

InfraStructures

Construction • Public Works • Natural Resources



John Deere Machines All Over EM 1 Project in Northern Quebec

The Eastmain-1 project, near Nemiscau in Northern Quebec is the second phase of the James Bay hydro project, the largest construction project ever in the Province of Quebec – and among the largest in Canada. It is located on the Eastmain River, just upstream from the Eastmain-Opinaca diversion of the La Grande complex.

The major components of the Eastmain-1 development are the powerhouse itself, the main dam across the Eastmain River, the spillway located on the right bank of the river, and dikes for reservoir closure. A 315-kV transmission line will link the powerhouse to Nemiscau substation. A permanent access road will be built from this substation to the construction site.

The powerhouse is located on the left bank of the Eastmain River at km 203. It has three generating units with an installed capacity of approximately 480 MW. The generating station will have an annual output of approximately 2.7 TWh with average inflows. The design flow is approximately 840 m³/s and the rated head is around 63 m. A minimum flow of 140 m³/s will be maintained at all times at the outlet of the powerhouse.

The main dam, located near km 217 of the Eastmain River, is approximately 890 m long and 70 m high. Some 30 dikes are required to close off the reservoir. At its maximum level, the reservoir encompasses an area of about 603 km²; its annual drawdown is limited to approximately 9 m. The headwater level is 283 m (max.) and 274 m (min.). Neither of the Village lakes will be affected.

The spillway is located on the right bank of the Eastmain River, upstream of the powerhouse at the north end of the main dam. The discharge capacity of the spillway with the reservoir at maximum level is approximately 5,500 m³/s.

It will be necessary to build a temporary camp as well as a permanent access road approximately 85 km long to link the main dam to Nemiscau substation. The construction site may be supplied electricity by means of a temporary 69-kV line supported by wood poles running from Muskeg substation.

Finally, a roughly 70-km, 315-kV line will have to be built between the powerhouse substation and Nemiscau substation to integrate the

powerhouse into the transmission system.

It is for the construction of the camp and the access road that The Cree Construction and



Source: Hydro-Québec / SEBJ

Development Corporation is teaming up with John Deere and its dealer Ontrac Québec Inc. to deploy a battalion of John Deere equipment.

There are excavators (1) 800C LC, (2) 600C LC, (2) 330C LC, articulés dump trucks (11) 350D, (6) 300D, (3) 350C, graders (3) 772CH, one 850C crawler tractor and one 544H wheel loader, for a total value of over \$11 million.

Work on the project started in spring 2002, and the three generating units will be commissioned in 2007.

The cost of the entire project, including the 315-kV line, is estimated at \$2 billion.

Eastmain-1 Hydro Project

Dams	1
Dikes	30
Spillway capacity	7000 m ³ /s
Generating station	
- Units	3 turbines 160 MW ea.
- Capacity	480 MW
- Design flow	840 m ³ /s
Transmission lines	
Eastmain-1/Nemiscau 315 kV	70 km
Muskeg/Eastmain-1 69 kV	40 km
Access road	
Nemiscau/Eastmain-1	85 km
Eastmain 1 reservoir	
- Headwater level	283-274 m
- Total area (max level)	603 km ²

Source: Hydro-Québec / SEBJ



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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 now, 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 will differ from the original, most of the important news will be published in English. We also believe that, in the near future, more and more of the content of the original will be translated into English.

With more than 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.

Hoping to hear your comments,



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Sullivan

Cover page : John Deere excavators articulated trucks and other equipment are used on the Eastmain-1 hydro project near Nemiscau (Quebec).

Over \$11 million worth of equipment have been delivered by Ontrac Québec Inc., the John Deere dealer for the Province of Quebec

In the News...

Holcim announces plan to merge its Australian interests, forming the country's largest cement group.

Holcim Ltd intends to merge its Australian Group company Queensland Cement Ltd (QCL) with Australian Cement Holdings (ACH), a joint venture between CSR Ltd and Hanson PLC. The merger is conditional on regulatory approval and

final due diligence and expected to be completed in the first quarter of 2003. With an annual production capacity of more than 3 million tonnes of cement, the merged company would become the largest cement group in Australia.

ACH and QCL have complementary positions in the Australian cement market. The QCL plant in Gladstone primarily supplies the Queensland and

various export cement markets, while ACH focuses on the markets in New South Wales and Victoria. Together, the two companies serve a market representing 80 percent of the country's population.

Holcim Ltd will inject all its Australian interest into the new venture, and will own 50 percent, with CSR and Hanson 25 percent each. The transaction is expected to be earnings neutral in the first year for Holcim, and earnings positive thereafter. CSR and Hanson are leading Australian construction materials producers with substantial interests in the field of aggregates and concrete.

With majority and minority interests in more than 70 countries on all continents, Holcim is one of the world's leading suppliers of cement, as well as aggregates (gravel and sand), concrete and construction-related services.

Holcim Ltd

A Memorandum of Understanding was Signed Amongst Duro Felguera and Mitsubishi for Manufacturing TBMs

A Memorandum of Understanding was signed in Tokyo amongst Duro Felguera S.A. and Mitsubishi by means of which both companies aim to study the constitution of a Joint Venture for the sale of Tunnel Boring Machines (TBMs) in Europe and Latin America that would be manufactured in the workshops the company Duro Felguera S.A. owns in Barros (Asturias) and in accordance with the Japanese firm basic design.

Duro Felguera S.A.

Cummins Inc. "Laps" Around America Demonstrate Dodge Ram Quality

Cummins Inc. recently unveiled a special field test it has been conducting on the new engines for the Dodge Ram pickup truck. Since July 2002, the Company has been doing "Laps" around America in Cummins powered Dodge Ram Heavy-Duty 2500 and 3500 series pickups. The laps are being used to field test the re-engineered Cummins Turbo Diesel engine and the all-new Dodge Ram combination in the most extreme operating conditions to ensure that reliability and durability are unmatched in this vehicle class.

Each "lap" is approximately 9,000 miles and takes roughly four weeks to complete. The course outlines the United States and covers all types of road and weather conditions. In addition to the miles, weather and geographical challenges, each truck pulls fully-loaded trailers to increase the demands placed on the engines. For testing purposes, the vehicles typically are operated with 90 percent load on the engine, much greater than the demands of an average consumer.

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Cummins has compiled more than a quarter million miles of testing through this system. The ruggedness of the laps has provided invaluable data to help refine the design of the engines to exceed our customer's expectations. This extensive testing is above and beyond the requirements that DaimlerChrysler demands for quality testing.

The Lap of America is a joint initiative among DaimlerChrysler, Cummins and Valvoline. DaimlerChrysler donated four new 2003 Heavy Duty Dodge Rams, and Valvoline has provided the lubrication needs of the vehicle, with Premium Blue engine oils as the exclusive test oil. Cummins has supported all additional expenses. Cummins Inc.

Hyundai Truck America Sets Up Shop in New Jersey

Hyundai Motor Co. recently announced the formation of Hyundai Truck America (HTA) which will begin marketing Hyundai-made light- and medium-duty trucks next month in the United States. The Jamesburg, NJ based branch of Hyundai Motor will be headed by Y.J. Choo and service an initial dealer group with more than 30 locations nationwide.

To mark the launch of its products in the U.S. market, the company held an inaugural meeting of the HTA dealer body December 2 in Atlantic City, where company staff introduced the new Hyundai truck lineup for America and outlined the scope of dealer support activities.

HTA will offer its HLD150 Class 4 light duty and its HMD230 and HMD260 Class 6 medium duty trucks. The cab-over-engine trucks are available in an extensive selection of wheelbases and feature extended cabs which provide additional storage room behind the front seats. With their luxurious trim package, these Class 4 and Class 6 trucks really stand a league apart from their competitors. What is optional on competitive models comes as standard equipment on Hyundai's trucks.

These trucks are well suited for a wide range of business applications from pick up and delivery to the nursery-landscape, towing-wrecker and food service industries.

All trucks come with a competitive warranty starting with a two-year unlimited miles coverage for the basic body and chassis. On the HLD150, the Detroit Diesel engine and Allison transmission is warranted for three years and unlimited miles while on the HMD230 and HMD260, the Cummins engine and ZF transmission are protected by a two year unlimited miles warranty.

HTA will provide dealer technical and warranty training at its headquarters, and at a second training facility to be located in Miami, FL.

"We know that the U.S. truck market is a very competitive and difficult market. We will try to meet the challenges of being in the United States with Hyundai's commercial vehicle products while trying to reach the highest levels of customer satisfaction," said Johng-Sik Choi, executive vice president of Hyundai Motor's commercial vehicle division.

Hyundai Motor Co.

Volvo Construction Equipment North America Names New Compact Equipment Dealer

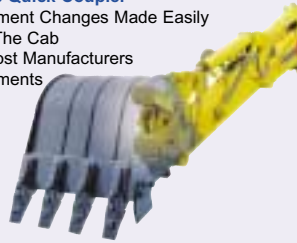
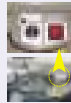
Volvo Construction Equipment North America, Inc., Asheville, North Carolina, has announced the appointment of Champion Road Machinery Sales (Champion Sales), Brampton, Ontario, Canada, as its authorized Volvo Construction Equipment compact construction equipment dealer in the Province of Ontario.

The announcement was made by Jay Roszell,

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President and Chief Executive Officer of Volvo Construction Equipment North America, who said, "We are delighted to add our swiftly-growing line of compact equipment to Champion Sales' present representation of our Volvo motor grader products. The appointment of Champion Sales is effective January 1, 2003."

Champion Sales has been in business since 1948 and has served as Volvo Construction Equipment's authorized dealer in Ontario for Volvo Motor Graders since 1997. The Volvo compact

construction equipment product range includes compact wheel loaders, compact excavators, and the new Volvo backhoe and skidsteer loaders. The backhoe and skidsteer loaders will be available in the North America construction industry market in early 2003.

Wayne Mason is Vice President and General Manager of Champion Sales. Wayne's dedication, drive and passion for customers are well known in the industry. The company has full-service branches in Brampton, Carleton Place (Ottawa),

Goderich, North Bay, and Thunder Bay, Ontario. All branch locations are ISO 9002 certified.

Volvo CE

Chrysler Group To Offer Diesel-Powered Jeep Liberty for North American Market

To encourage North American acceptance of diesel-powered vehicles, DaimlerChrysler will test the U.S. and Canadian markets with a diesel-powered Jeep® Liberty beginning in 2004.

While DaimlerChrysler offers a range of diesel-powered passenger vehicles in Europe, where approximately 35 percent of vehicles are powered by diesel engines, the Jeep Liberty will be the first light-duty sport-utility vehicle with a diesel powertrain to go on sale in the United States and Canada.

The diesel Jeep Liberty will be powered by a 2.8-litre common rail turbo-diesel engine produced by DaimlerChrysler, with either a manual or automatic transmission. It is expected that the diesel-powered Liberty will have up to 30 percent improvement in fuel economy, versus a comparable gasoline-powered Liberty.

DaimlerChrysler currently offers diesel engines in its Dodge Ram heavy-duty trucks in North America. Approximately 75 percent of all Dodge Ram 2500/3500s sold in North America are powered by diesel engines.

Outside the U.S. and Canada, the Chrysler Group currently offers diesel powertrain options in the Jeep Cherokee (Liberty in North America), Jeep Grand Cherokee, Chrysler PT Cruiser and Chrysler Voyager minivans. In Western Europe, diesel-powered vehicles comprise 56 percent of Chrysler Group's total sales volume. Jeep Cherokee vehicles with diesel powertrains currently account for 65 percent of that model's total sales in Western Europe.

DaimlerChrysler

Possible New Diamond Site Identified in Northern Quebec

The Honourable François Gendron, Quebec's Minister of Natural Resources, and the Honourable Herb Dhaliwal, Minister of Natural Resources Canada, announced that a new site with high potential for diamond exploration has been identified along the western Saindon-Cambrien Corridor, in northern Quebec.

Two new sites, which contain high-chromium microilmnite and high-chromium diopside, were identified during a reconnaissance survey of indicator minerals in the region. High-chromium microilmnite and high-chromium diopside are the two strongest indicators of the presence of diamondiferous kimberlite.

"The potential for diamonds in Quebec is real.



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The discovery of this new target is a promising sign of the renewal of the mineral industry in Quebec. The Ministère des Ressources naturelles du Québec has invested a great deal of effort in developing mineral resources in northern Quebec, including intensifying the development of geoscientific knowledge and maintaining generous and diversified financial assistance programs," said Minister Gendron.

"By working together to improve the quality of available geoscientific information, we are securing a favourable competitive position for ourselves in an expanding global market. The possibility of diamond exploration in Quebec will help position Canada as a world leader in the diamond industry and attract investment to help build the Canada we want, for ourselves and for future generations," said Minister Dhaliwal.

The details of this project, including the location of the new site, were revealed during the 23rd Geological Research Information Seminar, which is taking place at the Château Frontenac in Québec until tomorrow. Seminar participants can also obtain information at the poster session "Polyphase glacial dynamics and reconnaissance survey of kimberlite indicator minerals in eskers along the western Saindon-Cambrien Corridor, Nord-du-Québec region."

This discovery was made as part of the Far North Mining Exploration Program, which was introduced by the Ministère des Ressources naturelles du Québec in 1997. Natural Resources Canada is participating as part of its Targeted Geoscience Initiative, a three-year program with a \$15-million budget for all of Canada.

Geological Survey of Canada
 Natural Resources Canada
 Ministère des Ressources naturelles du Québec

Lafarge to Sell Cement Assets in Southern Spain to Cimpor For euro 225 Million

Lafarge has announced the conclusion of an agreement for the sale of cement assets to Cimentos de Portugal SGPS, SA (Cimpor) for euro 225 million. Located in Southern Spain, these assets consist of two cement plants at Cordoba and Niebla, representing a total annual capacity of 0.8 million tonnes of clinker and 1.38 million tonnes of cement, a grinding plant at Huelva, with an annual capacity of 0.6 million tonnes of cement, and a terminal in Seville, Spain.

This sale, which forms part of the Lafarge Group's asset disposal program of at least euro 700 million in 2002, is subjected to the approval of the competition authorities.

Lafarge is the world leader in building materials, and employs 83,000 people in 75

countries. The Group holds top-ranking positions in all four of its Divisions: Cement, Aggregates & Concrete, Roofing and Gypsum. Lafarge posted sales of euro 13.7 billion in 2001.

Lafarge

Hamilton has chosen harfan technologies and Dillon Consulting to integrate the decision processes for roads, water and sewers

harfan technologies inc. and Dillon Consulting

Limited recently announced that they have been retained for a pilot project to produce an Integrated Capital Improvement Plan and budget scenarios for future investment in the City of Hamilton's linear infrastructure. Among the 10 biggest cities in Canada, Hamilton's approach to asset management is considered innovative. The project is already underway.

The City of Hamilton has for several years collected significant data and carried out condition assessments on their linear infrastructure. By

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maximizing the use of their investment in data collection and condition ratings, the harfan/Dillon team will integrate the decision making for major savings, extend the service life of the infrastructure and reduce the cost of ownership. This pilot project enables the City to benefit from the financial, organizational, and socio-economic advantages of the implementation of an Integrated Decision Support System (IDSS) for water, sewer and road networks. The uniqueness of the IDSS when producing an integrated capital improvement plan lies in the consideration of various factors such as the physical and functional aspects of assets, all related components in each network, the level of services desired and the

budget constraints. Furthermore, it is possible to compute a new capital plan, when changes occur in the networks.

harfan technologies, since its inception in 1991, has become a leader in the conception and the development of asset management software. In extending the service life of assets and reducing the cost of ownership for its clients, harfan helps you know the impact on the level of service of a dollar invested in the infrastructure networks.

Dillon Consulting is an international, Canadian-owned professional services firm providing a range of services in planning, engineering and environmental management. The firm operates across Canada and internationally. Their mission is

to guide their clients towards the successful application of science, technology and management.

harfan technologies inc
Annie Pelletier, 418.873.5200 (Ext. 231)
Dillon Consulting Limited
William Allison, 519.650.9833

Autocar Selects Hagerstown Indiana Facility for World Headquarters and Truck Manufacturing

Grand Vehicle Works Holdings Corporation, parent company of Autocar, LLC, recently announced that it has purchased the former Dana manufacturing plant in Hagerstown, Indiana for

Autocar's new world headquarters and truck manufacturing facility. Located between Indianapolis, Indiana and Dayton, Ohio, the facility will accommodate Autocar's assembly equipment and its newly purchased operating systems that will provide a world-class production environment. Limited pilot production will start in the second quarter of 2003 with full production scheduled to begin no later than July 2003 - which is in line with the company's previously published plans.

"This is a day truly worth celebrating," says Bob Enright, president of Autocar. "Our Autocar management team has worked very hard to locate a world-class production facility that will meet our long-term manufacturing needs and accommodate our aggressive growth plans. Hagerstown, which was one of several potential sites, clearly meets our criteria."

"Autocar is committed to providing the heavy duty low-cab-over engine (LCOE) marketplace with the highest quality product," notes Bob Atkins, Autocar's general manager. "Every part of our selection process was focused on ensuring that we meet that commitment. For example, the site is strategically located in proximity to our partner suppliers and will greatly expedite our inbound and outbound logistics process. And being just 30 minutes from our sister companies will allow us to take full advantage of synergies that can help us deliver even more value to our customers."

For the location of Autocar sales managers and dealers, or for more information about Autocar products and services, please call toll free 1-877-973-3486 or visit: www.autocartruck.com

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Infra 2002 - Where Canada comes to talk infrastructure!



presentations, technological workshops, the Exhibitor's trade show, the Innovation Alley exhibition, the lunch meeting, the icebreaker reception and the Evening of Excellence. In addition, participants were able to listen to and interact directly with over a hundred speakers specializing in underground infrastructure, pavement, urban utilities, new management methods and bridges, tunnels and retaining walls. Turnout at the activities was consistently high – in fact, most of the sessions boasted record numbers of participants.

It is worth emphasizing that INFRA 2002 could not have been made possible without the invaluable cooperation and ongoing support of CERIU's many partners, namely the Ministère des Affaires municipales et de la Métropole, the Ministère des Finances, de l'Économie et de la Recherche, the Ministère des Transports du Québec, Transport Canada, the City of Laval, the City of Montreal, Hydro-Québec, Gaz Métropolitain and Bell Canada, not to mention the event's numerous sponsors.

The opening session gave Jacques Girard, Chairman of the INFRA 2002 Organizing Committee and Manager of the Bureau de normalisation du Québec, the opportunity to discuss the theme chosen for this year's conference, which focused on best practices in municipal infrastructure, as outlined in the National Guide to Sustainable Municipal Infrastructure: Innovations and Best Practices.

Gérald Tremblay, Honorary Chairman of INFRA 2002 and Mayor of Montreal, set the tone for the event by reminding delegates that of all the activities under municipal jurisdiction, the maintenance and renewal of urban infrastructure systems is one of the most critical. He affirmed that his administration is committed to making the most of the best practices stipulated in the National Guide to overcome the challenges before the City.

During Monday's plenary sessions, the most recent findings of the National Guide initiative were unveiled for the first time since the project was launched. During the initial session, which

Eight years ago, CERIU created Urban Infrastructure Week, now the organization's flagship event, in order to fulfill its mission to promote partnership and technology transfer as well as to encourage the players involved directly or indirectly in the field of urban infrastructure to meet face to face and exchange their respective expertise. In 2002, INFRA broadened the scope of its mandate by bringing together a larger and an even more diverse group of individuals from across Canada to discuss the National Guide to Sustainable Municipal Infrastructure, a large-scale undertaking that CERIU has been actively working on since the project first came into being.

The success of the eighth edition of INFRA was in large part due to the ability of the event to mobilize a significant number of infrastructure professionals from coast to coast as well as the wide range of fields of expertise of these individuals. In total, INFRA 2002 succeeded in attracting more than 875 participants, 42% of which were from the private companies, 25% from municipal administrations, 17% from research and educational institutions and 12% from the various levels of government.

From November 25 to 27 at the Hilton Montreal Bonaventure, attendees had the opportunity to take part in some twenty groups of activities spread out over the three days, including lectures,



was designed to provide background information on the situation, Guy Féléo and Mike Badham, respectively from the National Research Council and the Federation of Canadian Municipalities, the two organizations responsible for bringing the project to fruition, explained the underlying context of the National Guide initiative with respect to the Canadian infrastructure scene and presented the first general progress report on the work accomplished to date as well as an overview of the work to be performed in the coming years. That afternoon, participants were on hand as Nancy Schepers, Project Director, and the chairs of the five national technical committees, presented the results of the first year of their work, as well the guiding principles, accomplishments and priorities of each of the committees. These activities enabled municipalities from across the country to discover this project that will have a major impact on them and learn more about where it is headed. It also helped private companies broaden their knowledge of the effects of the project on industry practices.

At a special lunch meeting, keynote speaker André Juneau, Deputy Head of the Office of Infrastructure of Canada, took the podium to address the nearly 170 people present to elaborate upon the new approach to improving the performance of the Canadian government's infrastructure programs.

At the end of the day, guests were invited to the INFRA 2002 opening icebreaker, where they were able to get to know each other in a more relaxed atmosphere. This activity also marked the signature of an agreement of mutual recognition and cooperation, based on the principle of a joint undertaking, between the Technical Assessments Service (SATI) and the The Canadian Infrastructure

Technology Assessment Centre (CITAC). This agreement will have a significant impact on the assessment process for new technologies in Canada.

The Evening of Excellence was held at Bonsecours Market with over 220 guests in attendance. Participants were whisked back to the nineteenth century, accompanied by Jacques Viger, Montreal's first mayor. The highlight of the evening was the presentation of the seventh Award for Technological Innovation by the Ministry for Municipal Affairs and Greater Montreal (MAMM). Gilles Lacouline, the newly appointed director of infrastructure at the MAMM, gave the award to the Municipality of Wotton for its project known as the "Reconstruction of a Bridge Using Advanced Composite Materials and a Remote Telesurveillance System."

Furthermore, this evening also featured a tribute to Claude F. Lefebvre, the founding

president of CERIU, delivered by INFRA Chairman Gilles Vaillancourt. CERIU also handed out its own Awards for Distinction and Excellence. For the third year in a row, these awards were given to honour individuals and organizations working in the field of urban infrastructure who, through their dedication throughout the year, have made an outstanding contribution to the development of CERIU. Accordingly, Jacques Olivier, mayor of the newly amalgamated City of Longueuil, accepted the CERIU Emeritus Member award in the municipal category. The Canadian Society for Civil Engineering and Hydro-Québec won in the institutional and corporate categories. Finally, CERIU's Ambassador award was given to Alain Soucy, one of the founding members of CERIU and a long-time advocate of urban infrastructure issues.

CERIU

Launch of CERIU Compendium

The Centre for Expertise and Research on Infrastructures in Urban Areas (CERIU) is delighted to announce the launch of the CERIU Compendium, the English version of the document known in French as *Les Classeurs du CERIU*. This publication is designed to educate and increase awareness among urban infrastructure professionals with respect to the various facets of the latest investigation and rehabilitation technologies used in underground infrastructures and municipal pavements.

The CERIU Compendium features an overall urban infrastructure management methodology, fact sheets on a wide variety of cutting-edge technologies, project overviews and a technical glossary encompassing over 450 terms. Each of the techniques covered in the work were verified and validated by a group of experts before publication. The CERIU Compendium therefore constitutes a groundbreaking source of information on the innovative technologies available for use in Quebec. CERIU is proud to have teamed up with numerous infrastructure professionals in order to raise the overall level of knowledge in the field and provide information on various state-of-the-art solutions developed in Quebec.

CERIU published the first edition of this document, in French, in 1997, following deliberations and recommendations made by its permanent advisory committees concerning the many problems undermining the use of new infrastructure technologies. Since this date, the Classeurs du CERIU have been used time and time again by professionals looking for up-to-date information on the latest investigation and rehabilitation techniques.

The changes that have occurred over the past five years with respect to the technologies available on the market made it necessary to develop a completely revised edition. CERIU thus updated the material and added content, thanks to financial support from Infrastructures-Québec, and translated the entire work into English, thanks to financial support from Canada Economic Development.

To obtain a copy of the CERIU Compendium, please visit our website at www.ceriu.qc.ca or contact Céline Forest at (514) 848-9885 #272.



A «Greener» Concept for Country Lanes in Vancouver, BC



The City of Vancouver has developed an environmentally sustainable "Country Lane" design that makes back lanes greener and more attractive. The first of three 'Country Lanes' has just been constructed as part of a demonstration project. This alternative to full width asphalt lane paving is in response to the City's goal to reduce environmental impacts and to create a more livable community.

The lane features two narrow strips of concrete that provide a smooth driving surface. The area between and beside these bands is made up of a structural component that is topsoiled and

planted with grass. This structural grass can support vehicles and prevent the grass roots from being compacted and rutting the soil. The road base is a mixture of aggregate, which provides structural stability, and a sand/soil mixture that allows for drainage and provides the soil components required for grass growth. This engineered soil was developed by the City of Vancouver staff.

This design will allow rainwater to percolate over vegetation and through the ground. The natural absorption allowed by this combined lane surface reduces discharges into the storm sewer system, recharges groundwater, and reduces peak flows into rivers. The increased vegetation will filter storm water and improve air quality.

Aside from the environmental aspects, this innovative sustainable design also has many other advantages including traffic calming, as well as being aesthetically pleasing.

With the success of these demonstration projects, this design will become available as a standard local improvement lane project.

City of Vancouver



A New Larue Hydrostatic Snow Blower for Charlottetown Airport

Last November, J.A. Larue Inc. delivered the first Larue model 7060R44 to the Charlottetown (P.E.I.) airport.

Many of these snow blower are used in municipal and commercial applications. The Larue model 7060R44 features a completely hydrostatic drive for both travel and blower, from only one engine.

J.A. Larue Inc.



A \$20.3 M Project - Biogenie Involved in a Major Remediation Project in Labrador

Biogenie is proud to announce that it was awarded a contract, by the Canadian firm Bennett Environmental Inc., to manage and carry out a \$29.3 M remediation project of a former radar station located in Saglek, Labrador. Now owned by the Department of National Defence, the site hosted the largest United States Air Force radar station on the East Coast. The station was closed down in the early 70's prior to being dismantled in the 80's. This large-scale project, which involves treating soil and debris contaminated with polychlorinated biphenyls (PCBs), will be managed from Biogenie's Montreal office and will be carried out over a two-year period due to major logistical challenges.

The Saglek project is not the first experience of this magnitude for the Quebec firm. In fact, less than a year ago, Biogenie was called upon to carry out a similar project on the site of a former radar station located in Fort Albany, Ontario. "The success we had with the Fort Albany project demonstrated Biogenie's high-level of know-how in managing contaminated sites as well as our capability to take on major logistical challenges in remote Nordic regions. We are very proud to have the opportunity to participate in the Saglek project and are confident of its successful completion as with all other projects in which we have been involved. It is worth mentioning that this project is the first of approximately 30 that will be remediated in the coming years in Canada's North. We believe that we will be well-positioned to take advantage of these future opportunities which will result in the hiring of personnel", stated Mr. Benoit Cyr, President of Biogenie

This project involves major challenges related to the geographic and climatic conditions in Saglek. Due to its location near the 60th parallel, Saglek is only accessible by air and by sea. Since the frost-free season lasts only 45 days, the navigation period is limited from July to November, during which time a monthly average of over 20 days of fog is experienced. Furthermore, the coastal location, site topography and absence of trees result in a high frequency of very strong winds. The Biogenie team will also have to devise specific measures to cope with the threat of polar bears in the area.

Due to constant R&D efforts since its inception in 1986, Biogenie has become a leader in the remediation of contaminated sites. Major North American and European petroleum, petrochemical and utility companies are among Biogenie's



clientele. Biogenie's distinctiveness lies in its sophisticated tools for 3D mapping of contaminant plumes, its innovative treatment technologies and its ability to carry out large and challenging projects at a fixed-price. In addition to its head office located in Quebec City (Canada), Biogenie has established offices in Montreal, Calgary, New York, Paris and London and maintains a staff of 160.

In its last fiscal year ended in March 2002, the firm's consolidated sales figure amounted to \$33 M. Among the many awards won by Biogenie, a Phénix de l'environnement was awarded in Spring

2001 for its export performance. Also, Biogenie's president, Mr. Benoit Cyr, was nominated in 2002 for the Prix Rayonnement Hors Québec award granted by the Quebec City Chamber of Commerce and sponsored by Canada Economic Development. Most recently, Biogenie won the Quebec-France Business for Excellence award from the Quebec chapter of the French Chamber of Commerce in Canada for its partnership with SEMARDEL, which led to the creation of the first contaminated soil treatment centre (Biocentre) in the Ile-de-France region.

Biogenie

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Cat® D6R Series II Track-Type Tractor Offers Higher Productivity at a Lower Cost Per Yard

The D6R Series II track-type tractor from Caterpillar features a new electronic C9 engine that meets emissions requirements for the United States, Europe and Japan, plus other improvements that increase productivity and reduce operating costs. The Series II machine retains the best features of the D6R track-type tractor, including modular components for faster service, the rugged and reliable elevated sprocket design, Cat's exclusive Advanced Modular Cooling System (AMOCS) and a differential steering option.

Numerous powertrain, cab and serviceability improvements make the D6R Series II track-type tractor an even more valuable tool than its predecessor.

A Caterpillar® C9 engine powers the D6R II. It features an electronically controlled, hydraulically actuated direct-injection fuel system that improves fuel economy and reduces emissions. Air-to-air aftercooling also helps minimize emissions and boost engine performance. The engine is rated at

165 net hp (123 kW) when the machine is equipped with standard undercarriage. With XL, XW or LGP configurations, net power is 185 hp (138 kW). The torque divider and transmission are matched to the engine to optimize performance and component life. The planetary powershift transmission now features Load Compensating Shifting, which automatically adjusts the clutch engagement timing according to load factors. This results in improved tractor performance and operator comfort during speed changes.

The D6R II has a spacious cab, isolation-mounted and pressurized to reduce sound and vibration. The differential steering system and electronic Finger Tip Control (FTC) clutch and brake deliver outstanding maneuverability and control. A newly designed instrument panel helps keep the operator informed, and the Cat Monitoring System provides instant feedback



about operating conditions, as well as valuable information for diagnostics.

The D6R Series II track-type tractor is designed for easy service. Most major components can be removed and installed as modules, reducing repair time. The engine oil change interval is extended to 500 hours. An optional Product Link System can be factory installed or easily retrofitted to simplify fleet tracking.

Caterpillar



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Software Takes Guess Work Out of Hammer Productivity Analysis

Rammer has launched the second generation of a software program that allows companies to calculate productivity levels for a range of hydraulic hammer applications. Designated Rambo II, the software is suitable for both primary and secondary breaking applications. Productivity levels of quarrying, demolition and recycling activities, for example can be estimated using the upgraded program.

Assessing productivity The Rammer Breaker Optimiser (Rambo) program has been developed to help overcome the difficulties in assessing hydraulic hammer productivity. Many variables influence operating performance including the material being processed, the carrier machine and the individual operator. Performance is further influenced by variations in hydraulic flows and pressures across carrier ranges.

The software combines the company's experience of hydraulic hammers with the rock property knowledge of Sandvik Tamrock Corporation. The program allows a customer to

enter details of the material to be broken and the desired results. Using a database that contains information about rock hardness, density and strength, the system can calculate the appropriate Rammer hammer and carrier combination to give the optimum level of productivity, allow comparisons between configurations and can make recommendations for hammers suitable for existing carriers.

The new version of the program, originally launched in 1999, allows users to calculate job costings based on real figures for owning and operating costs, machine maintenance and operator differences, for example. In addition, the system covers a range of languages and results can be provided either in metric or imperial measures.

Rammer, part of Sandvik Tamrock Corporation, operates through a sales and service operations coupled with network of more than 350 distributors world-wide. The company markets a range of hydraulic hammers, pedestal boom



systems, cutter-crushers and pulverizers used for rock excavation, demolition and crushing applications.

Sandvik Tamrock Corp.

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Jean-Paul Laliberté receives North-American Prize for Originality of Truck Design

The striking and original look of Mr. Jean-Paul Laliberté's truck singles it out from all the other heavy vehicles hauling a load along the highways of Quebec, California and Oregon. The unique



style of his truck earned this Valcourt (Quebec) resident a major jury prize in "Cool Rigs™", a competition organized across North America by BFGoodrich® Commercial Truck Tires.

Mr. Laliberté's turquoise-painted rig is decorated with an angel motif. A real masterpiece

on wheels, his rig draws wide-eyed looks all over the West Coast of the U.S. where Mr. Laliberté regularly delivers Bombardier recreational products.

"I get thumbs-up from other drivers on the road", says Mr. Laliberté. "Some motorists even make a U-turn to get a closer look. You can bet the rig doesn't pass unnoticed. Everywhere I go, heads turn".

The BFGoodrich® Commercial Truck Tires Annual "Cool Rigs™" Calendar Contest is a way to reward the creativity, time and effort lovingly devoted to decorating heavy trucks with original .

Like the five other grand prize winners across North America, Mr. Laliberté will see a photograph of his truck featured in the 2003 "Cool Rigs" calendar that will be distributed throughout North America. Each grand prize winner will receive 10 BFGoodrich® Commercial Truck Tires, a "Cool Rigs™" thermos, a framed photograph of his rig,



and 20 monochrome copies of the BFGoodrich® Commercial Truck Tires "Cool Rigs™" Calendar for 2003.

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