

RAILROAD COMMISSION OF TEXAS

Directional Surveys and Associated Issues

Keith May
Technical Permitting
Engineering Unit

Presentation Overview



Introduction
Survey Requirements
Submission Procedures
Engineering Review

Presentation Overview



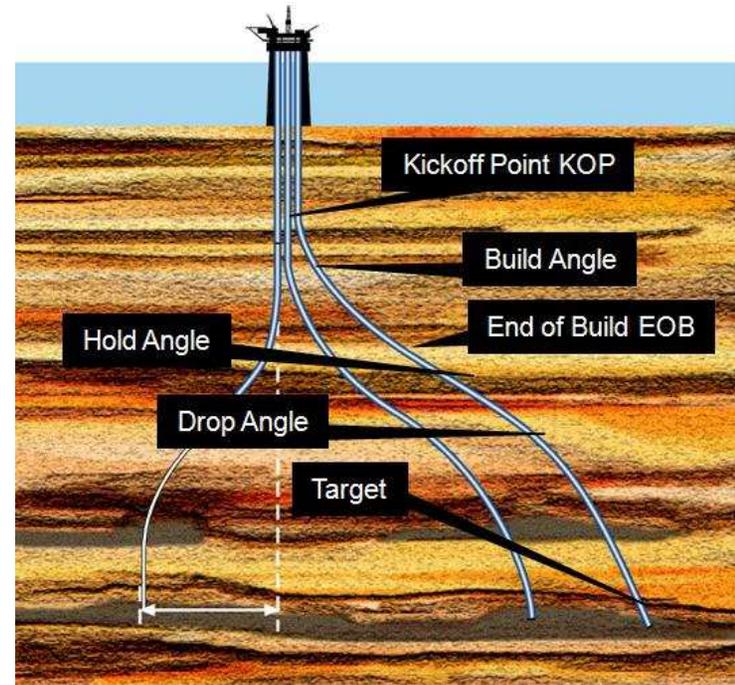
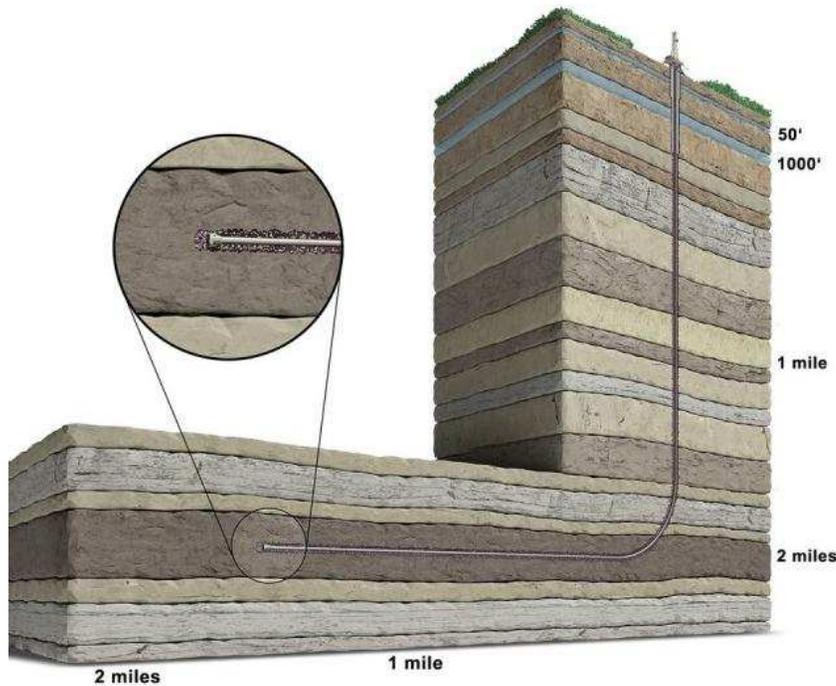
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Directional Drilling



Thanks to advancements in drilling technology, drillers have incredible control and precision over their drilling operations.

Directional Drilling

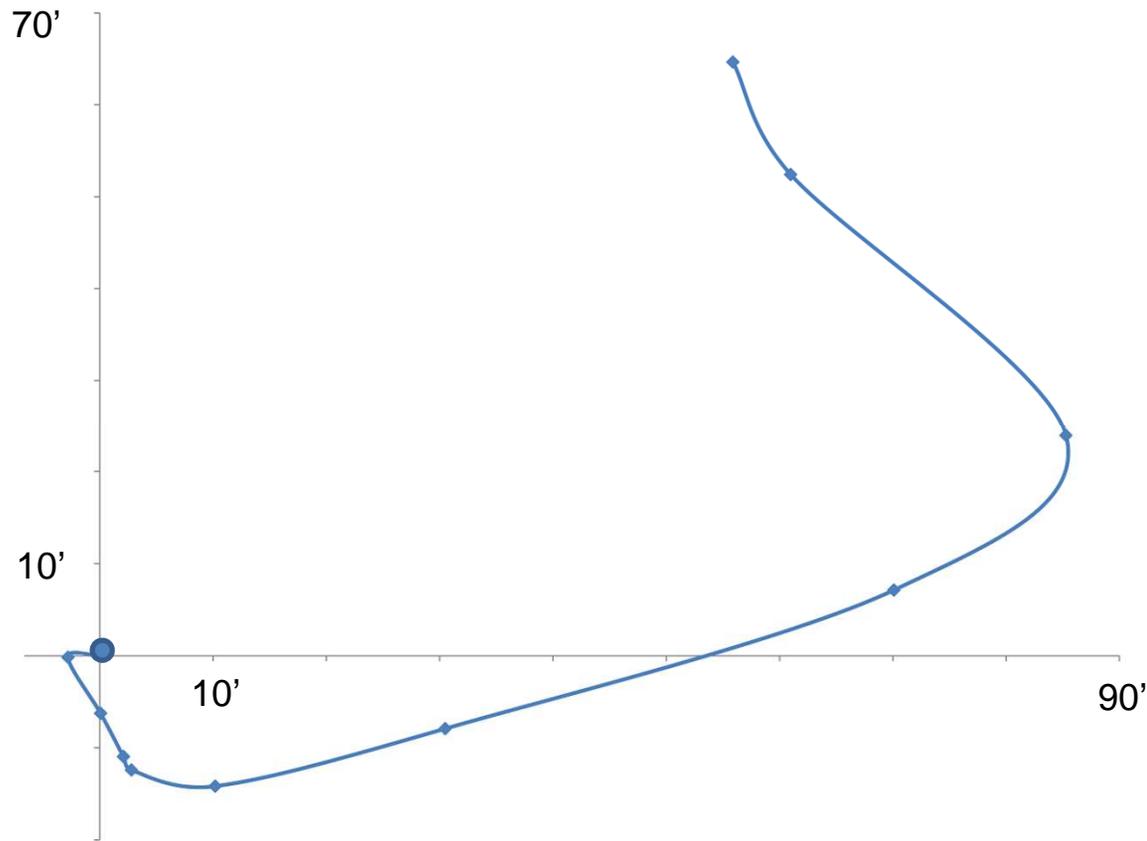


Measurement while drilling or MWD tools allow the driller to “steer” the drill bit.

After each joint of pipe is added positional data is transmitted up the wellbore. What we end up with is X, Y and Z coordinates of the wellbore.



Vertical Well

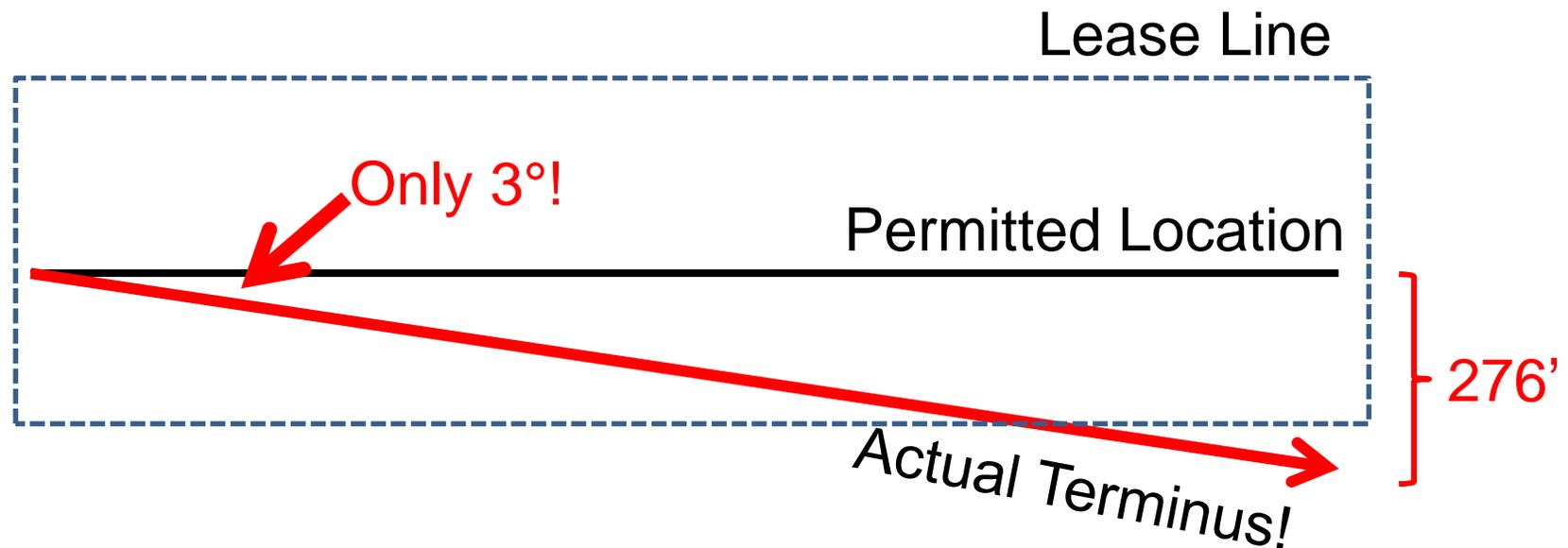


Even vertical wells can have substantial drifts from their intended direction.

An Example



Drilling a 5280' horizontal with 3 degree error in a particular direction would result in offset of **276'** in that direction!



An Example



Drilling a 5280' horizontal with 3 degree error in a particular direction would result in offset of **276' in that direction!**

- Typical horizontals in Eagle Ford are thousands of feet in length.
- Typical lease line spacing is 330'.
- Must be in compliance with spacing rules.

The RRC has a job to do



Why must surveys and inclination reports be submitted?

- To insure lease line and wellbore spacing rules are being followed.
- Protection of oil and gas reservoirs

Where can I find the Rules?



A screenshot of a web browser displaying the Railroad Commission of Texas website. The browser's address bar shows the URL "http://new.rrc.state.tx.us/". The website's navigation menu includes "About Us", "Oil & Gas", "Alternative Fuels", "Gas Services", "Pipeline Safety", "Mining & Exploration", and "Legal". The "Legal" menu item is highlighted with a red box, and a red arrow points down to a sub-menu. In this sub-menu, the "Rules" link is also highlighted with a red box. The main content area of the website features the title "Railroad Commission of Texas" and a list of services: "our stewardship of natural resources and the environment", "our concern for personal and community safety; and", and "our support of enhanced development and economic vitality for the benefit of Texans." Below this, there are sections for "Recent News" and "Commissioners". The browser's status bar at the bottom shows the URL "http://new.rrc.state.tx.us/legal/rules/" and a zoom level of 100%.

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Where can I find the Rules?

A screenshot of a web browser displaying the Railroad Commission of Texas website. The browser's address bar shows the URL "http://new.rrc.state.tx.us/". The page title is "Regulation Part 1. Railroad Commission of Texas". The main content area contains the following text:

The official rules of the Railroad Commission of Texas are found in the Texas Administrative Code (TAC), Title 16, Part 1, Chapters 1 through 20. The TAC is maintained by the Office of the Secretary of State and is available online by clicking on the links below. The Railroad Commission's rules are located in **Title 16, Economic Regulation, Part 1**.

RRC Rules Email Service- You can 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.

NEW! Printable versions of certain chapters are now available in PDF format; click on the PDF link to see that chapter. Please note that the PDF versions include the official text of each chapter in effect on the date the PDF was produced, which is indicated at the bottom of each page. PDF versions of additional chapters will be added in the future.

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](#)
- Chapter 3: [Oil and Gas Division \(PDF version 3/28/2014\)](#)
- Chapter 4: [Environmental Protection \(PDF version 11/14/2013\)](#)
- Chapter 5: [Carbon Dioxide \(CO2\) \(PDF version 3/31/2014\)](#)

The URL in the browser's address bar is "http://info.sos.state.tx.us/pls/pub/readtac\$ext.ViewTAC?tac_view=4&ti=16&pt=1&ch=3&rl=Y".

Where can I find the Rules?

A screenshot of a web browser window displaying the Texas Administrative Code website. The browser's address bar shows the URL "http://info.sos.state.tx.us/". The page content is centered and includes the following text:

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, Well Control, and Completion Requirements

The browser interface includes a menu bar (File, Edit, View, Favorites, Tools, Help), a toolbar with various icons, and a status bar at the bottom right showing a zoom level of 125%.

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Introduction

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Statewide Rule 3.11 (SWR 11)



SWR11 outlines the requirements for inclination
and directional surveys

Purpose: to accurately confine well location in 3-
D space (X, Y, Z)

*Different survey combinations required
depending on wellbore profile*

Survey Types



Inclination surveys

Inclination and offset data only (Form W-12)

No coordinates or directional data

Directional surveys

Gyroscopic borehole survey (GYRO)

Measurement while drilling (MWD)

Provide coordinate data (X, Y, and Z)

Each survey type has different data and certification requirements. It pays to get it right the first time.

Statewide Rule 3.11 (SWR 11)



INCLINATION SURVEYS

Required of any well drilled/deepened with rotary tools

First data point shall not exceed 500' deep

Data points not to exceed 1000' apart

Outlines several exceptions to the rule based on depth and spacing to lease lines

Statewide Rule 3.11 (SWR 11)



INCLINATION SURVEYS

Submitted on form W-12 by operator

Performed by drilling company

Certified by drilling company and operator

Report horizontal offset without direction, so
offset direction assumed to be toward nearest
lease line

Form W-12



If additional space is needed, use the reverse side of this form.

- 17. Is any information shown on the reverse side of this form? yes no
- 18. Accumulative total displacement of well bore at total depth of _____ feet = _____ feet.
- *19. Inclination measurements were made in - Tubing Casing Open hole Drill Pipe
- 20. Distance from surface location of well to the nearest lease line _____ feet.
- 21. Minimum distance to lease line as prescribed by field rules _____ feet.
- 22. Was the subject well at any time intentionally deviated from the vertical in any manner whatsoever? _____

(If the answer to the above question is "yes", attach written explanation of the circumstances.)

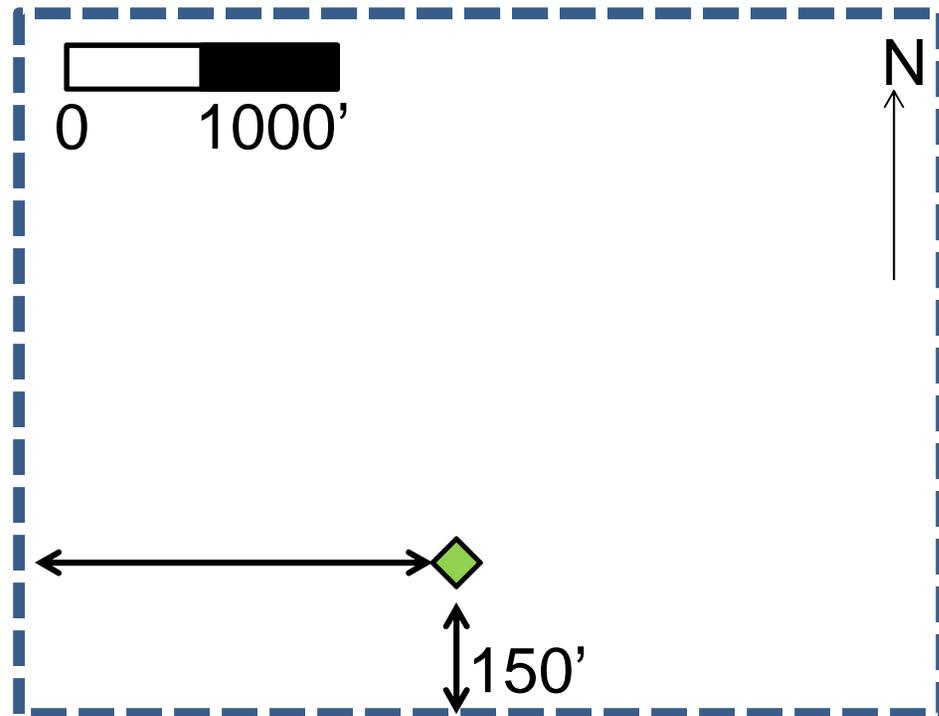
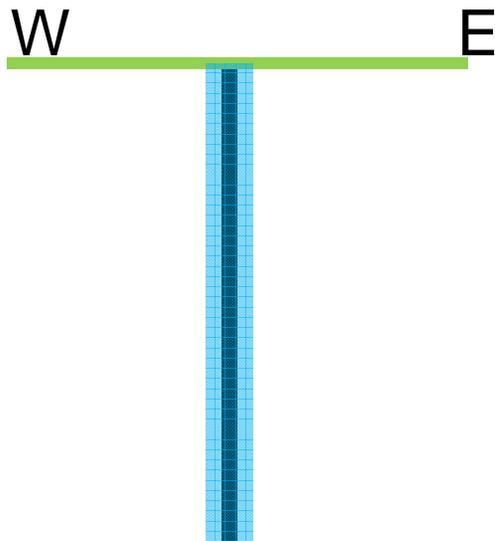
INCLINATION DATA CERTIFICATION I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have personal knowledge of the inclination data and facts placed on both sides of this form and that such data and facts are true, correct, and complete to the best of my knowledge. This certification covers all data as indicated by asterisks (*) by the item numbers on this form. _____ Signature of Authorized Representative _____ Name of Person and Title (type or print) _____ Name of Company Telephone: _____ Area Code _____	OPERATOR CERTIFICATION I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have personal knowledge of all information presented in this report, and that all data presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all data and information presented herein except inclination data as indicated by asterisks (*) by the item numbers on this form. _____ Signature of Authorized Representative _____ Name of Person and Title (type or print) _____ Operator Telephone: _____ Area Code _____
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Operator certifies that the well was not intentionally deviated from vertical.

SWR 11: Vertical Wells

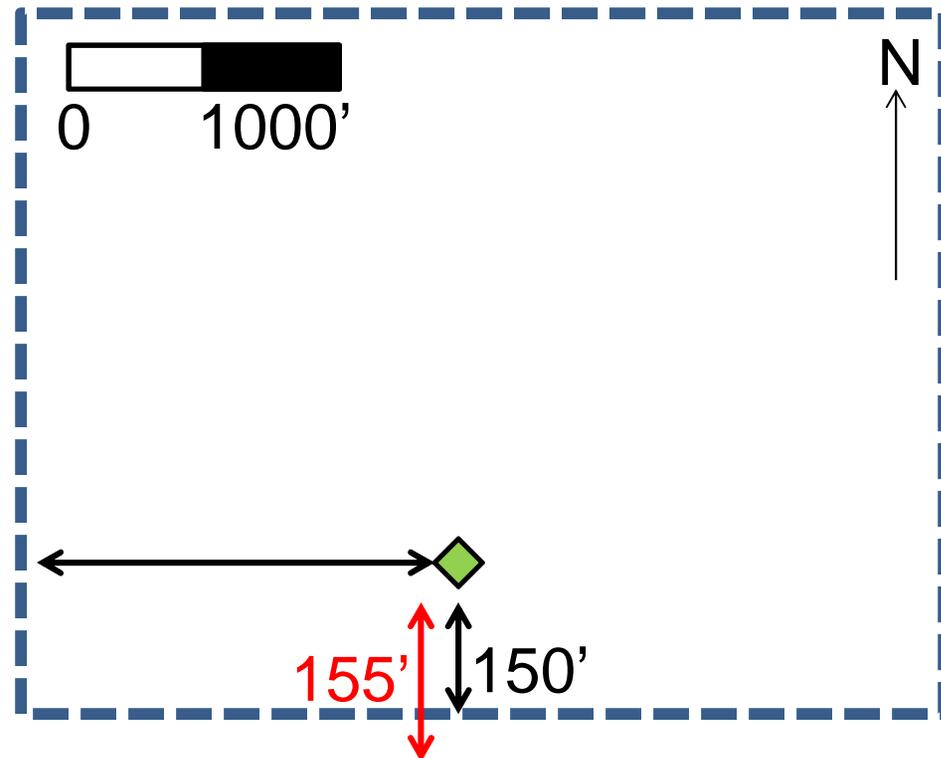
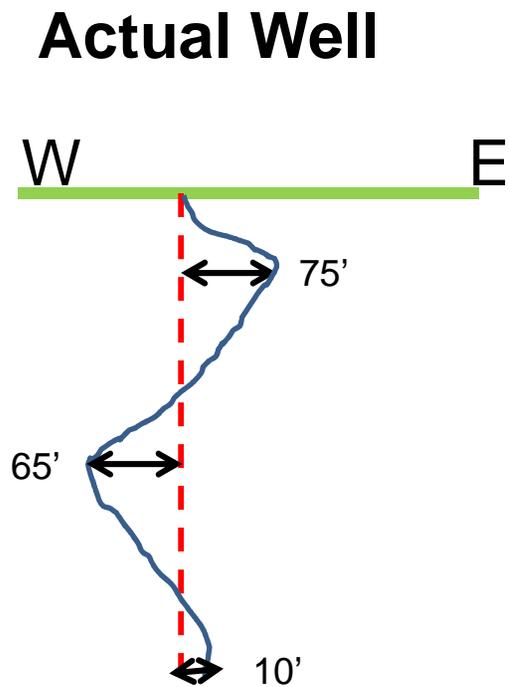


Ideal Vertical Well



W-12 accepted for entire depth

SWR 11: Vertical Wells



Cumulative total displacement: $75' + 65' + 10' = 155'$

Actual displacement: 10'

SWR 11: Directional Surveys



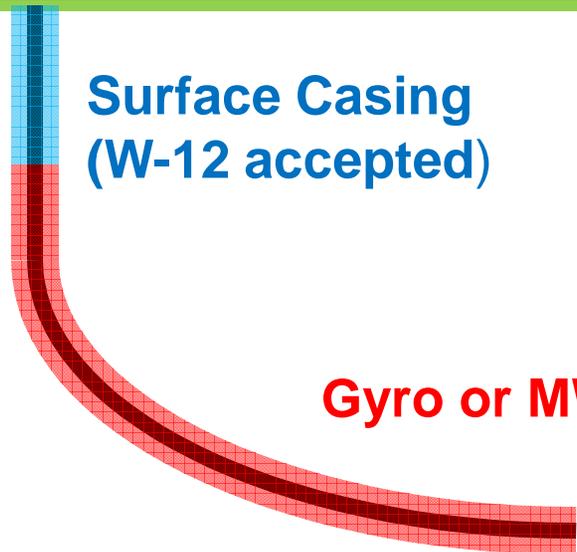
DIRECTIONAL SURVEYS

Required for any intentionally-deviated well

Data points no more than 200' apart, *beginning within 200' of the surface

May begin immediately below surface casing depth (W-12 required in this case)

SWR 86: Horizontal Wells

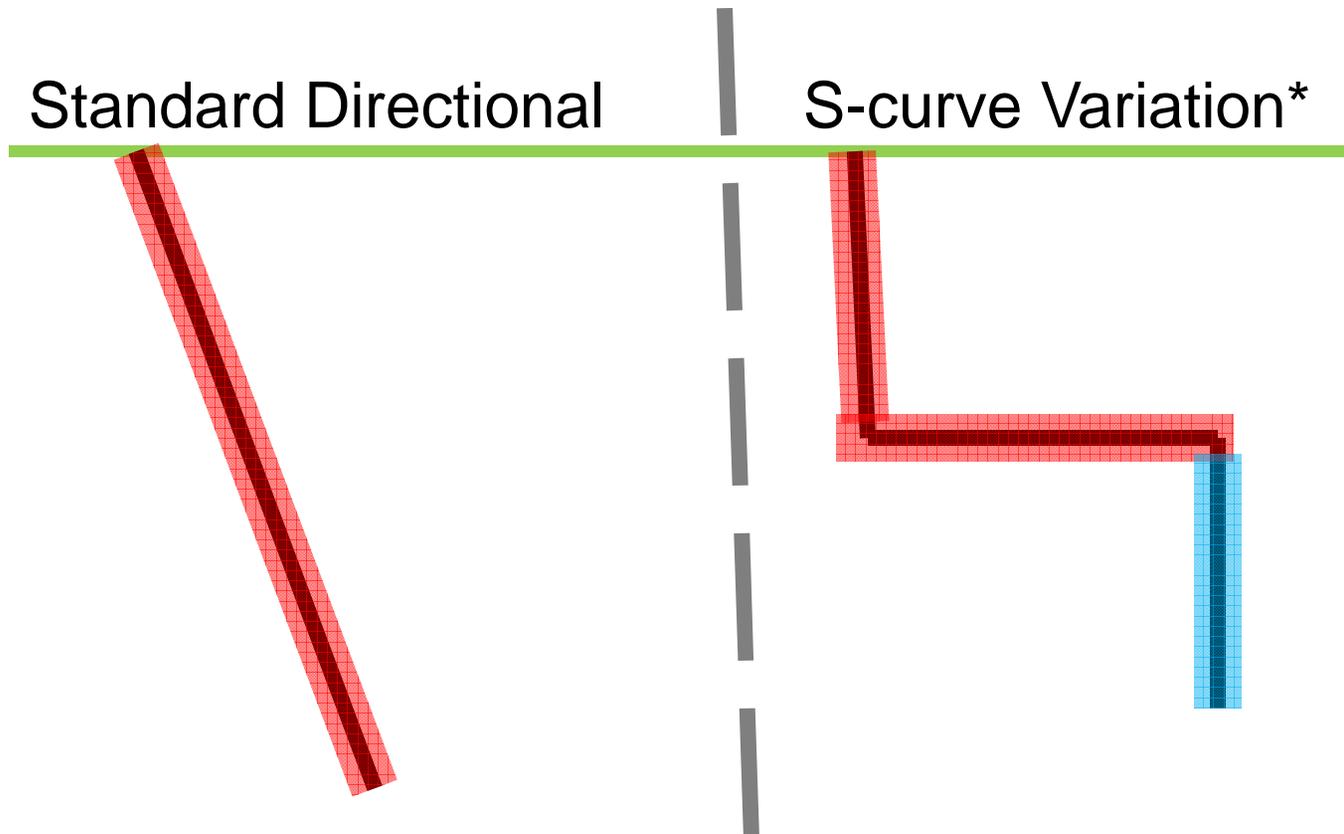


The diagram shows a wellbore starting vertically from the surface, indicated by a green horizontal line. The vertical section is colored blue and labeled "Surface Casing (W-12 accepted)". The wellbore then curves 90 degrees to become horizontal, colored red. The text "Gyro or MWD required" is placed near the curve. The wellbore is depicted with a grid pattern.

**Surface Casing
(W-12 accepted)**

Gyro or MWD required

SWR 11: Directional Wells



Directional Survey Required
Inclination Survey Accepted

*Special permission required
to drill an S-curve

Statewide Rule 3.86 (SWR 86)



SWR 86 outlines requirements for Horizontal Drainhole Wells

Purpose: to establish standard requirements for
horizontal wells

Directional surveys required

SWRs 11 & 86: Surveys



- Common mistakes:
 - WRONG SURVEYS for wellbore profile
 - Surveys missing completely
 - Surveys lacking certification
 - Surveys don't tie-in
 - Surveys attached for wrong well
- Solution:
 - Survey company must correct and resubmit

Statewide Rule 3.12 (SWR 12)



Outlines requirements for Submission and Certification of Directional Surveys:

- Survey Company Name
- Name and title of individual performing survey
- Date survey was performed
- Type of survey conducted
- Complete well identification
- Depths surveyed
- Drilling permit plat with bottom hole location.

SWR 12: Proper Certification



I, ***name***, an authorized employee of **THE SURVEY COMPANY**, have verified the **GYRO/MWD** survey performed on **04/01/2013 to 04/02/2013**, from **200' to 15000'**. The data are true, correct, complete and within the limitations of the tool. This survey was conducted at the request of **OPERATOR** for **LEASE WELL# (API#)** drilled in **TRAVIS COUNTY**, Texas.

SWR 12: Directional Surveys



Directional Surveys must be submitted and certified by the company that performed the survey.

They cannot be accepted directly from the operator.

SWR 12: Proper Certification



- Common mistakes:
 - Uploading cover letter instead
 - Double-certifying another company's interval
 - Certification completely missing
- Solution:
 - Survey company must correct and resubmit

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Submission Procedures



Submission of Directional surveys is the responsibility of the survey company.

Survey companies:

- Must appear on list of approved survey companies*
- Must have active P-5 (Organization Report)
- Must upload certification letter as a separate file

Submission Procedures



Surveys can be submitted hardcopy through the mail or through the RRC online system.

- Submitted hard copy takes at least two (2) weeks.
- Surveys submitted online are immediately available for review.

Online Submission



RC ONLINE SYSTEM Choose an Application ▾

Oil & Gas Completions

[Completions Home](#) [Completions Menu](#) [P8 Menu](#) [Internal Menu](#) [Help](#)

Well Completions

Completions Package Filing Completion Package Completions Query	P-8 On-Line filing system now available. <ul style="list-style-type: none">Instantly submit your P-8.Query available to review P-8's status and to print or save the form.Upon RRC action, an e-mail will be sent to the filer that evening.List primary Gatherer under item 14 of the P-8, include all Gatherers on P-4.Operators are responsible to supply the Gatherer with the approved P-8 form.
P-8 Filing P-8	Please review the Help tab should you need assistance prior to contacting the RRC.
Directional Survey Filing Directional Survey Directional Survey Query Directional Survey Messages	On-Line Completions <p>Additional information requests have recently been added to the Online Completion system.</p> <p>If the well is being down hole commingled (SWR 10), you will receive a request for the approval letter to be attached. If you have not received the approval letter, place a remark under page 5 of the G-1/W-2 stating the submitted date of the SWR 10 application. See Notice of Form Changes to SWR 10.</p> <p>If the Drilling Permit has fields associated with H2S (SWR 36), the completion system will provide the following warning: "Producing intervals are associated with a hydrogen sulfide field, an H-9 may need to be filed." Should you feel an H-9 is not needed, you may submit your completion without attaching the form. Commission staff will make the final determination.</p>
Internal Hard Copy Packet Edit Internal Workflow	Please review the help section prior to contacting RRC staff. Questions can be e-mailed to prorationunit@rrc.state.tx.us

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Online Submission



Oil & Gas Completions

[Completions Home](#) [Completions Menu](#) [P8 Menu](#) [Internal Menu](#) [Help](#)

Directional Survey

Survey Company: STEVENS GAS COMPANY (819560)

Directional Survey Data

Operator Name: LEWIS PETRO PROPERTIES, INC. (499978)	RRC District No.: 04
Field Name: OWEN (OLMOS)	County: WEBB
Lease Name: NORTHEAST COMPLEX	Well No.: 2H
API No.: 479-41167	RRC Gas ID or Oil Lease No.:
Drilling Permit No: 708526	

Upload Directional Survey

Survey Type: File:

Depth Interval From: feet Depth Interval To: feet Lateral Label:

Survey Start Date: MM/DD/YYYY Survey End Date: MM/DD/YYYY

Type Other Remarks:

* The current limit on files being uploaded is 6MB.

Current Attachments

Attachment Type	Name	From	To	Label	Start Date	End Date
-----------------	------	------	----	-------	------------	----------

Additional Information

Remarks:

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.

I accept: No Yes

Online Query



RR ONLINE SYSTEM Choose an Application:

Oil & Gas Completions

[Completions Home](#) [Completions Menu](#) [PB Menu](#) [Internal Menu](#) [Help](#)

Directional Survey Query

Tracking No.:

Or

Certified Date From: MM/DD/YYYY

Certified Date To: MM/DD/YYYY

API No.:

Survey Company No.:

Drilling Permit No.:

Type:

Depth:

Or

Hard Copy Entered Date From: MM/DD/YYYY

Hard Copy Entered Date To: MM/DD/YYYY

[My Messages](#) [Recent Notifications](#)

No Messages

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Online Query



Search online by API number to verify submission

BRC ONLINE SYSTEM Choose an

Oil & Gas Completions

[Completions Home](#) [Completions Menu](#) [PB Menu](#) [Internal Menu](#) [Help](#)

Directional Surveys Found

Search Criteria:

- Tracking No.:37396

0 results Page: 1 of 1

<input type="checkbox"/>	<u>API No.</u>	<u>Drilling Permit No.</u>	<u>Type</u>	<u>Lease Name</u>	<u>From</u>	<u>To</u>	<u>Label</u>
<input type="checkbox"/>	47941302	716191	Directional Survey - MWD	CERRITO	108	10177	Lateral 1
<input type="checkbox"/>	47941302	716191	Directional Survey - Certification	CERRITO	108	10177	Lateral 1

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Engineering Review



- **Survey completeness**

- Tie-ins
- Certification

- **Well construction**

- Wellbore profile
- Abandoned wellbore
- Required plugs and cementing

- **Spacing**

- Lease line spacing
- Between-well spacing
- Permitted location
- NPZs

Survey Completeness: Tie ins



- RRC will accept *specific* combinations of surveys that represent a complete picture of the entire wellbore.
- All surveys must tie in at given depths with **identical X,Y, and Z coordinates.**

Eng Review: Tie-Ins



Survey A (GYRO)

Depth	Incl.	Azimuth	+N/-S	+E/-W	Tool
600'	2.3	270°	5	20	GYRO
800'	3.3	268°	9	-80	GYRO

Survey B (MWD)

Depth	Incl.	Azimuth	N-S	E-W	Tool
800'	3.3	268°	9 N	80 W	GYRO
1000	10	272°	15 N	120 W	MWD

Tie-in point



We will contact you if the tie-in data are missing.

Eng Review: Certification



Attachments page of the G-1 or W-2

Certified Directional Surveys				
Attachment Type	Name	From	To	
Gyro	728663714.pdf	0	2205	<input type="button" value="Attach to Packet"/>
MWD	RVB No 20 Survey Letter.pdf	2243	9900	<input type="button" value="Attach to Packet"/>
MWD	Rosa V Benavides 20H ST1 Survey Letter.pdf	2205	10300	<input type="button" value="Attach to Packet"/>
Certification	RVB No 20 Certified Letter.pdf	2243	9900	<input type="button" value="Attach to Packet"/>
Certification	rosa v benavides 20h-laredo-2205=071.pdf	0	2205	<input type="button" value="Attach to Packet"/>
Certification	Rosa V Benavides 20H ST1 Certified Letter.pdf	2205	10300	<input type="button" value="Attach to Packet"/>

Engineering Review



Wellbore Construction:

- Compiled from inclination and directional surveys
 - **SWR 11 requires ALL directional surveys**
- Well location projected onto Permit Plat
- Permit and As-drilled plat requirements follow

Eng Review: Construction



Plat Requirements

Lease boundary

Scale bar

North Arrow

Surface Location (SL)

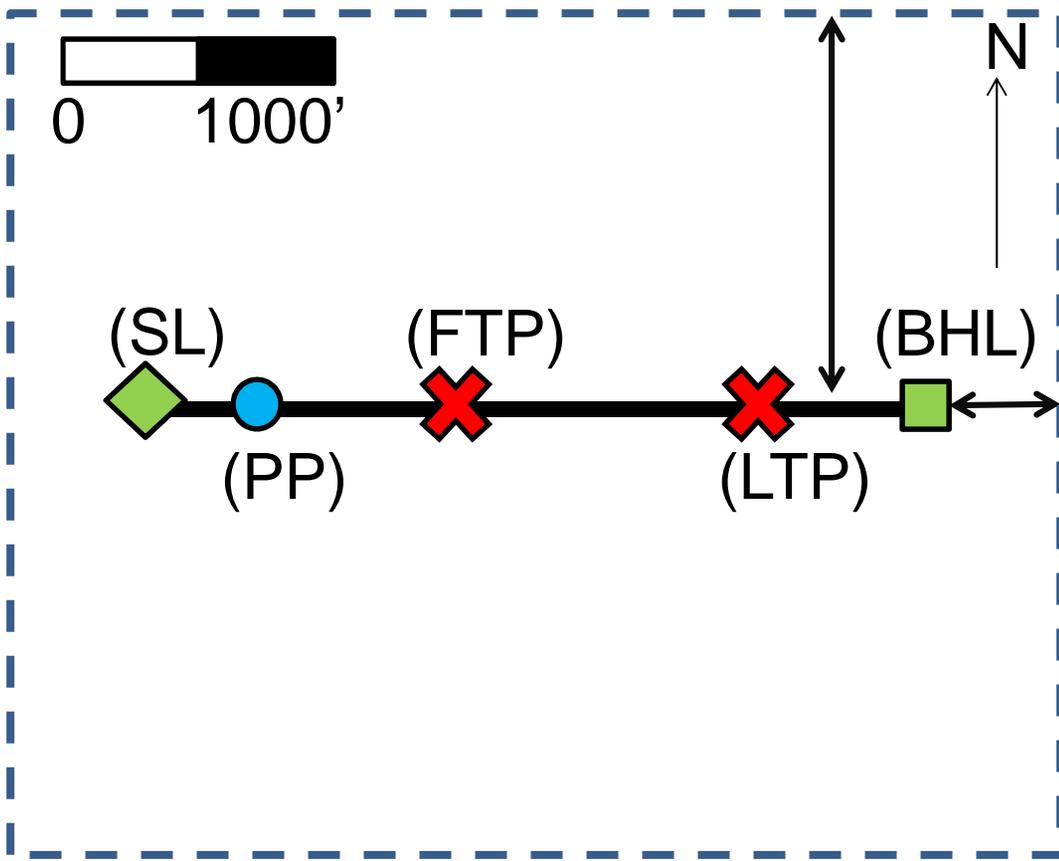
Penetration Point (PP)

First Take Point (FTP)

Last Take Point (LTP)

Terminus/Bottom Hole Location (BHL)

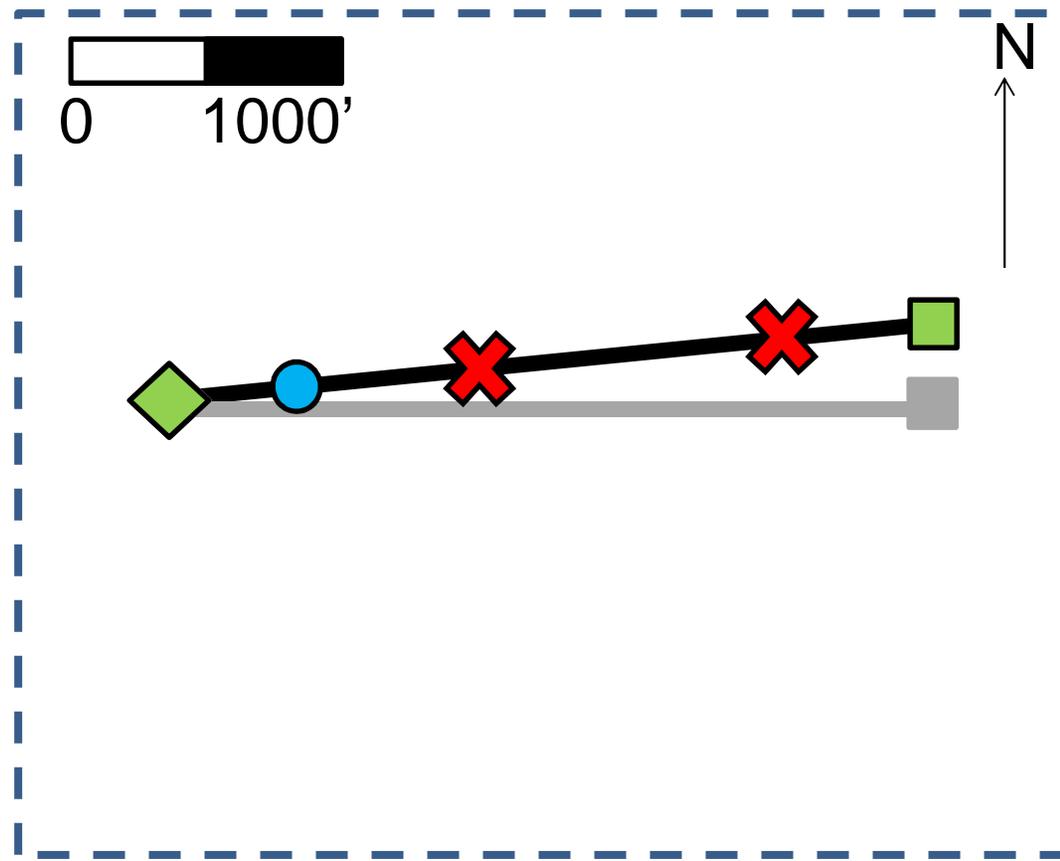
Distance to Lease Lines



Eng Review: Construction



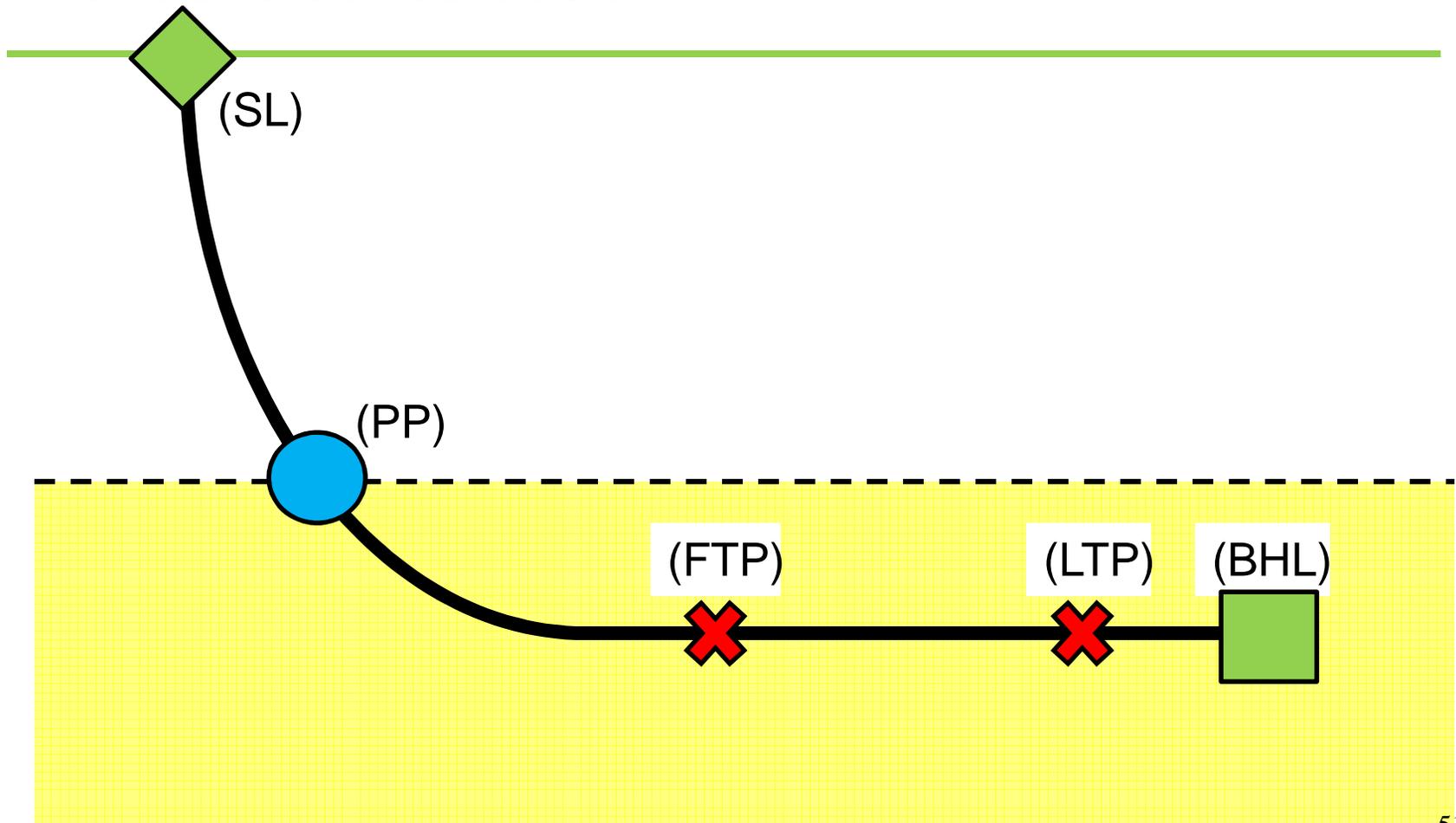
~~Permit Location~~ As-drilled Location



Eng Review: Construction



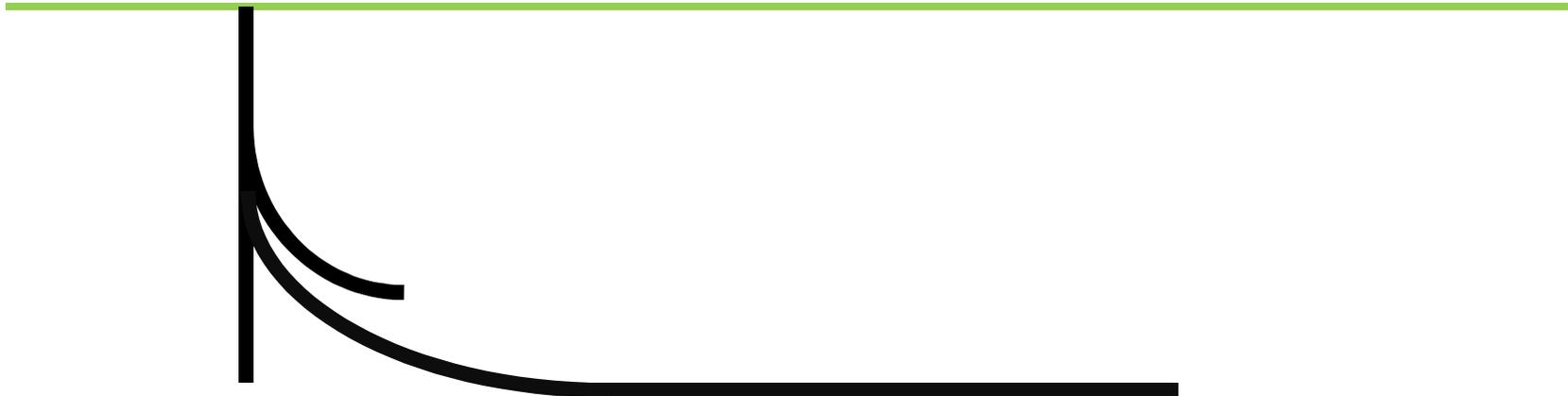
Wellbore construction



Eng Review: Construction



Sometimes directional surveys indicate abandoned sections of wellbore (pilot holes or sidetracks) that must be plugged.

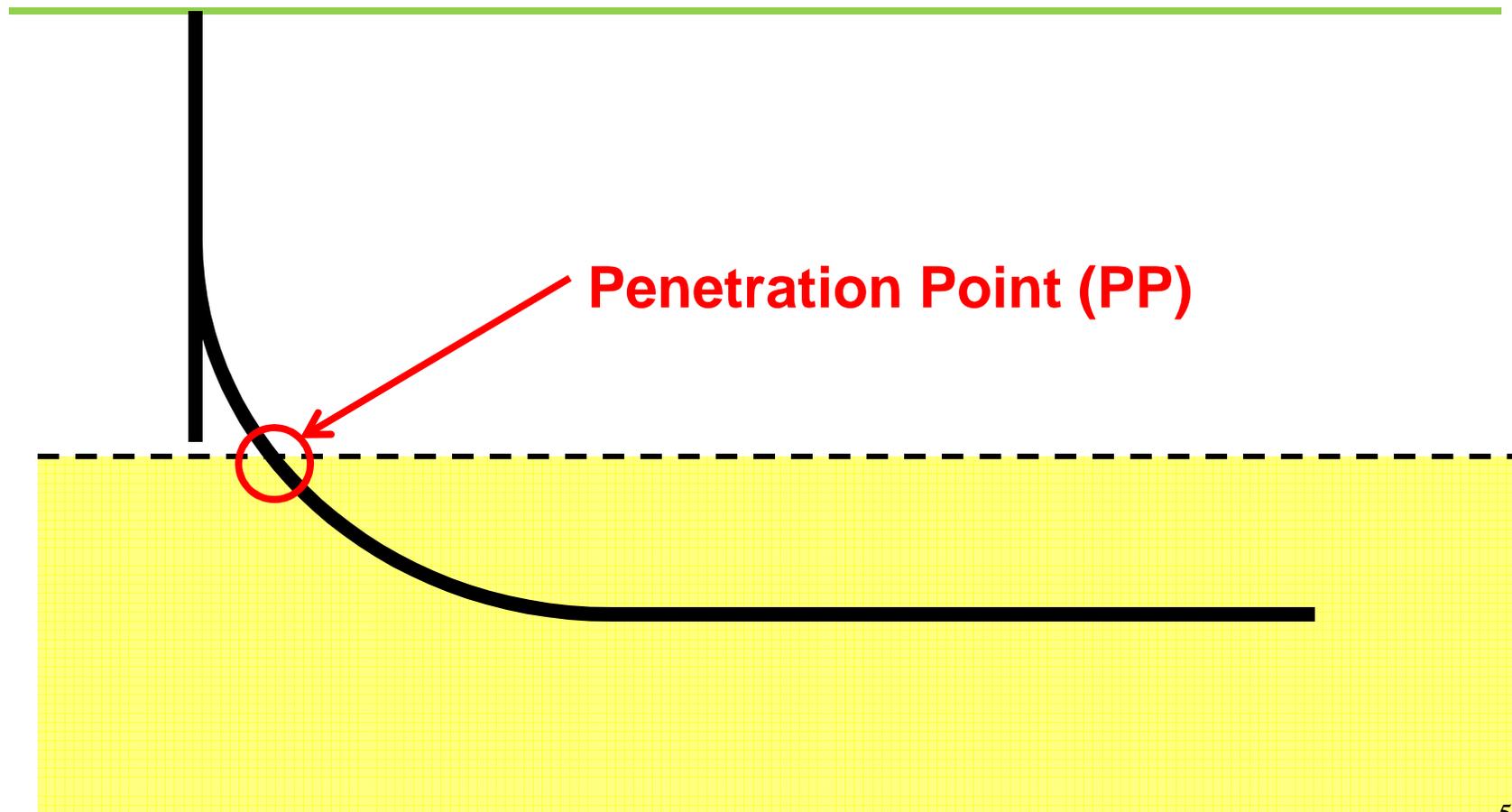


District Offices don't necessarily review directional surveys, so it is crucial to communicate any intentions to abandon portions of the wellbore with the District Offices directly and in advance.

Eng Review: Construction



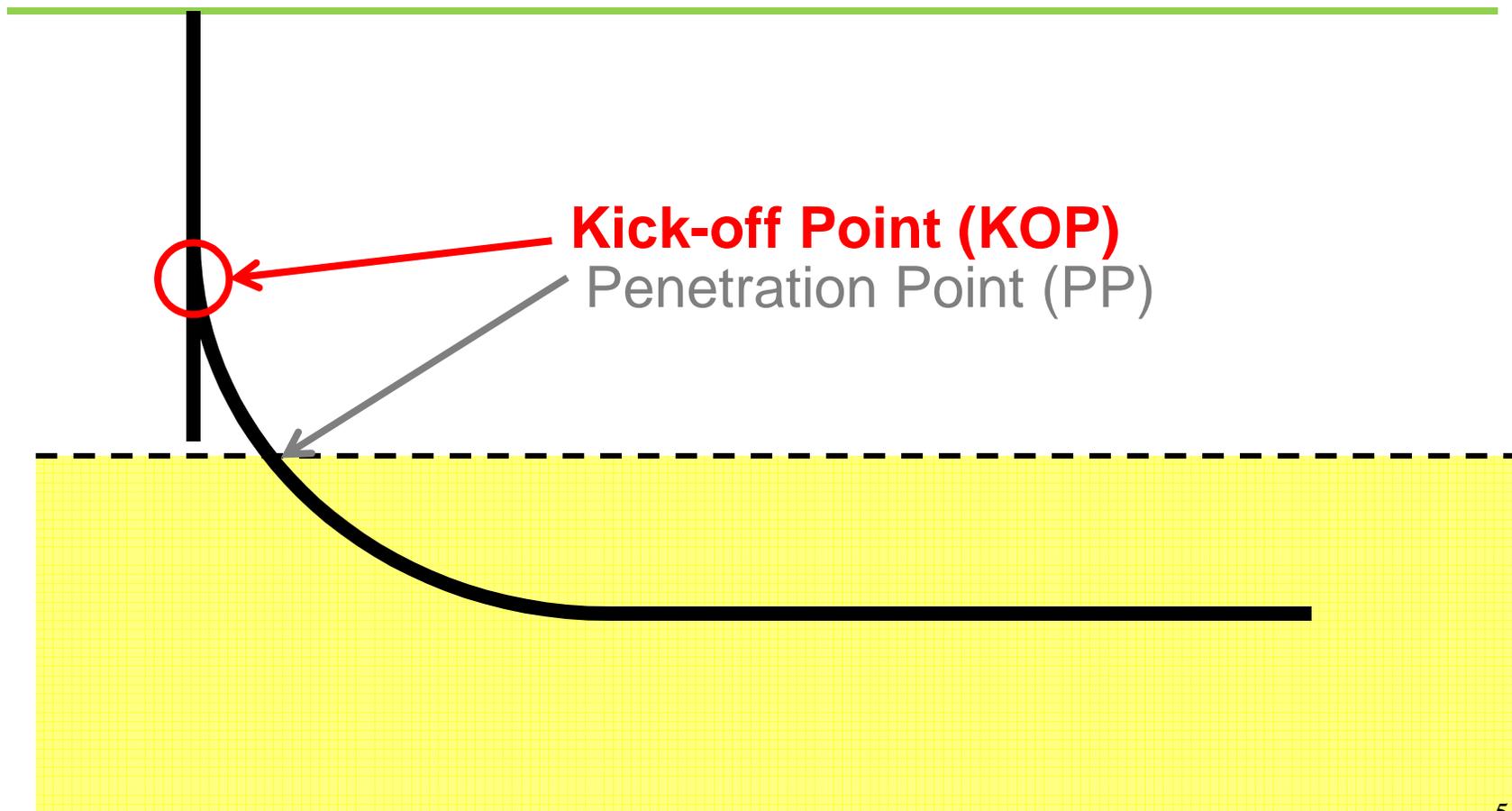
Wellbore construction



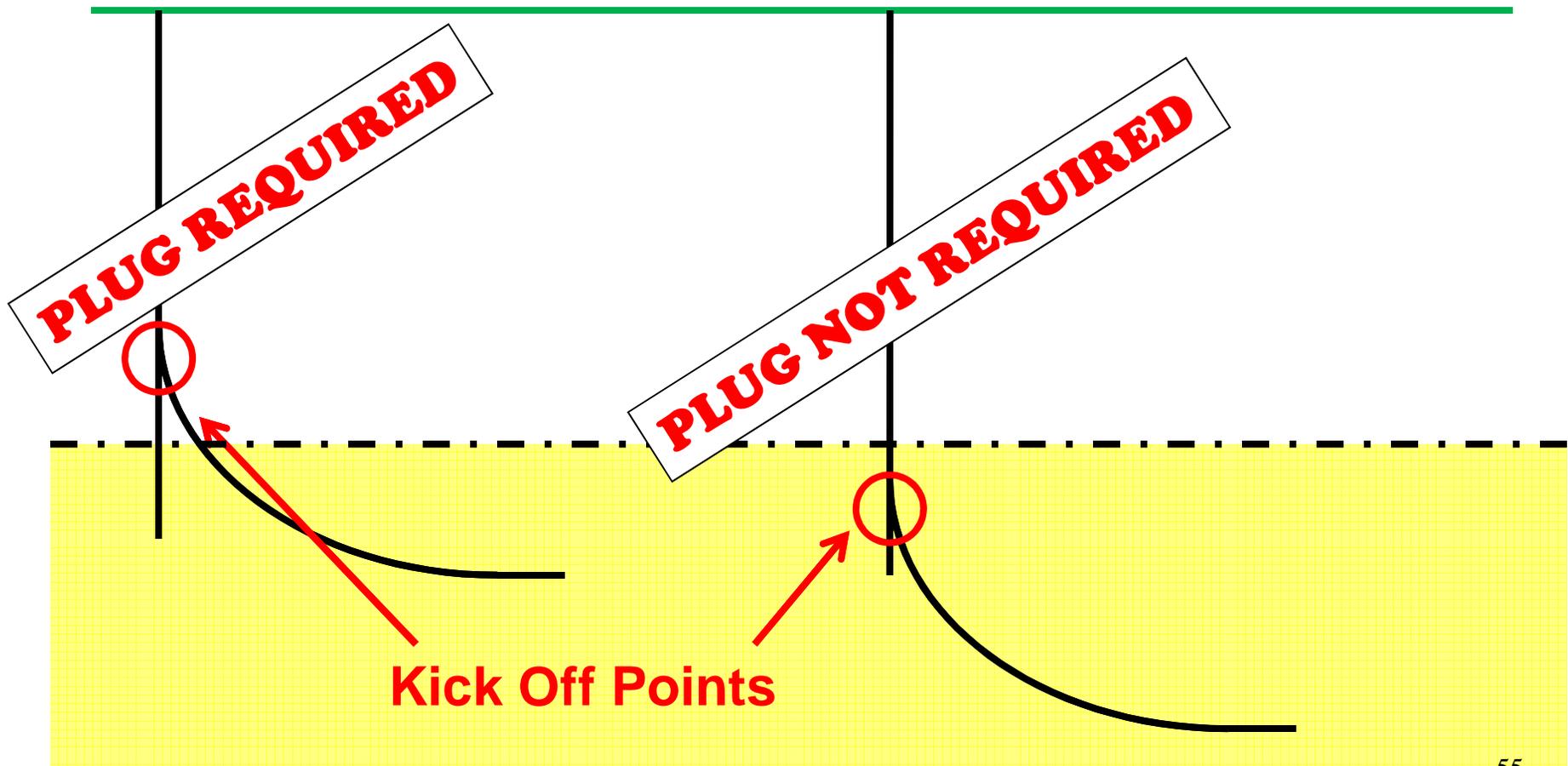
Eng Review: Construction



Wellbore construction



Eng Review: Construction



Statewide Rule 3.14 (SWR 14)



Outlines Cementing and Plugging Requirements

Purpose: To isolate and protect usable water and productive formations from migration and contamination

Minimum plug dimensions:

- 100' thick, **centered on penetration point**
- Additional 10' required for each 1000' TVD.

Eng Review: Construction



CEMENTING TO PLUG AND ABANDON	PLUG # 1
23. Cementing date	
24. Size of hole or pipe plugged (in.)	
25. Depth to bottom of tubing or drill pipe (ft.)	
26. Sacks of cement used (each plug)	
27. Slurry volume pumped (cu. ft.)	
28. Calculated top of plug (ft.)	
29. Measured top of plug, if tagged (ft.)	
30. Slurry wt. (lbs/gal)	
31. Type cement	

Form: W-15

- Plugging record on page 2
- Used to calculate plug thickness

Eng Review: Abandoned Sections



The MWD directional survey from _____ indicates an abandoned section of sidetrack 0 below the KOP of sidetrack 1. The section of abandoned wellbore must comply with section (d)(7) and section (k) of SWR 14.

The operator must provide documentation that it complied with the district office's instructions concerning plugging the abandoned wellbore prior to sidetracking, as per section (d)(7) of SWR 14.

Eng Review: Construction



SWR 14

(j) “The district director or the director's delegate shall review and approve the notification of intention to plug in a manner so as to accomplish the purposes of this section.”

- Exceptions may be granted by district offices, not Austin**
- Note Job# of communication/notification with District in the remarks section of W-2/G-1**

SWR 14 Exceptions



1. Contact District Office:

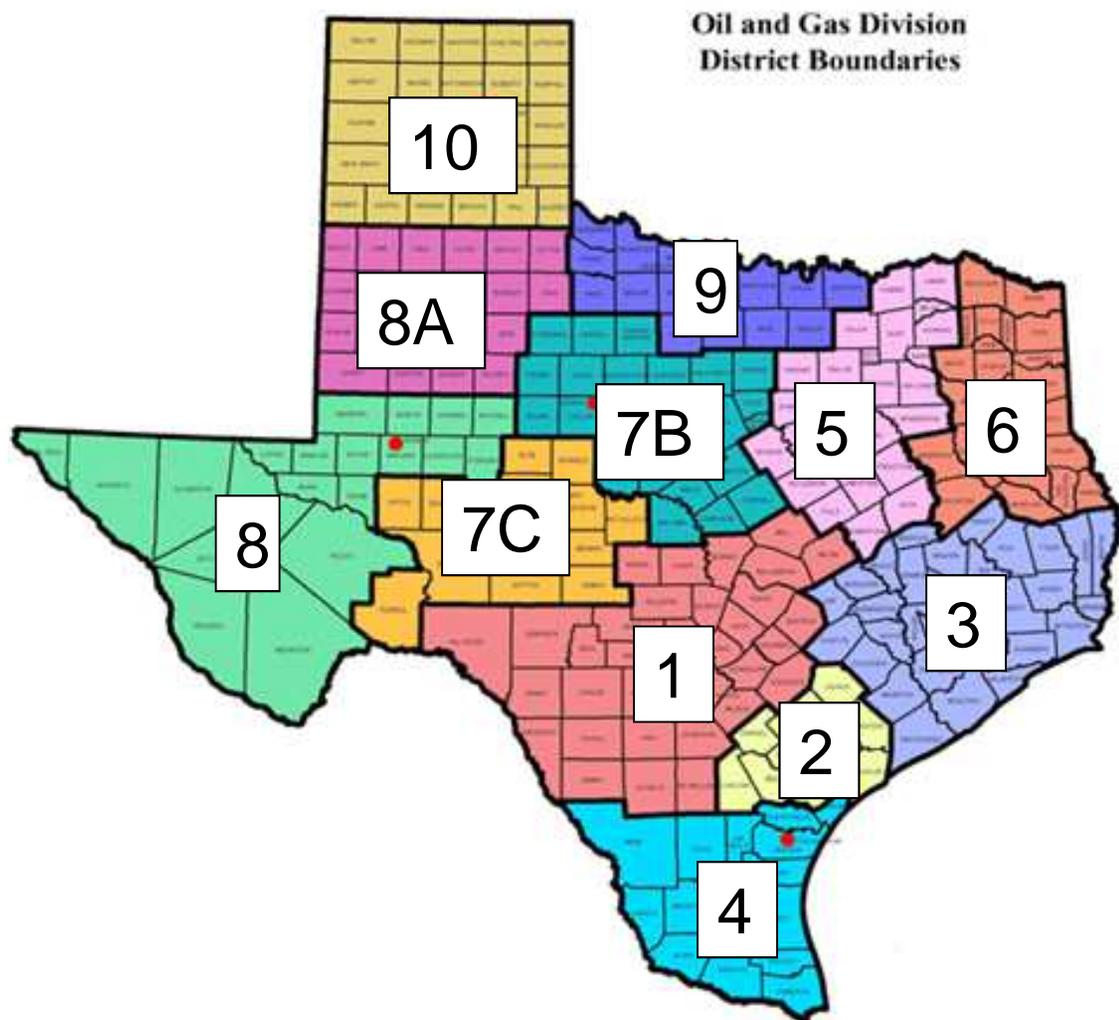
- ✓ Acknowledge/advise of SWR 14 violation
- ✓ Explain circumstances of violation
- ✓ Make a case for adequate isolation
- ✓ Formally request an exception to the rule

2. Forward District Office response to Engineering

! Letter from operator to District may not resolve issue

➤ **Repeat violations may result in recommendation for administrative penalty action**

SWR 14 Exceptions



Oil and Gas Division District Offices:

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

District Office Contact Info



A screenshot of the Railroad Commission of Texas website. The browser address bar shows "http://new.rrc.state.tx.us/". The navigation menu includes "Contact Us", "RRC Online Log In", "Jobs", and "Resource Center". The "Contact Us" link is highlighted with a red box and a red arrow. Below the navigation menu, the website header includes the RRC logo and a list of menu items: "About Us", "Oil & Gas", "Alternative Fuels", "Gas Services", "Pipeline Safety", "Mining & Exploration", and "Legal". The main content area features the heading "Railroad Commission of Texas" and the sub-heading "The Railroad Commission serves Texas through:". Below this is a bulleted list of services: "our stewardship of natural resources and the environment;", "our concern for personal and community safety; and", and "our support of enhanced development and economic vitality for the benefit of Texans." There are also links for "Learn More" and "Recent News View All". The "Recent News" section lists two articles: "RRC Production Statistics and Allowables for May 2014" and "Texas Monthly Oil and Gas Statistics", both dated April 25, 2014. On the right side, there is a "Commissioners" section with three entries: Chairman Barry T. Smitherman, Commissioner David Porter, and Commissioner Christi Craddick, each with a photo, name, phone number, and email address. Below the commissioners section are links for "Data - Online Research Queries", "Maps - Public GIS Viewers", "Frequently Asked Questions (FAQ)", and "Rules". The browser status bar at the bottom shows the URL "http://new.rrc.state.tx.us/about-us/contact-us/" and a zoom level of 100%.

District Office Contact Info



Home / About Us /

Contact Us

The Railroad Commission is committed to providing outstanding services to the state's citizens. Listed below are important contact phone numbers.

General Information	(877) 228-5740 (512) 463-7158
TTY/TDD	(800) 735-2989
24 Hour Emergency Number	(512) 463-6788
Call to report an environmental emergency, discharge, spill, or air release from oil and gas facilities, pipelines, or alternative fuels.	
Alternative Energy Division	(512) 463-6692
Alternative Fuels Research & Education Division (AFRED)	(512) 463-7110

RRC Contact Information

Main Office:
1701 N. Congress
Austin, Texas 78701 (map)

Mailing Address:
P.O. Box 12967
Austin, Texas 78711-2967

Organization Chart

RRC Locations

RRC Phone Directory

District Office Contact Info



Austin, TX 78721
(512) 463-2682

Oil & Gas Locations

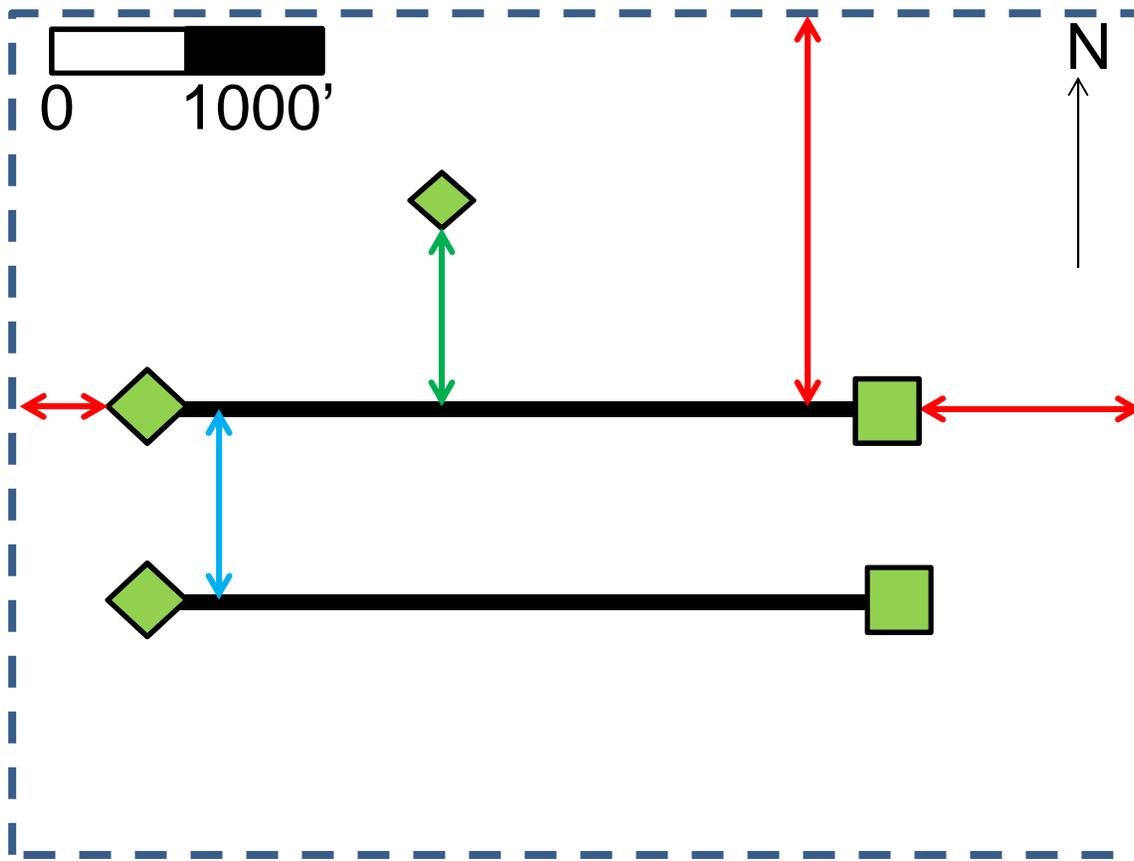
- [District Office Map](#)
- [District Offices by County](#)

District	City	Address	Phone / FAX
1	San Antonio	115 East Travis St (map) San Antonio, TX 78205	(210) 227-1313
2	San Antonio	115 East Travis St (map) San Antonio, TX 78205	(210) 227-1313
3	Houston	1706 Seamist Dr (map) Houston, TX 77008	(713) 869-5001
4	Corpus Christi	10320 IH 37 (map) Corpus Christi, TX 78410	(361) 242-3113
5	Kilgore	2005 North State Highway 42 (map) Kilgore, TX 75662	(903) 984-3026
6	Kilgore	2005 North State Highway 42 (map) Kilgore, TX 75662	(903) 984-3026

Eng Review: Spacing



Spacing concerns



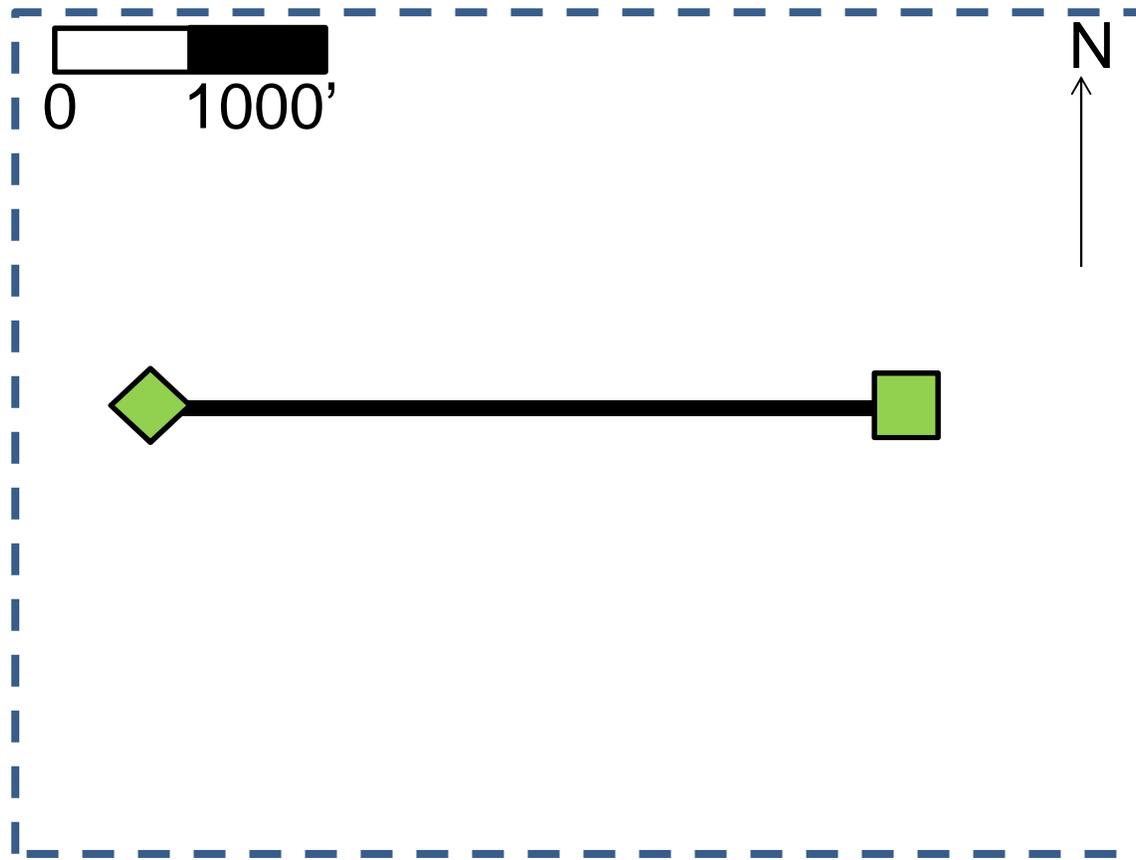
Lease Line Spacing
Between-well
spacing (horizontal
wells)

Between-well
spacing (vertical
wells)

Eng Review: Spacing



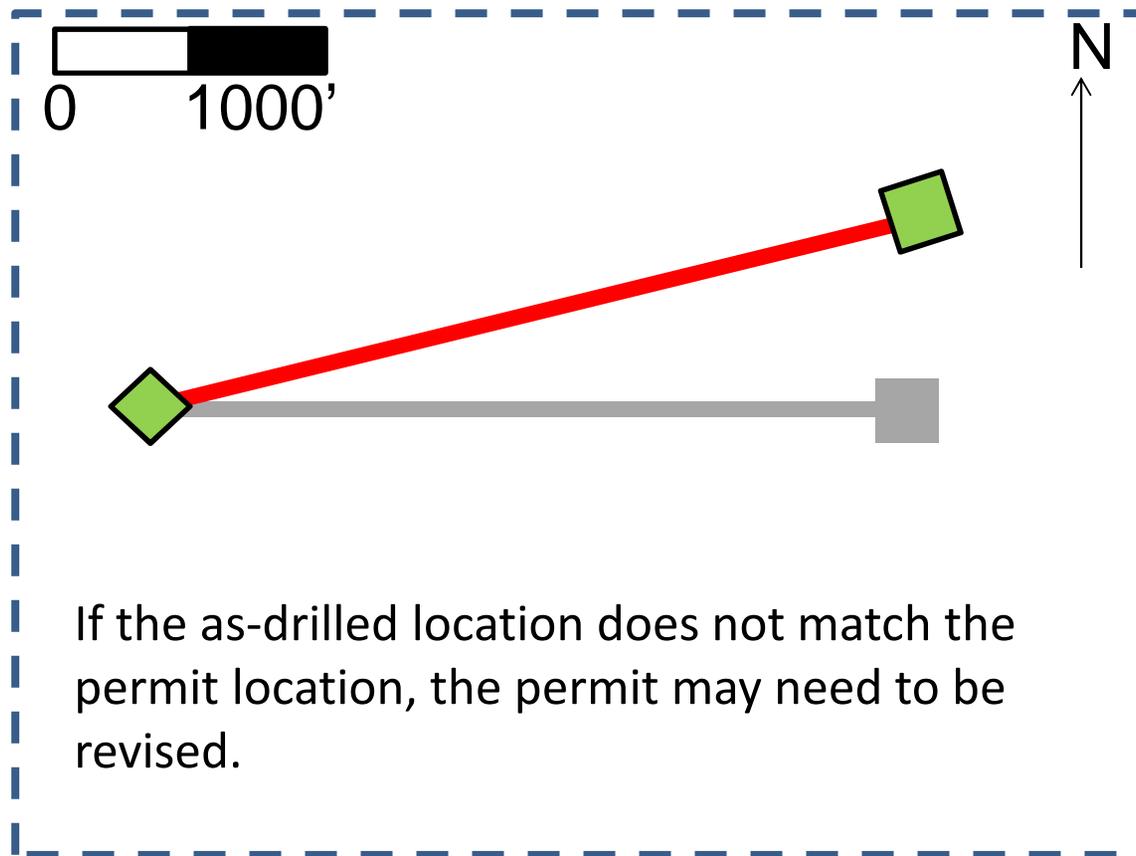
Permitted Location



Eng Review: Spacing



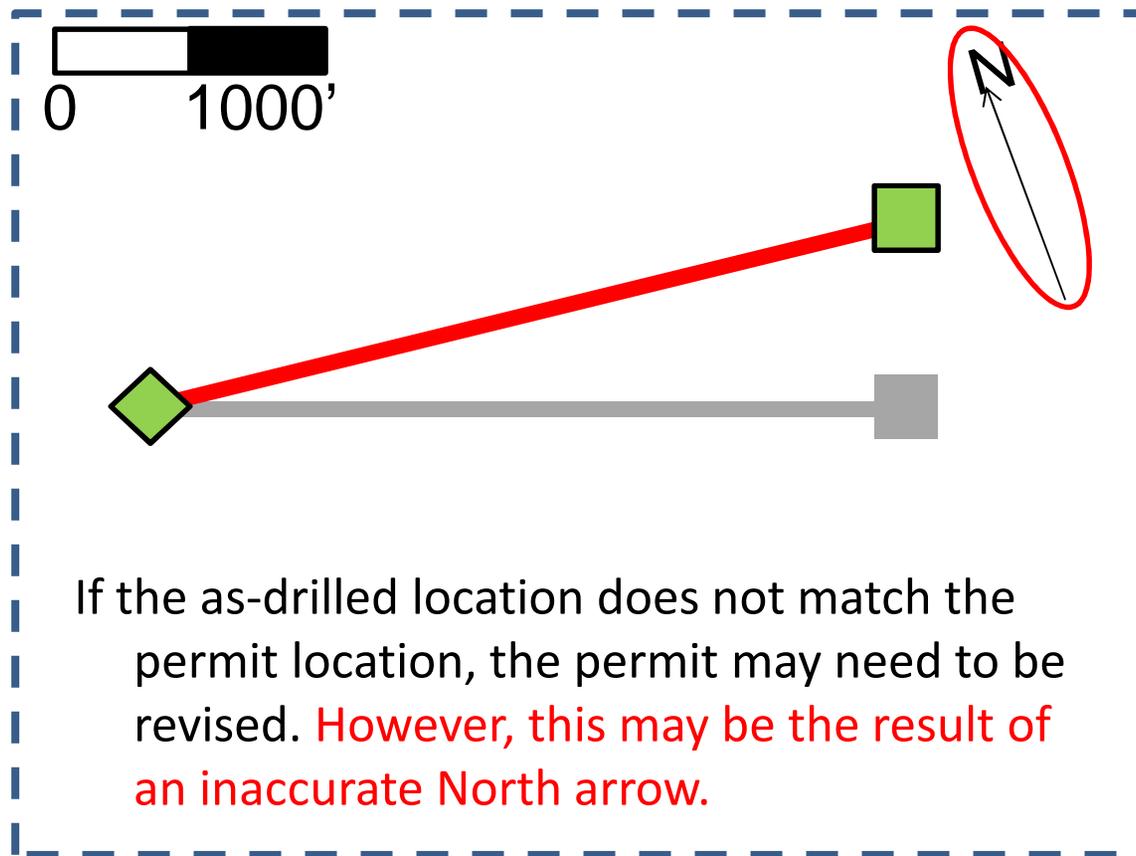
Permitted As-Drilled Location



Eng Review: Spacing



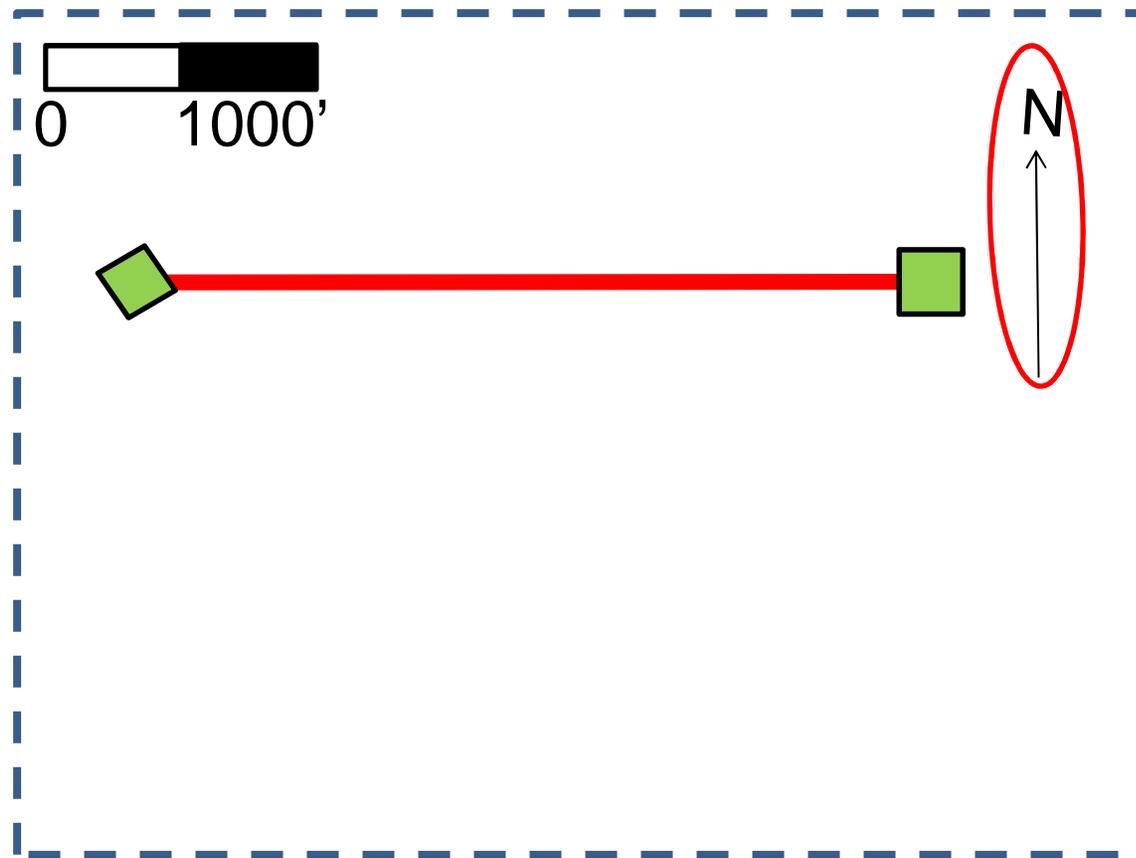
~~Permitted~~ As-Drilled Location



Eng Review: Spacing



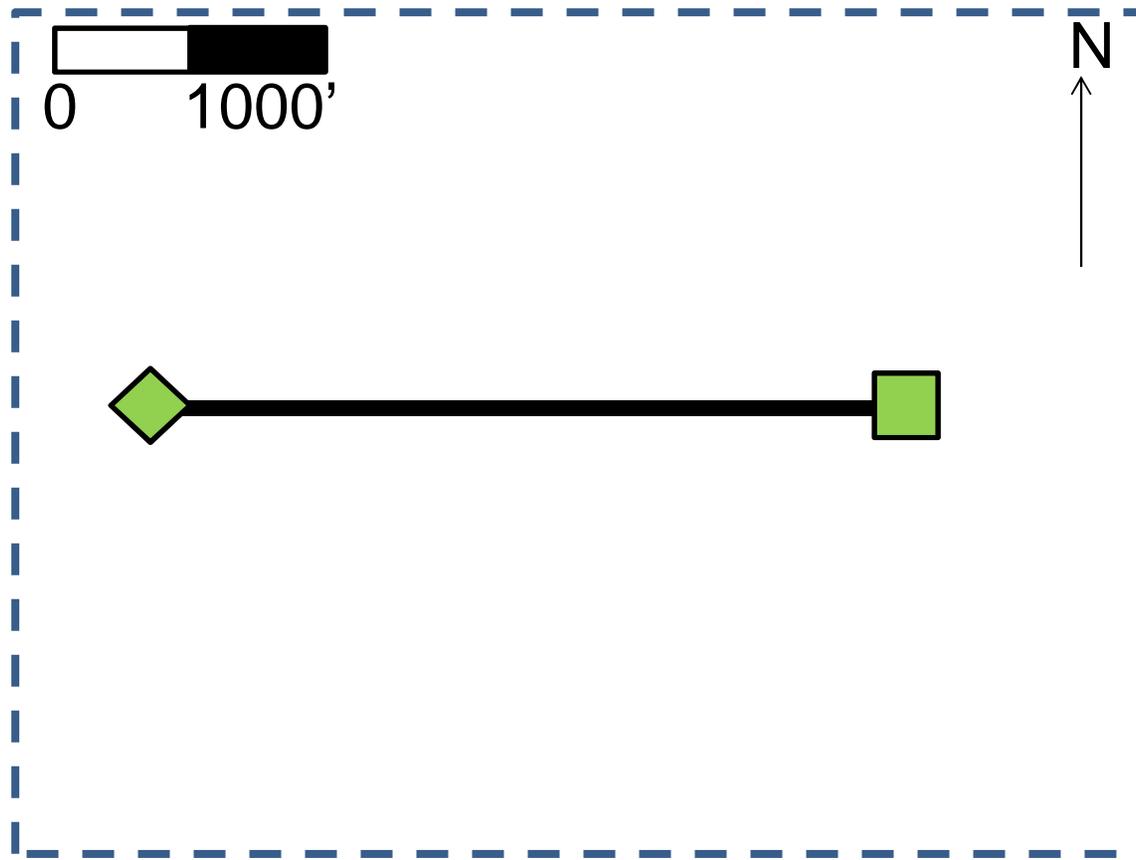
~~Permitted~~ As-Drilled Location



Eng Review: Spacing



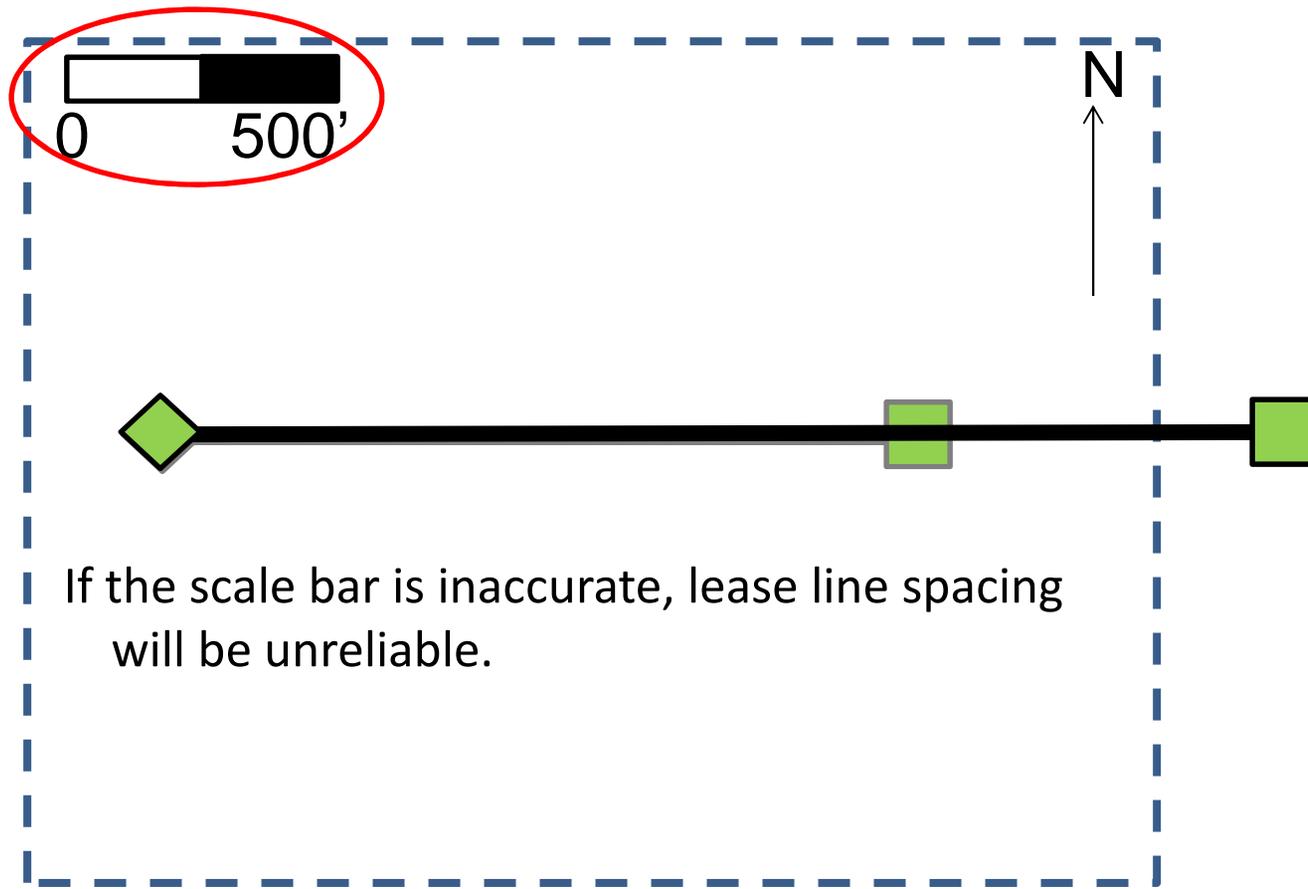
Permitted Location



Eng Review: Spacing



Permitted Location



Engineering Review



Online messages

- Attached if an issue arises
- Dispatched at the end of the day
- No notification is sent when an operator responds, email to notify us directly for rapid response
- Otherwise, we go through all old messages periodically, takes a few days depending on reviewer.

Special Field Rules



Special Field rules are tailor made rules approved by the Commission for various fields.

There are a couple common rules that are seen in various fields. Here are a few:

- Lease Line spacing
- Well Spacing
- Off lease penetration points
- Box rule
- Heel & Toe Provisions

RAILROAD COMMISSION OF TEXAS HEARINGS DIVISION

OIL AND GAS DOCKET
NO. 02-0282092

IN THE EAGLEVILLE (EAGLE FORD-2)
FIELD, DE WITT, KARNES, LAVACA AND
LIVE OAK COUNTIES, TEXAS

FINAL ORDER

AMENDING THE FIELD RULES FOR THE EAGLEVILLE (EAGLE FORD-2) FIELD DE WITT, KARNES, LAVACA AND LIVE OAK COUNTIES, TEXAS

The Commission finds that after statutory notice in the above-numbered docket heard on June 13, 2013, the presiding examiner has made and filed a report and recommendation containing findings of fact and conclusions of law, for which service was not required; that the proposed application is in compliance with all statutory requirements; and that this proceeding was duly submitted to the Railroad Commission of Texas at conference held in its offices in Austin, Texas.

The Commission, after review and due consideration of the examiner's report and recommendation, the findings of fact and conclusions of law contained therein, hereby adopts as its own the findings of fact and conclusions of law contained therein, and incorporates said findings of fact and conclusions of law as if fully set out and separately stated herein.

Therefore, it is **ORDERED** by the Railroad Commission of Texas that the Field Rules adopted in Final Order No. 02-0266475, effective November 30, 2010, as amended, for the Eagleville (Eagle Ford-2) Field, De Witt, Karnes, Lavaca and Live Oak Counties, Texas, are hereby amended. The amended Field Rules are set out in their entirety as follows:

Special Field Rules



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Railroad Commission of Texas Mission Statement

The Railroad Commission serves Texas through:

- 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.

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Recent News [View All](#)

[Railroad Commissioner David Porter Tours Westmoreland Jewett Mine](#)

April 29, 2015

Railroad Commissioner David Porter today toured the Texas Westmoreland Coal Company Jewett Mine, a 35,000-acre surface mine complex located between Dallas and [Read More...](#)

[Texas Coal Production Increases in 2014-Production up by More than One Million Tons](#)

April 28, 2015

The Railroad Commission of Texas reports Texas coal production increased by 2.8 percent in calendar year 2014 over the previous year by 1,184,287 tons for a total [Read More...](#)

[RRC PRODUCTION STATISTICS AND ALLOWABLES FOR MAY 2015](#)

April 27, 2015

The Texas average rig count as of April 17, was 411, representing about 45 percent of all active land rigs in the United States according to Baker Hughes Incorporated. The Railroad Commission of Texas (Commission) reports that in the last 12 months, total Texas reported production was 930 million barrels of oil and 8.3 trillion cubic feet of natural gas [Read More...](#)

Commissioners

 Chairman Christi Craddick

 Commissioner David Porter

 Commissioner Ryan Sitton

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[Frequently Asked Questions - FAQs](#)

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Special Field Rules



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Online Research Queries

The links in the boxes allow users to research oil & gas production, drilling permits, well records, gas utility and pipeline information, surface coal/lignite mining permit information and other related queries.

Note: *The online research queries are intended for use by individuals needing specific information from the Railroad Commission of Texas. The use of automated tools to retrieve volumes of data can cause severe degradation of Railroad Commission of Texas systems. If the query system detects that data is being retrieved using an automated tool, the Railroad Commission of Texas will end the session for that user.*

Requirements for Accessing Online Research Queries

The Railroad Commission of Texas recommends accessing the online research queries using a broadband Internet connection (Cable Modem, DSL, Fiber, Wireless, Satellite are common examples). A dial-up connection may work, but performance will not be desirable.

Adobe Acrobat Reader 9.5 or higher should be used AND one of the following browsers:

- Microsoft Internet Explorer 10 or higher
- Mozilla Firefox 10 or higher
- Google Chrome 20 or higher
- Apple Safari 5 or higher

Oil & Gas

Type of Query		
Completions Query		Launch application
Drilling Permit (W-1) Query		Launch application
Electronic Document Management System	Learn more	Launch application
Field Rules Query		Launch application



Important Disclaimer

A "data set" is any set of information electronically generated or stored by Railroad Commission of Texas (Commission) systems, including, but not limited to, the Commission's Geographic Information System, Online Research Query System, or Mainframe System.

The data sets provided by the Online Research Query System are continually being updated and are provided as a public service for informational purposes only. They are **not** intended to be used as an authoritative public record and have no legal force or effect. Users are responsible for checking the accuracy, completeness, currency, and/or suitability of these data sets themselves.

The Commission specifically disclaims any and all warranties, representations, or endorsements, express or implied, with regard to these data sets, including, but not limited to, the warranties of merchantability, fitness for a particular purpose, or non-infringement of privately owned rights.

Select a Query System to search:

- [Oil & Gas](#)
- [Natural Gas Services](#)
- [Pipeline Safety](#)

Special Field Rules



Field Search

Search Again

Search for a Field: Beginning with these characters

Containing these characters (Please enter at least 3 characters)

Matching this Number Exactly

Field Query Results

Select the field in the following list to view Field Rules.

- 85279200 7C SPRABERRY (TREND AREA)
- 85279201 7C SPRABERRY (TREND AREA) R 40 EXC
- 85279400 7C SPRABERRY (TREND AREA CL. FK.)
- 85279600 7C SPRABERRY (TREND AREA CL. FK. S.)
- 85279800 7C SPRABERRY (TREND AREA CL. FK. W.)
- 85280200 08 SPRABERRY (PENN.)
- 85280300 08 SPRABERRY (TREND AREA)
- 85280301 08 SPRABERRY (TREND AREA) R 40 EXC
- 85280400 08 SPRABERRY (TREND AREA CL. FK.)
- 85280500 08 SPRABERRY (TREND AREA DEAN-WLFCP)

Field Query
Previous Query Results

Field Rules for Field: SPRABERRY (TREND AREA)

Field Number: 85280300 District Name: 08

Oil Field Rules:

County Regular: N Salt Dome: N Field Location: LAND Don't Permit: N

Schedule Remarks: AFTER TESTING THE WELL.

Comments: R38 OK W/O DATA,P-15'S,ACLIST & LEASE PLAT OR PRO PLAT

Rule Type	Depth	Lease Spacing	Well Spacing	Acres per Unit	Tolerance Acres	Diagonal Code	Diagonal Max Length
Special Rules	All Depths	330	0	80.0	80.0	Corner to Corner	0

Gas Field Rules:

County Regular: N Salt Dome: N Field Location: LAND Don't Permit: N

Schedule Remarks: IS EARLIER.

Comments: R38 OK W/O DATA,P-15'S,ACLIST & LEASE PLAT OR PRO PLAT

Rule Type	Depth	Lease Spacing	Well Spacing	Acres per Unit	Tolerance Acres	Diagonal Code	Diagonal Max Length
Special Rules	All Depths	330	0	80.0	80.0		0

Special Horizontal Field Rules: For informational purposes only. The Final Order controls all field rules.

[Illustration](#) [Screen Help](#)

Correlative Interval: From 6865 to 10605 feet **Established by API Number:** 32931029

Dual Lease Line Take Point Spacing

First/Last Take Points (Heel and Toe) to Lease Line: 100 feet **Off-Lease Penetration Point:** Yes

Perpendicular Spacing from All Take Points to Lease Line: 330 feet

Between-Well Spacing **Subsurface Tolerance Box:** 50 feet

Horizontal to Vertical: 0 feet **Non-Perforation Zone (NPZ):** Yes

Horizontal to Horizontal: 0 feet

Overlap Distance: N/A

Stacked Lateral Rules: Yes (If yes, see Final Order for details)

This search function shows the key information about the field rules as well as a link to the docket

Special Field Rules



<http://www.rrc.texas.gov/legal/hearings-and-dockets/dockets/oil-gas-proposals-for-decision-and-orders/>

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RAILROAD COMMISSION OF TEXAS

Home / Legal / Hearings and Dockets / Dockets /

Oil & Gas Proposals for Decision and Orders

Please Note: This is an ongoing project and Proposals for Decision and Orders are being added daily.

Please continue to check the site for additional documents.

Rule 7	Strata to be Sealed Off
Rule 8	Water Protection
Rule 9	Disposal Wells
Rule 10	Restriction of Production of Oil and Gas from Different Strata
Rule 11	Inclination and Directional Surveys Required
Rule 12	Directional Survey Company Report

Special Field Rules



<http://www.rrc.state.tx.us/legal/hearings-and-dockets/dockets/oil-gas-proposals-for-decision-and-orders/>

Enforcement Actions, Unprotected (Master Default Orders)
Field Balancing
Field Consolidation
Field Rules, Adopted (New, Amended and Temporary)
Maximum Efficient Rate (MER) of Production
Mineral Interest Pooling Act
Miscellaneous
Overproduction, Cancellation of
P-4, Cancellation of (Severance of Lease)
Productive Acreage
Proper Operator

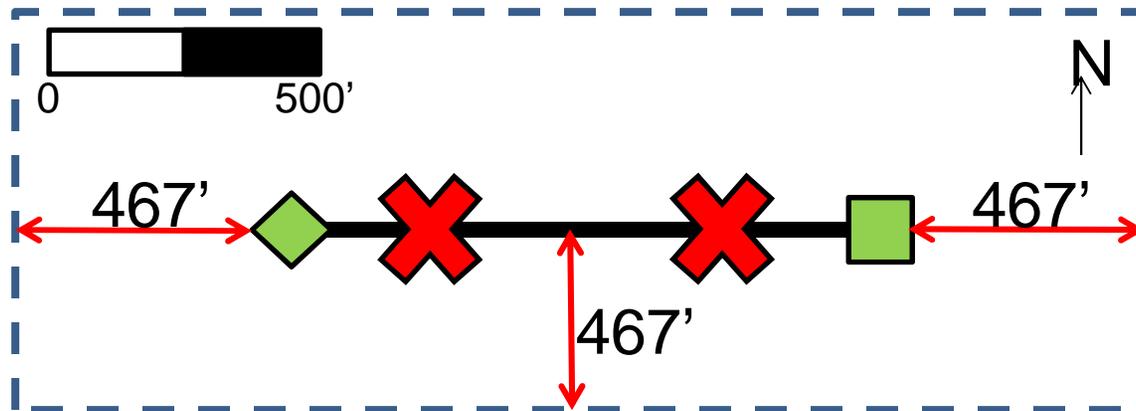


Special Field Rules



Default Statewide Spacing rules:

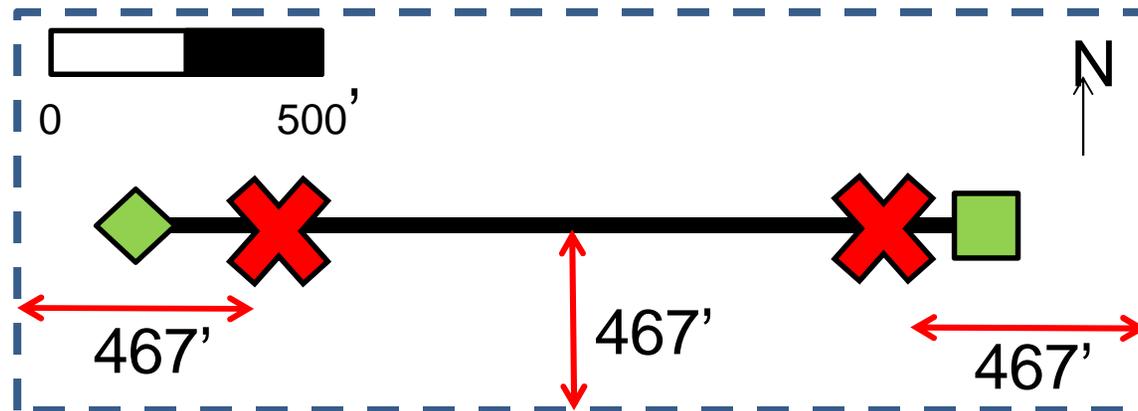
467' Lease Line and 1200' Between-Well



Take-Point Provisions



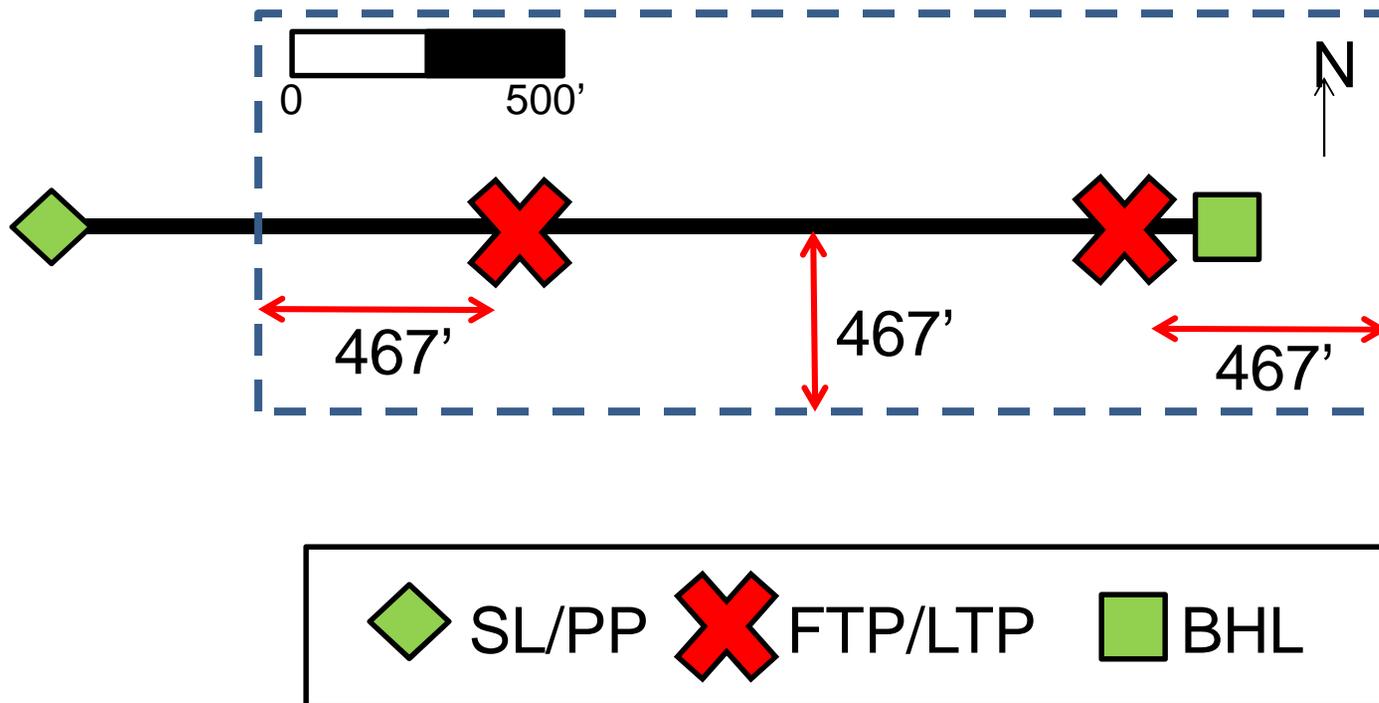
Take-Point Provisions allow longer drainhole length. Spacing is measured to the take points instead of the SHL and terminus



Off-lease Penetration Points



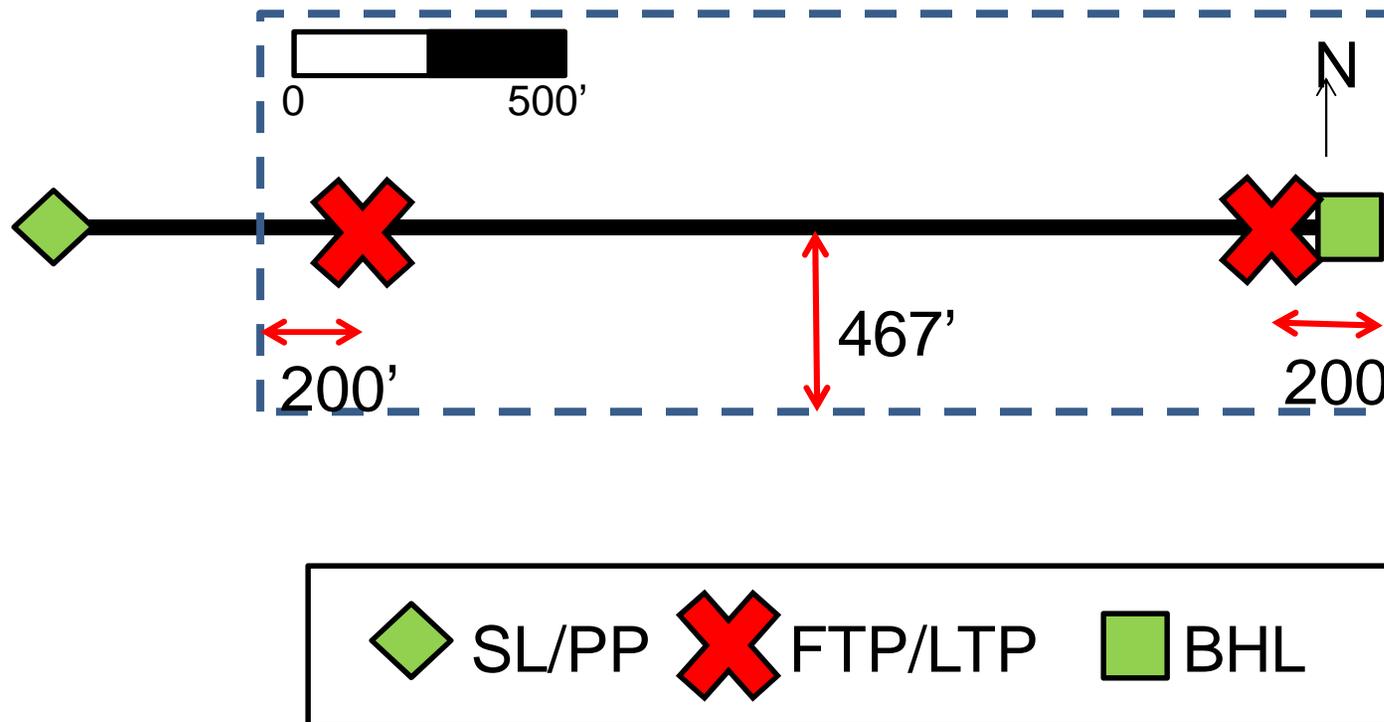
Off-lease penetration points enable operator to have surface-hole and penetration points outside of lease



Heel and Toe Provisions



Heel and Toe Provisions reduce spacing requirements measured from take points, parallel to the drainhole

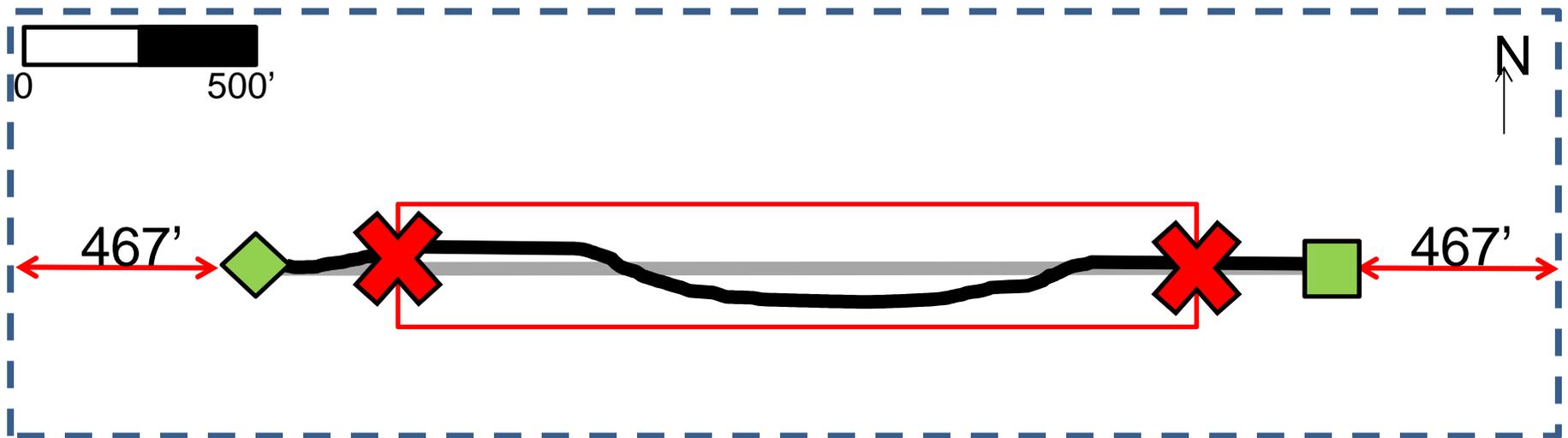


Box/Rectangle Rule



Gives operators extra leeway in drilling wellbores. A box is created around the proposed FTP and LTP, widths depend on the specific field rules.

As long as the wellbore stays in the box, it is compliant.



Common Online Messages



Problem

Solution

Plat Incomplete	→	Correct and resubmit
Directional survey(s) lacking	}	Search online query, contact surveyor
Directional survey(s) missing		
Wrong Directional Survey		
Invalid tie-in points		
Certification lacking	}	Have surveyor correct cert. letter
Double-certification		
SWR 14 violation	→	Contact District Office
Off-lease Terminus	}	Check scale bar and North arrow (on plat), amend permit if necessary
Lease-Line Violation		
Between-well Spacing violation		
Well location doesn't match Plat		

In Summation



Know your required surveys.

Certify and Submit accordingly.

Remarks are helpful.

Special Field Rules are your friend.

- Take-Point Provisions

- Off-Lease Penetration

- Heel/Toe Provisions

- Rectangle Rules

- As-Drilled Plat requirements

For best results: contact your Engineering Specialist directly in addition to responding to Online Messages.

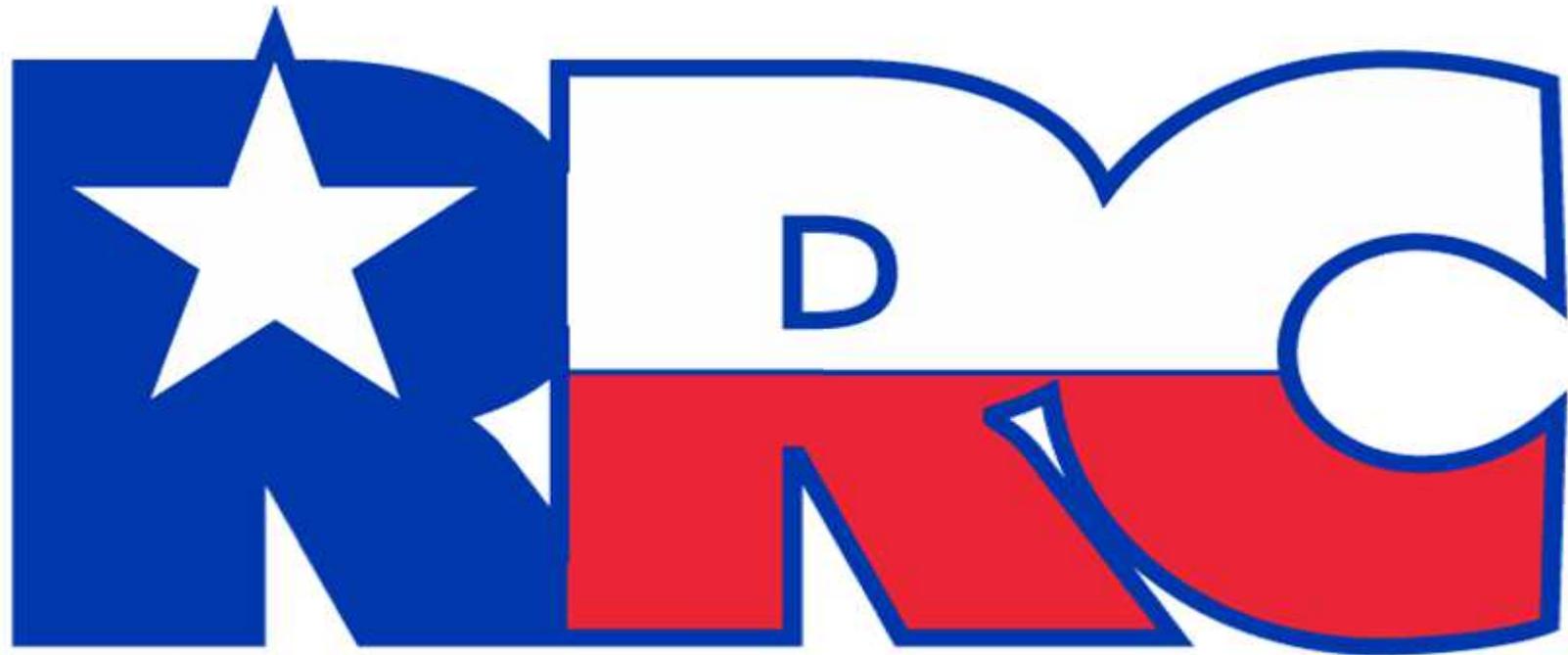
Contact Information



Technical Permitting, Engineering Unit

Karen Cassidy	512/463-6209	Karen.Cassidy@rrc.texas.gov
Pam Johns Hardcopies	512/463-6899	Pamela.Johns@rrc.texas.gov
Rick Behal	512/463-6473	Richard.Behal@rrc.texas.gov
Stephan Paetzold	512/463-3163	Stephan.Paetzold@rrc.texas.gov
Darren Tjepkema	512/463-6452	Darren.Tjepkema@rrc.texas.gov
Keith May	512/463-6778	Keith.May@rrc.texas.gov

Questions?



RAILROAD COMMISSION OF TEXAS

FAQs



Q: In the vertical section of a horizontal well, what is the directional survey shot point spacing?

A: The shot point spacing is always 200 feet or less for all directional survey in all cases.

Q: If the “correlative interval” is penetrated off-lease but the well is only perfed at a legal location, what does the operator need to do?

A: By statewide default rules, the well is *not allowed* to penetrate the correlative interval off-lease. However, in some fields special field rules do allow for off-lease POP. Operator is required to serve 21-day notice to the offset mineral owner. (check special field rules)

Q: If special field rules authorize an off-lease penetration point, can the terminus be drilled off-lease?

A: This provision *does not* allow the terminus to be off-lease.