Geological Report

Clem #1
1900’ FNL & 1850’ FWL
Sec. 21 T12s R18w
Ellis County, Kansas

Hertel Oil Company, LLC.

General Data

Well Data:	Hertel Oil Company, LLC. Clem #1 1900’ FNL & 1850’ FWL Sec. 21 T12s R18w Ellis County, Kansas API # 15-051-26838-0000
Drilling Contractor:	Discovery Drilling Co. Inc. Rig #1
Geologist:	Jason T Alm
Spud Date:	October 31, 2018
Completion Date:	November 7, 2018
Elevation:	2150’ Ground Level 2158’ Kelly Bushing
Directions:	Intersection of Hwy 183 & Buckeye Rd. West ½ mi. South into location.
Casing:	221’ 8 5/8” surface casing
Samples:	10’ wet and dry, 3000’ to RTD
Drilling Time:	3100’ to RTD
Electric Logs:	ELI “Jeff Luebbers” CNL/CDL, DIL, MEL
Drillstem Tests:	Two, Trilobite Testing, Inc. “Spencer Staab”
Problems:	None
Remarks:	Deviation survey @ 3490’ ¼ degree.

Formation Tops

Formation	Hertel Oil Company, LLC. Clem #1 Sec. 21 T12s R18w 1900' FNL & 1850' FEL
Anhydrite	**1434' +724**
Base	**1468' +690**
Topeka	**3144' -986**
Heebner	**3375' -1217**
Toronto	**3397' -1239**
Lansing	**3423' -1265**
BKC	**3658' -1498**
Conglomerate	**3692' -1534**
LTD	**3746' -1588**
RTD	**3748' -1590**

Significant Sample Zone Descriptions

LKC C **(3450', -1292): Covered in DST #1**
Ls – Fine crystalline, oolitic in part with fair inter-crystalline and scattered oolicastic, light to good oil stain with scattered good saturation, fair show of free oil, light to fair odor, fair spotted yellow fluorescents.

LKC D **(3471', -1313): Covered in DST #1**
Ls – Fine to sub-crystalline, oolitic in part with poor oolicastic and scattered pinpoint inter-crystalline porosity, ligh to fair spotted oil stain, slight show of free oil when broken, light odor, dull yellow fluorescents.

LKC E **(3496', -1338): Not Tested**
Ls – Fine to sub-crystalline, oolitic with poor scattered oomoldic porosity, light spotted oil stain in porosity, no show of free oil, no odor, very dull yellow fluorescents.

LKC F **(3506', -1348): Not Tested**
Ls – Fine crystalline, oolitic with fair oomoldic and oolicastic porosity, light spotted oil stain in porosity, slight show of free oil when broken, very chalky, very dull yellow fluorescents, sour odor.

LKC I **(3580', -1422): Covered in DST #2**
Ls – Fine crystalline with poor scattered inter-crystalline porosity, light brown oil stain in porosity, no show of free oil, no odor, very dull fluorescents.

LKC J **(3596', -1438): Covered in DST #2**
Ls – Fine crystalline, oolitic in part with poor inter-crystalline and scattered oomoldic porosity, light spotted to fair oil stain, slight show of free oil when broken, no odor, dull yellow fluorescents.

LKC K **(3620', -1462): Covered in DST #2**
Ls – Fine crystalline, oolitic in part with poor to scattered fair inter-crystalline porosity, light to fair oil stain with light spotted saturation, slight show of free oil when broken, fair show of free oil on cup, light odor, fair yellow fluorescents, good cut.

LKC L **(3644', -1486): Covered in DST #2**
Ls – Fine crystalline, oolitic with scattered poor oolicastic porosity, light brown oil stain in porosity, no show of free oil, no odor, dull yellow fluorescents.

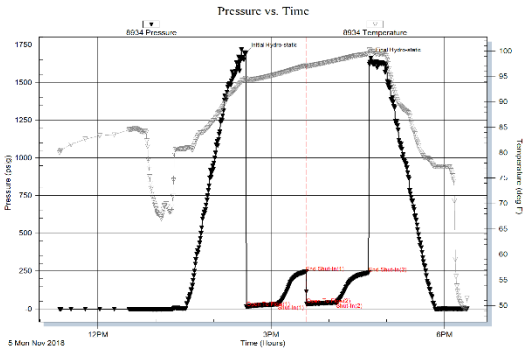
Drill Stem Tests

Trilobite Testing, Inc.
"Spencer Staab"

DST #1 LKC C thru D
Interval (3436' – 3490') Anchor Length 54'

IHP	– 1696 #	
IFP	– 30" – Built to 3 ¼ in.	13-32 #
ISI	– 30" – Dead	244 #
FFP	– 30" – Built to 1 ¼ in.	33-42 #
FSI	– 30" – Dead	238 #
FHP	– 1661 #	
BHT	– 100˚F	

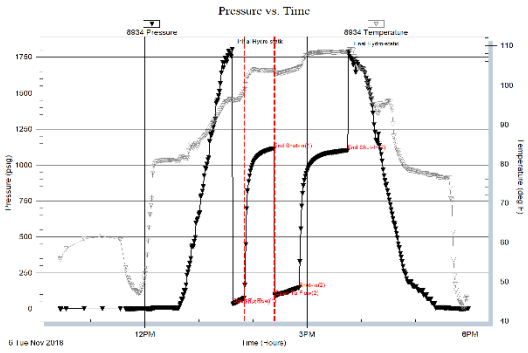
Recovery: 70' WM 15% W



DST #2 LKC I thru L
Interval (3574' – 3660') Anchor Length 86'

IHP	– 1801 #	
IFP	– 15" – B.O.B. 3 min.	33-73 #
ISI	– 30" – Built to 6 ½ in.	1115 #
FFP	– 30" – B.O.B. 2 min.	87-144 #
FSI	– 45" – B.O.B. 10 min.	1101 #
FHP	– 1785 #	
BHT	– 108˚F	

Recovery: 950' GIP
200' GCO
180' GHMCO 45% Oil



Structural Comparison

Formation	Hertel Oil Company, LLC. Clem #1 Sec. 21 T12s R18w 1900' FNL & 1850' FEL	Shields Oil Production Karlin #1 Sec. 21 T12s R18w SE SW NE		McCoy Petroleum Corp. Madden A #1-21 Sec. 21 T12s R18w 2310' FSL & 1650' FEL	
Anhydrite	**1434' +724**	1421' +730	**(-6)**	1418' +736	**(-14)**
Base	**1468' +690**	NA	**NA**	NA	**NA**
Topeka	**3144' -986**	NA	**NA**	3138' -984	**(-2)**
Heebner	**3375' -1217**	3372' -1221	**(+4)**	3367' -1213	**(-4)**
Toronto	**3397' -1239**	3394' -1243	**(+4)**	3388' -1234	**(-5)**
Lansing	**3423' -1265**	3418' -1267	**(+2)**	3415' -1261	**(-4)**
BKC	**3658' -1498**	NA	**NA**	3644' -1488	**(-10)**
Conglomerate	**3692' -1534**	3687' -1536	**(+2)**	Not Present	**NP**
Arbuckle	**Not Reached**	Not Reached	**NR**	3675' -1521	**NR**

Summary

The location for the Clem #1 was found via surface and sub-surface study. The new well ran structurally as expected via the study. Two Drill Stem Tests were conducted, one of which recovered commercial amounts of oil from the Lansing-Kansas City Group. After all gathered data had been examined the decision was made to run 5 ½ inch production casing to further evaluate the Clem #1 well.

Recommended Perforations

In order of importance

Primary			
LKC I	**3581' – 3585'**	**DST #2**	
LKC J	**3596' – 3600'**	**DST #2**	Possibly Fractured
LKC K	**3620' – 3624'**	**DST #2**	Best oil shows
Secondary			
LKC L	**3650' – 3652'**	**DST #2**	
Before Abandonment			
LKC E	**3495' – 3499'**	**Not Tested**	Likely depleted
LKC F	**3506' – 3511'**	**Not Tested**	Likely depleted
Marmaton	**3682' – 3687'**	**Not Tested**	Likely tight
Plattsmouth	**3338' – 3342'**	**Not Tested**	Likely all water

Respectfully Submitted,

Jason T Alm
Hard Rock Consulting, Inc.