WATER WELL AND PUMP WORKSHOP

Lubbock, TX - Tuesday, November 17th 2015

GET MORE WATER AT LESS COST FROM YOUR EXISTING WELLS

A one-day program for well owners and groundwater professionals on practical, cost-effective solutions that work. The program will explain how to maximize yields and pump performance on existing wells and ensure correct design, construction, pump selection and maintenance on new wells. New or existing, this program will enable groundwater users to reduce energy costs and prolong well life.

Give a technological "kiss of life" to that underperforming well

Workshop Venue:
TexasTech Alumni Association, Merket Alumni Center
17th Street & University Avenue, Lubbock, Texas 79409

PROGRAM PRESENTED BY AMERICAN GROUND WATER TRUST (a 501(c)(3) non-profit education organization)

CONTINUING EDUCATION

Approved for TX Well Drillers and Pump Installers by TX DLR
Provider #1701 - Course Number 14260

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 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 well owners, irrigators, consultants, engineers & designers, well operators, pump and well contractors. 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. Well efficiency techniques and 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.

"Get smart with your water well assets!"

MORE WATER LESS COST – PROGRAM (presenter details coming soon)

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

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 rock fractures or screens into well bores and into pump intakes

WELL PERFORMANCE DECLINES: CAUSES AND CURES
Neil Mansuy, VP, Subsurface Technologies, Kansas City,

- 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

DESIGN & APPLICATIONS OF SOLAR WATER PUMPING SYSTEMS
Eric Macias, COO, Lorentz, Slaton, TX

- Types of solar pumps and their capabilities
- Basic principles for sizing solar water pumping systems
- Types of photovoltaic panels
- System troubleshooting
- Understanding return on investment vs. a/c powered pumping systems

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

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

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

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

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Preferred Pump

ROSCOE MOSS COMPANY