

When bad news is good news

O'Donnell & Associates, Inc. recently finished a hydrogeologic study for one of our long time clients. This project, the sixth OAI has completed for them, involved investigating and evaluating three locations in the water system's service area for their potential success in developing a high volume public supply well. The locations under review were picked by the system to boost their ability to provide water in these locations as opposed to producing it in far off areas and pumping it to the locations.

Hydrogeologic studies are one of many services OAI makes available to our 39 public water supply system clients. This was the first hydro study requested of OAI by this client. The study included compiling public and private hydrogeologic information on the locations, developing an understanding of the aquifers underlying them, assessing their potential for supplying water acceptable for public supply purposes and presenting our findings clearly to the Board.

Bad News

The hydro study was initiated with the goal of finding a suitable location for developing a new well at one or all of the locations. The findings proved otherwise.

- Location 1 is underlain by three sand or sand and gravel aquifers to a depth of 2,450 feet. Correlation of these aquifers from this area to areas where they produce indicated the water in the aquifers at this location contain brackish to saltwater that would not be suitable for public supply without extensive post-production treatment.
- Location 2 is located adjacent to another water system's wells. The three aquifers at this location are present from about 800 to 2,600 feet deep. Two of the three had documented chloride concentrations greater than 900 parts per million. The third aquifer, used by the neighboring system, has chlorides at the 250 ppm MCL limit. An additional well in this aquifer was ruled out so as not to jeopardize the other system's water supply.
- Location 3 was actually explored by the system with a 1,620 foot test bore and a 1,260 foot test well 19 years ago. This long forgotten* exploration effort, identified through OAI's research, confirmed our initial findings that there was no chance of developing a fresh water supply in this area. It was also used to condemn Location 1.

Bad News is Good News

At first glance, it seems OAI's report delivered nothing but bad news to the system for their plans at the three sites. However, by completing this study *before* Locations 1 and 2 were drilled or before Location 3 was re-drilled, the system saved the \$159,600 to \$209,000 completing a deep exploratory bore and test well would have cost. These savings can now be applied to other options that have a greater chance of success in developing more water for the system. Much like this project, OAI's first project with this system also delivered bad news. However, that initial bad news opened the door for OAI to present an "out of the box" solution that, when implemented by the system, met their need for more water at a fraction of the cost of the budgeted new well that, as it turned out, they did not need. Good news indeed.

*This is not the first time OAI's research identified past exploration efforts that were previously unknown to water systems' current Boards and managers.