

InfraStructures

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This electronic version of InfraStructures is made available for the sole purpose of giving our English speaking readers a taste of the original printed version of the magazine.

We will try to publish as much of the editorial content of the printed version as it is possible given the technical limitations.

Welcome to InfraStructures

Until recently, InfraStructures has been read mainly by French speaking users of heavy machinery.

Over the last seven years, InfraStructures has become a leader in its field. First by becoming the only magazine covering all aspects of the industry published in French in Canada. Then by being the first to publish all its editorial content on the web, and also by being the only construction magazine, published in French, having a significant readership outside the Province of Quebec.

For many years, we have received requests for an English version of InfraStructures. Technical limitations, and the lack of advertising revenue have prevented us from publishing such a magazine in print. Now, with the extent of the use of Internet by professionals, we feel that the time has come for a portable digital file (.pdf) version of InfraStructures in English.

While the content of the English version differs slightly from the original, most of the important news will be published in English. In the near future, more and more of the content of the original will be translated into English.

With over 500 visitors per day on average, spending over 13 minutes per visit, the website of InfraStructures is one of the most important sites of this kind. More than two thirds of the visitors come from outside Canada. With the English version of the magazine available on the web, visitors from outside will find it easier to enjoy the magazine.

Hoping to hear your comments,



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Cover page :

Les Excavations Daniel Bérard Ltée, an excavating contractor from the Outaouais region, uses a Dainong hydraulic hammer, model 130-Series 2 silent type, with his John Deere 330 LC excavator for demolition work.

In the News...

Alstom Awarded Contract for Eastmain-1 Hydroelectric Powerplant in Baie-James

ALSTOM announced that it has signed, March 5, 2003 with the Société d'énergie de la Baie James, a wholly-owned subsidiary of Hydro-Québec, a contract, valued at some \$60 million, for the supply, installation, testing and commissioning of 3 turbine-generator sets and their auxiliaries at the Eastmain -1 hydroelectric powerplant.

This powerplant is part of the Baie-James Hydroelectric Development program.

Design and engineering work for these new 160 MW hydro turbine-generators sets are already underway at the ALSTOM Hydro Sorel-Tracy plant. Manufacturing will start in spring 2004 in order for the last set to be commissioned in

December 2006.

This contract comes as excellent news for the workers of the ALSTOM Canada Sorel-Tracy Hydro plant, who will dedicate some 35,000 hours to the engineering work and 40,000 hours to the manufacturing.

Pierre Gauthier, President of ALSTOM Canada, Power, stated: "ALSTOM and Hydro-Québec have been working together since the 1960s. They have built during these years a sound relationship based on a proven expertise and technology. ALSTOM is proud to support Hydro-Québec in its development policies of Québec hydroelectric resources."

ALSTOM is the global specialist in energy and transport infrastructure. The Company serves the energy market through its activities in the fields of power generation and power transmission and distribution, and the transport market through its activities in rail and marine. In fiscal year 2001/02, ALSTOM had annual sales in excess of 23 billion euros and employed 118,000 people in over 70 countries.

ALSTOM is listed on the Paris, London and New York stock exchanges.

Source: ALSTOM Canada, Power
www.power.alstom.com

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Ontario high school students get workplace safety message

The Ontario government is challenging employers and young workers to take immediate action to ensure a safe summer, Labour Minister Brad Clark said last month.

Clark issued the challenge to mark North American Occupational Safety and Health (NAOSH) Week, which runs from May 4th to 10th, 2003. It is an annual campaign to focus the attention of employers, employees and the general public on the importance of preventing injury and illness in the workplace. This year's theme focuses on preparing young workers for the future.

"Last year, sadly, the Ministry of Labour reported the deaths of eight young workers, most during the summer months. We can't repeat that this year," said Clark, speaking to about 700 students at Bishop Ryan Secondary School as part of his Live Safe! Work Smart! Young Worker Health and Safety Tour.

"That is why I am extending a Safe Summer Challenge to young workers, their parents and employers to make this summer fatality free."

The Minister has been touring the province on his Live Safe! Work Smart! Young Worker Health and Safety Tour since being appointed Labour Minister in April, 2002. As part of the tour, the Minister has been speaking to students, youth

groups and health and safety associations about the importance of workplace health and safety.

Young workers need to arm themselves with the knowledge and training to ensure they come home safe this summer, said Clark. Information for young workers is readily available through www.WorkSmartOntario.gov.on.ca, an innovative new website for young and new workers in Ontario. It is the first government website in Canada that gives young workers easy access to occupational health and safety and employment standards information.

Clark also said employers have a responsibility to provide appropriate training and supervision for young workers. They should act now to make sure they are ready for this summer's young workers.

More information on NAOSH Week is available on the Ministry's website or at www.naosh.ca.

Source: Government of Ontario

Ministry of Labour

NewTech is Selling a License for its Full Contact Disc Brake that Will Cover the Global Heavy-Duty Vehicle Market

NewTech Group International Inc., announced the sale of a license to its subsidiary, NewTech Brake Corp. (OTC BB: NWTB), to market its NewTech's full contact disc brake for the heavy-duty vehicle for the rest of the world market.

Already having the licensee agreements for North America and Europe, by this transaction NewTech Brake Corp. will acquire the rights to commercialize and manufacture the NewTech full contact disc brake for the global heavy-duty vehicle market.

The license-selling price will be established following an evaluation of its commercial value by a specialized independent firm. It is anticipated that this transaction will allow NewTech Brake Corp. to negotiate immediately with all customers to market the full contact disc brake in their own country.

The decision to align under one entity for the commercialization of the heavy-duty brake is expected to simplify the operations of both companies and reduce their costs.

"Actual negotiations with different customers outside of North America and Europe have convinced us to go ahead with this transaction. Consequently, we believe that NewTech Brake Corp. will have the mechanism necessary to introduce the full contact disc brake to the different global markets", stated Mr. Yvon Rancourt, chairman of NewTech Brake Corp.

The completion of the transaction is subject to regulations in force.

Source: NewTech Group International Inc.

Hydro-Québec celebrates 40th anniversary of the second wave of nationalization of electricity in Québec

It was 40 years ago that Hydro-Québec completed the second phase of nationalization of electricity in Québec. Without any law needing to be passed and thanks to successful takeover bids, Hydro-Québec acquired eight major private electricity distributors, Shawinigan Water and Power, St. Maurice Power, Québec Power, Southern Canada Power Ltd., Gatineau Power,

Northern Québec Power, the Compagnie de pouvoir du Bas-Saint-Laurent, and the Compagnie Electrique du Saguenay.

The total cost of acquiring these companies amounted to \$604 million. To be able to compensate the shareholders, Hydro-Québec issued and sold \$300 million worth of bonds on the American market. This major financial transaction, the biggest loan ever negotiated by foreigners in the United States at the time, was done completely by the book, thus earning Hydro-Québec an envi-

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On May 1, 1963, Hydro-Québec took possession of the companies. The nationalization of electricity had multiple ripple effects on all the other sectors of the economy. It gave rise to a new generation of French-speaking managers in high-level positions. It also encouraged the emergence and promotion of Québec engineering, whose reputation today extends far beyond the boundaries of Québec and even Canada.

Hydro-Québec subsequently negotiated the

buyout of 45 of the 46 electricity cooperatives and of many private and municipal distribution systems. From then on, the activities of the government-owned utility covered the entire Québec territory. Over the next three years, Hydro-Québec integrated all these companies and unified the transmission and distribution systems, an operation that presented a huge challenge in terms of standardizing and harmonizing different ways of doing things. Most of all, Hydro-Québec standardized rates throughout the province, a measure that

removed the disparities hindering several regions.

Begun in 1944 with the creation of Hydro-Québec under Adélard Godbout's government, and completed under the leadership of Jean Lesage and René Lévesque, the nationalization of electricity very quickly produced tangible results. It became a tremendous lever for the industrial development and economic growth of all of Québec's regions. It also accelerated the development of hydroelectric potential. In 40 years, Québec's installed capacity rose from 9700 MW to 32,000 MW.

"The economic success of nationalization is at the root of Hydro-Québec's expansion in subsequent years. From then on, a supply of high-quality, reliable and affordable electricity became one of the primary objectives of each of the utility's successive leaders. That objective remains unchanged," stated André Caillé, President and Chief Executive Officer. "Hydro-Québec is a collective heritage; we must manage it wisely for the benefit of future generations," he concluded.

Interestingly enough, the 40th anniversary coincides with the upcoming release of Hydro-Québec's Sustainability Report, a triple-bottom-line report-environmental, economic, and social-that illustrates the responsible management of all the company's activities, internal and external.

To find out more about Hydro-Québec's history: www.hydro.qc.ca/learning/history

Source: Hydro-Québec

Cummins Inc. Introduces QSK23 for Mining and Specialty Markets

Cummins Inc. introduced its QSK23 diesel engine for powering and repowering in the mining and specialty markets.

"We are pleased to offer this powerful new QSK23, from our proven QSK engine platform, to the mining and specialty markets," said Cummins Director, Mining Marketing Joel Lerner. "It complements Cummins strong lineup of high-horsepower engines and will be the lowest-cost-per-ton engine in the 760 to 950 horsepower (hp) range."

The six-cylinder QSK23's strong torque gives haul trucks the power to pull away from the shovel quickly and maintain speed on an uphill climb. In addition to mining markets, the QSK23 will be offered for haul trucks, excavators and loader applications in the aggregates market, as well as chippers, grinders and pile drivers in the logging and construction markets.

The QSK23 offers the best fuel economy in its class with its 29,000-psi high-pressure injection (HPI) system and maintains low emissions, meeting current EPA and European standards for all horsepower ratings. The QSK23 will be developed



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The QSK23 uses power cylinder components common to those found on the 3500-hp QSK78, including pistons with similar technology, liners and seven-bolt cylinder heads. It also features the same electronic components, including HPI and an Electronic Control Module (ECM), as all Cummins QSK engines from 19 to 78 liters, and uses the same diagnostic equipment. Sensors located throughout the engine and equipment subsystems constantly send a stream of information to the ECM to optimize the air/fuel mixture to operating conditions.

The QSK23 is based on an engine platform that's been proven in industrial applications for more than 20 years. Its block is one-piece cast iron, with wide cylinder spacing for long life and excellent rebuildability; both the liner and the piston are made of ferrous cast ductile iron for even expansion and contraction during thermal cycles.

In addition, the QSK23's straightforward I-6 configuration features substantially fewer parts than competitive V12 products, minimizing downtime. Engine noise is kept to a minimum because of design features like an underplate, a floating head cover, integrated front and rear gear housings and a rear gear train.

The QSK23 is supported by more than 5,500 Cummins service locations worldwide.

Source: Cummins Inc.
www.cummins.com

SNC-Lavalin Awarded Water Treatment Plant & Water Transport System Contract in the Dominican Republic

SNC-Lavalin is pleased to announce SNC-Lavalin International Inc. has been awarded an approximately CAN\$200 million fixed price contract to design and build a water treatment plant and water conveyance system in the Dominican Republic.

The project provides for the engineering, procurement and construction of a water intake, water treatment plant and aqueducts for potable water distribution throughout the states of Barahona, Bahoruco and Independencia. Construction will begin in approximately six months time once engineering and detailed environmental studies are completed.

"We are very pleased with this expression of confidence shown us by INAPA, the National Potable Water and Sanitation Authority," said Sami Bébawi, Executive Vice-President, SNC-Lavalin. "It clearly acknowledges our leading role in delivering complete solutions in the water sector, including design, construction and our

capability to arrange the necessary financing for the project."

This financing was arranged by SNC-Lavalin Capital Inc., and will be provided by Export Development Canada (EDC), Fortis Bank and BNP Paribas.

The water system will be built over a period of 26 months, and will eventually service more than 400,000 people, providing them with a reliable supply of clean water.

SNC-Lavalin is one of the leading groups of

engineering and construction companies in the world, and a key player in facilities and operations management. The SNC-Lavalin companies employ approximately 15,000 people in offices across Canada, the U.S. and in 30 other countries worldwide, and are currently working in some 100 countries.

Source: SNC-Lavalin
www.snc-lavalin.com

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Awarded \$11 Million Contract in Manitoba

Structal, the heavy structural steel division of The Canam Manac Group, announced that it had been awarded an \$11,000,000 contract for the fabrication of 3,000 tons of structural steel which will be used for the construction of the True North Centre, a sports and recreational complex in Winnipeg, Manitoba. The facility will have 15,015 fixed seats and a total seating capacity of over 17,000 people. The steel components, which include eight huge roof trusses with a span of 280 feet and a depth of 24 feet, as well as 160,000 square feet of deck, will be fabricated at several of Canam's plants including those in Calgary, Alberta and Saint-Gédéon, Quebec. Empire Iron Works Ltd of Winnipeg, Manitoba, will erect the structural steel. Empire Iron Works is a fabricator

member of Steel Plus Network, another division of The Canam Manac Group.

True North selected PCL Constructors Limited, a business known worldwide who has a district office in Winnipeg, to carry out this 425,000 square-foot project. PCL, in turn, awarded Structal the structural steel fabrication for this project. The Canam Manac Group and PCL have worked together in the past on such major projects as the Air Canada Center in Toronto, the Corel Centre in Ottawa and more recently the Niagara Falls Casino. The installation is set to begin at the end of 2003 and the opening of the "True North Centre" is scheduled for the winter of 2004 - 2005.

The Canam Manac Group is an industrial company that operates 20 plants specializing in the

production of steel components, semitrailers and forestry equipment. In 2002, sales reached CAN\$936,719,000. The company employs over 4,780 people in Canada, the United States, Mexico, Romania and India.

Source: The Canam Manac Group
www.canammanac.com

Toromont Completes Acquisition Of Diesel Distribution Inc.

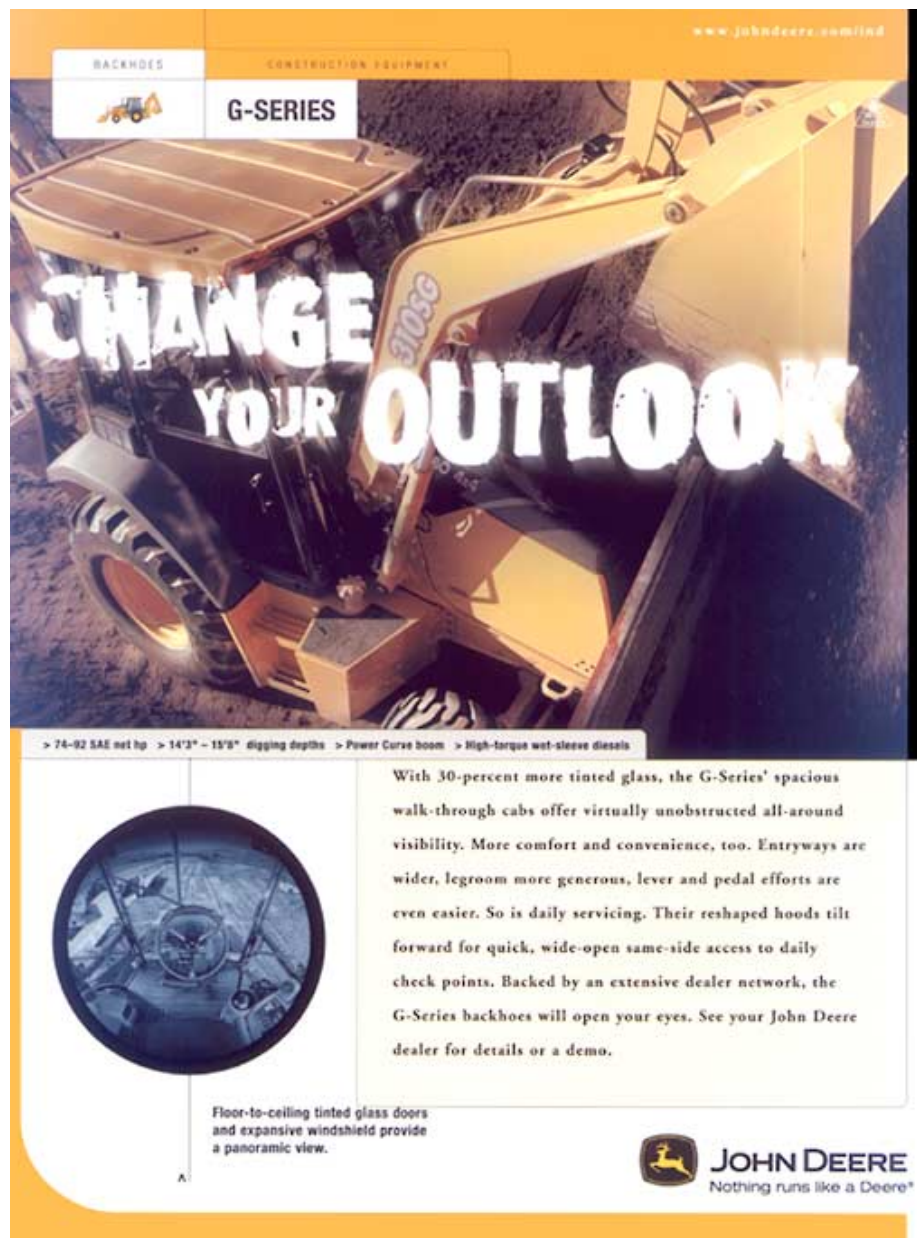
Toromont Industries Ltd. announced that it has completed the previously announced cash purchase of the operating assets of Diesel Distribution Inc. Based in Mississauga, Ontario, Diesel Distribution is the authorized Perkins Master Distributor for most of Ontario. The business includes the supply of Perkins engines to retail, construction, industrial and OEM customers. The products are supported by a network of sub-dealers throughout the territory offering parts and service to end-users.

Hugo T. Sorensen, President and Chief Executive Officer of Toromont Industries, noted that the DDI operations would be combined with the Industrial Engine group of Toromont Cat under the name Diesel Distribution. DDI will continue to operate from the Mississauga facility. "This acquisition fits nicely with the long term industrial engine strategy, and complements the existing products being offered through the Caterpillar network", said Mr. Sorensen.

Assuming business continues at levels experienced by Diesel Distribution in 2002, the acquisition is expected to increase annual revenues by approximately \$4.5 million. Mr. Sorensen said, "We look forward to the growth of our Industrial Engine business with this acquisition and welcome the DDI team into the Toromont family".

Toromont Industries Ltd. is a Canadian public company with operations in Canada and the United States. It is an industry leader in construction equipment, power, compression and process systems.

Source: Toromont Industries Limited
www.toromont.com



www.johndeere.com/en

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Western Star Twin-Steer 6900 XD Truck

Western Star Trucks has begun production of the new Twin-Steer 6900 XD truck. Incorporating numerous advances in steering and suspensions, the new truck is larger and more powerful than previous models, allowing it to handle the most extreme off- and on-road applications.

"The new Twin-Steer 6900 XD is the largest truck Western Star has ever built," said Cary Gatzke, Director of Engineering, Western Star Trucks. "With our highest GVW rating and a weight capacity of up to 70 tons, this truck was built for hauling bulky oilfield equipment, or other large objects, from job to job."

The Twin-Steer 6900 XD offers the benefit of two independent steering systems to reduce stress in all steering components. For an improved ride, the vehicle uses four asymmetrical taper leaf slipper springs with four parallel torque rods that control each front steer axle. This non-torque-reactive front suspension design controls bump steer, produces less steering wheel feedback and improves tire wear.

The 141" BBC Twin-Steer 6900 XD is available with a full range of manual and automatic trans-

missions, a 500-hp Caterpillar C-15 engine and a variety of tires including Michelin 14.00R25, 445/60R22.5 and 12.00R24. It also offers the Eaton EFA 22-T2 for the front non-drive steer axle, the Sisu FSDP-14G for the front drive steer axle and the Meritor SPRC 1927 for the tandem drive axles. With a front axle rating of 36,000 pounds and rear axle rating of 110,000 pounds, the gross vehicle weight rating for the 6900 XD is 146,000 pounds.

There are also new features available on the Twin-Steer 6900 XD, including a Twin Disc transmission for all-wheel drive, an 8x6-drive configuration, sheet metal fenders for tandem front axles, a large transmission cooler installation and a dual power steering pump.

"We equipped the new Twin-Steer 6900 XD with improved features that meet or exceed customer specifications to get the job done," Gatzke



said. "With a 40-degree wheel cut and 12-inch front axle articulation, our customers will navigate the tougher job sites, traverse more severe terrain and approach the steeper ramps. At the same time, our spacious air-ride cab, taper leaf front springs with shock absorbers and ladder-style cab platform steps will allow the work to be done more comfortably."

Source: Freightliner Corporation
Western Star Trucks
www.westernstartrucks.com

A Drilltec Mission For A & G Puisatiers Experts

PMF Distribution Inc. is pleased to announce the recent delivery of a new Drilltec Mission model 25KW drilling rig to A & G Puisatiers Experts Inc., of Granby, Quebec.

The growing demand in this industry required the purchase of a more effective and more powerful drilling machine.



Taking delivery, Alain Raymond, President of A & G Puisatiers Experts Inc. (in the middle); Jacques Labrosse, General Manager (on the left); and Serge Chretien, Sales Representative for PMF Distribution.



Source: PMF Distribution Inc.
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The Quebec Merit Awards for Concrete 2002

As part of its annual conference, held March 13 and 14 at Le Château Frontenac, the Association béton Québec (ABQ) unveiled the winners of the first edition of the Quebec Merit Awards for Concrete (Grands Prix québécois du béton).

The Desjardins Group, for Montreal's E-commerce Place, and Imperial Tobacco Canada, for the monumental staircase in the city's new downtown head-office, were tied for first place as winners in the Project/Work of art category.

The Association du Coffrage Isolant was recognized in the Communications category for the publication of the periodical, L'Informateur.

This constitutes a truly concerted recognition of excellence since the ABQ counts on the precious collaboration of the

Association des Architectes en pratique privée du Québec and the Association des ingénieurs-conseils du Québec for the presentation of this biennial event, where the winners receive the prestigious ARCUS awards.

Concrete wins over steel in time, in space, and... in cost!

Is Montreal's E-commerce Place building made of steel or concrete? The main collaborators, namely Beique, Legault, Thuot (architects), Marconi Cyr / Nicolet Chartrand Knoll (structural engineers - consortium), Inspec-Sol (quality control), AXOR (general contractor), Construction L.J.P. inc. (framing), and DEMIX Béton (concrete producer), will have brought strong arguments...

Considering the narrow time-frame of the project, the use of concrete enabled the possibility of making changes to the plans while work was in progress, something which would have been more difficult if steel had been used instead. It should be noted that each floor was built in 4 or 5 days, whereas it would have taken 7 days of work to build one floor using steel.

Furthermore, for a building of the same height, a concrete structure allowed to add two additional floors, bringing the total to 27. "A little over 2 million dollars in leasing revenue will be generated every year (\$35/sq. ft. x 29,300 sq. ft. x 2 floors), which represents \$40M on a 20-year lease.", says Mr. Harry J. Plafter, President and CEO of the E-commerce Place.

Savings were also made thanks to the use of concrete: \$2M on the structure (11%), \$1.2M on the curtain wall system (glass exterior finish), \$150,000 on solid rock excavation, as well as, savings on fire retardants, given that concrete already possesses this quality, without considering the other financial benefits such a structure offers.

If the Desjardins Group and the E-commerce Place benefit from a more efficient building, it is also the case for its occupants. The use of a structure entirely made of concrete allowed an 11-foot vertical clearance, while steel would have limited clearance to 9 feet. This allows for a volume increase of 25%, better air quality, and more ambient light.

Following the success of phase 1, a second building of 24 floors is already being built using concrete and a third phase is being considered.

Concrete at the service of creativity as never before!

The monumental spiral staircase in reinforced concrete situated in the hall of Imperial Tobacco Canada has an impressive effect. A magnificent demonstration of the great flexibility of concrete. Located at the intersection of two wings of the building, establishing a link between five floors, the staircase is completely self-supported from one floor to the other, the steps forming a cantilever on each side of the central beam. Each floor was executed in a single pouring. Furthermore, no vibration is perceptible, as opposed to, many other similar staircases built traditionally out of steel.

This achievement of creativity, elegance, and technique is in major part the work of Gross, Kaplin, Coviensky (architects), Saia, Deslauriers, Kadanoff, Leconte, Brisebois, Blais (structural engineers), Quéformat (laboratory), Coffrages Astra (framing), and Unibéton (concrete producer)

Since little documentation exists on such concrete structures, certain methods had to be imagined in order to achieve this stunning success, judged impossible without the close, sustained collaboration of the various people involved.

Today, this staircase is also a symbol and a

stage for improvised meetings between employees. An undeniable success.

Clear and convincing!

In the Communications category, the Association du Coffrage Isolant drew attention for the quality of its periodical, L'Informateur, drawn to 10,000 copies 6 times per year and distributed notably through the magazine, Québec Habitation, of the APCHQ.

Colors, photos, a dynamic presentation, and, above all, well-researched articles are the mainstays of this information tool designed to increase knowledge of insulating concrete forms, a lesser known technique which consists of using panels of insulating foam (polystyrene) as framing for the concrete. This material's light weight, flexibility, and ease of use allows the promoters to save time and money. The use of concrete, with the advantages conferred by this technique, is therefore further favored for the complete construction of structures (from the foundation to the roof!) such as detached houses, multi-residential buildings, commercial and institutional buildings. Such constructions have consequently been recognized for offering increased comfort, greater energy savings and an impressive fire-retardant quality, all of which are at the advantages of the occupant!



The jury for the Quebec Merit Awards for Concrete draws on the excellence of its members. For its first edition, the members of the jury were:

Claude Asselin.

Jerry Coviensky, architect.

Dr Gilbert Haddad, eng.

Émile Hanna, eng., M.Sc.A.

It should also be noted that the Quebec Merit Awards for Concrete are a re-factoring of the ARCUS awards presented by the Association béton Québec since 1990.

Source: Association béton Québec
www.betonabq.org

«J Day» at Ontrac

Many contractors took some time off to visit Ontrac Québec on April 10th, in Laval, Quebec. They attended the official launch of the new J-Series articulated loaders as well as the new 710G loader-backhoe.

We want to congratulate those who won prizes in the drawing that took place in the evening...

Michel Salzani, Pavage Trans-Island
Jacques Bérard, Excavation Jean Bérard
Patrick Dion, Entreprise Patrick Dion

The team at Ontrac thanks all those who came to meet the specialists from the factory.

Source: Ontrac Québec Inc.
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Bobcat Night at Matthews

On April 16th, the people of Équipement Matthews Ltée, of Montréal, Québec, organized what proved to be a very successful event where many owners, renters and operators of Bobcat machinery were able to exchange on the many advantages offered by Bobcat branded machines.

The night was highly animated and many door prizes were given to customers attending the event.

Managers and employees of Matthews want to thank you all and invite you to be there next year...



In the meantime, have a great summer!

Source: Équipement Matthews Ltée

Luc Chevrete, (514) 354-8891

«APWA's Snow Conference» in Québec City

Québec City was the host of the American Public Works Association (APWA) 2003 Snow Conference.

The Quebec chapter of the association, L'Association des



United States and Canada.

Guest speakers presented their studies and many exhibitors showed their products during the event.

A field trip took participants to Québec City's Henri-Bourassa site where the snow is dumped

and treated.

In 2004, the «Snow Conference» will be held in Lexington, Kentucky. Don't miss it!

Travaux Publics d'Amérique - chapitre du Québec (ATPA) welcomed many participants from the

Allison at Démo Foret 2000

This gathering of forest industry in the area of the Lake St-Jean was the occasion for Allison Transmission to present a Sterling logging truck equipped with an Allison HD4560 automatic transmission.

This vehicle had made the trip from Val-d'Or, in the Abitibi region of Quebec, in order to present the testimony of its owner after 9400 hours and 380 000 km of logging operations.

The good general condition and the surprising performances of the truck were a revelation for many participants. The tests and demonstrations were held over two days.

It should be noted that the Allison transmission is lubricated with a synthetic fluid called Transynd. This made it possible to cover a distance of 300 000 km without requiring change. However, within the framework of operations of offroad haulage, such a truck equipped with an engine of 430 HP is able to transport a gross weight superior to 70 metric tons.

Since the startup of this tractor in 2001, nearly ten trucks equipped with Allison automatic transmissions were brought into service in similar applications by manufacturers such as International, Volvo and Western-Star.

Source: Allison Transmission, www.allisontransmission.com



Sani-Manic has the Wind at its Back...



Having obtained the contract for sweeping the streets of the Port of Sept-Iles, Québec, Sani-Manic bought a 2003 Elgin Whirlwind MV street sweeper from its dealer, Cubex Ltée.

Cubex Ltée is also dealer for Vactor sewer cleaners as well as Leach and Wittke refuse equipment.

Source: Cubex Ltée,

Daniel Gélinas ou Ron Stewart, (450) 349-5846

CONTANT INC.

(450) 666-6368 or 1-800-CONTANT
www.citysnowblowers.com

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CERIU Fact Sheets :

IP-03 - «Vacuum Excavation»



*Fact Sheet IP-03
Trenchless Techniques
Spot Repairs
Vacuum Excavation*

Purpose and Use

Vacuum excavation is used to minimize the excavation area and reduce the risk of damage to adjacent services.

Procedure

Materials are broken down by compressed air injected into the ground and then pumped out of the pit.

The equipment is portable and takes up very little space.

Application

This technique is used to straighten valve boxes, cleaning, raise box frames, carry out minor repairs, replace house lateral valve shafts, protect pipes against freezing, close corporation stops, repair valves, install anodes used for cathodic protection and conduct soil analyses.

Since the size of the excavation area is only about 300 mm x 300 mm, this type of work is not very disruptive.

Preliminary and Complementary Work

Before starting the work, a check must be done for the presence of services near the excavation. Any surface covering (i.e. concrete pavement or grass) must also be removed.

Conditions and Limitations

The type of soil will affect the work. A rocky soil, for instance, may increase the level of difficulty.

Cold temperatures will not affect the technique's output. Work can be done in frozen ground, although it will take longer.

Below the water table, the infiltration rate will have an impact on the effectiveness of the excavation.

Deadlines and Timeframes

Completion time varies, depending on the nature of

the work and the depth required. Repairs to valve boxes or service boxes generally take two hours.

Status of the Technology

This technique was developed in the United States by the Miller Pipeline Corporation in the early 1980s and was used for the first time in Quebec in 1990.



*To obtain a copy of the CERIU Compendium of Infrastructure Technologies, please contact CERIU's Céline Forest at (514) 848-9885, extension 272 at the Centre d'expertise et de recherche en infrastructures urbaines (CERIU).
www.ceriu.qc.ca*





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9th Annual Urban Infrastructure Week

The Changing Infrastructure Rehabilitation Market: The Emergence of a New Dynamic

Honorary Chair:

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November 17-19, 2003

Hotel Omni Mont-Royal, Montreal

*For details on submitting a proposal for a presentation,
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