



WATER WELL AND PUMP PERFORMANCE: THE ECONOMIC BASIS FOR WATER WELL OPERATION, REHABILITATION & MAINTENANCE DECISIONS

A one-day workshop on practical, cost-effective solutions to maximizing well yields and pump performance

Cincinnati, OH (Hebron KY)
August 6th 2014
Ohio - Kentucky - Indiana

Workshop Venue
DoubleTree by Hilton (Cincinnati Airport)
2826 Terminal Drive • Hebron, KY 41048

PROGRAM PRESENTED BY AMERICAN GROUND WATER TRUST

↓ Scroll down for program detail and registration form ↓



CONTINUING EDUCATION

Continuing Education approval (where required):

Water Operators: OH (Code: OEPA-D570417-X - 6.75 hrs), KY (13399 - DCA Event ID – 6.75 hrs)

Well & Pump Contractors: IN (Code:14-017 - 6.75 hrs), KY (contact scotty.robertson@ky.gov for pre-approval - 5 hrs)



Certificate of Attendance: (Contact Hours: 6.75) will be provided to those attendees who sign-in and sign-out.

These certificates may be used by attendees to obtain continuing education credit from professional organizations or licensing agencies. Attendance Certificates will be e-mailed after the event. (Sign-in, sign-out required)

Hear from experts about technologies and techniques to save money and reduce carbon footprint. It is all about maximizing efficiency and increasing performance. This program is for consultants, engineers & designers and for well operators, pump and well contractors, utility managers, irrigators, owners and end-users. Just one tip on well & pump operation or problem-solving diagnosis could save you thousands of dollars in operation costs and reduce replacement expense by extending the asset value of your wells & pumps.

The American Ground Water Trust is a national, non-profit public education organization that has been providing ground water information, awareness and education since 1986.



The Trust's programs:

- ☺ Promote efficient and effective ground water management
- ☺ Communicate the environmental and economic value of ground water
- ☺ Showcase ground water science and technology solutions
- ☺ Increase citizen, community and decision-maker awareness
- ☺ Facilitate stakeholder participation in water resource decisions

MORE WATER LESS COST - BACKGROUND

Inefficient wells cost millions of dollars in increased pumping costs and in unnecessary increments to the nation's carbon footprint. Well efficiency techniques and recent pump, and pump motor technology advances provide ways to reduce operation costs. This workshop program will show how major water users can save energy, manage resources efficiently and reduce infrastructure costs.

More than 2,000 utility managers, well contractors, water industry professionals, regulatory staff, well owners, water users and ground water specialists have attended this program in: AK, AR, AZ, BC, CA, CO, FL, IA, IL, IN, MA, MD, MI, MO, NC, NE, NH, NY, OH, OR, PA, TX, UT, VA, and WA.

"Best one-day program on well & pump performance!"

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MORE WATER LESS COST - PROGRAM

7:30 – 8:10 REGISTRATION (Coffee & donuts)

8:10 WELL & PUMP TECHNOLOGIES TO REDUCE COST AND MAXIMIZE GROUNDWATER POTENTIAL

Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

- Groundwater industry technology
- One size does not fit all for well design, construction, operation or maintenance
- The importance of understanding the relationships among aquifer, well & pump in achieving optimum well yield
- Video: clean aquifer and contaminated aquifer – biological response

8:40 WELL HYDRAULICS – THE BASICS

David Kill, P.E. Training Consultant, Xylem Goulds Water Technology, St. Paul, MN

- Definitions of the key hydraulic terms that are used in well efficiency calculations
- Explanations of the flow of water in aquifers towards wells
- Flow dynamics through fractures and screens into well bores and pump intakes

9:40 WELL PERFORMANCE DECLINES: CAUSES AND CURES

Neil Mansuy, VP, Subsurface Technologies, Kansas City, MO

- Chemical, microbiological and physical reasons for well problems
- Understanding typical “declining yield” problems
- Case studies of well yield declines attributable to encrustation
- Case studies on cost-effective maintenance for high yield wells
- Preventive maintenance procedures

10:40 BREAK

10:55 METHODS FOR IMPROVING WELL PERFORMANCE

Jim Bailey, National Well Services Director, Shannon & Wilson, Seattle, WA

- A practical approach to managing wells as an asset
- Why rehabilitate - Well inspection technology
- Key well performance indicators
- Prioritizing well condition factors
- How to decide on treatment options
- Theory behind particle movement during well development
- Simulations of well-aquifer / aquifer-well flow dynamics during rehabilitation

12:10 LUNCH (Provided)

1:10 ECONOMIC SIGNIFICANCE OF FLEXIBLE DROP PIPE FOR WATER WELLS

Tanner Tryon, General Manager, Hose Solutions, Inc., Scottsdale, AZ

- Physical properties of flexible hose (strength and durability of hose)
- Hydraulic performance capabilities (elasticity, pressure thresholds)
- Pump installation and removal methods (connectors, reels, etc.)
- Cost savings for rapid “pump-in, pump-out” during maintenance or rehabilitation

1:40 WELL PERFORMANCE SOLUTIONS

Kevin McGinnis, President, Cotey Chemicals, Lubbock, TX

- Typical problems (mineral and biological blockage) that reduce well bore inflow
- The arsenal of chemicals available to enhance/ restore well performance
- Matching the solution to the problem (How to decide on the “cocktail” to be used)
- The importance of a dual mechanical/ chemical approach
- Successful well-yield restoration case-studies

2:30 BREAK

2:45 INTELLIGENT PUMP VARIABLE FREQUENCY DRIVES

Dan Peters, Applications Engineer, Yaskawa America, Inc., Cypress CA

- Energy consumed by pumps

"Best workshop program I have been to in years"

"It is great how you organize the program to flow so smoothly"

"Thank you for a well balanced discussion of the issues"

"This must be the best value event on this topic"

"I had more good contacts at my exhibit table than I usually get at a trade show!"



"Content Great!
Networking Awesome!"

- Fixed speed with valve control vs. VFD - AC drive basics (how VFD systems work)
- Water industry and agricultural applications of VFD controlled pumps
- Adding “intelligence” to pump system controls
- Case studies of cost advantages of using VFD to improve pump efficiency
- VFD controls to optimize management of multi-pump systems

3:45 SELECTION AND MAINTENANCE OF PUMPS FOR MAXIMIZING WELL YIELD/ COST BENEFITS

David Kill, P.E. Training Consultant, Xylem Goulds Water Technology, St. Paul, MN

- How pumps work – evolution of the US pump market
- Pump efficiency principles, horsepower and bowl assembly selection criteria
- Pump efficiency testing, identifying the weak link in your system
- Merits of submersible vs. line-shaft for high yield wells - VFD technology
- Case studies of installation and O & M costs for different types of pump
- Pump replacement criteria, \$ return on upgrading motor or bowls
- Information needed for deciding on pump specification for high-yield applications

4:30 ADJOURN

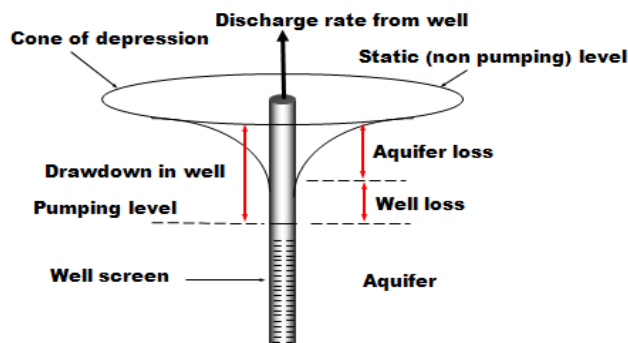
EVENT SPONSORS



Preferred Pump



Are you involved with pumping water from wells? Rural Water, irrigation operations, water utility supply, self-supplied industry, mine dewatering etc.? This workshop offers real, practical state-of-the-art information and advice that can make your operations more efficient and less expensive. Inefficient wells and pumps could be costing you tens of thousands of dollars. How would you know? Find out how to diagnose the problems and apply the most effective solutions.



DoubleTree Hotel: Sleeping room rate \$112 available for American Ground Water Trust workshop attendees
For reservations e-mail Sales & Marketing clifford.williams@columbiasussex.com
Call (859) 371-6166 for airport shuttle information. - Free self parking for attendees

↓ **Scroll down for registration form** ↓

Cincinnati OH - WELL & PUMP PROGRAM - REGISTRATION FORM – (or register on-line at www.agwt.org)

General.....	\$230	<input type="checkbox"/>
Government employees (Federal, state, county, local).....	\$200	<input type="checkbox"/>
AGWT Members (\$250+ level)	\$180	<input type="checkbox"/>
Full-time Student (ID required)	\$110	<input type="checkbox"/>
Presentations: Download in pdf format available to attendees....	\$ 30	<input type="checkbox"/>
Exhibit Table (personal registration also required)	\$250	<input type="checkbox"/>
Registration includes handouts, coffee breaks & lunch	TOTAL \$	_____

PAYMENT: **Check** *[payable to: American Ground Water Trust]*
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CANCELLATION POLICY

Cancellations received in the AGWT office by 5 pm EST 5 days prior to event will receive a full refund less \$25. For cancellation 4-2 days prior to the there is a 50 % refund.
 Cancellations one day prior to the start of the event or on the day of the event are considered "No Shows" and no refund will be made - (substitutions gladly accepted).

The AGWT will not cancel a program because of bad weather conditions. Except that, as the result of an event cancellation resulting from, (but not limited to) circumstances such as a state mandatory evacuation or a fire at the program facility, the Trust will reschedule the event and honor registrations as payment for the new event.

SPONSORSHIP & EXHIBITS

There are opportunities to showcase work, projects, products and services as exhibitors or event sponsors. Sponsors will receive recognition for their financial assistance. Call 800-423-7748 for more information or visit www.agwt.org

Mail: American Ground Water Trust, 50 Pleasant Street, Concord, NH 03301 - Fax: (603) 228-6557; - Phone: (800) 423-7748;

Scan and e-mail trustinfo@agwt.org - Register on line <http://www.agwt.org> (events)