

WARREN BOOTH WELL 8

Year Drilled:	1991
Depth:	600 feet
Gallons per minute:	2,000
Area of well site:	7,000 square feet
Type of engine:	Well powered by a 300 hp. electric motor



History of Well 8

Well 8 was named in honor of Warren Booth, who served as a Director of the Mesa Consolidated Water District (Mesa). Warren Booth subsequently was elected and re-elected Director for several terms until his retirement on November 27, 1987.

Well 8 experienced colored water intrusion. In 2000, areas of intrusion were successfully sealed by grouting. Approximately 10-20 percent of production was lost.

When well 8 was constructed, observation wells (MW-8A & 8B) were also installed. These observation wells provide water level data. This data helps in developing an understanding of the differing hydraulic pressures between the deep and shallow aquifers.

Colored Water

In 1977 when Mesa drilled Well 4, amber colored water was encountered. This type of water is found in deep aquifers ranging from 600 to 1,200 feet. The water is high in quality and is the color of tea, smells like sulfur or rotten eggs, and is slightly warmer than average water. The color and odor are caused by natural organic material from ancient redwood forests. The amber colored water is extremely soft, high in quality, and is superior to imported water.

In 1986, Well 4 was temporarily capped until further research could provide analysis for Mesa's Colored Water Treatment Facility.

Mesa is a pioneer in the use of ozone for the treatment of "colored water" which removes all traces of color and odor. Mesa is among a few in the nation using this progressive technology.

State-of-the Art Facility

Mesa's Colored Water Treatment Facility is located on more than two acres of land in Costa Mesa. The facility treats five million gallons of amber colored water per day via two wells. Mesa is the first water purveyor in Orange County to treat and distribute colored water to the community. Mesa's facility is a model for area water agencies that are exploring colored water resources.

Long-range Planning

In 1986, Mesa introduced a new Master Plan designed to meet the long-term growing needs of its customers. The plan defined ways to improve water delivery systems, create additional local storage facilities, and develop new sources of water. In 1990, the Master Plan was updated with a primary focus to "drought-proof" the service area. This is accomplished by developing additional supplies of local groundwater, reducing reliance on imported water.

Increasing the use of well water provides operational flexibility and local control that enables Mesa to minimize the use of imported water. Well water is higher in quality, and lower in cost than imported water. Mesa is fortunate to have access to such a reliable low-cost source of water.

Source of Water

Mesa's primary source of water is groundwater. Mesa strives to provide its customers with as much groundwater as possible, which is pumped from Orange County's natural groundwater basin or aquifer via nine wells. The groundwater basin stretches 350 square miles from the Orange County line at Seal Beach and Long Beach, along the coast, down to the 55 freeway and east to Yorba Linda.

Backup for Mesa's well water is imported water, which comes from the Colorado River. It flows through aqueducts to the Robert B. Diemer Filtration Plant in Yorba Linda. Imported water is more costly than groundwater because of transportation and treatment costs.

Currently Mesa owns and operates two reservoirs, which have the combined capacity to store more than 28 million-gallons of water.

Groundwater Basin

Groundwater in Orange County occurs in horizontal layers of water-bearing sand, gravel or broken rock and not in underground lakes or streams. These formations, called aquifers, are separated by layers of non-water bearing materials, and make up the groundwater basin. The Orange County Water District manages the local area groundwater basin and utilizes advanced techniques for helping nature recharge the groundwater basin.

The Santa Ana River is the main contributor to the groundwater supply. Water from the Santa Ana River reaches the aquifers through a number of routes. It infiltrates the soil on the earth's surface as rainfall, or percolates through the gravel of streambeds or unlined ditches. Water is also placed in the ground artificially, through man-made percolation ponds or injection wells.

Service Area

Mesa provides water service to more than 100,000 customers in an 18-square mile area including the City of Costa Mesa, parts of Newport Beach and unincorporated Orange County, including the John Wayne Airport.