

Geological Report

Zerr #1

1491' FNL & 1339' FEL

Sec. 36 T11s R33w

Logan County, Kansas



Pioneer Resources, Inc.

General Data

Well Data: Pioneer Resources, Inc.
Zerr #1
1491' FNL & 1339' FEL
Sec. 36 T11s R33w
Logan County, Kansas
API # 15-109-21531-0000

Drilling Contractor: Discovery Drilling Co. Inc. Rig #1

Geologist: Jason T Alm

Spud Date: December 4, 2017

Completion Date: December 11, 2017

Elevation: 3082' Ground Level
3090' Kelly Bushing

Directions: Oakley KS, West on Hwy 40 3 mi to 400 rd. South
3 mi. West into location.

Casing: 224' 8 5/8" surface casing

Samples: 10' wet and dry, 3800' to RTD

Drilling Time: 3775' to RTD

Electric Logs: None

Drillstem Tests: Two, Trilobite Testing, Inc. "Mike Roberts"

Problems: None

Remarks: Deviation $\frac{3}{4}$ degrees at 4170'. Pipe Strap .74 ft
short to board.

Formation Tops

Formation	Pioneer Resources, Inc.
	Zerr #1
	Sec. 36 T11s R33w
	1491' FNL & 1339' FEL
Anhydrite	2602' +488
Base	2630' +460
Topeka	3797' -707
Heebner	4023' -933
Toronto	4042' -952
Lansing	4062' -792
BKC	4651' -1261
Marmaton	4381' -1291
Pawnee	4488' -1398
Myrick	4514' -1424
Fort Scott	4539' -1449
Cherokee	4568' -1478
Johnson	4612' -1522
Morrow	4654' -1564
Mississippian	4671' -1581
RTD	4554' -1709

Sample Zone Descriptions

- LKC “E” zone (4142’ -1052): Covered in DST #1**
 Ls – Fine crystalline, oolitic with poor oolitic porosity, light to fair oil stain with light scattered saturation, fair show of free oil, fair odor, fair to good spotted yellow fluorescents, chalky towards bottom, 28 units hotwire.
- LKC “F” zone (4156’ -1066): Covered in DST #1**
 Ls – Fine crystalline, oolitic with fair oomoldic and oolitic porosity, light oil stain with spotted light saturation, slight show of free oil, light odor, dull to fair yellow fluorescents, very chalky, 14 units hotwire.
- LKC “J” zone (4268’ -1178): Covered in DST #2**
 Ls – Fine to sub-crystalline, oolitic with poor oolitic porosity, light spotted oil stain in porosity, slight show of free oil when broken, light odor, dull to fair yellow fluorescents, 20 units hotwire.

LKC “K” zone (4298’ -1208): Covered in DST #2
Ls – Fine to sub-crystalline, oolitic in part with poor scattered oolitic and oomoldic porosity, light spotted oil stain in porosity, no show of free oil, mostly dense, 12 units hotwire.

Drill Stem Tests
Trilobite Testing, Inc.
“Mike Roberts”

DST #1 LKC E-F zones

Interval (4132’ – 4170’) Anchor Length 38’

IHP	– 2071 #	
IFP	– 45” – B.O.B. 24 min.	16-169 #
ISI	– 45” – Dead	1216 #
FFP	– 45” – B.O.B. 29 min.	170-250 #
FSI	– 45” – Dead	1212 #
FHP	– 2029 #	
BHT	– 119°F	

Recovery: 1” Clean Oil
310’ MCW 95% Water
196’ WCM 20% Water

DST #2 LKC J-K zones

Interval (4256 – 4320’) Anchor Length 64’

IHP	– 2142 #	
IFP	– 30” – W.S.B.	33-35 #
ISI	– 30” – Dead	774 #
FFP	– 20” – Dead, Flush, Dead	35-40 #
FHP	– 2136 #	
BHT	– 108°F	

Recovery: 5’ Mud w/ oil spots

Structural Comparison

	Pioneer Resources, Inc. Zerr #1 Sec. 36 T11s R33w 1491' FNL & 1339' FEL	Bickle Energies, LLC. Willie Z #1 Sec. 36 T11s R33w 1870' FNL & 535' FEL		Dane G Hansen Trust Bahr #1 Sec. 36 T11s R33w NW SW NW	
Formation					
Anhydrite	2602' +488	2602' +488	FL	2591' +489	(-1)
Base	2630' +460	2626' +464	(-4)	NA	NA
Topeka	3797' -707	3802' -712	(+5)	NA	NA
Heebner	4023' -933	4028' -938	(+5)	4003' -923	(-10)
Toronto	4042' -952	4048' -958	(+6)	NA	NA
Lansing	4062' -992	4072' -981	(+9)	NA	NA
BKC	4651' -1261	4365' -1275	(+14)	NA	NA
Marmaton	4381' -1291	4396' -1306	(+15)	4354' -1274	(-17)
Pawnee	4488' -1398	4502' -1412	(+14)	4464' -1384	(-14)
Myrick	4514' -1424	4531' -1441	(+17)	NA	NA
Fort Scott	4539' -1449	4557' -1467	(+18)	4518' -1438	(-11)
Cherokee	4568' -1478	4588' -1498	(+20)	4544' -1464	(-14)
Johnson	4612' -1522	4632' -1542	(+20)	4590' -1510	(-12)
Morrow	4654' -1564	4670' -1580	(+16)	NA	NA
Mississippian	4671' -1581	4685' -1597	(+16)	4644' -1564	(-17)

Summary

The location for the Zerr #1 was found via 3-D seismic survey. The new well ran structurally as expected via the survey. Two Drill Stem Tests were conducted, both of which were negative. After all gathered data had been examined the decision was made to plug and abandon the Zerr #1 well.

Respectfully Submitted,

Jason T Alm
Hard Rock Consulting, Inc.