State of Texas
Major subdivisions and boundaries of the Permian Basin in west Texas and southeast New Mexico.
The Permian Basin

- Permian Basin has over 560 drilling rigs operating (9-12-14)
- Permian Basin Production is over 1.6 mbopd
- Expected Well life is over 30 years
- Some companies have over 30 years of drilling inventory.
Flat Pipe 660 ft. Joints installs in 1/10 time regular pipe
Flat Pipe Connection with Victaulic Coupling
Lines are drained by pumping a rubber pig through the line with compressed air.
Grain Bins Water Storage
Capacity 30,000 barrels
Grain Bin with bird netting 2-40 mil liners and leak detection
Earth pit to be lined with 2-40 mil plastic liners and leak detection installed
Pit Cover to reduce evaporation
500,000 barrel Pit with Grain Bins
Start to finish! Drilling rig to Pumping Unit
The old and the new: Wind Mill & Grain Bins
Benefits

- Water reuse from this type system saved over 3.5 million barrels of fresh water in 2013.
- The reuse took over 58,000 trucks loads of water off the public roads. 29,000 Trucks with Fresh to the field and 29,000 Trucks to disposal.
- Eliminated need for one disposal well
Non Fresh use

- Companies are making contracts with municipalities for treated effluent to be used in hydraulic fracturing.

- This amounts to 15 to 20 million gallons per day to replace fresh water.

- Other companies are using produced water and brackish ground water to replace fresh water.

- Companies in the Permian Basin are dedicated to the conservation of our Fresh Water.
Municipal Water Supply

- Colorado River Municipal Water District
- Member Cities: Odessa, Big Spring and Snyder
- Customer Cities: Abilene, San Angelo and Midland
- Three reservoirs: Lake Ivie, Lake Spence and Lake Thomas – Total Capacity 1.271 million acre feet – Current total volume 200,000 acre feet.
- Ward County Well Field – capacity 45 MGD ground water
- District operates over 600 miles of pipelines
- District covers 31 counties
Big Spring Raw Water Production Facility Building
1.8 mgd clean water from treated effluent
Lake Ivie at Dam 18% Full – Pumps water to Midland-Odessa 170 miles and vertically lifts 1400ft.
Ivie Intake Pumps approximately 50 mgd to San Angelo, Midland, Odessa
Lake Spence at Dam 2.9% full
Lake Spence Intake
Big Spring Odessa Intake at Lake Thomas 9-15-14
Lake Thomas Big Spring-Odessa intake 9-23-14
Big Spring – Odessa Pump Station Front View 9-30-14
Lake Thomas Spill way 1.4% full 9-15-14
*47% full 9-30-14 (94,232 acre feet)
The Future

- Two years ago the oil and gas industry could use 80,000 ppm tds. Now they are using in excess of 300,000 ppm tds.

- When the smart folks with resources have the opportunity, they will get the problem solved!