

818 Olive Street, Suite 918 • St. Louis, MO 63101, USA • 314/241-1445

## Water Jet Cutting Seminar at UWM October 13-14, 1988

The Center for Continuing Engineering Education of the University of Wisconsin-Milwaukee is offering a two-day seminar there on October 13-14, 1988 entitled "Water Jet Cutting."

This seminar will provide you with practical technical information on water jet technology, including basic fundamentals, advantages and disadvantages, application, integration with robotic systems, and economic feasibility. The seminar will include a demonstration of the Water Jet Lab at UW Milwaukee and also a tour of an industrial water jet installation.

For more information please call or write to:

Roger W. Hirons  
UW Milwaukee  
Continuing Engineering  
Education  
929 North Sixth Street  
Milwaukee, WI 53203  
414/227-3105

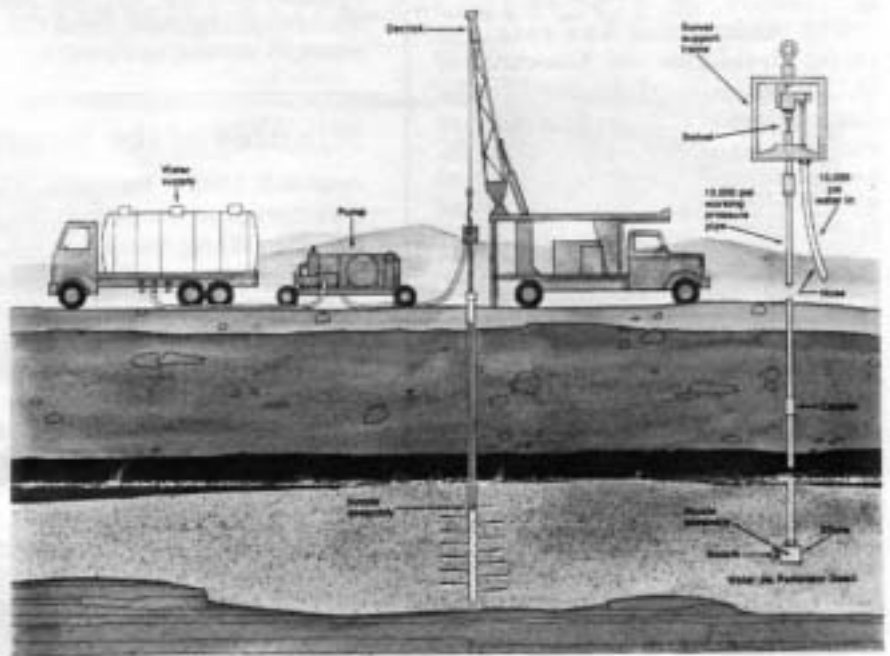
## Fifth American Water Jet Conference Inn on the Park Toronto, Ontario, Canada

August 29-31, 1989

For more information, contact:

Mrs. H. Lacoste  
Conference Coordinator  
Conference Services  
National Research Council  
of Canada  
Ottawa, Ontario, K1A 0R6  
Canada

## Water Jet Perforation of Well Casings



The objective of water jet perforation is to reduce the cost of modifying well casings so that solutions can pass through, but sand grains are blocked. The approach is to perforate the well casing and surrounding cement by impinging them with high-pressure water jets.

The process works as follows. A nozzle assembly is attached to a high-pressure (15,000 psi) pipe and lowered into the well casing, which typically is schedule 40 PVC (polyvinyl chloride). The high-pressure pipeline is extended down into the casing until it reaches the mineralized zone. The upper end of the pipeline is then connected by a high-pressure hose to the outlet of a 10,000 psi pump. Turning the pump on for 5 seconds causes a high-velocity water jet to cut through the well casing and the surrounding cement. Figure 1 shows a schematic diagram of the process.

Cutting small diameter holes in the casing allows the fluid to enter the casing and be pumped to the surface. However, the holes are small enough to prevent most sand grains from entering. Numerous holes are usually cut through the casing.

Use of the water jet perforator eliminates the need for placing well screens in the hole and has the advantage of allowing the perforation pattern to be tailored exactly to the characteristics of the deposit.

A prototype of the system has been successfully tested by Bureau of Mines personnel in the wells of four companies doing in situ leaching of uranium ore. The following corporations were cooperators: Mobil Oil (Energy Minerals Division) - 12 wells, Rocky Mountain Energy - 6 wells, Union Carbide - 46 wells, and Wyoming Mineral - 10 wells. During this testing the system was used, principally to establish new wells, but was also used to perforate the well screens of older wells that had become clogged and had not responded to acid stimulation.

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## From the President's Desk...

The Association has undergone two recent significant administrative changes. Dr. James Evers has been promoted to Associate Dean-Academic Affairs, College of Engineering at Southern Illinois University, and thus, has resigned his office of Treasurer of the Association. On behalf of the Association, I thank Dr. Evers for a job well done. John Wolgamott has been appointed to replace Dr. Evers as Treasurer.

The Association has retained David Birenbaum and Associates of St. Louis, Missouri, to manage the Association's business office. I have visited their offices in downtown St. Louis and was favorably impressed with their professionalism and facilities.

The Fifth American Water Jet Conference will be held at the Inn on the Park in Toronto, Ontario, August 28-31, 1989. It will be preceded by a short course on Water Jet Technology to be held at the same site on Monday, August 28, 1989.

A general meeting of the Association and election of officers will be held during the conference.

## Administration

### Chairman of the Board

Dr. D. Summers ..... 314/341-4311

### President

Dr. G. Savanick ..... 612/725-4543

### Vice-President

Dr. Michael Hood .... 415/642-5639

### Secretary/Treasurer

John Wolgamott ..... 303/259-2869

### 1986-1988 Directors

Pat Debusk ..... 713/499-8611  
Dr. Tom Labus ..... 414/275-5572  
Dr. J. Reichman ..... 206/828-5189  
Forrest Shook ..... 313/624-5555  
Evette Steele ..... 513/421-6827  
Dr. F.D. Wang ..... 303/278-3253  
Dr. M.J. Woodward.. 713/896-0002

Association Office ... 314/241-1445  
U.S. Water Jet Technology Ass'n  
ATTN: Dr. George Savanick  
818 Olive Street - Suite 918  
St. Louis, MO 63101, USA

## Ingersoll-Rand Names Manager of Marketing

BAXTER SPRINGS, KS, AUGUST 19, 1988 - Ingersoll-Rand Waterjet Cutting Systems announced the appointment of George W. Reinbold as manager of marketing.

Before joining Ingersoll-Rand Waterjet Cutting Systems, Mr. Reinbold was with Agro International, Salt Lake City, UT as a branch manager.

Mr. Reinbold has also held positions as general managers with Jetin Systems, Inc., Reserve, LA, and Sullair Corp., Sulliblast Division, New Orleans, LA.

Other related marketing experience includes a position with Joy Manufacturing, Denver, CO, as sales manager and with Worthington Compressors, Inc., Holyoke, MA, as marketing and sales manager.

Mr. Reinbold received an MBA degree from Western New England College in 1976 and a Bachelor of Arts in marketing from the University of Northern Iowa in 1969.

Headquartered in Baxter Springs, KS, Ingersoll-Rand Waterjet Cutting Systems invented waterjet cutting technology in 1971. Today this division of worldwide Ingersoll-Rand Company is a leading manufacturer of automated waterjet cutting equipment.

## Minutes of the Board of Directors Meeting

August 5, 1988 Kenosha, Wisconsin

Directors present: George Savanick, David Summers, Evette Steele, Fun-Den Wang, Forrest Shook, Michael Woodward, and Tom Labus

Guests: K. Neusen (UW-Milwaukee) and D. Schrotr (Ingersoll-Rand)

1. Minutes of the last meeting were read and approved.

2. G. Savanick reported that Jim Evers has resigned his post as Treasurer of the Association due to added responsibilities associated with a promotion at SIU. J. Wolgamott has agreed to assume the responsibilities of Treasurer until the next general election of officers. A motion was made, seconded and passed to this effect.

3. G. Savanick stated that the annual meeting plans are progressing nicely. The agreement for the hotel has been completed and signed. T. Labus reported that the short course planning is progressing and one of the goals is to produce a WJTA publication from the short course presentations that can be sold by the Association.

4. Several other organizations were noted to have developed standards on the use of manually operated high-pressure equipment. These organizations include the Construction Safety Association of Ontario, and the Steel Structures Blasting Council (contact J. Woodson). M. Woodward reported that it was recommended that the Steel Structures Blasting Council adopt the existing WJTA standard.

5. M. Woodward reported on the activities of the Membership Committee. As a result of this committee's activities, a motion was made, seconded and passed to submit to the membership, a change in the bylaws (Article V, Sect. 7) to read as follows:

"The elected members of the Board of Directors shall be members in good standing of the Association. No more than one (1) director shall be from any single organization".

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## Water Jet Perforation of Well Casings, from page one

All 74 applications to date have been successful. In addition, experience has shown that the water jet enhances the permeability of the surrounding uraniumiferous sand, by selectively removing clay particles from a 1-foot-wide band around the casing. Varying the vertical hole pattern in the recovery well casing allows more uniform flow to the pump; other hole pattern changes can be used to modify the flow of leachant through the field.

The water jet perforating system was developed and tested by personnel at the Bureau of Mines Twin Cities Research Center. Dr. George Savanick was the project leader. More information can be obtained by contacting Dr. Savanick at the U.S. Water Jet Technology Association Office.

# When you need quality High Pressure Valves, Fittings and Tubing delivered on time . . . specify Autoclave Engineers

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Box 4007 Erie, PA 16512 USA (814) 838-2071



## Association Headquarters Relocated to St. Louis

The U.S. Water Jet Technology Association has relocated its national headquarters from Minneapolis to St. Louis. Please direct correspondence to our new address:

**U.S. 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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#### Ad Deadline Issue Date

October 10	November 1
December 10	January 1

#### Send your advertisement to:

**U.S. Water Jet Technology Ass'n**  
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818 Olive Street - Suite 918  
St. Louis, MO 63101, USA  
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*Theory is merely the summary of  
experience, not the limit of  
possibility.*

*Charles Kettering*

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**Is someone you know not on our mailing list? If you know of an interested person who should be on our JET NEWS mailing list, please send his/her name and address.**

## Minutes of the Board of Directors Meeting, from page 2

6. A discussion was held on objectives of the Association in conjunction with choosing a management company to handle the daily affairs of the Association. It was agreed that an immediate goal of the management company would be to increase membership by targeting researchers and equipment manufacturers. F. Shook, M. Woodward, D. Summers, and T. Labus will aid the management company in achieving this goal. A list of benefits for corporate members would include the following:

- referrals to potential users through inquiries to the Association
- paper presentation at the annual conference
- participation in standards development
- waiver of surcharge fees for conferences, meetings, etc. for up to two (2) individuals
- information on technology, new developments, meetings, training courses, etc. through the newsletter

The management company would develop literature on corporate membership benefits based on the foregoing considerations.

Users as a target group for membership were not included in short-term goals at this time. This group will be addressed at a later date when the business plan of the Association is more fully developed.

7. Four (4) proposals from management companies located in hub cities were evaluated by the board. The four proposals and their rankings were:

1. D. Birenbaum and Associates (St. Louis)
2. Jarvis Management (Minneapolis)
3. Intermark Association (Milwaukee)
4. E. Schocklee and Associates (St. Louis)

The Board voted to accept the Birenbaum proposal contingent upon a satisfactory review by G. Savanick at their St. Louis location. A motion was made, seconded and approved to utilize Association funds to defray the expenses of G. Savanick to visit Birenbaum in St. Louis.

8. Current membership: Corporations - 23 (\$250 fee); Individuals - 131 (\$40 fee)

9. A fee for nonmember subscription to the newsletter was set at \$40/year. All nonmembers would be charged an additional \$40 for attendance at meetings and conferences sponsored by the Association.

10. D. Summers and T. Labus to develop a questionnaire for the management company to aid in summarizing membership capabilities. These capabilities would become part of the membership directory.

11. G. Savanick to prepare a formal reply from the Association in response to a survey conducted by the National Center for Excellence in Metalworking Technology regarding industrial needs in water jet cutting.

12. ASME has a High Pressure Systems Safety committee under the chairmanship of D. Fryer. They have started a safety standard development which could be used or provide input to the industrial standard contemplated by the Association. T. Labus will investigate status and report at the next meeting.

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