

Scale 1:240 (5"-100") Imperial
Measured Depth Log

Well Name: Sanford Trust # 3 API: 15-009-26026-00-00 Location: NE-SW-SE-NE of Section 23-17s-14w - Barton County, KS License Number: KCC Licence#: 30886 Spud Date: 09/26/2014 Surface Coordinates: 221° FNL & 790 FEW of Section 23-17s-14w Bottom Hole Coordinates: Same as Surface Coordinates Ground Elevation (ft): 1916' Logged Interval (ft): 2800' Type of Drilling Fluid: Arbuckle Dolomite @ Total Depth Andy's Mud Company (Chemical Drispac) Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com	Region: Mid-Continent Drilling Completed: 10/3/2014 K.B. Elevation (ft): 1925' Total Depth (ft): 3476'
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OPERATOR

Company: **John R. Thomas d/b/a VAMCO Operations**
 Address: **265 Avenue K Chase, KS 67524**

GEOLOGIST

Name: **Eli J. Felts & Jeffrey Burk, Consulting Petroleum Geologists**
 Company: **PETERRA Energy Services**
 Address: **110 South Main, Suite #510 Wichita, KS 67202**
 Phone: **(316) 269-2015**

DRILL STEM TEST REPORT
 Vamco Operations
 265 Avenue K Chase, KS 67524+9440
 ATIN: B Felts

23-17s-12w Barton, KS
Sanford Trust #3
 Job Ticket: 61902 DST# 1
 Test Start: 2014.09.30 @ 19:57:00

GENERAL INFORMATION:
 Formation: **LKC H**
 Deviated: **No Whipstock** ft (KB)
 Time Tool Opened: **21:32:30**
 Time Test Ended: **03:01:00**
 Interval: **3285.00 ft (KB) To 3311.00 ft (KB) (TVD)**
 Total Depth: **3311.00 ft (KB) (TVD)**
 Hole Diameter: **7.80 inches/Hole Condition: Fair**

Test Type: **Conventional Bottom Hole (Initial)**
 Tester: **Ken Swinney**
 Unit No: **S1**
 Reference Elevations: **1925.00 ft (KB) 1916.00 ft (CF) 9.00 ft**

Serial #: **6663 Outside**
 Press@RunDepth: **400.01 psig @ 3808.00 ft (KB)**
 Start Date: **2014.09.30** End Date: **2014.10.01**
 Start Time: **19:39:00** End Time: **03:02:00**
 Capacity: **8000.00 psig**
 Last Call: **2014.10.01**
 Time On Blm: **2014.09.30 @ 21:33:00**
 Time Off Blm: **2014.10.01 @ 03:51:00**

TEST COMMENT: **1ST Open 30 Minutes/Good blow/Blow built to bottom of bucket in 4 minutes 15 seconds**
1ST Shut in 45 Minutes/Blow back built to 1 1/2 inch
2ND Open 60 Minutes/Good blow/Blow built to bottom of bucket in 5 minutes 45 seconds
2ND Shut in 80 Minutes/Blow back built to bottom of bucket in 31 minutes

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1627.29	88.86	Initial Hydro-static
1	53.55	88.86	Open To Flow (1)
31	87.23	121.10	Shut-In (1)
75	423.80	121.43	Enc Shut-In (1)
76	93.18	121.85	Open To Flow (2)
147	147.11	102.57	Shut-In (2)
198	400.01	103.85	Enc Shut-In (2)
198	1668.24	104.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	1515 feet of gas in pipe	0.00
97.00	VGOCM Mud 20% Oil 30% Gas 50%	1.36
62.00	VGMCO Mud 5% Emulsified Oil 20% Gas 87%	0.87
62.00	VGMCO Mud 5% Water 10% Oil 35% Gas 87%	0.87
62.00	MW Mud 2% Water 80%	0.87

Gas Rates

Core (Inches)	Pressure (psig)	Gas Rate (Mcf/d)

Triobite Testing, Inc Ref. No: 61902 Printed: 2014.10.03 @ 16:53:32

DRILL STEM TEST REPORT
 Vamco Operations
 265 Avenue K Chase, KS 67524+9440
 ATIN: B Felts

23-17s-12w Barton, KS
Sanford Trust #3
 Job Ticket: 61903 DST# 2
 Test Start: 2014.09.30 @ 19:18:00

GENERAL INFORMATION:
 Formation: **Arbuckle**
 Deviated: **No Whipstock** ft (KB)
 Time Tool Opened: **15:40:30**
 Time Test Ended: **01:03:00**
 Interval: **3374.00 ft (KB) To 3430.00 ft (KB) (TVD)**
 Total Depth: **3430.00 ft (KB) (TVD)**
 Hole Diameter: **7.80 inches/Hole Condition: Fair**

Test Type: **Conventional Bottom Hole (Initial)**
 Tester: **Ken Swinney**
 Unit No: **S1**
 Reference Elevations: **1925.00 ft (KB) 1916.00 ft (CF) 9.00 ft**

Serial #: **6749 Inside**
 Press@RunDepth: **198.79 psig @ 3425.82 ft (KB)**
 Start Date: **2014.09.30** End Date: **2014.10.01**
 Start Time: **18:12:00** End Time: **01:03:00**
 Capacity: **8000.00 psig**
 Last Call: **2014.10.02**
 Time On Blm: **2014.09.30 @ 19:48:30**
 Time Off Blm: **2014.09.30 @ 23:29:30**

TEST COMMENT: **1ST Open 30 Minutes/Weak flow/Blow built to 8 inches in 7 minutes; then died to 5.17 inches**
1ST Shut in 45 Minutes/No blow back
2ND Open 60 Minutes/No blow/Flush tool/Surging blow built to bottom of bucket in 10 minutes
2ND Shut in 60 Minutes/No blow back

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1627.28	100.01	Initial Hydro-static
1	77.76	103.54	Open To Flow (1)
31	107.89	109.60	Shut-In (1)
77	079.81	106.57	Enc Shut-In (1)
77	079.81	108.56	Open To Flow (2)
136	198.79	114.02	Shut-In (2)
196	1048.15	112.22	Enc Shut-In (2)
201	618.09	109.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
175.00	Oil out Mud/Oil 5% Mud 95%	2.47
124.00	Muddy Water/Mud 5% Water 95%	1.74
62.00	Mud with show of oil/Mud 100%	0.87

Gas Rates

Core (Inches)	Pressure (psig)	Gas Rate (Mcf/d)

Triobite Testing, Inc Ref. No: 61903 Printed: 2014.10.03 @ 16:37:10

DRILL STEM TEST REPORT
 Vamco Operations
 265 Avenue K Chase, KS 67524+9440
 ATIN: B Felts

23-17s-12w Barton, KS
Sanford Trust #3
 Job Ticket: 61904 DST# 3
 Test Start: 2014.10.02 @ 15:13:00

GENERAL INFORMATION:
 Formation: **LKC G-G**
 Deviated: **No Whipstock** ft (KB)
 Time Tool Opened: **16:55:00**
 Time Test Ended: **21:39:00**
 Interval: **3184.00 ft (KB) To 3250.00 ft (KB) (TVD)**
 Total Depth: **3475.00 ft (KB) (TVD)**
 Hole Diameter: **7.80 inches/Hole Condition: Fair**

Test Type: **Conventional Stabble (Initial)**
 Tester: **Ken Swinney**
 Unit No: **S1**
 Reference Elevations: **1925.00 ft (KB) 1916.00 ft (CF) 9.00 ft**

Serial #: **6663 Inside**
 Press@RunDepth: **118.86 psig @ 3214.03 ft (KB)**
 Start Date: **2014.10.02** End Date: **2014.10.02**
 Start Time: **15:14:00** End Time: **21:39:00**
 Capacity: **8000.00 psig**
 Last Call: **2014.10.02**
 Time On Blm: **2014.10.02 @ 16:54:36**
 Time Off Blm: **2014.10.02 @ 20:12:30**

TEST COMMENT: **1ST Open 30 Minutes/Good blow/Blow built to bottom of bucket in 14 minutes 30 seconds**
1ST Shut in 45 Minutes/Blow back built to 1/4 inch
2ND Open 60 Minutes/Good blow/Blow built to bottom of bucket in 6 minutes
2ND Shut in 80 Minutes/blow back built to 2 inches

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1638.00	97.79	Initial Hydro-static
1	48.71	99.91	Open To Flow (1)
31	75.18	96.56	Shut-In (1)
75	583.00	100.36	Open To Flow (1)
77	75.60	100.59	Enc Shut-In (2)
137	118.86	101.32	Shut-In (2)
196	654.16	102.20	Enc Shut-In (2)
198	1535.77	103.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	GOOM/Oil 15% Gas 40% Mud 45%	0.63
62.00	GOOM/Gas 5% Oil 16% Mud 50%	0.87
62.00	Mud with show of oil/Mud 100%	0.87

Gas Rates

Core (Inches)	Pressure (psig)	Gas Rate (Mcf/d)

Triobite Testing, Inc Ref. No: 61904 Printed: 2014.10.03 @ 15:35:45

ROCK TYPES

OTHER SYMBOLS

POROSITY [E] Earthy [F] Fenest [X] Fracture [M] Inter [O] Moldic [P] Organic [V] Vuggy	OIL SHOW [D] Even [S] Spotted [Q] Ques [D] Dead [G] Gas show [] New symbol	OTHER SYMBOLS [M] Moderate [P] Poor [R] Rounding [S] Subrond [A] Subang [] Angular	INTERVAL [] Core [] Cost [] Dst [] EVENT [] pipesymbol [] Rft [] Sidewall
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