

## Outline for Permanent Rules Discussion with County Commissioners

- UTGCD currently operates under Temporary Rules
- Two major proposed changes from current Temporary Rules – permitting and tract size requirements.
  - **Permitting** – Applies to non-exempt wells only (Public Water Supply, O&G, and Commercial), make up about 10% of total registered wells – Figure A
    - **Historic Use Permit:**
      - Applies to wells that are currently in operation.
      - Based on maximum historic use of wells within a system
    - **Operating Permit**
      - Applies to future wells.
      - Based on an allocation of GW related to the acreage owned or controlled by the permittee. For PWS, use acreage of service area (CCN). – Figure B
  - **Tract Size Requirement**
    - **Currently 2 acres for any new well.**
      - More wells drilled in UTGCD than in any other GCD – see Figure C.
        - When 2 acre requirement was adopted, the District was unaware of the number of wells that were being drilled or that developers would trend towards wells at every lot in lieu of PWS.
        - Models and real world data indicate this may not be sustainable. – Deer Ridge Example
    - **Contemplating transitioning to science based tract size requirement.**
      - Well defined process for developers to request smaller tract sizes
        - On-site Groundwater study developed and completed by Professional Geologist or Professional Engineer – minimum of 1 pumping well and 1 monitoring well
        - Submit results to the UTGCD for the District’s Professional Geologist to make tract size recommendation.
      - Maintain consistency with surface acreage based allocation for Operating Permits.
      - Exempt use is largest use of GW in the District – see Figure D

**Figure A – Registered Wells by Exemption Status - as of 7/31/2018 (likely represents ~25% of actual exempt wells, and ~95%+ of actual non-exempt wells)**

County	Number of Registered Wells		TOTAL
	Exempt	Non-Exempt	
ROCK	774	319	
PAWNEE	4,900	352	
WYOMING	2,740	261	
MONTAGUE	1,709	145	
<b>TOTAL</b>	<b>10,123</b>	<b>1,077</b>	<b>11,196</b>

**Figure B – Montague County Groundwater Allocation (for the Trinity) based on MAG/acre**

County	Acreage	ACFT**	ACFT/Acre	Gallons/Acre
MONTAGUE	140,514	3,878	0.0276	9,070

\*The total amount of land covering the Trinity Aquifer

\*\*MAG is expressed in Acre-Feet (ACFT), 1 ACFT is equal to 325,851 gallons

- **MAG (Modeled Available Groundwater)**, represents the amount of water that can safely be pumped out of the aquifer each year and not breach the adopted “Desired Future Condition” (DFC) threshold.
- The DFC is a management goal, adopted by the UTGCD through a state mandated process, which is expressed as a physical condition of the aquifer at the end of a 50 year planning period.
- The DFC for Montague County is: no more than 18 ft. of water level decline in the Trinity aquifer (Antlers)

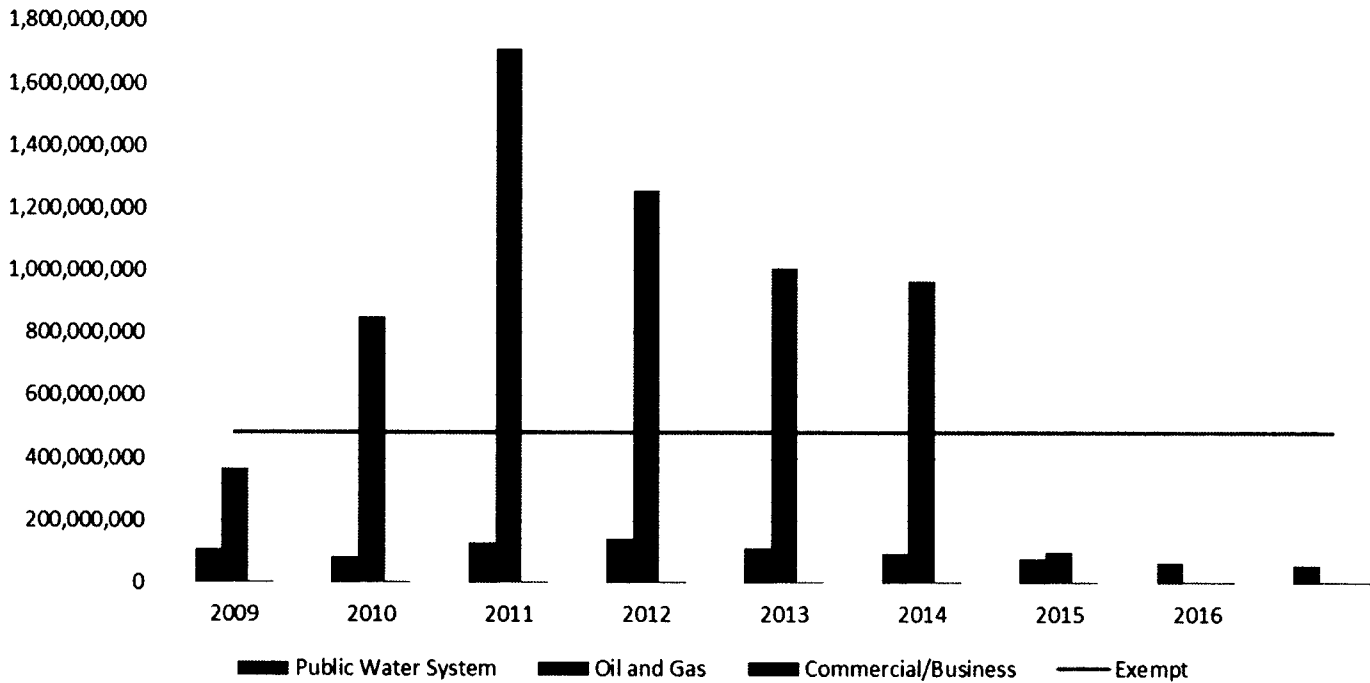
**Figure C – New Well Applications Processed by the District in 2017**

5	37	29	8
6	47	29	7
6	61	47	9
6	52	27	7
9	55	23	9
10	91	49	22

**Figure D – Water Use in Montague County**

\*Exempt use based on Data from the Texas Water Development Board

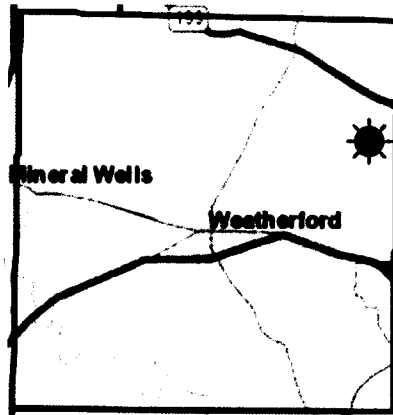
	2009	2010	2011	2012	2013	2014	2015	2016	2017
Public Water System	107,872,730	84,557,880	128,749,130	142,507,748	114,980,020	97,244,815	81,605,118	66,364,379	59,192,448
Oil and Gas	366,714,528	851,730,235	1,713,191,572	1,259,956,606	1,011,429,778	967,943,532	99,653,792	833,284	1,885,710
Commercial/Business	763,140	922,010	977,930	871,330	1,040,713	3,442,057	2,310,400	1,803,566	1,339,900
Exempt	483,237,033	483,237,033	483,237,033	483,237,033	483,237,033	483,237,033	483,237,033	483,237,033	483,237,033



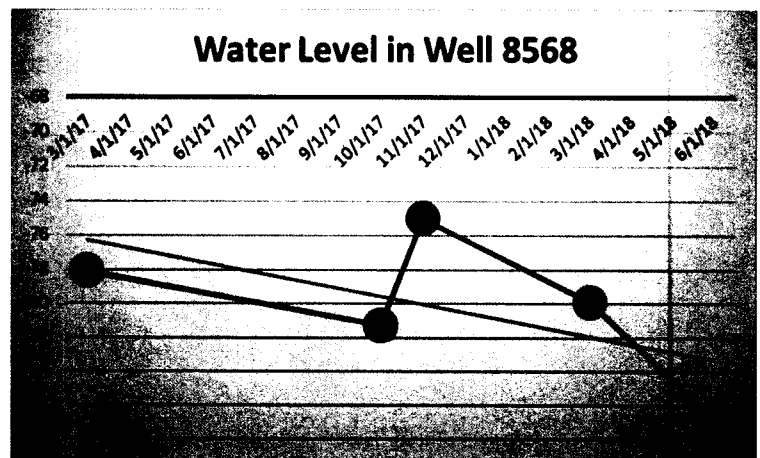
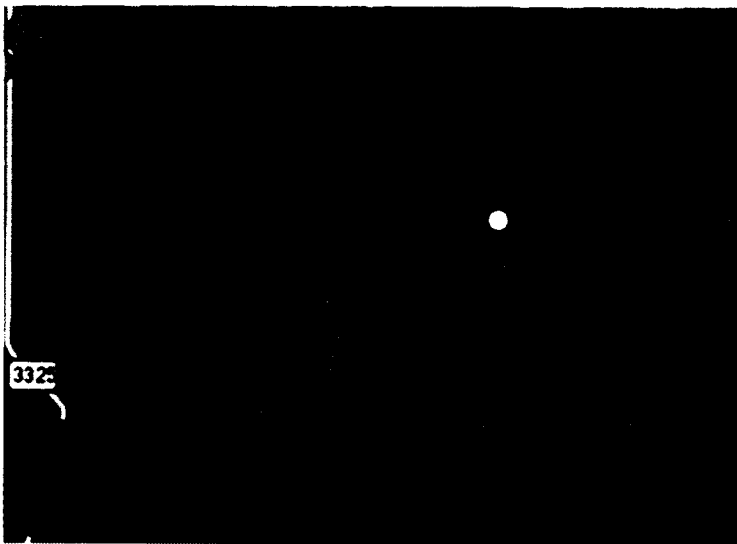
Exempt use is developed by the Texas Water Development Board, with help from UTGCD, considering the following information:

- Domestic:
  - Population of Montague County not served by a PWS with consideration to the average gallons of water used per person per day in the County for both known wells and an estimate of unknown wells.
  - Reported irrigated acreage (from Farm Service Agency) and an estimate of inches applied per acre.
  - Estimate of livestock water use based on animal counts (Texas Ag Statistics Service) with consideration to the gallons consumed per day (Texas A&M), the TWDB estimates the amount of livestock water use attributed to surface water and groundwater. (Note: State currently does not allow calculations for water use by invasive specie like feral hogs which use an unknown, but probably significant amount of water.)

## Deer Ridge Estates – Northeast Parker County

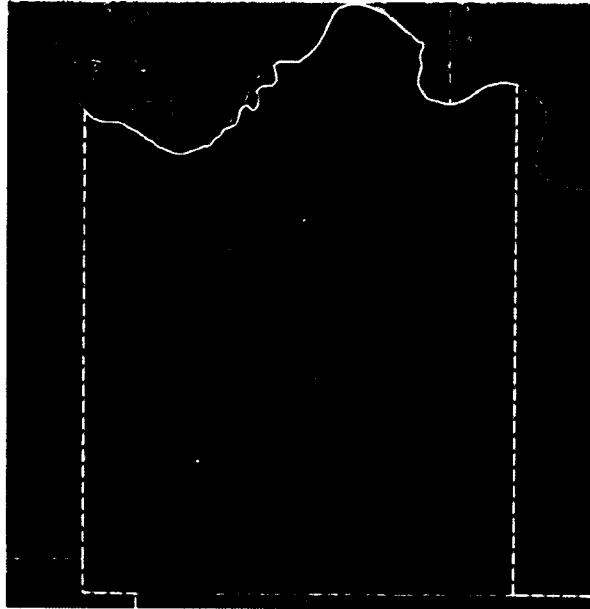


- Phase 1 was platted prior to the District's 2 acre requirement and is made up of 1 acre lots with a private well and septic at each lot.
- Phase 2-8 are made up of 2 acre lots with private wells and septic systems.
  - Developer approached District seeking exception to allow phases 2-8 to be 1 acre lots.
  - Developer hired engineer/geologist to prove-up the sustainability of 1 acre lots
    - Developer's consultant provided a report that stated:
      - 2 acre lots was the minimum sustainable lots size for private wells
      - Even with 2 acre lots, all outdoor watering should be from collected rainwater
        - Not a single rainwater collection system in the subdivision, all lots are irrigated with well water.

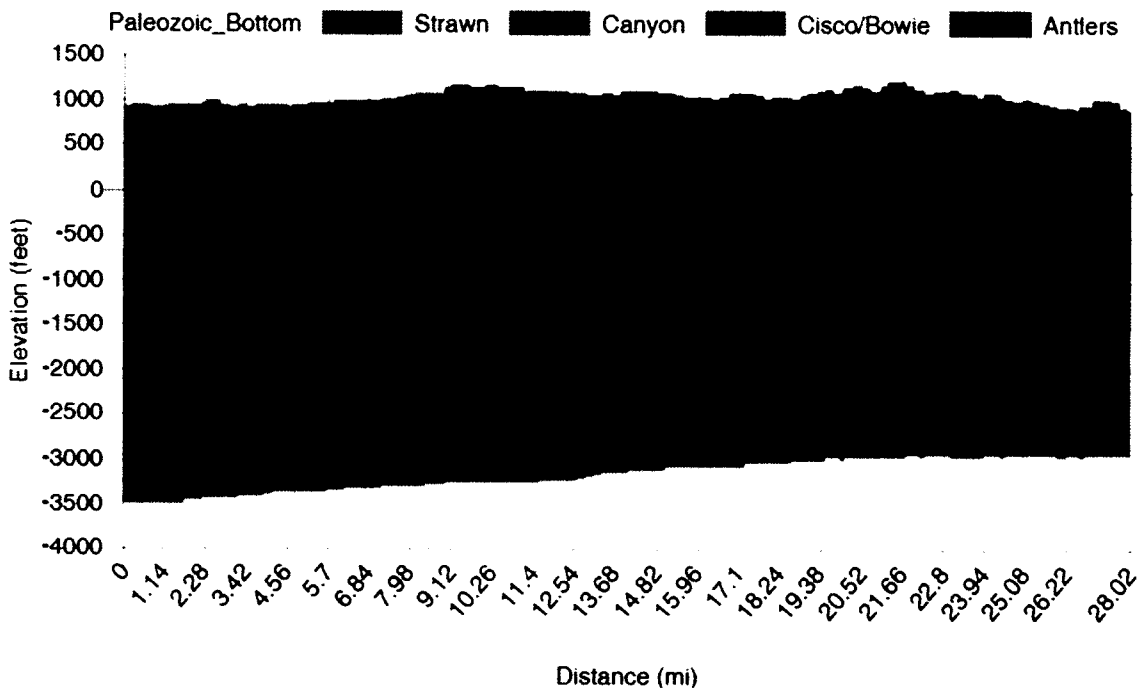


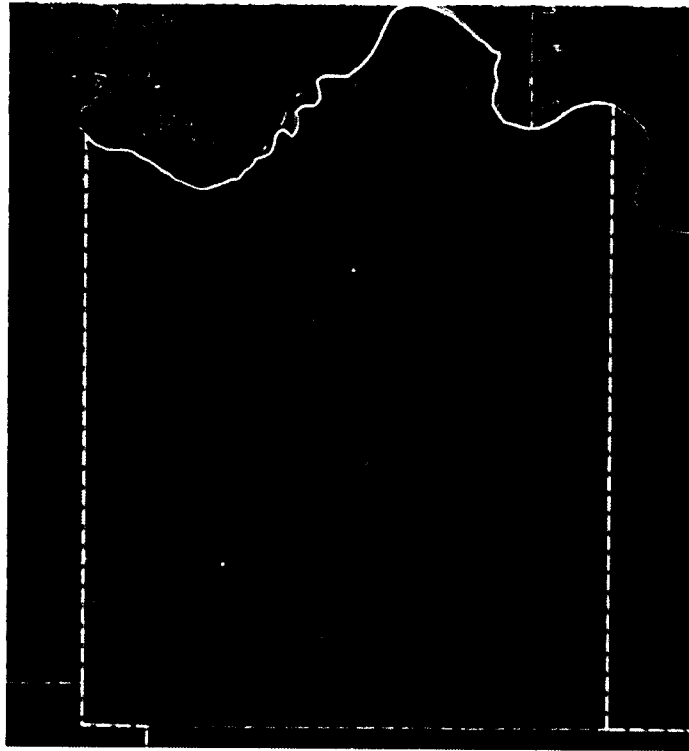
## Geologic Cross Sections of Montague County

\*The Trinity Aquifer is actually made up of five (5) geologic units: from top to bottom – Paluxy, Glen Rose, Hensell, Pearsal & Hosston (to the south and east, the Glen Rose (limestone) and Pearsal (clay) act as aquitards separating the water bearing formations. However, in Montague County all 5 units are predominantly made of sand and produce water with little to no hydrologic separation between the formations. Therefore, geologists group all 5 of the formations together and refer to them as the “Antlers”.



### Cross Section





# Cross Section

