

Robert D. Hendrix

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

Murfin Drilling Co. Inc.

ELEVATIONS

LEASE: Kohrs #1-9

FIELD: Wildcat

LOCATION: 2270' fsl & 1850' fel

SEC: 9 TWP: 16 S RGE: 32 W

COUNTY: Scott STATE: Kansas

CONTRACTOR: Murfin Drilling Co. Inc. Rig #21

SPUD: 8/9/2012 COMP: 8/20/2012

RTD: 4/7/80 LTD: 4/7/81

MUD UP: 3208 TYP MUD: Chemical

SAMPLES SAVED FROM: 3620 TO TD

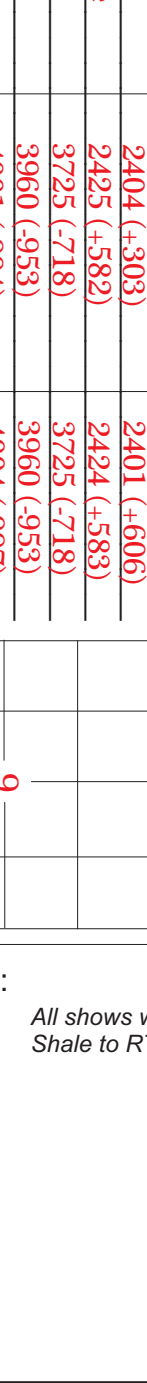
DRILLING TIME KEPT FROM: 3620 TO TD

SAMPLES EXAMINED FROM: 3620 TO TD

GEOLOGICAL SUPERVISION FROM: 3620
 GEOLOGIST ON WELL: Robert D. Hendrix
 INDUCTION/POSTHOLE/STEM/LOGGING: Pioneer Energy

FORMATION TOPS

FORMATION	ELECTRIC LOG	SAMPLE
Base Anhydrite	2404 (-582)	2401 (-666)
Topeka	3725 (-718)	3725 (-718)
Heebner Shale	3960 (-953)	3960 (-953)
Lansing	4004 (-997)	4004 (-997)
Stark Shale	4261 (-1254)	4261 (-1254)
Pawnee	4477 (-1470)	4477 (-1470)
Ft Scott	4518 (-1511)	4518 (-1511)
Mississippian	4679 (-1572)	4679 (-1572)



REMARKS:
 All shows were tested with mixed results, the decision was made to plug and abandon this test. From the Stark Shale to RTD the log tops were applied and adjusted to for clarity of show orientation to the e-log.

LEGEND



DEPTH	LITHOLOGY	Test & Show	SAMPLE DESCRIPTION	REMARKS
2350				
2400				Anhydrite 2401 (+606)
2424				Base Anhydrite 2424 (+583)
2450				
3600				Geologist on location 3200' at 1:45 am 8/12/2012 Bit Trip at 3319' to change from PDC to button. Strap out of hole was +1.24' long to board.
3620			Shale: gray, green, red, pyritic, silty Limestone: gray, f-mxn, soft in part, chalky, pelletaloidal, pr interxn por Shale: gray, red Limestone: white, f-xln, sl chalky, fossiliferous, no vis por Limestone: white, f-xln, v chalky, fossiliferous, sl pp-vug por Limestone: brown to gray, f-mxn, sl chalky, fossiliferous, argillaceous, no vis por Shale: gray, red Sandstone: brown, fh-vf grain, round, mod sorted, sl calcareous, no vis por Limestone: white to gray, f-xln, sl chalky, fossiliferous, no vis por	
3700				8:00am, 8/12/2012
3725			Mudstone: gray, dense, hard, sl laminated in part, sl silty, no vis por Limestone: white, f-xln, oolitic, sl chalky, fossiliferous, pr pp por Shale: gray, red Shale: gray black, silty	Topeka 3725 (-718) wt 8.9, vis. 54, lcm 6# Morgan Mud, Dave Lines
3800			Limestone: white, f-xln, oolitic, v chalky, fossiliferous, no vis por Limestone: brown to gray, f-xln, sl fossiliferous, no vis por Shale: gray black, red Limestone: tan to white, f-xln, chalky, sl fossiliferous, no vis por Limestone: tan to white, f-xln, chalky, pelletaloidal, no vis por Shale: gray black, red Limestone: tan to white, f-xln, v chalky, oolitic, pr pp por Shale: gray black, red Limestone: tan to white, f-xln, v chalky, oolitic, fossiliferous, no vis por Shale: gray black, red Limestone: tan to white, f-xln, v chalky, oolitic, fossiliferous, no vis por Shale: black, carbonaceous, gray Sandstone: white to lt gray, vf grain, round, well sorted, sl calcareous, soft, no vis por Shale: gray black, red Limestone: tan to white, f-mxn, chalky, oolitic, fossiliferous, no vis por Limestone: tan to white, f-mxn, chalky, sl oolitic, fossiliferous, no vis por Shale: gray, red Limestone: white, f-mxn, chalky, granular, soft, sl fossiliferous, no vis por Shale: gray black, red Limestone: white, f-xln, chalky, granular, soft, sl fossiliferous, no vis por Shale: gray, red Limestone: white, f-xln, chalky granular, soft, sl fossiliferous, no vis por Limestone: white, f-xln, chalky granular, soft, sl fossiliferous, no vis por Limestone: white, f-xln, chalky granular, soft, argillaceous, no vis por Limestone: white, f-xln, chalky granular, soft, argillaceous, no vis por Limestone: white, f-xln, chalky granular, soft, argillaceous, no vis por	
3900				
3960				Heebner Shale 3960 (-953)
4000				
4004				Lansing 4004 (-997)
4024				DST #1 4024-4065 30-60-30-60 1st open: BOB 24 min 2nd open: BOB 44 min Rec: 620' mcw 10/95 320' mcw 40/60 hydro: 2001-1898 psi If: 34-241 psi ff: 299-468 psi sip: 1060-1054 psi bht: 116°F chl: 4200 ppm api rw: 1.30 @ 81°F
4100				8:00am, 8/13/2012 wt 9.3, vis. 72, lcm 6# Morgan Mud, Cade Lines
4200				DST #2 4220-4280 30-60-30-60 1st open: fair blow built to 7 1/4" 2nd open: bob 56 min Rec: 210' wcm 20/80 120' wcm 40/60 hydro: 2105-1996 psi If: 14-141 psi ff: 141-221 psi sip: 1135-1127 psi bht: 122°F chl: 3100 ppm api rw: 1.59 @ 66°F
4261				Stark Shale 4261 (-1254)
4300				8:00am, 8/14/2012
4340				DST #3 4308-4340 30-60-30-60 1st open: bob 4 min 2nd open: bob 8 min no returns Rec: 420' mcw 10/30/60 320' mcw 10/20/70 190' mcw 5/10/85 hydro: 2155-2120 psi If: 70-370 psi ff: 304-533 psi sip: 999-960 psi bht: 125°F chl: 2500 ppm api rw: 1.98 @ 84°F
4360				8:00am, 8/15/2012
4385				DST #4 4385-4515 30-60-30-60 1st open: slow build to 2 1/2" 2nd open: slow build to 3" no returns Rec: 15' mco 30/70 60' ocm 30/70 hydro: 2179-2140 psi If: 24-36 psi ff: 40-61 psi sip: 1071-1009 psi bht: 118°F
4400				8:00am, 8/16/2012
4477				Pawnee 4477 (-1470)
4500				8:00am, 8/17/2012 wt 9.3, vis. 58, lcm 7# Morgan Mud, Cade Lines
4518				Ft Scott 4518 (-1511)
4600				8:00am, 8/18/2012
4679				Mississippian 4679 (-1672)
4700				DST #8 4623-4668 30-60-30-60 1st open: slow build to 2" 2nd open: no blow (chert indicated plugging) no returns Rec: 120' mud-w-oil spots hydro: 2352-2330 psi If: 65-56 psi ff: 65-76 psi sip: 1071-1009 psi bht: 122°F
4780				RTD 4780 (-1773) 8:00am, 8/20/2012 Geologist off location at 11:54am, 8/20/2012