements and ensures

that the feeder is always adjusted to the correct setting.



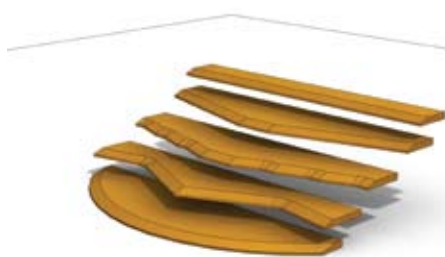
Such a system is of particular interest when weather conditions fluctuate, there can be changes in the H₂O content, and consequently in the screening behavior of the material to be processed. The gap setting adjustment facility provides the optimum means to compensate for any such variations during the screening operation.

In quarry operations, the characteristics and properties of the recovered material can vary. In such cases, the optimum setting can be selected similarly at the touch of a button.

HAZEMAG & EPR GmbH

Bauma 2010 B2, 129/230
C2, 315/412

After months of development **Valley Blades Limited** announces its brand new machining capabilities.



Historically base edges for buckets were beveled using a torch. This method while fast, left something to be desired in terms of tolerances and surface finish. Using technology developed for the aerospace industry, Valley Blades can now quickly machine bevel even the most complicated profiles in any material. Straight, Spade, Stepped-Spade, Scoop Tram applications or built to your specifications – nothing is off limits.

These new capabilities allow Valley Blades to produce custom and OEM-spec base edges with very short lead times. As part of this project, the company will also

be stocking some common base edges and related components from various OEM's ready for same-day shipment.

Valley Blades Limited **Bauma 2010** A6, 547

RUTHMANN will present its newest innovation, the STEIGER® TB 270 (for base vehicles 3,5 t and up).

Several versions of this new model will be on the stand. Trade show visitors will have plenty of opportunity to enjoy a thrilling ride up to the 27 m working height level.



RUTHMANN **Bauma 2010** ext. F10, 1006/4

*bauma 2010 will be held
in Munich, Germany,
April 19 – 25, 2010.*



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This technology is California ARB and EPA verified for non road applications for select Cat machines. Diesel particulate filters deliver 85% or greater engine particulate matter reductions.

These cost effective solutions are designed to protect equipment investments while meeting challenging national, state, local and site emissions restrictions.

Source: Caterpillar

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Creating the Vögele Paver World

The €100 million invested in the construction of the new headquarters is a clear indicator of the Wirtgen Group's confidence in Germany as a company location.

The new factory in Ludwigshafen features a highly flexible layout and optimally coordinated logistics and production processes. They form the basis for the high quality of Vögele road paving equipment, stable work flows and further boosts to productivity.

Building work for the production halls is already completed. Work will focus on the building services systems in the first quarter of 2010. This will involve such works as heating, air-conditioning, ventilation and electrical installations. Work will also begin on fitting the aluminium and glass façades, as well as fitting the office interiors, the production hall installations and outdoor facilities.

Covering some 37 ha, the world's most advanced factory for the production of road pavers will enter full operation in the



fourth quarter of 2010.

TOP TRAINING AT VÖGELE


In addition to the future-oriented approach to production, training is also a major priority at Vögele.

Construction of the 2150 m² training center will provide Vögele apprentices and course participants from customers all over the world the perfect learning and training environment.

Training courses for customers are held

at Mannheim for some 3000 participants each year. At the new headquarters in Ludwigshafen, the medium-term goal is over 6000. The focus in future will be on machine technology and applications technology. Three generously dimensioned training halls will be available to this end, along with a large area for practical paving exercises.

Source: Joseph Vögele AG

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Pipe Ramming Replaces Drainage Culverts in Municipal and Railway Applications



Greg Ehm, on behalf of
Earth Tool Company LLC
Special Collaboration

Railroad and state highway officials alike are becoming keenly aware of the need for the replacement of drainage culverts. Many corrugated metal culverts inserted thirty years ago or more are rusting and deteriorating. Some blame the chemicals used on roadways or the increased use of chemicals on farm fields. Yet others blame nature herself for her seasonally damaging frost. In any case, the result is the same – rotted pipe and diminished drainage capability.

Many drainage culverts are in need of replacement. Depending on the culvert's condition, relining is the least costly option. Bowed, collapsed or undersized culverts present a unique challenge. Eighty-foot-long galvanized metal drainage pipes under roads experiencing significant ground-frost conditions, are subjected to the heaving of the ground every winter. Then every spring, as the frost leaves the ground, the ends of the culvert push up because the frost is a lot heavier underneath the road. This eventually leaves the culvert in the shape of a bow, six inches deeper in the middle than it is at the ends. The center section of the pipe eventually rots away and leaving a capacity flow problem. In addition, the subsurface roadbeds must

be protected. There is too much traffic, both on the rails and on the roads, to allow water-damaged voids to lead to a collapse of the subsurface. Yet, even if replacement of the drainage conduit is the desired course of action, the question still remains as to how to replace the drainage pipe cost effectively. Open cutting is just not an option in most of these situations.

In High Prairie, Alberta, 500 km north of Edmonton, increased logging and farming operations have led to the increased need for water drainage, boosting the need for effective drainage culverts and even up-sized-diameter culverts. In the spring when the snow melts, the ditches become small rivers, with water flowing everywhere, threatening highway roadbeds and road surfaces alike.

At a recent demonstration project under Highway 2, attended by more than 30 transportation and railroad officials, a rotted 91 cm diameter corrugated metal drainage pipe was replaced by pipe ramming in a 107 cm by 14 mm thick steel wall carrier pipe with a 58 cm diameter HammerHead Mole by Wayne Sharris Construction of Edmonton, Alberta. The options for replacement were limited.

Open cutting and excavating a larger trench for the upsized replacement pipe would have meant the troublesome shutting down of the highway. Traditional auger boring was ruled out for a number of reasons. They wanted to keep the location of the drainage flow the same, maintaining the identical topography, grade and flow, and auger boring would not be able to bore over and concentrically swallow

an existing pipe. The old metal culvert would get caught up in the auger flighting, locking it up permanently. With auger boring, there would also be the possibility of hitting a sand pocket and the threat of creating voids in the subsurface roadbed. The pipe-ramming method was deemed to be the most effective and efficient way of getting the new pipe in by ramming in the larger-diameter pipe, concentrically swallowing the existing pipe and maintaining the existing location and grade of the drainage flow. With pipe ramming, there is no concern about creating voids since there is no soil displacement.

On this project, the grade of the pipe ram for the new 24 m steel pipe was set so that the low end of the pipe was between 10 and 15 cm below the high end. The launch pit was dug and graded to meet



this requirement in one afternoon. The pipe and tool were lowered into position with the top of the new pipe set two inches above the top of the existing culvert. The next day in a short 2-hour period, the new steel pipe was rammed in place by the HammerHead Mole Pneumatic Tool, with the new steel pipe cutting through the old rotted conduit and actually pushing some of the tail end of it out the exit end. The final grade was measured at 13 cm over the 24 m run, between the required grade parameters. To complete the clean-out, the

remains of the old culvert were completely extracted, using a plug cone hooked onto a heavy-gauge cable and pulled by a backhoe through the new pipe.

Drainage culvert replacement by pipe ramming is also gaining acceptance under railroad tracks. The railroads have the same problem with ancient culverts and the same concerns about older technologies; the pipe-ramming method solves these.

Such a situation existed near New Albany, Indiana, just across the Ohio River from Louisville, Kentucky, CSX Transportation trains operate daily, hauling freight through the southern Indiana countryside. Six times a day, 365 days a year, they haul. The rail bed must not erode, and the embankments must remain rock-solid.

Over a 8 km stretch of this railroad, as it runs north from New Albany to Salem, Indiana, there are stone box culverts created 100 years ago and updated corrugated pipe brethren that followed them 70 years later. Time took its toll, and the rusted corrugated pipe and deteriorated stone culverts had begun to collapse. They needed to be replaced so that there would be no threat of erosion to the embankment or to the rail bed.

CSX Transportation had many concerns when planning this drainage replacement project. Safety concerns with settlement, quality concerns over the track and its rail bed, and concerns of disruptions to train traffic were high on their list.

There were 5 drainage culverts scheduled for replacement out of the 350 in the 130 km that separate Louisville, Kentucky, and Bedford, Indiana. Originally, the railroad planners thought that they would be forced to bid the job on an open-cut basis, and demand from the contractor that any one of the new pipes would have to be installed in a single day, with the trench backfilled and compacted, and the track replaced by nightfall so that trains could be routed to run the track the same evening.

This original plan faced potential scheduling nightmares. So, when Midwest Mole, Inc. suggested using pipe ramming with a large HammerHead Mole to push in the new casing and install the new drainage pipe without disrupting train traffic, the railroad officials were all ears.

With pipe ramming, the railroad was able to keep train traffic moving without any disruption, and by swallowing the old



culvert when ramming in the new steel pipe, they did not have to change the drainage flow patterns. Also, there was never any fear of loss of integrity to the rail bed and embankment. They never had to worry about creating any voids during the installation since they were driving a solid steel pipe. Nor did they have to be concerned about any post-project settlement with pipe ramming.

Pipe ramming easily handled the tough soil conditions underneath the rail beds, like boulders, rock floaters, sand, gravel, rip rap and rail ties. When pipe ramming, the lead reinforced pipe edge shears the ties, and cuts and breaks up the rocks. One of the casings rammed in was 107 cm in diameter in order to concentrically swallow up a deteriorated 91 cm corrugated pipe, through which a small creek ran.

Pounding through layers of Indiana limestone, Midwest Mole brought in the HammerHead Mole to get the pipe hammered in the 15,2 m needed over the existing culvert.

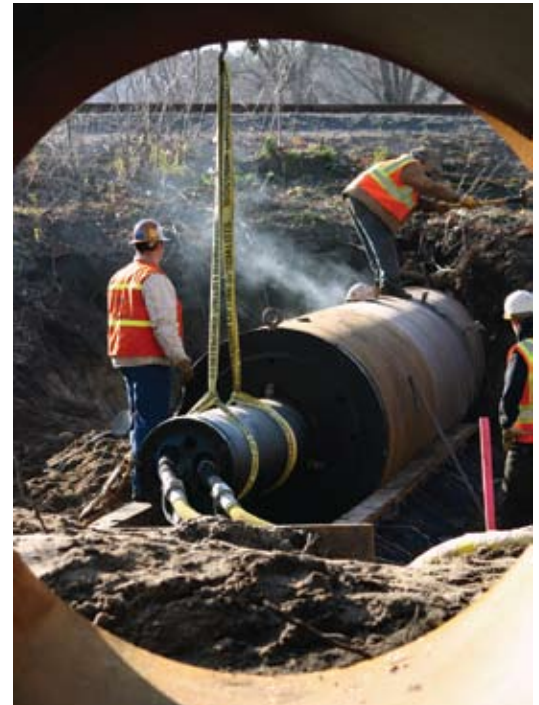
With its 107 cm adapter ring and 61 cm collets to accommodate the tool, the HammerHead was lowered into the launch pit some 3 m below the track surface. The tool was started up, it taperlocked itself into the collets and the push was on.

If they had not pipe rammed this existing culvert, they would have had to open a new culvert, turn the creek away from the original channel, divert it through the new culvert and turn the creek on the other side another 90° to meet up with the original stream. By hammering with the

pneumatic tool, the contractor saved a lot of time and tons of rip rap that would have had to be used to restore the site.

The HammerHead pounded the pipe in under 90 minutes, through limestone floaters, boulders cobble, and railroad ties. When the crews cleaned out the limestone spoil, they saw the aggressive chipping that the tool had accomplished.

Pipe ramming dramatically improves the ability to escalate any culvert replacement program. This method is superior to any



other in putting in new drainage pipe. With pipe ramming, there is no interruption of service, no appearance of settlement, and no concern about rail bed or roadbed integrity.

Caterpillar Introduces 2,2 m Rotor Option for the PM200 Cold Planer

Caterpillar Inc. is pleased to announce the availability of the PM200 Cold Planer with an optional 2,2 m cutting rotor on top of the standard 2,0 m rotor.

The new 2,2 m rotor option provides greater efficiency and productivity by reducing passes during applications that benefit from a wider cutting rotor, such as mainline, high productivity milling. Fewer passes will contribute to a reduction in fuel burn. The standard 2,0 m rotor provides greater versatility for urban applications and milling tasks that require a high degree of maneuverability and precision.

The PM200 is a high-production, highly maneuverable half-lane milling machine that performs controlled full-depth removal of asphalt and concrete pavements in a single pass. Operating weight for the PM200 is approximately 30 100 kg with the standard 2,0 m rotor package; the weight increases to 31 500 kg with the optional



2,2 m rotor package.

Both rotors feature conical tool holders and have a maximum cutting depth of 320 mm. The 2,0 m conical tool holder rotor is equipped with 178 carbide-tipped tools, and the optional 2,2 m conical tool holder rotor is equipped with 193 carbide-tipped tools. Both rotor options position the tools in durable three-piece, quick

release tool holders arranged in a chevron pattern for maximum breakout force. The quick release conical tool holders feature a tapered fit, maintaining tightness in the holder base. The mandrel features large, replaceable, carbide-

faced loading paddles to effectively move milled material onto the collecting conveyor, resulting in higher production and less wear on the inside of the rotor chamber and cutting tools. Triple-tree tool placement on rotor end cutters provides optimum tool spacing to clean up loose material and reduces wear on the rotor when maneuvering in the cut.

There is an optional dust-reduction package available for PM200 machines equipped with the 2,2 m rotor option. The attachment will more efficiently control dust during operation. It includes an additional water pump as well as additional spray bars located inside the rotor housing and conveyors.

Source: Caterpillar

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bauma Innovation Award 2010 – The Nominees

At a press conference on the occasion of the bauma media-dialog, Dr. Dieter Brammertz, head of the jury announced the 15 innovations nominated for the bauma Innovation Award 2010.

The award will be presented prior to bauma 2010 that will be held April 19-25, 2010 in Munich.

The bauma Innovation Award is offered in five categories. From over 200 applications of national and international companies, the jury had selected three groundbreaking innovations per category for the final round.

Nominees are:

CATEGORY MACHINERY

- **SL750 EiControlPlus Shearer loader**, Eickhoff Bergbautechnik GmbH
- **Foam drilling system for diamond drilling**, Saint-Gobain Abrasives GmbH, Wesseling
- **Compact geothermal drill TERRA-DRILL**, Terra AG

CATEGORY MACHINERY COMPONENT

- **Down-the-hole flushing head for dry drilling rods**, Bauer Maschinen GmbH
- **Thermo-hydraulic free piston engine**, Bosch Rexroth AG
- **Energy storage cylinder**, Liebherr Hydraulikbagger GmbH

CATEGORY CONSTRUCTION PROCESS / CONSTRUCTION WORK

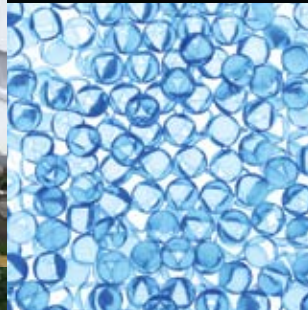
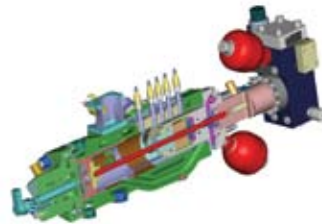
- **Golden Ears Bridge: Bridging with Innovation**, Bilfinger Berger Ingenieurbau GmbH
- **DURFLEX track-bed system**, Frenzel-Bau GmbH & Co KG, Freden
- **Well construction with glass beads**, Ochs Bohrgesellschaft mbH, Nürnberg

CATEGORY RESEARCH

- **Detectino-The glassy ground**, Clausthaler Umwelttechnik-Institut GmbH
- **Geo scanner**, TU Clausthal, Lehrstuhl für Tagebau und internationaler Bergbau
- **Innovative drilling method**, TU Dresden, Lehrstuhl für Baumaschinen und Fördertechnik, Dresden

CATEGORY DESIGN

- **HD+ Tandem roller with a Plus**, Hamm AG
- **Liebherr LH 120 C**, Liebherr Hydraulikbagger GmbH
- **Large Vibratory plate DPU 130**, Wacker Neuson SE



In 2010, the innovation prize will be awarded for the ninth time. The competition is a common project driven by head associations of the German construction industry such as the VDMA (Verband Deutscher Maschinen- und Anlagenbau e.V.), HDB (Hauptverband der Deutschen Bauindustrie e.V.), ZDB (Zentralverband des deutschen Baugewerbes e.V.) and BBS (Bundesverband Baustoffe - Steine und Erden e.V.) and bauma.



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Agenda

INTERtunnel 2010

March 17 - 19, 2010
 Moscow, Russia

2010 Quebexpo - Regional Rental Show

March 23 - 24, 2010
 Saint-Hyacinthe, QC Canada

Expo Build China 2010

March 29 - April 1, 2010
 Shanghai, China

China International Cement Industry Exhibition

China International Cement Conference
 March 31 - April 2, 2010
 Beijing, China

Atlantic Heavy Equipment Show

April 8 - 9, 2010
 Moncton, NB Canada



Truck World 2010

April 15 - 17, 2010
 Toronto, ON Canada

bauma 2010

April 19 - 25, 2010
 Munich, Germany



WasteExpo

Conference May 3 - 5, 2010
 Exhibits May 4 - 6, 2010
 Atlanta, GA USA

IFAT CHINA

May 4 - 6, 2010
 Shanghai, China

1st APOM Technical Day

May 7, 2010
 Sorel-Tracy, QC Canada

VANCOUVER 2010 - CIM Conference and Exhibition

May 9 - 12, 2010
 Vancouver, BC Canada

Canadian Fleet Maintenance Seminar

May 10 - 12, 2010
 Toronto, ON Canada

INTERtunnel 2010

June 8 - 10, 2010
 Turin, Italy

Hillhead

June 22 - 24, 2010
 Buxton, UK



2nd APOM Technical Day

September 10, 2010
 Drummondville, QC Canada

IFAT ENTSORGA 2010

September 13 - 17, 2010
 Munich, Germany



IAA Nutzfahrzeuge - Commercial Vehicles

September 23 - 30, 2010
 Hannover, Germany

WaterSmart Innovations Conference and Exposition

October 6 - 8, 2010
 Las Vegas, NV USA

INTERROUTE&VILLE

October 26 - 28, 2010
 Metz, France

bauma China 2010

November 23 - 26, 2010
 Shanghai, China



Power-Gen International

December 14 - 16, 2010
 Orlando, FL USA

bC India International Trade Fair

February 8 - 11, 2011
 Mumbai, India

The Rental Show

February 27 - March 2, 2011
 Las Vegas, NV USA



CONEXPO-CON/AGG & IFPE

March 22 - 26, 2011
 Las Vegas, NV USA



ICUEE - The International Construction & Utility Exposition

October 4 - 6, 2011
 Louisville, KY USA





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Trade Show - Outside Display

9 Informative/Interactive Panel Sessions

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Canadian Fleet Maintenance

Manager Award

Hosted by Volvo Trucks Canada

Seminar Banquet Wednesday, May 12

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