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nfraStructures

Volume 11 Number 1 December 2005 / January 2006

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InfraStructures magazine 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 with two separate editions.

The cost of a subscription for either edition for one year is \$20 for Canadian residents and US\$50 or 50 Euros for U.S. and overseas.

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Bibliothèque Nationale du Québec, 2005

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A Word From the Publisher

Celebrating the start of a new year, InfraStructures offers you even more articles and stories on heavy machinery and specialized equipment. Our commitment to become the first national magazine in our industry has proven to be a success.

InfraStructures now reaches more readers in more regions than any other magazine in the trade in Canada. We have still a lot of work ahead of us.

In the coming months, you will find stories from all parts of the country, stories that you can relate to.

Readers tell us that they appreciate the quality of the presentation and the wide variety of InfraStructures' editorial content. Short articles, rich in technical information, will continue to be part of our strategy.

Tell us what you think.

We hope that you will enjoy reading InfraStructures and would like to extend our warmest wishes for a prosperous and joyful new year.

authen Villand

Editor/Publisher



On the cover:

a Bobcat skid steer is used to clear the snow with the help of an hydraulically driven snowblower.

High-flow hydraulics now make it possible to use small equipment to do the work traditionally done with much bigger machines.

H2O INNOVATION CHOSEN TO SUPPLY DRINKING WATER TREATMENT SYSTEM TO DIAMOND MINE

The management of H2O Innovation (2000) inc. is pleased to announce that De Beers, the largest supplier of rough diamonds in the world, will produce drinking water at its new diamond mine Victor with a membrane filtration system from H2O. The Victor project is situated in the James Bay region of northern Ontario, 80 km from the maritime community Attawapiskat. During the three year construction phase, the system will supply up to 880 people with drinking water. After the construction phase, the same system will be adapted to serve a permanent accommodation complex of close to 250 inhabitants. H2O was awarded the contract by ATCO Structures, the company contracted by AMEC to build and install the workforce housing at Ontario's first-ever diamond mine.

"One of the critical points of this project was to design a process that could adapt to the two phases of this project without increasing the costs; the difficulty comes from the need during the first phase to treat ground water, then surface water in the second phase", explains Guillaume Clairet, Account Manager for H2O. This challenge can be met by H2O thanks to its expertise in design and the portfolio of technologies that can treat different types of raw water. The two units that constitute the treatment system will be prefabricated and delivered to Victor ready for connection to the network in January 2006.

Source: H2O Innovation (2000) inc.



IPDSteel[™] Articulated Two-Piece Pistons



IPD LLC of Torrance California announces the first in its product line of Aftermarket Articulated Cast Steel Piston Crowns with Aluminum Skirt for use in Caterpillar[®] 3114 & 3116 engines. These IPDSteel[™] pistons are patent pending and will soon be available for other applications.

According to IPD, this innovation is important to the independent aftermarket as it will offer a choice when it comes time to repair engines with products that have been previously restricted to only OEM suppliers.

Also available from IPD is a complete range of products including aluminum pistons, overhaul kits, valve train products, bearings and component parts.

IPD has been in business for over 50 years supplying the independent aftermarket with high quality parts and components for Heavy Duty Diesel and Natural Gas Engines.

Since 1955 IPD has been synonymous with quality, innovation, service and support. IPD has been involved in many areas of equipment repair parts in the past including the manufacturing of many of these items. The company's focus going forward however is on our product line of engine parts for Caterpillar[®] Engines.

A background in manufacturing gives IPD the detailed requirements on its products that set the standard for quality in the replacement industry. IPD has the capabilities of worldwide manufacturing to assure the high quality that our customers expect.

Source: IPD LLC, www.ipdparts.com

All manufacturers' names, numbers, symbols and descriptions are for reference only. It is not implied that any part is the product of the manufacturer. Caterpillar[®] and Cat[®] are registered trademarks of Caterpillar, Inc.

SCHMIDT GROUP PARTNERS WITH AL-LIANZ MADVAC

Allianz Madvac is proud to announce that it has signed a distribution agreement with German based Schmidt Group.

This strategic alliance gives Schmidt Group access to the Madvac line of products in key European markets. Schmidt Group will now have exclusive distribution rights in Germany, United Kingdom, France, Italy, Spain, The Netherlands, Belgium, Luxemburg, Poland, Serbia and Turkey. This strategic alliance is reinforced by the fact that both product lines are complementary.

Schmidt will launch two Madvac sweepers, including the latest 1 m³ model. Recognizing the input from Schmidt in the final development of this sweeper, it will be marketed as the Schmidt Swingo 100. The well known Madvac PS300 pedestrian area sweeper will join the Schmidt lineup as the Schmidt Citygo 30. These two new product additions will further enhance and complete Schmidt Group's already comprehensive line of products.

Schmidt Group and Allianz Madvac will be working closely together on further developments and market requirements.

The Schmidt Group is a market leader in the winter maintenance and sweeping business as well as in airport equipment. With 15 local sales organizations and 3 European manufacturing locations, the Schmidt Group is known throughout the world.

Source: Allianz Madvac

ALIANT LAUNCHES 10-4 SERVICE ACROSS ATLANTIC CANADA

Aliant, Atlantic Canada's leading information and communications technology provider, recently launched Aliant 10-4 service, a wireless communication service that functions like a walkie-talkie. Aliant's 10-4 service is available using the Sanyo 2300 cellphone and provides a fast, convenient and affordable way for business and residential customers to communicate.

"At Aliant we continue to look for ways to expand our offerings and improve our customers' experience," says Paul Pothier, Director, Wireless Business Marketing, Aliant. "The Aliant 10-4 service, for example, will enable customers who work in fast-paced industries such as manufacturing, construction, transportation and hospitality to communicate with multiple people efficiently and cost-effectively."

Aliant 10-4 service offers customers unlim-

ited one-to-one 10-4 calling across Canada; unlimited group calls; no long distance fees in Canada or the USA; and, for a limited time, no roaming fees in the United States.

The service enables customers to communicate with one another in one direction at a time. To control which person can speak and be heard, the customer presses a button on their 10-4 enabled cellphone while talking and then release it when they are done. The listener then presses their button to respond. It takes just seconds to send and receive messages using the service.

Source: Aliant

BELL CANADA AND NORTEL DELIVER ADVANCED BROADBAND SERVICES AND APPLICATIONS TO NORTHERN ONTARIO COMMUNITY

Project Chapleau, a technology showcase developed by Bell Canada, Nortel, and the Township of Chapleau, recently turned on



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high-speed networking and applications in this Northern Ontario community. Project Chapleau is designed to evaluate the economic and social benefits of communications technologies on rural communities.

"What began as a vision – a critical need to create an economic recovery plan for our community - is now a reality," said Earle Freeborn, Mayor of Chapleau. "Broadband access, including one of the first rural wireless mesh networks in Canada, will enable

Chapleau to connect, and compete, with other communities throughout the world, positioning us as a centre for innovation and change."

As part of this technology showcase, Chapleau will benefit from next generation wireless mesh, optical, multimedia communications and enterprise solutions using an upgraded optical network. Bell Canada and Nortel have also opened the Chapleau Innovation Centre, where residents can access

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and learn about new technologies. Through the Centre they can also connect virtually with the Bell-Nortel Innovation Centre in Ottawa and the leading-edge technologies and expertise being developed there. The Chapleau Community Portal - www. chapleau.ca - now provides a virtual meeting place for the community and access to the global marketplace.

"Project Chapleau is not just about deploying technology, it is about learning from this community and about looking at new models for the provision of healthcare, education and commerce," said Michael Sabia, President and CEO of BCE and CEO of Bell Canada. "Access to new resources and services enables Chapleau's residents and businesses to participate in and build a broader concept of community."

Over the next 14 months, Bell Canada and Nortel will work with leading researchers from Laurentian University, the University of Toronto and others to study the impact of broadband technologies and applications on the community. Project Chapleau is working with school boards and teachers in the town to broaden their curriculum through leading edge applications and online educational initiatives.

"By working with the schools, we hope to bring the world to Chapleau so that students and teachers can pull educational resources from the Internet and collaborate with their peers and colleagues in other remote communities, cities and even other countries," said Bill Owens, Vice Chairman and Chief Executive Officer, Nortel. "We will work with researchers to better understand how technology can change the way children learn and to study the impact on provincewide programs such as math and literacy."

The delivery of health services to the area is expected to be enhanced with better collaborative tools for health practitioners and applications in disease management, with a particular focus in the area of diabetes monitoring.

Chapleau is a Northern Ontario community of approximately 3000 people and lies about 320 km northeast of Sault Ste. Marie. The community is the gateway to the world's largest nature preserve - the 700 000 ha Chapleau Crown Game Preserve. Source: Bell Canada, Nortel,

Township of Chapleau







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SPS: A Bridge Sandwich...



Repairing a bridge or an overpass generally comes with a string of technical and financial

constraints. Pushing those involved to seek alternative approaches, Solicor, a division of Canam Group Inc., proposes a new technology which will reduce both time and costs associated with traditional restoration methods.

The SPS technology (Sandwich Plate System), for which The Canam Manac Group obtained a license in June 2003, was invented by Intelligent Engineering Holdings Limited and has been developped in

concert with BASF. It is a composite material in which two metal plates are bonded to a solid elastomer core. The elastomer provides continuous support to the steel plates eliminating the need for additional stiffeners.



The stiffness and strenght of the SPS plate can be tailored to meet particular static and dynamic structural requirements by varying



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the thickness of the sandwich elements.

Apart of the lightness and expected lifespan of the material, one of the great advantages of this new technology is the speed and ease of assembly.

Last Fall, the bridge over the Massawippi River, located in the City of Sherbrooke's Lennoxville borough, was the subject of a rehabilitation project which included, amongst other things, replacement of its old concrete deck. road to circulation for several weeks was not possible because of the significant amount of traffic – 13 000 vehicles per day.

Furthermore, in order to meet the new code requirements, a new concrete deck would have had to be made thicker and the added weight would have required reinforcing the main structure of the bridge.

These factors led the stakeholders to choose an alternative solution. The use of SPS plates reduced the complete closure of Used primarily in the fabrication of decks on ships and offshore drilling rigs, the SPS plates have proven their durability and strenght in an hostile environment. They are slowly emerging as a more than viable option in the field of civil engineering.

SPS plates are produced at Solicor's plant in Laval, Quebec. The high quality, high tolerance plates are tailored to each project and are delivered onsite with all the required fittings, ready to be installed with a conven-

> tional crane through bolting and welding. The plates even come equipped with all the hardware required for the installation of safety railings, street lights, and traffic signs if required.

With numerous realisations in Canada and all over the world, the Sandwich Plate System offers interesting opportunities for those in search of efficiency in the

construction or refection of structures.



Due to a lack of room on each side of the bridge, the construction of a temporary bridge was not feasible. Closing that section of



the bridge by several weeks. The lightness of the new structure meant that bridge's arches could be preserved with their heritage value.

Solicor Successfully Completes its First Bridge in Ontario

Solicor, the business unit of Canam Group Inc. specialized in the fabrication and marketing of the Sandwich Plate System (SPS) technology, has successfully completed its first bridge deck replacement project in Ontario. The new bridge deck, 7,5 m wide by 11,3 m long, was built for the municipality of Port Hope, east of Toronto from two SPS panels.

The new SPS bridge deck was erected 30 cm above the existing debilitated concrete deck. The longitudinal SPS panels rest on the existing concrete abutments at both ends of the bridge. The two SPS panels as well as the four integrated girders were fabricated at Solicor's Laval, Quebec plant.

For Port Hope, SPS technology was a quick, simple and economical solution. Installing the SPS bridge deck above the existing concrete deck meant that no alterations were required to the existing substructure. The prefabricated panels made it possible to significantly reduce total project costs compared with traditional repair methods.

According to Luc Pelland, President of Solicor, "Winning this contract confirms that our market development strategy in Ontario is working and that the municipalities and engineers in the province recognize the advantages of using SPS technology for bridge rehabilitation and construction. Given our breakthrough in Port Hope, we are confident that new bridge contracts in

Ontario will follow." "The installation and finishing work went smoothly, taking two days instead of the predicted three, so we are delighted with the results," said David Croteau, Technical Director for Solicor.

In November 2003, Solicor successfully completed the erection of the first bridge with a composite SPS deck at Saint-Martin de Beauce, a village 110 km south of Quebec City (InfraStructures vol.9 No.1). A SPS bridge in Sherbrooke, Quebec, (see above) has just been completed, and another, in Bristol, Virginia, is the first bridge contract in the United States using the SPS technology.

The contract awarded by the Virginia Department of Transportation (VDoT) consists of a bridge 19 m by 11,6 m on Highway 58 in Bristol, Virginia, to replace the existing outdated bridge. The bridge will be composed of eight panels fabricated from SPS plates at Solicor's Laval plant.



On completion of the project, the Virginia Transportation Research Council (VTRC) as well as the Virginia Polytechnic Institute and State University intend to conduct research on the bridge that will assess the SPS deck's load distribution on the main girders.

Several other departments of transportation in Canada and the United States are keeping a close eye on the development of SPS technology.

Source: Canam Group Inc.

Schhh... Low Noise Crawler at Work !

Atlas Copco, the leading drill rig manufacturer, is set to launch the world's first ROC series surface drill rig with a substantially reduced noise level making it the quietestrunning rig of its kind.

The Silenced ROC has a noise level of approximately 10 dB(A) below that of other rigs on the market, which enables it to be used in very restricted worksites in urban areas.



Combined with lower fuel consumption and increased drilling capacity, the new Silenced ROC – designated as an option on ROC D7C – represents a major step forward for the drillers' working environment and an ideal choice for small and medium-sized quarries and civil engineering work sites.

NOISE A KEY FACTOR

In many countries, strict noise restrictions are imposed for drilling in urban areas. This presents new opportunities for companies using Atlas Copco's new Silenced ROC. The rig's Silencing Kit reduces the noise level by more than 10 dB(A) which makes it possible to drill virtually anywhere.

Atlas Copco has a clear strategy when it comes to environmental and safety issues, says Anders Hedqvist, D&D Manager Atlas Copco Surface Drilling Equipment. We are in the forefront of the development and the Silenced ROC plays an important role in this work. In the future, people who live near a quarry or construction site will have quieter surroundings.

Drilling noise is generated by vibration in the drill steel, feed system, boom and body of the rig. The advanced silencing system consists of many components which reduce the overall noise level, but the most noticeable is the hood that covers the mast.

LOWER FUEL CONSUMPTION

The advanced and more efficient hydraulic system together with the new, more powerful Caterpillar engine makes it possible to lower the idling rpm and to choose the optimal power needed for drilling in different rock



conditions. This makes it possible to lower the fuel consumption by up to 30% compared to similar rigs on the market.

INCREASED PRODUCTION CAPACITY

The popular ROC D7C is operated by a digital RCS system. This system is now upgraded and the new version makes it possible to increase the shift capacity through faster positioning.

Half of the time on each shift is used for actual drilling with a rig and half for tramming, positioning, rod adding and preparation for drilling, says Lennart Lundin, Product Manager, Surface Drilling Equipment. By using the new ROC D7C, with its automatic rod adding and auto feed alignment system, the productivity can be increased by 10% or more.

Source: Atlas Copco

Goodyear Offers New Hose Tracking Technology

To help industrial hose end-users, Goodyear Engineered Products is introducing an on-line tracking system that takes the guesswork out of hose maintenance.

Goodyear Hose Trakker Online monitors hose assemblies from pre-installation through the life of the product. The web-based tool is available only to Goodyear Star distributors and allows their customers to access hose assembly records, while sharing information with a click of a mouse.

According to Keith Collett, Goodyear's industrial hose marketing manager, Hose Trakker Online monitors inventories, product location, maintenance schedules and test history of industrial hose assemblies.

"The service provides Goodyear Star distributors and end-users with an innovative tool in an industry where performance and maintenance are critical," said Mr. Collett.

"This technology is one more example of Goodyear's commitment to providing customers with unparalleled levels of value-added services," he said. "Working with our Star network, we are helping to ensure consistent, reliable hose assembly performance."

Hose Trakker Online, jointly developed with InfoChip Systems Inc., of Wetaskiwin, Alberta, initially uses serial tags

installed by Star distributors that identify hose assemblies. Next generation hoses will use radio frequency identification microchips that uniquely identify the product and further



simplify the identification and tracking process.

Source: The Goodyear Tire & Rubber Company

Olympic Stadium to Host Showcase of "Heavy Iron"

The heavy construction industry will converge on Montreal's Olympic Stadium on September 22-23, 2006. Expo Grands Travaux is a show that is long overdue in a city and province that are in the midst of a major rebuilding of its infrastructure. New development and rebuilding of Quebec highways, bridges, transit systems and waste and water systems will amount to billions of dollars in investment by federal, provincial and municipal governments over the next decade. Much of this investment to provide modern infrastructure for the public has already been announced and the construction has already begun.

Expo Grands Travaux was launched in August 2005 to overwhelming response. "We have been exploring and researching launching a heavy equipment show in Montreal for many years. Our exhibitors have wanted this and they certainly have shown their support in a big way", stated Show Manager, Mark Cusack. According to him, major players in the heavy equipment industry have signed up including: Équipement Fédéral; Équipement Ontrac Québec; Hewitt Équipement Limitée; Liebherr Canada; Mack Canada Inc.; Strongco Équipment; Conagfor/Yanmar; Garier Inc.; Genesis Attachments; Hultdins Inc.; Industries Wajax; J.A. Larue Inc.; Larochelle Equipment Inc.; Lavaltrac Équipement Inc./John Deere; Les Équipements Twin (1980) Ltée; Les Industries Poulin et Fils Inc.; Manac; Manitou Canada; Montreal Tracteur Inc; Rotobec and R.P.M. Tech Inc/ Hyundai. Mr. Cusack further stated that the show is well over 85% sold which is an admirable feat given that it is 10 months away.

Expo Grands Travaux is proud to be endorsed by the Quebec Roadbuilders Association, the Canadian Association of Equipment Dealers as well as a number of leading publications. This new venture is managed by well-known trade show managers, Master Promotions Ltd, who are the successful producers of such shows as: the National Heavy Equipment Show (Toronto); the Heavy Construction Show (Abbotsford); the Atlantic Heavy Equipment Show (Moncton) and LOGFOR (Quebec).

For more information about exhibiting at Expo Grands Travaux please contact Show



Manager, Mark Cusack. Source: Master Promotions Ltd., Mark Cusack, 1-888-454-7469, www.expograndstravaux.ca

Syncrude, Caterpillar and Finning Recognized For Innovations in Mining Equipment

Syncrude Canada Ltd., Caterpillar Inc., and Finning (Canada)'s collaborative work to develop technologically advanced mining equipment for the oil sands industry was recognized by the Canadian American Business Council.

The long-term relationship between Syncrude, Caterpillar and Finning and joint efforts by the companies to develop heavy equipment capable of withstanding the rigors of oil sands mining in a safe, environmentally sound and cost effective manner, was recognized with the 2005 Award of Merit by the Canadian American Business Council. Notable examples of this innovative work include significant contributions toward the development of Caterpillar's 400-ton, 797B off-highway truck, the largest mining truck in the world. In addition, numerous projects enhancing and improving Caterpillar products have resulted in significant reductions in operating costs for Syncrude as well as dramatic increases in productivity in the oil sands region.

Jim Carter, President and Chief Operating Officer states: "Syncrude is pleased to receive this award because it highlights our ongoing efforts to build strong business relationships with our suppliers and foster the sustainability and growth of the entire oil sands industry."

Chris Curfman, President of Caterpillar Global Mining said: "Caterpillar is honored to receive this award which recognizes product innovation, lower operating costs, increased productivity, and work-place safety improvements in the oil sands region which have come about as the result of the unique cross- border relationship between Caterpillar, Finning and Syncrude."

Ian Reid, President of Finning (Canada) added: "Finning's Canadian team is proud to be recognized for its innovative partnership with Cat, the world's best heavy equipment manufacturer and the skilled team at Syncrude that has led to the to development of world class mining equipment solutions designed to address the unique needs of the Canadian oil sands."

A panel of international judges conferred the prestigious award based on such

standards as job creation, financial strength, environmental responsibility, corporate synergy, exceptional imagination and remarkable innovation. These awards, now in their 11th year, recognize and promote the positive



contributions of innovative cross-border business partnerships.

The Syncrude Project is a joint venture operated by Syncrude Canada Ltd. and owned by Canadian Oil Sands Limited, ConocoPhillips Oilsands Partnership II, Imperial Oil Resources, Mocal Energy Limited, Murphy Oil Company Ltd., Nexen Inc., and Petro-Canada Oil and Gas.

Source: Syncrude Canada Ltd.

Volvo CE Announces Its New G900 Motor Grader Range

Volvo's new seven models G900 range of motor graders is built on two distinct but integrated platforms. The G900 range is designed to combine the attributes of productivity, operator friendliness, reliability and ease of service – in a quality package.

Each G900 Motor Grader features EU Stage IIIA and US Tier 3 compliant Volvo D7 or D9 engines utilizing Volvo Advanced Combustion Technology (V-ACT) to run cleanly and without the extra service requirements of additional equipment or after-treatment of exhaust gases. All seven models have three power ranges, depending upon the transmission gear selected, as standard equipment. This feature works to optimize engine performance and enhance overall fuel efficiency by matching engine power to the application.

Wide stance blade lift cylinders coupled with the low angle side shift cylinder provide the most stable grading platform in the industry. Proportional Demand Flow (PDF) intelligent load sensing hydraulics and a powerful twin-gear, direct drive circle turn system result in a precise, instantly responsive earthmoving tool. It also provides high strength to hold or turn the moldboard smoothly while moving under full load. This accuracy of control and performance results in more 'one pass' finishes – contributing significantly to productivity and cost saving.

The G900 range of motor graders uses Volvo's own HTE840 transmission which has selectable Manual, (optional) Autoshift and Travel modes.

With Autoshift the operator selects the target gear and the transmission shifts automatically through turns and grades as needed. Its shuttle shift feature aids quick, simple duty cycles by allowing shuttling between selected forward and reverse gears in a single smooth motion without clutching or pausing, greatly reducing operator fatigue. Autoshift comes as standard on the Volvo exclusive HTE1160 transmission. With 11 forwards and six reverse speeds, the HTE1160 transmission allows more control, more efficient travel and more precision.

The two All Wheel Drive (AWD) models in the range offer three distinct features in their



drive systems. The powerful six wheel drive combines with an efficient four wheel tandem drive and a "front-wheels-only" Creep Mode which is ideal for precise fine grade applications. Whether it is the versatile G946 or the industry's largest All Wheel Drive grader, the G976, Volvo AWD models really are motor graders for all occasions

With the support of the worldwide Volvo CE dealer network, the new G900 family of Volvo Motor Graders sets a new standard in grading performance and productivity.

Source: Volvo Construction Equipment

New Titan Asphalt Trailer

A new aluminum body trailer custom-built for asphalt hauling by Titan Trailers has introduced the load control and cost-efficiency of "walking floor" trailers to the paving industry.

Mike Kloepfer, founder and president of Titan Trailers, developed the asphalt trailer by integrating the original Thinwall[™] aluminum trailer with the "extreme-duty" V-Floor[™] unloading system from Keith[®] Walking Floor[®].

"We are very pleased with the response we have had from the paving industry," he announced, "through our field testing and working demonstrations with our 48-ft. short-side trailer. Experienced pavers tell us that this trailer allows significant cost savings anywhere you would use a multi-axle dump trailer, while it allows better integration with the paving equipment, higher gross capacity and improved safety."

Similar to other live floor unloaders that "walk" loads off the trailer instead of dumping, the V-Floor trailer is built with solid steel V-shaped floor slats to withstand "extremeduty" loads with flexibility for a wide range of backhauls. "To customize our V-Floor trailers for asphalt hauling," Mr. Kloepfer explains, "we just upgraded the floor bearing to resist heat. The strength of the floor and body were already there."



The Titan trailer will "walk off" asphalt loads directly into paver hopper at a controlled rate, so the paver can run continuously and achieve a smooth result. Since the trailer doesn't elevate, the hot mat has no chance to segregate. Meanwhile, the unloading process automatically remixes the asphalt as it enters



the hopper. Titan even includes a remote control so the flow rate can also be set from the paver. By remaining level, the trailer can operate safely around overhead wires and can work on normal side slopes without fear of tipping.

Kloepfer points out that, with the Titan Thinwall body, short-sided box and no heavy dump frame, every duty cycle can bring more payload to the work site. The trailer's V-Plow clean-out system, another Titan innovation, reduces duty cycles by cleaning out the V-Floor as it unloads, automatically.

Source: Titan Trailers

Innovative Thermal Insulation for Deep Water Gulf of Mexico Project

Borealis has developed innovative Borcoat[™] polypropylene (PP) materials that thermally insulate the flowlines and risers serving the deep water Thunder Horse Field. This project uses the world's largest semi-submersible production platform operated by BP in the Gulf of Mexico.

Designed to carry up to 250 000 barrels per day, the Thunder Horse Field flowlines posed a major technical challenge. At subsea depths of 2200 m the flowlines are exposed to extreme external pressure and low temperatures. Combined with a flowing oil temperature of 132°C, this presented a huge thermal insulation challenge. In such deep water, normal foam insulation solutions are not feasible as the water pressure causes foam to collapse and lose its thermal properties.

The stringent requirements imposed on the thermal insulation system by deep water and high temperatures led Thermotite, a division of Bredero Shaw and a leading manufacturer of thermal insulation systems for offshore pipelines, to execute a rigorous development and qualification program capable of demonstrating the suitability of polypropylene based materials in these extreme environments. Through collaboration with Borealis, this qualification program concluded by selecting unique Borcoat materials.

According to Allan Boye Hansen, Technology Manager at Thermotite: "The multi-layer insulation concept based on Borcoat PP materials is a significant breakthrough with respect to material selection for insulation of high temperature, deep water flowlines and risers. Of particular value is that it gives a wide degree of flexibility which will allow modification to match the specific needs of similar projects in the future."

The first of the Thermotite® 7-layer system is a fusion bonded epoxy primer, the remaining six are made up of a range of Borealis Borcoat products. The combination is new in its entirety and some grades have been



specifically developed for the Thunder Horse application. To one of these new Borcoat products, Thermotite adds glass spheres during the extrusion process to create a syntactic polymer. The syntactic polymer layer acts as a thermal barrier and as thermal insulation on the risers. Also unique is the combination of two Borcoat grades that are mixed together with a blowing agent to create high strength foam, which further increases the flowlines' insulation and resistance to extreme sea pressure.

Through the combination of existing and newly developed products, Borcoat enabled the design of the multi-layer solution to meet the necessary strength and stiffness requirements, as well as the stable thermal insulation performance during operation of the flowlines.

Source: Borealis A/S

Biogenie Inaugurates UK's 1st Contaminated Soil Treatment Facility

On November 8, 2005, Biogenie inaugurated the UK's first fully licensed contaminated soil treatment facility. Located in Warrington, near Manchester, the facility represents a \$ 2 million investment made jointly by the company's UK affiliate, Biogenie Site Remediation Ltd., and its strategic ally, Biffa Waste Services Ltd.

The new facility was inaugurated by the President of the UK's Soil and Groundwater Technology Association, Dr. Colette Grundy, David Knott, Landfill Director at Biffa Waste Services Ltd., and Benoit Cyr, President of Biogenie.

"Under new European regulations, the number of landfill sites authorized to accept contaminated soil has fallen dramatically in the UK, from two hundred to a dozen or so. These regulations, along with a national brownfield regeneration policy, have opened up a large market in the UK for the off-site treatment of contaminated soil. The new regulations further require that a greater volume of contaminated soil be pre-treated prior to its disposal in landfill sites. In order to strengthen our position in this market, which we entered in 1998, we developed a strategic alliance with one of Britain's largest integrated waste management companies, Biffa Waste Services Ltd.," stated Mr. Cyr.

Biogenie's expertise in operating soil treatment facilities is combined with Biffa's vast distribution network and client base. In addition, Biffa will make beneficial use of the treated material at its landfill sites.

Biogenie's Treatment Facility Development Project Director, Bryan O'Gallagher also stated that this strategic alliance confirms Biogenie's leadership in the design, construction and operation of contaminated soil treatment facilities. "This new facility, in association with Biffa, will provide real estate promoters, property developers and house builders with a rapid, cost-efficient and final solution for contaminated soil found on their construction sites. As the contaminated material is quickly removed from the site, the construction project can move ahead without delay." It is worth mentioning that housing needs in the UK are estimated at 2,5 million new dwellings over the next two decades and that public authorities have set a goal of



having, from now until 2008, 60% of the new units built on brownfield sites that will require cleanup.

In addition to its new facility in the UK, Biogenie owns and operates a total of seven other treatment facilities – six in Canada and one in France. In Montreal, the company operates Canada's largest biological treatment facility through its subsidiary Solution Eau Air Sol. In 1999, Biogenie established the first contaminated soil treatment facility in the greater Paris area. It is the largest facility of its kind in France. Since 1993, Biogenie has successfully remediated over 2,5 million t of soil impacted with a wide range of contaminants, including petroleum hydrocarbons, pentachlorophenol (PCP), creosote and PAHs.

Source: Biogenie S.R.D.C. Inc.

Carbon Fiber Technology Delivers Structural and Aesthetic Advantages in Resolving Foundation Failures

Bob Thompson, P.E. Nationwide Reinforcint Ltd. www.mationwidereinforcing.com



With the foundation repair industry growing to more than \$10 billion annually, residential consumers and commercial builders alike are realizing that foundation failures can lead to sagging real estate values. In most cases, the best defense for foundation failure is a good offense. The development of The Reinforcer[®], a recently patented carbon fiber technology system, is providing an advanced alternative for repairing and strengthening foundation walls.

Developed by Professional Engineers at Nationwide Reinforcing, Ltd. (Columbus, OH), the externally bonded composite reinforcing system is a Carbon Fiber Reinforced Polymer (CFRP) which is lightweight, non-corrosive and virtually impossible to stretch. The carbon fibers form in an epoxy resin matrix which has a tensile strength of more than 350 000 pounds per square inch (psi): making it 10X stronger, and therefore, superior to steel which has a tensile strength of 36 000 psi.



To date, the process of installing steel beams with heavy equipment (digging, jack hammering, moving utilities and duct work,





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etc.) has been the primary way to brace and shore up existing foundation walls. The Reinforcer® is essentially a carbon fiber "strip" or "strap" which is only 10 mm wide and 1,15 mm thick, making these old and intrusive methods appear antiquated.

DESIGN/ENGINEERING PHILOSOPHY:

A foundations' structural integrity becomes jeopardized when hydrostatic and lateral earth pressures exceed the strength of the concrete or masonry wall. These lateral pressures barrage the foundation and cause the walls to bow inward. The philosophy behind The Reinforcer® is based on standard engineering principles following Hookes law, and a linear stress strain relationship.

Bob Thompson, co-founder of Nationwide Reinforcing Ltd. and also a Professional Civil Engineer, noted the products' simple engineering design philosophy stating: "For every increase in pressure, The Reinforcer® provides an equal and opposite resistant force; making the wall stronger which helps eliminate shifting, cracking and bowing."

Thompson also noted the ease-of-use and aesthetic benefits of the carbon fiber system stating: "Being lightweight and thin-as-adime, The Reinforcer® is easier and faster to install. This is particularly beneficial around complex plumbing and electrical systems that otherwise might have to be removed and reinstalled. It's also a significantly more attractive solution. Once the block wall has been painted over, The Reinforcer® is virtually concealed. In essence, it's a simpler, more attractive solution than installing steel I-beams."

The installation process is simple, fast (ap-

proximately half the time vs. other solutions) and therefore cost-efficient. The high-strength carbon Reinforcer® strips are supplied on 76,25 m continuous rolls, cut-to-length, and spaced based on the engineering design charts prepared by Nationwide Reinforcing's engineers. The block walls must first be cleaned of all paint and debris prior to installation. The Reinforcer® strips are then applied with a structural epoxy paste (ECS 104) along the interior surface of the bowed or cracked walls. Removing excess epoxy off the strips and filling remaining cracks with ECS 104 completes the installation.

Foundation failures represent a stigma (both real and perceived) for homeowners; fearing the real estate value of their home may be compromised and the structural integrity of the home

inadequate. Certified home inspectors, engineers and real estate agents are often the initial advocates of the product as they're relied upon initially to direct consumers to the most efficient solutions available. As a testament to this, certified installers have completed over 20 000 residential Reinforcer® installations across the U.S.A. and Canada.

As competition and technology continue to converge, engineers and contractors are seeking out more advanced material alternatives, such as Fiber Reinforced Polymers (FRP), over conventional steel and wood for construction applications. This trend is based on a variety of design flexibility and material

performance advantages; i.e. - lighter weight, easier installation, higher strength and the non-corrosive ability to withstand harsh environments.

Advancing this trend, The Reinforcer® carbon fiber strengthening system continues to evolve as a preferred specification in a vast array of commercial construction applications: from bridge decks-to-parking garages and culverts-to-stadiums. The products' inherent material performance benefits also allow the construction industry to easily comply with increased design load specifications and keep ahead of ever-changing Code



requirements.

Manufactured and distributed by Nationwide Reinforcing Ltd. since 1998, The Reinforcer® comes with a lifetime manufacture's warranty. The company also produces a unidirectional sheet/fabric made with high-strength carbon or glass fibers called The Reinforcer Shield[™]. This product provides the capability of conforming to irregular shapes such as circular or square columns. It's excellent for flexural and shear strengthening and can provide a water proofing membrane for foundation walls.

StoMachine Technology Introduces New Pump

Sto Corp, the innovative world leader in cladding, coating and restoration systems, has announced the newest member of the StoMachine Technology equipment family with the Sto F-21 All Purpose Pump. This pump can spray most Sto products, including Powerwall® Stucco and operates off of single-phase 230V power, readily available at most job sites. It has a flow rate of 21 l/min, and can spray up to 64 m.

Sto Corp. has optimized its Powerwall Stucco to work with the Sto F-21 pump, resulting in a pumpable stucco mixture that sprays on better than any stucco on the market.

"This is another great example of how Sto can help applicators complete stucco jobs faster and more efficiently," said Burnie Berry, Manager of StoMachine Technology. "We have contractors on board already that see the value in this tool and the results it can bring to their bottom line."

Randy Dorn and Randall Scott of Applewood Drywall's Exterior and

Plaster Division, located near Milwaukee, Wis., are already seeing positive results. They stated: "To watch the F-21 Pump is unbelievable! The F-21 is not only easy to use, but it has enabled us to do more work in a shorter period of time than ever before." They also pointed out that without it, their business would have continued to be pressured by



low bidders. Now, thanks to a quality, hardworking crew and Sto, they are able to offer a superior quality product for a competitive price.

A GMC TopKick C5500 4WD For The Public Works Department of Otterburn Park

The Municipality of Otterburn Park, south of Montreal, last Fall took delivery of a GMC TopKick C5500 4WD truck for its Public works department.

Cartier GMC has delivered 15 trucks similar to



this one since the launch of the 4x4 model for 2005. This medium duty truck has proven to be a very popular choice amongst public works departments. The TopKick C5500 4WD, are available in a variety of wheelbases and measure up well against the competition in a number of areas.

They offer superior off-road performance, outstanding maneuverability, stronger frames, larger disc brakes front and rear, and are available in Crew Cab, Regular and Commercial Cutaway Chassis Cabs.

This particular truck is equipped with a complete snow removal package manufactured by Le Groupe SRG Inc. located in Sainte-Agathe-des-Monts. The equipment package includes a dump body / spreader box, a reversible snow plow, a side wing and a low profile harness.

This rugged yet agile truck is able to handle snow removal, recreational area and park maintenance and day to day road maintenance operation in this small city that prouds itself to stay at the forefront of the technology.

Since the early 1990's, Otterburn Park has been concerned with the amount of salt being used on its roads. In the period from 1995 to 2000, the city was successful in reducing its total salt use through improved training, better plowing practices and the use of pre-wetted salt.

Since 1983, Le Groupe SRG has manufactured and designed many types of municipal equipment for vehicles of 8000 kg to 37 000 kg GVW.

Le Groupe SRG manufactures dump bodies, delivery platforms, as well as "U" and "V" shaped salt spreaders. In addition to manufacturing their own equipment, Le Groupe SRG installs and repairs all brands of equipment, all under the same roof.

Source: Le Centre du Camion Cartier GMC, Le Groupe SRG Inc.



Appointments

As part of its long-term growth strategy, **RSC Equipment Rental**, a long-time leader in the North American equipment rental industry, has reorganized its international operations to provide added focus to international growth opportunities. **Erik Olsson**, executive vice president and chief operating officer of RSC, will assume additional



management responsibilities with direct oversight of the company's international operations.

"This change will leverage Erik's strong background in international operations," said Tom Zorn, president and CEO of RSC. "We recognize the significant potential to grow our business not only in the United States, but across North America and this change will allow us to strengthen our operations in Canada and Mexico."

Olsson has served Atlas Copco, the parent company of RSC, for more than 17 years. After graduating from the University of Gothenburg with a degree in business administration and finance, he joined Atlas Copco in 1988 as a controller. He then became financial manager for Atlas Copco's CMT Brazil division in Sao Paulo before returning to Sweden in the position of vice president of finance for Secoroc, another Atlas Copco division. In 1998, Olsson was appointed chief financial officer for Milwaukee Electric Tool Corporation in Milwaukee, Wisconsin, and held that position for three years before being promoted in 2001 to CFO for RSC. He became chief operating officer in early 2005 and oversees the efforts to fulfill the equipment rental needs of the more than 200 000 RSC customers in North America.

In addition, RSC appointed **Bruce Rintoul** as the new regional vice president for the company's Canada Region effective January 1. He will replace Brent Kuchynka, who was named regional vice president of the Southern Region in the U.S. Rintoul, who recently joined RSC as director of operations for the Canada Region, was a senior executive at the Churchill Corporation, a diversified construction company in Canada, prior to joining RSC, and was responsible for the company's industrial business. Prior to that, he was a senior vice president for Philip Services Corporation in Eastern Canada.

Eduardo Rodriguez, regional vice president for RSC's Mexico Region, will continue in his current role overseeing all operations throughout Mexico.

Source: Rental Service Corporation

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Agenda

UCT ATLANTA January 24 - 26, 2006 Atlanta, GA USA

AED – 87th Annual Meeting and Condex 2006 January 26 - 28, 2006 San Diego, CA USA

ARA – The Rental Show February 6 - 9, 2006 Orlando, FL USA

National Pavement Expo February 15 - 18, 2006 Charlotte, NC USA

World of Asphalt Show & Conference March 13 - 16, 2006 Orlando, FL USA



XII International Winter Road Cong March 27 - 30, 2006 Torino - Sestriere, Italy

2006 North American Truck Show April 20 - April 22, 2006 Boston, MA USA

Intermat 2006 April 24 - 29, 2006 Paris, France



11th International Building Fair April 25 - 29, 2006 Berno, Czech Republic

APWA North American Snow Conference April 30 - May 3, 2006 Peoria, IL USA

CONEXPO ASIA May 16 - 19, 2006 Beijing, China

10th International Conference on Asphalt Pavement August 12-17, 2006 Quebec City, QC Canada

7th International Conference on Short and Medium Span Bridges August 23 - 25, 2006 Montreal, QC Canada

SIVIC 2006 International Industrial Vehicle and Body Trade Show

August 29 - September 1, 2006 Saint-Jean-sur-Richelieu, QC Canada

EXPO Grands Travaux 2006 September 22 - 23, 2006 Montreal, QC Canada



North American Quarry & Recycling Show October 26 - 28, 2006 Atlanta, GA USA

Bauma China 2006 November 14 - 17, 2006 Shanghai, China

National Heavy Equipment Show 2007 March 22 - 23, 2007 Toronto, ON Canada

Bauma 2007 April 23 - 29, 2007 Munich, Germany



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