

Dominguez Oil Field Restoration

The Dominguez Oil Field covers much of the Cities of Carson and Wilmington. The field has been operational for almost 100 years, but production rates have been steadily declining for the past 30 years. Most of the oil field was on undeveloped land used for oil production facilities and localized agriculture. As such, the land held tremendous development potential being located in the heart of Los Angeles County, adjacent to four major freeways.



The land owner began an oil field restoration program in parallel with land development activities. The restoration program included the investigation of potential contamination at numerous historic oil field operations. These included active oil well sites, above ground storage tanks (ASTs), former drilling pits, pipelines, compressor plants, dehydration facilities, and waste disposal areas. In addition, an oil field-wide investigation of methane gas was conducted.

Based upon the results of the investigation, a human health risk assessment was performed to define areas where remediation of contamination was needed. To facilitate land development, most of the contaminated soil was excavated. The contaminated soil was then treated ex-situ using soil vapor extraction (SVE) from sealed soil stockpiles. In addition, the SVE was augmented by the addition of nutrients and controlled air flow to stimulate biodegradation within the stockpiles – bio-burritos. Localized areas were remediated using in-situ SVE and bioventing. Only very limited groundwater contamination was identified and a long-term monitoring program was initiated to demonstrate natural attenuation.

Over 1,000,000 cubic yards of soil was excavated, and over 250,000 cubic yards of soil was treated using SVE and bio-remediation. This allowed for the expeditious development of the land for light industrial and commercial buildings. Given the potential for methane gas intrusion, all buildings were designed with geo-membranes and passive soil venting.