



Project Name: Fate and Transport Modeling - MTBE

Client: Holding Company for Major Food Distributor

Agency: Regional Water Quality Control Board – Los Angeles Region

Location: Bellflower, California

Chemical of Concern: Methyl Tertiary-Butyl Ether (MTBE)

Project Goal

The main goal of this project was to further characterize the extent of petroleum hydrocarbons in the soil and groundwater and determine the potential lateral extent for methyl tertiary-butyl ether (MTBE) plume migration to show that the MTBE plume concentration will diminish below detectable concentrations before reaching any down-gradient receptors.

Waterstone's Role

Waterstone role was to conduct an additional soil and groundwater investigation and to construct a site fate and transport model to show the possible lateral extent of MTBE in groundwater.

Project Challenges

A challenge presented by this project included the location of a municipal water supply well is approximately 800 feet down-gradient from the Subject Site, of which there was a regulatory concern for potentially MTBE impact from the site.

Scope of Work

Waterstone constructed a site-specific fate and transport model using the Domenico Analytical Model and used site-specific MTBE concentrations, model calibration and sensitivity analysis, and other geophysical and chemical parameters to construct an accurate model.

Project Successes

The results from the model showed that the maximum lateral extent of MTBE in groundwater over time would be 651 feet, which would not impact a municipal well located approximately 800 feet from the site. The municipal well was also identified to be screened at a much deeper water bearing zone than the shallow zone that contained concentrations of MTBE. Based on the results of the Domenico Model, a groundwater remediation plan was developed to remove the elevated concentration of MTBE in the groundwater at the former source location on the Subject Property.