



Railroad Commission of Texas Well Plugging Overview

Travis Baer, P.E.
October 2022



RRC Mission



Our mission is to serve Texas by our stewardship of natural resources and the environment, our concern for personal and community safety, and our support of enhanced development and economic vitality for the benefit of Texans.

Jurisdiction



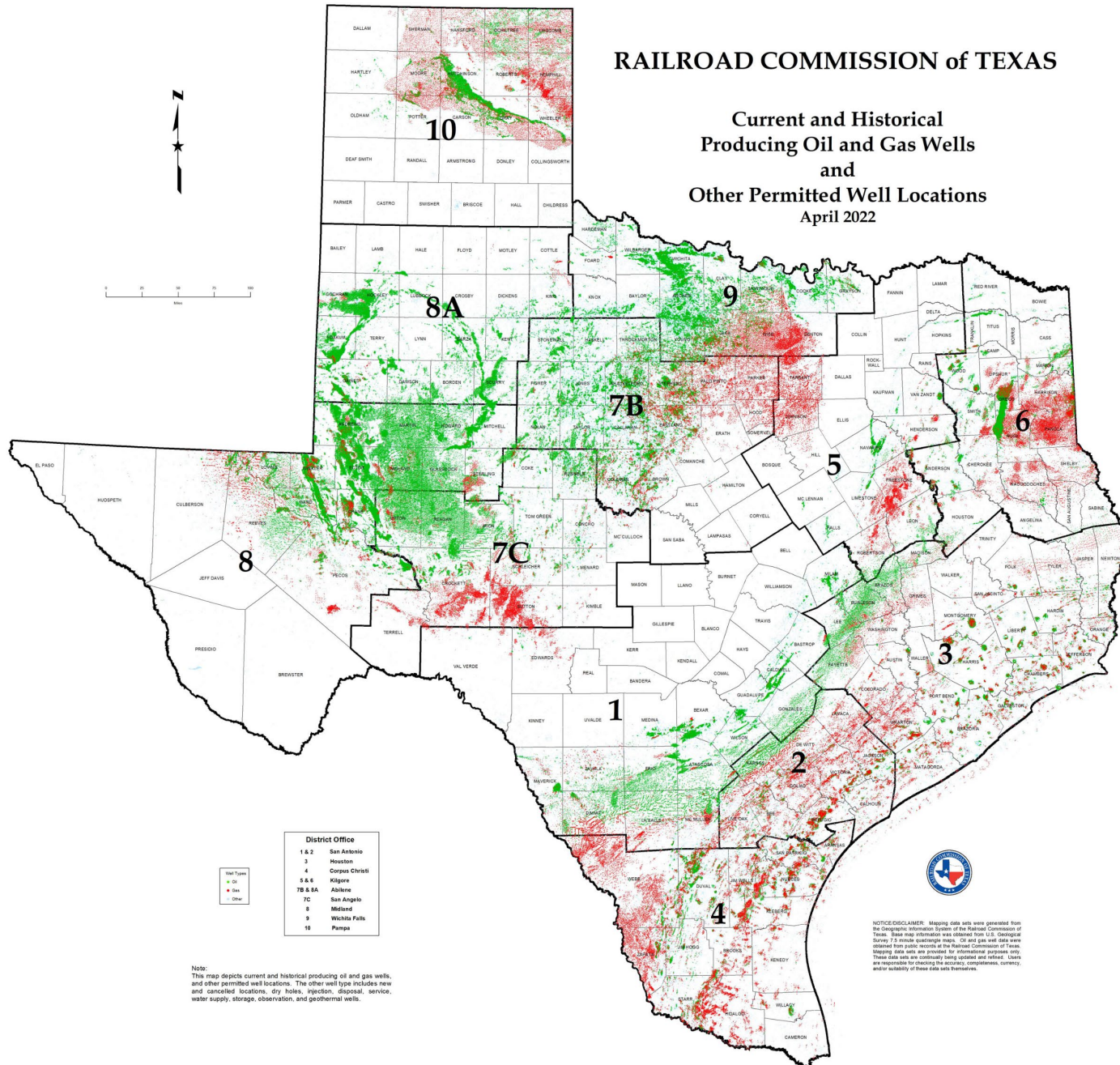
- Oil and natural gas exploration and production industry
- Intrastate pipeline safety, natural gas and hazardous liquid pipeline industry, pipeline damage prevention
- Liquefied Petroleum Gas (LPG), Compressed Natural Gas (CNG), and Liquefied Natural Gas (LNG)
- Natural gas utilities
- Coal and uranium surface mining operations

RRC's Regulatory Divisions



- Oil and Gas Division
- Oversight and Safety Division
- Surface Mining and Reclamation Division
- Critical Infrastructure Division

Producing Oil & Gas Wells and Other Permitted Well Locations



RAILROAD COMMISSION of TEXAS

Current and Historical
Producing Oil and Gas Wells
and
Other Permitted Well Locations
April 2022

District Office	
1 & 2	San Antonio
3	Houston
4	Corpus Christi
5 & 6	Kilgore
7B & 8A	Abilene
7C	San Angelo
8	Midland
9	White Falls
10	Pampa

Well Type	
● OI	Oil
● GI	Gas

Note:
This map depicts current and historical producing oil and gas wells, and other permitted well locations. The other well type includes new and cancelled locations, dry holes, injection, disposal, service, water supply, storage, observation, and geothermal wells.

NOTICE/DISCLAIMER: Mapping data sets were generated from the Geographic Information System of the Railroad Commission of Texas. Base map information was obtained from U.S. Geological Survey 7.5 minute topographic maps. Oil and gas well data were obtained from public records at the Railroad Commission of Texas. Mapping data sets are provided for informational purposes only. These data sets are continually being updated and revised. Users are responsible for checking the accuracy, completeness, currency, and/or suitability of these data sets themselves.

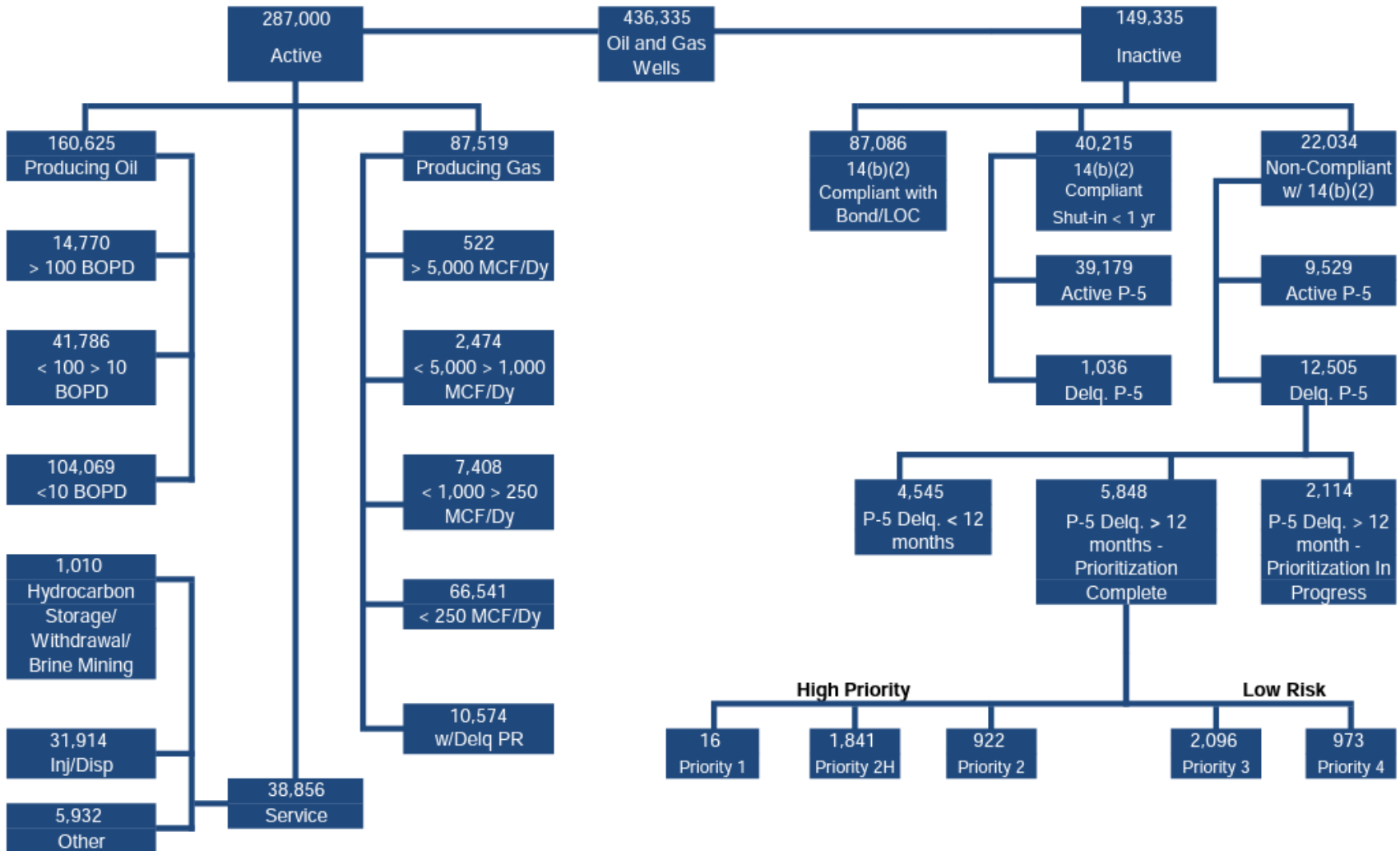


Oil and Gas Well Distribution



Wells Monitored by the Railroad Commission

As of August 31, 2022





- **Oil and Gas Division**
 - Administrative Compliance
 - Technical Permitting
 - Field Operations

Field Operations (1 of 2)



- State Managed Well Plugging Program
- State Managed Cleanup Program
- Site Remediation
 - Operator Cleanup program
 - Voluntary Cleanup program
 - Brownfield Response program
- Oil and Gas Regulation and Cleanup Fund (OGRC)
 - dollars collected from industry, **NOT** Texas' taxpayers



- **District Offices**

- Serve as the eyes and ears of RRC regulatory efforts
- Contact for complainants
- On call 24/7 to respond to emergencies





- **In Fiscal Year 2022:**
 - **7,696** new wells drilled by industry
 - **6,762** wells plugged by industry
 - **1,403** reported spills
 - **18,687** inspections with pollution violations

Statewide Rule 14 (1 of 6)



- Last major revision – September 1, 2004
- Section 14(b)(2)-Wells inactive for a period in excess of 12 months are required to be placed into compliance with RRC Rules
- Section 14(d)(2)-Lowest Groundwater Advisory Unit (GAU) Plug must be verified (SB310)

Statewide Rule 14 (2 of 6)



- Section 14(b)(3)-Specifies Requirements for Wells Plugged by RRC w/ OGRC Funds.
- Section 14(d) – Sets out General Plugging Requirements for all wells.
- Responsible Operator – Form P-4
 - Section 14(c)(1)
- P-4 Filed on or after September 1, 1997, Responsible Operator



Why plug wells?

- Protect Usable Quality Water – Ground water and surface waters
- Unplugged wells provide a pathway for the migration of reservoir fluids into surface and subsurface waters, pose a pollution threat
- Improperly plugged wells may leak, reservoir fluids may migrate into surface and subsurface waters
- Properly plugged wells eliminate a potential threat of pollution

Statewide Rule 14 (4 of 6)



Plugging Practices in SWR-14?

1. Use RRC-Approved Cementers;
2. Remove all non-drillable material from the well if possible;
3. Use 9.5 ppg, 40-second viscosity freshwater based mud between cement plugs;
4. Minimum cement plug volume must cover 100 ft. + 10% excess for every 1,000 ft. of depth;
5. Use API Class cement with no extenders (may request an exception from District Office)
6. Use pump and plug method to spot cement plugs;
7. May use a CIBP +20 ft. of cement for bottom plug



Where do the plugs go?

1. Isolate the productive formation(s) and shallower disposal or flow zones;
2. Set a plug across the surface casing shoe (perf and squeeze or cut and pull casing);
3. Set a plug across all Usable Quality water zones specified on GAU letter (tag deepest);
4. 10 ft. cement plug at surface (cut-off wellhead at least 3 ft. below surface)



Plugging Practices NOT in SWR-14?

1. Other cement types have been approved during cement shortages (contact RRC District Office);
2. Recommend pressure testing bottom plug after set to verify casing integrity;
3. Rigless plugging procedures have been approved on a case-by-case basis for bay and offshore wells;
4. A mechanical plug is recommended for gas wells or wells with pressure;
5. Other unconventional procedures may be approved by the RRC District Office on a case-by-case basis.

Oil and Gas RRC Statistics



- **In Fiscal Year 2022:**
 - **1,068** wells plugged with state funds
 - **245** abandoned pollution sites were investigated, assessed, or cleaned up with state managed funds
 - **359,278** inspections
 - Less than 0.2% of wells across the state have not been inspected in the last five years



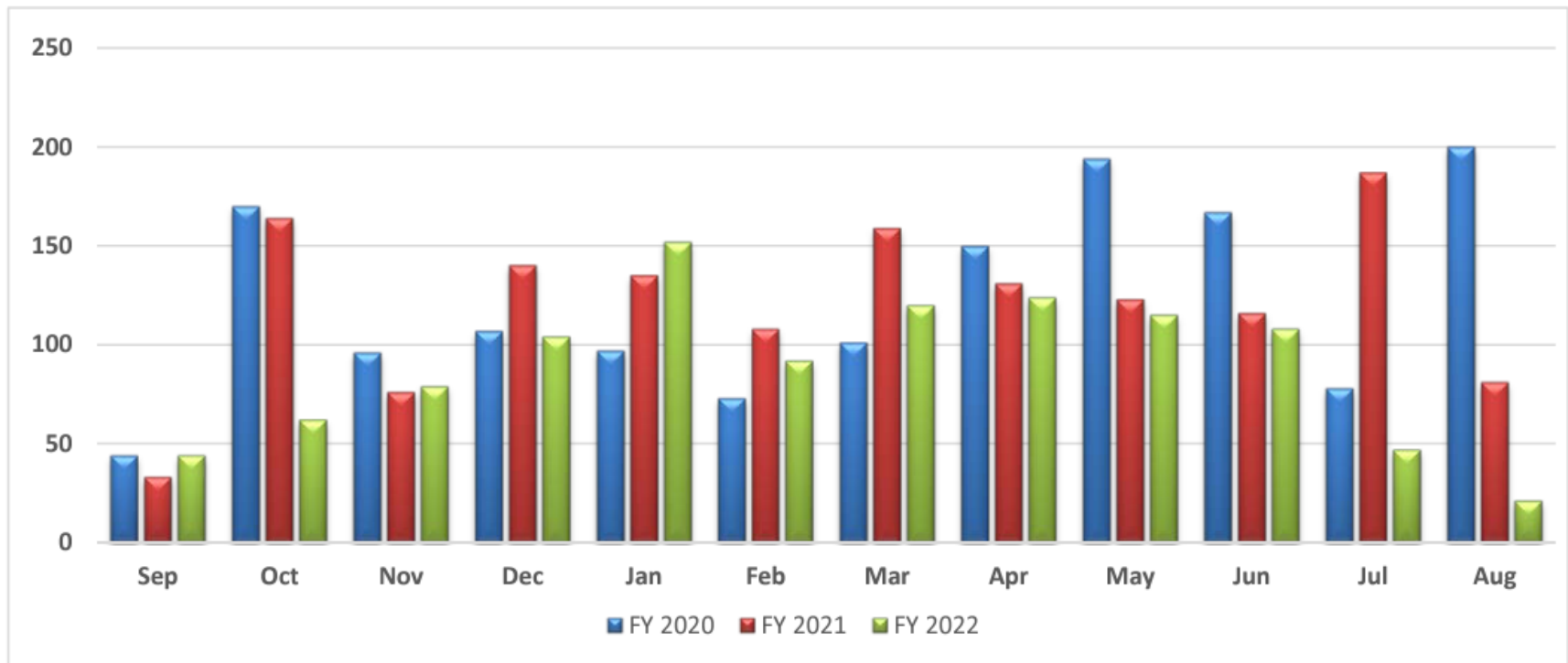
Oil & Gas Regulatory Cleanup Fund (OGRC)

- Created by Legislation in 2011 to replace Oilfield Cleanup Fund;
- Increased Cap from \$10 million to \$20 million;
- Increased various permitting fees;
- Created various bonding requirements;
- Sources of Revenue:
 - Oil Production Tax: 5/8 One cent per BO
 - Gas Production Tax: 1/15 One cent per MCF
 - Various Permitting Fees

State Managed Well Plugging (2 of 3)



State Managed Well Plugging Program Monthly Wells Plugged August 2022

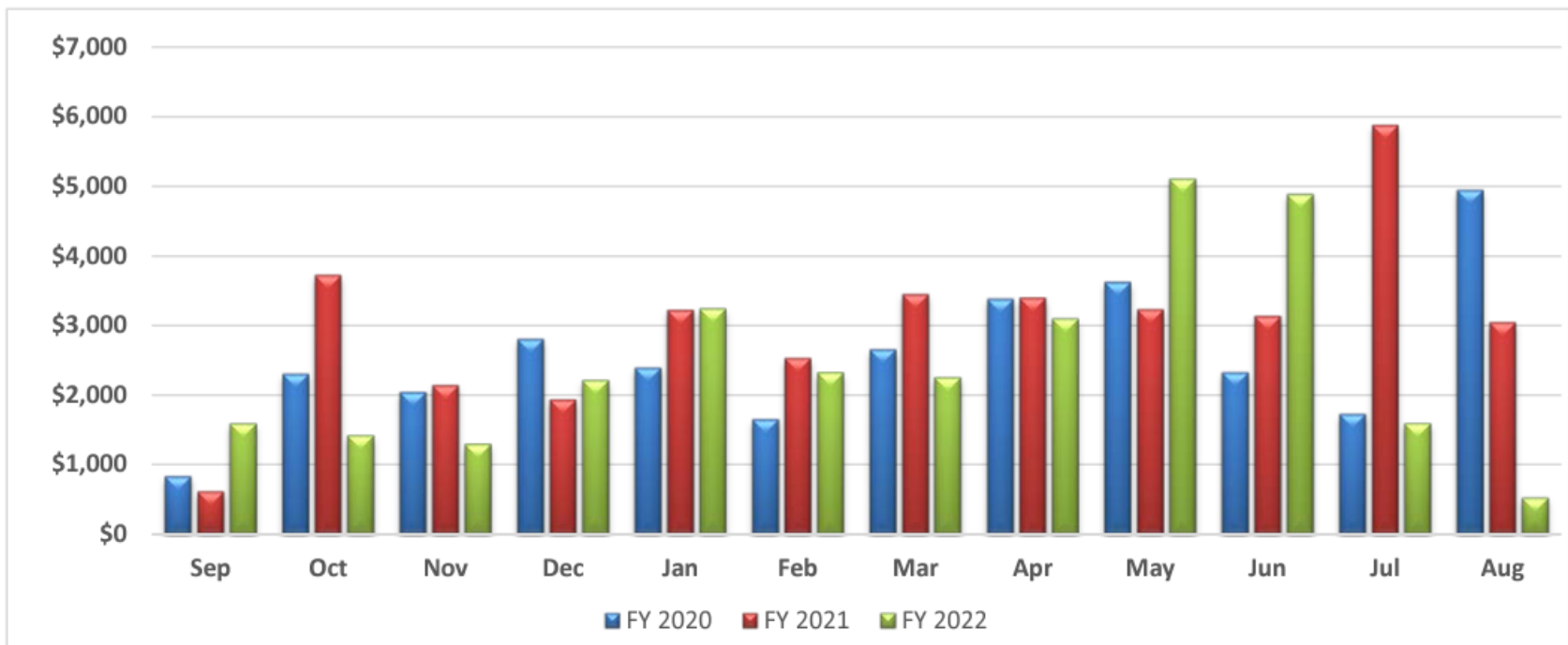


	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Tot
FY 2020	44	170	96	107	97	73	101	150	194	167	78	200	1,477
FY 2021	33	164	76	140	135	108	159	131	123	116	187	81	1,453
FY 2022	44	62	79	104	152	92	120	124	115	108	47	21	1,068

State Managed Well Plugging (3 of 3)



State Managed Well Plugging Program Monthly Cost of Wells Plugged August 2022



\$M	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Tot
FY 2020	\$831	\$2,306	\$2,044	\$2,805	\$2,395	\$1,651	\$2,655	\$3,381	\$3,625	\$2,328	\$1,728	\$4,951	\$30,700
FY 2021	\$611	\$3,723	\$2,143	\$1,935	\$3,222	\$2,526	\$3,449	\$3,393	\$3,227	\$3,137	\$5,880	\$3,041	\$36,288
FY 2022	\$1,592	\$1,418	\$1,293	\$2,212	\$3,245	\$2,320	\$2,253	\$3,097	\$5,109	\$4,886	\$1,593	\$523	\$29,541

New Federal Grant Funds (1 of 2)



- The Railroad Commission of Texas is receiving federal funds to plug, remediate, and reclaim orphaned wells located on state-owned or privately owned land in Texas.
- Funding may also be used for other allowed activities
 - remediate soil and restore native species habitat
 - decommission or remove associated pipelines, facilities, and infrastructure.

New Federal Grant Funds (2 of 2)



- First allocation of funds
 - \$82,563,000 formula funds, \$25,000,000 initial grant funds
- Eligible for at least \$318,695,000 in formula funds based on current data estimates and \$25,000,000 in initial grant funds (amounts subject to change)
- August 2022, \$25 million dollars of grant funding approved by U. S. Department of Interior
- Plug approximately 800 abandoned wells in addition to the wells being plugged by the successful State Managed Plugging Program in FY-2023.







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NEW! Drone Inspection Team



- Drones help inspectors quickly respond and inspect unsafe or inaccessible sites.
 - critical resource in emergencies
 - RRC and Texas State Emergency Operations Center

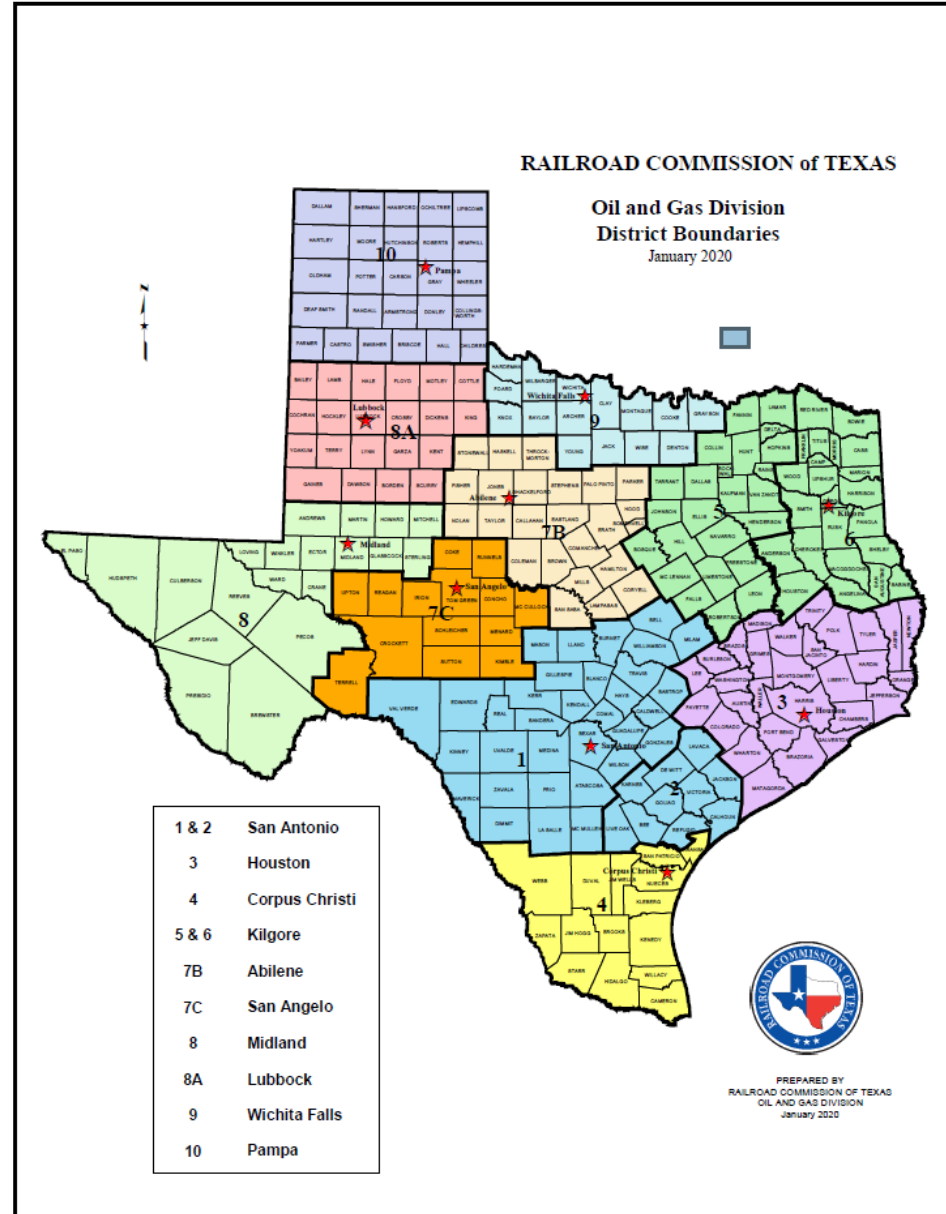




Oil and Gas District Offices



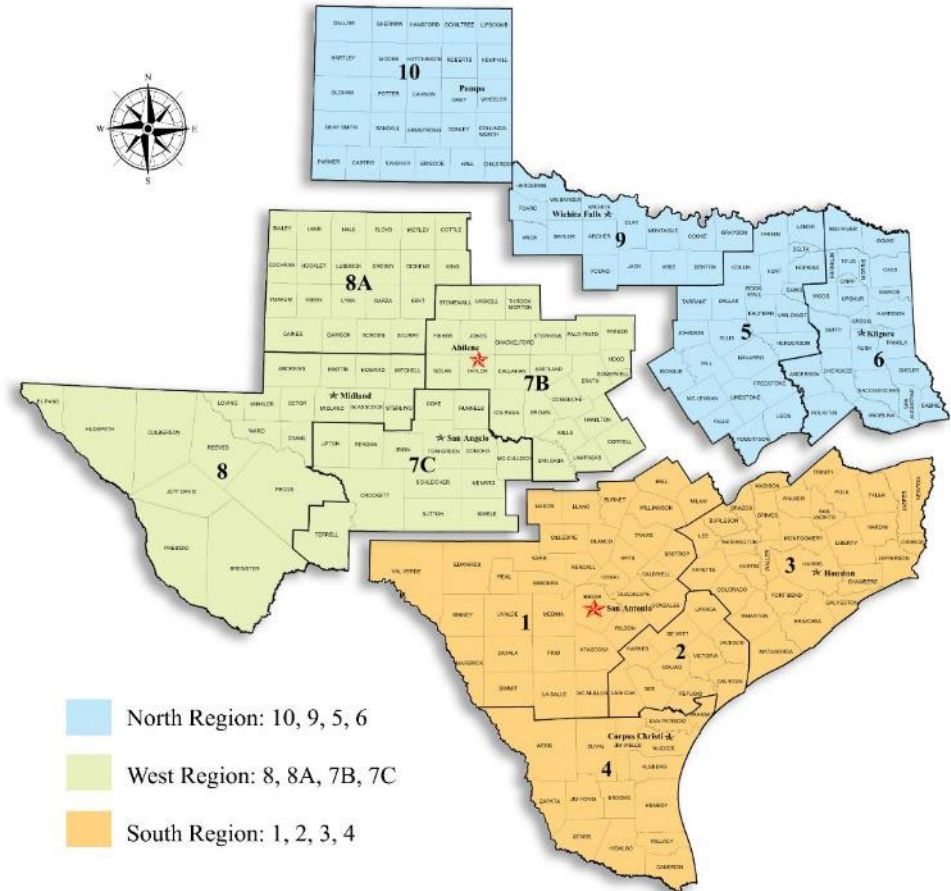
- Abilene
- Corpus Christi
- Houston
- Kilgore
- Lubbock
- Midland
- Pampa
- San Angelo
- San Antonio
- Wichita Falls



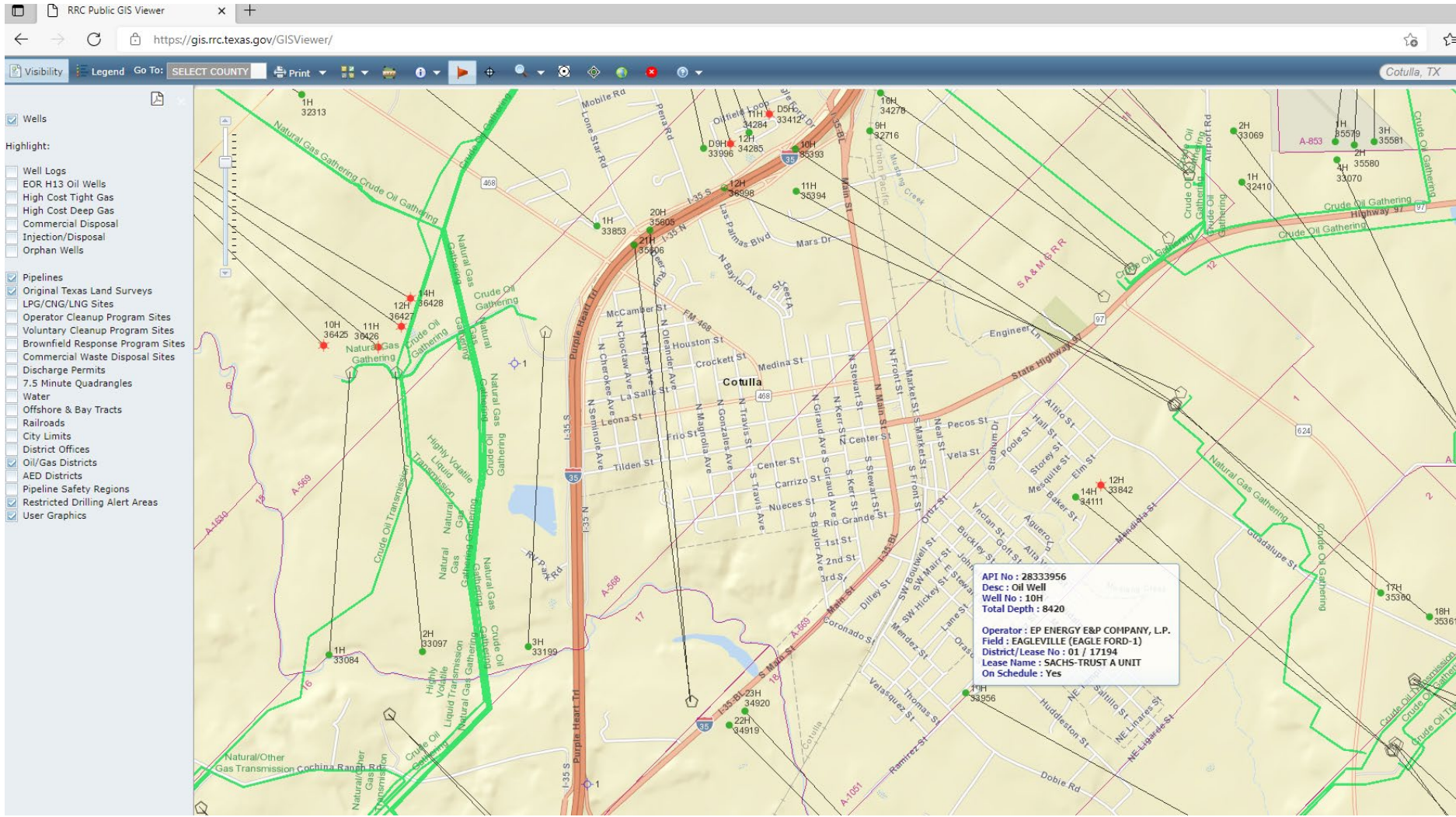
Oil and Gas Regions



- North Texas Region
- West Texas Region
- South Texas Region



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Subscription Services

The Railroad Commission of Texas offers several subscriptions services for your convenience. The subscription service is free; just provide an email address.

ALTERNATIVE FUELS SAFETY

Email notifications regarding regulations, licensing, certification and training for the transportation, storage, distribution and use of alternative fuels.

BROWNFIELDS BULLETIN

Quarterly emails regarding Brownfields Response Program news, upcoming events, and success stories.

NEWS RELEASES

Email notifications of Railroad Commission of Texas news and press releases.

OIL & GAS NEWS

Email notifications regarding Oil & Gas Division news, notices to operators and upcoming events hosted by the Oil & Gas Division.

PIPELINE SAFETY NEWS

Email notifications regarding the regulation of Texas' pipeline infrastructure, the Pipeline Damage Prevention Program for Texas and upcoming events hosted by the Pipeline Safety Department.

RRC ENERGY NEWS

Monthly newsletters on the latest information from the RRC.



Social Media Channels



Connect With Us:



www.rrc.texas.gov

The screenshot shows the YouTube channel page for the Railroad Commission of Texas. At the top left is the RRC logo, followed by the channel name "Railroad Commission of Texas" and a red "SUBSCRIBE" button. Below this is a navigation menu with "HOME", "VIDEOS", "PLAYLISTS", "CHANNELS", and "ABOUT". The "VIDEOS" tab is selected. Underneath, there are options for "Uploads" and "PLAY ALL", and a "SORT BY" dropdown menu. The main content area displays a grid of 12 video thumbnails, each with a title, view count, and upload date. The videos cover various topics including online inspections, digital records, veterans job fairs, legislative leadership, financial assurance forms, history, well plugging, staff family events, staff tours, abandoned mine lands, energy education, and a cattle raisers convention.

Video Title	Views	Upload Date
RRC OIL - Online Inspection Lookup	260 views	3 weeks ago
@TxRRC Central Records: Transition to the Digital Age	148 views	2 months ago
@TxRRC: Supporting Veterans through Veterans JOB FAIR	91 views	3 months ago
Commissioner Christian Leads 86th Legislature	61 views	3 months ago
@TxRRC: How to Complete Your Form P-5	1K views	4 months ago
@TxRRC's History Minute: The Origin of Our Name	91 views	5 months ago
@TxRRC: Online Well Plugging Form W3-A	241 views	5 months ago
@TxRRC Staff and Family Play #TuesdayTrivia	43 views	6 months ago
@TxRRC Staff Tour Calvert Coal Mine	114 views	6 months ago
@TxRRC Abandoned Mine Lands: Restoring Texas	127 views	6 months ago
@TxRRC Energy Education and Workforce Development	338 views	9 months ago
@TxRRC at the Cattle Raisers 2018	103 views	10 months ago

Agency Contact



Railroad Commission of Texas

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