

West Texas Bolsons



West Texas Bolsons Aquifer

In the western part of the Trans-Pecos region of Texas, several deep basins filled with erosional material of Quaternary age, contain significant quantities of ground water. These filled basins, or bolsons, are the Red Light Draw, Eagle Flat, Green River Valley, Presidio-Redford, and Salt Basin. The Salt Basin can be subdivided into the Wild Horse, Michigan, Lobo, and Ryan flats. The upper part of the Salt Basin extending north of Wild Horse Flat contains ground water with dissolved solids well in excess of 3,000 mg/l and is, therefore, not included as part of the designated aquifer. These bolsons provide variable amounts of water mainly for irrigation and municipal water supplies in parts of Culberson, Hudspeth, Jeff Davis, and Presidio counties. The communities of Presidio, Sierra Blanca, Valentine, and Van Horn use these aquifers for municipal water supplies.

Bolson deposits in each of these basins differ according to the type of rock material that was eroded from the adjacent uplands and the manner in which this material was deposited. Sediments range from coarse-grained volcanics and limestones redeposited as alluvial fans to fine-grained silt and clay lake deposits. Yields of some wells exceed 3,000 gal/min, but most wells produce less than 1,000 gal/min. Water quality differs from basin to basin, ranging from fresh to slightly saline. Recharge is minimal in this region due to low annual rainfall and high evaporation rates.

References

- Gates, J.S., White, D.E., Stanley, W.D., and Ackermann, H.D., 1980, Availability of fresh and slightly saline ground water in the basins of westernmost Texas: TDWR Rept. 256, 108 p.
- White, D.E., Gates, J.S., Smith, J.T., and Fry, B.J., 1980, Ground-water data for the Salt Basin, Eagle Flat, Red Light Draw, Green River Valley, and Presidio Bolson in westernmost Texas: TDWR Rept. 259, 97 p.