Statewide Rule 13 Highlights

“Casing, Cementing, Drilling Well Control, and Completion Requirements”

Workshop abbreviated for 08-13-2014

Our Mission

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.**

Intent of Rule 13

13(a)(1)

- **Securely anchor casing in the hole to effectively control the well at all times**
- **Isolate and seal off all useable quality water zones to prevent contamination**
- **Isolate all productive zones, potential flow zones and zones with corrosive formation fluids to prevent vertical migration of fluids (including gases) behind pipe.**

Definitions

13(a)(2)

- **Zone of critical cement for surface casings**
- **Zone of critical cement for intermediate or production casings**
- **Protection depth**
- **Productive zone**
- **Potential flow zone**
- **Corrosive fluid zone**

Zone of Critical Cement

13(a)(2)(B)(i)

For surface casing strings …

- … the bottom 20% of the casing string, but no more than 1,000 feet nor less than 300 feet.
- The zone of critical cement extends to the land surface for surface casing strings of 300 feet or less.

Zone of critical cement

13(a)(2)(B)(ii)

For intermediate or production casing strings …

… the bottom 20% of the casing string or 300 vertical feet above the casing shoe or top of the highest proposed productive zone, whichever is less.

Protection Depth

13(a)(2)(C)

Depth to which **usable-quality water (BUQW) must be protected**, as determined by the **Groundwater Advisory Unit** of the Oil and Gas Division, which may include zones that contain **brackish or saltwater (USDW),** if such zones are correlative and/or hydrologically **connected to zones that contain usable-quality water.**

*GAU may recommend a protection depth to cover zones that contain TDS concentrations greater than 3,000 ppm based on water use in the area. GAU will consider new data (e.g., new log data) if you believe protection depth should be adjusted.

Protected Aquifers

For **oil and gas** wells

- **fresh water (less than 1,000 mg/l** total dissolved solids,TDS) and
- **usable quality water (less than 3,000 mg/l** TDS, waters known to be used, and waters identified by the Texas Water Development Board for use in desalination).

For **saltwater disposal** wells in addition to above

- **underground source of drinking water (less than 10,000 mg/l)**

*GAU may recommend a protection depth to cover zones that contain TDS concentrations greater than 3,000 ppm based on water use in the area. GAU will consider new data (e.g., new log data) if you believe protection depth should be adjusted.

Productive Zone

13(a)(2)(D)

Any stratum known to

- **contain oil, gas, or geothermal resources in**
- **commercial quantities in the area.**

Potential Flow Zone

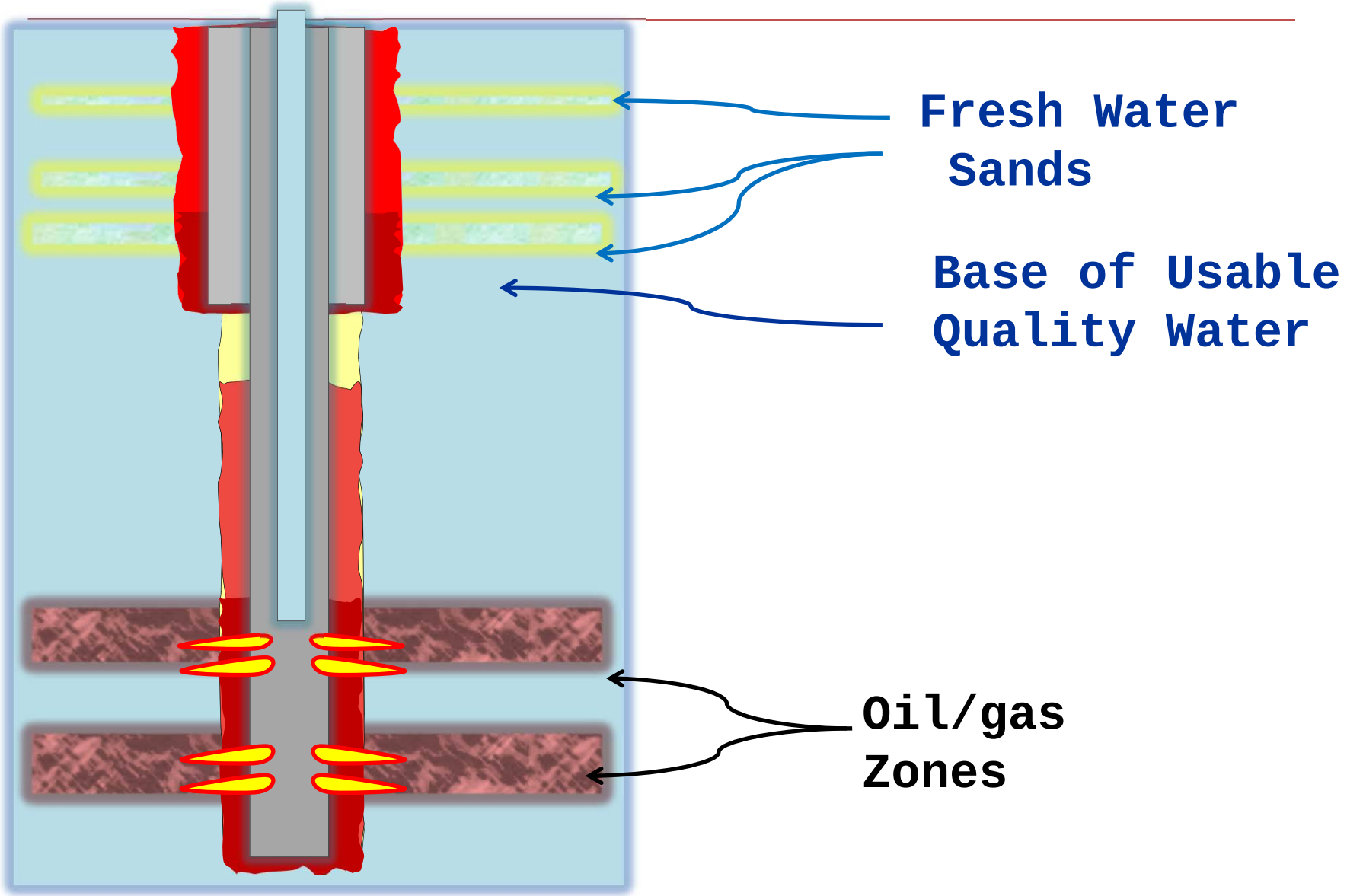
13(a)(2)(N)

- A zone … to be isolated to prevent
- **sustained pressurization of the surface casing / intermediate casing or production casing annulus sufficient to**
- **cause damage to casing and/or cement** in a well such that it presents
- **a threat to subsurface water or oil, gas, or geothermal resources.**

Corrosive Fluid Zone

13(a)(2)(O)

- Any zone … containing **formation fluids** that are capable of negatively **impacting the integrity of casing and/or cement** or
- have a demonstrated **trend of failure** for similar casing and cement design **in the field.**


Fresh Water
Sands
Base of Usable
Quality Water
Oil/gas
Zones

Surface Casing Requirements

- Set sufficient casing to **isolate** all defined **usable-quality water strata**
- Surface casing must be **cemented**
- Cement must be **circulated to surface**

Critical Zone Cement

Compressive Strength

- Surface casing strings must be allowed to stand under pressure until the cement has reached a compressive strength of at least **500 psi in the zone of critical cement before drilling plug or initiating a test**.
- The cement mixture **in the zone of critical cement** shall have a **72-hour** compressive strength of at least **1,200 psi**.

Critical Zone Cement

Free-water Content

- Free water content shall be minimized to the greatest extent practicable in the cement slurry to be used **in the zone of critical cement**. In no event shall the **free water** separation average more than **two milliliters per 250 milliliters** of cement

Filler Cement

Compressive Strength

- An operator may use cement with **volume extenders above the zone of critical cement** to cement the casing from that point to the ground surface, but in no case shall the cement have a compressive strength of less than **100 psi at the time of drill out** nor less than **250 psi 24 hours** after being placed.

Filler Cement

Free-water Content

- No greater than **six milliliters per 250 milliliters** of cement tested outside the zone of critical cement.

Better Quality Cement

The Commission may require a better quality of cement mixture to …

- **prevent pollution,**
- **isolate productive zones, potential flow zones, or zones with corrosive formation fluids or**
- **prevent a safety issue in the well.**

Statewide Rule 13

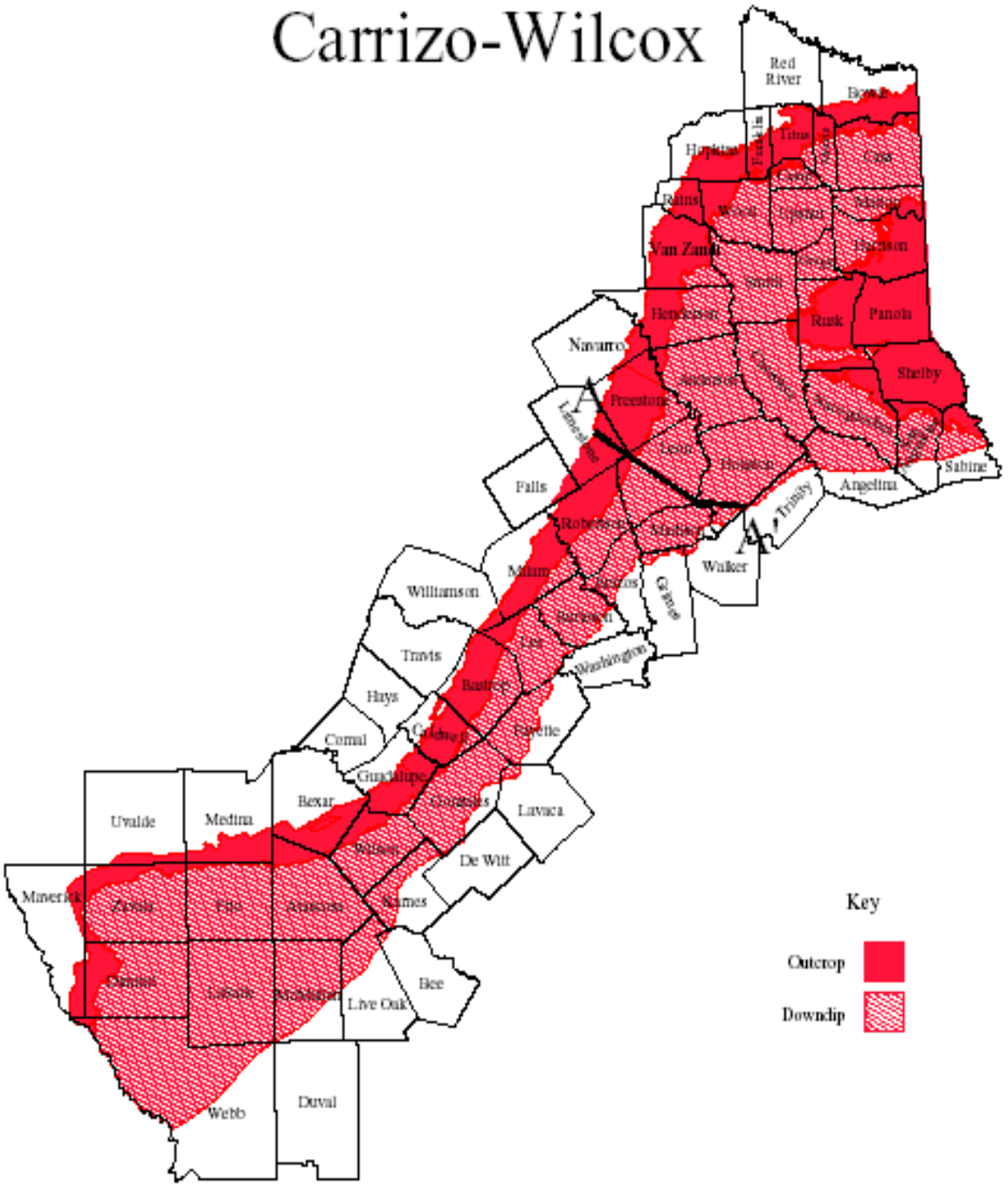
Alternative Surface Casing Requirements §13(b)(2)(G)

- Operator may request authority to set more or less casing than the required protection depth
- Alternative programs require approval by the appropriate District Director

Statewide Rule 13

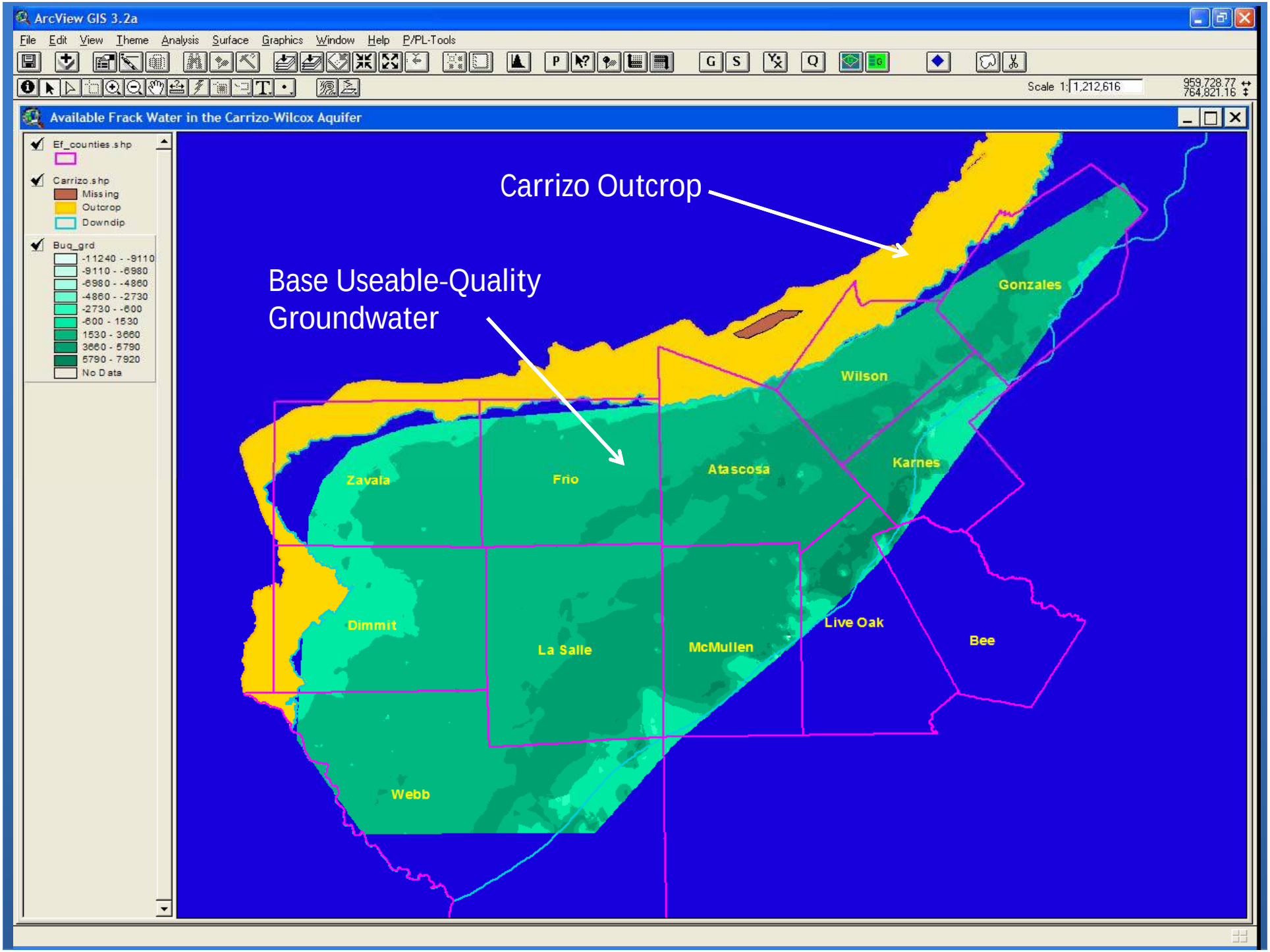
Alternative Surface Casing Requirements §13(b)(2)(G)

- File application form with district office
- District Director may approve, modify, or reject the proposed program
- If rejected, operator may request hearing
- Must be obtained before cementing
- When is an application needed?
  - Surface casing set shallower than BUQW
  - Surface casing set greater than 200’ deeper than BUQW
- Rule requires approval prior to setting surface deeper than 3500’



Deep UQW

Carrizo Aquifer - Alternate Surface Casing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Available Frack Water in the Carrizo-Wilcox Aquifer
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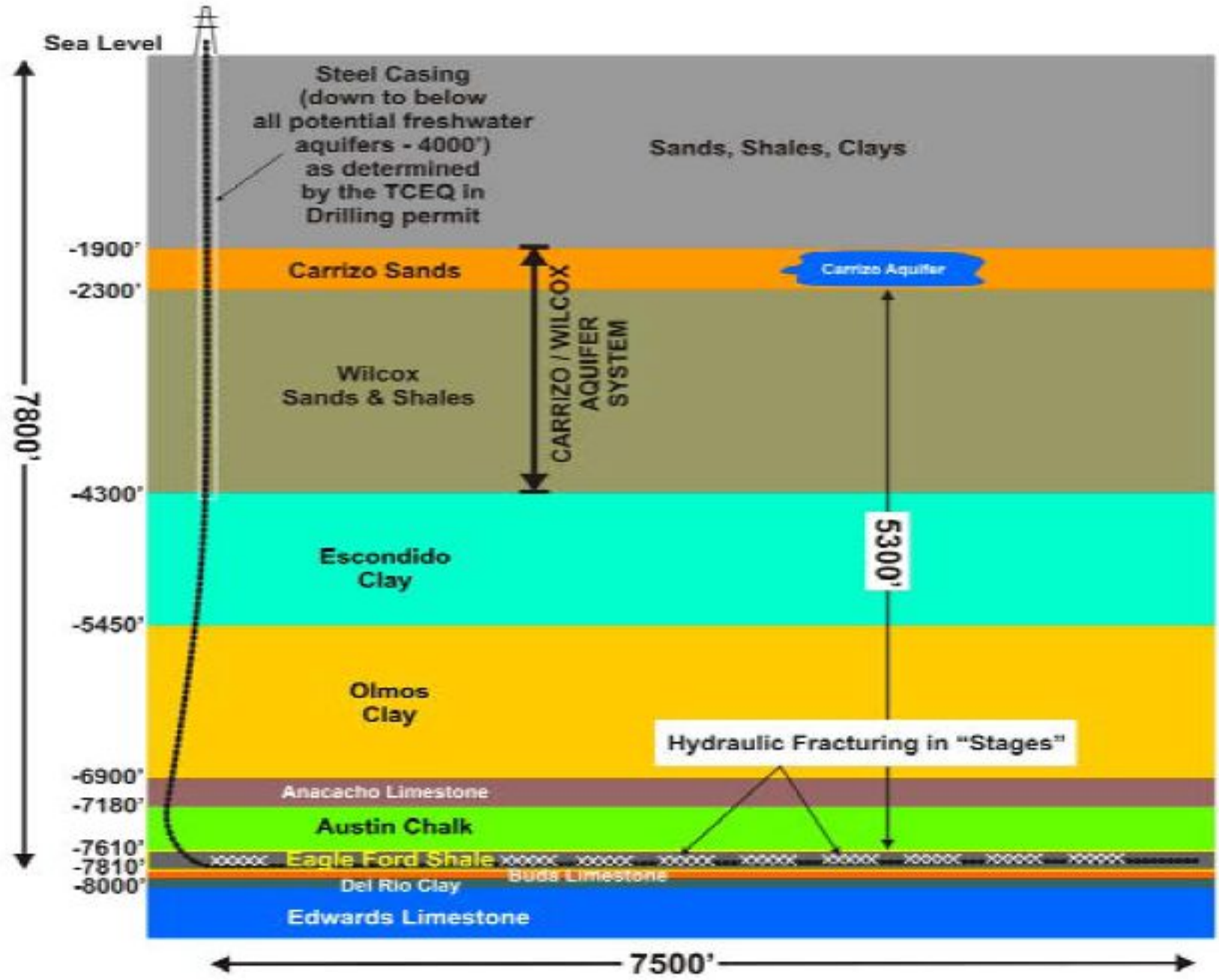
Missing
Outcrop
Downdip
Buq_grd
-11240 - -9110
-9110 - -6980
-6980 - -4860
-4860 - -2730
-2730 - -600
-600 - 1530
1530 - 3660
3660 - 5790
5790 - 7920
No Data
Carrizo Outcrop
Base Useable-Quality Groundwater
Gonzales
Wilson
Karnes
Atascosa
Frio
Zavala
Dimmit
La Salle
McMullen
Live Oak
Bee
Webb

Typical Eagle Ford Horizontal Well & Stratigraphy



Wellbore Diameters

13(a)(3)(A-C)

The new Rule 13 **sets minimum cement sheath thickness:**

- **0.75” for surface casing** string (nominal OD)
- **0.50” for subsequent casing strings** (nominal OD)

Minimums introduced for successful **cement bond evaluation**.

Requirement does not apply to re-entries and liners.

Fresh-Water Drilling Mud

13(a)(6)(C)

- Operators must use **air, fresh water or fresh water-based drilling mud** until surface casing is set and cemented in a well **to protect usable quality water.**

Deep surface casing

13(b)(1)(A)

- Requires RRC approval before setting **surface casing** to a depth **greater than 3,500 feet**

- GAU letter will contain statement that **surface casing set deeper than 3,500' based on GAU recommendation will require DO approval**.

Mechanical Integrity of Surface Casing

13(b)(1)(I)

Operators must verify the mechanical integrity of

- any string of **casing protecting UQW** for wells in which
- the **rotating time** for the next casing string (either the intermediate casing string or production casing string) **exceeds 360 hours***
- to ensure that the drilling inside the casing did not damage **casing integrity.**
- Integrity can be demonstrated by **casing caliper, casing inspection log, pressure test, etc**.

*Rotating hours are based on the cumulative time the drill string is rotating inside the surface casing, typically recorded on daily drilling reports.

Zonal Isolation

Operators must isolate (place cement behind casing) formations permitted for injection within ¼-mile of a proposed well:

- Across and above disposal well formations
- Above injection well formations

§13(a)(4)(D-E)

- Operators must pump sufficient cement to isolate and control annular gas migration and isolate potential flow zones and zones with corrosive formation fluids

Statewide Rule 13

New Requirements in SWR 13

§13(a)(2)(N)

RRC will establish and maintain list of potential flow zones and corrosive zones by county

List is available on website at:

http://www.rrc.state.tx.us/environmental/rule13/index.php

List to be revised as additional information becomes available

Statewide Rule 13

New Requirements in SWR 13 Formation Tables

- Formation lists subject to change based on new data.
- Listed formation tops for **reference only**. Formations must be isolated based on where the formations are encountered in each individual well.
- Compliance with Rule 13 will be based on formation tops listed on completion report. Formations that require isolation but are not listed on completion report will require re-filing or explanation (e.g. formation not present in well or not productive at well location).

Statewide Rule 13

New Requirements in SWR 13

Example Formation Table

All listed formations require isolation if encountered in well

Mitchell County			
Formation	**Shallow Top**	**Deep Top**	**Remarks**
Santa Rosa	600	600	possible lost circulation
Yates	600	1,250	overpressured, possible flows
7 Rivers	1,300	1,300	
Tubb	2,000	2,000	
San Andres	1,500	2,400	high flows, H2S, corrosive
Glorieta	2,400	2,700	
Wichita	3,300	3,300	
Clearfork	2,500	3,400	
Coleman Junction	3,100	3,600	possible lost circulation
Wolfcamp	4,800	5,300	
Strawn	3,200	5,850	
Odom	6,800	6,900	
Mississippian	6,300	7,900	
Ellenburger	7,200	8,100	

Statewide Rule 13

New Requirements in SWR 13
Example Formation Table

All listed formations require isolation if encountered in well

KLEBERG COUNTY			
Formation	**Shallow Top**	**Deep Top**	**Remarks**
Miocene / Lagarto / Oakville	1400	6200	
	3000	3300	Kingsville Field area H2S
	2600	6200	Injection/Disposal
Catahoula Anahuac	2800	4670	
	3650	3850	Canelo Field area H2S
	2800	4670	Injection/Disposal
Catahoula Frio	2800	14050	
	8550	8750	Canelo Field area H2S
	2800	7500	Injection/Disposal
Vicksburg	6800	8700	
Jackson	11250	11250	

Statewide Rule 13

New Requirements in SWR 13 §13(a)(4)(D)

- Casing must be cemented* above any productive zone, potential flow zone, zones with corrosive formation fluids, or permitted injection/disposal zone (w/in ¼ mile).
- 600’ (md) calculated top (30% washout factor in coastal counties, 20% in all other counties); **or**
- 250’ (md) as determined by temperature survey; **or**
- 100’ (md) as determined by bond log; **or**
- At least 200’ (md) calculated into the previous casing shoe

*Where necessary, cement slurries shall be designed to control annular gas migration.

Statewide Rule 13

New Requirements in SWR 13
Notification in Drilling Permits

- RRC query will flag with a permit restrictions any new drill permit application filed on or after 01-01-2014, as any amended new drill application that does not have a spud date prior to 01-01-2014:

- The restriction will state that "***This well must comply with the new Rule 13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations identified for the county in which you are drilling the well***."

- The approved permit will print out with the information stored in the county table, which is available on the RRC's Internet website.

Statewide Rule 13

New Requirements in SWR 13 §13(a)(6)(A-B)

Consolidates and updates requirements for well control and BOPs, and distinguishes between the use of well control equipment on inland, bay and offshore wells.

- Well control equipment must be set after conductor offshore and surface on land
- Well control equipment must be rated to greatest anticipated pressure component
- Diverter required on conductor if shallow gas anticipated.
- Offshore requires double ram BOP's, and annular BOP and shear rams
- Must comply with SWR 36 in H_2S areas.

Statewide Rule 13

New Requirements in SWR 13 §13(a)(6)(B)

The following components shall be installed:

- Drill pipe safety valve;
- Choke line of sufficient working pressure
- Upper Kelly cock & lower Kelly valve if utilizing Kelly rig;

All control equipment must be consistent with API Standard 53 and certified in accordance with that standard. Certification required every 5 years and made available to RRC upon request.

Statewide Rule 13

New Requirements in SWR 13 §13(a)(6)(B)

Testing requirements for well control equipment:

- Tested to max anticipated surface pressure, but not less than 1,500 psi, before drilling out plug on surface casing
- Upon installation
- Upon repair of any component
- Every 21 days if not otherwise required
- Records to be maintained in log signed by person responsible for the test

Secondary closure location required

- More than one physical location

Statewide Rule 13

New Requirements in SWR 13 §13(a)(7)(A-B)

For wells undergoing hydraulic fracturing treatments, operators are required to pressure test well casings to the maximum pressure expected during the fracture treatment for 5 minutes and to notify RRC of a failed test.

- Casing and/or tubing subject to frac pressure must have an internal yield of at least 1.1 times the anticipated max pressure
- Casing and/or tubing subject to treating pressure must be pressure tested to max anticipated treating pressure
- Casing strings with pressure actuated sliding sleeves must be tested at 80% of actuation pressure

Statewide Rule 13

New Requirements in SWR 13

§13(a)(7)(C)

During hydraulic fracturing, operators must monitor the annular space between the well's casing for pressure changes and suspend hydraulic fracturing operations if the annuli monitoring indicates a potential down hole casing leak.

Statewide Rule 13

New Requirements in SWR 13

§13(a)(7)(D) - Minimum Separation Wells

Additional testing and monitoring requirements for "minimum separation wells" where the vertical distance between the BUQW and the top of a formation to undergo hydraulic fracturing treatment is less than 1,000 vertical feet.

- Production casing cemented 200' into next shallowest casing string
- Test to max pressure to be applied during treatment
- No disturbance of production casing for at least 8 hours and not prior to achieving 500 psi compressive strength

Statewide Rule 13

New Requirements in SWR 13

§13(a)(7)(D)- Minimum Separation Wells(cont'd)

- Run cement evaluation tool assessing radial cement integrity
- Can request exemption from District Director providing operator has:
  - Cemented and tested 5 wells in the same field
  - Obtain cement evaluation tool logs verifying cement history
  - Shown that the well will be constructed in the same manner as the other 5 wells

Statewide Rule 13

§13(b)(4)(A-B) - Tubing

All flowing oil wells must be equipped with tubing

NEW - Exceptions up to 180 days may be administratively granted by the director:

- Fee will be required when online system deployed
- Subsequent extensions require a RRC order

Statewide Rule 13

Form W-2 Changes

Type or Print Only
(Online filing availabe at
http://www.rrc.state.tx.us)

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

Form W-2
Rev. 01/2014

	API No.: **42-**	7. RRC District No.
OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT, AND LOG		8. RRC Lease No.
1. Field Name (as per RRC Records or Wildcat)	2. Lease Name	9. Well No.
3. Operator's Name (exactly as shown on Form P-5, Organization Report)	RRC Operator No.	10. County
4. Operator's Address (include street, city, state, zip code)		11. Purpose of filing
5a. Location (section, block and survey)		**A. Producers** ☐ Initial potential ☐ Retest ☐ Reclass ☐ Well record only (explain in remarks)
5b. This well is located _____ miles in a _____ direction from _____, which is the nearest town in the county.		
6. Well Latitude/Longitude (minimum five decimal places required):	Latitude/Longitude type:	
12a. Spud date	13. If recompletion or reclass, give former field (with reservoir) & Gas ID or Oil Lease No. If multiple completion, list all reservoir names (completions in this well) and Gas ID or Oil Lease No. ☐ Recompletion or reclass ☐ Multiple completion	**B. Injection/Disposal/ Storage/Brine Mining** ☐ Initial completion ☐ Reclass ☐ Well record only (explain in remarks)
12b. Date of first production after rig released	Field & Reservoir / Gas ID or Oil Lease No. / Well No. / Prior Service Type (oil, gas, injection/disposal, other)	
14. Type(s) of electric or other log(s) run		

Statewide Rule 13

Form W-2 Changes

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION (leave blank if filed for another purpose)

IMPORTANT: Test should be for 24 hours unless otherwise specified in field rules

15. Date of test	16. No. of hours tested	17. Production method (flowing, gas lift, jetting, pumping - size & type of pump)				18. Choke size
19. Production during test period:		Oil (BBLS)	Gas (MCF)	Water (BBLS)	Gas - Oil Ratio	Flowing Tubing Pressure (PSIG)
20. Calculated 24-Hour Rate:		Oil (BBLS)	Gas (MCF)	Water (BBLS)	Oil Gravity - API - 60°	Casing Pressure (PSIG)
21. Was swab used during this test? ☐ YES ☐ NO				22. Oil produced prior to test (new & recompleted wells):		

DATA ON WELL COMPLETION

23. Type of completion				24. Permit to Drill, Plug Back, or Deepen	DATE	PERMIT NO.
☐ New well	☐ Deepening	☐ Side track	☐ Other	Rule 37 Exception	DATE	CASE NO.
☐ Re-entry	☐ Plug back	☐ Recompletion	(explain in remarks)			
25. Number of producing wells on this lease in this field (reservoir) including this well		26. Total number of acres in lease		Fluid Injection Permit	DATE	PERMIT NO. F -
27. Date of plug back, deepening, recompletion, or drilling operations	Commenced	Ended	28. Distance to nearest well in this lease & reservoir	O&G Waste Disposal Permit	DATE	PERMIT NO.
				Other (explain)	DATE	PERMIT NO.
29. Elevation (DF, RKB, RT, GR, etc.)			**30. Was directional survey made other than inclination (Form W-12)?** ☐ YES ☐ NO			

31. Total Depth (ft.)		32. Plug Back Depth (ft.)		33. For new drill or re-entry, surface casing depth determined by:
TVD	MD	TVD	MD	☐ GAU Groundwater Protection Determination Depth: Date:
				☐ SWR 13 Exception Depth:
34. Rotation time within surface casing (hours)		**35. Is Cementing Affidavit (Form W-15) attached?** ☐ YES ☐ NO		

Statewide Rule 13

Form W-2

API No.: 42-

36. CASING RECORD

Row	Type of Casing (conductor, surface, intermediate, conventional production, tapered production, or other)	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi-Stage Tool Depth (ft.)	Multi-Stage Shoe Depth (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement	Top of Cement Determined By
1											
2											
3											
4											

37. LINER RECORD

Row	Liner Size (in.)	Hole Size (in.)	Liner Top (ft.)	Liner Bottom (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement	Top of Cement Determined By
1									
2									

38. TUBING RECORD

Does this well currently have tubing set? ☐ YES ☐ NO

☐ **SWR 13 Exception (attach approval)**

(if NO & no SWR 13 Exception obtained, explain in remarks)

Size (in.)	Depth Set (ft.)	Packer Depth/Type

39. PRODUCING/INJECTION/DISPOSAL INTERVAL

Indicate top and bottom measured depths of completion interval(s) or open hole

From	To

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.

40. Was hydraulic fracturing treatment performed? ☐ YES ☐ NO

41. Is well equipped with a downhole actuation sleeve? ☐ YES ☐ NO

If yes, provide actuation pressure (PSIG)

42. Production casing test pressure (PSIG) prior to hydraulic fracturing treatment

43. Actual maximum pressure (PSIG) during hydraulic fracturing

44. Has the hydraulic fracturing fluid disclosure been reported to FracFocus disclosure registry (SWR 29)? ☐ YES ☐ NO

Type of Operation (indicate acid, fracture, cement squeeze, cast iron bridge plug, retainer, etc.)	Amount and Kind of Material used	Depth Interval (ft.)
		From To
		From To
		From To

Statewide Rule 13

Form W-2 Changes

45. FORMATION RECORD (list depths of principal geological markers and formation tops, including, but not limited to, all permitted disposal/injection formations within 1/4-mile of the wellbore, productive zones, potential flow zones, and corrosive formation fluid zones)				
Principal Geological Markers and Formation Tops	Depth (ft.) TVD	Depth (ft.) MD	Indicate if formation is a permitted disposal/injection formation, productive zone, potential flow zone, and/or a zone with corrosive formation fluids	Is formation isolated in this well? (YES/NO) (if NO, explain in remarks)
46. Do the producing intervals of this well produce H_2S with a concentration in excess of 100 ppm (SWR 36)? ☐ YES ☐ NO			47. Is the completion being down-hole commingled (SWR 10)? ☐ YES ☐ NO	

REMARKS:

OPERATOR'S CERTIFICATION: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that I prepared or supervised and directed this report, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature: Operator's representative _____ Title _____ Tel: Area Code _____ Number _____

Printed Name _____ Date _____ Email (include email address *only* if you affirmatively consent to its public release) _____

Interacting with RRC

Website: www.rrc.state.tx.us

- Extensive information
  - licenses & permits, safety information, education & training
  - frequently asked questions
- Searchable databases
  - oil and gas well records, drilling permits, production reports
- Land and homeowner information
  - shale play information (*Barnett Shale, Eagle Ford Shale, Haynesville/Bossier Shale, Permian Basin Shale, etc.)*
  - pipeline eminent domain and condemnation
  - royalties

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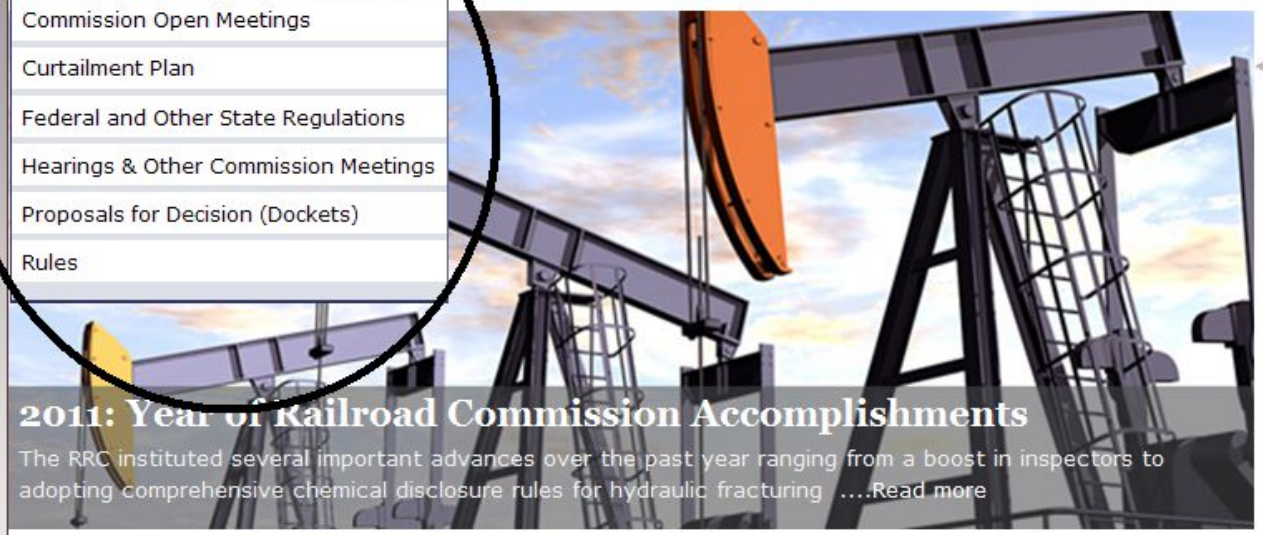
- Curtailment Plan
- Federal and Other State Regulations
- Hearings & Other Commission Meetings
- Proposals for Decision (Dockets)
- Rules



2011: Year of Railroad Commission Accomplishments

The RRC instituted several important advances over the past year ranging from a boost in inspectors to adopting comprehensive chemical disclosure rules for hydraulic fracturing ....Read more

2011: Year of Railroad Commission Accomplishments

RRC Production Statistics & Allowables for July 2012

Devine FFA Rehearses Winning Presentation for Comm. Porter

RRC Chairman Smitherman Testifies on EPA's Regulations

Recent News

July 17, 2012

Railroad Commission Chairman Barry Smitherman Champions New Revolving Door Policy

Lead Texas Energy Official says Policy will maintain public trust. Read more....

July 3, 2012

Railroad Commission: Protect Propane Tanks From Wildfires

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- Chairman Barry T. Smitherman
- Commissioner David Porter
- Commissioner Buddy Garcia
- List of Commissioners, past through present

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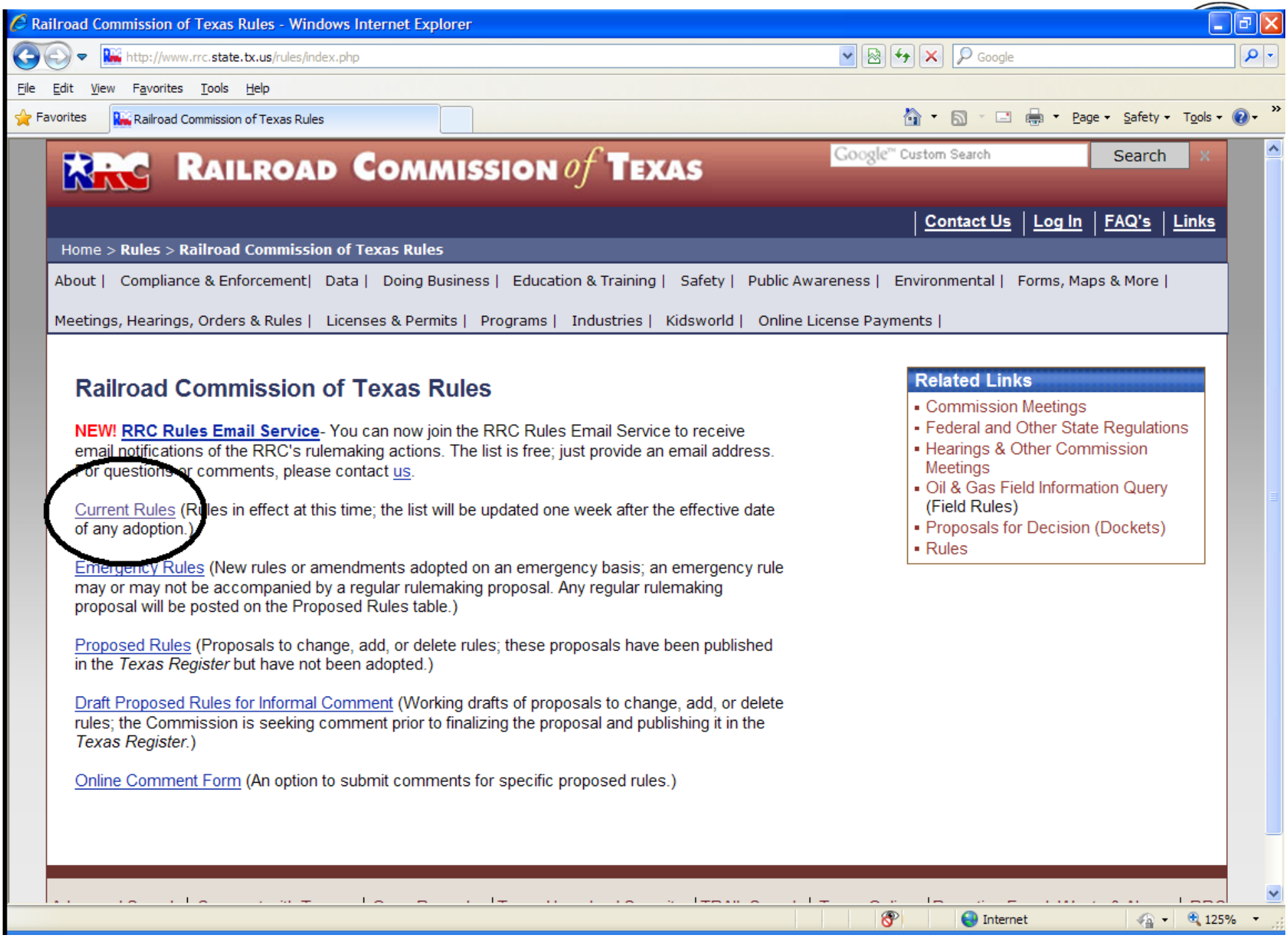
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Current Rules (Rules in effect at this time; the list will be updated one week after the effective date of any adoption.)
Emergency Rules (New rules or amendments adopted on an emergency basis; an emergency rule may or may not be accompanied by a regular rulemaking proposal. Any regular rulemaking proposal will be posted on the Proposed Rules table.)
Proposed Rules (Proposals to change, add, or delete rules; these proposals have been published in the Texas Register but have not been adopted.)
Draft Proposed Rules for Informal Comment (Working drafts of proposals to change, add, or delete rules; the Commission is seeking comment prior to finalizing the proposal and publishing it in the Texas Register.)
Online Comment Form (An option to submit comments for specific proposed rules.)
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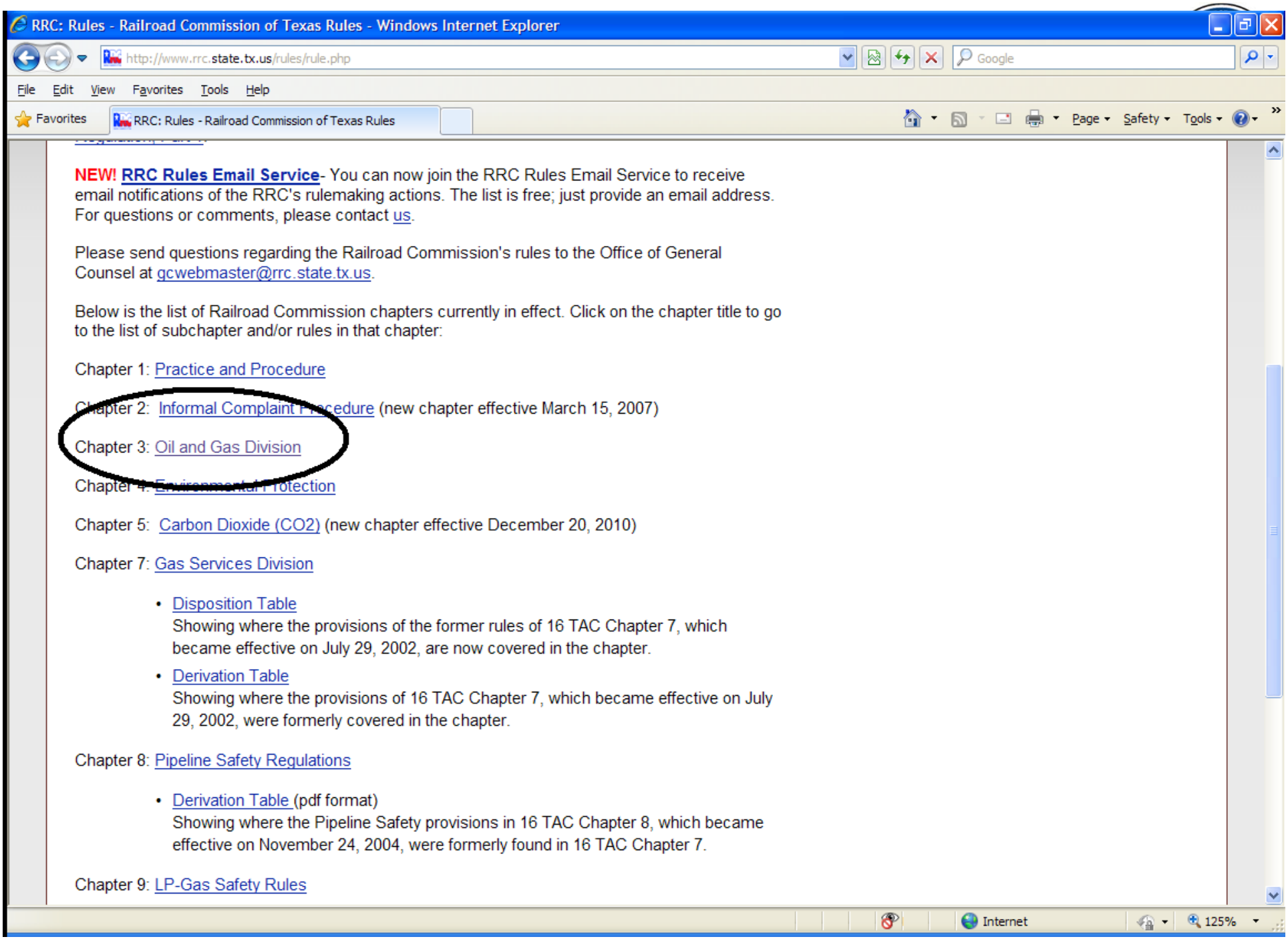
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NEW! RRC Rules Email Service- You can now join the RRC Rules Email Service to receive email notifications of the RRC's rulemaking actions. The list is free; just provide an email address. For questions or comments, please contact us.
Please send questions regarding the Railroad Commission's rules to the Office of General Counsel at gcwebmaster@rrc.state.tx.us.
Below is the list of Railroad Commission chapters currently in effect. Click on the chapter title to go to the list of subchapter and/or rules in that chapter:
Chapter 1: Practice and Procedure
Chapter 2: Informal Complaint Procedure (new chapter effective March 15, 2007)
Chapter 3: Oil and Gas Division
Chapter 4: Environmental Protection
Chapter 5: Carbon Dioxide (CO2) (new chapter effective December 20, 2010)
Chapter 7: Gas Services Division
Disposition Table
Showing where the provisions of the former rules of 16 TAC Chapter 7, which became effective on July 29, 2002, are now covered in the chapter.
Derivation Table
Showing where the provisions of 16 TAC Chapter 7, which became effective on July 29, 2002, were formerly covered in the chapter.
Chapter 8: Pipeline Safety Regulations
Derivation Table (pdf format)
Showing where the Pipeline Safety provisions in 16 TAC Chapter 8, which became effective on November 24, 2004, were formerly found in 16 TAC Chapter 7.
Chapter 9: LP-Gas Safety Rules
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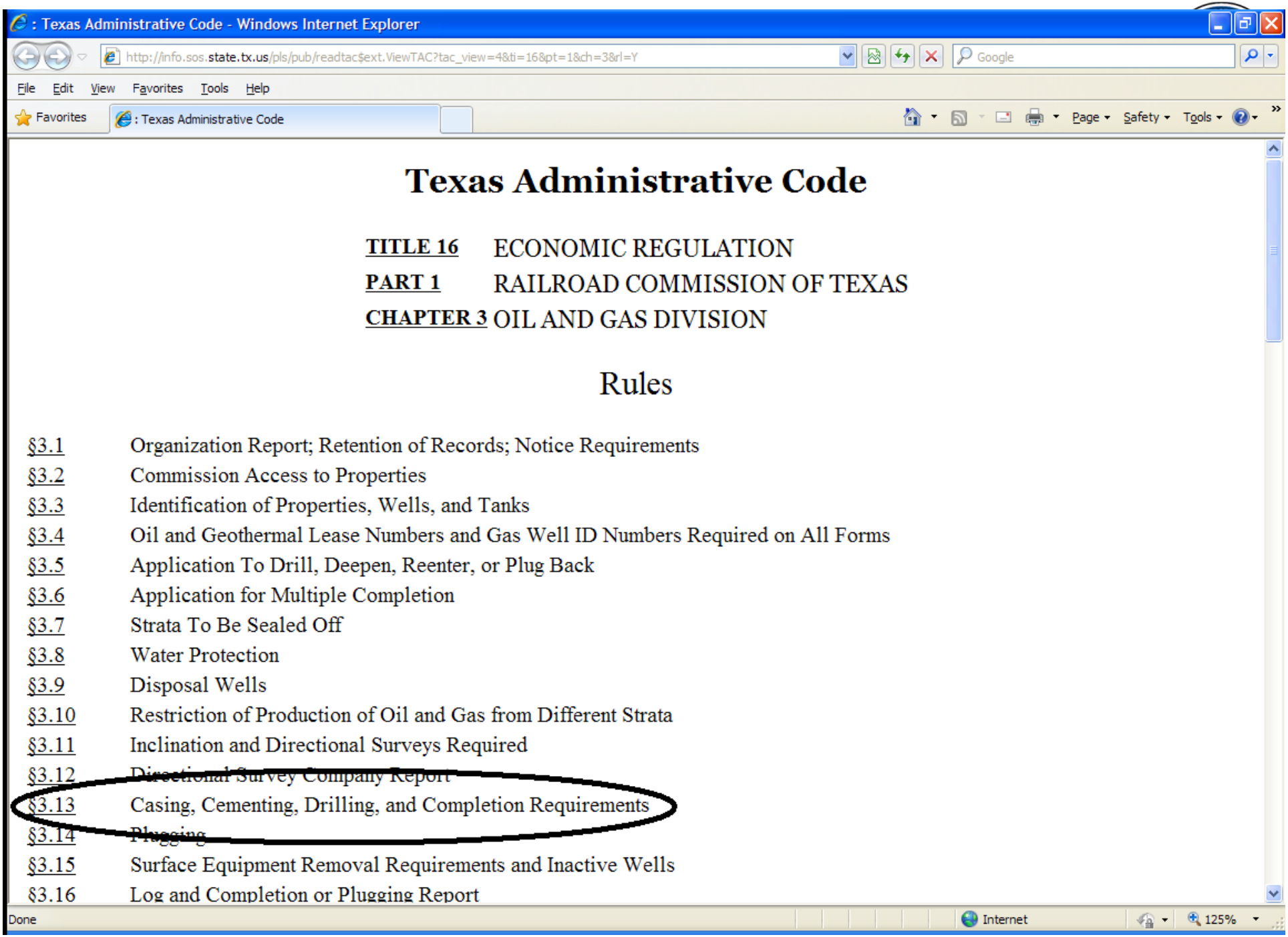
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Texas Administrative Code
TITLE 16 ECONOMIC REGULATION
PART 1 RAILROAD COMMISSION OF TEXAS
CHAPTER 3 OIL AND GAS DIVISION
Rules
§3.1 Organization Report; Retention of Records; Notice Requirements
§3.2 Commission Access to Properties
§3.3 Identification of Properties, Wells, and Tanks
§3.4 Oil and Geothermal Lease Numbers and Gas Well ID Numbers Required on All Forms
§3.5 Application To Drill, Deepen, Reenter, or Plug Back
§3.6 Application for Multiple Completion
§3.7 Strata To Be Sealed Off
§3.8 Water Protection
§3.9 Disposal Wells
§3.10 Restriction of Production of Oil and Gas from Different Strata
§3.11 Inclination and Directional Surveys Required
§3.12 Directional Survey Company Report
§3.13 Casing, Cementing, Drilling, and Completion Requirements
§3.14 Plugging
§3.15 Surface Equipment Removal Requirements and Inactive Wells
§3.16 Log and Completion or Plugging Report
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RAILROAD COMMISSION of TEXAS

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- Abandoned Mine & Land Reclamation Program
- Oil Field Cleanup Fund
- Newly Revised Rule 13
- Publications
- Remediation/ Environmental Support
- Spills, Site Assessment and Cleanup
- Well-Plugging

RRC Production Statistics and Allowables for July 2013

The Texas average rig count as of June 14 was 837, representing about 49 percent of all active land rigs in the United States. Read more...

RRC Chairman Smitherman at a Lignite Mine in East Texas

New RRC Commissioner Christi Craddick sworn in on 12/17/12

Recent News

July 26, 2013

Railroad Commission Chairman Smitherman's Statement on Hydraulic Fracturing Pioneer George Mitchell's Passing Today

Railroad Commission Chairman Barry Smitherman today issued the following statement on today's passing of George Mitchell, the energy pioneer who developed the hydraulic fracturing and horizontal drilling process in wide use today throughout Texas and the nation. Read more...

July 25, 2013

Commissioner Christi Craddick Testifies Today in Washington, D.C.: "Texas Is Far Better Equipped than the EPA at Regulating Texas Energy Production"

Railroad Commissioner Christi Craddick, in testimony today before the U.S. House Committee on Natural Resources' subcommittee on Energy and Mineral Resources, said that efforts to impose cumbersome federal regulations on hydraulic fracturing in Texas by the U.S. Environmental Protection Agency would be detrimental to Texas energy production and job creation. Read more

Commissioners

- Chairman Barry T. Smitherman
- Commissioner David Porter
- Commissioner Christi Craddick
- List of Commissioners, past through present

Land & Home Owner Information

- Barnett Shale Information
- Haynesville/Bossier Shale Information
- Eagle Ford Shale Information
- Permian Basin Information
- Granite Wash Information
- Modern Shale Gas Development in the United States: A Primer

Newly Revised Rule 13

Updated: 07/29/13

Information regarding the new revisions to Rule 13, "Casing, Cementing, Drilling, Well Control, and Completion Requirements", which will become effective January 1, 2014.

For more information:

- Summary of Amendments and Revisions to Rule 13
- Rule 13 (Full text)

The weblinks below connect to geologic formation information provided as a guideline for assistance with compliance of casing cement depth during well completions. This data is categorized first by Commission District, then on a spreadsheet by county within that District. Please review the "General Information" tab for each District for additional information.

All Rule 13 Formations are listed in Excel Format

District 1	District 2	District 3	District 4	District 5	District 6 & 6E
District 7B	District 7C	District 8	District 8A	District 9	District 10

All District Complete listing - compressed zip file

Summary

- Statewide Rule 13 – designed to protect UQW and maintain well control
- Construct wells to prevent Sustained Casinghead Pressure (SCP) and maintain casing integrity
- Call the District Office for assistance

Common Questions

- **Q** Most new Eagle Ford wells are not required to be equipped with tubing for the first six months. Will this apply to all new wells?
  - **A** Starting January 1, 2014, an administrative exception to install tubing in a flowing well may be granted by the District Director (no field rule amendment required) for 180 days. If a special field rule exception already has been issued for a particular field, that field rule trumps SWR 13, and compliance is based on that field rule.
- **Q** For purposes of documentation and compliance, who is responsible for providing certification of BOP equipment--the rig owner or operator?
  - **A** The operator to whom the drilling/re-entry permit was issued (or the current well operator, if performing a workover) is responsible for obtaining and providing to the RRC upon request the well control equipment certification.

Common Questions

- **Q** Does the Groundwater Advisory Unit recommendation serve as District Office approval to set surface casing deeper than 3,500'?
  - **A** **No**; separate authorization must be obtained from the District Office to set surface casing deeper than 3,500', even if the protection depth is deeper than 3,500'. Authorization may be given on an area-wide basis (e.g. radial area, survey & abstract, etc.)
- **Q** Does an operator need to obtain an SWR 13 exception from the District Office to set surface casing below 3500 feet?
  - **A** No, approval to set surface casing below 3,500' is not an exception. However, the operator must notify and receive approval from the District Office prior to setting surface casing deeper than 3,500'. The District Director must approve the method for protection of UQW and maintaining well control. Exceptions will be required to set surface casing greater than 200' below the BUQW.

Common Questions

- **Q** If a disposal/injection permit is issued for a location within ¼ mile of a proposed new well location, is that new permitted disposal/injection zone required to be isolated in the new well?
  - **A** Yes; note that when SWR 9/46 are officially amended, an injection/disposal permit will not be issued until a drilling permit has been approved for the proposed well location. These wells will be identifiable on the RRC Public GIS.

- **Q** How does an operator determine if a disposal/injection well is within ¼ mile of a new well proposed location and what is required if a disposal /injection well is identified?
  - **A** Research RRC Public GIS site and isolate disposal/injection interval with cement in new well.

Common Questions

- **Q** Does the new rule change the requirements for obtaining a surface casing exception for wells producing at or above the protection depth or for single-string wells?
  - **A** No; a SWR 13 exception is required for all wells producing at or above the BUQW and single-string wells deeper than 1,000'.
- **Q** Can a person drill with brine drilling mud through uncased protection depths to prevent washout of shallow salt beds?
  - **A** The adoption preamble for SWR 13 states that potassium chloride (KCl) may be added to freshwater drilling mud prior to setting surface casing. Permission to use other brines to drill through UQW protection depths may be granted as part of SWR 13 Surface Casing exception request after showing that the drilling fluid program will provide filter cake protection through the UQW interval, or may be added to field rules through the hearing process.

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Any questions?