WJTA Jet News

Water Jet Technology Association

JULY 1992

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Hydrodemolition Of Pillars

Most commercial hydrodemolition equipment is designed to work on horizontal surfaces such as bridge decks and parking garage floors. However, many concrete structures contain vertical surfaces which are prone to deterioration. The illustration above shows a reinforced concrete pillar in a parking garage that has been jetted to remove deteriorated concrete. A machine designed for the hydrodemolition of concrete pillars was used for the project. Note that the jetting has removed more concrete at the base of the pillar than elsewhere. The concrete deteriorates preferentially at the base of the pillar because the salt from the cars using the parking garage seeps into the concrete where the pillar meets the floor. Photograph courtesy of Bill Hall.

Water Jets Used In Tire Recycling Process

Worn out tires from mining and construction equipment are very difficult to recycle. They are not amenable to passenger tire recycling processes because of their size - some are as large as 10 feet in diameter.

Don Treibweisser of H.E. Oliver Company of Cotton, Minnesota, has a unique solution to this problem. He uses an abrasive jet to cut the tires as shown in the photos at right and sells the cut up tires as cattle feeding stations.

He employs a 36,000 psi, 4 gpm jet with two pounds per minute of entrained garnet abrasive. Figure 1 shows the tire on a turntable moving at 6 inches per minute past a stationary abrasive jet. Figure 2 is a closeup view of the cut surface of the tire. The tires are about 4 inches thick and contain multiple layers of steel cord. Figure 3 is a view of a bisected tire.

Figure 1. Tire on turntable moving past an abrasive jet. Photograph courtesy of Bill Hall.

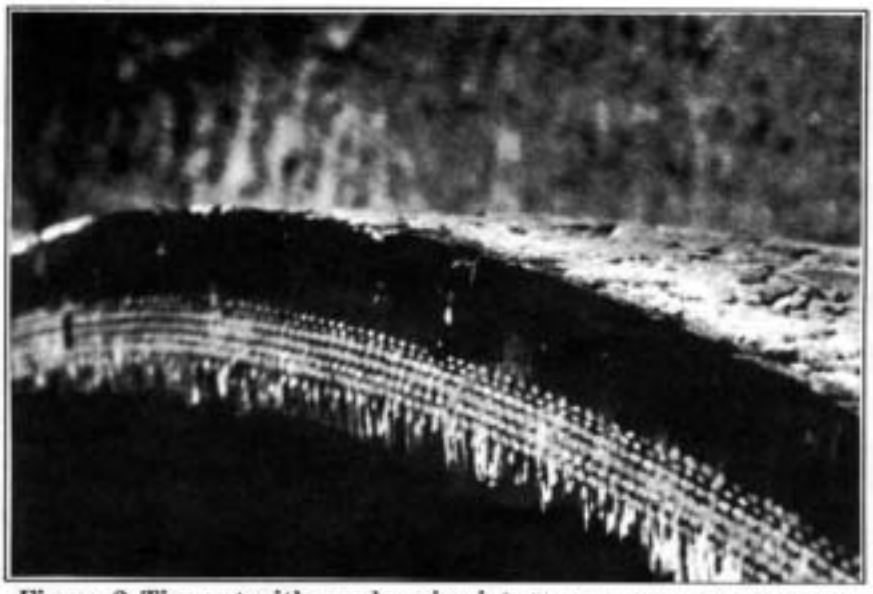

Figure 2. Tire cut with an abrasive jet. Photograph courtesy of Bill Hall.

Figure 3. Bisected tire. Photograph courtesy of Bill Hall.

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Autoclave Engineers

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Call For Papers

7th American Water Jet Conference

Oral and poster sessions will be featured at the 7th American Water Jet Conference. Authors wishing to present papers are invited to submit abstracts for consideration. An Abstract Review Committee consisting of six referees, chosen from the Organizing Committee and the body of International Advisors, will review the abstracts and decide their suitability for inclusion in the Conference.

To submit an abstract(s), please complete the Abstract Submission Form on page 12 of this issue and forward to the attention of the Conference Coordinator at the Water Jet Technology Association. Abstracts are to be submitted no later than **November 1, 1992**, to ensure consideration.

Send Us YOUR News!

Water Jet Technology Association
ATTN: Dr. George Savanick
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St. Louis, MO 63101-1598, USA
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The Berlin Wall

Former Soviet Prime Minister Mikhail Gorbachev.

On May 6, 1992, former Soviet Prime Minister Mikhail S. Gorbachev visited Westminster College at Fulton, Missouri. Gorbachev delivered an eloquent speech on the fall of Communism, the dismantling of the Berlin Wall, and the end of the Iron Curtain. He focused on threats to the environment and on the specter of hunger in the world.

The sculpture "Breakthrough" provided a fitting background for Gorbachev's presentation. "Breakthrough," which has become a symbol of freedom, was sculpted from eight pieces of the Berlin Wall by artist Edwina Sandys, granddaughter of Sir Winston Churchill. "Breakthrough" was executed by Ms. Sandys using abrasive jet cutting equipment at Leeds Industries in Elizabeth, New Jersey.

Robert A. Calandra, president of Leeds Industries, and his wife, Lori, were among the 1,500 people attending Gorbachev's presentation.

Request For Bids

The Water Jet Technology Association (WJTA) hereby requests bids to provide 200 representations of the WJTA logo in brass. The brass logos will be affixed to plaques for presentation to WJTA corporate members. The logos are to be approximately 3-1/4" x 1" x 1/8" thick and must be cut by an abrasive jet. The Water Jet Technology Association will provide the CADCAM software for the abrasive jet cutting.

All bids must be submitted in writing **no later than July 20, 1992.** Please reply to:

Water Jet Technology Association
818 Olive Street, Suite 918
St. Louis, MO 63101-1598
USA
Fax: (314)241-1449

From the President's Desk

The Water Jet Technology Association (WJTA) Board of Directors met on June 6, 1992, in Chicago, Illinois.

An accounting firm was selected to provide annual financial reports and to prepare tax returns for the Association.

A new version of the *Recommended Practices for the Use of Manually Operated High Pressure Water Jetting Equipment* booklet was approved for printing pending a legal review. The new version will be printed and available to the public by September 1992.

A design for plaques to be presented to corporate members was approved. These plaques will include the Association logo cut in brass with an abrasive jet. A request for bids to provide 200 association logos in brass appears in this issue of *Jet News*.

Revisions to the bylaws of the Association were discussed and procedures for selecting recipients of Association awards were approved.

Plans were reviewed for the 7th American Water Jet Conference to be held at the Red Lion Inn at the Seattle-Tacoma Airport, August 28-31, 1993. A management chart was approved along with a schedule of events. The Conference will open on Saturday, August 28 with a water jetting short course and will conclude on Tuesday, August 31, with a tour of jet cutting facilities in the Seattle area.

Technical sessions will be held on various aspects of the theory and applications of fluid jets. Special sessions on one day will focus on manufacturing applications and on another day on issues of concern to contractors.

– George A. Savanick, Ph.D.

Flow Announces New Environmental Applications Division

Flow International Corporation has announced the formation of the FLOW Environmental Applications Division (FEAD) specifically created to provide environmentally sound products and services to the industrial cleaning and cutting markets.

"With the increasing pressure to find environmentally friendly solutions to tough cleaning requirements, this is an exciting opportunity," says Terry Alkire, newly appointed FEAD director. "We can offer environmentally safe solutions for a wide variety of applications - from lead paint removal to ship hull cleaning, nuclear de-contamination, and de-militarization. In addition, our equipment is ideal for the established industrial cleaning market."

The formation of this new division coincides with the introduction of FLOW's new Husky™ pump, a continuously operating 40,000 psi pump with a flow rate of 7.2 gallons per minute. This is the first ultrahigh-pressure direct-drive pump with full pressure compensation available to the industrial cleaning market. Environmental concerns are addressed with the Husky's unique closed-loop cooling system. Cooling of the pump and ancillary equipment is accomplished without the need for additional cooling water; therefore no water is wasted and less fuel is required.

"By concentrating efforts in the new FEAD division, we'll be able to design more products like Husky and provide total system solutions for specific applications,"says Alkire.

For more information, contact Flow International, 21440 68th Avenue South, Kent, WA 98032, phone: (206)872-4900, fax: (206)872-3285.

Cutting Concrete With Water Jets

It is often necessary to create an opening in a wall to accommodate a new door or window or to permit the passage of large equipment. Water jets are well suited for this purpose. The figures below show a jet cutting through a wall and the completed cut.

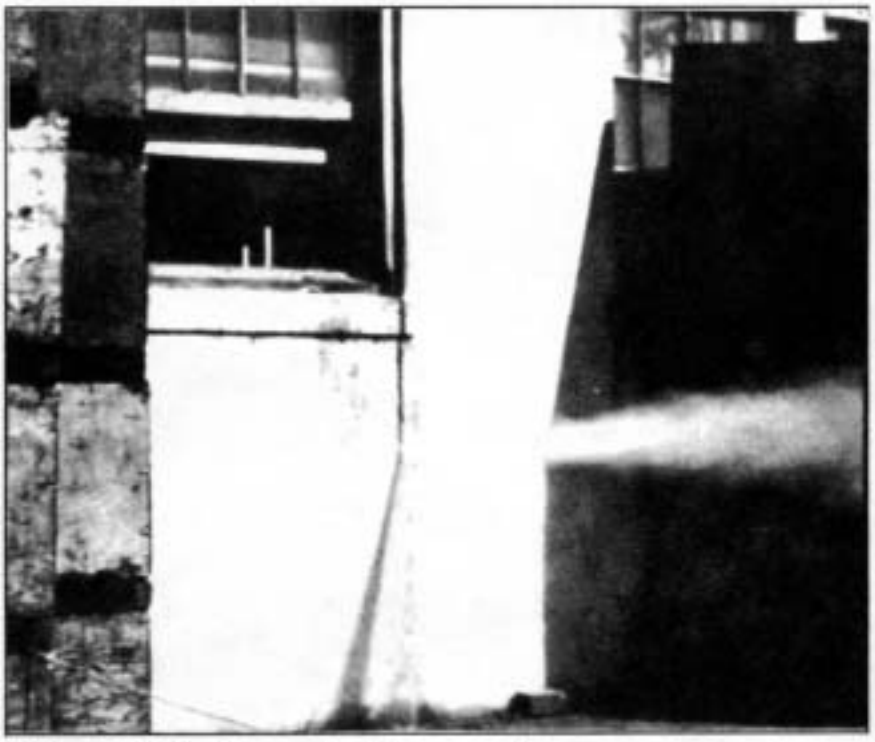

Figure 1. Cutting a hole in a wall. Photograph courtesy of Bill Hall.

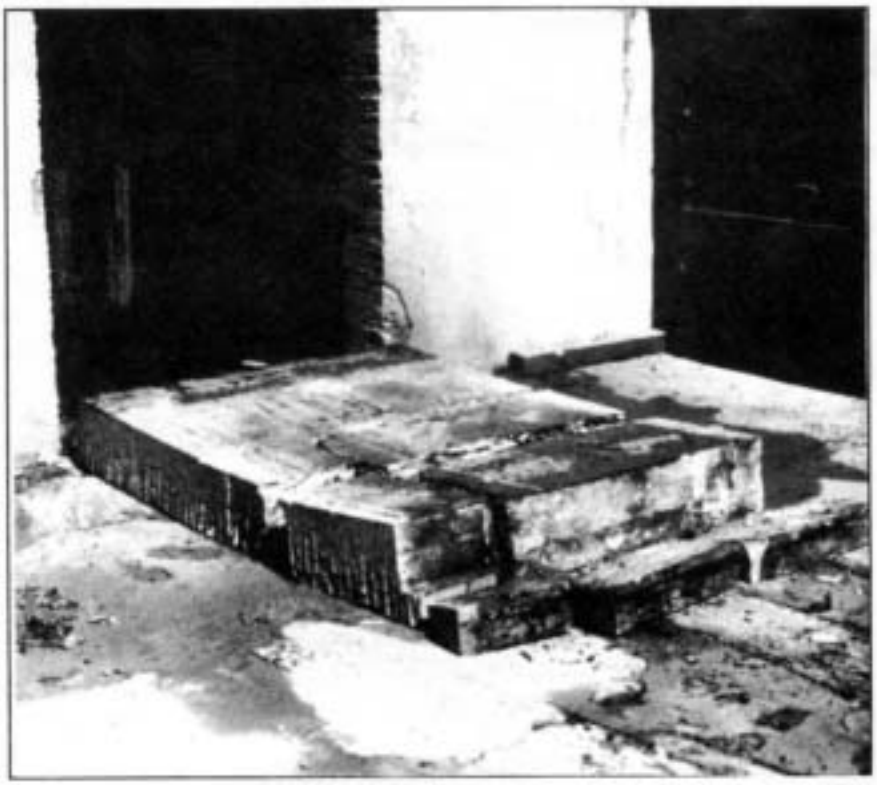

Figure 2. Completed cut. Photograph courtesy of Bill Hall.

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Butterworth Introduces New Computerized Air Preheater System

Butterworth Jetting Systems Inc. has developed a state of the art computer controlled Air Preheater Cleaning System.

This system uses high pressure water jets delivered by Butterworth's Partek pumps at pressures to 10,000 psi and flow rates to 300 gpm to provide rapid, thorough cleaning of even severely clogged preheaters.

A unique computer program (patent pending) drives powerful water jet nozzles across the radius of the preheater at rates from 10 to 40 feet per minute. As the nozzle indexes toward the rotor or "basket" hub, a variable speed motor controlled by the computer turns the rotor faster to maintain consistent cleaning.

Once started, the system is capable of running completely unattended. By inputting spray nozzle tracking width and job completion time, the computer will calculate the linear feet per minute needed to drive the rotor. Also, by entering tracking width and feet per minute, the time required to complete the job may be calculated.

The components of Butterworth's Air Preheater Cleaning System consist of a steel support beam, a trolley assembly attached to the support beam, a water jetting nozzle block riding on the trolley and a motorized chain drive (power head) for positioning the nozzle block. A variable speed drive rotates the preheater rotor while the computer controller simultaneously adjusts both nozzle block movement and rotor speed. Multiple combinations of Butterworth pumps (Triplex TX-450 or Quintuplex Q-450) with up to 500 horsepower per pump provide the water pressure needed for the cleaning process. Butterworth's Air Preheater Cleaning System sets up quickly and runs continuously until the job is completed. Used during normal routine maintenance shutdowns, the system can clean one or both rotor faces simultaneously at a precise, computer-controlled rate. Also cleaning of either horizontal or vertical preheater rotors is done uniformly and without damage to the rotors.

Installing the system for operation is simple. The support beam is bolted to the inner and outer structure of the preheater, and the trolley assembly with the attached nozzle block is slipped on the beam and connected to its chain drive. The variable drive motor is then fastened in position and set up is completed with water hose connections and electrical cables attached.

Butterworth's precise, automated cleaning system can provide proven results as compared to other cleaning systems. Included are 15-20 percent cleaner rotors, less water usage, reduced preheater downtime, less manpower needed and greater heat exchange efficiency of the air preheater rotor.

For more information, contact Butterworth Jetting Systems, 3721 Lapas Drive, P.O. Box 230312, Houston, TX 77223-0312, (800)231-3628, in Texas (800)433-9806, Fax (713)644-3106.

WOMA Corporation Opens West Coast Facility

Woma Corporation has opened a new facility on the west coast in Everett, Washington. The new facility is in addition to the existing facility in Edison, New Jersey.

The new facility is not only the new corporate office for administrative functions, financial transactions, and sales, but it is a complete spare part and accessories warehouse, repair facility, and rental equipment is offered.

Jim Park has been named WOMA Corporation's customer support manager for the west coast. Park is a graduate of the University of Montana, with a degree in business communications and has extensive customer support experience.

The toll-free number for WOMA is (800)258-5530. Contact the new Washington facility at 3332 Cedar Street, Everett, WA 98201, phone: (206)258-1356, fax: (206)258-3164. WOMA's east coast address remains the same: 90 Newfield Avenue, P.O. Box 6793, Edison, NJ 08818-6793, phone: (908)417-0010, fax: (908)417-0015.

Don't Miss An Excellent Opportunity To Network With Your Colleagues

Increase your visibility to users and buyers of water jetting services and equipment in the 1992-1993 Water Jet Technology Association (WJTA) Membership Directory.

The WJTA Membership Directory is an excellent source of helpful information and advertising for you and your company. The Directory includes:

- A listing of all WJTA corporate and individual members, contact information, and a summary of services provided by each one;
- WJTA members categorized by specialty, such as manufacturers of pumps and intensifiers, manufacturers of components and systems, distributor or supply of equipment and materials, etc.
- A geographical listing of members by state in the United States and by country internationally for ease in locating a supplier or service contractor in a specific location.

Get the maximum benefit from your WJTA Directory listing. If you have not yet returned your update forms to the WJTA office, please do so immediately.

WJTA Corporate Members Advertise FREE

WJTA corporate members are eligible for a free half-page ad in the Directory - a $150 value FREE. OR, reserve a full-page and save 50% off the full-page rate.

Don't delay! Contact the WJTA Office by telephone at (314)241-1445 or by fax at (314)241-1449.

Letter To The Editor

Photograph courtesy of Leeds Industries.

Dear Jet News;

Each day Leeds Industries is called upon to solve a new problem with water jet technology. Enclosed are photos of a recent mishap involving a DC 10 aircraft at a major airport on the East Coast. The wreckage remained on an active runway until Leeds arrived with its Flow JetPac 35,000 psi pump. The object was to cut off the wings so the fuselage could be lifted aboard an oversized flat bed truck. Leeds performed this task for an international company that responds to aircraft disasters.

I thought that members might be interested in learning about special projects such as this. I would be interested in reading about such jobs undertaken by other members.

Sincerely,

Victoria R. Buwen
Marketing Manager
Leeds Industries, Inc.
5 South Front Street
Elizabethport, New Jersey 07206
(908) 355-7775

The Editor's Reply:

Thank you, Ms. Buwen, for calling my attention to the interesting application. I am indeed interested in having members write to me concerning applications of water jetting. JET NEWS is at its best when it is used as a forum for members to share knowledge and experiences.

Stripping Paint From Airplanes

Whip Aire of St. Paul, Minnesota, is a major producer of floats for seaplanes. They also recondition airplanes. As part of reconditioning they remove old paint. Whip Aire has adopted water jetting to remove paint in order to avoid the environmental problems attendant to paint removal with chemicals. The figure below shows a 36,000 psi 1.5 gpm fan jet removing paint at a rate of 40 to 80 square feet per hour. Photograph courtesy of Bill Hall.

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WJTA
Water Jet Technology Association

7th American Water Jet Technology Conference
August 28*-31, 1993
Red Lion Hotel, Sea-Tac
Seattle, Washington

Abstract Submission Form

To submit your abstract(s) for consideration, please complete this form. Abstracts are to be submitted **NO LATER THAN NOVEMBER 1, 1992,** to ensure consideration. Authors will be advised by January 15, 1993, regarding the decision of the Abstract Review Committee.

Author, Delegate Information

(Please print or type)

Name .....
Position/Title .....
Company .....
Street Address .....
City, Province ..... State .....
Country ..... Zip, Postal Code .....
Business Telephone ..... Facsimile .....
Signature ..... Date .....

Paper Information

Authors .....
Title .....
Abstract (Up to 500 words. Use separate sheet if necessary.)

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*August 28 is reserved for a Waterjet "Short Course" and Conference Reception.

Mail completed form and abstract, **NO LATER THAN NOVEMBER 1, 1992,** to: **Conference Coordinator, 7th American Water Jet Technology Conference, Water Jet Technology Association, 818 Olive Street - Suite 918, St. Louis, MO 63101, USA, (314) 241-1445; FAX: (314) 241-1449**

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