

"Get smart with your water well assets!"

Workshop: Northern California – Redding

Program for agricultural, municipal and industrial end-users of high-yield wells

MAKE SURE YOU MAXIMIZE YIELD FROM YOUR WATER WELLS

An educational workshop program from the American Ground Water Trust

Wednesday, October 30th, Holiday Inn and Conference Center, Redding, CA

Holiday Inn and Conference Center, 1900 Hilltop Drive, Redding, CA 96002

Previous American Ground Water Trust education workshops in California with a focus on Wells and Pumping have been held in Sacramento, Stockton, Bakersfield, Salinas, Fresno, Tulare, Lakewood and Ontario

Climate change, economic growth and new water use regulations are increasing competition among municipal, agricultural and industrial users for groundwater resources. Maintaining well efficiency to maximize yield potential and securing long-term supply sustainability is a key objective for all groundwater-based supplies. To minimize O & M pumping costs for municipal supply and achieve maximum crop yield with limited water resources for growers, pump owners must optimize well performance and follow state of the art technology in well design, construction and operation. This workshop provides a great learning opportunity for water supply operators, irrigation growers, and farm management water professionals on the latest practical, cost-effective solutions. The program will explain how to maximize the economic return on pumped groundwater by correct pump selection, well operation and the use of real-time data to effectively match well pumping to aquifer conditions and water demands.



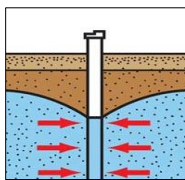
Continuing Education

- Approved by State of CA for Drinking Water Operators – 7 Hours
- Approved by State of CA for Water Well Drillers & Pump Installers – 7 Hours
- Approved by IA for Agricultural Irrigation Specialists & Irrigation Designers Course #IA10191-6.5A – 6.5 Hours
- Certificates of Attendance provided for engineers and other professions

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



7:30 – 8:30 **REGISTRATION (Coffee & donuts) Network with exhibitors**

8:30 - 8:45

MEASUREMENT OF HYDROLOGIC INPUTS AND OUTPUTS: THE KEY TO WATER RESOURCES MANAGEMENT

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

[To manage you need to measure. Measurement produces data. SGMA requires data-based management. The combined effects of well design & construction, pumping efficiency and aquifer characteristics influence the data used to decide on management strategies for sustainability.]

8:45 – 9:45

WELL HYDRAULICS – ESSENTIAL BACKGROUND TO OPTIMIZE WELL AND PUMP EFFICIENCY

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

[Because water pumping is a major cost for irrigators and municipalities, maintaining efficiency in water systems is key to profitability and cost reduction. The presentation will explain and define the key hydraulic terms that are used in well efficiency calculations. The flow dynamics through rock fractures or screens into well bores and into pump intakes is an important basis for well design.]

9:45 – 10:30

DESIGN AND OPERATION PRINCIPLES FOR MAXIMIZING WELL EFFICIENCY

Kevin McGillicuddy, PG, Chief Hydrogeologist, Roscoe Moss Company, Los Angeles, CA

[Stainless steel for your well? What are the economics of the selection of casing and screen materials? What criteria from the driller's log or down-hole geophysics are used to determine screen position, length, slot size and diameter to optimize performance and ensure well longevity?]

10:30 – 10:50 **BREAK Network with exhibitors**

10:50 – 11:35

IRRIGATION MANAGEMENT: WIRELESS TECHNOLOGY FOR MONITORING FIELD CONDITIONS AND PUMPING

Hylon Kaufmann, Director of Business Development and Marketing, Ranch Systems, Inc., Novato, CA

[Data on weather, soil moisture, groundwater levels etc. can be wirelessly transmitted to help growers and utilities manage sustainable groundwater pumping and allow growers to optimize irrigation at field scale.]

11:35 – 12:20

EQUIPMENT AND SOFTWARE FOR REAL-TIME MONITORING OF PUMPS FOR COST, FLOW, DEPTH, EFFICIENCY, ETC.

Morgan Halpeny, CEO, Pumpsight, Fresno, CA

[Systems based on real-time data provide information to keep pumps running efficiently. By integrating data from a variety of sensors they can measure energy use, flow rate, pump efficiency, well specific capacity, identify well rehab needs, adjust pumping for falling water levels in wells and store data for statutory record keeping.]

12:20 – 1:20 **LUNCH (provided) Network with exhibitors**

1:20 – 1:20:05

CASE STUDIES OF WATER WELL DRILLING AND GROUNDWATER SUPPLY PROJECTS IN NORTHERN CALIFORNIA

Eddy Teasdale, PG, CHg, Senior Hydrogeologist, Luhdorff & Scalmanini Consulting Engineers, Chico, CA

[Geological conditions, the geometry of aquifers and their connections to recharge are key factors in calculating sustainable yield from municipal and irrigation wells in Northern California. There is not a one-size-fits-all solution to deciding where to drill, how deep to drill and what pumping rate to recommend.]

2:05 – 2:50

THE DESIGN, INSTALLATION AND OPERATION OF MONITORING EQUIPMENT TO MAXIMIZE ECONOMIC RETURN ON PUMPING

Rob Guy, Manager – Sales and Marketing, Sentek Technologies, Adelaide, Australia

[Instrumentation technology: soil profile moisture sensors (and other instruments) can assist growers in irrigation management by providing data to determine field capacity, root depth water extraction, and salinity dynamics for decisions on irrigation frequency.]

2:50 – 3:00 **BREAK Network with exhibitors**

3:00 – 3:45

MAXIMIZING YIELD AND QUALITY BY VERTICAL WELL PROFILING OF WATER WELLS TO DETERMINE DEPTH-DEPENDENT ZONES OF FLOW AND THEIR WATER QUALITY CHARACTERISTICS

Noah Heller, President, BESST Inc., San Rafael, CA

[Selective zonal groundwater extraction can be an alternative to treatment. In new and in existing wells there are inexpensive down-hole measurement techniques using geophysical equipment that provide detailed information about the best water producing zones from an aquifer. These techniques can also pin-point zones where water quality might be a concern for crop production or the maintenance of downstream treatment equipment.]

3:45 – 4:30

SELECTION AND MAINTENANCE OF PUMPS TO MINIMIZE OPERATION AND MAINTENANCE COSTS:

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

[The presentation will discuss basis for pump selection and the parameters that need to be monitored in order to operate a pump at its best efficiency. Topics covered include: pump specification for high-yield applications, pump efficiency principles, horsepower and bowl assembly selection criteria, causes of pump capacity changes, merits of submersible vs. line-shaft for high yield wells, case studies of installation and O & M costs for different types of pump, pump replacement criteria, and calculations on the \$ return on upgrading motor or bowls.]

4:30 **FINAL Q & A AND WRAP-UP - ADJOURN and continuing education sign-out**

REGISTRATION, EXHIBIT & SPONSORSHIP PAYMENT FORM

Water Well & Pumping Technology Workshop - October 30, 2019 – Redding, CA

General Registration	\$225 <input type="checkbox"/>
AGWT Corp Member Employee	\$200 <input type="checkbox"/>
Full-time Student (ID required)	\$ 80 <input type="checkbox"/>
Electronic download of presentations (Attendee Price)	\$ 30 <input type="checkbox"/>
Registration includes handouts, coffee breaks & lunch	
TOTAL	\$ _____

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\$1,000 and above sponsors have the option of a complimentary registration or exhibit table.
Exhibit table **OR** Complimentary registration

EXHIBIT TABLE ONLY: (registration is also required for on-site person)
Exhibit Table Fee **\$250**

TOTAL **\$ _____**

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The American Ground Water Trust is a non-profit 501(c)(3) membership organization dedicated to providing accurate information about water resources, groundwater and wells to citizens, communities and decision makers. Contributions are tax deductible to the extent permitted by law.

[Register on-line at www.agwt.org/events](http://www.agwt.org/events)