WATER SUPPLY SYSTEMS WORKSHOP

PROGRAM SCHEDULE AND PRESENTER INFORMATION

American Ground Water Trust Program – September 23, 2016

MAXIMIZE SUPPLY FROM WELLS

CORRECT DESIGN, OPERATION & MAINTENANCE

Florida Hotel & Conference Center, 1500 Sand Lake Rd, Orlando, FL 32809

A one-day education program on practical, cost-effective solutions that work. The workshop will explain how to maximize yields and pump performance on existing wells and ensure correct design, construction, pump and pump control selection, and maintenance on new wells. New or existing, this program will enable groundwater users to reduce energy costs and prolong well life. Hear from experts about technologies and techniques to save money by 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 thousands of dollars in operation costs and reduce replacement expense by extending the asset value of your wells & pumps.

Continuing Education
Approved - FL Professional Engineers – 7.25 PDHs – Course #0010208, Provider #306
Approved – FL Water Operator - 6.75 PDHs (0.675 CEUs)
Approved – FL Water Well Contractor – Course ID: 124-092316-101 (3 S/B, 5 R/R)

Workshop Sponsors

Layne WATER · MINERAL · ENERGY
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WORKSHOP INTRODUCTION - WELL & PUMP TECHNOLOGIES
Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

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
- Causes of well performance changes
- Flow dynamics through rock fractures or screens into well bores and into pump intakes

ECONOMIC SIGNIFICANCE OF FLEXIBLE DROP PIPE FOR WATER WELLS
Carlos Guerra, Territory Manager – Flexible Drop Pipe, 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 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
- Importance of well efficiency during declining water levels
- Case studies on cost-effective maintenance for high yield wells
- Preventive maintenance procedures

WELL DESIGN & CONSTRUCTION PROBLEMS
Dr. Hughbert Collier, Senior Vice-President, Collier Consulting, Stephenville, TX

- How hydrogeologists and engineers benefit from up-to-date knowledge of wells, pumps and pump controls
- Value of well yield and water quality data for diagnosing well problems
- Reasons for high yield well performance declines
- Importance for monitoring wells to maintain hydraulic contact with the aquifer
- What aquifer pumping tests reveal about a water well

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

- Causes of pump capacity changes.
- 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

WORKSHOP PRESENTERS: Sept 23 - Technical Workshop-WATER SUPPLY SYSTEMS (WELLS & PUMPS)

Hughbert Collier, Senior Vice President, Collier Consulting, Stephenville, TX
Dr Collier has over 30 years experience in consulting, research, technical support for litigation, and lecturing throughout the country. One of his specialties is the integration of various types of data (e.g. borehole geophysical, pumping tests, cuttings, cores, and surface geophysical) for the hydrogeological characterization of aquifers, including ASR feasibility. This expertise has assisted Collier Consulting in developing wells and well fields in Texas and Florida. He has a geology degree from Mississippi State University and a Ph.D. in Geosciences from the University of Texas at Dallas.

Carlos Guerra, Territory Manager, Hose Solutions, Inc., Scottsdale AZ
Carlos is a Military veteran who, while in the U.S. Army, worked as an aircraft structural repair tech. Carlos now with Hose Solutions Inc. is also lead technical assistant for installations involving Flexible Drop Pipe. He frequently works on site to tackle specific problems and provide assistance at installations. He also shares his experiences at conferences all over the US with several organizations including the NGWA, AGWT, and several state organizations.

David Kill, P.E., Training Consultant, Xylem Goulds Water Technology, St. Paul MN
Mr. Kill is a Registered Professional Engineer and has a BS in Agricultural Engineering from the Univ. of Minnesota. He joined Johnson Screens in 1969 and became Regional Manager in 1974. In 1979 he joined the Fluid Systems Division UOP in the reverse osmosis water treatment business in San Diego, CA as Director of Marketing. He rejoined Johnson Screens in 1981 as Environmental Products Manager. In 1988, he founded Recovery Equipment Supply, a supplier of products for ground water monitoring and remediation. In 1996, he joined Goulds Pumps ITT and was promoted to Regional Commercial Business Manager in and Regional Market Development Manager in 2004. He was the 2005 NGWA McEllhiney Distinguished Lecturer and presented “Well Efficiency Is Not a Myth” to over 20 water well contractor conventions.

Neil Mansuy, Vice President of Technical Services, Subsurface Technologies, Kansas City, MO
Neil has 34 years of extensive, worldwide well problems and rehabilitation experience. He holds a M.Sc. degree in Ground Water microbiology specializing in iron-related bacteria and causes of well plugging. Neil worked nine years with Layne Geosciences Inc. as an aquifer and well rehabilitation specialist. His professional experience includes the assessment of well problems and recommending cost-effective solutions for thousands of wells across the U.S. and around the world. Neil has provided solutions to hundreds of wells, aquifers and water systems with “unsafe” bacterial results. He has the unique combination of extensive multidisciplinary understanding of well problems and the experience to recommend the most cost-effective solutions. Neil’s workshop presentations cover all aspects of well problems and solutions related to lost capacity and water quality problems. Neil is the author of the book, “Water Well Rehabilitation,” Lewis/CRC Press.

Kevin McGinnis, President, Cotey Chemical Corporation, Lubbock TX
Mr. McGinnis graduated from Texas Tech Univ. in 1984 with a BA degree. He has worked in the water well remediation industry for 10 years. He has delivered technical papers to Saudi Arabia’s Ministry of Agriculture and Water in Riyadh, and to the Philippine Water Works Assoc. In addition to his experiences in the U.S., Mr. McGinnis has supervised water well rehabilitation projects in several states of the Middle East, Far East and Latin America.

Daniel Peters, Applications Engineer for Yaskawa America, Inc., Cyprus, CA
Dan Peters has over 20 years experience in applying variable frequency drives (VFD’s) to a variety of commercial and industrial applications He has 11 years experience developing and or testing custom VFD software for a variety applications including water pumping, elevators, and electronic line shaft.
For the last eight years his work has focused on water pump specific applications for VFD’s using custom application software environment. This includes extensive field testing on a variety of water pumping applications including: Vertical Turbines, Centrifugal pumps & Submersible pumps.

Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH
Andrew Stone is a hydrogeology graduate from University College, London. He has over thirty five years of ground water experience in Africa and the U.S. as a university professor, ground water consultant and ground water advocate & educator. From 1990 to 2003 he taught an annual course on Groundwater Protection Policy at Antioch New England University. In recognition of his work in promoting ground water resource education in the US, he received the 1998 National Ground Water Association “Oliver Award” for outstanding contributions to the groundwater industry.