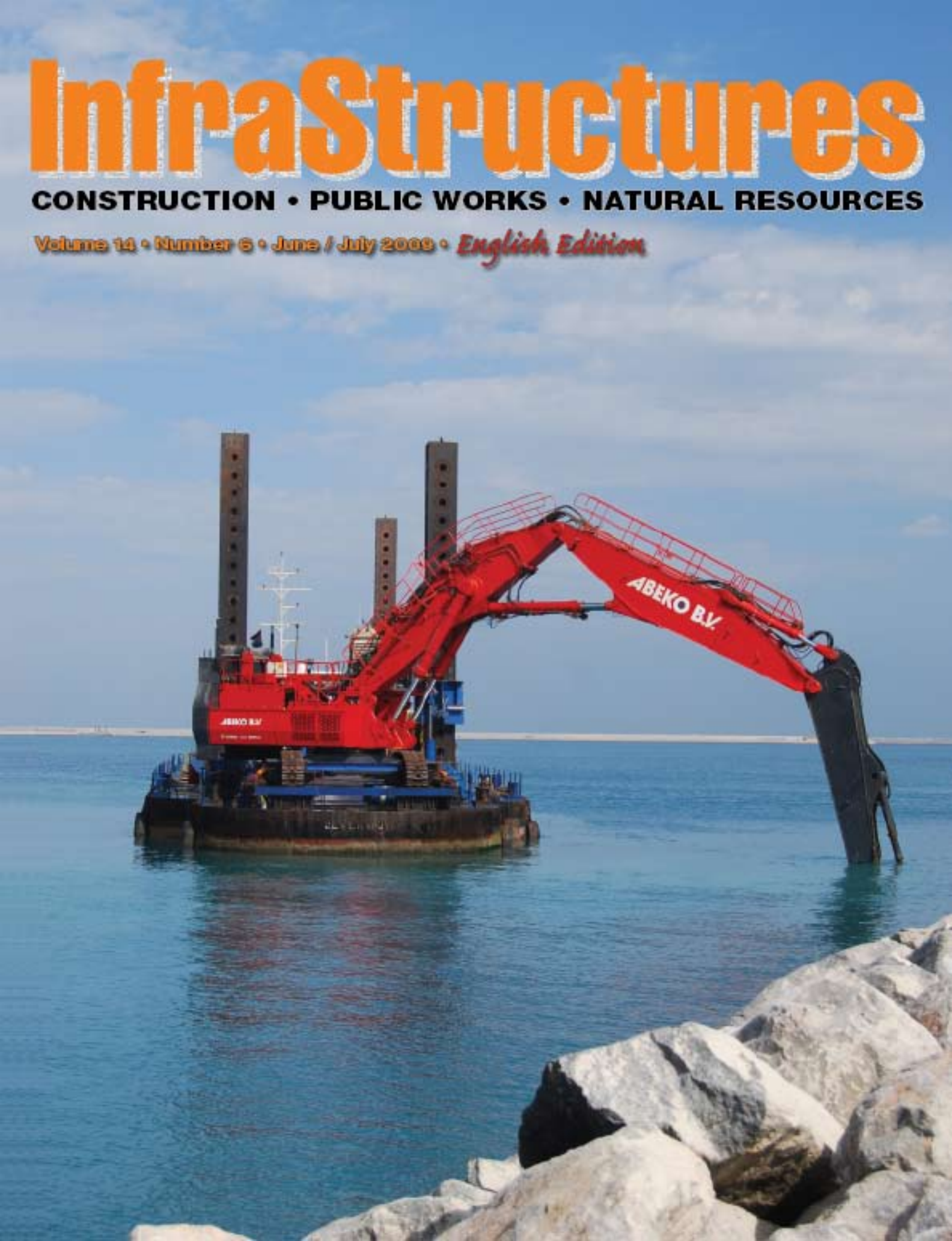
InfraStructures

CONSTRUCTION • PUBLIC WORKS • NATURAL RESOURCES

Volume 14 • Number 6 • June / July 2009 • English Edition



Put the Larue advantage **to work for you**

LARUE

The Professionals Choice
For Specialized Equipment

High capacity LARUE detachable loader-mounted, 300 hp or 350 hp, telescopic loading chute.

LARUE T60 self-propelled, hydrostatic drive, Cat 375 hp engine, ribbon or dual auger configuration, available all wheel steer and telescopic chute.

LARUE 7460 dual engines, 775 HP, 4,400 tons/hour capacity, all wheel drive, available with the Larue A.R.S. (automatic rear steering all wheel steering system).

LARUE 7060 single engine 550 HP, hydrostatic drive, 4,000 tons/hour capacity, available with the Larue A.R.S. (automatic rear steering all wheel steering system).

LeeBoy 8515 Paver Increase productivity and reduce operating costs with LeeBoy's 8515 Conveyor Asphalt Paver. The 8515 incorporates big paver features into a heavy-duty, maneuverable package designed for production and reliability.

LeeBoy 8816 25,000 lbs class 8' to 16' paver Cummins 130 HP engine, Legend™ screed system with 10% slope on extensions, variable speed 14" cast segmented augers, patented under auger cut-offs.

Manufacturer of LARUE
Heavy Duty Snowblowers

Distributor of LeeBoy products
for Ontario, Quebec and the Maritimes
Distributor of DYNAPAC products
for the province of Quebec

Rosco Maximizer III automatic in-cab controls, EZ Spray extendible spraybar, tapered and radius spraying, ENVIRO-FLUSH clean-out system, straight-line start and stop, 8-20 ft spraybar available, 400 GPM Viking asphalt pump

COME VISIT US AT ONE OF THESE EXHIBITIONS

SWIFT	AMCO	CAQ
TORONTO, ON, September 13 - 17, 2009	KINGSTON, ON, October 4 - 6, 2009	BROMONT, QC, September 29 - October 1, 2009

LeeBoy 6858 Grader 47 HP Kubota Tier 3 diesel engine, 7,690 lbs operating weight, 2 speed hydrostatic tandem drive, 8 foot sliding moldboard, center-mounted scarifier, optional enclosed cab, tilt console

LARUE

1-877-673-3013

MONCTON • QUEBEC • MONTREAL • LAVAL • TORONTO

SALES • SERVICE • RENTALS • FINANCING AVAILABLE

Emergency Parts-Service 24/7 • www.jalarue.com

InfraStructures
CONSTRUCTION • PUBLIC WORKS • NATURAL RESOURCES
English Edition

Volume 14 Number 6
June / July 2009

EDITOR / PUBLISHER
Jean-François Villard
editor@infrastructures.com

CONTRIBUTING EDITOR
Rob Holden

ADVERTISING SALES
MONTREAL
(514) 233-1295
montreal@infrastructures.com
TORONTO
(416) 795-1295
toronto@infrastructures.com

TELEPHONE
(514) 233-1295
(613) 862-1295
FAX: **(514) 528-9932**

MAILING ADDRESS
4330 Saint-Hubert Street
Montreal (Quebec) H2J 2W7

E-Mail
editor@infrastructures.com

INTERNET
www.infrastructures.com

InfraStructures is circulated free of charge to qualified users of heavy machinery and specialized equipment in construction, public works, and natural resources across Canada in both French and English.
The cost of a subscription for either edition for one year is $20 for Canadian residents and US$50 or €50 for U.S. and overseas.

LEGAL DEPOSIT
Bibliothèque Nationale du Québec, 2009

DISTRIBUTED BY CANADA POST
Publications Mail Agreement #40052183

A Brief Word...

By the time you read this, the Spring Equinox will likely have passed and the "Official" start of summer will be decreed.

On the upside, commuters will have an easier time of it. Although school buses, and others will have liberated many by staying at home, looming construction closures beckon. To those of us that earn a crust from this, this is a good thing. But what does it mean for our economic psyche?

Typically the inauguration of summer, with its requisite holidays, re-tooling shutdowns etc., signals a static time for economic indicators. How is this going to affect pending contracts and nightly newscasts? The short answer is: It should not. The actual answer is: it might be the injection of fear that contractors, and politicians do not need.

We ended the year in the doldrums, limped through the dark and dismal winter and spring has hardly roared to our rescue. This lethargic spring has also brought doubt and hesitation in the hearts of many project managers and customers. This has dominoed through our industry with manufacturers, dealers and contractors daily deferring commitments and forecasts for equipment, personnel, and completion dates. This "Knock-On" effect puts us squarely back to the state we were in January, but with considerably more anxiety. The dam will burst forth under all this pressure, which is a mixed blessing in and of itself.

What I would like to encourage our readers to do is to play "The Little Dutch Boy", and do your small part to let the economic waters flow calmly. Of course, maybe you are angling to be on the cover!

On the cover: Specialist marine and costal engineering company, Abeko BV, provided the machinery and operators required for major expansion of the LNG Port at Ras Laffan, in Qatar.

UPONOR ANNOUNCES OFFICIAL OPENING OF CALGARY DISTRIBUTION CENTRE

Addressing the rising customer volume in Western Canada, and in an effort to create new business relations, Uponor Corporation plans to improve its efficiency by opening a new Distribution Centre in Calgary on May 19, 2009.

Originally based in Regina, Uponor has seamlessly transitioned its products and operations to the new Calgary location to ensure customers do not experience any disruption in service. Greg Lawler, Uponor's vice president, Supply Chain says, "This new location enables streamlined efficiency and operational effectiveness that will benefit our employees, customers and business partners alike."

"Opening the Calgary location allows us to expeditiously serve our western customers and will, in turn, maximize our productivity," states Bill Gray, general manager, Uponor Ltd. "The opening of this facility is another example of our determination to better meet our customers' needs."

Uponor Corporation is a leading supplier of plumbing, fire safety and radiant heating and cooling systems for the residential and commercial building markets across North America and Europe, and a market leader in municipal infrastructure pipe systems in the Nordic countries.

Source: Uponor Ltd.

CONTINENTAL AWARDS "BEAT THE BEST" FUEL SAVINGS CHAMPION

Continental Tire North America, Inc. has concluded its first fuel savings contest for NAFTA countries and named the Fuel Savings Champion of the inaugural "Beat the Best" competition.

Lillibridge Transportation, a dry goods long and regional haul fleet from Urbana, Iowa, earned the Fuel Savings Champion award by achieving a 33,5l/100 km, on its participating truck with Continental tires. They were also the Midwest regional winner of the contest.

As the Fuel Savings Champion, Lillibridge Transportation receives a trip for four staff members to attend the ContiSpeed event, a racing experience to be held near Charlotte, North Carolina, with opportunities to participate in autocross, karting and stock car driving at the Lowe's® Motor Speedway.

The other regional winners of the "Beat the Best" competition were: Houff Transfer, Inc. of Weyers Cave, Virginia; Southern Cal Transport of Birmingham, Alabama.; BJ Trucking of Phoenix, Arizona; Scotlynn Commodities of Vittorio, Ontario, Canada, and Transportes Unidas Mexicanos, Mexico.

The "Beat the Best" competition began in April, 2009 with a free fuel savings training course for participating drivers. Each fleet tracked fuel consumption and mileage on a weekly basis for two trucks; one equipped with new Continental HSL2™ (Heavy Steer Long-Haul) and HDL Eco Plus™ (Heavy Drive Long-Haul) premium truck tires, and one identical model truck with new tires of any other national brand. The fleets had to have comparable commercial applications and

Looking for more details on a company or a product featured in the magazine? Use the Links page on www.infrastructures.com

truck models to be eligible.

During the 10-week contest, each fleet drove at least 16 000 km with each truck and provided their fuel consumption and mileage on a weekly basis in order to continue competing. Weekly statistics were published on the Continental Web site. The winners were selected based upon the lowest average consumption on the truck equipped with Continental tires.

Continental plans to hold additional "Beat the Best" fuel savings contests in 2009 and 2010, including an upcoming competition featuring its new line of retread tire products, ContiTreads®.

Source: Continental Corporation

ESP INTRODUCES NEW LINE OF GARAGE EQUIPMENT

Environmental Systems Products (ESP), a leading provider of vehicle emissions testing equipment for over 30 years, announced recently the launch of its SystemOne® Garage Equipment line. An expansion of ESP's full-service product offerings, the line includes high-performance lifts, tire changers, wheel balancers, and additional garage tools.

"This is a departure from what other industry suppliers are currently providing in terms of a service-centric, one-stop solution approach," said John Bradley, vice president of sales at Connecticut-based ESP. "In this troubling economic climate in which many companies have had to cut back on product and service offerings, ESP is continuing to give customers the quality and reliability they have come to expect. The new SystemOne® Garage Equipment line enables shop owners to be even more competitive in today's ever changing automotive services market."

ESP's SystemOne® Garage Equipment includes a variety of two and four-post heavy-duty lifts, three levels of tire changers, and two levels of wheel balancers. All components are designed for ease of use, time efficiencies, and enhanced productivity.

"ESP SystemOne® Garage Equipment offers our customers a tremendous opportunity to bring their capabilities to the next level," added Mr. Bradley. "Our lifts, tire machines, wheel balancers and other necessary tools are both installed and serviced by our local factory-direct service technicians, which simplifies the process. ESP can also offer a lease financing solution to further enhance our new equipment offering."

ESP SystemOne® Garage Equipment is launching in California, Texas, Georgia, Pennsylania, and Virginia.

Source: Environmental Systems Products

SATCON PRESENTS THE 1 MW POWERGATE® PLUS AT INTERSOLAR MUNICH

Satcon Technology Corporation announced recently the availability of the 1 MW PowerGate® Plus PV inverter, offering the largest power rating in the industry. The PowerGate Plus 1 MW unit is Satcon's next generation of utility ready large scale solar power solutions and is built on a foundation of the world's most field-tested and the proven PowerGate Plus inverter line.

The 1 MW PowerGate® Plus is an industry-first, offering all the benefits and advanced capabilities of the proven PowerGate® Plus 500 kW PV inverter including, utility-grade features like advanced monitoring and control capabilities, unparalleled performance, and an industrial grade outdoor-rated enclosure for extreme environmental conditions. The

1 MW PowerGate® Plus provides even more advanced performance optimization through a phased design approach to MPPT, enabling the 1 MW inverter to achieve enhanced performance, and reduce component wear and tear through tighter optimization. Designed for large-scale, utility grade installations, the 1 MW solution delivers the performance, reliability, and the uptime required to become an integral utility device.

The 1 MW PowerGate® Plus was presented in Europe at Intersolar 2009, in Munich, Germany from May 27-29. The system, introduced in September 2008, is now available for delivery.

Source: Satcon Technology Corporation

NAVISTAR TO LINK DEALER INVENTORIES WITH OECONNECTION

Navistar, Inc. will optimize its dealers' parts inventory and speed up customer repairs through parts supply chain and intelligence tools provided by OEConnection LLC, the leading online parts and service exchange in the automotive industry.

Navistar will implement OEConnection's solutions for more than 280 International® dealerships across 800 locations in the United States and Canada. Accessing OEConnection's online parts sourcing and idle inventory reduction tools, Navistar will create a parts supply network and shorten part cycle-times. International® dealers can view each others' stock in real time and pull from other dealers' stock to fulfill customer needs. Reducing backorders will help speed up customer repairs. These tools will also enable Navistar to limit in-channel idle inventory and provide boosted fill rates even as capital investment in parts distribution centers parts inventories are constrained.

Navistar is the first non-automotive manufacturer to select OEConnection to supply software solutions to its organization. It joins 14 automotive manufacturers and more than 15 000 dealerships throughout North America that are already utilizing OEConnection's web-based tools.

OEConnection is the leading online parts and service exchange in the automotive industry, serving more than 15,000 dealerships, collision repair shops, fleets, tire distributors and manufacturers. Customers use OEConnection products nearly 5 million times each month to market, manage and move original equipment parts, facilitating an estimated $12 billion in annual replacement parts trade. The company is headquartered in the greater Cleveland area.

Source: Navistar, Inc.

HALDEX INTRODUCES RIVET-LESS FRONT AND REAR COVERS FOR S-ABA STYLE AUTOMATIC BRAKE ADJUSTER

Haldex introduces rivet-less front and rear covers for the S-ABA Style Automatic Brake Adjusters. The existing front and rear covers which have a retaining rivet will be replaced by the new rivet-less front and rear covers which will be retained by an adhesive compound. The rear cover will have a unique grease relieve creating a designed path for grease flow.

This improvement offers a unique grease relief creating a designed path for grease flow, enhanced sealing and improved tamper resistance.

The Haldex S-ABA has a unique design that revolutionizes correct fit with easy installation, improved performance, extended service life and streamlined inventories.

Source: Haldex Commercial Vehicle Systems

EDF EN CANADA ANNOUNCES ARNPRIOR SOLAR PROJECT

EDF EN Canada – an EDF Énergies Nouvelles Company, recently announced start of construction of 23,4 MW (DC) of solar photovoltaic power southeast of Arnprior, Ontario. Consisting of more than 300 000 solar panels, the site will generate clean electricity for nearly 7000 homes during peak times when the province's power demand is high.

The Arnprior Solar Project is being developed as two installations under the Government of Ontario's Standard Offer Program, which encourages renewable energy production to help replace coal-fired generation. The electricity produced will provide local electricity service via connections to the Hydro One distribution grid.

Terex Welcomes Halnor Equipment as Ontario Distributor

Halnor Equipment located in Waterford, Ontario, has signed on to offer the full line of Terex® compact construction equipment.

With more than 45 unique product models, the Terex® compact equipment line offers one of the widest ranges of compact equipment available from a single manufacturer, giving contractors numerous options for their equipment investment. The Terex® compact product line includes compact track loaders, mini excavators, compact wheel loaders, site dumpers, tractor loader backhoes, light towers, telehandlers, power buggies, compaction rollers and a tracked utility vehicle.

Founded in 1980 by Maro Vanrooy, the company also sells agriculture equipment, power equipment, and lawn and garden equipment. A Terex construction distributor since 2005, Halnor Equipment decided to take on the full line of Terex compact equipment to complete its product offerings. The company has continued to grow over the years and today employs 20 people. Halnor Equipment offers its customers a full menu of services from sales, parts, rentals, after hours service calls and a full line of construction attachments.

Halnor equipment is currently offering some attractive finance programs including the "Customer Choice Program" which aims to give customers the confidence to buy or rent a new piece of Terex® compact equipment by choosing the financing program they need now whether it be 0% for 48 months, cash back, deferred payments, rental purchase options or something else.

Source: Terex Corporation

Mobile Crushing and Screening
in Action

The unification of the Extec and Fintec brands within the Sandvik group of companies has created the world's most comprehensive and dynamic line-up of mobile crushing and screening equipment. The Sandvik Mobile Screening and Crushing range now delivers all the familiar characteristics of productivity, versatility and exceptionally low running costs, but they are now combined with levels of durability and aftersales support that are synonymous with the Sandvik name. New name, improved service, same great product.

SANDVIK

QUEBEC - CLAUDE LOISELLE - SANDVIK MOBILE CRUSHERS AND SCREENS 197 BOUL INDUSTRIAL CHATEAUGUAY QUEBEC J6J 4Z2 CANADA TEL: 418 692.0810 FAX: 418-692-4444 MOBILE: 514-229-8553
REST OF CANADA - STU GAMBLE - SANDVIK MOBILE CRUSHERS AND SCREENS P.O. BOX 338, OSSINGTON PA 19839-8355 USA: +01 (0) 610 321 1440 F: +01 (0) 610 321 0919
info.extec-fintec@sandvik.com www.extec.com www.fintec.com

"With the launch of our project efforts in Arnprior, EDF EN Canada is proud to be a pioneering investor in Ontario's solar energy market," said Al Kurzenhauser, vice president of EDF EN Canada. "At a time when environmental responsibility and job creation have become critical public policy goals, we are utilizing the unique endowment of eastern Ontario's people and sunshine to make a long-term commitment to clean and green energy."

Source: EDF Énergies Nouvelles

ICP SOLAR EXPERIENCES STRONG GREENMETER® DEMAND AT INTERSOLAR

ICP Solar Technologies Inc. recently announced that it saw heavy turnout at its Intersolar booth in Munich, Germany and received orders for GreenMeter® equipment in Europe, North America, Australia, and the Middle East. Several hundred visitors were drawn to the ICP Solar display, including a number of existing users of the GreenMeter®.

While at Intersolar, ICP Solar was informed that the GreenMeter® had been approved for listing in the Australian National Register for the National Solar Schools Program, an initiative to outfit the country's education facilities with solar power and monitoring devices. The program is meant to provide both clean energy and teaching tools, and ICP Solar expects the GreenMeter® approval could potentially lead to the sale of thousands of units in the coming year.

"Not only were new clients placing orders at Intersolar, but existing test customers came by and expressed great satisfaction with the systems – as they are easy to install and provide information that aids the sale of solar installations, validating proof of concept and return on investment. With the GreenMeter®, people can instantly see the impact of utilizing alternative energy to reduce overall power costs," said Laurie McCabe, business development manager for Monitoring and Metering. "We also anticipate that our presence in Australia will rapidly expand due to the National Solar Schools Program. ICP Solar will be shipping its next generation GreenMeter® products later this month, and we have already built significant brand awareness across the globe."

Source: ICP Solar Technologies, Inc.

STUART OLSON TO BUILD CENTRAL UTILITIES PLANT AT EDMONTON INTERNATIONAL AIRPORT

The Churchill Corporation announced recently that Stuart Olson Constructors Inc. has been selected as the lead proponent to construct the Central Utilities Plant Project as part of the current Edmonton International Airport Expansion Program. This project is part of a $1 billion program planned for construction between 2009 and 2012.

Stuart Olson's scope of work for the project will entail providing construction management services to ensure the adequate installation of mechanical, electrical, storm, sanitary and water services to support the increase capacity associated with the new terminal expansion building and the new control tower.

Pre-construction services are scheduled to begin in the second quarter of 2009 with full completion in the third quarter of 2011.

Source: The Churchill Corporation

ELLISDON ANNOUNCES NEW CONSTRUCTION CONSULTING SERVICES DIVISION

EllisDon has announced the launch of EllisDon Construction Consulting Services, a new division that will offer several different intellectual capital consulting services to the

First Hybrid Truck for Use in Propane Delivery

Together with Eaton Corp., Daimler Trucks North America has developed the first hybrid truck for use in hazardous material transport. The truck in question is a Freightliner Business Class M2e equipped with a hybrid electric drivetrain system. It was developed for Pennington Gas Service, which specializes in delivering propane gas primarily to customers in Michigan, Ohio, and Indiana. It marks the first time a Freightliner hybrid truck will be used for a hazardous material delivery application.

A longtime proponent of environmentally friendly transport solutions, company partner Keith Pennington became interested in the hybrid version of the Freightliner Business Class only recently, after test driving one last March at The Work Truck Show in Chicago, Illinois. The vehicle's visibility, maneuverability, and comfort were some of the key features that caught Pennington's attention.

Pennington Gas Service's new showcase truck is equipped with the Eaton parallel electric hybrid system, which enables the driver to operate the vehicle using the diesel engine alone, or in combination with the electric motor. The hybrid drive system also provides additional power to launch the truck, which substantially reduces fuel consumption. This is a key purchasing criterion in a sector with a high level of stop-and-go operations.

Keith Pennington anticipates that the new vehicle will reduce fuel consumption and emissions by as much as 30%. "The ability to turn off the diesel engine and use the hybrid system while pumping propane to our customers is ideal," he said. Not only does it make economical and environmental sense, a quiet, zero-emissions pumping operation is also a benefit for the customers and their neighborhoods.

To receive immediate feedback on how the hybrid system performs on the road, Daimler Trucks North America and Pennington Gas have partnered with Telogis, a leading provider of enterprise fleet tracking software.

Source: Daimler AG

broad construction industry.

In order to address what EllisDon believes is a large and unserved global market, the company is making available its construction experience and knowledge, in a variety of fields, to the industry as a whole. Consulting will be offered in four service groups: Risk Management Services, Project Analysis and Delivery, Building Sciences and Human Resources Consulting.

In addition to the new Consulting Services division, EllisDon will also be launching an on-line construction community forum called econstruction.com. The forum will be open to anyone who wants to share ideas, new methods, and ask questions about anything related to construction.

States Geoff Smith, president and CEO of EllisDon, "We don't want to be limited to merely building buildings anymore, instead we are offering to help anyone involved in the building process – clients, contractors, subcontractors, lenders – to ensure their success, get them to another level, become more efficient, make more money. These services offer new ways to build new revenue and brand new relationships and partnerships, based on expertise which we already have and infrastructure which is already in place."

EllisDon believes that its 55+ year history in the construction industry, in which it has faced almost every building challenge, will give clients a unique perspective into their own specific construction problems. It is this "inside edge" that has been a key factor missing to date from other providers. Says Mr. Smith, "Where people are providing these services, they aren't builders. When we say something will work, we know it will work, and are prepared to participate and guarantee."

The new Construction Consulting Services and the econstruction.com community forum are in line with EllisDon's open and collaborative approach to business. Geoff Smith summarizes the company philosophy, "That's our key goal: to talk, to build relationships, opportunities, and knowledge with as many people in as many different places as we can. To put everything on the table, and see what we can build together."

Source: EllisDon Corporation

SNC-LAVALIN ACQUIRES SPECTROL ENERGY SERVICES INC.

SNC-Lavalin has acquired the engineering and technical services firm Spectrol Energy Services Inc. of St. John's Newfoundland and Labrador.

Spectrol has approximately 75 employees with expertise that includes inspection, quality, asset integrity, maintenance and reliability engineering for the oil and gas industry and other natural resource sectors.

Source: SNC-Lavalin Group Inc.

NEW RITCHIE BROS. AGRICULTURAL AUCTION SITE IN LONDON, ONTARIO

On June 24, 2009, Ritchie Bros. Auctioneers will celebrate the official Grand Opening of its new permanent auction site in London, Ontario with a one-day unreserved public auction and pre-auction breakfast. Registered bidders and local dignitaries will join Ritchie Bros. representatives for breakfast at the auction site, Mayor Jim Maudsley of the Municipality of Thames Centre will cut the Grand Opening ribbon to officially open the new site.

A large selection of good quality, used agricultural equipment and tractors will be sold on auction day, with no minimum bids or reserve prices.

Source: Ritchie Bros.

Hitachi Announces a New 10-Year Lithium Ion Tool Warranty

Hitachi Power Tools recently announced its new 10-Year Lithium Ion Tool warranty. Every Hitachi cordless power tool is designed to the highest standards and is rigorously tested for both performance and durability. Hitachi is proud to offer an exclusive 10-year Lithium Ion tool warranty to the original purchaser on HXP Lithium Ion cordless tools.

This Industry Leading 10-year Lithium Ion tool warranty is retroactive and applies to Lithium Ion tools purchased since their initial launch back in August of 2006. Hitachi customers who purchased applicable Cordless Lithium Ion tools before this 10-year warranty announcement will automatically be covered and are not required to register or re-register their tools.

Tool packaging will undergo a rolling design change to reflect the new 10-Year Warranty. However in the meantime, existing packaging already produced and available for sale in the retail market may still show the 5-Year Warranty on the box. Regardless of the packaging, revised or not, Hitachi is covering all applicable Lithium Ion tools under the new warranty.

Categories of tools that are currently covered under this 10-year warranty include Cordless Lithium Ion Driver Drills, Cordless Lithium Ion Hammer Drills, Cordless Lithium Ion Impact Drivers, Cordless Lithium Ion Impact Wrenches, Cordless Lithium Ion Circular Saws, Cordless Lithium Ion Jig Saws, Cordless Lithium Ion Reciprocating Saws and Cordless Lithium Ion Blowers.

Some exceptions do apply; Cordless Lithium Ion Grinders, Cordless Lithium Ion Rotary Hammers and Cordless Lithium Ion Gas Nailers are covered by Hitachi's 1-year warranty.

To view the entire warranty online, go to www.hitachipowertools.com, click on customer service, and then warranty information for complete details.

All HXP Lithium Ion batteries that power Hitachi Lithium Ion tools contain unique circuit protection technology that ensures proper maintenance so they will continue to operate at peak levels at all times. Hitachi is proud to offer an exceptional 2-year HXP Lithium Ion battery warranty to the original purchaser.

Hitachi HXP Lithium Ion cross-compatible chargers feature built-in Cool Air Flow systems to maintain the optimal charging temperature. Hitachi offers a 1-year HXP Lithium Ion charger warranty to the original purchaser.

Source: Hitachi Power Tools

JW Jones Has Remanufactured & Sold More Than 1000 Cone Crushers Worldwide

JW Jones Company, based southwest of Indianapolis, Indiana, specializes in remanufacturing and refurbishing all makes and models of aggregate and recycle crushing, screening and washing equipment to upgrade operational efficiency and provide a greater return on investment for contractors and producers worldwide. The company has a strong reputation for completely remanufacturing portable and stationary cone crushers to perform like new or better, including Symons, Nordberg, Telsmith, Cedarapids* and many other brands. JW Jones management estimates that it has remanufactured and sold more than 1000 cone crushers worldwide to date—with 60% of those being Symons cone crushers.

Most often, JW Jones searches for, acquires, and then remanufactures cone crushers from the ground up – including the chassis on portable units – in a part of its 9300 m^2 facility. Each cone crusher is completely taken apart, evaluated, remanufactured and then sold to contractors or producers worldwide at up to 50% of the cost of a new cone crusher. Any part that is out of specification gets replaced, including: liners, main frames, bushings, gears, hoppers/bowls, heads, shafts, bearings, seals, housing, springs, motors, pumps, alarms and all other wear parts. The company offers up to a six-month warranty and sometimes longer.

These remanufactured stationary and portable cone crushers are available in size ranges from 0,6 m up to 2,1 m. JW Jones remanufactures cone crushers engineered to crush materials of almost any hardness – from limestone to river rock. Drawing from more than 40 years of field experience, JW Jones can customize other manufacturer's cone crushers to fit almost any plant operation with production requirements up to 1500 t/h.

Installation, startup, parts and wear components are also available through JW Jones, which provides its customers around the world with a full-service relationship.

**Symons and Nordberg are registered trademarks of Metso Minerals Industries, Inc. Telsmith is a registered trademark of Astec Industries, Inc. Cedarapids is a registered trademark of Terex Corporation.*

Source: JW Jones Company

Keith V-18 System Provides Strength & Versatility with Aluminum Flooring

Since the introduction of the V-Floor® system five years ago, Keith customers have put the extra-duty unloader to the test. It has been used to unload demolition, scrap, asphalt and many other highly abrasive materials. Building on the success of the V-Floor design, Keith has continued to modify the V-Floor system into an even more versatile, all-purpose unloader. The aluminum V-18 system is ideal for materials that may be too demanding on a standard slat, but do not require the ruggedness of a steel V-Floor slat.

One of the key benefits of the V-Floor concept is the unique design of the system's sub-deck, which creates a leak-resistant floor without requiring floor seal. This carries over into the lighter-weight, V-18 aluminum slat. Durable and long lasting, the V-18 slats are available in multiple profiles, including an Impact Series for high wear materials and impact applications.

The V-18-unloader provides versatility, opening the V-Floor concept up to many new customers, applications and industries. Due to the superior wear and leak-resistance of the V-Floor slat, the waste industry has been using the original V-Floor system in trailers unloading municipal waste since the system's introduction. The new V-18 system provides a lighter weight alternative for waste haulers; and is also a good choice for unloading recycled materials, construction debris, wood chips and agricultural commodities.

A walking floor system is a horizontal unloader, eliminating the need for tipping or dumping. Aluminum slats run the length of the trailer floor. Actuated by a four-phase hydraulic drive, slats move in groups of three, then together. This sequence "walks" material out. Systems can be bi-directional for both loading and unloading product. With few moving parts, the systems are durable and low in maintenance.

Source: Keith Mfg. Co.

Two New Subaru Engines

Robin America is pleased to announce two new engines. A new 28 hp Electronic Fuel Injection EH72 V-Twin engine, and a 25 hp LP/NG keyed shaft engine.

The new EH72 FI was developed as a high performance engine in a package size that is only 4 mm higher than the current 25 hp.

The EFI engines run on a open-loop system, which utilizes an electronic control unit (ECU). Using several different sensors that are able to accurately detect manifold pressure, ambient temperature and throttle position, the ECU is constantly relaying information to the injectors, which are then able to deliver the proper air-to-fuel ratio. The result of this continuous relay of information is an engine that is always running at an optimal level, resulting in better fuel economy and emissions control. Allowing for differences in operating speed, applications and fuel type, the estimated fuel economy improvements are 11 to 25% over that of a similar carbureted engine.

This engine features a two-barrel manifold with a fuel injector for each cylinder. This allows each cylinder to operate independently of the other, which aids in fuel optimization and also improving the engine's efficiency and performance. Altitude changes pose no threat to the EFI engine's operation, thanks to precise oxygen level detection from the ECU sensors. The system is able to identify changes in altitude and instantly adjusts the air-to-fuel ratio to make it ideal for the current location.

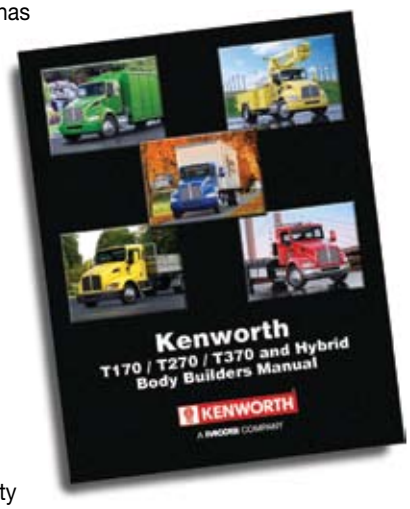
EH72 LP/NG ENGINE

Utilizing its experience in gaseous fueled engines for the home standby generator market, Subaru has created a keyed shaft EH72 engine optimized to run on vapor withdrawal LP or natural gas. This new engine configuration is EPA and CARB certified for both stationary or portable applications. Anticipated applications include hot water pressure washers and oil and gas field equipment.

The EH72 LP/NG engine has been packaged to meet the widest possible application usage and to improve convenience and safety. The engine includes a close coupled regulator bracketed to the oil filter side of the engine. An electric shut-off fuel valve is pre-installed on the regulator. A special oil pressure sensor is wired to shut-off the engine and fuel source in case of a low oil pressure condition. A key switch and control box is included as standard equipment on this engine. The PTO is a popular 28 mm diameter keyed shaft. The only option is the muffler. Any muffler kit may be used except on the oil filter side (due to the regulator).

Source: Robin America, Inc.

Online Medium Duty Body Builders Manual Includes Kenworth Hybrids



Kenworth Truck Company has produced the 2009 edition of its online medium duty manual for body builders, which now includes Kenworth hybrid models for the first time.

The Kenworth T170 / T270 / T370 and Hybrid Body Builder Manual features detailed information on truck models used in pickup and delivery, beverage, tow and recovery, fire and rescue, landscaping, construction, propane, fuel hauling and utility applications.

The 126-page Kenworth manual is useful when specifying a vehicle, especially when the body builder is involved in the vehicle definition and ordering process. Early in the process, professional body builders can often contribute valuable information that helps to reduce the ultimate cost of the body installation.

Source: Kenworth Truck Company

Poclain Hydraulics' AddiDrive Used on the Largest Truck-Mounted Concrete Pump in the World!

To comply with the legal regulations in certain U.S. states, Putzmeister has mounted the large-boom concrete pump M 70-5 on a 10-axle semi-trailer. The boom, base structure with support, outriggers, pump unit and independent power plant (450 hp Deutz Tier 3 diesel) are located on the semi-trailer and of the five axles, three are steered. The tractor used on this version is a 500 hp Kenworth C500B. Of the five axles on the tractor, the three rear axles are mechanically driven and the two steer axles are hydrostatically driven (for slow speed over rough terrain or in poor traction conditions).

When a driver needs to go off-road or travel in bad weather, the front wheel drive is available on-demand for additional traction and mobility. This system was a joint development between Poclain Hydraulics, Tuthill, Monroe Truck and Putzmeister.

The result of this cooperative effort is based on sound field proven hydraulic technology. The hydraulic system was designed for simple installation, versus that of a commonly used drive-shaft and transfer case system. The hydraulic part of this hub is so compact that it is hardly noticeable once assembled. In fact the OEM steer angle and turn radius are maintained as are the suspension and ride comfort.

Because this axle assembly uses no differential and driveshaft, there are no crankcase interference issues; therefore the truck body does not need to be raised as required when installing a conventional mechanical drivetrain. This has a number of benefits, notably: reduced installation cost, lower center of gravity, easier cab access and more load clearance.

The front wheel motors are powered by a Poclain Hydraulics closed loop variable displacement pump that is driven off of the transmission PTO. A Poclain Hydraulics AddiDrive freewheeling control valve is also used to control the engagement/disengagement of the front wheels, which can be done on-the-go. An electronic CAN link controller matches the speed of the front wheels to that of the rear wheels as well as providing other functions. The front wheels can be deactivated by the operator or they will automatically disengage when the vehicle exceeds a predetermined speed, usually 30 km/h depending on tire size. The system can then be re-engaged without coming to a stop once the operator slows down within the operating speed range.

Source: Poclain Hydraulics

UTI Offers Comprehensive Selection of Directional Drilling Pipe

Underground Tools, Inc. offers one of the industries most comprehensive selections of premium quality directional drilling pipe for nearly every make and model of drill rig on the market. UTI drill pipe is readily available, and fits drill rig sizes from mini through maxi. Underground Tools drill pipe is made from top quality materials, with careful consideration given to precise threaded connections. In addition, HIWS drill stems Versions I and II are also available through manufacturer-direct distribution at UTI.

All UTI products come with exclusive DirtSmart® technical service where questions are answered by the industry's most knowledgeable technical support team.

Source: Underground Tools, Inc.

Lexan® Sheet Materials Offer Clear Advantages in Sustainable Designs for Eco-Progressive Buildings

SABIC Innovative Plastics' growing portfolio of Lexan® polycarbonate multiwall sheet products are contributing to the sustainable design movement and strengthen sustainable building designs by increasing energy conservation, improving working/living environments, and promoting recycling. Lexan sheet solutions can help architects, builders and contractors tap into the "green" building market, a $12 billion sector and a bright spot in the current construction industry slump.

"Widespread concerns about the negative environmental effects of traditional building materials and methods are driving the adoption of sustainable design," said Darrell Hughes, general manager for SABIC Innovative Plastics, Specialty Film & Sheet. "Lexan multiwall sheet products can make a significant contribution by helping our customers achieve sustainable designs. For example, Lexan sheet far surpasses double- and triple-pane glass windows in thermal insulation performance, and its light weight saves energy in transportation and installation. Plus, it's 100% recyclable. By incorporating Lexan sheet into their designs, our customers can make any building more sustainable."

Lexan polycarbonate sheet allows natural daylight to enter a building, creating a more aesthetically pleasing working or living environment while saving on electricity for artificial lighting. However, while letting light in, the material also offers ultraviolet protection for occupant health, and exceptional thermal insulation to enhance energy conservation.

This lightweight material also saves fuel in shipping and installation. Less weight also allows Lexan sheet to be supported by lighter-weight glazing bars and substructure, reducing the amount of support material required.

Source: SABIC Innovative Plastics

Technical Drilling and Blasting Co. Standardizes on Sandvik Tophammer Rock Tools

John Hooper, Joem Promotions
Special Collaboration

Drill and blast contractor Technical Drilling and Blasting Co standardizes on Sandvik rock tools for its fleet of drill rigs operating across Fujeirah; providing quality gabbro aggregates.

The Emirate of Fujairah continues to be the regions "bread basket" for construction projects in Dubai and Abu Dhabi. And, with many neighbouring Gulf countries banning quarry operations, its gabbro – based aggregates and rock armour for breakwaters are equally in high demand.

Recognized as one of the world's hardest rocks, gabbro with a typical density in excess of 3 t/m^3, a crushing factor of 10, and a 61% silica content, demand remains intense.

Every hour of each day, a continuous team of trucks makes the journey from the dozens of quarries in the Hajjar Mountains to the projects across the United Arab Emirates.

Despite the global economic slowdown, demand continues to be felt at the front end of the "aggregate food chain" where the requirement for drilling and blasting activities remains high.

With blasting strictly regulated across the Emirate, five companies specialize in drill and blast contracting in varying degrees for the quarrying sector.

Market leader Technical Drilling and Blasting, specializing virtually 100% in quarry activities, handles contracts for around 24 quarries in Fujairah.

The company's technical manager, Bill Armstrong, confirmed that Technical Drilling and Blasting has a fleet of 16 surface top hammer drills and two down the hole drill rigs including nine Sandvik rigs which are proving ideal in development and difficult access areas of the quarries.

According to project manager, Alok Ojha, the key to much of the company's success has been the operational life and productivity of its Sandvik rock tools – all ordered through local distributor Dynatrade.

"Initially we used rock tools from the respective rig manufacturer but trials soon found that the Sandvik rock bits and rods

Davey Bickford Signs Nordex as Distributor

Davey Bickford Canada, Inc. is partnering with Nordex Explosives Ltd. to enhance the level of local support and technical services offered to mining and quarry operations throughout Ontario and Quebec. As a new Davey Bickford distributor, Nordex Explosives now offers its customers the Daveytronic® Digital Blasting System, offering unprecedented detonator accuracies and reliability for improved blast performance.

"Nordex Explosives has a rich history of providing superior support and partnering with mining and quarry customers to solve challenging blasting problems throughout its Ontario and Quebec territory," says Greg LeClaire, president of Davey Bickford Canada, Inc. "Our high accuracy electronic blasting technology will allow Nordex to offer an expanded array of blasting solutions for its customers."

Located in the heart of Canada's mining industry, Nordex Explosives has offered a hands-on approach to providing solutions to tough blasting applications for 40 years. In addition to distributing Daveytronic®, Nordex manufactures a full line of emulsions, ANFO and specialty products. Headquartered in Mississauga, Ontario, the distributor has a main production facility near Kirkland Lake, three satellite customer service locations and six storage facilities. The company owns and operates a fleet of delivery and bulk explosive service vehicles.

"The addition of Daveytronic® to our line gives us a full suite of products, so we can offer our customers an ever broader set of value added solutions," says John Kozak, president & CEO of Nordex Explosives, Ltd. "By delivering a high level of accuracy, Daveytronic® detonators offer better fragmentation, more consistent blast performance and enhanced vibration control."

Through a worldwide distribution network, Davey Bickford offers unsurpassed technical support, blasting pattern consultation and program implementation for the high-accuracy Daveytronic® Digital Blasting System. The product line includes the Daveytronic® detonator, blasting machine, field programming unit, Wireless Blasting System and blast design software, Daveytronic® 2D.

Source: Davey Bickford Canada, Inc.

were providing 100% longer operational life." He continued, "for example, we were using 60 rods which were continually "snapping" compared with 30 Sandvik rods in the same conditions." And, for the drill bits, the life expectancy was even greater, as much as three times with Sandvik Retrac bits.

According to Bill Armstrong, "generally in the hard rock conditions we are getting 700-800 drill metres/bit and up to 2000 in softer conditions."

Technical Blasting and Drilling carry out on-site regrinding after the first 400 m with a second regrind after another 200 m.

Each blast site is thoroughly surveyed with extensive details of each drill hole recorded. Blasts are planned weeks in advance and the explosives ordered.

UAE police and security witness all blasting operations and carefully monitor the explosives used.

The growth in demand over recent years put extra strain on the police forces resources and Technical Drilling and Blasting has been negotiating with the local authorities that a change in restrictions would help.

Until recently only 2 blasts at a maximum

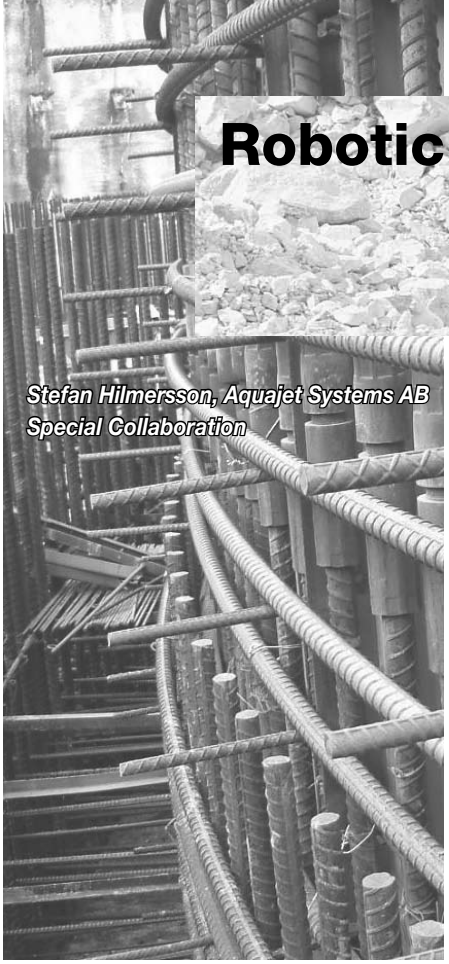
of 3 t each day on a single site could be undertaken. Technical Drilling and Blasting was able to demonstrate that a single blast of 10 t made everyone's life easier and allowed the police and other authorities to visit more sites without taking any extra time.

Today, Bill Armstrong is actively trying to increase the 10 t limit to streamline the process even further.

In a typical quarry development, Technical Blasting and Drilling use a combination of the Sandvik rig and tools to supply around 65 000 m^3/month. "It should be more but many of the quarry managements are poor at planning" said Mr. Armstrong, but confirming that in the better months up to 80 000 m^3 is supplied.

"This is achieved working 10 hour shift over six working days with a 4 inch holes in hard rock," he added.

Robotic Equipment in Hydrodemolition



Stefan Hilmersson, Aquajet Systems AB
Special Collaboration

Hydrodemolition is the selective removal of concrete using high-pressure water, selectively removing deteriorated concrete and retaining sound concrete below the intended level of removal. This process will not damage rebar or cause micro cracks in the concrete, as will mechanical methods such as jackhammers.

Over the years the hydrodemolition process and equipment has developed. Today the robotic units are capable of performing vertically, horizontally, and overhead as standard units. A variety of attachments are available allowing removal from the underside of bridge decks, columns, and parapet beams to name a few.

The high-pressure water is delivered to the robot through a flexible high-pressure hose. The water travels down a lance where it meets a nozzle. The nozzle orifice is sized according to pressure and flow requirements of the pump. The lance manipulates the jet of water as it leaves the nozzle. It will either oscillate or rotate the water jet nozzle depending on the type of application.

Hydrodemolition leaves the surface that has been cut with a jagged or craggy surface (profile) much like that of an English muffin that has been separated with a fork rather than with a knife.

Concrete suppliers have commented on the great bonding area left by hydrodemolition. Jackhammers, for example, tend to leave a flatter surface which result in fewer peaks and valleys providing a reduced bonding surface.

On concrete, the water jets accomplish their destructive action by means of different processes such as direct impact, pressurization of micro- and macro-cracks and cavitations. These processes reach their maximum efficiency when the water jets strike the bonding agent. The water jet is therefore moved rapidly and continuously over the area to be removed.

However, jet efficiency is only maximized when the jet itself is stable, and stability is influenced by distance from the nozzle to surface, shape and configuration of the nozzle that accelerates the water exit speed, jet movement and the angle of attach.

The high pressure jet of water passes across the surface, penetrating into the weak concrete. When the water "washes away", it takes the damaged concrete with it; only removing concrete down to a preset "quality depth" and leaving a good rough bonding surface for the new concrete.

To meet the requirements of the European Union's EN 1504 standard for the repair of concrete structures – pull off strength of 2.0 MPa for structural and 1.5 MPa for non structural structures – the old concrete must be removed using hydrodemolition techniques.

TECHNIQUES AND TOOLS

The typical high pressure pump range required for concrete hydrodemolition applications is between 1000 bar and 1300 bar. Water flow rates range from 150 l/min up to approximately 400 l/min for heavy concrete removal machines.

Removal capacities in deteriorated concrete is accepted to average 0.4 to 1 m^3/h but rates above 1.5 m^3/h are possible.

Concrete removal using hand lances are the simplest and least effective form of water jetting, and it is often incorrectly referred to as hydrodemolition.

It is possible therefore to evaluate the hydrodemolition capacity in different concrete structures by measuring the concrete strength compared with the fluid-dynamic impact energy directed towards the material to be removed.

The dynamic combination of the pump pressure and the delivered water flow from the high pressure plunger pump, through the specially designed orifice nozzle, will generate a reaction force by the working tool. Reaction forces up to 3000 N can be achieved at certain pressures and flow.

Automatic robots are used for precise hydrodemolition. The robot can use rotating multiple nozzle carriers but single nozzle heads are generally used on machines for selective removal. They will however, work with much higher water flow rates.

Complete hydrodemolition units comprise a high pressure pump, driving engine and control system housed in the acoustically treated container and a hydrodemolition robot with a series of standard tools.

Computerised control plays a key role in the performance quality and design of hydrodemolition equipment, allowing the machines to carry out repetitive tasks automatically.

All movement parameters are fully adjustable from the control panel. Which can also be remote.

The selection of the robotic working tools is dependent on the task to be solved. Several removal tools are available for horizontal, vertical and overhead work, and work on curved surfaces.

SURFACE QUALITY

It is proven that hydrodemolition produces an excellent clean surface quality.

With robotic hydrodemolition, once programmed, the jet moves rapidly and continuously over the selected area removing the concrete down to a desired quality level.

The surface geometry achieved after hydrodemolition also depends on the type and size of the aggregate with soft aggregates such as limestone, for example, has a comparatively smoother surface.

In contrast, concrete with hard solid aggregate exhibits a more uneven surface and a high amount of undamaged aggregates.

Compared with other removal methods, hydrodemolition generates a very large contact surface between the concrete and applied repair material.

Hydrodemolition is generally used to describe the process of using high-velocity water jets to remove or demolish concrete. Hydrodemolition is particularly effective as a restoration tool to remove deteriorated, delaminated or contaminated concrete.

A surface prepared using hydrodemolition provides the best possible bond for all types of repair material. The aggregate protruding from the existing surface provides excellent shear resistance across the bond line.

APPLICATIONS

Hydrodemolition is today used in a wide variety of renovation applications around the world. These include, for example:

Bridges With traffic generally increasing in major cities around the world it is becoming necessary to frequently repair highways and bridges. Hydrodemolition is used to remove the deteriorated concrete before new fresh concrete is applied.

Apart from bridge decks pillars, abutment walls, parapet beams and, underneath the deck are also much more in need of maintenance and rehabilitation.

Parking garages Many parking garages were constructed many years ago .The wearing on have been affected by water and salt dripping from cars, air pollution and mechanical wear from cars driving in and out. Necessary renovation projects using hydrodemolition are ongoing throughout Europe.

Harbors and dry docks These are also able to take advantage of hydrodemolition techniques for rehabilitation of concrete and steel reinforcement, with extensive chloride deterioration, caused by the sea water salt penetrating the concrete.

Large harbor and dry dock renovation projects around the world are ongoing projects where robotic hydrodemolition systems selectively removes deteriorated concrete from high vertical walls and below sea level as well as horizontal surrounding areas.

New concrete Hydrodemolition is also used on new concrete. During the erection of large engineered constructions it is sometimes necessary to remove some of the newly cast concrete. As an example the Storebaelt Bridge, in Danemark, it was necessary to remove and replace a large amount of concrete on one of the pylons.

Air pockets in the newly cast concrete caused problems to depths of 300 - 500 mm requiring the heavy and narrow sitting rebars to be cleaned.

Hydrodemolition was used to remove some 500 m^3 successfully to the required depths in the limited time period.

The *power and nuclear industries* are also taking advantage of the hydrodemolition technique for concrete removal and repair.

A recent application in Spain required an opening to remove the steam generators.

The concrete wall around the generator hall was 1400 mm thick and reinforced with eight layers of heavy 53 mm bars reinforcement. The total reinforcement density was 500 kg/m^3 of concrete. Hydrodemolition was selected as the most efficient and safest method available.

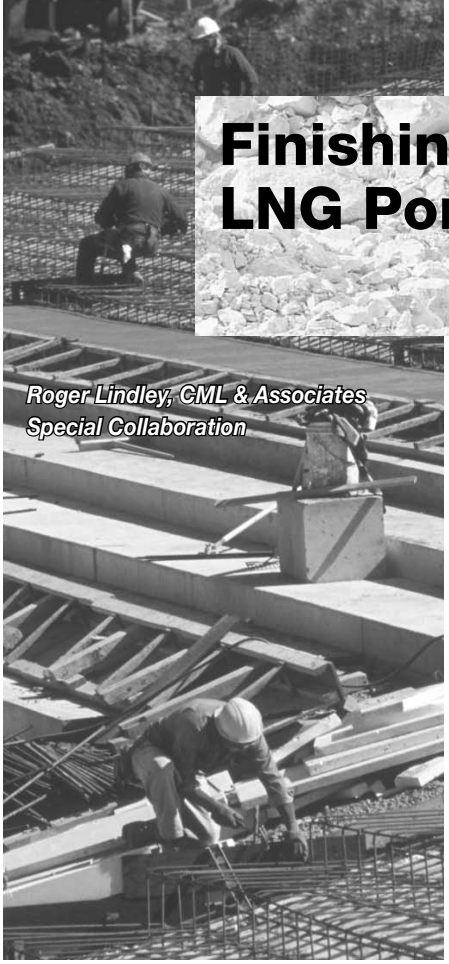
Two robots for vertical operation equipped with heavy high-pressure pumps were used to complete the application.

During refurbishment of the United States' fifth largest electricity producer, the Robert Moses Niagara power plant, a total of 32 000 m^2 of concrete was removed and replaced in the intakes and abutments.

Using Hydrodemolition machines, the contractor removed more than 2800 m^2 to a depth of 150 mm where deteriorated parts had to be removed.

Some of the abutment work was carried out at heights of 32 m which could only be reached by robotic units.

Finishing Touches at Ras Laffan LNG Port Expansion, in Qatar



Roger Lindley, CML & Associates
Special Collaboration

The civil engineering stage of the first phase of the major expansion of the LNG Port at Ras Laffan, Qatar is nearing completion after almost 3 years.

Specialist marine and costal engineering plant hire company, Abeko BV, has the contract to provide the machinery and operators required by Van Oord BV for the construction of the 22,5 km of causeways and breakwaters. They are now applying the finishing touches before handing over to client for fitting out.

The contractors are currently undertaking the final surveys and, as appropriate, are working with the Abeko team to do any remedial and finishing work to ensure that all constructions are in accordance with design specifications.

This work calls for precision working in order not to disturb material already in place both from a variety of land-based equipment and from the sea, where an O&K RH90C mounted onboard the Abeko Server 1 is helping with final underwater profiling of the breakwaters.

As the first phase nears completion, the massive volume of material deployed is evident by the several kilometres of structures standing several meters above the water line.

Over 10,6 million t of local rock, together with a further 4,2 million t imported from the United Arab Emirates, has been put in place, either by side dump barges or by dump trucks. Over 1 million m³ of concrete was used by the prefabrication yards for production of 185 000 precast concrete antifers and 36 000 concrete acropods, which were for the armor layer construction of the breakwaters. The antifers range in size from 1,5 m³, 3,0 m³ and 3,5 m³. The acropods are from 3,0 m³ to 5,0 m³.

The rock and precast concrete elements were used to profile and protect the land reclaimed from the placing of more than 20 million m³ of dredged limestone and 25 million m³ of offshore sand.

There is also more than 900 000 m² of geotextiles incorporated into the structures and the causeways and breakwaters are finished off with 3,4 m high crown walls and 50 m wide x 2,15 m deep reinforced road slabs (typical) for which more than 170 000 m³ of concrete was poured.

Throughout the project, the contactors have utilised 45 heavy-duty excavators and high-capacity crawler cranes, 40 rigid and articulated dump trucks and 20 wheel loaders as well as other support equipment. The number of people on site deployed by Van Oord and Abeko peaked at over 700. Work has progressed non-stop, 24 hours a day, 7 days a week.

PRECISION WORKING

All the works are designed to very demanding specifications. The many kilometres of breakwaters have varying specifications depending on their location. However, a typical cross section is, at sea bed level, approximately 133 m wide from toe extension on one side to extremity of armor rock on the other side. They rise to a maximum height of almost 21 m (of which 12 m is below the waterline). The breakwaters are profiled to a slope of 33° on the seaward side and 37° on the harbour side.

Typically, the seaward-side of the embankments comprise 3,0 m layer of selected quarry stone up to 500 kg; a 1,8 m layer of heavier 500 - 2000 kg rock and a 3,2 m protective layer of antifers or acropods depending on position. At the foot, there is large breakwater toe with 5 m extension.

On the harbour side, the composition is a 1,80 m layer of 500 kg quarry stone; a 1,15 m thick under layer of 100 - 500 kg quarry stone and an outer layer, 1,80 m thick, of armor rock (500 - 2000 kg).

However, such is the variation in the dimensions, according the water depth and where additional protection is required such as on the roundheads against possible ship

impact, that there is nothing “typical” about the project. This is why it has proved to be so challenging.

The challenges for the contractors were many and included the scale of the project, the time restraints, logistics, the many variations, very demanding quality control for materials and the construction tolerances (as little as ±0,2 m). To achieve this, they had to deploy the very latest technology, advanced computer aided systems, sophisticated, heavy-duty machines configured specially for the works and a team of highly skilled operators.

MEN AND MACHINES

Abeko BV is recognized around the world for its capability in marine and coastal engineering projects. The company’s expertise, skilled operators and specially selected and modified machines is very much in evidence at Ras Laffan.

Critical to the works has been the 52 m long, 470 t Abeko Server 1, which, with 30 m long spud legs, is able to work in water depths of up to 24 m. The large deck area of 6 m x 40 m allows the use of very large, heavy-duty excavators. For Ras Laffan, the machine selected was a 230 t O&K RH90C with triple boom, equipped with a 30 m boom and GPS Prolec Digmaster system enabling precision working in deep water.

Land-based equipment assisting in the finishing work was varied. In the placement of antifers, 127 t Hitachi Zaxis 850s are used. These are equipped with specially designed rotating grabs to pick up and position the heavy and large dimensioned blocks, which could be up to 3,0 m³.

To the untrained eye, the placement of the antifers seems random, but, in fact, they are carefully placed to ensure their effectiveness in dispersing wave energy and to prevent back-scouring.

Other Hitachi ZX850s are configured with long reach booms to give a 30 m reach. These were modified by Abeko with a special float arrangement on the end of the stick to improve handling. This was essential to enable the necessary precision when placing large rocks and concrete blocks under the water. Apart from the GPS Prolec Digmaster, some of these excavators also feature a sonar radar system to provide the operator with underwater vision.

All available equipment is being put to use in the final stages. Kobelco CKE 800 crawler cranes with an 80 t lifting capacity, work alongside 130 t Hitachi ZX870 excavators placing antifers as quickly as possible. These are delivered from a nearby stockpile, in a continuous flow, by Cat 988H and Cat 966H wheel loaders with front end handler.

Cat articulated dump trucks and rigid dump trucks are being used to haul the final batches of armor rock from the quarry stone stock pile. Highway trucks bring the material into the site. Working the stockpile is a Komatsu PC 600 excavator as the primary loader.

Although centrally positioned, such is the scale of the project that the haul distances can be several kilometres in length. The travel distances, extreme heat, humidity and a dusty environment are very tough conditions for the machines, the operators and workers.

Key equipment in the Abeko fleet includes:

(4) 160 t Hitachi EX1200/5 with triple boom giving a reach of 24 m. The track frame on these has been extended and widened for extra stability.

(1) 150 t Hitachi EX1100 with triple boom for a reach of 24 m.

(4) Hitachi ZX870/3 with triple boom. These 130 t machines have a 22 m reach.

(2) Hitachi ZX870/3 Long Reach, with an operating weight of 130 t and a reach of 24 m.

(5) Hitachi ZX850 excavators with triple boom, an operating weight of 127 t and 22 m reach.

(1) 160 t Hitachi EX1200-5 Long Reach providing 30 m reach. This unit features a special float attachment on the stick to increase stability when work at full reach under water.

(2) O&K RH25.5 excavators, 80 t with triple booms giving an 18 m reach.

The Abeko Server 1, self-propelled, fully automated, self-sufficient jack-up barge.

These specially configured machines worked with a variety of Beco grabs and Krupp Hammers.

Additional excavators and other equipment

was brought in as required from the extensive Abeko fleet which comprises over 150 pieces of equipment, all selected specifically for marine and coastal engineering works.

Equipment available includes multi-purpose self-propelled spud barges; heavy-duty tracked excavators; wheeled excavators up to 75 t; wheeled loaders up to 90 t; multi-dockers; bulldozers; articulated dump trucks and remote controlled tracked loaders.

Almost all the machines have been extensively modified for the type of work they are required to do.

INVESTMENT IN ENSURING SERVICE

The work is demanding and the conditions tough for both men and machines. With tight deadlines to meet, Abeko was charged with ensuring that the most appropriate equipment was available to the order of the Van Oord and the JV.

It was essential, therefore, that they ensured that the equipment was reliable, and that the operators had the necessary skills to work with the advanced technology used in placing the various materials. The operating environment in Ras Laffan is not the best for plant and equipment. Servicing was, therefore, deemed a priority. As the machines

were virtually on-call at all times, service scheduling was critical.

Apart from fully equipped service vehicles used by technicians skilled to work on a wide variety of machines, Abeko also built a fully equipped workshop with 10 full-time engineers and 2 full-time site/workshop supervisors. This provided the essential 24 hour day coverage, 7 days a week. To minimize delay in servicing and repairing the equipment, Abeko had over €1 500 000 ($2,4 million) worth of spare parts on site at all times.

LOGISTIC MANAGEMENT

Working on projects where specialized equipment is required takes many months of planning. From the earliest possible time (even pretender stage), Abeko works with contractors in devising the most cost effective solution to ensure that not only is equipment sized and configured for the project but that it

is delivered on time.

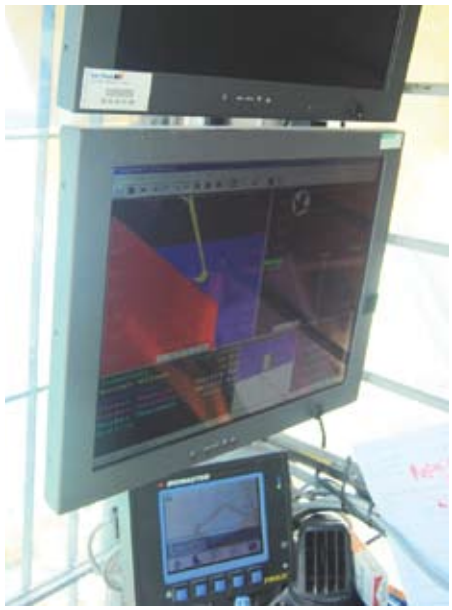
As a global plant hire company, this can mean shipping equipment from different parts of the world as well as making any necessary modifications. Within the Abeko

range of equipment there is no such thing as a “standard” machine. This is what differentiates Abeko from most other plant hire companies.

Almost every piece of equipment has been extensively modified to meet the challenging work demanded from them. Typical modifications include wider, longer undercarriages on excavators for increased stability and additional counterweights to facilitate handling or large, heavy-rocks and precast elements.

Dump trucks typically have Hardox bodies and electrical circuits given additional protecting from the harsh environment. Some components such as alternators are also upgraded.

Abeko also uses many different boom configurations and will even make their own modifications to booms for special applications. Their self-propelled jack-up barges are also fully equipped with accommodation units



and catering facilities to enable extended operations offshore to maximize available time.

WORKING IN PARTNERSHIP

The current phase is the first step in a major expansion of the port facilities at Ras Laffan Industrial City which already has two of the world largest natural gas terminals.

The contract, valued at $2,4 billion, by Hofstade-Aalst, Belgium - Qatar Petroleum, is being undertaken by Jan de Nul Group in a 50/50 joint venture with Boskalis. Van Oord BV is under contact to the main contractors to undertake construction of the breakwaters and associated works.

For many years, Abeko BV has had a close association with Van Oord providing vital equipment and support services.

Student Steel Bridge Competition Highlights the Future of Structural Engineering

A team of eleven civil engineering students from SUNY – Canton won the 18th annual ASCE/AISC National Student Steel Bridge Competition, held May 22-23, 2009 at the University of Nevada in Las Vegas. Second place went to the team from North Dakota State University – Fargo, while Lakehead University – Ontario, Canada, took third overall.

This year's competition featured 46 teams from universities around the United States and Canada. Each team of future structural engineers performed the steel design, steel fabrication, and steel erection required to construct 6 m-long scale-model bridges capable of carrying 1133 kg, serving as both a functional and appealing replacement for a century-old highway bridge. The bridges were judged in six key categories related to steel design and construction: construction speed, stiffness, lightness, economy, display, and efficiency.

Those teams with the best combined rankings across all six categories earn overall award recognition.

Student teams work for months perfecting the design, fabrication and construction of each bridge. To reach the national competition, each team must also place among the top schools in one of 18 regional competitions held across the country each year.

The National Student Steel Bridge Competition is sponsored by AISC in cooperation with the ASCE and is co-sponsored by the American Iron and Steel Institute, the National Steel Bridge Alliance, the James F. Lincoln Arc Welding Foundation, Nucor Corporation, Bentley Systems, Inc., Steel Structures Education Foundation, and CISC-ICCA.

The 2010 National Student Steel Bridge Competition will be held on May 28-29 at Purdue University.

The top three winners in each category were:

Construction Speed
- SUNY – Canton
- Université Laval
- Lakehead University

Stiffness
- University of Central Florida
- Seattle University
- University of Colorado, Denver

Lightness
- North Dakota State University
- Virginia Tech
- University of Wisconsin, Madison

Economy
- Université Laval
- Lakehead University
- SUNY Canton

Display
- École de Technologie Supérieure
- North Dakota State University
- Lakehead University

Efficiency
- North Dakota State University
- Virginia Tech
- Washington State University

Source: American Institute of Steel Construction, www.aisc.org/steelbridge

Congress 2010 Announces New Partnerships

Landscape Ontario is pleased to announce two exciting strategic partnerships for its annual trade show and conference – Congress 2010. The Canadian Fence Industry Association is returning to host Fencecraft and a new partnership has been formed with the Ontario Parks Association who will co-locate their annual Explorations trade show and education conference with Congress 2010.

The 38th edition of Congress will take place January 12-14, 2010 at the Toronto Congress Centre and all horticulture, landscape, fencing and parks professionals looking to strengthen their business relationships are invited to mark these important calendar dates.

"Co-locating events is a strategic decision designed to expand existing business and to present opportunities for new business from allied professionals," notes Paul Day, Congress 2010 show manager. "By collaborating with successful partners we are able to drive more business to vendors, position them in front of potential new customers and give them new opportunities to be seen by the industry movers and shakers who are defining the future of the game."

Each year, Congress attracts more than 10 000 industry professionals. 72% of them cite product and technical knowledge as the primary reason for attending the event. Direct interaction on the trade show floor solidifies business relationships. The conference sessions offer a comprehensive range of professional development programs for industry practitioners and businesses.

Source: Landscape Ontario

Jones Crawler Cranes Purchases the First TCC-750 at SED

Left to right: Rod Abbott, NRC Plant managing director; Mark and Alexandra Jones, Jones Crawler Cranes, Ltd.; and Bill Stramer, Link-Belt vice president, marketing, sales and customer support.

Jones Crawler Cranes, Ltd., of Shaftesbury, in the United Kingdom, purchased the first Link-Belt TCC-750 telescopic crawler crane at SED, on May 13, 2009. Jones Crawler Cranes, owned by Mark and Alexandra Jones, specializes in the rental of hydraulic crawler cranes throughout Southern England. NRC Plant, the UK distributor for Link-Belt cranes, projects the crane will be in service late third quarter or early fourth quarter 2009 following the completion of final testing.

The TCC-750 made its European debut at SED with NRC Plant. The telecrawler received very strong interest throughout the show.

The TCC-750 has a completely sealed lower and hydraulically retractable side frames for easy transport and on-site flexibility. The full power boom has a maximum tip height of 38,9 m. Designed and built from the ground up at Link-Belt headquarters in Lexington, Kentucky, the TCC-750 has the same well-thought-out features and bulletproof hydraulics as Link-Belt's proven lineup of telescopic cranes.

Link-Belt Construction Equipment Company, with headquarters in Lexington, Kentucky, is a leader in the design and manufacture of telescopic boom and lattice boom cranes for the construction industry worldwide.

Source: Link-Belt

ICUEE 2009 exposition to salute "Utility Champions" – Share a story

"The Demo Expo" will honor the dedicated members of the utility industry.

The 2009 International Construction and Utility Equipment Exposition (ICUEE) will spread the word about the dedicated workers in the utility industry who respond tirelessly during disaster recovery efforts. ICUEE 2009 will commemorate these "Utility Champions" with a special display at the show as well as recognition on the show website. It invites industry professionals and others to share their stories for the tribute. Go online to fill out a short form to tell your story about these industry individuals, teams, fleets or companies who have made a positive difference (www.icuee.com/Champions). Photos can also be submitted.

"These hardworking men and women are on the front lines helping communities recover from natural disasters, and ICUEE 2009 wants to publicize the stories of their extraordinary service," stated ICUEE show director Melissa Magestro.

ICUEE 2009 will be held October 6-8, 2009 at the Kentucky Exposition Center in Louisville, Kentucky. The biennial exposition focuses on the utility/construction industry, including electric, phone/cable, sewer/water, gas, general construction, landscaping and public works.

ICUEE is also called The Demo Expo in recognition of its extensive hands-on working equipment demonstrations. The show will cover more than one million net square feet of exhibits of the latest equipment, technologies, products and services. The 2009 show will provide an enhanced show experience with more educational and networking opportunities than ever before.

"Every year there are examples of the good work our industry does in disaster cleanup, for example, a far-off company fleet sent to help after Hurricane Katrina in New Orleans, a lineman who helped restore power after Kentucky ice storms, or a supervisor filling sandbags to prevent Fargo, North Dakota flooding. The industry gathers at ICUEE to share knowledge and now can share some inspiration from our Utility Champions," noted Mrs. Magestro.

Source: International Construction and Utility Equipment Exposition

Fraco Involved in an Innovative and Cost-Effective Bridge Concept

Fraco mast climbing platforms have been selected as the preferred access system for the Pitt River Bridge project located in Pitt Meadows, British Columbia. The project is part of a $198 million infrastructure investment which will allow for the elimination of the current counterflow system. The Pitt River Crossing is part of a long-term initiative to improve highways in Greater Vancouver.

The new infrastructure consists of a cable-stayed bridge that will offer eight traffic lanes. It will also provide up to 16 m of vertical marine clearance, as well as providing facilities for cyclists and pedestrians. The bridge has been designed with six pillars that will hold 96 cables. Bridge construction began in 2007.

General contractor Peter Kewit Sons, Co. was looking for an access system to allow the installation and tension adjustment of cables on each column. ABC Fraco Inc., a subsidiary of Fraco Products Ltd, offered an innovative solution with its proposition of twelve ACT-8 units. “From the beginning, we knew that ACT-8 platforms were the perfect answer to the challenge of accessing each cable level of pillars”, mentioned François Villeneuve, executive vice president at Fraco Products.

Unfortunately, it was impossible to surround each column with Fraco's regular accessories. In order to allow workers to install and adjust the cables’ tension, Fraco developed a fully adjustable drawer extension which can be mounted on regular ACT-8 units. “The idea was to find a way to access each cable face of pillars and still being able to move the platform up and down in a short period of time. The drawer platform can be quickly extended and retracted on demand each time a cable needs to be installed or adjusted. The drawer can also move laterally in order to adapt to the taper shape of each pillar”, explains Mr. Villeneuve.

Naturally, with an elevation speed of 11,6 m/min, the ACT-8 unit provides a huge benefit to the contractor since there is a lot of vertical movement on each 40 m column. Platforms can be accessed from the base of each column and workers are ready to work in few minutes. Drawers’ operation is easy and safe as the overall Fraco platform. All ACT-8 units have been installed in October 2008. At the beginning of May 2009, only few cables remained to be installed.

Fraco is a Canadian-based manufacturer of mast climbing access systems. The company offers solutions to specific construction markets such as bridges and dams, glazing and masonry. It has also recently been involved in several chimney demolition projects. Fraco has a wide distribution network in North America, Europe, Middle East and Asia.

Source: Fraco Products Ltd,
1-800-267-0094

Stone Adds Rep Organization in Canada

Rob Newell, domestic sales manager for Stone Construction Equipment, Inc. is pleased to announce the appointment of a manufacturers' rep organization to the Stone sales team – HH Sales & Marketing from St. Johns, New Brunswick. HH Sales will be representing the full line of Stone products, in addition to their other product lines, to select dealers and distributors in Atlantic Provinces of Canada that include New Brunswick, Nova Scotia, Prince Edward Island, New Foundland & Labrador.

HH Sales & Marketing owned by Ralph Hooton, is well positioned to help cover the Atlantic Provinces. Mr. Hooton has been in the industry within this territory for over thirty years and has developed many solid business relationships. He and his staff will be a great asset to the Stone team.

Source: Stone Construction Equipment, Inc.

Nanaimo Machinist Wins Silver Medal at Canadian Skills Competition

On May 23, 2009, Mike Kleywegt, a CNC Machinist trained by Nanaimo manufacturer, VMAC, won the silver medal at the 15th Canadian Skills Competition 2009 in Charlottetown, Prince Edward Island. Mr. Kleywegt, who joined VMAC as a co-op student, won the gold medal in the CNC Machining category at the British Columbia Skills Canada competition in April, qualifying to compete in the national competition.

The CNC Machining category of the competition turned out to be a real challenge for competitors. Contestants received only 20 minutes orientation on Mazak CNC machines, and were then given a drawing and just 3.5 hours to program and manufacture the part. The competition spanned a couple of days with components being produced on turning and machining centers. The Mazak CNC machine itself presented a unique challenge as they operate off a proprietary control system with which Mike Kleywegt had no experience. "It was kinda like two stepping with a drunk girl," said Mr. Kleywegt. Despite the challenges presented by the competition, Mike Kleywegt demonstrated his exceptional skill level and won the silver medal.

Started in 1994, the Canadian Skills Competition (CSC) remains the only event of its kind in Canada. It is the only national, Olympic-style, multi-trade and technology competition for young students and apprentices in the country. Every year, the event brings together approximately 500 young people from all regions of Canada, along with their parents and advisors, to compete in over 40 trade and technology areas. The competition provides an opportunity for young Canadians studying a skilled trade or technology to be tested against exacting standards and against their peers from across the nation. Students vie to win the honour of being crowned the best in their chosen discipline.

VMAC engages two co-op Students every year as part of their community support programs and dedication to training the best in the trades and manufacturing fields.

VMAC is a manufacturer of air compressor systems for the mobile-mechanic, tire service, utilities and construction industries. Specializing in UNDERHOOD and Hydraulic Above-Deck Systems, VMAC is credited with developing the lightest and most compact mobile air compressors available in the industry.

Source: VMAC

Appointments

Underground Tools, Inc. recently announced the addition of **Mark Gehrke** as territory sales manager. Mr. Gehrke joins the company with over 15 years of sales and product management experience in the underground construction equipment industry.

"We are at a point right now where, in order to maintain and improve the quality of our service, we needed to bring Mark on board and expand our sales staff," said UTI partner, Mike Burns. "Mark is highly qualified and gives us the opportunity to raise the level of service to our existing customers and reach out to new ones as well."

Mark Gehrke began his career with his family-owned trencher dealership in Phoenix, Ariz. and then as a founding member of equipment manufacturer American Chain, Inc. and most recently as ground engaging manager for Astec Underground.

Underground Tools, Inc. manufactures a wide range of wear parts for the underground construction industry, specializing in trencher and horizontal directional drilling ground engaging parts.

Source: Underground Tools, Inc.

Grosvenor Americas has appointed **Michael Beattie** as chief portfolio officer. He succeeds Dave Olson, who is retiring after 20 years with the company.

In his new role, Mr. Beattie will have the responsibility for all of Grosvenor Americas' property assets in the U.S. and Canada, which total approximately seven million square feet with a value of $2,6 billion. He will be based in the company's Vancouver office.

MichaelBeattie has served as Grosvenor Americas' senior vice president of Portfolio Management for the past two years. Prior to that, he served as vice president. He holds a B.A. degree from the University of Calgary and is a member of the Downtown Vancouver Business Improvement Association, the Real Estate Council of Alberta, the National Association of Industrial and Office Properties (NAIOP), the Building Owners and Managers Association (BOMA), and the International Council of Shopping Centers (ICSC).

Source: Grosvenor Americas

Launch of the Romaine Hydroelectric Complex

On May 3rd, 2009, officials launched construction on the hydroelectric complex on the Romaine in Havre-Saint-Pierre, Québec.

The project has the support of local communities, and partnership agreements have been signed with the Minganie Regional County Municipality and four Innu communities in the reservoir area. A joint federal-provincial review panel approved construction of the project after a rigorous and transparent environmental assessment process.

The 1550 MW La Romaine hydroelectric complex will be situated on Rivière Romaine north of Havre-Saint-Pierre, in the Côte-Nord region. Construction of the four reservoir-powered plants and a permanent 150 km long road will cost an estimated $6,5 billion. Average annual production at the complex is anticipated to be 8 TWh, enough to power more than 450 000 households.

Construction of the La Romaine complex will generate substantial economic spinoffs. Contracts and the purchase of related goods and services should generate $3,5 billion for Québec as a whole and $1,3 billion in the Côte-Nord region alone. Total employment on the site will average nearly 1000 workers per year. At the height of construction between 2012 and 2016, some 2000 workers will be on the site.

The La Romaine complex has undergone an extensive environmental impact study of the physical, biological, and human aspects of the project. Various attenuation and compensatory measures will be implemented to minimize the project's environmental footprint and enable local residents to continue their pursuits in the area. The project will also be subject to a massive environmental monitoring program until 2040. The cost of studies, attenuation measures, and environmental monitoring is estimated at over $200 million.

Source: Hydro-Québec

The Seaway Turns Green

Thanks to the determination and concerted efforts of the department of engineering at the St. Lawrence Seaway Management Corporation (Seaway), Bosch Rexroth and Enviro-Énergie, the network of locks, channels and canals which connects the Great Lakes and the Saint-Laurent has achieved a "Green turn" by relying on the quality and the world expertise of PANOLIN, a Swiss manufacturer of biodegradable and non-toxic lubricants for over 30 years. PANOLIN is used in more than 40 countries and its expertise has been tested in more than 800 000 equipments (mobile and stationary) achieving beyond one billion hours of oil in service.

Indeed, the Saint-Laurent Seaway, considered as a major technical achievement of the 20th century, has chosen the PANOLIN's biodegradable and non-toxic hydraulic fluid for the hydraulic conversion of the locks opening directly on Lake Ontario and Lake Erie. Because their geographical location on the Welland Canal, theses locks have the greatest potential of water contamination for these two Great Lakes. The whole project required a volume of approximately 25 000 liters of PANOLIN's biodegradable and non-toxic hydraulic fluid.

On March 31st, 2009, the St. Lawrence Seaway celebrated its 50th anniversary at the St. Lambert Lock. Inaugurated in 1959 by Queen Elizabeth II and President Eisenhower and proclaimed as one of the ten most outstanding Canadian engineering achievements of the past 100 years, the Seaway stands as evidence of an enduring asset. Since its inception, over 2,5 billion t of cargo valued in excess of $375 billion has been transported via the Seaway.

Distribution Enviro-Énergie, the Canadian importer of PANOLIN's bio-lubricant, is proud to share PANOLIN's technology, know-how and the professionalism with Canadian companies concerned with their environmental image.

Source: Distribution Enviro-Énergie

send the changes to us by mail or by fax or type-in the information in an e-mail

Subscription

Make changes or add your colleagues to the mailing list

Old Address

Name: _____

Company: _____

Address: _____

_____

Province/Postal Code: _____

New Address

Name: _____

Title: _____

Company: _____

Address: _____

_____

Province/Postal Code: _____

Phone: _____

Fax: _____

e-mail: _____

Agenda

4th Annual Salon National de l'Environnement
June 19 - 21, 2009
Montreal, QC Canada

ITE 2009 Annual Meeting and Exhibition
August 9 - 12, 2009
San Antonio, TX USA

Great American Trucking Show
August 20 - 22, 2009
Dallas, TX USA

Wood Week
September 10 - 12, 2009
Quebec City, QC Canada

APOM Technical Day
September 11, 2009
Trois-Rivières, QC Canada

2009 APWA International Public Works Congress & Exposition
September 13 - 16, 2009
Columbus, OH USA

16th ITS World Congress
September 21 - 25, 2009
Stockholm, Sweden

WASTECON 2009
September 22 - 24, 2009
Long Beach, CA USA

ICUEE - The International Construction & Utility Exposition
October 6 - 8, 2009
Louisville, KY USA

WaterSmart Innovations Conference and Exposition
October 7 - 9, 2009
Las Vegas, NV USA

BICES - Beijing International Construction Machinery Exhibition & Seminar
November 3 - 6, 2009
Beijing China

INFRA 2009
November 16 - 18, 2009
Mont-Tremblant, QC Canada

EXCON 2009
November 25 - 29, 2009
Bengalore, India

Atlantic Logistic Forum
November 26 - 27, 2009
Pau, France

CONGRESS 2010
January 12 - 14, 2010
Toronto, ON Canada

Bauma 2010
April 19 - 25, 2010
Munich, Germany

IFAT CHINA
May 4 - 6, 2010
Shanghai, China

Hillhead - *Dates changed*
June 22 - 24, 2010
Buxton, UK

IFAT 2010 - International Trade Fair for Water, Sewage, Refuse and Recycling
September 13 - 17, 2010
Munich, Germany

IAA Nutzfahrzeuge - commercial vehicles
September 23 - 30, 2010
Hannover, Germany

CONEXPO-CON/AGG & IFPE
March 22 - 26, 2011
Las Vegas, NV USA

CÔTÉ ®

Depuis 1929 Since

Côté now offers Asphalt & 4 Season Bodies, Salt Spreaders, as well as Snow Plows on which the company's reputation has been built

Côté vous propose des bennes à asphalte et 4 saisons, épandeurs à abrasifs, en plus des chasse-neige qui ont fait la renommée de la compagnie

19 Côté - Mercier (Québec) - Canada - J6R 2B9 - Fax: (450) 691-2830 - E-mail: info@w-cote.com

Telephone: (450) 691-2967 **www.w-cote.com**