THE UNIVERSITY OF TULSA
CESE
Continuing Education for Science & Engineering

26th International Petroleum Environmental Conference
October 7-9, 1029 – San Antonio, TX

Water Supply Permitting Hurdles to Remote Facility Operations

John Sullivan, P.G.

October 8, 2019

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Why do We Care

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Water is Important

Photo
NOT
Midland, Texas

Public Water System Permitting

Directly from the TCEQ

PWS includes “a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, which includes all uses described under the definition for drinking water. Such a system must have at least 15 service connections or serve at least 25 individuals at least 60 days out of the year. (30 TAC 290.38(71)

Public Water System Permitting

Directly from the TCEQ

Drinking water is "all water distributed by any agency or individual, public or private, for the purpose of human consumption or which may be used in the preparation of foods or beverages or for the cleaning of any utensil or article used in the course of preparation or consumption of food or beverages for human beings. The term 'drinking water' shall also include all water supplied for human consumption or used by any institution catering to the public." (30 TAC 290.38(23)

Public Water System Permitting

Directly from the TCEQ

And as we discussed yesterday, human consumption includes "uses by humans in which water can be ingested into or absorbed by the human body. Examples of these uses include, but are not limited to drinking, cooking, brushing teeth, washing hands, washing dishes, and preparing foods." (30 TAC 290.38(36))

Public Water System Permitting

Directly from the TCEQ

Even if they are providing bottled water for drinking water, if the remote facility meets the definition of a PWS they will be regulated as a PWS. So, in the scenario you present—a remote facility that has 25 or more non-transient people served (meaning they are providing the water in a way that meets the definition of human consumption)—yes, I think the TCEQ could require them to install a water treatment system.


Culligan


Culligan

Remote Facilities

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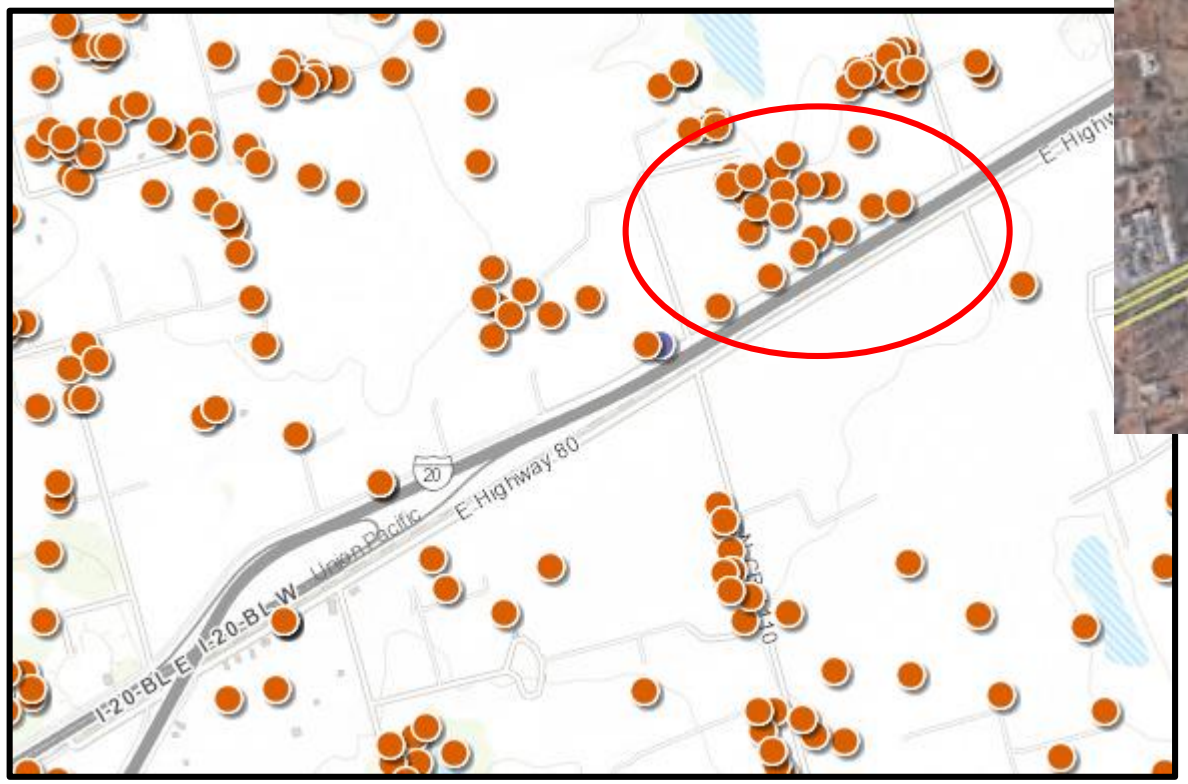
Remote Facilities



Remote Facilities

Public Water System Permitting


WA
OR
CA
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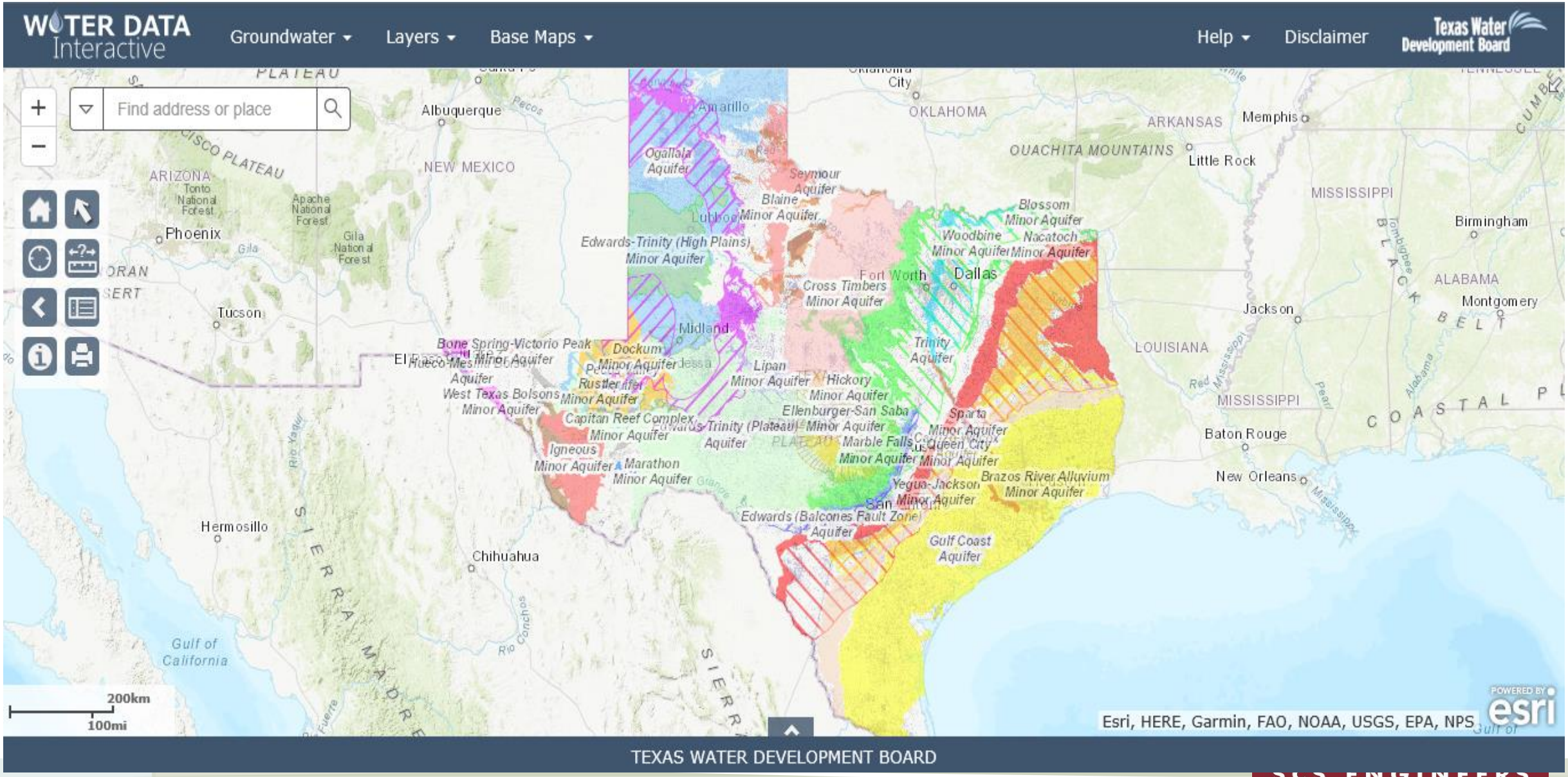
AQUIFER
USGS
science for a changing world


WATER DATA Interactive
Groundwater
Layers
Base Maps
Help
Disclaimer
Texas Water Development Board
Find address or place
Albuquerque
Amarillo
Oklahoma City
OKLAHOMA
ARKANSAS
Memphis
Little Rock
OUACHITA MOUNTAINS
MISSISSIPPI
Birmingham
ALABAMA
Montgomery
NEW MEXICO
ARIZONA
Phoenix
Tucson
Apache National Forest
Gila National Forest
Tonto National Forest
Ogallala Aquifer
Seymour Aquifer
Blaine Minor Aquifer
Lubbock
Edwards-Trinity (High Plains) Minor Aquifer
Blossom Minor Aquifer
Woodbine Minor Aquifer
Nacatoch Minor Aquifer
Fort Worth
Dallas
Cross Timbers Minor Aquifer
Midland
Jackson
LOUISIANA
Trinity Aquifer
Bone Spring-Victorio Peak Aquifer
Dockum Minor Aquifer
Lipan Minor Aquifer
Hickory Minor Aquifer
Rustler Aquifer
West Texas Bolsons Minor Aquifer
Capitan Reef Complex Minor Aquifer
Ellenburger-San Saba Minor Aquifer
Edwards-Trinity (Plateau) Aquifer
Sparta Minor Aquifer
Queen City Minor Aquifer
Marble Falls Minor Aquifer
Igneous Minor Aquifer
Marathon Minor Aquifer
Yegua-Jackson Minor Aquifer
Brazos River Alluvium Minor Aquifer
Baton Rouge
New Orleans
Edwards (Balcones Fault Zone) Aquifer
Gulf Coast Aquifer
Hermosillo
Chihuahua
Gulf of California
SIERRA MADRE
COASTAL PLAIN
200km
100mi
Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS
TEXAS WATER DEVELOPMENT BOARD

Regulatory Background

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Safe Drinking Water Act (SDWA)-1974

- Authorizes EPA to set national standards for drinking water to protect against health effects from exposure to naturally-occurring and man-made contaminants
- Drinking water standards only apply to public water systems (not individual private wells).
- EPA works with states, localities, and water suppliers.

EPA United States Environmental Protection Agency

Three Types of Public Water Systems

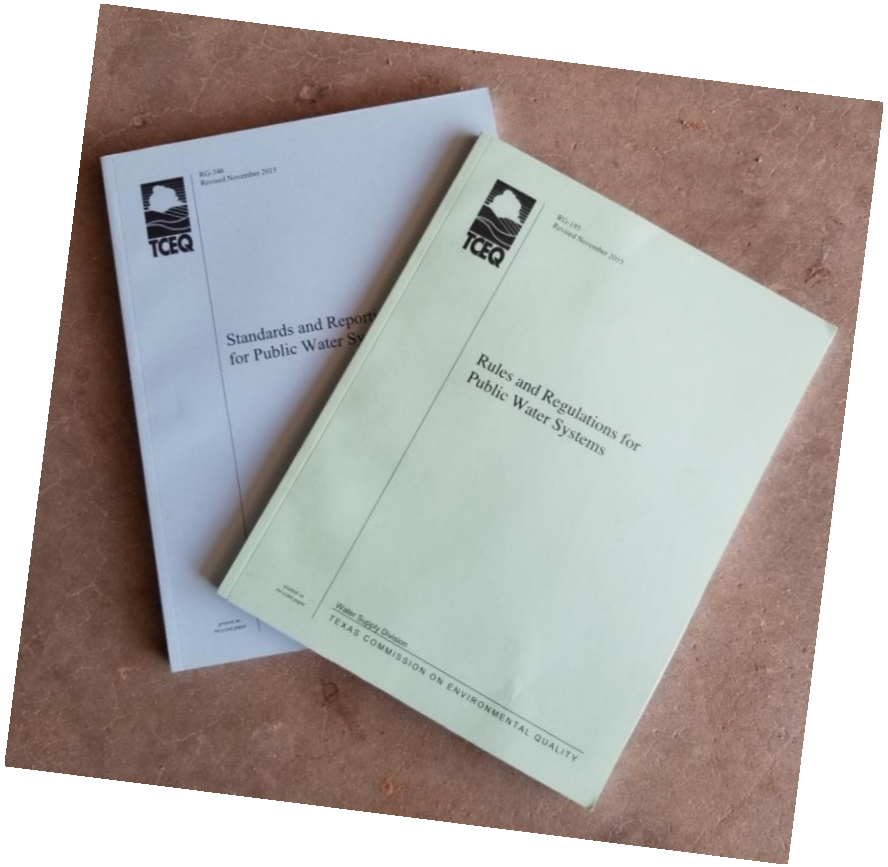
- **Community Water Systems (CWSs)**
  - Provide water to the same population year-round (for example: homes, apartment buildings)
  - Approximately 52,000 systems serving the majority of the U.S. population
- **Non-Transient Non-Community Water Systems (NTNCWSs)**
  - Provide water to same people at least six months a year, but not all year (for example: schools, factories, churches, office buildings that have their own water system)
  - Approximately 85,000 systems
- **Transient Non-Community Water System (TNCWS)**
  - Provide water where people do not remain for long periods of time (for example: gas stations, campgrounds)
  - Approximately 18,000 systems

United States Environmental Protection Agency

Rules and Regulations for Public Water Systems

The rules and regulations for public water systems are established by the TCEQ in Title 30 Texas Administrative Code Chapter 290

30 TAC 290.



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Other Rules That Apply to Public Water Systems

A public water system must comply with all the applicable requirements

- Requirements for water well drillers and pump installers

Texas Water Development Board

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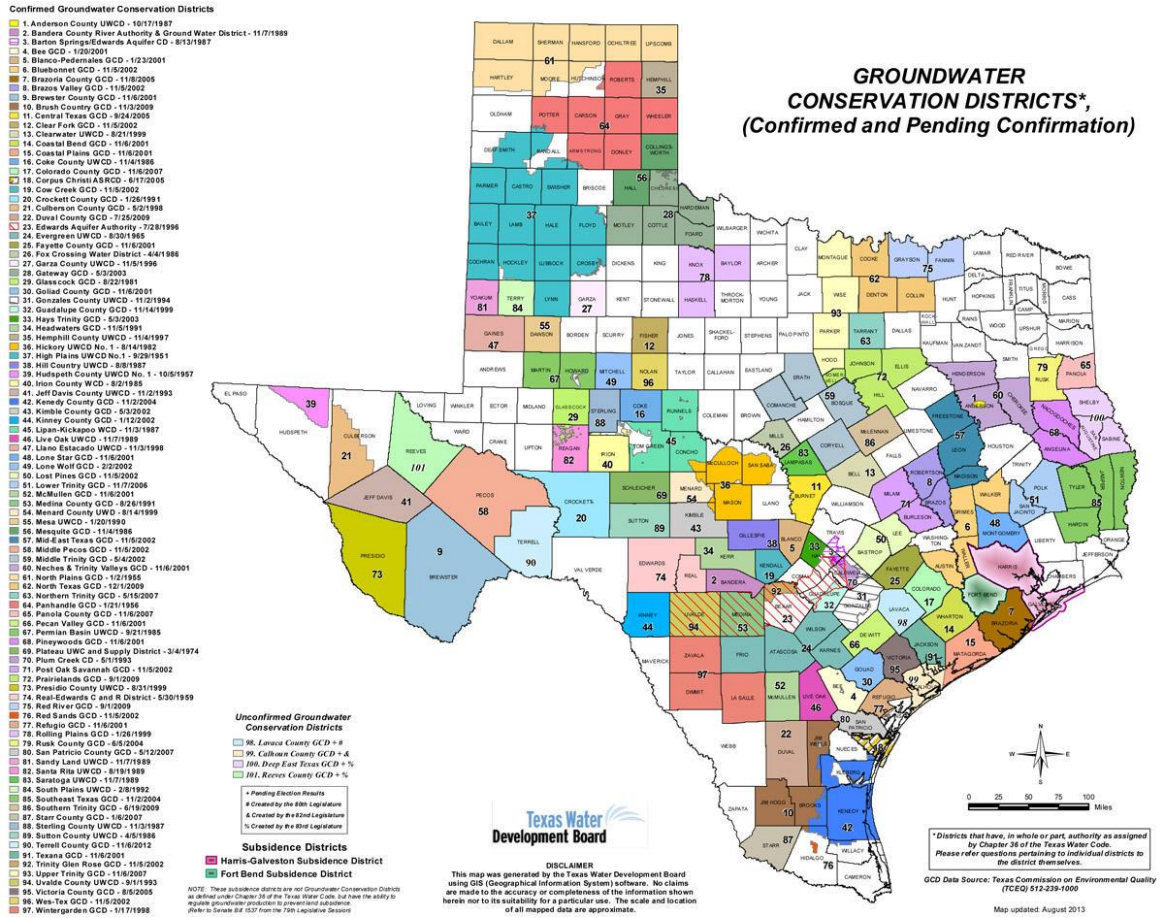
Other Rules That Apply to Public Water Systems

Groundwater Conservation Districts



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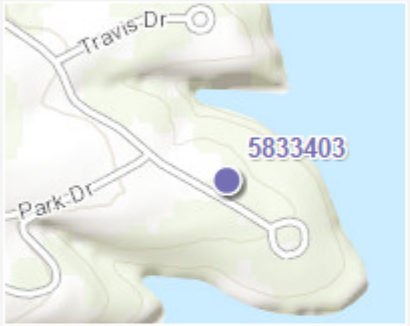
Drinking Water

Texas FLOOD Viewer

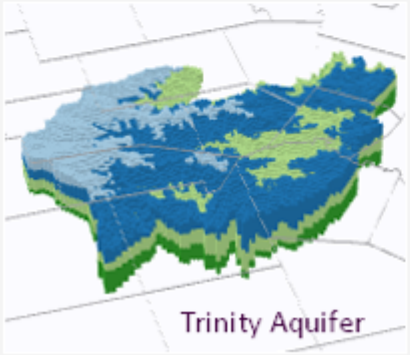
An interactive mapping application for viewing current conditions and up-to-date information for flooding in your area.



Groundwater Data Viewer

This interactive mapping application provides access to water-related data for Texas. The viewer contains several GIS datasets relating to water resources, including TWDB groundwater data, brackish groundwater

click to show more



Major Aquifer 3D Viewer

A three dimensional interactive viewer for exploring the major aquifers of Texas. After choosing an aquifer, users can choose to be re-directed to a 3D viewer that allows visual manipulation of the subsurface model. The

click to show more

Texas Water Development Board

WATER DATA Interactive

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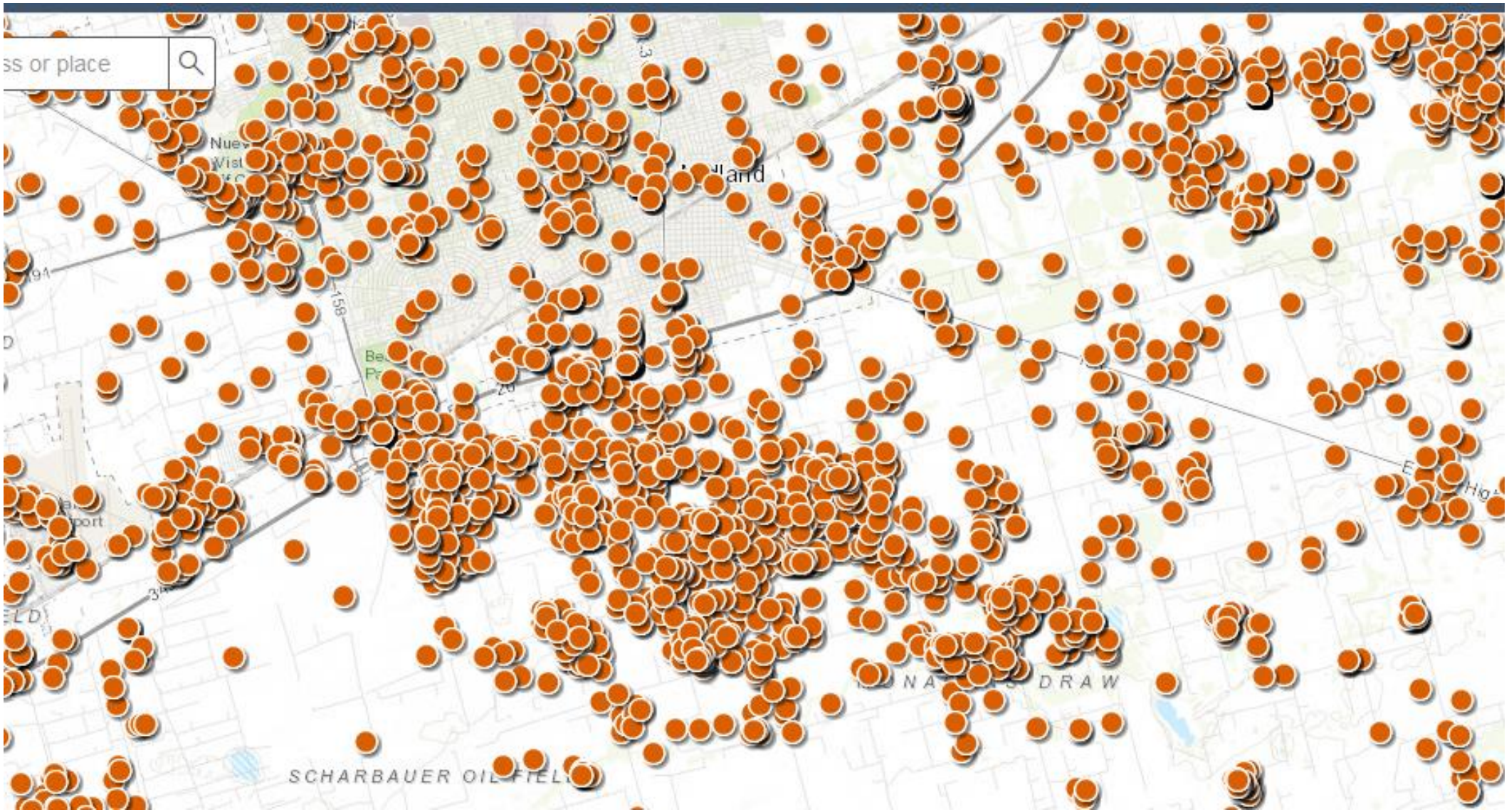
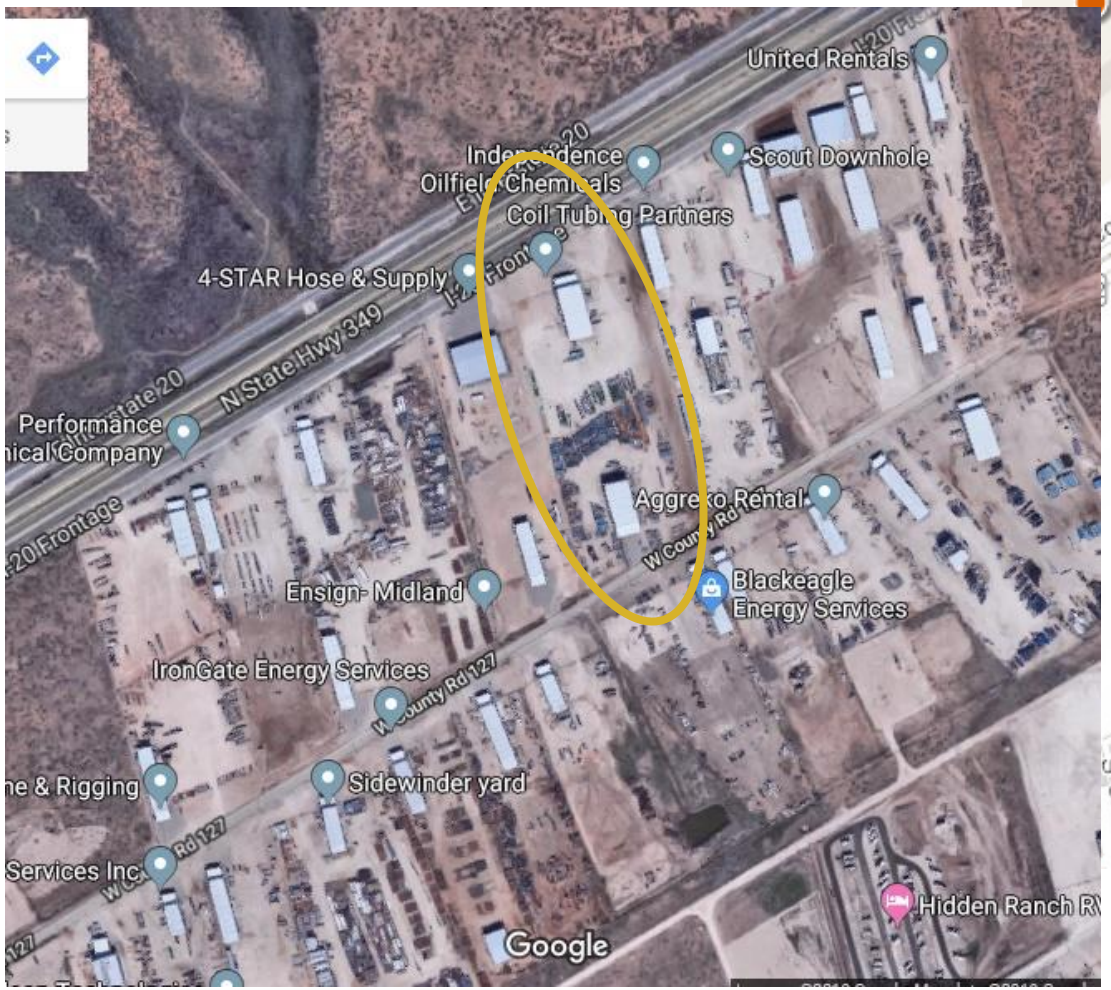
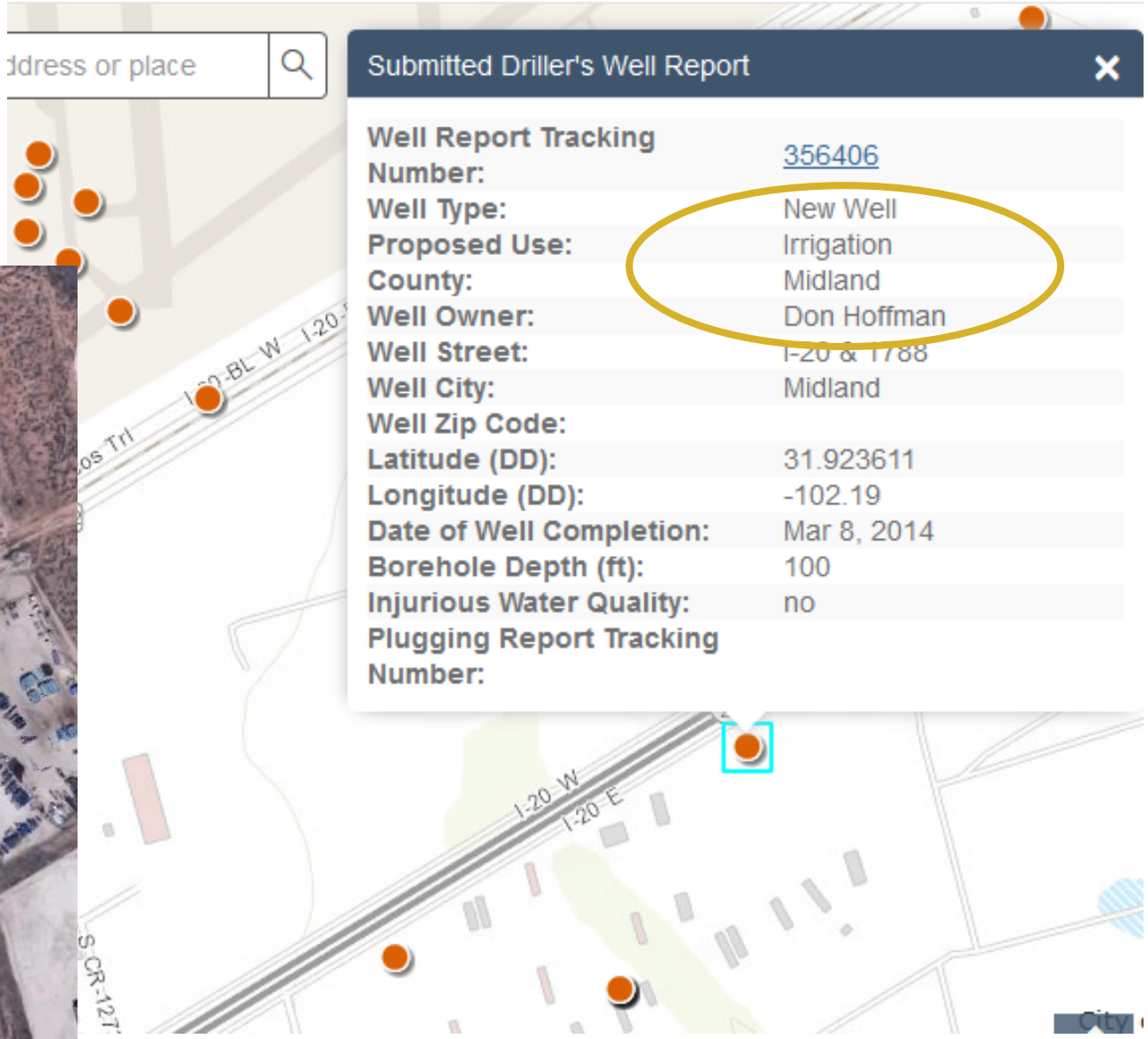
Drinking Water




United Rentals
Scout Downhole
Coil Tubing Partners
4-STAR Hose & Supply
N State Hwy 349
Performance
Aggreko Rental
Ensign- Midland
Blackeagle
Energy Services
IronGate Energy Services
Sidewinder yard
Services Inc
Hidden Ranch
Google


ddress or place
Submitted Driller's Well Report
Well Report Tracking Number: 356406
Well Type: New Well
Proposed Use: Irrigation
County: Midland
Well Owner: Don Hoffman
Well Street: I-20 & 1788
Well City: Midland
Well Zip Code:
Latitude (DD): 31.923611
Longitude (DD): -102.19
Date of Well Completion: Mar 8, 2014
Borehole Depth (ft): 100
Injurious Water Quality: no
Plugging Report Tracking Number:
I-20 W
I-20 E
S CR-127

Who enforces these rules?

The Texas Commission on Environmental Quality (TCEQ) is responsible for enforcing these rules in Texas.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Permitting Process

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Public Water System Permitting

Initial Submittal

TCEQ response/ approval

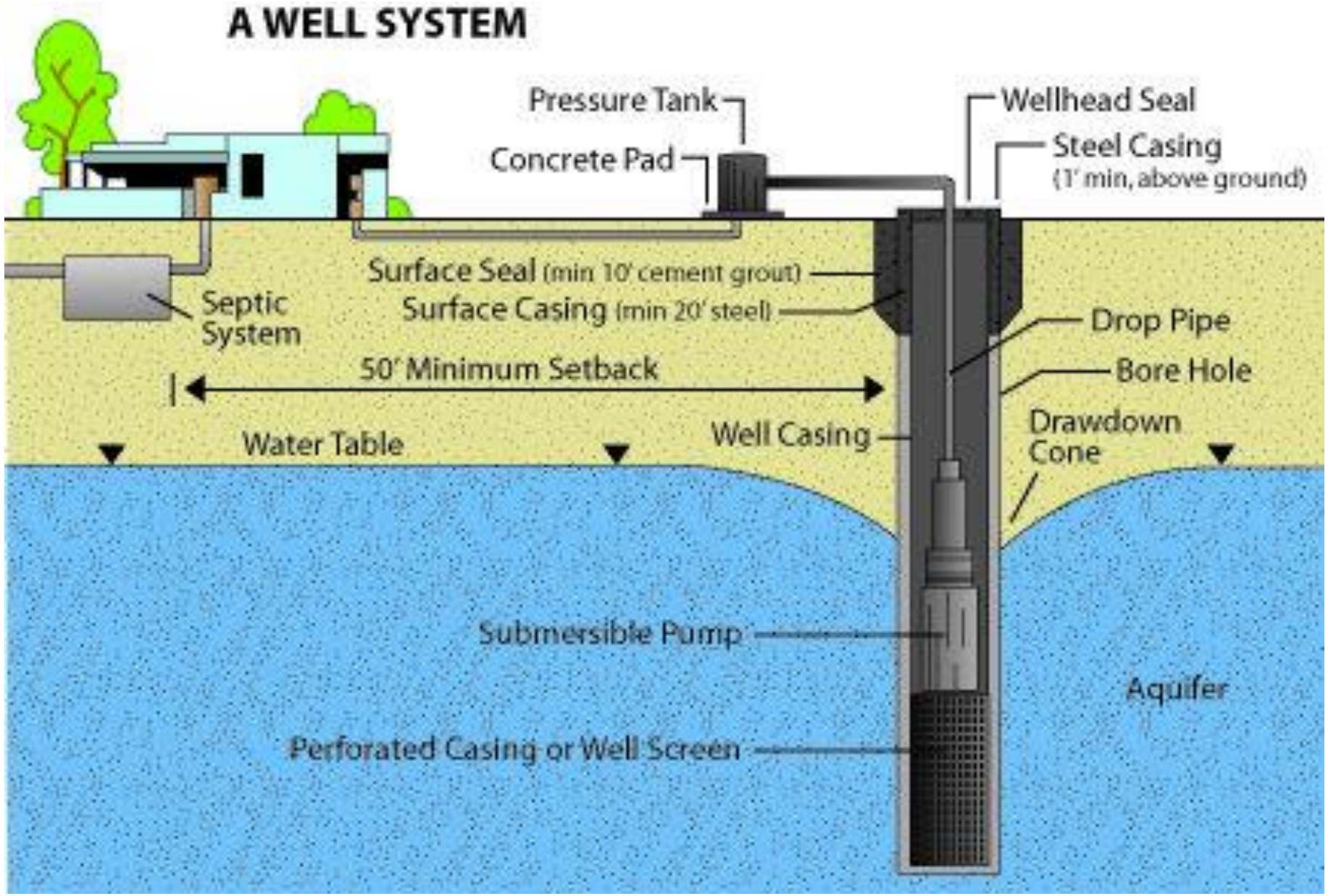
Final Submittal

TCEQ Approval to connect

How Do I Request an Exception?

For any request that is not an Alternative Capacity Requirement (ACR), please start by completing the **Exception Request Form**. If you are requesting an Alternative Capacity Requirement (ACR), please complete the **ACR specific form** instead. These forms help ensure that required information for our review gets submitted with your request, so it may be processed without unnecessary delays. Please submit the appropriate completed form along with a signed cover letter and supporting documentation. Read our **staff guidance documents for public water systems** for help with exception submittals. Additional assistance for common exception requests can be found in the following list:

1. Blending Chloramines Checklist / **PDF**
2. Day Tanks / **PDF**
3. Alternative Capacity Requirements / **PDF**
4. Sanitary Control Easement (SCE) / **PDF**
5. Ordinance in lieu of an SCE / **PDF**
6. Ordinance Form / **PDF**
7. Well Setback / **PDF**
8. Well Construction / **PDF**
9. Well Cementing / **PDF**
10. SOR/HDT Pilot Requirements Checklist / **PDF**
11. HLR Pilot Requirements Checklist / **PDF**
12. SCBA Checklist / **PDF**
13. **Membrane/Cartridge-Filter Challenge Studies for Installations & Replacements**
14. **Ultraviolet (UV) Disinfection Validation & Exception Approval**


A WELL SYSTEM
Pressure Tank
Concrete Pad
Wellhead Seal
Steel Casing
(1' min, above ground)
Surface Seal (min 10' cement grout)
Surface Casing (min 20' steel)
Septic System
50' Minimum Setback
Drop Pipe
Bore Hole
Water Table
Well Casing
Drawdown Cone
Submersible Pump
Aquifer
Perforated Casing or Well Screen

Public Water System Permitting

Drilling Start Date: **3/8/2014** Drilling End Date: **3/8/2014**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
7.875	**0**	**100**

Drilling Method: **Air Rotary**

Borehole Completion: **Filter Packed**

Filter Pack Intervals:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
0	**100**	**Gravel**	**Pea Size**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**10**	**5**

Seal Method: **Mixer**

Distance to Property Line (ft.): **No Data**

- Drinking Water

290.44 (i) Water Hauling

Water Rights Severance

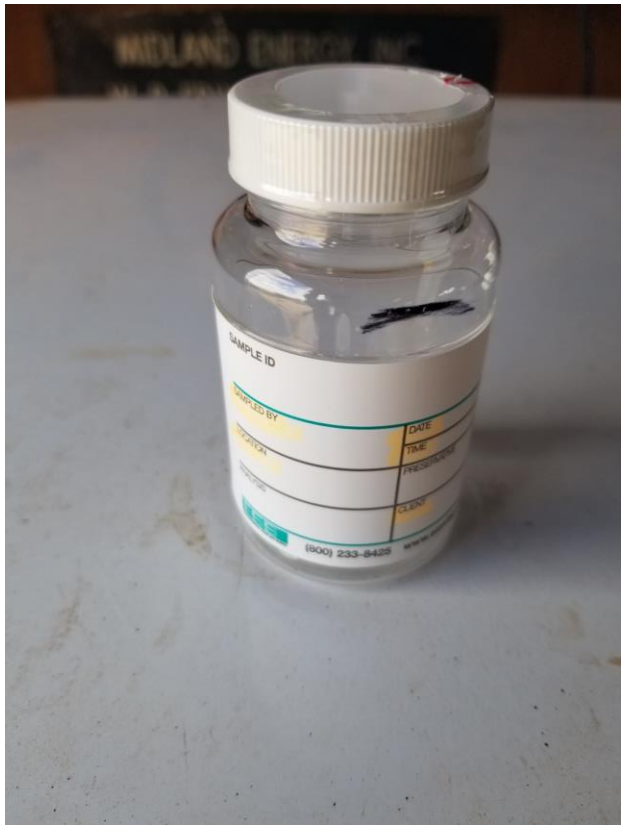
Submitted Driller's Well Report

Well Report Tracking Number:	488898
Well Type:	New Well
Proposed Use:	Rig Supply
County:	Ward
Well Owner:	MONAHANS WATER CO
Well Street:	NEAR STEEPL O ROAD
Well City:	MONAHANS
Well Zip Code:	
Latitude (DD):	31.557522
Longitude (DD):	-102.87855
Date of Well Completion:	Jul 10, 2018
Borehole Depth (ft):	210
Injurious Water Quality:	no
Plugging Report Tracking Number:	

Revised Total Coliform Rule (RTCR)

March 30, 2016.

- "find and fix"
- identify sanitary defects and then correct them.



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DOOOOOOH


That's all Folks!