

Geological Report

Bunker #5

344' FSL & 893' FEL

Sec. 24 T12s R22w

Trego County, Kansas



Pioneer Resources, Inc.

General Data

Well Data:	Pioneer Resources, Inc. Bunker #5 344' FSL & 893' FEL Sec. 24 T12s R22w Trego County, Kansas API # 15-195-23062-0000
Drilling Contractor:	Discovery Drilling Co. Inc. Rig #4
Geologist:	Jason T Alm
Spud Date:	September 18, 2018
Completion Date:	September 28, 2018
Elevation:	2313' Ground Level 2318' Kelly Bushing
Directions:	Ogallah KS, East 1 mi, North and East into location.
Casing:	218' 8 5/8" surface casing
Samples:	10' wet and dry, 3350' to RTD
Drilling Time:	3200' to RTD
Electric Logs:	None
Drillstem Tests:	Four, Trilobite Testing, Inc. "Matt Smith"
Problems:	None
Remarks:	None

Formation Tops

	Pioneer Resources, Inc.
	Bunker #5
	Sec. 24 T12s R22w
Formation	344' FSL & 893' FEL
Anhydrite	1743' +575
Base	1789' +529
Topeka	3354' -1036
Heebner	3573' -1255
Toronto	3598' -1280
Lansing	3608' -1290
BKC	3844' -1526
Marmaton	3933' -1615
Conglomerate	3977' -1659
Arbuckle	4028' -1710
RTD	4040' -1722

Sample Zone Descriptions

LKC A zone	(3608' -1290): Covered in DST #1 Ls – Fine crystalline, oolitic with poor to scattered fair oomoldic and oolitic porosity, light to fair spotted oil stain with light spot saturation, slight show of free oil when broken, fair yellow fluorescents.
LKC C zone	(3646' -1328): Covered in DST #1 Ls – Fine crystalline, oolitic with poor to fair oolitic porosity, light to fair oil stain, slight show of free oil, light odor, light yellow fluorescents.
LKC E zone	(3682' -1364): Covered in DST #2 Ls – Fine crystalline, oolitic in part with poor to scattered fair inter-crystalline porosity, light brown to tarry oil stain, slight show of free oil, very light odor, light show of free oil on cup.
LKC G zone	(3702' -1384): Covered in DST #3 Ls – Fine crystalline, oolitic with fair oomoldic and oolitic with scattered fair vuggy porosity, light to fair oil stain with light spotted saturation, fair show of free oil on cup and tray, light odor.
Marmaton	(3933' -1615): Covered in DST #4 Ls – Δ – Fine crystalline with poor inter-crystalline and vuggy porosity, heavy multicolored chert, slightly weathered with pinpoint vuggy porosity, light to fair oil stain, slight to fair show of free oil on cup, light odor.

Drill Stem Tests

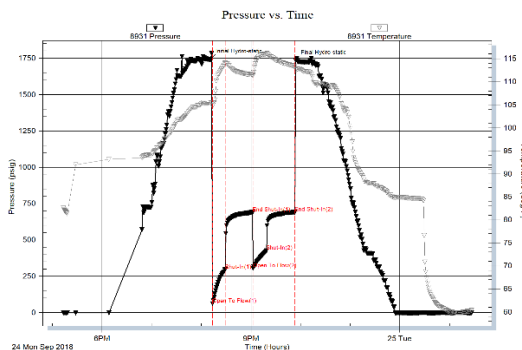
Trilobite Testing, Inc.
"Matt Smith"

DST #1 Toronto thru LKC C zone

Interval (3571' – 3660') Anchor Length 89'

IHP	– 1742 #	
IFP	– 15" – B.O.B. 3 ½ min.	61-295 #
ISI	– 30" – Dead	688 #
FFP	– 15" – B.O.B. 6 min.	304-426 #
FSI	– 30" – Dead	690 #
FHP	– 1735 #	
BHT	– 115°F	

Recovery: 97' WCM
756' MCW

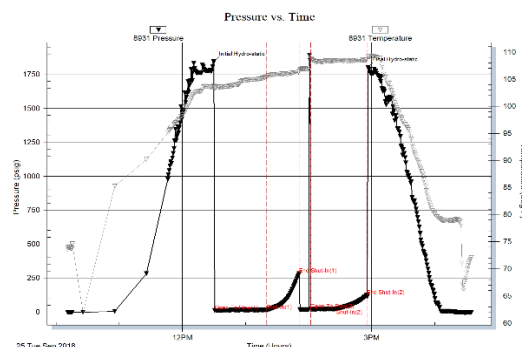


DST #2 LKC E zone

Interval (3672' – 3688') Anchor Length 16'

IHP	– 1843 #	
IFP	– 30" – Built to ¼ in.	9-14 #
ISI	– 30" – Dead	282 #
FFP	– 30" – Built to 1/8 in.	20-23 #
FSI	– 30" – Dead	123 #
FHP	– 1801 #	
BHT	– 109°F	

Recovery: 20' SOCM 2% Oil

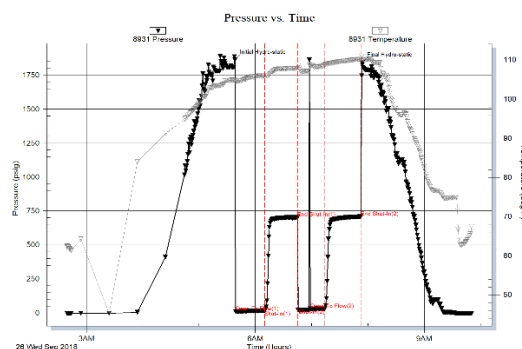


DST #3 LKC G zone

Interval (3697' – 3730') Anchor Length 33'

IHP	– 1862 #	
IFP	– 30" – Built to ¾ in.	9-18 #
ISI	– 30" – Dead	703 #
FFP	– 30" – Built to ¼ in.	30-30 #
FSI	– 30" – Dead	708 #
FHP	– 1841 #	
BHT	– 110°F	

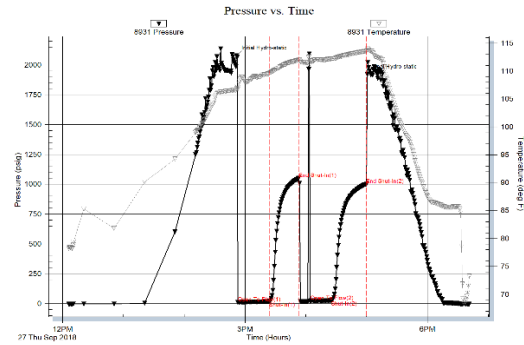
Recovery: 10' Mud w/ oil spots



DST #4 Marmaton

Interval (3938' – 3970') Anchor Length 32'

IHP – 2076 #
 IFP – 30" – Built to 1 ¼ in. 10-18 #
 ISI – 30" – Dead 1050 #
 FFP – 30" – Built to ¼ in. 24-28 #
 FSI – 30" – Dead 1001 #
 FHP – 1922 #
 BHT – 113°F



Recovery: 20' Mud w/ oil spots

Structural Comparison

	Pioneer Resources, Inc.	John Jay Darrah Jr.		Hess Oil Co	
	Bunker #5	Keller #1		Bunker #2	
	Sec. 24 T12s R22w	Sec. 25 T12s R22w		Sec. 24 T12s R22w	
Formation	344' FSL & 893' FEL	NE NE NE		1980' FSL & 2970' FEL	
Anhydrite	1743' +575	1760' +575	FL	1769' +580	(-5)
Base	1789' +529	1806' +530	(-1)	1816' +533	(-4)
Topeka	3354' -1036	3374' -1035	(-1)	3378' -1029	(-7)
Heebner	3573' -1255	3590' -1255	FL	3596' -1247	(-8)
Toronto	3598' -1280	3616' -1281	(+1)	3620' -1271	(-11)
Lansing	3608' -1290	3626' -1291	(+1)	3632' -1283	(-13)
BKC	3844' -1526	3864' -1529	(+3)	NA	NA
Marmaton	3933' -1615	3950' -1615	FL	3693' -1614	(-1)
Conglomerate	3977' -1659	3994' -1659	FL	4012' -1663	(+4)
Arbuckle	4028' -1710	4024' -1685	(-25)	Not Reached	NR

Summary

The location for the Bunker #5 was found via 3-D seismic survey. The new well ran structurally slightly lower than expected via the survey and significantly lower on the Arbuckle. Four Drill Stem Tests were conducted, all of which were negative. After all gathered data had been examined the decision was made to plug and abandon the Bunker #5 well.

Respectfully Submitted,

Jason T Alm
 Hard Rock Consulting, Inc.