



Operator Name Ensign Operating Co.Lease Name BoaldinWell # 1-21Sec. 21 Twp. 35S Rge. 43☐ East  
☒ WestCounty Morton

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken ☒ Yes ☐ No  
(Attach Additional Sheets.)

Samples Sent to Geological Survey ☒ Yes ☐ No

Cores Taken ☐ Yes ☒ No

Electric Log Run ☒ Yes ☐ No  
(Submit Copy.)

List All E.Logs Run:

See attached

☐ Log Formation (Top), Depth and Datum ☐ Sample  
Name Top Datum

See attached

## CASING RECORD

☐ New ☐ Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (in O.D.)	Weight Lbs./Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
surface	12 $\frac{1}{4}$	8 5/8	24	1379	HLC	525	2 $\frac{1}{2}$ % $\text{CaCl}_2$ 1 $\frac{1}{2}$ %/sk Flocc
					Class "C"	150	3% $\text{CaCl}_2$
Production	7 7/8	5 $\frac{1}{2}$	15.5	4728	PozR/Class H	150	3% $\text{KCl}$ , Halad 3 $\frac{1}{2}$ % 6#/sx GILSON

## ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Dep
4	4556-68		

TUBING RECORD	Size	Set At	Packer At	Liner Run	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	2 3/8	4584			
Date of First, Resumed Production, SWD or Inj.	Producing Method <input checked="" type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain)				
6-14-93					
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	60	500	16	8333	41°

Disposition of Gas:

METHOD OF COMPLETION

Production Interval

☐ Vented ☐ Sold ☒ Used on Lease  
(If vented, submit ACO-18.)

☐ Open Hole ☒ Perf. ☐ Dually Comp. ☐ Commingled

Keyes

COPY

21-35-43w

RELEASED

WELL HISTORY: (Continued)

SEP 6 1994

<u>Date</u>	<u>Depth</u>	<u>Formation</u>	<u>Operation</u>	FROM CONFIDENTIAL
5-15-93	3045'	Topeka	Drilling. Made 815' in 24 hrs. VIS 32, MW 9.0, CI 1200, pH 9.0 WL 11.6, FC 2, LCM 3#, CA 80 WOB 35, RPM 70, PP 1100, SPM 60	
5-16-93	3573'	Marmaton	Drilling. Made 528' in 24 hrs. VIS 34, MW 9.0, CI 1200, pH 9.0 WL 11.6, FC 2, LCM 3#, CA 80 WOB 35, RPM 70, PP 1100, SPM 60	
5-17-93	4013'	Atoka	Drilling. Made 440' in 24 hrs. VIS 40, MW 9.0, CI 1100, pH 8.5 WL 12.0, FC 2, LCM 3#, CA 80 WOB 40, RPM 70, PP 1100, SPM 60	
5-18-93	4450'	Morrow	Drilling. Made 437' in 24 hrs. VIS 42, MW 9.0, CI 1000, pH 8.5 WL 10.8, FC 2, LCM 3#, CA 40 WOB 40, RPM 70, PP 1100, SPM 60	
5-19-93	4729'	Mississippian	Logging. Made 378' in 24 hrs. VIS 48, MW 9.0, CI 1000, pH 8.5 WL 10.0, FC 2, LCM 5#, CA 80 WOB 40, RPM 70, PP 1100, SPM 60	
5-20-93	4729'	Mississippian	Running casing. Made 0' in 24 hrs.	

FORMATION TOPS:

<u>Formation</u>	<u>Sample</u>	<u>Datum</u>	<u>E. Log</u>	<u>Datum</u>
Topeka	2870'	(+ 805')	2873'	(+ 802')
Greenwood	3108'	(+ 567')	3106'	(+ 565')
Heebner	3167'	(+ 508')	3170'	(+ 505')
Lansing	3279'	(+ 396')	3288'	(+ 387')
Marmaton	3523'	(+ 152')	3529'	(+ 146')
Cherokee	3816'	(- 141')	3818'	(- 143')
Atoka	3912'	(- 237')	3915'	(- 240')
Morrow	4162'	(- 487')	4174'	(- 499')
Upper Morrow Sand	4262'	(- 587')	4280'	(- 605')
Keyes	4545'	(- 870')	4546'	(- 871')
Mississippian	4666'	(- 991')	4662'	(- 987')

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 #1-21 Boaldin  
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DRILL STEM TEST RECORD:

FROM CONFIDENTIAL

DST #1 4580'-4605' (samples) 4584-4605 (log) (Keyes)  
 30-60-60-120

1st open: Gas to surface in 3 minutes--max 242 MCFD  
 Decrease to 31 MCFD in 30 minutes  
 2nd open: 17 MCFD increase to 21 MCFD in 20 minutes  
 Decrease to 9 MCFD in 60 minutes

Recovery: 1363' gas cut water  
 Rw .291 at 74' = 28.000 ppm C1

FP: 237-291, 442-548  
 SIP: 701-712  
 HP: 2204-2184  
 BHT: 119°F

Sampler: 100 ML gas at 425 psi  
 (2.5 cubic feet)  
 3900 ML water  
 Rw .211 at 74' = 31.000 ppm C1

DEVIATION RECORD:

<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
976'	1/2'	2432'	1/2'	4013'	1'
1380'	3/4'	2930'	1/4'	4511'	1'
1905'	1/2'	3518'	3/4'	4729'	2'

BIT RECORD:

<u>No.</u>	<u>Size</u>	<u>Make</u>	<u>Type</u>	<u>Depth Out</u>	<u>Feet</u>	<u>Hours</u>
1	12 1/4	HTC	J1S	960'	960	20 1/2
2	12 1/4	STC	FDT	1360'	420	2 1/2
3	7 7/8	SEC	S85CF	4729'	3349	118 1/4

SAMPLE DESCRIPTION:

30 foot samples were caught from 2800' to 4000'. 10 foot samples were caught from 4000' to total depth at 4729'. 1 foot drill time was saved from 2800' to total depth. Sample examination commenced at 2800' and continued to total depth. One dry cut was prepared and shipped to Kansas Geological