



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 extend asset value by maximizing well and pump performance

Wednesday February 27th 2013
Marlborough, Massachusetts

Holiday Inn Hotel and Suites
265 Lakeside Avenue
Marlborough, MA 01752

PROGRAM PRESENTED BY AMERICAN GROUND WATER TRUST

EVENT SPONSORS



Preferred Pump



MORE WATER LESS COST - PROGRAM

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

8:30 – 9:00 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
- Basic hydraulic principles of groundwater flow to wells
- Specific capacity – important calculation for well performance

9:00 – 10:00 WATER WELL DESIGN, CONSTRUCTION AND REHABILITATION

Thomas Hydro, Regional General Manager, Water Resources, Layne, Dracut, MA

- Methods of well drilling used in the northeast
- Design basics for high-yield wells (screen selection, gravel pack etc.)
- Water well construction & well development methods
- The importance of monitoring and maintenance
- Well redevelopment / rehabilitation techniques
- Case studies of improving well performance

10:00 – 10:30 ECONOMIC SIGNIFICANCE OF FLEXIBLE DROP PIPE FOR WATER WELLS

Nicolas Steverlynck, President, 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 pump maintenance or well rehabilitation

10:30 BREAK

10:45 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

12:00 LUNCH (Provided)

1:15 PUMPS and VARIABLE FREQUENCY DRIVES

Donald Nickle, Senior Territory Manager, Pentair, Hampton, CT

- Typical New England water well pump installations
- Basic principles of pump selection (matching the pump to the well)
- Which pump to choose for high-yield? (lineshaft or submersible)
- Energy consumed by pumps
- Fixed speed with valve control vs. VFD
- Water industry and agricultural applications of VFD controlled pumps
- Pump system controls – options for settings
- Case studies of cost advantages of using VFD to improve pump efficiency

2:30 WELL PERFORMANCE SOLUTIONS

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

- 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

3:30 BREAK

3:45 OPTIMAL MANAGEMENT OF YOUR WELL AND AQUIFER

Ray Talkington, Principal Hydrogeologist, GEOSPHERE Environmental Management, Inc., Exeter, NH

- Identification of a “healthy” well and aquifer: Ways to not “Run to Failure”
- Case studies on benefits of recharge (non-pumping) periods
- Case studies of benefits of annual specific capacity testing
- Case studies on benefits of long-term aquifer water level monitoring
- Comparison of costs for Management/Monitoring vs. Well Replacement

4:30 ADJOURN