How Were the Uranium Deposits in South Texas Created ?

During the Tertiary period (1.6 – 65 million years ago), extensive volcanic activity in northern Mexico and West Texas resulted in the eruption of volcanic ash, which was deposited throughout the Gulf of Mexico region. Much of this ash was incorporated into sediments deposited in what is now south Texas. Oxidizing rainfall on ash-rich layers leached uranium and other elements from the ash into the groundwater. Alternatively, groundwater moving through these sediments over time dissolved uranium from buried ash. As this oxidized groundwater traveled through the aquifer, it eventually encountered chemically-reducing conditions that caused the uranium to precipitate from the groundwater into the aquifer material. Over time, the amount of precipitated uranium increased, creating these uranium deposits in groundwater-bearing geologic units, although some of the uranium originally mined was above the water table.

References:

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- TCEQ Regulations for Class III Wells, http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=331&sch=E&rl=Y
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- Texas Department of Water Resources, Report 291, Underground Injection Operations in Texas – A Classification and Assessment of Underground Injection Activities, 1984, http://www.twdb.texas.gov/publications/reports/numbered_reports/doc/R291/R291A.pdf

For additional Frequently Asked Questions (FAQs) related to groundwater quantity, groundwater quality, septic systems, water wells, administrative entities, and publications, visit the Texas Groundwater Protection Committee's FAQ webpage at http://tgpc.state.tx.us/frequently-asked-questions-faqs/.