

# WELLFIELD PERMIT MODIFICATION

## Services Provided

- Water Resource Evaluation
- Hydrologic Data Collection
- Groundwater Modeling
- Permit Modification
- Well Design and Construction

## Client

National Engineering Firm

**SDI** provided hydrologic services required to investigate modifying the City of Clearwater Water Use Permit to either raise the chloride cap of 250 milligrams per liter for production wells or move the compliance point to monitor wells.

## Hydrologic Data Collection and Analysis

SDI first received available hydrogeologic data as well as historical production and water quality data to assess the horizontal and vertical movements of chlorides in the vicinity of the City's wellfield. Southwest Florida Water Management District (District), Department of Health, and City Utility records were reviewed to identify existing users with private wells within the City.

## Groundwater Modeling

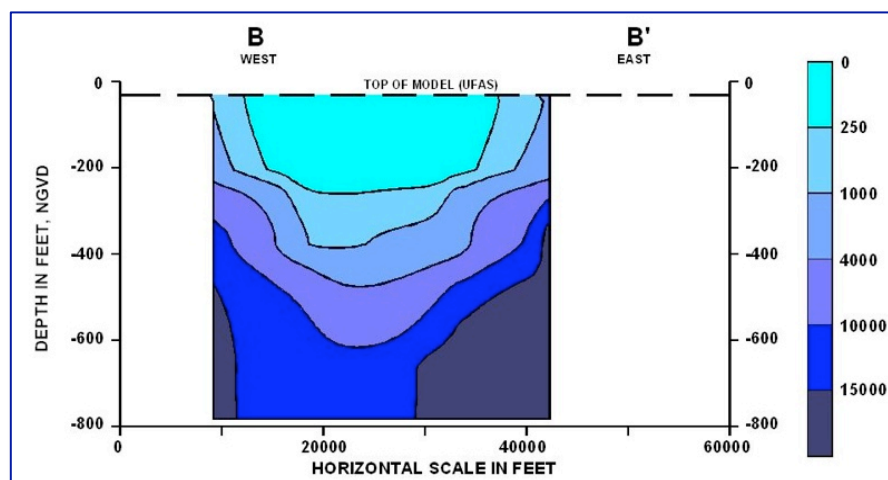
SDI applied its previously developed MODFLOW groundwater model and SWIFT mass transport model using evaluate the potential extent of changes in groundwater quality around a production well. The study found that changes in chloride concentrations resulted from localized upconing, not lateral saltwater intrusion from the coast.

## Permit Modification

SDI developed a Water Quality Action Plan and a Mitigation Plan for the City's wellfield based on the work completed. The District modified the City's permit condition to replace the chloride cap on production wells with chloride guidance levels on monitor wells.

## Monitor Well Design and Construction

Three additional monitor wells were recommended as part of the Water Quality Action Plan. SDI designed and located the wells. The installation of the new wells were completed under another contract.



SDI Environmental Services, Inc.  
3903 Premier North Drive  
Tampa, FL 33618  
(813) 961-1935

[www.sdihydrology.com](http://www.sdihydrology.com)