



**US Army Corps  
of Engineers®**  
Engineer Research and  
Development Center

**Service**

# Water Detection Response Team (WDRT)

## Description

The Water Detection Response Team (WDRT) was established by the Office of the Chief of Engineers in 1985 to assist the military planner, terrain, and well-drilling teams in locating adequate ground water supplies before drilling and to improve overall military well-drilling success. The Topographic Engineering Center's Hydrologic and Environmental Analysis Branch manages the WDRT. The team forms when needed and draws on civilian specialists in hydrogeology, data base evaluation, remote sensing, geophysics, well drilling, and specific geographic regions. Specialists from ERDC and U.S. Army Corps of Engineers' Districts, such as the Mobile District, as well as other government agencies such as the U.S. Geological Survey have participated in the WDRT to support military well-drilling missions outside the United States. The WDRT is the Department of Defense's (DOD's) prime organization for assisting military well drillers, whether for military operations or for humanitarian assistance. Its primary function is to assist and advise well-drilling teams on the location of the best well-drilling sites and depths, and to provide information on drilling conditions.

## Capabilities

A staff of ground water experts is available "on call" to provide information and assistance and to produce studies for activities related to military well-drilling. The starting point for each request is to identify high-potential drilling areas by examining existing data bases, then to collect and analyze additional sources and imagery. In rare cases, when high-potential sites still cannot be identified, specialists can be deployed for on-site investigations. The WDRT also provides hydrogeologic training for military well drillers.



**WDRT is assisting military drilling for Operation Enduring/Iraqi Freedom (OEF/OIF).**

## Supporting Technology

The WDRT accesses DOD Water Resource Data Base produced and maintained by the Topographic Engineering Center (TEC). It also has many bibliographic sources, well logs, maps, and imagery for most areas of the world. The team keeps an inventory of state-of-the-art remote sensing and geophysical equipment.

## Benefits

In unfamiliar terrain, trial-and-error drilling can be both costly and time-consuming. Failures occur when the site-selection, well design, and drilling do not take into account the hydrogeology. The WDRT uses many techniques, from hydrogeologic analysis to imagery interpretation to geophysical prospecting, to improve the odds of drilling a successful well on the first try.

## Success Stories

Since 1985, the WDRT has participated in military exercises such as NUEVOS HORIZONTES, BRIGHT STAR, TEAM SPIRIT, BLAZING TRAILS, GALLANT EAGLE, AHUAS TARA, and FUERTES CAMINOS, and in military Operations Desert Storm and Restore Hope. The team has most recently supported drilling for OEF/OIF. In the past 9 years, wells drilled with WDRT support have had a success rate of more than 95 percent. The Corps' WDRT greatly contributes to the overall success of military well drilling missions. The U.S. Southern Command reported to TEC that, "Since the inception of this program, USSOUTHCOM has experienced a reduction of more than 70 percent in dry well occurrences."

## ERDC POC

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