

DOCKUM AQUIFER

The Dockum Aquifer is the deepest source of usable groundwater in our region. Water from this aquifer is used in the northern portions of the High Plains Water District service area where the Total Dissolved Solids (TDS) are less than 1,000 milligrams per liter (mg/L). This better quality water is used for crop and livestock production, and some municipalities use it as a blending source in their water supplies.

[Depth to Base]
314-1952 ft

[Avg. Saturated Thickness]
390 ft

[Active Wells]
345

[Well Yield]
40-1100 gpm

Water Levels

As Ogallala Aquifer water levels decline, more landowners are expressing interest in water quality and quantity of the Dockum Aquifer within the 16-county HPWD service area. The HPWD Board of Directors authorized a Dockum Aquifer study to learn more about this groundwater resource in 2015. Check out dockumstudy.hpwd.org to view well logs, water level information and more!

Water Quality

Water quality in this formation varies greatly. In the deeper portions of this aquifer, water is extremely brackish, with Total Dissolved Solids (TDS) exceeding that of sea water. In shallower areas, TDS can be less than 1,000 mg/L, which makes the water suitable for crop production or blending in municipal water supplies.

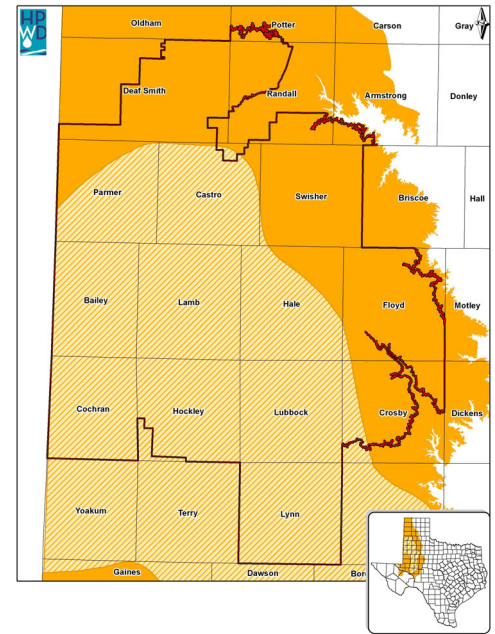
Recharge




Recharge occurs through precipitation in areas where this aquifer is exposed to the land surface in the eastern and southern edges of this aquifer. The confined portions of the aquifer may also receive a little additional recharge from other aquifers lying above the Dockum.

To view the depth to this formation and thickness in your area of interest, visit map.hpwd.org and use the Aquifer Tool for a virtual bore hole view of the aquifers at your area of interest.

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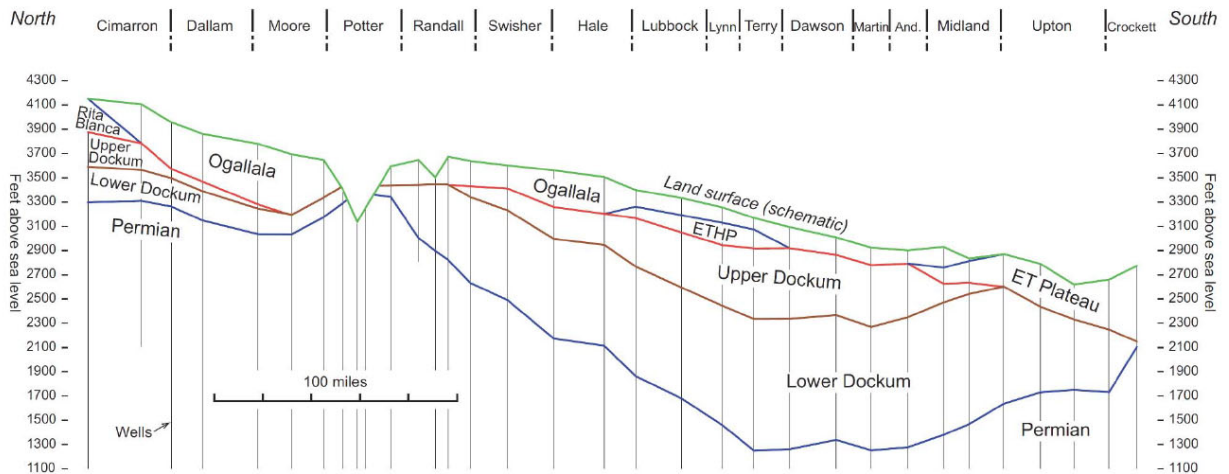
Portions of the Dockum Aquifer are too high in TDS to use in municipal or agricultural water systems. Generally, the water in the northern and most eastern portions of the district may be suitable for irrigation and drinking water without treatment. A test well in Lubbock County, drilled to a depth of 1,730 feet, produced water that was as salty as seawater.



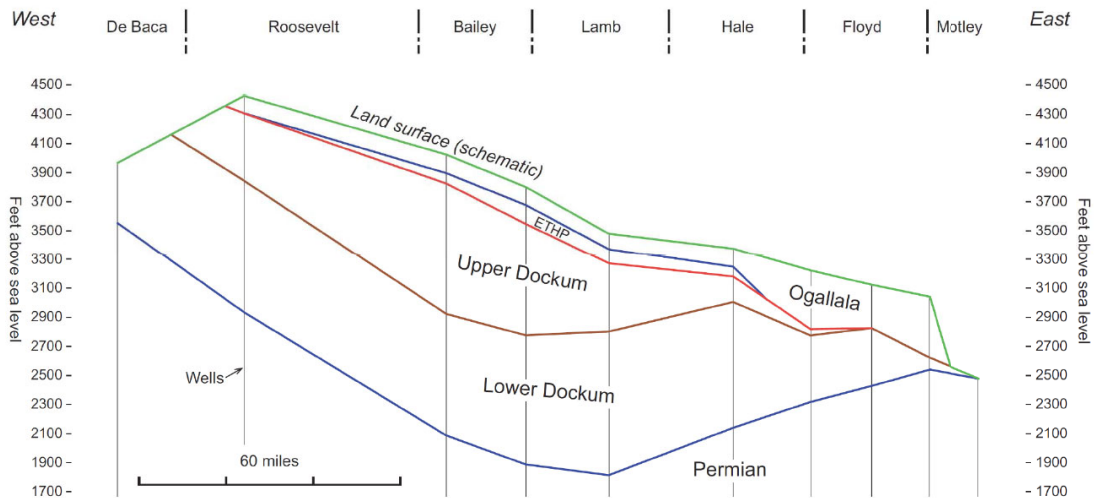
-  HPWD Boundary
-  Dockum Aquifer (Less than 5,000 TDS)
-  Dockum Aquifer (Greater than 5,000 TDS)

Cross Section of Local Aquifers

North-South regional cross section for the High Plains Aquifer System



East-West regional cross section for the High Plains Aquifer System



Source: High Plains Aquifer System Report, April 2015

The information on this fact sheet originates from data collected within the High Plains Water District and additional facts compiled from the Texas Water Development Board and U.S. Geological Survey reports.