

## ORANGE COUNTY ASR FACILITY NEAR ORLANDO

1621 South Alafaya Trail, Orlando, FL 32828

### FIELD TRIP LEADERS:

Carlos Torres, Utility Supervisor, Orange County Utilities, Orlando, FL  
Kim Kunihiro, Water Quality Manager, Acting Water Production Section Manager, OCU, Orlando, FL  
John Watson, Vice-President, Barnes Ferland and Associates, Orlando, FL

The St. Johns River Water Management District (SJRWMD) and Orange County Utilities (OCU) are working together on an Aquifer Storage and Recovery (ASR) Program to examine the appropriateness of integrating ASR technology into regional water resource and water supply development projects. The primary ASR objective for OCU is to develop a water demand management technique that can be used to help meet projected deficits through seasonal and long-term storage and recovery of water. Barnes, Ferland and Associates, Inc. (BFA) and its sub consultants (CH2M HILL and ASR Systems, LLC) have provided hydrogeologic and engineering services for the design, permitting and construction management activities for implementing a 3 million gallon per day pilot / demonstration ASR system for Orange County Utilities. Diversified Drilling Corporation and Wharton-Smith, Inc. were the construction contractors.



The ASR program is structured in several phases that continue to advance if the assessment of each phase indicates that the project is feasible.

The project has progressed through drilling and surface facilities construction and is scheduled to began cycle testing in February 2010. OCU may consider additional potable water ASR well(s) at this site, if the pilot system cycle test results are considered favorable and if a water supply source is seasonally available for a recharge source.

An extensive drilling and testing program was completed to a depth of 1,700 feet that involved wire line coring, packer testing, geophysical logging, aquifer performance testing and water quality testing. The most favorable storage zone was selected within a freshwater interval at the top of the lower Floridan aquifer between 1,045 and 1,190 feet below land surface. The ASR storage zone consists of dolostone with intervening limestone within the Avon Park Formation. The combination of moldic porosity and small cavity zones provides substantial yield.



In February 2010, a unique cycle testing plan began to document whether the leaching of metals at this site can be effectively controlled through initial formation and maintenance of a buffer zone in the proposed storage interval of the lower Floridan aquifer. This is based upon operational data analysis at many other Florida ASR wellfields, suggesting that such an approach is simple, cost-effective, and usually successful. An Administrative Order was issued by the Florida Department of Environmental Protection, also a partner on this project, to present options in the event metals such as arsenic leach in the aquifer to levels that are above the new standard.

Additional Information at: [http://www.orangecountyfl.net/cms/DEPT/utilities/wastewater\\_treatment.htm](http://www.orangecountyfl.net/cms/DEPT/utilities/wastewater_treatment.htm)

