





Key Factors for Selecting the Appropriate Field

Victoria Ortiz and Rimanda Whitehead July 2025















Overview



- Introduce the scenario and our example well
- Basic geological concepts
 - Correlative interval
 - Point of Penetration
 - Formations
 - Stratigraphic charts
- Spatial Review
- Geological Review
- Form our conclusion

Scenario (1 of 5)



Packet Summary Data Submitted: Online

Tracking No.: 327631 Status: Approved (04/21/2025)

Operator Name: CONTINENTAL RESOURCES, INC. (173777) Type Of Completion: New Well

Field Name: RUPPEL (WOODFORD) Completion or Recompletion Date: 10/23/2024

Lease Name: UTL BUFFLEHEAD 2040A Purpose Of Filing: Initial Potential

RRC District No.: 08 Well Type: Producing

RRC Gas ID or Oil Lease No.: 62888 County: WARD

Well No.: 01H Wellbore Profile: HORIZONTAL

API No.: 475-38751 WHO Horiz WB Completion Type: PSA

Drilling Permit No: 897222 SL Record (Parent) Well Drilling Permit No.:

Field No.: **78953800** Horizontal Depth Severance (feet):

Field Validated Date: 04/21/2025 Unit No:

Submitted: (02/24/2025)

Scenario (2 of 5)

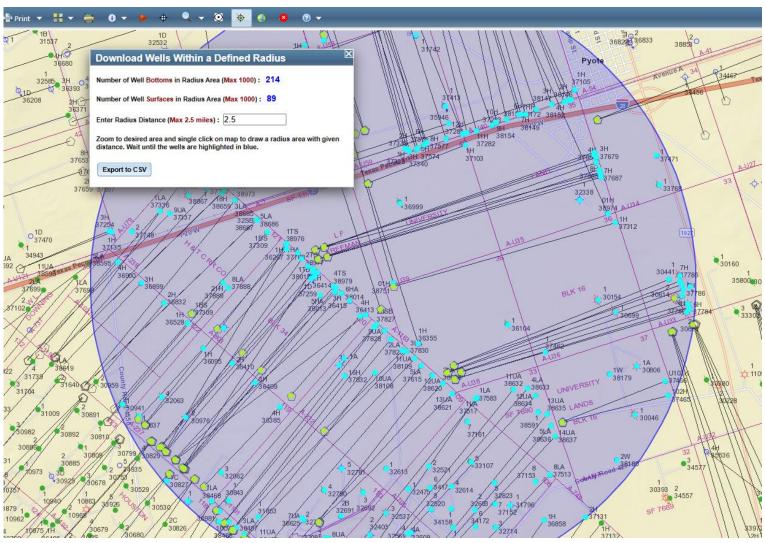


FORMATION RECORD (List depths of Principal Geological Markers and Formation Tops, including, but not limited to, all permitted Disposal/Injection formations within ¼ mile of the wellbore, Productive Zones, Potential Flow Zones, and Corrosive Formation Fluid Zones.)

					1	
12	CHERRY CANYON		5868.0	5890.0	✓	
13	BONE SPRING		8256.0	8300.0	V	
14	WICHITA ALBANY					NOT PRESENT
15	WOLFCAMP		11230.0	11276.0	✓	
16	PENNSYLVANIAN					NOT PRESENT
17	ATOKA	✓	13617.0	13665.0	✓	
18	BARNETT	✓	13728.0	13777.0	✓	
19	WOODFORD	✓	14803.0	14853.0	V	PRODUCING FORMATION
20	DEVONIAN					BELOW TD
21	FUSSELMAN					BELOW TD

Scenario (3 of 5)





Scenario (4 of 5)



API 🔻	Total_Depth → I	District 🔻 Le	easeID 🔻	Operator_Number 💌	Operator	Lease_Name	Field	Well_No ▼	Well_Type ▼	On_Schedule
47537832	11798 0	08	56307	027200	APACHE CORPORATION	LIMBER PINE A3	PHANTOM (WOLFCAMP)	16H	PRODUCING	YES
47538659	11832 0	08	50227	027200	APACHE CORPORATION	RENDEZVOUS NORTH POOLED UNIT	PHANTOM (WOLFCAMP)	18H	PRODUCING	YES
47537889	11881 0	08	53756	027200	APACHE CORPORATION	RENDEZVOUS SOUTH A1	PHANTOM (WOLFCAMP)	21H	SHUT IN	YES
47537010	13005 0	08	47247	942623	WPX ENERGY PERMIAN LLC	UNIVERSITY 21-17	PHANTOM (WOLFCAMP)	1R	SHUT IN	YES
47536267	13274 0	08	44686	524907	MANTI TARKA PERMIAN OP LLC	MARTINSVILLE 120	PHANTOM (WOLFCAMP)	1H	PRODUCING	YES
47536267	13274 0	08	44686	524907	MANTI TARKA PERMIAN OP LLC	MARTINSVILLE 120	PHANTOM (WOLFCAMP)	1H	PRODUCING	YES
47530806	16750 0	08	069783	003125	ABRAXAS PETROLEUM CORPORATION	PYOTE GAS UNIT #5	BLOCK 16 (DEVONIAN)	1 A	TEMP ABANDONED	YES
47531797	18570 0	08	25839	809924	SPINDLETOP DRILLING CO.	UNIVERSITY "17-40"	CAPRITO (WOLFCAMP)	1	PRODUCING	YES

- The Phantom (Wolfcamp) field is too shallow
- API: 475-30806 Devonian
- API: 475-31797 Bone Spring

Scenario (5 of 5)



Is the Ruppel (Woodford) an appropriate field for this well?

Concepts (1 of 7)



- The correlative interval is designated by field rules or by a New Field Designation (Form P-7).
 - Correlative intervals can change over time.
 The current correlative interval for a field can be found in the most recent docket.
 - Most recent docket for the Ruppel (Woodford): CASES 00017226

Concepts (2 of 7)

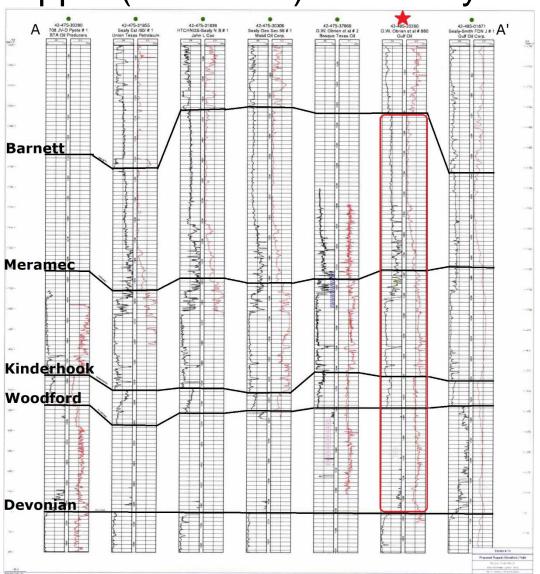


RULE 1: The entire correlative interval from 11,397 feet to 13,382 feet as shown on the log of the G.W. O'Brien et al. Well No. 880 (API No. 42-495-20260) Winkler County, Texas shall be designated as a single field for proration purposes and be designated as the Ruppel (Woodford) Field; i.e., from the top of the Barnett formation down to the bottom of the Woodford formation.

Concepts (3 of 7)



Ruppel (Woodford) Discovery Well



Concepts (4 of 7)



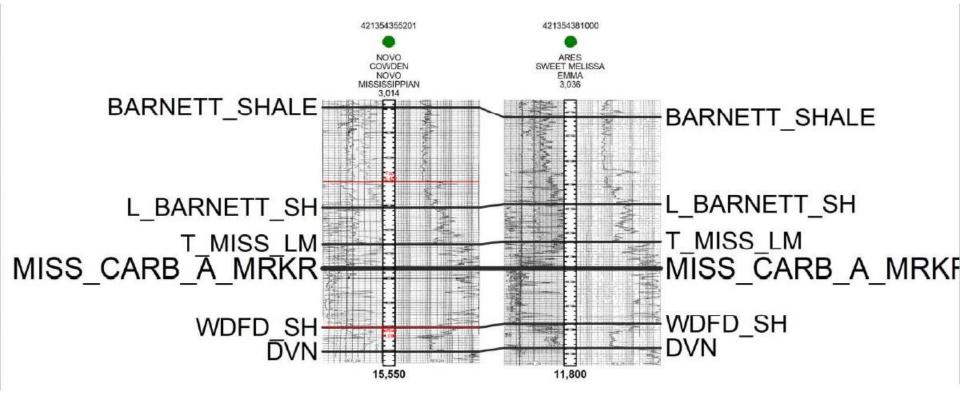
- Point of Penetration (PP)
 - Defined by Statewide Rule (SWR) 3.86(a)(8)
 - The point where the drainhole penetrates the top of the correlative interval.



Concepts (5 of 7)



Novo (Mississippian)



Concepts (6 of 7)



Formation

- A body of rock that can be mapped over an area; identifiable by its stratigraphic position and lithographic composition.
 - It's the formations within a correlative interval that are correlated from the discovery well to the subject well.

Concepts (7 of 7)



STRATIGRAPHIC CHART

District 08 (Permian Basin)

SYSTEM	SERIES		DELAWARE BASIN	CE	NTRAL BASIN PLATFORM		NORTHWEST SHELF			MIDLAND BASIN	
			Dewy Lake		Dewey Lake		Dewey Lake			Dewey Lake	
	Ochoa	Rustler		Rustler			Rustler			Rustler	
	PO	Salado		Salado			Salado		Salado		
			Castile								
			Lamar		Tansil	. Palo M	Tansil		Whitehorse	Tansil	
	e	Guadalupe Delaware Min. Group	Bell Canyon		Yates		Yates	Capitan		Yates	
	dnle		·		Seven Rivers		Seven Rivers	ig.		Seven Rivers	
	per	aware N Group	Cherry Canyon		Queen		Queen	~	- ₹	Queen	
Z	GI	Dela			Grayburg San Andres		Grayburg San Andres			Grayburg San Andres	
ИIAI			Brushy Canyon		Glorieta		Glorieta	Goat Seep	Word	San Angelo	
PERMIAN				-	Upper Clearfork		Paddock	эсср		Sall Aligelo	
	Leonard			Word	Tubb	1	Blinebry			Upper Leonard	
		Sgo	1#Bone Spring Sand	_		Ye so	Tubb				
		Bone Springs			Lower Clearfork		Drinkard				
										Upper Spraberry	
			2 nd Bone Spring Sand	Wichita Albany		Abo		/ [Lower Spraberry		
									Dean		
			3 rd Bone Spring Sand					Dean			
	Wolfcamp		Wolfcamp	Wolfcamp		Wolfcamp Huego Bolsum		Wolfcamp			
_	Cisco		Cisco		Cisco		Cisco		Cisco		
PENNSYLVANIAN	Canyon		Canyon	Canyon		Canyon			Canyon		
sYLVÆ	Strawn		Strawn	Strawn		Strawn			Strawn		
ENNS	Atoka		Atoka		Atoka		Atoka			Atoka	
a.	Morrow		Morrow			Morrow					
άN	Chester		Barnett Shale		Barnett Shale		Barnett Shale			Upper Mississippian Lime	
MISSISSIPPIAN	Meramecosage		Mississippian Lime		Mississippian Lime		Mississippian Lime		Lower Mississippian Lime		
IISSIS	Kinderhook	Kinderhook Woodford		Kinderhook		Kinderhook		Kinderhook			
Σ	Milderfloor			Woodford		Woodford 		Woodford			
A	Upper										
DEVONIAN	Middle										
DE	Lower	Devonian		Devonian		Devonian		Devonian			

Concepts (7 of 7)



Docket # 08-0327331 Bosque Texas Oil LLC Date: October 28, 2020 Exhibit No. 21

	Central Basin Platform						
		Producing	TVD Est*	Development Type			
	Tansill						
	Yates		3,000				
- 1	Seven Rivers			Active CO2 Flood			
	Queen						
	Grayburg						
Permian	Upper San Andres		4,000				
E	Brushy Canyon (not present)						
Pe	Lower San Andres						
	Holt	•					
	Glorieta						
	Clear Fork Gp.						
	Abo/Wichita	•					
	Wolfcamp		7,500				
an	Cisco	•	9,000				
aui	Canyon			Conventional Penr			
Pennsylvanian	Strawn						
U.	Atoka						
Pe	Atoka Lime						
_	Barnett		10,500				
pia	Meramec		11,500	Horizontal			
ssissip	Miss Lime						
Ž	Kinderhook						
Devonian Mississippian	Woodford		12,500	Horizontal			
Dev	Devonian (Thirtyone)	•	13,000				
lan	Silurian Sh (Wristen Eq)						
Silurian	Fusselman	D					
	Montoya	•		Deep Gas			
Ordovician	Simpson Gp.		14,000				
0	Ellenburger		15,500				

Proposed: Ruppel (Woodford) Field

*TVD varies across play fairway

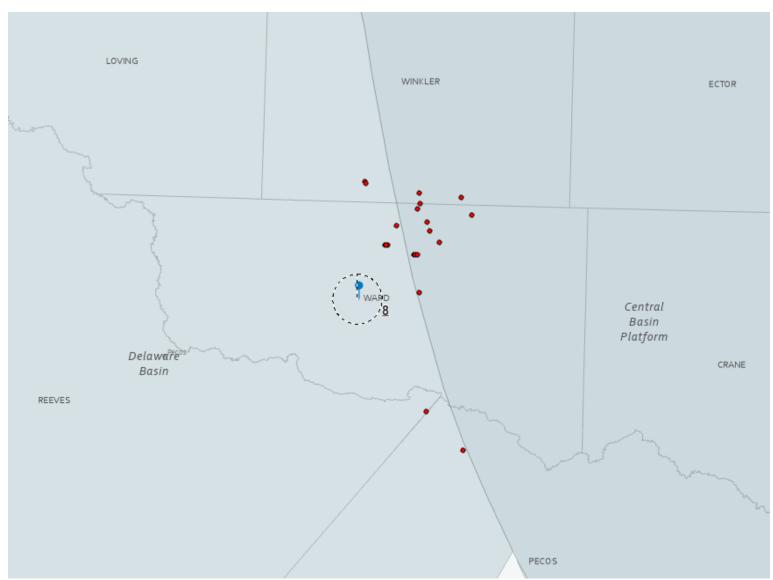
Spatial Review (1 of 2)



- Review the well's proximity to other fields, lease boundaries, and borders.
 - The well's physical location must bring a degree of order to the situation.
 - GIS 2.5 mi radius review
 - Completion records of offset wells
 - Dockets

Spatial Review (2 of 2)





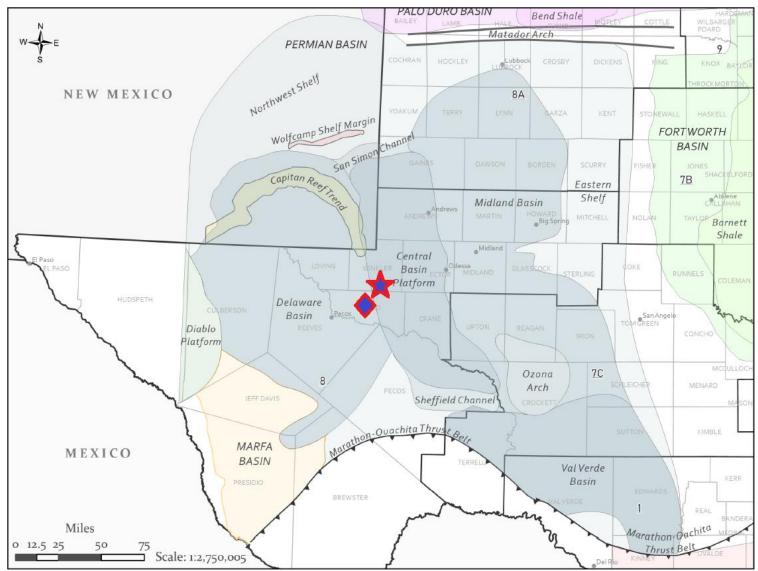
Geological Review (1 of 5)



- Review the formations encountered.
 - Is the well within the same geological area as the discovery well?
 - Does the stratigraphy match throughout this well and the existing wells in the field?

Geological Review (2 of 5)

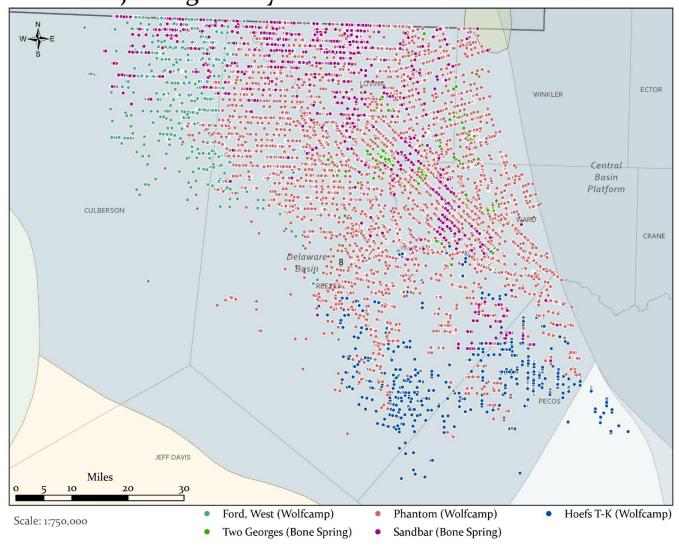




Geological Review (3 of 5)

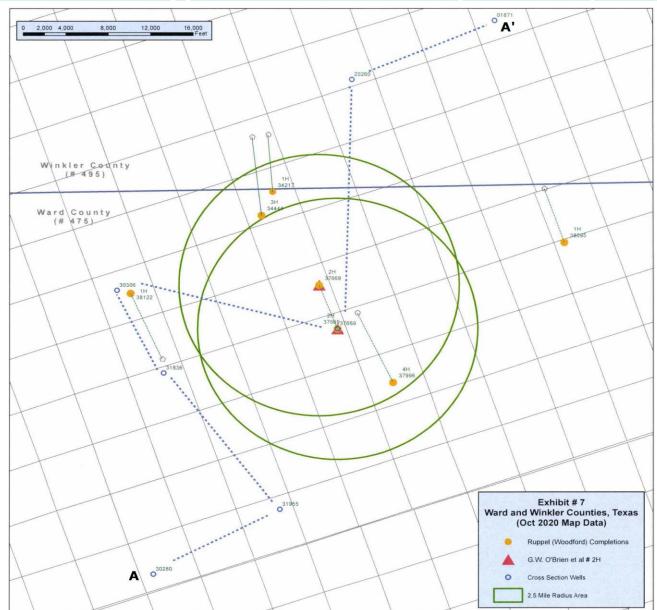


Major Regulatory Fields of the Delaware Basin



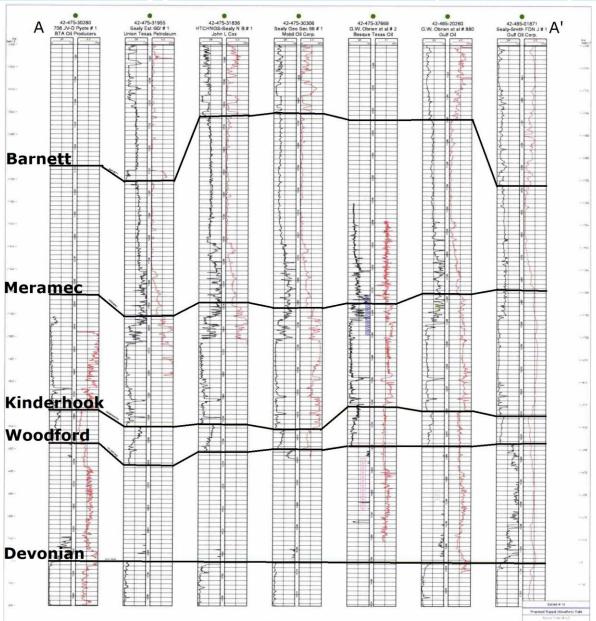
Geological Review (4 of 5)





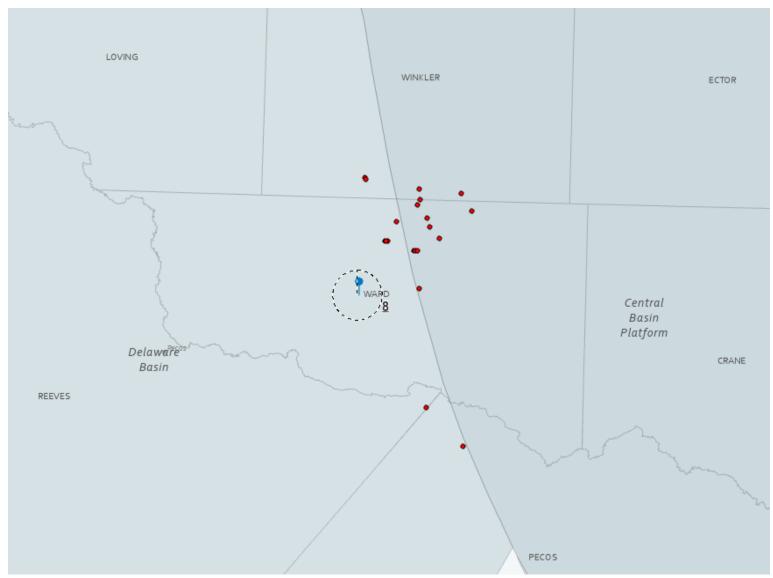
Geological Review (5 of 5)





Conclusion





Contact



Engineering Unit Phone Queue: 512-463-1126

- EngUnit@RRC.Texas.Gov
- Victoria Ortiz
 - Victoria.Ortiz@RRC.Texas.Gov
- Rimanda Whitehead
 - Rimanda.Whitehead@RRC.Texas.Gov