The Oil Fields of the Los Angeles Basin

Harbor and Long Beach

Two massively productive fields underlie the harbor and the region north of Long Beach, known as Signal Hill. This region is the most productive oil land south of Kern County, producing over 16 million barrels of oil a year.

1. Long Beach Oil Field
   Producing nearly a billion barrels of oil since it was discovered in 1921, Long Beach Oil Field is the second most productive oil field in Los Angeles County. It comprises the area known as Signal Hill, famous for its dramatic oil discovery, and once known as Porcupine Hill due to the hundreds of oil derricks that covered its slopes. Today the field, though relatively small in area, still produces more than 1.5 million barrels per year, from 266 wells.

2. Long Beach Airport Oil Field
   Located adjacent to the massive Long Beach Oil Field, this technically separate field underlies the airport. Currently only a battery of three pumpjacks, producing 11,000 barrels per year, are operating in the field, in a lot behind Long Beach Motorsports, on 33rd street, near the Cherry Avenue exit for the airport.

3. Wilmington Oil Field
   Wilmington Oil Field is the Los Angeles Basin’s largest field in area and output. It extends from Torrance to Seal Beach, and has produced close to 3 billion barrels of oil since its discovery in 1932. In 1964, it became the first oil field in California to produce a billion barrels, the second one to have done so at that time in the nation. Of the 6,150 wells drilled into the field, 1,300 remain active. By most estimates, it is 90% depleted.

The rapid extraction of oil from the field led to one of the most dramatic occurrences of ground subsidence in the country. By the 1940s, after only a decade of oil production, the land level was dropping to the extent that buildings and roads cracked, oil well casings and pipelines sheared, and portions of the port flooded. Subsidence reached its peak in the early 1950’s, when the ground dropped by four feet in just two years. At the lowest point, the bottom of the subsidence bowl, the land was 26 feet lower than it had been before oil production began. A program to inject water into the wells commenced, and by 1967 sinking was arrested, and partially reversed. Today the network of water injection wells operates continuously, returning 105% of the liquid volume extracted from the field, a process that will have to continue long after the oil is gone.

The majority of oil extracted from the Wilmington Field is pulled from the offshore portions of the field, from four artificial islands built in 1964. The islands are operated by the THUMS Long Beach Company, named for the original field contractors: Texaco, Humble, Union, Mobil and Shell. The islands are named after the first four astronauts to die in the Apollo Program: Grissom, White, Chaffee, and Freeman. Each island is ten acres in size and has a ring of between 200 and 300 wells, serviced by a movable rig. The two islands closest to shore have features that hide the industrial operations, and deflect its noise. These camouflaged features, which include lighted waterfalls and a building-like enclosure around the derrick, were designed by the architect Joseph Linesch, who also designed theme parks for Disney. THUMS is now owned by local oil conglomerate Occidental Petroleum.