

**Workshop: Valdosta, GA - Tuesday, March 24<sup>th</sup> 2015**

# **GET MORE WATER AT LESS COST**

A one-day program for well owners and groundwater professionals

# **WORKSHOP PROGRAM**

**Give a technological “kiss of life” to that underperforming well**

Holiday Inn Valdosta Conference Center, 1805 West Hill Avenue, Valdosta, GA 31601

**AMERICAN GROUND WATER TRUST** (a 501(c)(3) non-profit education organization)

## **EVENT SPONSORS**



**Preferred Pump**



## **CONTINUING EDUCATION APPROVALS**



**Water Operators:** Approved by The GA State Board of Examiners for Certification of Water & Wastewater Treatment Plant Operators & Laboratory Analysts **CE-6-W-0215-AGWT-013116-0001**

**Well Contractors:** Approved by EPD/Drinking Water & Water Withdrawal Program/SWAP Unit **6.75 CEUs**

**Certificate of Attendance:** (Contact Hours: 6.75) will be provided by the AGWT post-event via e-mail to those attendees completing the sign-in and sign-out form. These certificates may be used by attendees to obtain continuing education credit from professional organizations or licensing agencies.

## MORE WATER LESS COST – PROGRAM

### 7:30 – 8:10 REGISTRATION

### 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

### 8:30 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

### 9:30 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

### 10:45 BREAK

### 11:00 WELL REHABILITATION: WHEN AND HOW TO DO IT

Bob Baker, Account Manager, Layne, Pensacola, FL

- Fundamentals of Well Plugging/Failure
- Chemical Well Rehabilitation Methods
- Physical Well Rehabilitation Methods

### 12:00 LUNCH (Provided)

### 1:00 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

### 1:30 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
- 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

**"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!"**



**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

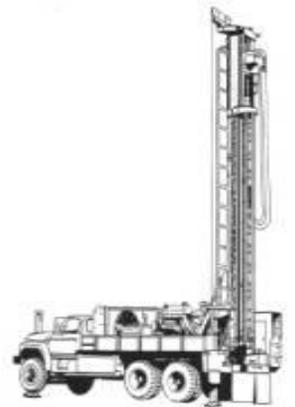
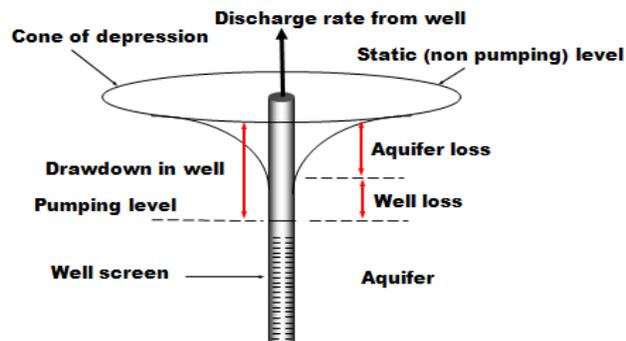
**4:30 ADJOURN** and continuing education sign out.

**At the end of the workshop please leave your badge holder and evaluation form on the table.**

**Please consider a membership in the AGWT. There is a form in your handout packet.**



**"Get smart with your water well assets!"**



**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

