Jet News

AUGUST 1999

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Waterjet Applications Described In Houston

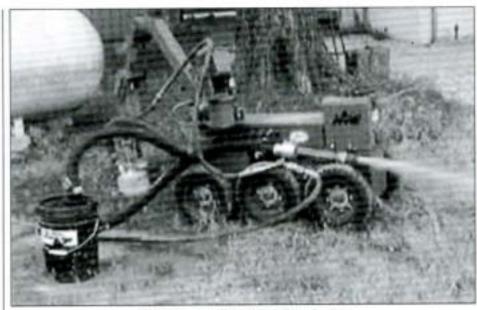
The 10th American Waterjet
Conference will be held
August 14-17, 1999, at the JW
Marriott Hotel in Houston, Texas.
At the Conference 76 papers will be
presented covering many
applications for waterjet technology.
The following is a sample of these
papers.

Waterjets Fight Landmines

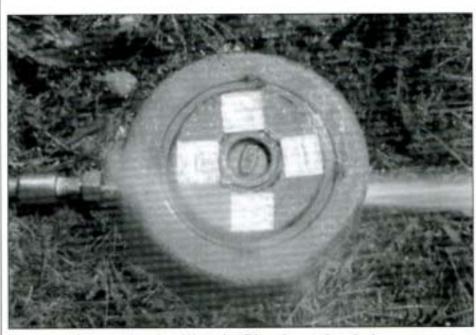
Every day landmines kill, maim or cripple 100 people. Most of the victims are agricultural workers who cannot safely work their land or graze their livestock.

This problem will be addressed in the paper "Waterjet Use Dealing With The Problem of Anti-Personnel Landmines" to be presented at the 10th American Waterjet Conference in Houston, Texas. It is scheduled for the Applications Session A4 on Sunday, August 15, 1999. The authors, David A. Summers, Ph.D., O.R. Mitchell, S.J. Thompson, R. Denier and E. Barnes of the University of Missouri-Rolla, assert that the use of the high pressure waterjet system integrated into a robot can be useful in demilitarization - especially for non-metallic anti-personnel landmines.

The presentation will describe a remotely controlled machine that employs high pressure waterjets to detect the landmines, to expose



Exposing A Potential Landmine



An Abrasive Waterjet Bisecting A Landmine

(continued on page 2)

Waterjet Applications Described In Houston, from pg. 1

them for removal, to visually inspect and to deactivate them if necessary. Examples will also be given of fuses and mines deactivated by waterjet or abrasive jet cutting.

Abrasive Jet Cutting in Explosive Atmosphere

Sparks often occur when abrasive jets cut metal. This causes concern if there is a possibility of encountering flammable or explosive materials.

Teledyne Brown Engineering performed a series of safety tests using a 45,000 psi entrainment style abrasive waterjet (AWJ) on various metals to determine the potential of an AWJ to ignite highly flammable materials. This research used a modified 45-shot military Bruceton test methodology to determine the onesided binomial safety interval at a 90% confidence level. The testing was performed using 25 liter mixtures of both hydrogen in air as well as hydrogen in an oxygen-enriched atmosphere (OEA) at their most sensitive mixtures. The cutting tests were formed using 80 mesh garnet against metal test samples of 1020 steel, 4130 steel, titanium, and zirconium. The results of these tests showed that incidental sparks from the AWJ cutting of most common metals are harmless in hazardous environments, but that there does exist a class of metals whose sparks are hazardous in oxygen-enriched atmospheres. These hazardous metals fit the military pyrophoric metal selection formula and should only be cut with caution while in a flammable environment. The AWJ cutting of metals in hazardous environments appear to be substantially safer than alternative cutting methods.

This research is described in the paper "Fluid Jet Ignition Hazards Safety Analysis" to be presented in the Contractor Session C2 on Monday, August 16, at the 10th American Waterjet Conference. In this paper Paul Miller from Teledyne Brown Engineering in Huntsville, Alabama, studies the size, velocity and temperature of these sparks. He analyzed these data theoretically. These theoretical results are validated by live tests with hazardous materials in an explosive atmosphere.

Miller elucidates the conditions under which explosions can occur and shows the degree of risk of abrasive cutting of various metals in oxygen-enriched hydrogen and in a hydrocarbon/air atmosphere.

Ice Jets

Some surface cleaning applications require an abrasive jet but cannot tolerate the abrasive left behind on the target surface. Ice-assisted cleaning jets fulfill this requirement because the ice melts.

Professor E. Geskin of the New Jersey Institute of Technology has conducted extensive research in this field. His latest results are described in a paper by E. Geskin, D. Shishkin, and K. Babets entitled "Application of Ice Particles for Precision Cutting of Sensitive Surfaces" to be presented in Research Session R6 on August 16, 1999, during the 10th American Waterjet Conference.

Ice-air jet cleaning of electrical devices (computers, calculators, electronic games and watches) is described along with experiments involving the removal of contaminants from liquid crystals, polished metals, optical glass and fabrics.

Liquid Ammonia Jets Destroy Chemical Weapons

Chemical weapon reduction treaties



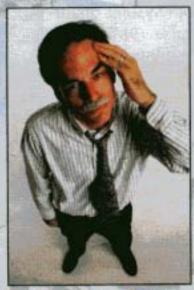
Demining System

require the United States to dispose of large stockpiles of chemical weapons. Historical methods of chemical weapon disposal such as ocean dumping, open burning, or open detonation are no longer acceptable. Chemical neutralization by chlorination or hydrolysis create large quantities of toxic waste. Chemical weapon incineration is not considered to be an environmentally friendly process by many environmental groups and is illegal in some states.

In an effort to destroy chemical weapons in a safe manner that would be acceptable to local communities, the United States Army has pursued the development of alternative non-thermal technologies. Teledyne-Commodore in cooperation with Flow International Corporation has developed a technology which uses ammonia fluid jets to destroy chemical weapons in an environmentally safe manner.

This cooperative work will be described by Paul Miller of Teledyne Brown Engineering and Mohamed Hashish, Ph.D., of Flow International Corporation in their paper, "Demilitarization of Chemical Weapons Using a High Pressure Abrasive Fluid Jet" to be presented in Applications Session A4 on August 15, 1999.

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The training is performed at the ABB
I-R technical training center located at
the ABB I-R Wixom, Michigan
headquarters and manufacturing
facility. The schedule for the last half
of 1999 is as follows:

August 3, 4 and 5 September 7, 8 and 9 October 5, 6 and 7 November 2, 3 and 4 December 7, 8 and 9

Included in the training program are separate sessions on: drawing preparation including scanning and digitizing; an overview of the controller and software; programming tips; an introduction to abrasive waterjet processing; abrasive waterjet practices and cutting tips; fixturing, cutting bed selection and a variety of other related issues.

For more information on this training schedule and program, contact: Ihab Kain, ABB I-R Customer Training, phone: (248)374-3530; fax: (248)449-6707; e-mail: ihab.a.kain@usfac. mail.abb.com

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(continued on page 6)

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Flow Completes ISO 9001

F low International Corporation recently completed registration of their quality system to the requirements of the International Standards Organization (ISO).

Flow International's ISO 9001 registration ensures quality through the design, manufacture, and service of ultrahigh-pressure pumps and systems. Flow's ISO certification ensures that the company has in place an effective framework for a solid business system that helps meet customer expectations by ensuring the customer gets the products and services they need.

"Our commitment to quality is one of the primary goals for the foundation of Flow International, which is reflected in our certification with ISO 9001," said Ron Tarrant, chairman and CEO of Flow International.

Welcome WJTA New Members, from page 5

Individual

David R. Estrada

Monoflo-Halliburton 4514 Brittmoore Houston, TX 77063 Phone: (713)849-6414 Fax: (713)849-4173

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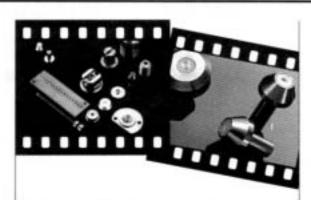
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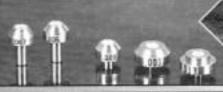


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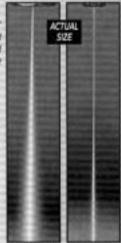


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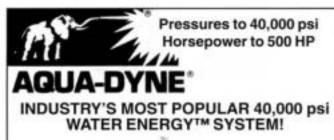
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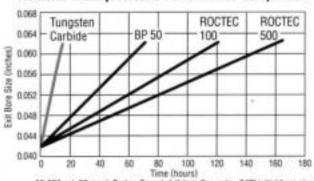
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55,000 psi, 80 mesh Barton Garnet, 1 lb/min flow rate, .042" initial bore size

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As always, the BP 50 and ROCTEC AWJ nozzles are available exclusively from your AWJ equipment manufacturer. For technical assistance, call us at 800-662-2131 or 231-946-2100 or fax 800-662-2132 or 231-946-3025. www.boride.com



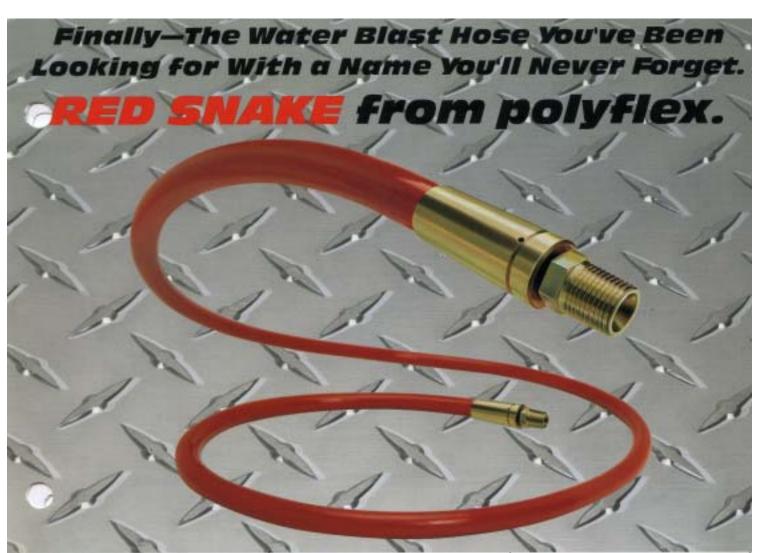
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WOMA Awarded Million Dollar Contract In Taiwan

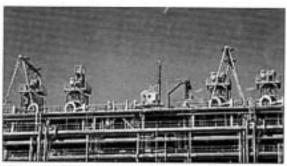
The Dahin Group has decided to employ WOMA equipment in the se bundle and reactor vessel cleaning system of their new plant in Hsienhsi, Taiwan. This plant will produce polyvinyl chloride (PVC), polyurethane (PU), Oleochemicals, Plastizisers, and polyacetate (PA).



WOMA vertical condenser cleaning device.

The Taipai-based Dahin
Group is among the largest
companies in Taiwan and is
predominantly involved
in petrochemicals, plastics,
engineering and trading. The
Hsienhsi plant will be equipped
with WOMA's high pressure
technology and is part of the
largest investment plan made
by the group since its inception
says Mr. Chen, president of
Dahin Group.

The million dollar order for WOMA's high-pressure waterjetting equipment includes several high pressure units type 325Z with in-line fluid ends, and the ARP (Abrasive Resistant Pump) fluid ends, as well as a WOMA model 752, 75 hp unit. All units feature heavy duty skid type frames, drivers, booster pumps, and sound attenuating enclosures.



by the group since its inception Vertical condenser cleaning device on site.

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Update On WARD 24 Abrasive Recycler

by Richard Ward of Richel, Inc., Tallmadge, Ohio

his has got to be the safest investment I will make this year..." said Chester Hilti, part of the management team of a waterjet contracting company, as they stood back and observed over 250 pounds per hour of dry abrasive pouring into the hopper — abrasive recycled from sludge that was destined for the land fill.

EasiJet, the distributor of the WARD 24 (Waterjet Abrasive Recycling Dispenser with a 24 inch diameter screen) is awash with glowing reports and results gathered from testing the sludge from many different companies. Whether the abrasive is hard crushed rock, or alluvial (from a river bed and more rounded in shape), the results are consistent. Recycling is going to change the way the entire industry will operate.



The Ward 24 will recycle abrasive and dry it, ready for reuse in about 3 minutes.

Over 600 companies have inquired about the WARD 24 since its launch, with as many as five being sold in one week. This is significant as all sales are conditional on a company forwarding sludge to EasiJet's test facilities, with representatives being present when the sealed containers are opened for the first time. It takes about three minutes for dry abrasive to be produced once the patented sludge removal nozzle is activated.

Nozzle is buried under 12 inches of sludge

The patented nozzle, unlike any other abrasive removal system, works best when buried under about 12 inches of sludge. In other words, the system can be activated at random, once a day or once a week. This leaves the owner free to choose how and when the WARD 24 can be used.

Mobile and compact

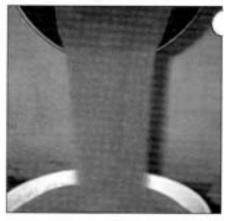
The WARD 24 can be mounted on wheels, allowing it to be moved around in a factory from one waterjet cutting system to another. It can be placed up against a wall, or even up against walls on two sides in a corner. The footprint of the WARD 24 itself is about 30 inches x 72 inches. Some additional space is needed for hoppers, etc.

Cutting speeds

The consistent response from every company which has had their own waste sludge recycled, is that there is no noticeable difference in cutting speed with the recycled abrasive. Several companies have reported the recycled abrasive appears to cut faster. ABB-IR Laboratories in Michigan have tested recycled hard rock, Barton 80 against new Barton 80, and reported (unofficially) that cutting speeds appeared to increase when using recycled abrasive. Cutting speeds did not appear to slow down when using recycled abrasive.

Quality of abrasive

Analysis of the recycled abrasive has



Abrasive recycled using the WARD 24.

revealed as little as 0.007% metal contaminates still present when using the WARD 24. The actual results depend on many factors, one of which is the residency time the abrasive has on the washing screen prior to being dried. The WARD 24 is recommended to operate at production of 120 to 150 pounds of dry abrasive per hour.

Amount of abrasive recovered

The percentage of abrasive recovered will depend on many factors, including mesh size of new abrasive, type of abrasive, pressure of operation, orifice nozzle combination and quality of cut. The scalping screen size will determine the size of the final abrasive dried. For example, if a 100 mesh screen is used, all abrasive dried will be larger than 100 mesh. If this is reduced to 120 mesh. the amount of dried abrasive will increase substantially. Only abrasive smaller than 120 will fall through the washing screen to be discarded with the sludge. Screens as small as 250 mesh have been tested. A sieve analysis of 60 mesh abrasive revealed that 68% of the dried abrasive was 80 mesh or larger.

(continued on page 15)

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1/4"	-4	- 4	- 4	- 4	- 4
3/8"	-6	- 6	-6	-6	- 6
1/2"	- 8	- 8	- 8	- 8	- 8
3/4"	-12	-12	-12	-12	-12
1.0"	-16	-16	-16	-16	-16
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SIZE	Female	×	Male	Part#:
1/8"	Female NPT	x	1/2" Male NPT	HNF2NM8
1/4"	Female NPT	×	1/2" Male NPT	HNF2NM8 HNF4NM8 HNF6NM8
3/8"	Female NPT	×	1/2" Male NPT	HNF6NM8

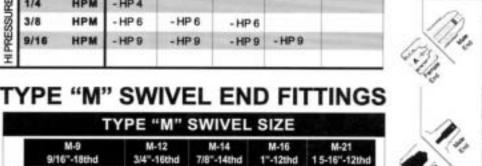
Toos, Elbows, Crosses and Valves also avallable. Call for details!

TYPE "M" ADAPTORS

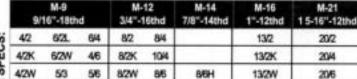
	ADAF	TOR:	M9-	M12-	M14-	M16-	M21-
Œ,	1/4	MNPT	- NM 4	-NM4			
臣	3/8	MNPT	- NM 6	- NM6		- NM 6	
NATIONAL PIPE TAPERED	1/2	MNPT	- NM 8	- NM8		- NM 8	-NM8
H	3/4	MNPT		-NM12		-NM12	-NM12
℥	1	MNPT	-	-NM16		-NM16	-NM16
6	1-1/4	MNPT					- NM20
ž	1-1/2	MNPT					- NM24
씾	1/4	MPM	-MP4				
MED. PRESSURE	3/8	MPM	-MP6	-MP6			-
E I	9/16	MPM	-MP9	-MP9		-MP9	-MP9
ď	3/4	MPM	-MP12	-MP12	-	-MP12	-MP12
¥	1	MPM		-MP16		-MP16	-MP16
문	1/4	HPM	-HP4				
8	3/8	HPM	-HP6	-HP6	- HP 6		
HI PRESSURE	9/16	нРМ	-HP9	-HP9	-HP9	-HP9	-

FITTINGS AND ADAPTORS

Description



3/8"	MP	MF6	MM6
9/16*	MP	MF9	MM9
3/4"	MP	MF12	MM12
1"	MP	MF16	MM16
Descrip	ption	FEMALE END	MALE END
1/4"	NPT	NF4	NM4
3/8"	NPT	NF6	NM6
1/2"	NPT	NFB	NM8
3/4"	NPT	NF12	NM12
1"	NPT	NF16	NM16
Descrin	otion	FEMALE END	MALE END



TYPE "M" SWIVEL SIZE

FOR HOSE SPECS: 5/2 63 564 10/2 106 134 10/2K 134H 6/2K 54 10/2W 13/6



3/4"	NPT	NF12	NM12
1"	NPT	NF16	NM16
Descri	ption	FEMALE END	MALE END
1/4"	HP	HF4	HM4
3/8"	HP	HF6	HM6
9/16*	HP	HF9	HM9

David M. Sylvester Named Vice President/General Manager Of Ingersoll-Rand Fluid Products Division

Ingersoll-Rand Company has named David M. Sylvester vice president and general manager of the Ingersoll-Rand Fluid Products Division.



David M. Sylvester

In his position, Sylvester has complete responsibility for all business activities worldwide, including manufacturing and product development for the division's ARO® fluid handling and fluid power products, Johnstone ® pumps, and waterjet cutting systems. Markets served by the Fluid Products Division include chemical processing, assembly, and fabrication oriented industries worldwide. Sylvester reports to Joseph Kiah, president of Ingersoll-Rand's Production Equipment Group, and is based at the Fluid Products Division's headquarters in Bryan, Ohio.

Sylvester joined Ingersoll-Rand in
May 1997 as managing director of the
Architectural Hardware Group United Kingdom, and led the
restructuring and assimilation of the
Newman Tonks businesses into the
Architectural Hardware Group after
's April 1997 acquisition. Prior to
ining Ingersoll-Rand, Sylvester spent
16 years in various management,
manufacturing, sales and marketing

Experience Has Its Rewards.



At HydroChem we've been manufacturing our own hydroblasting equipment and accessories for more than 30 years. We know the best way to evalu equipment is through constant t And the only true test is time.

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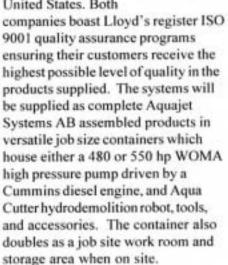
positions at Cummins Engine Company.

Sylvester holds a bachelors of science degree in mechanical engineering and a masters degree in management from Purdue University, and an MBA from ESC Rouen, France.

Ingersoll-Rand Company is a major diversified industrial equipment and components manufacturer. Its businesses comprise specialty vehitools and hardware, air and temperature control and engineered products. The company's product I serve a side range of industrial and commercial markets worldwide. I company had 1998 sales of \$8.3 bil and employs approximately 47,000 people. For more information, visicompany's web site at http://www.ingersoll-rand.com

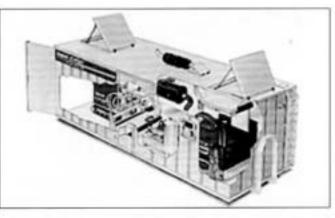
AquaJet Systems AB — WOMA Alliance Markets Hydrodemolition in USA

A qualet Systems
AB of Sweden,
a manufacturer of
hydrodemolition
robots and systems,
and WOMA, a
supplier of high
pressure pumps and
systems have agreed
to form an alliance to
bring hydrodemolition
equipment to the
United States, Both



These versatile systems will give contractors the ability to remove concrete selectively and effectively from both horizontal and vertical surfaces, as well as columns, beams and parapet walls with the large variety of available accessories to the Aqua Cutter robot. Additionally, while the system is delivered for deep removal applications, a scarification head is available for the Aqua Cutter which easily and quickly replaces the deep removal head.

While the systems offer a high degree of flexibility and versatility they still maintain simplicity in design and operation making them very user friendly.



The high pressure power pack which supplies 14,500 psi @ 50 plus gallons per minute, depending on supplied pump, to the Aqua Cutter is supplied with either the WOMA Model 480Z or 550 Z pumps featuring WOMA's in-

line stress free fluid ends. These pumps since their introduction have proven to be some of the most efficient, lowest cost per hour of operation pumps on the market. Their very high volumetric efficiency puts more power to work on the surface, and with their very low maintenance requirements these pumps spend more time on the job performing work increasing their overall productivity. To find out more about the AquaJet Systems/WOMA Hydrodemolition Systems, contact WOMA Corporation, PO Box 6793, Edison, New Jersey 08818-6793, phone: (800)258-5530; fax: (732)417-0015, email: womacorp@bellatlantic.net or website: www.womacorp.com

Scott F. Boos And Bradley M. Dye Promoted At Blasters, Inc.

S cott F. Boos was recently promoted to president of Blasters, Inc. Scott Boos has been a driving force of Blasters, Inc. since 1988. Frederick A. Boos, founder of Blasters, Inc. will now assume the position of chairman and CEO. Scott's specialty is in strategic planning, operations management and sales; while Fred's expertise is in engineering and design.

In addition, Blasters, Inc. has appointed Bradley M. Dye as general manager. Brad brings 25 years of industrial cleaning experience, as well as heavy industrial knowledge and technical expertise to Blasters, Inc. "We are extremely excited about the opportunities that have been created by Brad's networking capabilities, his overall knowledge of the waterblasting industry and his dynamic background. We welcome Brad to the Blasters, Inc. Team." says Scott Boos, president of Blasters, Inc.

Blasters, Inc. was established in 1975 and is located in Tampa, Florida where it serves the Southeastern United States offering waterblasting from 1,000 to 60,000 psi, surface preparation, hydrodemolition, paint stripe removal, lead abatement, industrial cleaning and more. For additional information, contact Natalie B. Elliott at (800) 327-6799 or email BLASTERSFL@AOL.COM

Ingersoll-Rand Intensifier

new fourcolor, twopage data sheet
describing the
new IngersollRand expanded
line of
Streamline™
SL-IV waterjet
intensifiers is
now available
from Ingersoll
Rand. The Data
Sheet describes



the operation of the intensifiers including a list of the standard and unique features. A detailed specification is provided for both 100 and 50 hp units. The variety of options are discussed as well as applications. Additional value-added items such as maintenance videos, spares kits and other supporting components are discussed. For more information, contact Suzanne Perry, Ingersoll-Rand Waterjet Systems, 635 West 12th Street, Baxter Springs, KS 66713, phone: (800)826)9274, fax: (316)856-5050.

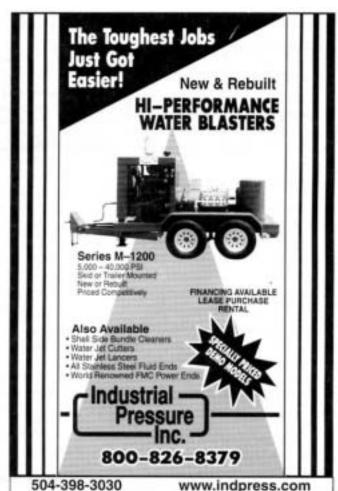
Update On WARD 24 Abrasive Recycler, from page 12

One of the largest manufacturers of waterjet systems worldwide has stated they expect the sales of waterjets could increase from an annual growth rate of 10% to over 30%. This is based on the tremendous savings in operating costs gained through the use of recycled abrasive, making waterjet more competitive than ever with traditional heat cutting and CNC machining processes.

WARD 24 at WJTA in August

The WARD 24 will be displayed at the 10th American Waterjet Conference in Houston. On Sunday, August 15, a live demonstration featuring a Texas Barbecue will be held from 6:00 p.m.-10:00 p.m. off site as no systems are allowed to be operated in the hall. Registration to attend the barbecue as well as the live demonstration can be

de through EasiJet at 330-633-7698. For more information, call or visit www.ward24.com or www.easijet.com





Flow's Web Site Offers Referrals To Waterjet Job Shops

Flow International Corporation recently launched the Waterjet Network, a web site designed to help companies locate an exceptional waterjet job shop in their area.

The Waterjet Network, found at www.waterjetnetwork.com, is an integral part of Flow International's four-point customer program. The four-point customer program is available to FLOW shapecutting customers and assists them in their marketing efforts by providing tools and strategies to help them attract new business. The site links job shops or companies in search of a waterjet-cut project with a FLOW-certified waterjet cutting professional in their area.

Also included in the site is additional information about waterjet technology including answers to frequently asked questions, how a waterjet works, and a link to the FLOW home page. FLOW-certified job shops are located nationwide, so no matter where an application is located, the network can refer a shop in close proximity.

Flow International corporation is a world leader in the development and manufacture of ultrahigh-pressure waterjet technology, and a leading provider of factory automation systems. FLOW's primary markets include automotive, aerospace, job shop, food processing, paper, and surface preparation.

The Jet News is published by the WaterJet Technology Association (WJTA) and is a benefit of membership in the Association.

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Welcome WJTA New Members, from page 8

Individual

Robert J. Nittinger

Rampart Construction Service 530 Moon Clinton Road Coraopolis, PA 15108 Phone: (412)262-4511 Fax: (412)262-1556

E.J. Reynolds

E.J. Reynolds Company 4252 FM 528 Alvin, TX 77511 Phone: (281)331-4556 Fax: (281)331-4553

Ludwig G. Riepl

Bachgasse 9 Steyr-Gleink A-440-7 Austria Phone: [43](7252)38465-0 Fax: [43](7252)38465-4

Malcolm Swallow

Imperial Metals Corporation 8719 252 Street Langley, BC VIM 3P1 Canada Phone: (604)512-4444 Fax: (604)888-4987

Steve Toms

National Hydro, Inc. 5643 Warner Road Fowlerville, MI 48836 Phone: (517)223-0915 Fax: (517)223-9525

Gary W. Toothe

Thompson Industrial Service 2895 Joyce Street Sumter, SC 29154 Phone: (803)773-8005 Fax: (803)775-3357

C. David Weaver

Insulgard Corporation P.O. Bex 282 615 Daniels Road Nazareth, PA 18064 Phone: (610)746-5490 Fax: (610)746-5494

Patrick M. Winkler

Rampart Construction Service 530 Moon Clinton Road Coraopolis, PA 15108 Phone: (412)262-4511 Fax: (412)262-1556

SUPER-WATER® — Testimonial #2

Horsepower Reduction, Improved Cut Speed and Quality

Vince L. Imlay, Water Jet Inc., Seymour, Indiana Telephone: (812)523-2040, Fax: (812)524-1291, writes:

Dear Dr. Howells:

I first used SUPER-WATER® in 1985 for ultrahigh pressure cutting (of clay-rubber shoe soles) and just read the June 1999 Jet News on rubber cutting with SUPER-WATER®.

I am obtaining improved cutting results for a customer on black closed-cell sponge EPOM nubber (thickness 0.413-inch) used in high temperature applications such as under car boods.

The customer has been cutting stacks of 4 single sheets of this material with plain water at 500inches/minute using 40,000 psi, a 0.008-inch sapphire nozzle and a flow of 0.38 gpm.

The customer wanted to cut stacks with more than 4 sheets using a smaller nozzle and thus lower the required horsepower.

Using SUPER-WATER® the production rate is increased by 20% giving a superior product and the required horsepower is reduced by 31% from 10.1 to 7.0. The SUPER-WATER® costs \$1.74/hour.

I cut stacks of 8 sheets with 0.3% SUPER-WATER® and achieve a cut quality superior to that obtained by the customer. I do this at 300inches/minute using 40,000 psi, a0.007-inch sapphire nozzie and a flow of 0.29 gpm. Similar results are obtained on 4 other rubber materials provided by the customer.

Sincerely, Vincent L. Imlay

SUPER-WATER® concentrated industrial water blasting additive is a product of:

Berkeley Chemical Research, Inc. PO Box 9264 Berkeley, CA 94709 Telephone: (510)526-6272 Fax: (510)KAL-BERK (525-2375) Website: http://www.berkchem.gpg.com

IDROJET and KIDExtractor Appoint North American Distributor

drojet S.a.s. of Italy, KIDExtractor
of Malta and Hydro-Engineering of
Houston have formed an alliance to
distribute high pressure water blasting
equipment in the United States.
Darrell Saha of Hydro-Engineering,
Inc., will be responsible for the North
American operation.

Idrojet S.a.s. designs, develops and manufactures high pressure water blasting equipment, such as internal and external robots for heat exchanger cleaning, for maintenance in oil refineries and chemical plants.

KIDExtractor manufactures hydraulic tube bundle extractors.

Visit Hydro-Engineering for a demonstration and display of Idrojet and KIDExtractor equipment available for purchase and/or lease.

For more information, contact: Fabio La Ferla, Idrojet S.a.s., Via Luigi Pirandello s/n, Piano Tavola 95040 (CT), Italy, phone: [39](095)7131125, fax: [39](095)391466, e-mail: Idrojet @videobank.it, website: www. videobank.it/idrojet; or Darrell Saha, Hydro-Engineering, Inc., 2301 Hayes, Suite 6412, Houston, Texas 77077, U.S.A., phone: (713)782-1932, fax: (713)782-4202, e-mail: hydroeng@compuserv.com, website: www. hydroengineering.com

Flow Names John George Director Of North American Sales

Flow International Corporation recently named John George as the new director of sales for North America.

George will oversee and direct sales for ultrahigh-pressure (UHP) cutting in the central and eastern U.S. and Canada, and will oversee group sales activity for the automotive and automation markets in North America. His 20-year career with the General Electric Company and most recently as general manager of Autocon Technologies Inc. provided vast exposure and management experience in sales, sales management, and international business development.

Recommended Practices

The Recommended Practices. third edition, was prepared by the afety Committee (formerly the (andards Committee) of the Water Jet Technology Association and represents months of review and study in order to provide you with the most up-to-date information. The Recommended Practices includes suggestions for personnel qualifications, operator training, and procedures for the proper operation of all types of manually operated high pressure water jetting equipment used by the construction, maintenance, repair, cleaning, and demolition industries.

The Recommended Practices may be purchased from the Water Jet Technology Association. Discounts are available on bulk orders. To place your order, complete the form at the right.

> Now available in Spanish! See order form enclosed.

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Our ISO 9001 certified design and manufacturing operations are part of a quality focus that has helped us gain the trust of many new customers. And our on-time delivery has made us an integral part of our customers inventory reduction efforts.

We stock an extensive line of valves, fittings and tubing in pressures ranging from 10,000 psi to 150,000 psi to satisfy your waterjet application. In addition, our technical staff is available to answer questions and custom design a solution to your problem.

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