Welcome

Throughout its eight years of serving the French speaking users of heavy machinery and specialized equipment in Canada, InfraStructures has established itself as the most acknowledged reference in its field. All other magazines have a different scope or focus. None offer a better mix of local content, important industry news, good circulation and reasonable rates for both readers and advertisers.

As you may know, our next major step for 2005 is in the making: an English print version of InfraStructures – distributed by mail across Ontario and the Maritimes. If you are interested in receiving the English print version of InfraStructures next year, please send us your coordinates by mail or e-mail.

For the year 2004, issues of the English online version will feature more content than last year. We encourage you to send in your news releases and articles which we will gladly publish free of charge.

Finally, we offer a great advertising package: Buy space in our French print version and get published in the English online version free of charge. Please call us to discuss your advertising plans in detail.

Publisher/Editor

On the front cover: many machines were hard at work on a large demolition project. Among them, Delsan A.I.M.’s Liebherr 954 Litronic equipped with a brand new LaBounty MSD 3000R Saber Series shear.
GL&V OBTAINS NEW FOREIGN CONTRACTS

Management of GL&V is pleased to announce that its Process Group (Dorr-Oliver Eimco) was recently awarded two large contracts in the ore processing sector - one in Bulgaria and the other in China - worth a total of $11.8 million and one large-scale contract totalling $11.4 million in the metals and minerals in Brazil.

In Bulgaria, Dorr-Oliver Eimco was mandated to supply various Wemco®, Dorr-Oliver® and Eimco® branded equipment, including flotation cells and a thickening system, to one of the largest copper mines in Eastern Europe. This investment is part of a major upgrading program aimed at lowering costs and improving the mine’s operating efficiency. Some of the cells will be the first of their kind to be installed in Europe, and the largest in the Northern Hemisphere. “This contract is a perfect example of the great potential offered by our Dorr-Oliver®, Eimco® and Wemco® complementary technologies, which notably enabled us to develop a customized liquid/solid separation solution for this customer,” indicated Richard Verreault, GL&V’s Executive Vice-President and Chief Operating Officer.

Secondly, Dorr-Oliver Eimco was awarded an important order to supply filter presses to an iron ore mine in the Province of Shanxi, China. This equipment is also part of a major upgrading program aimed at increasing the capacity of the existing facilities, improving their efficiency, and reducing operating and maintenance costs. GL&V will be responsible for the engineering work and supplying the equipment, and will also supervise its on-site installation and commissioning. Richard Verreault pointed out that this adds to the other large-scale orders obtained by GL&V in the promising Chinese market, where the Company has undertaken to expand its presence in the mining industry, as well as the pulp and paper and water treatment sectors.

In Brazil, GL&V will supply a series of thickeners and filters to an alumina refinery located in the Amazon region as part of Phase II of a major expansion program launched by this alumina producer. This expansion of the refinery’s production capacity will make it one of the largest in the world. GL&V will be responsible for the design and delivery of the equipment, scheduled for March and April 2005, and will also supervise its installation and commissioning. Manufacturing will be outsourced in Brazil.

GL&V plans to fully leverage the strength and potential of its international network, expertise and brand recognition in emerging regions.

Source: Groupe Laperrière & Verreault Inc.

MUNICIPALITIES ON SURFACE WATER STEP UP WATER TREATMENT SYSTEMS

In an effort to provide a larger margin of safety against microbial outbreaks from drinking water, two communities in the State of Pennsylvania (Lancaster and Charleroi) have purchased ZENON membrane systems. For the same reason, the City of Thunder Bay, Ontario will be building a new drinking water plant that will treat 113,550 m³/day (30 million gallons of water per day) also using ZENON’s technology.

Thunder Bay, North Western Ontario’s largest city, had a wake up call in 1997 when part...
of the City (Thunder Bay South) was placed under a ‘boil water’ advisory as a result of Giardia contamination in the drinking water supply. At the time, ZENON quickly built and delivered an interim membrane based water treatment plant treating approximately 37,850 m$^3$/day. Currently, the City operates two drinking water plants – one using membranes and the other using conventional direct filtration technology. By the end of 2005, the City of Thunder Bay will have built the second largest ZENON membrane filtration plant in the province, which will eventually replace the two existing plants for this community of 100,000+ people.

“We needed to ensure that we would be able to meet new water quality standards that may be introduced in the future,” said Doug Scott, Manager of Engineering for the City. “Experience with our first ZENON plant showed us that membranes can meet any problems that can arise, therefore, it wasn’t very difficult to choose ZENON again. Also, it’s great to see that the technology is now very cost competitive with conventional systems and provides a higher margin of safety for parasites like Cryptosporidium and Giardia, as compared to conventional systems.”

In the United States, new, more stringent water treatment and disinfection rules are set to come into effect January 2005. The main purpose of the new regulations is to improve control over microbial pathogens. In light of this, the City of Lancaster and the Authority of the Borough of Charleroi decided to undertake extensive evaluations comparing membrane technology to conventional, particularly because they both had surface water as the source. Parasites such as Cryptosporidium and Giardia are quite common in most surface water (rivers, lakes and streams) and Cryptosporidium is also highly resistant to chemical disinfectants. Both can result in flu-like illnesses and in some cases can even cause death.

According to the Director of Public Works for the City of Lancaster, Charlotte Katzenmoyer, the two plants in the area were aging and needed significant upgrades. After an aggressive piloting program with different technologies, they chose ZENON membranes to relieve concerns with respect to water quality compliance and to protect their residents from any possible microbial contamination. “We were very pleased with the performance of the ZENON membranes during the pilot process,” commented Ms. Katzenmoyer, “they performed very well when compared to others.”

Other significant factors in their final decision were cost competitiveness and a proven technology, “ZENON came out on top with both,” continued Ms. Katzenmoyer. “In particular, we were looking for reference sites that were using surface water as the source and ZENON had a number of such sites.”

The City’s Conestoga Water Treatment Plant currently treats 45,420 m$^3$/day and the Susquehanna Water Treatment Plant currently treats 90,840 m$^3$/day. Additional areas will be constructed on both sites to house the new membranes. In order to continue servicing its communities, both conventional plants will operate until the beginning of 2007 when the membrane plants will be set for completion.

The Authority of the Borough of Charleroi had similar concerns in meeting future water quality regulations with their existing conventional water treatment plant. After pilot testing.
pressure membranes vs. vacuum driven membranes, “ZENON’s UF (vacuum driven) membranes had less operational problems than the pressure system,” according to Ed Golanka, General Manager of the Authority. “They also gave us a very high level of comfort in terms of providing reliable drinking water because they’re a positive barrier to contaminants.”

ZENON is a world leader in providing advanced membrane products and services for water purification, wastewater treatment and water reuse to municipalities and industries worldwide.

The 2003 recipient of the prestigious Stockholm Industry Water Award, ZENON was selected as the award winner because of the company’s innovative approach to the development of water and wastewater process technologies along with its contributions to environmental improvement.

Source: Zenon Environmental Inc.

**BIODEIESEL-FUELLED CRUISES TO PLY ST. LAWRENCE RIVER AND LACHINE CANAL**

Partners in the BioMer project are proud to announce a $563,000 project to demonstrate that biodiesel is a viable alternative fuel for cruise ships.

The project will test the use of pure biodiesel (B100) as a fuel supply for a fleet of various types and sizes of cruisers operating in two very tourist-intensive areas: the Old Port of Montréal and the Lachine Canal National Historic Site. In addition to measuring emissions, the BioMer project will highlight the impact of biodiesel (a fuel made from vegetable oil, recycled cooking oil or animal fats) on marine engine performance and river ecology.

The Government of Canada will allocate a total of $323,000 to the project through a partnership that includes Canada Economic Development for Quebec Regions, Environment Canada and Natural Resources Canada.

At the provincial level, both the Quebec Environment and Transport departments have supported the BioMer project with a total of $25,000.

Two of the project’s key initiators are the Sine Nomine Group and Maritime Innovation’s Technology Transfer Centre. “By demonstrating that it is technically feasible and commercially viable to use biodiesel in the maritime sector, the BioMer project helps to develop innovative expertise in greenhouse gas reduction and to create a new industry with potential applications on the national and international level,” pointed out Maritime Innovation CEO Jacques Paquin.

According to Camil Lagacé, BioMer Project Director and President of the Sine Nomine Group, the project was well received from the beginning. “All partners enthusiastically agreed to participate. Their commitment to the environment and their determination to take tangible steps to reduce emissions and preserve water quality along the Seaway are proof that biodiesel is of interest to the cruise industry.”

Rothsay, a subsidiary of Maple Leaf Foods located in Ville Sainte-Catherine that specializes in the recycling of agro-industry wastes, will produce the pure biodiesel and supply the fuel during the project. The 12 boats being used in the BioMer project belong to the following four cruise companies.

Source: Natural Resources Canada, Sine Nomine Group, Ministère de l’Environnement du Québec
HYDROGENICS SIGNS NEW AGREEMENT WITH JOHN DEERE TO ADVANCE THE COMMERCIALIZATION OF FUEL CELLS

Hydrogenics Corporation announced recently that it has entered into a five-year agreement with Deere & Company regarding continued research and development efforts concerning the use of hydrogen and fuel cells in commercial vehicles. The five-year agreement incorporates both qualitative and quantitative commitments, and builds on the success of earlier joint projects involving the integration of Hydrogenics’ HyPM™ fuel cell power module technology into Deere vehicles.

Earlier this year Hydrogenics launched its off-road mobility initiative in the belief that these applications present earlier viable markets for hydrogen fuel cells than broader mass vehicular applications such as the automobile. Deere is a renowned international supplier of equipment and vehicles to a wide range of such early-adopter markets, including, but not limited to, the military, high-end grounds maintenance, agriculture, forestry and mining.

“Deere has proven to be exceptional in this effort, largely due to the company’s recognition of the potential for fuel cell technologies to enhance their current and future product platforms,” commented Pierre Rivard, Hydrogenics’ President and Chief Executive Officer. “Broadening our relationship with Deere is an important milestone towards achieving fuel cell commercialization. Through this agreement we expect to transition our products from R&D prototypes, or demonstration units, to robust commercial products.”

Under this Agreement, Deere and Hydrogenics will collaborate on both fuel cell developments and engineering to integrate them into vehicle systems.

Source: Hydrogenics Corporation

NEW “WET-BREAK” SYSTEM TO PROTECT PROPERTY FROM WILD FIRES

Having met with success in helping to fight forest fires in Saskatchewan, Hydro Engineering Inc. is now making its “wet break” system available to businesses, municipalities and individual homeowners in fire-ravaged British Columbia and other provinces in Canada.

“At this time of year, fire fighting crews and resources across Canada – such as in British Columbia right now – can be in heavy demand,” says Hydro Engineering president Tom Huffman. “The fire fighting package we have put together allows businesses, munici-
destroyed or damaged by forest fires," says Tom Huffman. He added that people should not only plan against the bad forest fire season this year, but in the years to come. "With climate change, some experts say we can expect more of the same in terms of serious forest fire situations in the future."

A Saskatchewan dealer for Hydro Engineering, Doug Sand, actually pioneered the system for fighting fires. Sand was using the hose for agricultural purposes when his own property was threatened by a forest fire. He quickly manufactured a coupling for the hose, and connected sprinklers, and hence the wet break concept was born. "This was a critical case of necessity being the mother of invention," says Sand.

The Hydro Engineering wet break system involves laying out long lengths of flexible feeder hose in the path of an oncoming fire. A huge benefit of the system is that it does not require construction of "fire-breaks" to create a path to lay hose down. With conventional fire fighting techniques, these wide fire breaks, though effective, can create environmental problems because they involve removing trees and vegetation, and can be time consuming to create.

With the wet break system, the fire-fighting corridor only needs to be wide enough to allow the vehicle pulling the hose – a farm tractor – to drive through. Smaller hoses then run off the main line, with sprinklers on these smaller hoses broadcasting water and creating the wet break to fight oncoming fires.

Another benefit lies in how quickly it can be deployed. Once a crew arrives on site, they can have three kilometres of hose stretched out and pumping water within four hours. If engaged on a contract basis, a crew can be on site within 24 hours. Training for the system is supplied by Hydro Engineering.

"The system provides a never-ending supply of water," says Doug Sand. "It’s like a mobile water main." Up to 1,500 gallons of water a minute can be pumped through the six-inch hose. The company has developed a special pump so the system can function in fairly shallow water sources.

The wet break system, interesting enough, grew from the conventional use of the company’s hoses: the distribution of manure on farms. This type of equipment is normally used to pump manure from a farm storage facility, with the manure then injected into the farmland in a measured and environmentally accepted manner using other equipment from Hydro Engineering.

"It really is a great example of using existing technology and extending it – in this case – to protect life and property," says Hydro Engineering’s Tom Huffman.

Source: Hydro Engineering, Sands Liquid Manure Services

**ATLAS COPCO TO ACQUIRE BAKER HUGHES MINING TOOLS**

Atlas Copco North America Inc. has signed an agreement to acquire Baker Hughes Mining Tools, a division of Hughes Christensen, a division of Baker Hughes Incorporated. Baker Hughes Mining Tools has annual revenues of approximately MUSD 40 (MSEK 300) and 176 employees. The purchase price has not been disclosed.

Baker Hughes Mining Tools is a leading manufacturer of consumables for rotary drilling and raise boring. Its head office and manufacturing plant are in Grand Prairie, Texas, United States, and it has sales offices...
and agencies in several countries. The acquired business will become part of the Secoroc division within the Construction and Mining Technique business area.

The acquisition will bring with it products that complement Atlas Copco Secoroc’s existing range of drilling consumables. It fits in with Construction and Mining Technique’s strategy of offering a more complete product assortment to surface mining and raise boring markets and of increasing revenues through use-of-products.

“The acquisition will strengthen our position in raise boring consumables and allow us to enter into the rotary drilling consumables market for surface mining,” said Bjorn Rosengren, Business Area Executive, Construction and Mining Technique. “It will also help us to increase our customer share with key customers.”

Atlas Copco Secoroc is a division within the business area Construction and Mining Technique of the Atlas Copco Group. The division develops, manufactures and markets rock drilling tools, and has established a world-wide leading position. The products are used for rock excavation within the mining and construction business for both surface and underground applications.

Source: Atlas Copco AB

CATERPILLAR EXPANDS REMANUFACTURING BUSINESS IN EUROPE

Caterpillar Inc. has reached an agreement to acquire the business and assets of Wealdstone Engineering Ltd., one of Europe’s leading remanufacturers of gasoline and diesel engines. Wealdstone is a privately held company based in the United Kingdom. The acquisition represents an expansion of Caterpillar Remanufacturing Services ("Cat Reman") which currently has six facilities located in the United States, Mexico and Europe serving the automotive power train remanufacturing business.

“Wealdstone offers key attributes such as world-class remanufacturing skills, automotive industry product knowledge, and strong customer relationships,” commented Steve Fisher, general manager of Caterpillar Remanufacturing Services. “This acquisition is an excellent strategic fit, providing an opportunity to leverage a combination of Wealdstone and Caterpillar reman strengths to provide a portfolio of remanufacturing services to original equipment manufacturers (OEMs) in the automotive industry.”

“We are delighted to become part of the Caterpillar family,” said Tim Durdin, managing director of Wealdstone Engineering Ltd. “We look forward to growing the business, strengthening our position in this growing industry while offering a global service to our customers.”

Wealdstone Engineering is located in Rushden, England and employs over 100 people. Its business is automotive and industrial based, and Wealdstone has been a specialist OEM remanufacturer since 1965. Wealdstone’s largest long-term customers are Ford Europe and the British Ministry of Defence.

“Cat Reman is excited about the opportunity to work with Wealdstone’s current customers,” said Fisher. “We intend to expand our client base and serve the marketplace in an even greater capacity.”

Caterpillar is one of the world’s largest remanufacturers, processing more than 2 million units annually and recycling more than 100 million pounds of used products each year. Caterpillar has been in the remanufacturing business for over 30 years. Today, Cat Reman products include on and off highway engines, engine components, transmissions, hydraulic components and electronic components.

Source: Caterpillar Inc.

IVACO: THE COURT APPROVES THE SALE

The Ontario Superior Court of Justice approved the sale of substantially all of
Financement et location à taux réduits sur les équipements neufs sur approbation de crédit, offert par :
Ivaco's assets to an affiliate of Heico LLC in accordance with the Purchase and Sale Agreements previously announced. The transaction is expected to close before year end. The Court also approved the sale of the assets of Ivaco Inc.'s wholly owned subsidiary IMT Corporation. The sale of the assets of IMT Corporation is expected to be completed in mid-September 2004.

Mr. Randall Benson, Chief Restructuring Officer, said: “This is another significant step in the path to complete the restructuring of Ivaco. We are pleased that the Court has endorsed this sale transaction and we look forward to completing the remaining requirements to close as quickly as possible.”

The Court has extended the period of Court protection under the Companies’ Creditors Arrangement Act (“CCAA”) until December 15, 2004.

Ivaco is a Canadian corporation and is a leading North American producer of steel, fabricated steel products and precision machined components. Ivaco's modern steel operations include Canada's largest rod mill, which has a rated production capacity of 900,000 tons of wire rods per annum. In addition, its fabricated steel products operations have a rated production capacity in the area of 350,000 tons per annum of wire, wire products and processed rod, and over 175,000 tons per annum of fastener products.

Source: IVACO Inc.

LAFARGE NORTH AMERICA LAUNCHES HIGH-PERFORMANCE ASPHALT PRODUCT LINE

Lafarge North America recently announced that its construction materials division has launched the DuraPave Series of high-performance asphalt products for pavement systems.

DuraPave Series asphalt products are engineered to provide a high level of resistance to permanent deformation, to produce enhanced durability and flexibility, and to improve fatigue resistance. The series is an ideal solution for projects ranging from high-traffic loadings to recreational and architectural needs.

Recognizing the need for higher-performing asphalt pavements, the DuraPave Series offers a range of products that will assist highway and municipal owners in improving transportation infrastructure by reducing maintenance costs, enhancing safety and extending the life of the system.

Property managers and owners will have more selection than has traditionally been available. For example, DuraTough was developed specifically for large-span floors and industrial applications with the benefits of reduced construction time and increased toughness. DuraPlay provides a traditional asphalt product modified for the purpose of recreational and sporting surfacing with safety in mind. DuraWay is a premium mix with improved durability and scuff and tearing resistance for pathways and driveways.

Lafarge has addressed safety, visibility and landscaping concerns with DuraTint, an asphalt product that includes color pigmentation. To provide a cost-effective and more environmentally friendly solution, DuraCycle and DuraClime were developed to utilize nontraditional or waste materials for traditional road construction.

Source: Lafarge North America
Today’s economy requires a new level of job site versatility. Powerful Cat® Work Tools are designed to provide the reliability and versatility to succeed in the most demanding site conditions. Benefits the competition simply can’t match include:

- World’s largest and most trusted supplier of work tools.
- Wide selection available and in inventory.
- Performance-matched work tools available for everything from your smallest compact equipment to your largest machines — all from a single source.
- Each tool built to exacting Caterpillar® standards for superior durability and reliability.
- Backed by the industry’s finest Dealer network featuring knowledgeable staff, parts availability and superior support in the field.

For more information, stop by your Cat Dealer today. While you’re there, ask about the Cat Work Tool opportunity, quality products that will make the Cat difference.
EXXONMOBIL INTRODUCES MOBIL POLYREX® EM GREASE

ExxonMobil announced the introduction of Mobil Polyrex EM polyurea grease, which is designed specifically to enhance the performance and reliability of electric motor bearings and ball or lightly loaded roller bearings operating at high temperatures.

Formulated with ExxonMobil’s proprietary thickener technology, Mobil Polyrex EM grease features excellent mechanical shear stability, rust inhibition and deposit control and delivers exceptional protection even under the most demanding conditions, such as high temperatures and high speeds.

Available in NLGI (National Lubricant Grease Institute) Grade 2, Mobil Polyrex EM grease features noise properties superior to other Exxon- and Mobil-branded electric motor greases.

“Electric motor bearings play a significant role in the operation of almost every piece of industrial equipment and are often subjected to the most demanding environmental conditions,” said Brad Jeffries, grease advisor, ExxonMobil Lubricants & Specialties. “With the introduction of our Mobil Polyrex EM Grease, we are providing industrial maintenance managers with an ideal way to enhance the durability and performance of the electric motor bearings that help power their company’s most critical equipment.”

Mobil Polyrex EM grease replaces Exxon Polyrex EM grease which has been discontinued.

Source: Exxon Mobil Corporation

MMC NORILSK NICKEL GROUP ORDERS MAJOR EQUIPMENT PACKAGE FROM ATLAS COPCO

Russia’s MMC Norilsk Nickel Group, the world’s largest producer of nickel and palladium, is to make another major addition to its huge fleet of Atlas Copco equipment currently at work in Russian mines. The order, worth around 9 million Euros, is for nine face drilling rigs, ten loaders and one mine truck.

The 20 new units will serve five mines, as well as a copper plant. They will supplement the company’s existing fleet of over 200 Atlas Copco units. According to MMC Norilsk Nickel Group, the order represents a major investment by the company to fulfill its long-term goal of boosting its production volume.

Radomir Maric, General Manager of ZAO Atlas Copco Construction and Mining Technique in Russia, says: “Such a fleet gives a great opportunity for aftermarket activities. The Atlas Copco service organization at the Norilsk branch will continue to grow in accordance with the order. We are building a long-term relationship with this customer by providing good service and through a drill-meter contract which will be introduced later this year.”

The Atlas Copco Norilsk branch was set up in 2001 as a dedicated service center for MMC Norilsk Nickel Group. The branch’s 16 employees and warehouse facilities provide complete service support and maintenance to all Atlas Copco equipment operating at the company’s mines.

MMC Norilsk Nickel Group produces nickel, copper, palladium, platinum, and other precious metals such as gold and silver, selenium, tellurium, technical sulphur, hard coal and other materials for industrial needs. Its substantial production volume makes it one of the leaders in the Russian economy.

Source: Atlas Copco

LOJACK CORPORATION TO ACQUIRE BOOMERANG TRACKING

LoJack Corporation announced recently that it had entered into a definitive agreement to acquire Boomerang Tracking Inc., the dominant marketer and provider of stolen vehicle recovery technology in Canada. The total value of the transaction is approximately $64 million.

Upon completion of the acquisition, LoJack will add to its organization a trusted, highly profitable company with an established brand that complements its own core business. Moreover, LoJack will expand its operations and gain access to the Canadian market, including the provinces of Quebec, Ontario and British Columbia, where Boomerang Tracking is the leader in stolen vehicle recovery. LoJack also will gain Boomerang Tracking’s expertise in marketing to insurance companies, as well as technology that may be leveraged for new applications globally.

In making the announcement, LoJack Chairman and CEO Ronald J. Rossi said, “The acquisition accelerates LoJack’s growth and makes an important contribution to LoJack’s vision of being the leading global provider of wireless tracking and recovery services.

We believe that there are opportunities for future introductions of new products that use both LoJack and Boomerang Tracking technologies, as well as the potential to leverage the companies’ complementary brands and channels for more effective market penetration worldwide.”

Source: LoJack Corporation
Cummins Inc. (NYSE:CMI) unveiled a 3000 horsepower (HP) rating for the designed for mining QSK60 diesel engine. The rating was developed specifically to meet the reliability and high power density requirements of 300 ton haul trucks. This new engine rating will be available in 2006 and will meet the Environmental Protection Agency’s (EPA) Tier 2 emissions requirements.

The Tier 2 QSK60 will utilize a designed for mining common rail fuel system with full authority electronic control over fuel timing, quantity, pressure, delivery rate shape and the number of injection events is a must for optimum performance and emissions compliance. This system has full control over the fuel injection event in relation to timing, quantity, pressure and number of injections. Cummins Tier 2 QSK60 achieves a 30% reduction in emissions of Oxides of Nitrogen (NOx) and 65% reductions in Particulate Matter (PM), while maintaining reliability and durability in extreme operating environments, and still allowing customers to use widely available diesel fuels.

The 60 liter, V-16 configuration features Ferrous Cast Ductile (FDC) pistons that allow for high fuel injection pressures and increased power output with exceptional durability while reducing the maintenance costs. The Tier 2 QSK60 will be offered with a choice of either a single stage or dual stage turbochargers.

“We’ve invested in the right products, proven technology, people, and infrastructure to help our customers achieve the uptime they require,” said Ed Claypool, General Manager of Cummins Mining Business. “Cummins remains focused on providing customer support and technology to the mining market that’s better than anybody else,” he added.

Cummins engines will feature an in-cylinder solution with minimal OEM installation impact. Cummins has been able to optimize the in-cylinder combustion system to meet Tier 2 NOx levels without the need for aftertreatment or other external hardware. In addition, the Cummins Tier 2 advanced combustion solution provides stable engine system that will carry customers through to Tier 4 in 2011.

Source: Cummins Inc.
**Mercedes-Benz Sprinter Now Also with Hybrid Drive**

For many decades, Mercedes-Benz has been a pioneer in the exploration of environment-friendly, resource-friendly propulsion systems. Whether in natural gas, LPG, electric propulsion or the particularly future-oriented fuel cell, Mercedes-Benz is a leading developer.

This pioneering position will be highlighted once again at the IAA Commercial Vehicle Show 2004, this time with a plug-in hybrid-drive Sprinter. Plug-in means that the vehicle is equipped with a power socket which enables the batteries to be recharged even when the engine is not running, for example overnight. A hybrid-drive Sprinter with no recharging socket is also planned.

In the hybrid-drive Sprinter (with or without a recharging socket) an electric motor is integrated into the drive train between the transmission and clutch. It obtains its energy from a nickel/metal hydride battery which it constantly recharges when on the move, acting as a generator and using the energy produced when braking or on downhill gradients (recuperation). The basic vehicle is a Sprinter 311 CDI (3.5 t GVW, kerb weight 1960 kg) with an automatic transmission.

A hybrid-drive van can provide zero-emission, exceptionally quiet operation when travelling in towns and other emissions-sensitive areas. Other advantages include an unrestricted operating range thanks to the internal combustion engine, familiar operation which is largely the same as for a conventional vehicle and a high level of operating safety. Last not least, the operator is rewarded with a reduction in diesel fuel consumption of between 10% and 50% depending on the type of operation.

**PLUG-IN HYBRID DRIVE WITH A 70 KW ELECTRIC MOTOR**

Since the two drive units – the internal combustion engine and the electric motor – are intelligently configured in parallel, the hybrid Sprinter can be optimally operated to suit the situation: emission-free, low-noise operation in sensitive areas (city, warehouses) under pure electrical power and fuel-reducing hybrid operation by supporting the internal combustion engine with electrical power at low speeds and when accelerating. When the accelerator is fully depressed for maximum performance, both power units operate together. This so-called boost function is appropriate when more performance is required for acceleration or on uphill gradients. During normal operation the driver is able to select the required drive unit at the push of a button.

In the plug-in hybrid drive system in the Mercedes-Benz Sprinter, an electric motor with an output of 70 kW is combined with the conventional diesel engine. It obtains its energy from a nickel/metal hydride (NiMH) battery with a capacity of 14 kWh. This allows an operating range of up to 30 km under purely electric propulsion. The battery is recharged from the mains power supply, e.g. overnight, with a recharging time of approximately six hours. The energy generated when braking is also used to recharge the battery.

Workmen, disaster relief organizations or the fire services can also use the 40 kW electric motor in the Sprinter with plug-in hybrid drive as a generator to operate tools and machinery while in the field. The additional electrical equipment weighs 350 kg. If lithium ion batteries are used in place of the NiMH batteries, the weight penalty is reduced to 160 kg.

**HYBRID DRIVE WITH A 30 KW ELECTRIC MOTOR**

The Sprinter with hybrid drive and no recharging socket has a smaller electric motor with an output of 30 kW and smaller batteries with a capacity of only 3 kWh. These allow purely electric operation with a range of 3 to 4 km, which is perfectly adequate for almost all pedestrian areas. The additional weight of this simpler variant is approximately 100 kg.

**GOVERNMENT SUBSIDIES WHEN PURCHASING A HYBRID VEHICLE**

Looking at the overall picture, it cannot be denied that as a result of the second power unit, hybrid drive has certain penalties in terms of payload and purchase price. That said, however, nine EU countries are already offering incentives for the purchase of hybrid vehicles, e.g. preferential taxation or subsidies, as well as tax relief on the operation of such vehicles. In London, for example, gas-powered or hybrid drive vehicles are already exempt from road toll charges.

In view of expected, increasingly stringent emissions regulations, restrictions on access to inner city areas, tolls and vehicle taxes, and with the aim of reducing fuel consumption in general, this form of drive system is gaining in worldwide importance. Hybrid drive with its combination of well-proven components, i.e. the internal combustion engine and the electric motor, is ideally suited to bridge the interim period before the fuel cell reaches series production maturity.

The Mercedes-Benz Sprinter with plug-in hybrid drive on display at the 2004 Commercial Vehicle Show is far more than study for the distance future: customer trials which can already commence next year are already planned.
The IAA is the industry's most comprehensive motor show anywhere in the world and therefore an international platform for everybody interested in commercial vehicles, whether it be development, manufacturing or utilization. The IAA Motor Show represents light and heavy trucks, transporters and buses, trailers and bodies for various transport reasons, maintenance and repairs. A special characteristic is the large representation of the parts and accessories industry: 700 companies in this group are presenting their products. Then there are also logistics companies, authorities and associations, publishers and service providers.

The IAA is the world's largest commercial vehicles exhibition with a 200,000 m² exhibition area.

Source: IAA

Vermeer is proud to announce the launch of a new interactive website. Vermeer welcomes visitors to log on and preview the latest breaking job stories and technologies from an innovator in the construction industry.

The new website is the first phase of a multifaceted campaign to open communication channels with our customers. “We are very excited about the interactive campaign and the increased connection to our customers and prospective customers.” says Tony Briggs, Marketing Communications Manager.

Vermeer has incorporated a portal for customers to register and receive updates regarding products, services and events.

Source: Vermeer, www.vermeer.com
Noregon Software Helps Military Improve Soldier Safety and Survivability

Noregon Systems has delivered a vehicle maintenance software application which predicts and speeds needed repairs of tactical military vehicles. Used in conjunction with military laptop computers, the software improves the safety and survivability of America’s fighting forces. It is part of an on-going program that Noregon is executing for the US Army Tank-automotive and Armaments Command (TACOM).

“News reports have made everyone aware of what can happen when a military vehicle breaks down in hostile enemy territory,” notes Bill Van Horn, vice-president of Noregon Systems. “Our software, in combination with the military’s hardware, gives vehicle technicians a reliable prognostic and diagnostic tool to identify needed repairs before a vehicle is sent into action and/or find and fix existing problems faster. In addition this software has the ability to take a snapshot of total vehicle status at the occurrence of any anomaly on the vehicle.”

The software also interfaces with third party diagnostic applications found in engines, transmissions, ABS and Central Tire Inflation Systems. The software is SAEJ1587/J1939 and RP1210A compliant.

U.S. Army TACOM (www.tacom.army.mil), headquartered in Warren, Michigan, provides soldiers with overwhelming lethality, mobility and survivability for battlefield dominance. It provides ground combat, automotive, marine and armaments technologies and systems; and generates, provides and sustains mobility, lethality, and survivability for soldiers, other services and U.S. allies to ensure Army readiness.

Source: Noregon Systems
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Digital Hydraulics Turn Lifting into High Accuracy Hoisting and Positioning System

Enerpac BV

Since the advent of hydraulic jacks or lifting cylinders, construction engineers have had the capability to raise and relocate structures, bridges or buildings of almost any size and tonnage – even entire city centres to allow new underground installations such as subways or essential repair work.

In theory there are no limits... the greater the weight, the more cylinders are employed. But the extend of a straight lift has always been limited to the plunger stroke length of the cylinders used. To lift beyond that limit stage lifting has involved additional holding arrangements to permit the replacement or repositioning of cylinders for the next stage in the lifting operation.

PRODUCT VALUE STATEMENT
With the use of single cranes heavy loads, such as large construction segments, can move long vertical distances with relative high speed. For the geometric positioning of heavy loads in a vertical and horizontal plane it happens that multiple cranes are used in the lifting industry. Synchronizing movements in this fashion has proved to be difficult and risky. Also from a lifting accuracy standpoint this application has often resulted in damaging the load and/or support fixtures and even putting the workers at risk. In addition, sudden crane starts and stops create oscillations during the critical stages of the lifting process. Weather conditions also play an active role when using multiple cranes during heavy load positioning applications.

This is where the value of the Enerpac SyncHoist system comes in. The Enerpac SyncHoist system is a hydraulically operated auxiliary attachment for high precision load positioning with cranes. With the use of a single crane, the load can now be precisely maneuvered in a vertical and horizontal plane, while reducing risk and cost and vastly improving operating speed and worker safety. Also, when using the Enerpac SyncHoist system weather conditions play a less critical role in comparison to applying multiple cranes.

A PERFECT MARRIAGE
Today, however, Enerpac hydraulic expertise combined with heavy lifting know-how brings unlimited possibilities to move, position and control heavy loads and large objects. Lifting power is provided by the crane while the integrated Enerpac intelligent SyncHoist System guarantee a smooth and high accuracy counterweighing and positioning of heavy loads and structures. Accurate positioning can be managed in the top of the crane by the crane operator or by the construction workers on the roof with the use

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The architectural designs of Santiago Calatrava often require creative technological solutions. Enerpac SyncHoist System is one of them and used for roof positioning of the Palace of the Arts in Valencia (Spain).

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HIGH ACCURACY HOISTING – INTEGRATED HYDRAULIC SOLUTION
Hoisting, moving and positioning with high accuracy can now be done using one crane with Enerpac integrated hydraulics. In many construction hoisting applications the hydraulic control of load movement makes the demand for more than one crane redundant. This integrated hydraulic solution turns hoisting into an efficient and cost effective handling and ensures better control of vertical transportation and load positioning – reduces costs of hiring additional cranes, assembling time and requires less space on the construction site. In conventional hoisting one crane is used for each lifting point. Now, with the Enerpac SyncHoist System one crane can handle multiple lifting points with an accuracy of ± 1 mm.

HYDRAULIC SYSTEM INTEGRATION
Between the cables of the crane hydraulic cylinders will be included. Each lifting point has its own cable and cylinder. These cylinders are double-acting pulling cylinders. The double-acting function allows precise control of both lifting and lowering adjustments in each cable. The maximum hydraulic pressure is 700 bar while the cylinder pulling capacity depends on the type of application. However, the maximum load is only limited by the lifting capacity of the cable, not by the hydraulic system. The hydraulic system features management of digital and electronic signals. The cylinders are equipped with stroke sensors.
measuring the exact plunger travel. In this way every movement of all lifting points can be checked at the same time. Plunger strokes of 1500 mm are not uncommon in hoisting and positioning applications with 4 or 6 lifting points. The maximum positioning accuracy with Enerpac SyncHoist is +/- 1 mm, but the elasticity of the cables must be considered.

Hydraulic system management can be done by digital and analogue signals. The type of remote control unit depends on the system function: for most applications a manual control is sufficient but for counterweighing and pre-programmed movements a PLC-control unit is necessary. Once the load is moved within a short distance of its final position (using a single crane), the Enerpac SyncHoist system positions the load with high accuracy. No need to crane jogging i.e. sudden starts & stops of the crane, causing oscillations of the wire rope and premature wear of crane brakes. Operating simplicity such as wireless remote control and read outs.

The Enerpac SyncHoist System can be used for a wide variety of functions such as high accuracy relocating, pre-programmed relocating, pre-programmed twisting or turning and counterweighing (determining centre of gravity).

A UNIQUE POSITION
Enerpac has proven to be the reliable partner for controlled hydraulic movement and weighing, moving and high accuracy positioning of high tonnage loads and large structures. Enerpac SyncHoist systems with integrated PLC-controls are beyond today’s standards as it comes to overcome critical requirements as precise counterweighing and relocating structures to their final position and ascertain not only a safe but also a cost effective handling and transportation.

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<th>Articulated wheel loader</th>
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<td>3520 kg (7930 lbs), cab, 0.65 m³ bucket</td>
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<td>2855 kg (6488 lbs), very few hours</td>
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<td>6100 kg (13,436 lbs), very few hours</td>
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<td>Terex TX760, NEW</td>
<td>Depth 4.5 m (14'8''), power 86 hp</td>
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Toughquip Releases New Information On Used Caterpillar Equipment

Toughquip, LLC has released a new information guide that enables the buyer, seller, or owner of used Caterpillar equipment to dispose of and/or procure equipment with more accuracy and ease. The Caterpillar Equipment Buyer Information Guide includes most Caterpillar construction equipment models from 1960 through 2003. Equipment upgrades, by serial number, are included on all applicable models. The buyer, at a glance, can determine if the used equipment has the latest increased speed runout transmission gears, increased torque-rise engine, improved variable capacity torque converter, flow amplified steering, increased backhoe digging forces, etc. Toughquip’s 2004 information guide has been under development for several months. The briefcase-size guide includes more than 1,700 serial series models with over 700 pages of vital, decision-making information. The “Quick-Glance” single-page format allows the user to get all the information on a specific machine without flipping through several books. Everything is on one page - model number, serial series, country of origin, engine model, engine serial number, equipment weight, length, width, capacity, equipment serial numbers and model year, and mid-production upgrades. The guide also includes an engine section which indexes latest engine models and serial numbers in all listed equipment. Contractors, independent equipment dealers, auction companies, equipment appraisers and inspectors have found the Toughquip information guide to be very useful. Paul Davis, President of Denco Equipment Sales, said, “The Toughquip Caterpillar Equipment Buyer Information Guide is the easiest information/specification book to use that I have seen in my 35-plus years in the business.” The Toughquip Caterpillar Equipment Buyer Information Guide is priced at $75.00.

Toughquip is not associated with, nor is it a licensed representative of Caterpillar Inc. is not associated with, nor is it a licensed representative of Caterpillar Inc.

Source: Toughquip LLC
Jeff Moore, (972) 745-6563
www.toughquip.com

The Thousandth M2 Machine for Hydro-Mobile

Hydro-Mobile, the leading North American manufacturer of mast climbing work platforms is proudly announcing the production of their 1000th M2 machine. Hydro Mobile has over 3,500 platforms on the market. However, the M2 is the latest of their M-Series product line.

The 1000th M2 machine, serial number 24M 3472-M2-A was purchased by TNT Equipment, the week of August 3rd, 2004. For two weeks Hydro Mobile followed the production story of this machine, from the welding to the assembling and finally the shipping of the 1000 M2. Please view photos of the Hydro Mobile production team and the TNT crew.

The M2 represents the latest generation of mast-climbers. If previous models have been recognized for their quick set up, this more innovative version will become the standard platform. Safety, productivity, efficiency, simplicity and capacity are the cornerstones of its design to ensure the clients satisfaction.

Hydro Mobile is a privately owned corporation. The company is principally involved in the design, manufacturing and distribution of mast climbing work platforms for the construction industry. Hydro Mobile platforms are distributed throughout North America and Europe through a wide network of distributors that are recognized as key players in construction equipment sales and rental. With over 3,500 platforms on the market, Hydro Mobile is unquestionably the leader of the industry.

Source: Hydro-Mobile Inc.
Thierry Lachapelle, 1-888-484-9376
www.hydro-mobile.com
Tennant Acquires Walter-Broadley

Tennant Company announced today that it has completed the acquisition of Walter-Broadley Machines Limited in a cash transaction. Terms of the transaction were not disclosed. Walter-Broadley is a privately owned, United Kingdom-based cleaning equipment company whose annual sales were approximately $13 million in the fiscal year ended October 31, 2003. “With this acquisition, we continue our strategy of expanding Tennant’s sales and service coverage in key European markets, especially with the large building services contractors that make up more than half of that market,” said Janet M. Dolan, Tennant Company’s president and chief executive officer. “Walter-Broadley has an excellent reputation in the United Kingdom cleaning equipment market, a proven direct sales and service organization and strong relationships with building services contractors, particularly those serving major retailers. We are pleased that key managers in the company are joining Tennant with this transaction and we look forward to benefiting from their leadership of our combined United Kingdom sales and service team.” The acquisition more than doubles Tennant’s customer base in the United Kingdom and triples the number of Tennant service representatives. Dolan noted that Walter-Broadley’s focus on serving commercial cleaning customers complements Tennant’s current United Kingdom sales and service organization, which serves primarily industrial customers. Walter-Broadley currently employs about 130 people and operates an equipment manufacturing and service center in Northampton. Tennant will assume the lease on this facility and consolidate its United Kingdom sales and service operations at Walter-Broadley’s nearby central England location. The combined business will operate under the Walter-Broadley name. “We have long admired Tennant’s global business and look forward to joining with Tennant to serve our combined customer base in the United Kingdom,” said Roger Broadley, Walter-Broadley’s chairman. “Our two companies share a common commitment to the highest product quality and customer service. Our combined product lines and continuing investments in product and service innovation should provide significant benefits to our customers both in the United Kingdom and beyond.”

Tennant expects the acquisition of Walter-Broadley to be accretive to earnings by its second year, but mildly dilutive in 2004.

Minneapolis-based Tennant Company is a world leader in designing, manufacturing and marketing solutions that help create a cleaner, safer world. Its products include equipment for maintaining floors in industrial, commercial and outdoor environments; and coatings for protecting, repairing and upgrading concrete floors. Tennant’s global field service network is the most extensive in the industry. Tennant has manufacturing operations in the United States and The Netherlands and sells products directly in 10 countries and through distributors in more than 50 others.

Source Tennant Company

Tennant Acquires Walter-Broadley
Ingersoll-Rand will soon offer excavators and wheel loaders to construction markets as the company gears up to introduce four new earthmoving products this fall. New Ingersoll-Rand excavators will be introduced in the 7.5 and 12.5 ton classes. Two new wheel loaders will provide 60 and 73 horsepower options for moving materials on the job site.

All four new products will be sold through contracted Ingersoll-Rand dealers and Ingersoll-Rand Equipment Services stores throughout North America.

The new offerings join a range of Ingersoll-Rand products available for work in building, landscaping, rental applications and utility installation, as well as general construction and repair work. The new excavators and wheel loaders join backhoe loaders, material handlers, generators, air compressors, light towers, light compaction, concrete and light construction equipment.

Ingersoll-Rand Company is a subsidiary of Ingersoll-Rand Company Limited, a leading innovation and solutions provider for the major global markets of Security and Safety, Climate Control, Industrial Solutions and Infrastructure. IR's diverse product portfolio encompasses such leading industrial and commercial brands as Schlage locks and security solutions; Thermo King transport temperature control equipment; Hussmann commercial and refrigeration equipment; Bobcat compact equipment; Club Car golf cars and utility vehicles; PowerWorks microturbines; Ingersoll-Rand industrial and construction equipment; Dresser-Rand turbomachinery and Kryptonite portable security products. In addition, IR offers products and services under many more premium brands for customers in industrial and commercial markets.

Source: Ingersoll-Rand, www.irco.com

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Ingersoll-Rand Introduces Excavators and Wheel Loaders
Titan Trailers Inc. has introduced a new all-aluminum rear-dump trailer that provides load capacities of up to 78 cubic yards while remaining in compliance with the new harmonized codes for “road friendly” limits for the Canadian Provinces of Ontario and Quebec.

Designed with Titan's original ThinWall™ extruded aluminum sidewall panel, the new Titan rear-dump was custom-built for Mitchel Transport of St. Thomas, Ontario. Titan originated the smooth-side all-aluminum trailer body when the company developed and patented the ThinWall panel process in 1999. The ThinWall panel now sets an industry standard for live-floor and tipper trailers in many bulk-hauling markets. The tri-axle ThinWall dump design offers lower operating costs, excellent back haul versatility and maximum durability for truckers hauling bulk grain and aggregate. With its self-steering forward lift axle, the multi-axle configuration lowers the trailer’s center of gravity, providing greater stability on the road and reduces the risk of tipping when dumping. This is especially critical when unloading in uneven fields and yards.

The smooth underside also minimizes ice build-up on winter roads for improved durability and fuel economy.

Source: Titan Trailers Inc.
Aluma Systems announced recently that it was awarded an order from Arabtech to purchase Alumalite® Truss Flying Forms for use on 13 concurrently constructed towers on the new prestigious Jumeirah Beach Residents project. This order is the direct result of the Alumalite® Truss flying form's outstanding performance at the Dubai Marina project, where Flying Form technology reduced the project work cycle from ten days to a three day cycle. Alumalite® Truss Flying Form is clearly becoming a core timesaver for deadline-driven contractors such as Arabtech.

The improved performance has a significant and immediate impact in reducing the cost of the project in crane time, equipment and labor.

“Two reasons stand out for the improved productivity on the Dubai projects: first, the lighter weight of the Alumalite® Truss Flying Form system allows traditional cranes to lift much larger tables. The second reason is found in the larger average size of the Alumalite® Flying Form which can be up to 14 meters by 9 meters. The Alumalite® Flying Form is more than five times larger than the standard table form. This combination of greater panel size and lighter weight enables increased productivity on projects. With improvements of 70% or greater, Aluma’s technology becomes a compelling advantage to contractors working on tight schedules or budgets. This is especially true for busy industrial markets, as is the case with Dubai,” stated Terry Taylor, Aluma Systems General Manager Middle East.

Recently, Aluma Systems successfully completed the prestigious Gate Project at the Dubai Financial Center. Following this project, Rohbodh Contracting subcontracted Aluma Systems for the current 40-story apartment building, using the Flying Form technology since completing its first project at the Dubai Marina, Aluma Systems has been working on concurrent projects in Dubai, including four tower blocks at the Burg Dubai Residents Project with concrete frame contractors Rohbodh Contracting Company, Al Hamed Contracting Company and General Contractor Nasa Multiplex.

Source: Aluma Systems
www.aluma.com
Under-Bed Gooseneck Hitch System

For pickup owners who want to quickly convert their trucks from hauling to towing vehicles and back again, Valley Industries offers its Under-Bed Gooseneck Hitch System™.

The Under-Bed Gooseneck Hitch, which uses a custom mounting bracket attached under the bed, allows for full use of the truck bed when not towing. Rated at 6,250 lbs. trailer tongue weight and 25,000 lbs. gross trailer weight, the hitch’s trailer ball removes in seconds, requiring no tools to restore the bed to normal, cargo-carrying use.

“Convenience and versatility for truck owners is really what this product is all about,” said Bryan Fletcher, president, Valley Industries. “The Under-Bed Gooseneck Hitch provides a safe and high-quality alternative to more limiting hitching systems.”

Safety chain loops are designed to be placed in the lower rib section of the truck bed and feature a spring tension design that keeps the loops against the bed – and not rattling – when the hitch is not being used.

And, the safety loops are positioned away from the ball to prevent any contact with the coupler.

For added convenience, Valley’s exclusive Twist-To-Lock cable, sealed to prevent rust, can be mounted anywhere within four feet of the locking pin – through the truck bed, wheel well or even the vehicle frame.

The Valley Under-Bed Gooseneck Hitch mounting bracket is powdercoated with polyester paint for weather resistance and rust protection, and comes with a five-year limited warranty.

Source: Valley Industries

Toolbox Option for Truck Caps

A.R.E., Inc. is introducing a new steel toolbox option for most of its CX-, MX- and M-Pulse CH-series model fiberglass truck caps.

To help drive sales of the new product, A.R.E. is offering a special “Fiberglass Contractor’s Package,” which includes two steel toolboxes, a Tower Series Roof Rack, two painted aluminum side doors, and a painted aluminum rear door.

Source: A.R.E., Inc.
At J.A. Larue Inc., you’ll find a wide range of LeeBoy and ROSCO name-brand specialty road building and maintenance equipment to meet your varied construction needs. Rental from LeeBoy means no surprises – you put the right equipment on the job when you need it and you know the cost before the equipment arrives at the site.

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The specialized nature of the LeeBoy Rents equipment lineup of industry leading paving, grading and road maintenance equipment adds a new twist to conventional rentals.

Plus, with J.A. Larue Inc. branches in Laval and Quebec, you’re never far from a LeeBoy Rents location!
In order to improve the treatment process of a surface water supply to remove certain cancer-causing organic materials, the Conne River Micmac First Nation community in the Canadian Province of Newfoundland turned to a membrane filtration solution provided by ITT Industries’ Sanitaire division.

When the Conne River Micmac Band decided to ensure the availability of safe drinking water with a new filtration system, studies showed that organic materials from surface water had to be removed prior to chlorination. If not removed, these organic materials could form potentially cancer-causing by-products, and newer water-quality standards put strict limits on the allowable concentrations of these compounds.

The Conne River Micmac Band has an on-reserve population of approximately 700 people. The reserve is located on the South East Shore of Newfoundland on the Conne River. The Reserve covers an area of some 14 square miles. It lies 560 km from the Capital city of St. John’s and 180 km from the nearest services center, Grand Falls.

“The Conne River Micmac Band currently get their drinking water from a surface source located in the Southwest Pond watershed,” explains Eric Humphries of Design Management Group Ltd. (DMG), the Band’s engineering consultant. “This current supply is treated by chlorination only and there have been serious concerns about this form of treatment.”

Brian Kelly is Director of Capital Projects at Conne River, reporting directly to the Chief of Council for the community, and has overall responsibility for the project. He provides the project background: “We really promote good health practices within our community and a high-quality water supply has to be a priority. “We built a new water and sewer system, including a new dam and sewage lagoon, about ten years ago,” he continues. “But we’ve started to see problems with chlorination by-products. Also, for about the last five years, we’ve been under a boil order. Most of the homeowners have to buy bottled water for almost everything. Washing is about the only thing that domestic water can be used for.”

“FYNE” PROCESS SPECIFIED FOR JOB

The DMG design consultant determined that a process plant using proprietary membrane filtration technology from ITT Sanitaire’s PCI Membrane Systems unit would do the job. Known as the “FYNE” process, the filtration plant will produce 1.3 million liters/day (MLD) of clean drinking water. Process would be immediately effective in providing safe, high-quality potable water to Conne River residents. It exceeds current parameters and includes provisions to meet future needs, which might include the construction of a fish processing operation. With this and other possibilities in mind, the FYNE plant was built to allow for easy expansion to 1.6 MLD.

An alternative to chemical-based processes for removing organic materials, the FYNE Process offers several advantages that are highly attractive to the community. No chemicals are added to the water prior to chlorination and there is no residual chemical sludge to dispose of. Savings on chemical purchases and sewage-disposal costs quickly outweigh the marginally higher system price. In addition, the FYNE Process membranes provide a physical barrier that holds back waterborne pathogens, microbes and viruses, as well as reducing undesirable levels of iron and other metals, which may also be found in surface water.

With DMG’s help, a multiple-factor-comparison analysis was used to evaluate the suitability and economy of different methods of water treatment and the PCI system was one of two approaches that were piloted. “Right from day one,” recalls Brian Kelly, “the quality of the water was better than we had ever seen before and, in fact, better than we anticipated. The other system we tested didn’t even come close to that level of quality. The results made it obvious that the PCI System would have the best impact on the community from the standpoint of water quality and bang for the buck. The PCI people were great to work with as well.”

PCI TECHNOLOGY USED FOR MANY SURFACE WATER APPLICATIONS

The PCI membrane filtration technology is widely accepted in small- and medium-sized communities in North America and Europe which rely on surface water that tends to be heavy with dissolved organic materials (mostly humic and fulvic acids). Heavy chlorination is required for this surface water and can lead to high concentrations of total trihalomethanes (TTHM) and five haloacetic acids (HAA5) in the treated water. Studies have shown that TTHMs and HAA5s may be carcinogenic and their presence also has been linked to miscarriages. In the United States, the Stage 1 D/DBP Rule imposes strict limits on TTHMs and HAA5s in small surface-water systems. In Canada, new regulations are in place in Ontario and similar legislation may soon be introduced in other Canadian Provinces. It is expected that chemical coagulation treatment will struggle to meet more stringent limitations, which may be enacted before the next decade.

The Conne River facility, the largest of its kind, will be the first FYNE Process installation to use spiral nanofiltration membranes rather than the tubular membranes used at earlier...
Canadian projects, which involved smaller water volumes.

These projects included plants installed at First Nation communities at Chapel Island, Nova Scotia, and at Middle River, British Columbia. The spiral membranes are much more economical for handling the high water volumes at Conne River.

**HOW THE FYNE PROCESS WORKS**

The Fyne Process is based on a particular membrane filtration process known as nanofiltration. Surface water is prefiltered to remove suspended solids down to 10 microns. This pre-filtered raw water, which still contains large quantities of organic compounds, is then passed, under high pressure, through a series of membrane modules. A fraction of the feed water passes through the membrane, which holds back the disinfection by-product precursors, along with iron and other undesirable metals, and waterborne oocysts, bacteria and viruses. These undesirable components are automatically flushed from the system with unused feed water (merely raw water in a more concentrated form) and returned to the river with no chemicals added to it whatsoever.

The clean water that has passed through the membrane (the filtrate) can then be safely chlorinated and delivered to the potable water distribution system. After treatment, it is effectively colorless (even if the raw feed water color is 200° TCU or even higher) and has exceptionally low disinfection by-product levels, as evidenced by TTHM levels well below 100 mg/l.

The Fyne plant operates automatically, with very little supervision. In fact, the system can be monitored continuously and remotely through an outside telephone line. Minimal routine maintenance includes bi-weekly cleaning of the spiral membranes using pre-filtered feed water and detergent (similar to common household laundry soap). No other chemicals are used, so there are no storage or disposal issues. After cleaning, membrane wash water is stored on site and metered back into the river in accordance with strict environmental standards.

PCI Membrane Systems, Inc. (PCI), a unit of ITT Sanitaire, is a world leader in the application of membrane filtration systems. In addition to the Fyne Process water-treatment system, the company specializes in filtration systems based on tubular membranes for liquids containing suspended, colloidal or viscous materials. PCI also supplies spiral-wound or hollow fiber membranes for clean solutions, and ceramic membranes for high chemical compatibility and thermal resistance. With its own membrane manufacturing facility and in-house research and development group, PCI is able to engineer filtration materials and systems that exactly match the customer’s application requirements. Installation, commissioning, training and technical support services are also available.

Thanks to the Fyne process, the new filtration plant will allow the Conne River Micmac Band community to meet current Canadian Drinking Water Guidelines and much stricter standards expected in the next ten years.

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DESCRIPTION OF THE TECHNOLOGY

PURPOSE AND USE
This technology makes it possible to detect and locate underground pipes from the surface, thus reducing the risk of excavation-related damage.

UNDERLYING PRINCIPLE
This non-destructive technique consists of creating an electromagnetic field that can locate pipes and follow their course. The method requires no excavation.

INVESTIGATION TOOLS
The equipment used comprises an instrument that can locate pipes with great precision in areas marked by a high degree of electromagnetic interference. The instrument also provides specific information on public utilities in terms of position, depth and type.

APPLICATION
TYPES OF PIPES AND STRUCTURES
This technique makes it possible to locate gravity pipes and pressure pipes, as well as fibre-optic lines, electric/telephone cables and other types of public utilities.

There are no obstacles in using this technique related to pipe dimension or material.

PRELIMINARY AND COMPLEMENTARY WORK
When it is necessary to pinpoint the position of a pipe made of a nonconductive material, preliminary work consists of inserting a tracing wire or probe into the pipe.

When attempting to locate pipes, a construction plan can help to conceptualize the project and plan ahead, and as a result keep completion time to a minimum.

CONDITIONS AND LIMITATIONS
The detection instrument can be used in uncharted terrain to locate underground public utilities. It can also be used to detect and trace a given line, pinpoint its location and measure its depth. Various probes and detection devices can be fitted to the detector, depending on the type and depth of the pipe. Pipes buried up to 15 m underground can be located using this method.

TIMELINE AND PERSONNEL REQUIRED
A single technician is capable of locating electrical conduits, water mains, sewer mains and other types of pipes, although some projects may require two people.

The time required to carry out this task varies depending on the number of pipes involved and the overall complexity of the project. As stated above, having the construction plan in hand during the operation will considerably reduce the timeline.

RESULTS
BASIC ELEMENTS TO BE REPORTED
The most commonly used materials in the pipe locating process are paint, applied on the surface above the pipe, or, as necessary, wooden stakes driven into the ground.

With data supplied by the client, it is also possible to use drafting software to prepare a location plan for public utilities. The precise location of each element is identified by comparing it to previously established points.

DEGREE OF ACCURACY
When the equipment is positioned properly and operated correctly, the results can provide some very useful information.

STATUS OF THE TECHNOLOGY
This technique has been used sporadically for over 30 years. However, for the last twenty years, it has become more commonplace and methodical in municipal construction projects.

CERIU assumes no responsibility whatsoever concerning the application of the techniques and procedures described in the present fact sheet.

To obtain the complete collection “CERIU Fact Sheets” you are invited to contact Mrs. Céline Forest by phone at (514) 848-9885 ext. 272 at the Centre d’expertise et de recherche en infrastructures urbaines (CERIU).

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Whitewater Rafting in Athens

For the third time since this event was introduced to the Olympic Games, ITT Industries’ Flygt pumps have been used to power water around a white water rafting course.

The company’s pumps provided the rapids for the last two summer Games in Spain and Australia, and did it again, this time in Athens, Greece, site of the 2004 Olympics.

Six 150 kW propeller pumps, with a total capacity of 3.5m³/s, have been used to pump water around the 500 meter course, and Flygt also supplied the monitoring and control equipment for the pumps.

Source: ITT Flygt

«Open for Business» During Construction Work : An Innovative Solution For Arthur Quentin

Arthur Quentin, a high-end shop located on Saint-Denis in the Plateau sector of Montreal, had to proceed with extensive restoration works to its cornices and turrets. Since the scaffoldings required to do the work would have masked the frontage of the building for a long period of time, and therefore would have scared away a lot of clients, it was decided to install a 6.9 x 20.8 meters (22 x 62 feet) oversize banner.

The banner, realized by Contact Image from a picture of the building, is printed on a mesh fabric which allowed light – and customers – to enter the store without hesitation.

Contact Image can print up to eight different colors simultaneously on a wide range of materials in sizes up to 6.5 by 10.5 feet.

Source: Contact Image, (514) 523-2687
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