

# **Unit Petroleum**

**Reno County, Kansas**

**Loudenback**

**Loudenback 18 #1H**

**OH**

**Design: OH**

## **Standard Survey Report**

**26 August, 2013**





Unit Petroleum  
 Project: Reno County, Kansas  
 Site: Loudenback  
 Well: Loudenback 18 #1H  
 Wellbore: OH  
 Design: Design #2  
 Lat: 37° 52' 56.264 N  
 Long: 98° 27' 24.926 W  
 Pad GL: 1770.00  
 KB: KB 14' @ 1784.00usft (UDI 331)



**SECTION DETAILS**

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3302.63	0.00	0.00	3302.63	0.00	0.00	0.00	0.00	0.00
3822.63	52.00	180.00	3754.13	-220.21	0.00	10.00	180.00	220.21
3992.63	52.00	180.00	3858.79	-354.17	0.00	0.00	0.00	354.17
4307.57	89.79	180.00	3960.00	-646.40	0.00	12.00	0.00	646.40
8461.23	89.79	180.00	3975.00	-4800.04	-0.07	0.00	0.00	4800.04

**WELL DETAILS: Loudenback 18 #1H**

+N/-S	+E/-W	Northing	Ground Level: Easting	1770.00 Latitude	Longitude	Slot
0.00	0.00	1754973.77	1324765.29	37° 52' 56.264 N	98° 27' 24.926 W	

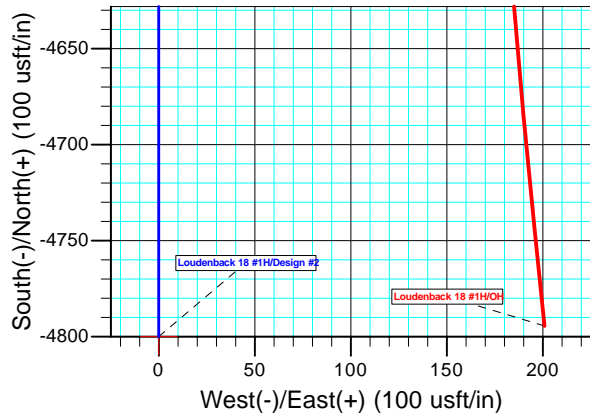
**PROJECT DETAILS: Reno County, Kansas**

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Kansas Southern Zone  
 System Datum: Mean Sea Level

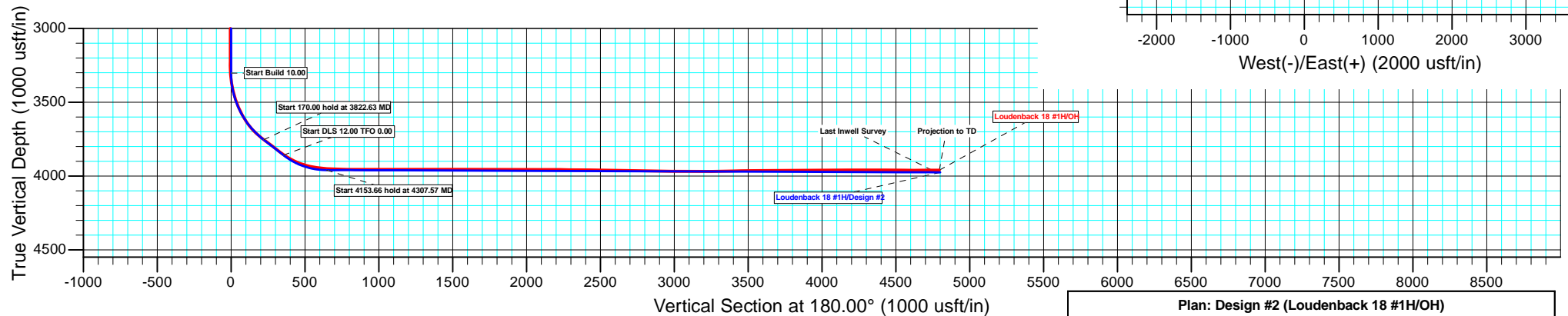
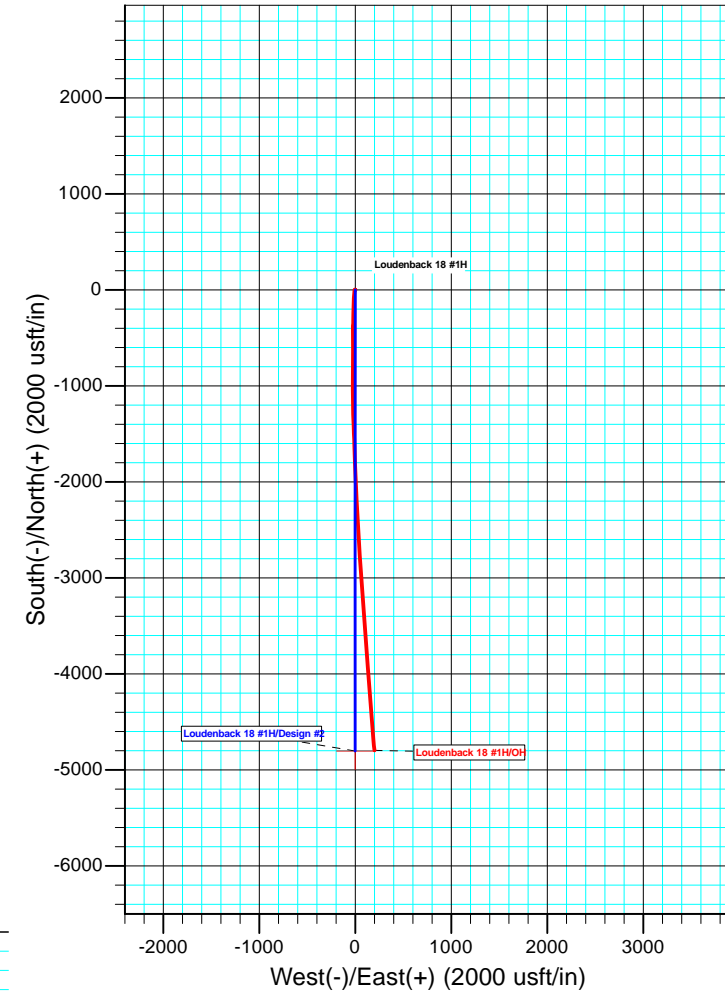
**WELLBORE TARGET DETAILS (LAT/LONG)**

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape Point
Loudenback 18 #1H PBHL	3975.00	-4800.04	-0.07	37° 52' 8.811 N	98° 27' 24.955 W	

**Azimuths to Grid North**  
 True North: -0.03°  
 Magnetic North: 4.70°  
**Magnetic Field**  
 Strength: 52124.8snT  
 Dip Angle: 65.80°  
 Date: 8/2/2013  
 Model: IGRF2010



**NOTE: All Lease lines and Hard lines are estimates only and are subject to the customers' approval.**



<b>Company:</b>	Unit Petroleum	<b>Local Co-ordinate Reference:</b>	Well Loudenback 18 #1H
<b>Project:</b>	Reno County, Kansas	<b>TVD Reference:</b>	KB 14' @ 1784.00usft (UDI 331)
<b>Site:</b>	Loudenback	<b>MD Reference:</b>	KB 14' @ 1784.00usft (UDI 331)
<b>Well:</b>	Loudenback 18 #1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Reno County, Kansas		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Kansas Southern Zone		Using geodetic scale factor

<b>Site</b>	Loudenback				
<b>Site Position:</b>		<b>Northing:</b>	1,755,356.48 usft	<b>Latitude:</b>	37° 53' 0.052 N
<b>From:</b>	Map	<b>Easting:</b>	1,323,855.33 usft	<b>Longitude:</b>	98° 27' 36.275 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.02 °

<b>Well</b>	Loudenback 18 #1H					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,754,973.77 usft	<b>Latitude:</b>	37° 52' 56.264 N
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	1,324,765.28 usft	<b>Longitude:</b>	98° 27' 24.926 W
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	1,770.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/2/2013	4.72	65.80	52,125

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	180.00	

<b>Survey Program</b>	<b>Date</b>	8/26/2013			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
142.98	8,458.00	MWD (OH)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142.98	0.47	74.50	142.98	0.16	0.57	-0.16	0.33	0.33	0.00	
237.99	0.82	83.69	237.98	0.34	1.62	-0.34	0.38	0.37	9.67	
333.00	0.46	63.66	332.99	0.58	2.63	-0.58	0.44	-0.38	-21.08	
428.01	0.57	33.81	427.99	1.14	3.24	-1.14	0.30	0.12	-31.42	
523.02	0.13	355.07	523.00	1.64	3.49	-1.64	0.50	-0.46	-40.77	
618.03	0.07	13.87	618.01	1.81	3.50	-1.81	0.07	-0.06	19.79	
713.04	0.27	325.52	713.02	2.05	3.38	-2.05	0.24	0.21	-50.89	
808.05	0.26	25.01	808.03	2.43	3.35	-2.43	0.28	-0.01	62.61	
903.06	0.38	63.40	903.04	2.76	3.72	-2.76	0.25	0.13	40.41	



<b>Company:</b>	Unit Petroleum	<b>Local Co-ordinate Reference:</b>	Well Loudenback 18 #1H
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<b>Site:</b>	Loudenback	<b>MD Reference:</b>	KB 14' @ 1784.00usft (UDI 331)
<b>Well:</b>	Loudenback 18 #1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
998.07	0.45	323.95	998.05	3.21	3.78	-3.21	0.67	0.07	-104.67	
1,093.08	0.57	268.92	1,093.05	3.50	3.09	-3.50	0.51	0.13	-57.92	
1,188.09	0.36	211.65	1,188.06	3.23	2.46	-3.23	0.51	-0.22	-60.28	
1,283.10	0.41	170.13	1,283.07	2.65	2.36	-2.65	0.29	0.05	-43.70	
1,378.11	0.37	266.64	1,378.08	2.29	2.12	-2.29	0.61	-0.04	101.58	
1,473.12	0.52	274.81	1,473.08	2.31	1.38	-2.31	0.17	0.16	8.60	
1,568.13	0.36	311.10	1,568.09	2.54	0.73	-2.54	0.33	-0.17	38.20	
1,663.00	0.41	305.96	1,662.96	2.94	0.23	-2.94	0.06	0.05	-5.42	
1,758.15	0.23	251.28	1,758.11	3.08	-0.23	-3.08	0.35	-0.19	-57.47	
1,853.16	0.06	131.79	1,853.12	2.98	-0.37	-2.98	0.28	-0.18	-125.77	
1,948.17	0.17	260.58	1,948.13	2.93	-0.48	-2.93	0.22	0.12	135.55	
2,043.18	0.47	298.55	2,043.14	3.09	-0.96	-3.09	0.37	0.32	39.96	
2,138.19	0.27	308.00	2,138.14	3.41	-1.48	-3.41	0.22	-0.21	9.95	
2,233.20	0.24	273.65	2,233.15	3.56	-1.85	-3.56	0.16	-0.03	-36.15	
2,328.21	0.22	247.94	2,328.16	3.51	-2.22	-3.51	0.11	-0.02	-27.06	
2,423.22	0.12	281.34	2,423.17	3.46	-2.48	-3.46	0.14	-0.11	35.15	
2,518.23	0.11	298.09	2,518.18	3.52	-2.66	-3.52	0.04	-0.01	17.63	
2,613.24	0.34	327.63	2,613.19	3.80	-2.89	-3.80	0.26	0.24	31.09	
2,708.25	0.39	343.65	2,708.20	4.35	-3.14	-4.35	0.12	0.05	16.86	
2,803.26	0.23	4.91	2,803.21	4.85	-3.21	-4.85	0.20	-0.17	22.38	
2,898.27	0.11	344.39	2,898.22	5.13	-3.22	-5.13	0.14	-0.13	-21.60	
2,993.28	0.10	321.49	2,993.23	5.28	-3.30	-5.28	0.05	-0.01	-24.10	
3,088.29	0.27	330.81	3,088.24	5.54	-3.46	-5.54	0.18	0.18	9.81	
3,183.30	0.32	264.59	3,183.25	5.71	-3.83	-5.71	0.34	0.05	-69.70	
3,223.00	0.50	258.40	3,222.94	5.67	-4.11	-5.67	0.47	0.45	-15.59	
3,254.00	0.70	240.30	3,253.94	5.55	-4.41	-5.55	0.88	0.65	-58.39	
3,284.00	2.10	203.40	3,283.93	4.95	-4.78	-4.95	5.32	4.67	-123.00	
3,316.00	4.60	196.50	3,315.88	3.18	-5.38	-3.18	7.90	7.81	-21.56	
3,348.00	7.30	191.60	3,347.70	-0.04	-6.15	0.04	8.58	8.44	-15.31	
3,379.00	9.90	188.30	3,378.35	-4.61	-6.94	4.61	8.53	8.39	-10.65	
3,410.00	12.60	186.30	3,408.75	-10.61	-7.69	10.61	8.80	8.71	-6.45	
3,443.00	15.00	185.90	3,440.80	-18.43	-8.53	18.43	7.28	7.27	-1.21	
3,474.00	17.40	185.60	3,470.56	-27.04	-9.39	27.04	7.75	7.74	-0.97	
3,506.00	20.00	184.80	3,500.87	-37.25	-10.32	37.25	8.16	8.13	-2.50	
3,538.00	22.70	183.80	3,530.67	-48.87	-11.18	48.87	8.51	8.44	-3.13	
3,570.00	25.60	183.50	3,559.87	-61.93	-12.01	61.93	9.07	9.06	-0.94	
3,600.00	28.80	183.20	3,586.55	-75.62	-12.81	75.62	10.68	10.67	-1.00	
3,631.00	32.20	183.10	3,613.26	-91.33	-13.68	91.33	10.97	10.97	-0.32	
3,663.00	35.60	183.00	3,639.81	-109.15	-14.63	109.15	10.63	10.63	-0.31	
3,695.00	39.00	183.00	3,665.26	-128.51	-15.64	128.51	10.63	10.63	0.00	
3,726.00	42.60	182.90	3,688.73	-148.74	-16.68	148.74	11.61	11.61	-0.32	
3,758.00	46.40	182.00	3,711.55	-171.14	-17.63	171.14	12.04	11.88	-2.81	
3,790.00	50.20	181.50	3,732.83	-195.02	-18.36	195.02	11.93	11.88	-1.56	
3,822.00	52.50	181.20	3,752.81	-220.00	-18.95	220.00	7.22	7.19	-0.94	

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<b>Well:</b>	Loudenback 18 #1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,853.00	52.80	181.20	3,771.62	-244.64	-19.47	244.64	0.97	0.97	0.00	
3,885.00	52.90	181.20	3,790.95	-270.14	-20.00	270.14	0.31	0.31	0.00	
3,917.00	52.50	181.50	3,810.34	-295.59	-20.60	295.59	1.46	-1.25	0.94	
3,949.00	52.80	181.10	3,829.75	-321.02	-21.18	321.02	1.37	0.94	-1.25	
3,981.00	53.90	181.00	3,848.85	-346.69	-21.65	346.69	3.45	3.44	-0.31	
4,013.00	57.10	180.90	3,866.98	-373.05	-22.08	373.05	10.00	10.00	-0.31	
4,044.00	60.50	179.80	3,883.03	-399.56	-22.24	399.56	11.38	10.97	-3.55	
4,076.00	63.90	179.40	3,897.96	-427.87	-22.04	427.87	10.68	10.63	-1.25	
4,108.00	68.00	179.70	3,910.99	-457.08	-21.81	457.08	12.84	12.81	0.94	
4,140.00	72.00	180.00	3,921.94	-487.14	-21.74	487.14	12.53	12.50	0.94	
4,171.00	75.90	180.60	3,930.51	-516.93	-21.89	516.93	12.72	12.58	1.94	
4,202.00	79.00	180.90	3,937.24	-547.18	-22.29	547.18	10.04	10.00	0.97	
4,234.00	81.80	180.10	3,942.58	-578.73	-22.56	578.73	9.09	8.75	-2.50	
4,266.00	84.20	179.90	3,946.48	-610.49	-22.56	610.49	7.53	7.50	-0.63	
4,344.00	87.60	180.10	3,952.05	-688.28	-22.56	688.28	4.37	4.36	0.26	
4,406.00	88.20	180.00	3,954.32	-750.24	-22.62	750.24	0.98	0.97	-0.16	
4,467.00	89.30	180.20	3,955.65	-811.22	-22.72	811.22	1.83	1.80	0.33	
4,529.00	90.10	180.70	3,955.98	-873.22	-23.21	873.22	1.52	1.29	0.81	
4,591.00	90.10	180.70	3,955.87	-935.21	-23.97	935.21	0.00	0.00	0.00	
4,652.00	90.90	180.80	3,955.34	-996.20	-24.77	996.20	1.32	1.31	0.16	
4,714.00	89.50	179.80	3,955.12	-1,058.20	-25.09	1,058.20	2.77	-2.26	-1.61	
4,776.00	89.90	179.00	3,955.45	-1,120.20	-24.44	1,120.20	1.44	0.65	-1.29	
4,838.00	90.10	178.60	3,955.45	-1,182.18	-23.14	1,182.18	0.72	0.32	-0.65	
4,899.00	90.50	178.50	3,955.13	-1,243.16	-21.60	1,243.16	0.68	0.66	-0.16	
4,961.00	90.30	178.00	3,954.69	-1,305.13	-19.71	1,305.13	0.87	-0.32	-0.81	
5,023.00	90.70	177.80	3,954.15	-1,367.09	-17.44	1,367.09	0.72	0.65	-0.32	
5,085.00	89.00	178.30	3,954.32	-1,429.05	-15.33	1,429.05	2.86	-2.74	0.81	
5,147.00	89.30	178.40	3,955.24	-1,491.02	-13.54	1,491.02	0.51	0.48	0.16	
5,209.00	89.90	178.30	3,955.67	-1,552.99	-11.76	1,552.99	0.98	0.97	-0.16	
5,271.00	90.60	178.30	3,955.40	-1,614.96	-9.92	1,614.96	1.13	1.13	0.00	
5,332.00	89.50	177.80	3,955.34	-1,675.92	-7.84	1,675.92	1.98	-1.80	-0.82	
5,394.00	90.10	177.70	3,955.56	-1,737.87	-5.41	1,737.87	0.98	0.97	-0.16	
5,455.00	89.70	177.50	3,955.67	-1,798.82	-2.85	1,798.82	0.73	-0.66	-0.33	
5,516.00	90.00	177.70	3,955.83	-1,859.77	-0.30	1,859.77	0.59	0.49	0.33	
5,576.00	90.40	177.30	3,955.62	-1,919.71	2.32	1,919.71	0.94	0.67	-0.67	
5,638.00	89.70	177.40	3,955.56	-1,981.64	5.19	1,981.64	1.14	-1.13	0.16	
5,699.00	89.50	177.40	3,955.99	-2,042.58	7.95	2,042.58	0.33	-0.33	0.00	
5,761.00	89.90	177.40	3,956.31	-2,104.51	10.77	2,104.51	0.65	0.65	0.00	
5,822.00	90.10	177.10	3,956.31	-2,165.44	13.69	2,165.44	0.59	0.33	-0.49	
5,884.00	89.10	177.70	3,956.75	-2,227.38	16.50	2,227.38	1.88	-1.61	0.97	
5,945.00	88.90	177.50	3,957.81	-2,288.31	19.06	2,288.31	0.46	-0.33	-0.33	
6,007.00	89.40	177.40	3,958.73	-2,350.25	21.82	2,350.25	0.82	0.81	-0.16	
6,068.00	90.00	177.10	3,959.05	-2,411.17	24.74	2,411.17	1.10	0.98	-0.49	



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<b>Well:</b>	Loudenback 18 #1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
6,130.00	89.60	176.50	3,959.27	-2,473.08	28.20	2,473.08	1.16	-0.65	-0.97	
6,191.00	88.80	176.40	3,960.12	-2,533.95	31.98	2,533.95	1.32	-1.31	-0.16	
6,253.00	88.80	176.20	3,961.42	-2,595.81	35.98	2,595.81	0.32	0.00	-0.32	
6,314.00	88.80	175.90	3,962.69	-2,656.65	40.18	2,656.65	0.49	0.00	-0.49	
6,376.00	89.50	176.30	3,963.61	-2,718.50	44.40	2,718.50	1.30	1.13	0.65	
6,437.00	88.90	176.00	3,964.47	-2,779.36	48.49	2,779.36	1.10	-0.98	-0.49	
6,499.00	89.10	175.50	3,965.55	-2,841.18	53.09	2,841.18	0.87	0.32	-0.81	
6,560.00	89.40	176.00	3,966.35	-2,902.00	57.61	2,902.00	0.96	0.49	0.82	
6,621.00	89.60	175.70	3,966.88	-2,962.84	62.02	2,962.84	0.59	0.33	-0.49	
6,683.00	89.40	176.50	3,967.42	-3,024.70	66.24	3,024.70	1.33	-0.32	1.29	
6,744.00	88.90	175.90	3,968.33	-3,085.55	70.28	3,085.55	1.28	-0.82	-0.98	
6,806.00	89.70	176.00	3,969.08	-3,147.39	74.66	3,147.39	1.30	1.29	0.16	
6,867.00	89.80	175.70	3,969.35	-3,208.23	79.07	3,208.23	0.52	0.16	-0.49	
6,929.00	90.70	175.70	3,969.08	-3,270.06	83.72	3,270.06	1.45	1.45	0.00	
6,990.00	91.30	175.50	3,968.01	-3,330.87	88.40	3,330.87	1.04	0.98	-0.33	
7,051.00	91.90	175.60	3,966.31	-3,391.66	93.13	3,391.66	1.00	0.98	0.16	
7,113.00	91.30	175.60	3,964.58	-3,453.45	97.89	3,453.45	0.97	-0.97	0.00	
7,175.00	90.30	176.00	3,963.71	-3,515.28	102.43	3,515.28	1.74	-1.61	0.65	
7,236.00	90.20	176.20	3,963.45	-3,576.14	106.58	3,576.14	0.37	-0.16	0.33	
7,298.00	90.90	175.80	3,962.85	-3,637.98	110.90	3,637.98	1.30	1.13	-0.65	
7,359.00	90.30	175.70	3,962.21	-3,698.81	115.42	3,698.81	1.00	-0.98	-0.16	
7,421.00	90.30	176.20	3,961.89	-3,760.66	119.80	3,760.66	0.81	0.00	0.81	
7,483.00	90.30	176.50	3,961.56	-3,822.53	123.75	3,822.53	0.48	0.00	0.48	
7,545.00	90.10	176.10	3,961.35	-3,884.40	127.75	3,884.40	0.72	-0.32	-0.65	
7,607.00	90.40	176.10	3,961.08	-3,946.26	131.97	3,946.26	0.48	0.48	0.00	
7,669.00	90.20	175.80	3,960.75	-4,008.10	136.34	4,008.10	0.58	-0.32	-0.48	
7,730.00	90.20	175.90	3,960.54	-4,068.94	140.76	4,068.94	0.16	0.00	0.16	
7,792.00	91.00	176.00	3,959.89	-4,130.78	145.14	4,130.78	1.30	1.29	0.16	
7,854.00	90.30	175.40	3,959.19	-4,192.60	149.79	4,192.60	1.49	-1.13	-0.97	
7,916.00	90.80	175.30	3,958.59	-4,254.39	154.81	4,254.39	0.82	0.81	-0.16	
7,977.00	88.80	175.20	3,958.81	-4,315.18	159.86	4,315.18	3.28	-3.28	-0.16	
8,039.00	89.30	175.20	3,959.83	-4,376.96	165.05	4,376.96	0.81	0.81	0.00	
8,101.00	90.00	175.00	3,960.21	-4,438.73	170.35	4,438.73	1.17	1.13	-0.32	
8,162.00	89.40	175.90	3,960.53	-4,499.53	175.18	4,499.53	1.77	-0.98	1.48	
8,224.00	89.90	175.60	3,960.91	-4,561.36	179.78	4,561.36	0.94	0.81	-0.48	
8,286.00	89.90	175.40	3,961.02	-4,623.17	184.64	4,623.17	0.32	0.00	-0.32	
8,348.00	90.30	174.80	3,960.91	-4,684.94	189.94	4,684.94	1.16	0.65	-0.97	
8,408.00	90.10	174.10	3,960.70	-4,744.66	195.74	4,744.66	1.21	-0.33	-1.17	
<b>Last Inwell Survey</b>										
8,442.93	90.10	174.10	3,960.64	-4,779.41	199.33	4,779.41	0.00	0.00	0.00	
<b>Loudenback 18 #1H PBHL</b>										
8,458.00	90.10	174.10	3,960.61	-4,794.40	200.88	4,794.40	0.00	0.00	0.00	
<b>Projection to TD</b>										



<b>Company:</b>	Unit Petroleum	<b>Local Co-ordinate Reference:</b>	Well Loudenback 18 #1H
<b>Project:</b>	Reno County, Kansas	<b>TVD Reference:</b>	KB 14' @ 1784.00usft (UDI 331)
<b>Site:</b>	Loudenback	<b>MD Reference:</b>	KB 14' @ 1784.00usft (UDI 331)
<b>Well:</b>	Loudenback 18 #1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,408.00	3,960.70	-4,744.66	195.74	Last Inwell Survey
8,458.00	3,960.61	-4,794.40	200.88	Projection to TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Country  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**

MOTOR INFORMATION	
Desc: Curve Assembly	
Bent Hsg/Sub: 2 / 2	Bit to Bend: 5.66
Pad OD: 7 5/16	NB Stab:

### Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	15-Aug	Drilling	14:20	14:30	0.17	3271	3276	5		30.0	0	0				1.69	207.20	5.32	
1	15-Aug	Drilling	14:45	15:00	0.25	3276	3281	5		20.0	0	0				1.95	204.64	5.32	
1	15-Aug	Sliding	15:00	15:45	0.75	3281	3308	27		36.0	0	0			180	3.97	197.41	7.90	
1	15-Aug	Sliding	16:00	16:35	0.58	3308	3337	29		49.7	0	0			180M	6.37	192.82	8.58	
1	15-Aug	Sliding	16:50	17:45	0.92	3337	3369	32		34.9	0	0	500	1980	160M	9.06	189.16	8.53	
1	15-Aug	Sliding	18:00	18:35	0.58	3369	3401	32		54.9	0	0	500	1980	160M	11.81	186.79	8.80	
1	15-Aug	Sliding	18:50	19:35	0.75	3401	3432	31		41.3	0	0	500	1980	30L	14.20	186.02	7.28	
1	15-Aug	Sliding	19:50	20:15	0.42	3432	3463	31		74.4	0	0	500	1980	20L	16.55	185.70	7.75	
1	15-Aug	Sliding	20:30	21:15	0.75	3463	3496	33		44.0	0	0	500	1980	20L	19.19	185.03	8.16	
1	15-Aug	Sliding	21:30	22:30	1.00	3496	3527	31		31.0	0	0	500	1980	20L	21.77	184.12	8.51	
1	15-Aug	Sliding	22:45	23:35	0.83	3527	3559	32		38.4	0	0	500	1980	20L	24.60	183.60	9.07	
1	16-Aug	Sliding	00:00	00:45	0.75	3559	3591	32		42.7	0	0	500	1980	20L	27.84	183.28	10.68	
1	16-Aug	Sliding	01:00	01:40	0.67	3591	3623	32		48.0	0	0	500	1980	10L	31.32	183.12	10.97	
1	16-Aug	Sliding	01:50	02:30	0.67	3623	3653	30		45.0	0	0	500	1980	10L	34.54	183.03	10.63	
1	16-Aug	Sliding	02:40	03:30	0.83	3653	3684	31		37.2	0	0	500	1980	10L	37.83	183.00	10.63	
1	16-Aug	Sliding	03:40	04:15	0.58	3684	3716	32		54.9	0	0	500	1980	10L	41.44	182.93	11.61	
1	16-Aug	Sliding	04:30	05:30	1.00	3716	3748	32		32.0	0	0	500	1980	10L	45.21	182.27	12.04	
1	16-Aug	Sliding	05:45	06:20	0.58	3748	3779	31		53.1	0	0	500	1980	20L	48.89	181.67	11.93	
1	16-Aug	Sliding	06:35	07:20	0.75	3779	3811	32		42.7	0	0	500	1980	20L	51.71	181.30	7.22	
1	16-Aug	Sliding	07:30	08:00	0.50	3811	3821	10		20.0	0	0	500	1980	20L	52.43	181.21	7.22	
1	16-Aug	Drilling	08:05	08:30	0.42	3821	3843	22	15	52.8	45	0	500	1980		52.70	181.20	0.97	
1	16-Aug	Drilling	08:45	09:15	0.50	3843	3875	32	15	64.0	45	0	500	1980		52.87	181.20	0.31	
1	16-Aug	Drilling	09:30	10:00	0.50	3875	3906	31	15	62.0	45	0	500	1980		52.64	181.40	1.46	
1	16-Aug	Drilling	10:15	10:45	0.50	3906	3938	32	15	64.0	45	0	500	1980		52.70	181.24	1.37	
1	16-Aug	Drilling	11:00	11:30	0.50	3938	3970	32	15	64.0	45	0	500	1980		53.52	181.03	3.45	
1	16-Aug	Drilling	11:45	11:55	0.17	3970	3980	10	15	60.0	45	0	500	1980		53.87	181.00	3.45	



# Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	16-Aug	Sliding	11:55	12:30	0.58	3980	4002	22	25	37.7	45	0	500	1980	20L	56.00	180.93	10.00	
1	16-Aug	Sliding	13:25	14:00	0.58	4002	4034	32	25	54.9	45	0	500	1980	20L	59.40	180.15	11.38	
1	16-Aug	Sliding	14:15	15:00	0.75	4034	4066	32	25	42.7	45	0	500	1980	20L	62.84	179.52	10.68	
1	16-Aug	Sliding	15:15	15:55	0.67	4066	4097	31	25	46.5	45	0	500	1980	20L	66.59	179.60	12.84	
1	16-Aug	Sliding	16:10	16:35	0.42	4097	4129	32	35	76.8	45	0	500	1980	10L	70.62	179.90	12.53	
1	16-Aug	Sliding	16:50	17:25	0.58	4129	4161	32	35	54.9	45	0	500	1980		74.64	180.41	12.72	
1	16-Aug	Sliding	17:40	18:15	0.58	4161	4188	27	35	46.3	45	0	500	1980		77.60	180.77	10.04	
1	16-Aug	Drilling	18:15	18:20	0.08	4188	4193	5	15	60.0	45	0	500	1980		78.10	180.81	10.04	
1	16-Aug	Sliding	18:40	19:00	0.33	4193	4217	24	35	72.0	45	0	500	1980		80.31	180.52	9.09	
1	16-Aug	Drilling	19:00	19:15	0.25	4217	4224	7	15	28.0	45	0	500	1980		80.92	180.35	9.09	
1	16-Aug	Sliding	19:30	20:00	0.50	4224	4242	18	35	36.0	45	0	500	1980	20L	82.40	180.05	7.53	
1	16-Aug	Drilling	20:00	20:10	0.17	4242	4255	13	15	78.0	45	0	500	1980		83.37	179.97	7.53	
1	16-Aug	Sliding	20:20	21:00	0.67	4255	4277	22	35	33.0	45	0	500	1980	20L	84.68	179.93	4.37	
1	16-Aug	Drilling	21:00	21:10	0.17	4277	4287	10	15	60.0	45	0	500	1980		85.12	179.95	4.37	
1	16-Aug	Sliding	21:20	22:00	0.67	4287	4312	25	35	37.5	45	0	500	1980	20L	86.21	180.02	4.37	
1	16-Aug	Drilling	22:00	22:10	0.17	4312	4319	7	15	42.0	45	0	500	1980		86.51	180.04	4.37	
2	18-Aug	Drilling	05:15	05:40	0.42	4319	4332	13	15	31.2	45	120	277	900		87.08	180.07	4.37	
2	18-Aug	Drilling	06:00	06:50	0.83	4332	4363	31	15	37.2	45	120	277	1400		87.78	180.07	0.98	
2	18-Aug	Sliding	07:05	07:20	0.25	4363	4371	8	35	32.0	45	120	277	1400		87.86	180.06	0.98	
2	18-Aug	Drilling	07:20	07:45	0.42	4371	4394	23	15	55.2	45	120	277	1400		88.08	180.02	0.98	
2	18-Aug	Drilling	08:00	08:25	0.42	4394	4425	31	15	74.4	45	120	277	1400		88.54	180.06	1.83	
2	18-Aug	Sliding	08:40	08:55	0.25	4425	4435	10	35	40.0	45	120	277	1400		88.72	180.10	1.83	
2	18-Aug	Drilling	08:55	09:15	0.33	4435	4456	21	15	63.0	45	120	277	1400		89.10	180.16	1.83	
2	18-Aug	Drilling	09:25	09:55	0.50	4456	4486	30	15	60.0	45	120	277	1400		89.55	180.35	1.52	
2	18-Aug	Sliding	10:10	10:20	0.17	4486	4494	8	35	48.0	45	120	277	1400		89.65	180.42	1.52	
2	18-Aug	Drilling	10:20	10:50	0.50	4494	4517	23	15	46.0	75	120	277	1400		89.95	180.60	1.52	
2	18-Aug	Drilling	11:00	11:25	0.42	4517	4548	31	15	74.4	75	120	277	1400		90.10	180.70	0.00	
2	18-Aug	Drilling	11:35	12:10	0.58	4548	4579	31	15	53.1	75	120	277	1400		90.10	180.70	0.00	
2	18-Aug	Drilling	12:20	12:55	0.58	4579	4610	31	15	53.1	75	120	277	1400		90.35	180.73	1.32	
2	18-Aug	Drilling	13:05	13:40	0.58	4610	4641	31	15	53.1	75	120	277	1400		90.76	180.78	1.32	
2	18-Aug	Drilling	14:10	14:40	0.50	4641	4671	30	15	60.0	75	120	277	1400		90.47	180.49	2.77	
2	18-Aug	Sliding	14:50	15:20	0.50	4671	4679	8	35	16.0	75	120	277	1400	160L	90.29	180.36	2.77	
2	18-Aug	Drilling	15:20	15:40	0.33	4679	4702	23	15	69.0	75	120	277	1400		89.77	179.99	2.77	
2	18-Aug	Drilling	15:50	16:40	0.83	4702	4733	31	15	37.2	75	120	277	1400		89.62	179.55	1.44	
2	18-Aug	Drilling	16:50	18:00	1.17	4733	4764	31	15	26.6	75	120	277	1400		89.82	179.15	1.44	

# Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	18-Aug	Drilling	18:10	18:30	0.33	4764	4795	31	15	93.0	75	120	277	1400		89.96	178.88	0.72	
2	18-Aug	Drilling	18:40	19:30	0.83	4795	4826	31	15	37.2	75	120	277	1400		90.06	178.68	0.72	
2	18-Aug	Drilling	19:40	20:15	0.58	4826	4857	31	15	53.1	75	120	277	1400		90.22	178.57	0.68	
2	18-Aug	Drilling	20:26	20:30	0.07	4858	4860	2	15	30.0	75	120	277	1400		90.24	178.56	0.68	
2	18-Aug	Drilling	20:30	21:00	0.50	4860	4888	28	15	56.0	75	120	277	1400		90.43	178.52	0.68	
2	18-Aug	Drilling	21:10	21:30	0.33	4888	4918	30	15	90.0	75	120	277	1400		90.44	178.35	0.87	
2	18-Aug	Drilling	21:40	22:30	0.83	4918	4949	31	15	37.2	75	120	277	1400		90.34	178.10	0.87	
2	18-Aug	Sliding	22:40	23:45	1.08	4949	4957	8	35	7.4	75	120	277	1400	180	90.31	178.03	0.87	
2	18-Aug	Drilling	23:45	24:00	0.25	4957	4960	3	15	12.0	75	120	277	1400		90.30	178.01	0.87	
2	19-Aug	Drilling	00:00	00:30	0.50	4960	4980	20	15	40.0	75	120	277	1400		90.42	177.94	0.72	
2	19-Aug	Drilling	00:40	01:20	0.67	4980	5011	31	15	46.5	75	120	277	1400		90.62	177.84	0.72	
2	19-Aug	Sliding	01:30	02:30	1.00	5011	5019	8	35	8.0	75	120	277	1400	180	90.67	177.81	0.72	
2	19-Aug	Drilling	02:30	03:00	0.50	5019	5042	23	15	46.0	75	120	277	1400		90.18	177.95	2.86	
2	19-Aug	Drilling	03:10	03:50	0.67	5042	5073	31	15	46.5	75	120	277	1400		89.33	178.20	2.86	
3	19-Aug	Drilling	10:30	10:35	0.08	5073	5075	2	15	24.0	75	120	277	1400		89.27	178.22	2.86	
3	19-Aug	Sliding	10:35	10:55	0.33	5075	5083	8	35	24.0	75	120	277	1400	165R	89.05	178.28	2.86	
3	19-Aug	Drilling	10:55	11:20	0.42	5083	5105	22	15	52.8	75	120	277	1400		89.10	178.33	0.51	
3	19-Aug	Drilling	11:30	11:55	0.42	5105	5135	30	15	72.0	75	120	277	1400		89.24	178.38	0.51	
3	19-Aug	Drilling	12:05	12:30	0.42	5135	5167	32	15	76.8	75	120	277	1400		89.49	178.37	0.98	
3	19-Aug	Drilling	12:40	13:10	0.50	5167	5197	30	15	60.0	75	120	277	1400		89.78	178.32	0.98	
3	19-Aug	Drilling	13:25	13:55	0.50	5197	5228	31	15	62.0	75	120	277	1400		90.11	178.30	1.13	
3	19-Aug	Drilling	14:20	14:55	0.58	5228	5259	31	15	53.1	75	120	277	1400		90.46	178.30	1.13	
3	19-Aug	Drilling	15:05	15:35	0.50	5259	5290	31	15	62.0	75	120	277	1400		90.26	178.14	1.98	
3	19-Aug	Drilling	15:45	16:20	0.58	5290	5321	31	15	53.1	75	120	277	1400		89.70	177.89	1.98	
3	19-Aug	Sliding	16:35	16:55	0.33	5321	5329	8	35	24.0	75	120	304	1800	165R	89.55	177.82	1.98	
3	19-Aug	Drilling	16:55	17:15	0.33	5329	5351	22	15	66.0	75	120	277	1800		89.68	177.77	0.98	
3	19-Aug	Drilling	17:30	18:15	0.75	5351	5382	31	15	41.3	75	120	277	1800		89.98	177.72	0.98	
3	19-Aug	Drilling	18:25	19:00	0.58	5382	5413	31	15	53.1	75	120	277	1800		89.98	177.64	0.73	
3	19-Aug	Drilling	19:10	19:50	0.67	5413	5444	31	15	46.5	75	120	277	1800		89.77	177.54	0.73	
3	19-Aug	Sliding	20:00	20:40	0.67	5444	5450	6	35	9.0	75	120	304	1800	165R	89.73	177.52	0.73	
3	19-Aug	Drilling	20:40	21:15	0.58	5450	5475	25	15	42.9	75	120	277	1800		89.80	177.57	0.59	
3	19-Aug	Drilling	21:25	22:00	0.58	5475	5506	31	15	53.1	75	120	277	1800		89.95	177.67	0.59	
3	19-Aug	Drilling	22:10	22:45	0.58	5506	5536	30	15	51.4	75	400	280	1800		90.13	177.57	0.94	
3	19-Aug	Drilling	22:55	23:30	0.58	5536	5566	30	15	51.4	75	400	280	1800		90.33	177.37	0.94	
3	19-Aug	Drilling	23:40	24:00	0.33	5566	5575	9	15	27.0	75	400	280	1800		90.39	177.31	0.94	

# Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	20-Aug	Drilling	00:00	00:25	0.42	5575	5596	21	15	50.4	75	400	280	1800		90.17	177.33	1.14	
3	20-Aug	Drilling	00:35	01:10	0.58	5596	5626	30	15	51.4	75	400	280	1800		89.84	177.38	1.14	
3	20-Aug	Sliding	01:20	02:10	0.83	5626	5634	8	35	9.6	75	400	304	1800	165R	89.75	177.39	1.14	
3	20-Aug	Drilling	02:10	02:35	0.42	5634	5657	23	15	55.2	75	400	280	1800		89.64	177.40	0.33	
3	20-Aug	Drilling	02:45	03:20	0.58	5657	5688	31	15	53.1	75	400	280	1800		89.54	177.40	0.33	
3	20-Aug	Drilling	03:30	04:10	0.67	5688	5718	30	15	45.0	75	400	280	1800		89.62	177.40	0.65	
3	20-Aug	Drilling	04:20	05:00	0.67	5718	5749	31	15	46.5	75	400	280	1800		89.82	177.40	0.65	
3	20-Aug	Drilling	05:10	05:15	0.08	5749	5752	3	15	36.0	75	400	280	1800		89.84	177.40	0.65	
3	20-Aug	Drilling	05:45	06:45	1.00	5752	5781	29	15	29.0	75	400	280	1800		89.97	177.30	0.59	
3	20-Aug	Drilling	07:00	07:30	0.50	5781	5811	30	15	60.0	75	400	280	1800		90.06	177.15	0.59	
3	20-Aug	Drilling	07:40	08:15	0.58	5811	5842	31	15	53.1	75	400	280	1800		89.78	177.29	1.88	
3	20-Aug	Drilling	08:25	09:00	0.58	5842	5872	30	15	51.4	75	400	280	1800		89.29	177.58	1.88	
3	20-Aug	Sliding	09:10	09:45	0.58	5872	5880	8	35	13.7	75	400	304	1800	160R	89.16	177.66	1.88	
3	20-Aug	Drilling	09:45	10:10	0.42	5880	5903	23	15	55.2	75	400	280	1800		89.04	177.64	0.46	
3	20-Aug	Drilling	10:20	10:55	0.58	5903	5934	31	15	53.1	75	400	280	1800		88.94	177.54	0.46	
3	20-Aug	Drilling	11:05	11:40	0.58	5934	5964	30	15	51.4	75	400	280	1800		89.05	177.47	0.82	
3	20-Aug	Drilling	12:05	12:25	0.33	5964	5986	22	15	66.0	75	400	280	1800		89.23	177.43	0.82	
3	20-Aug	Drilling	12:55	13:10	0.25	5986	5995	9	15	36.0	75	400	280	1800		89.30	177.42	0.82	
3	20-Aug	Drilling	13:20	13:55	0.58	5995	6026	31	15	53.1	75	400	280	1800		89.59	177.31	1.10	
3	20-Aug	Drilling	14:05	14:35	0.50	6026	6057	31	15	62.0	75	400	280	1800		89.89	177.15	1.10	
3	20-Aug	Drilling	14:45	15:20	0.58	6057	6088	31	15	53.1	75	400	280	1800		89.87	176.91	1.16	
3	20-Aug	Drilling	15:30	16:00	0.50	6088	6118	30	15	60.0	75	400	280	1800		89.68	176.62	1.16	
3	20-Aug	Drilling	16:10	16:45	0.58	6118	6149	31	15	53.1	75	400	280	1800		89.35	176.47	1.32	
3	20-Aug	Drilling	16:55	17:30	0.58	6149	6180	31	15	53.1	75	400	280	1800		88.94	176.42	1.32	
3	20-Aug	Drilling	17:40	18:25	0.75	6180	6211	31	15	41.3	75	400	280	1800		88.80	176.34	0.32	
3	20-Aug	Drilling	18:35	19:10	0.58	6211	6241	30	15	51.4	75	400	280	1800		88.80	176.24	0.32	
3	20-Aug	Drilling	19:20	19:40	0.33	6241	6272	31	15	93.0	75	400	280	1800		88.80	176.11	0.49	
3	20-Aug	Drilling	19:50	20:15	0.42	6272	6303	31	15	74.4	75	400	280	1800		88.80	175.95	0.49	
3	20-Aug	Drilling	20:25	20:50	0.42	6303	6334	31	15	74.4	75	400	280	1800		89.03	176.03	1.30	
3	20-Aug	Sliding	21:00	21:45	0.75	6334	6342	8	35	10.7	75	400	304	1800	60R	89.12	176.08	1.30	
3	20-Aug	Drilling	21:45	22:10	0.42	6342	6364	22	15	52.8	75	400	280	1800		89.36	176.22	1.30	
3	20-Aug	Drilling	22:20	22:50	0.50	6364	6395	31	15	62.0	75	400	280	1800		89.31	176.21	1.10	
3	20-Aug	Drilling	23:00	23:30	0.50	6395	6426	31	15	62.0	75	400	280	1800		89.01	176.05	1.10	
3	21-Aug	Drilling	00:00	00:30	0.50	6426	6457	31	15	62.0	75	400	280	1800		88.96	175.84	0.87	
3	21-Aug	Drilling	00:40	01:05	0.42	6457	6487	30	15	72.0	75	400	280	1800		89.06	175.60	0.87	

# Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	21-Aug	Drilling	01:15	01:45	0.50	6487	6518	31	15	62.0	75	400	280	1800		89.19	175.66	0.96	
3	21-Aug	Sliding	01:55	02:40	0.75	6518	6526	8	35	10.7	75	400	304	1800	60R	89.23	175.72	0.96	
3	21-Aug	Drilling	02:40	03:05	0.42	6526	6549	23	15	55.2	75	400	280	1800		89.35	175.91	0.96	
3	21-Aug	Drilling	03:15	03:40	0.42	6549	6580	31	15	74.4	75	400	280	1800		89.47	175.90	0.59	
3	21-Aug	Drilling	03:50	04:10	0.33	6580	6610	30	15	90.0	75	400	280	1800		89.56	175.75	0.59	
3	21-Aug	Drilling	04:20	04:50	0.50	6610	6640	30	15	60.0	75	400	280	1800		89.54	175.95	1.33	
3	21-Aug	Drilling	05:00	05:30	0.50	6640	6671	31	15	62.0	75	400	280	1800		89.44	176.35	1.33	
3	21-Aug	Sliding	05:40	06:55	1.25	6671	6686	15	35	12.0	75	400	304	1800	95R	89.38	176.47	1.28	
3	21-Aug	Drilling	06:55	07:25	0.50	6686	6702	16	15	32.0	75	400	280	1800		89.24	176.31	1.28	
3	21-Aug	Drilling	07:35	08:00	0.42	6702	6733	31	15	74.4	75	400	280	1800		88.99	176.01	1.28	
3	21-Aug	Drilling	08:10	08:40	0.50	6733	6763	30	15	60.0	75	400	280	1800		89.15	175.93	1.30	
3	21-Aug	Sliding	08:55	10:15	1.33	6763	6778	15	35	11.3	75	400	304	1800	95R	89.34	175.95	1.30	
3	21-Aug	Drilling	10:15	10:45	0.50	6778	6794	16	15	32.0	75	400	280	1800		89.55	175.98	1.30	
3	21-Aug	Drilling	10:55	11:15	0.33	6794	6825	31	15	93.0	75	400	280	1800		89.73	175.91	0.52	
3	21-Aug	Drilling	11:25	11:50	0.42	6825	6856	31	15	74.4	75	400	280	1800		89.78	175.75	0.52	
3	21-Aug	Drilling	12:00	12:25	0.42	6856	6886	30	15	72.0	75	400	280	1800		90.08	175.70	1.45	
3	21-Aug	Drilling	12:35	13:05	0.50	6886	6906	20	15	40.0	75	400	277	2200		90.37	175.70	1.45	
4	21-Aug	Drilling	23:00	23:10	0.17	6906	6917	11	15	66.0	75	400	277	2200		90.53	175.70	1.45	
4	21-Aug	Drilling	23:20	23:45	0.42	6917	6948	31	8	74.4	70	400	277	2200		90.89	175.51	1.41	
4	21-Aug	Drilling	23:55	24:00	0.08	6948	6955	7	8	84.0	70	400	277	2200		90.96	175.44	1.41	
4	22-Aug	Drilling	00:00	00:15	0.25	6955	6979	24	8	96.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	00:25	00:45	0.33	6979	7009	30	8	90.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	00:55	01:15	0.33	7009	7040	31	8	93.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	01:25	02:10	0.75	7040	7071	31	8	41.3	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	02:20	03:00	0.67	7071	7079	8	35	12.0	70	400	304	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	03:00	03:30	0.50	7079	7101	22	8	44.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	03:40	04:05	0.42	7101	7132	31	8	74.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	04:15	04:40	0.42	7132	7140	8	35	19.2	70	400	304	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	04:40	05:00	0.33	7140	7163	23	8	69.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	05:10	05:40	0.50	7163	7194	31	8	62.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	05:50	06:15	0.42	7194	7203	9	35	21.6	70	400	304	2200	165R	0.00	0.00	0.00	
4	22-Aug	Drilling	06:15	06:40	0.42	7203	7225	22	8	52.8	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	06:50	07:10	0.33	7225	7255	30	8	90.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	07:20	08:15	0.92	7255	7286	31	8	33.8	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	08:25	08:55	0.50	7286	7317	31	8	62.0	70	400	277	2200		0.00	0.00	0.00	

# Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
4	22-Aug	Sliding	09:05	10:05	1.00	7317	7325	8	35	8.0	70	400	304	2200	165R	0.00	0.00	0.00	
4	22-Aug	Drilling	10:05	10:25	0.33	7325	7348	23	8	69.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	10:35	11:00	0.42	7348	7379	31	8	74.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	11:10	11:35	0.42	7379	7409	30	8	72.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	11:45	12:25	0.67	7409	7417	8	35	12.0	70	400	304	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	12:25	13:00	0.58	7417	7440	23	8	39.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	13:15	13:55	0.67	7440	7471	31	8	46.5	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	14:05	14:40	0.58	7471	7479	8	35	13.7	70	400	304	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	14:40	15:10	0.50	7479	7502	23	8	46.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	15:20	16:10	0.83	7502	7510	8	35	9.6	70	400	304	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	16:10	16:45	0.58	7510	7533	23	8	39.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	16:55	17:35	0.67	7533	7564	31	8	46.5	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	17:45	18:50	1.08	7564	7572	8	8	7.4	70	400	277	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	18:50	19:25	0.58	7572	7595	23	8	39.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	19:35	20:15	0.67	7595	7626	31	8	46.5	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	20:25	21:00	0.58	7626	7657	31	12	53.1	65	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	21:10	22:10	1.00	7657	7659	2	8	2.0	65	400	277	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	22:10	22:15	0.08	7659	7661	2	12	24.0	65	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	22:15	22:50	0.58	7661	7669	8	8	13.7	65	400	277	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	22:50	23:30	0.67	7669	7688	19	12	28.5	65	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	23:40	24:00	0.33	7688	7700	12	12	36.0	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	00:00	00:15	0.25	7700	7719	19	12	76.0	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	00:25	01:00	0.58	7719	7750	31	12	53.1	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	01:10	01:50	0.67	7750	7780	30	12	45.0	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	02:01	02:40	0.65	7781	7811	30	12	46.2	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	02:50	03:25	0.58	7811	7842	31	12	53.1	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Sliding	03:35	04:45	1.17	7842	7860	18	8	15.4	65	400	277	2200	180	0.00	0.00	0.00	
4	23-Aug	Drilling	04:45	05:10	0.42	7860	7873	13	12	31.2	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	05:20	05:35	0.25	7873	7882	9	12	36.0	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Drilling	17:00	17:45	0.75	7882	7904	22	12	29.3	65	0	277			0.00	0.00	0.00	
5	23-Aug	Drilling	17:55	18:35	0.67	7904	7935	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Sliding	18:45	19:20	0.58	7935	7943	8	8	13.7	65	400	277	2200	180	0.00	0.00	0.00	
5	23-Aug	Drilling	19:20	19:45	0.42	7943	7966	23	12	55.2	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Sliding	19:55	20:25	0.50	7966	7974	8	8	16.0	65	400	277	2200	180	0.00	0.00	0.00	
5	23-Aug	Drilling	20:25	20:55	0.50	7974	7996	22	12	44.0	65	400	277	2200		0.00	0.00	0.00	

# Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
5	23-Aug	Drilling	21:05	21:45	0.67	7996	8027	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Drilling	21:55	22:35	0.67	8027	8058	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Drilling	22:45	23:15	0.50	8058	8089	31	12	62.0	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Drilling	23:25	24:00	0.58	8089	8120	31	12	53.1	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	00:10	00:50	0.67	8120	8151	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Sliding	01:00	01:30	0.50	8151	8159	8	8	16.0	65	400	277	2200	180	0.00	0.00	0.00	
5	24-Aug	Drilling	01:30	02:00	0.50	8159	8182	23	12	46.0	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	02:10	02:45	0.58	8182	8212	30	12	51.4	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	02:55	03:35	0.67	8212	8243	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	03:45	04:25	0.67	8243	8274	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	04:35	05:00	0.42	8274	8305	31	12	74.4	65	400	277	2200		0.00	0.00	0.00	

<b>Total Drilled:</b>	5032	<b>Avg. Total ROP:</b>	44.02	<b>DEPTH% - TIME %</b>
<b>Total Rotary Drilled:</b>	3944	<b>Avg. Rotary ROP:</b>	52.61	<b>Percent Rotary:</b> 78.38 - 65.59
<b>Total Drilled Sliding:</b>	1088	<b>Avg. Slide ROP:</b>	27.66	<b>Percent Slide:</b> 21.62 - 34.41



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Country  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**

MOTOR INFORMATION	
Desc: Curve Assembly	
Bent Hsg/Sub: 2 / 2	Bit to Bend: 5.66
Pad OD: 7 5/16	NB Stab:

### Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	15-Aug	Drilling	14:20	14:30	0.17	3271	3276	5		30.0	0	0				1.69	207.20	5.32	
1	15-Aug	Drilling	14:45	15:00	0.25	3276	3281	5		20.0	0	0				1.95	204.64	5.32	
1	15-Aug	Sliding	15:00	15:45	0.75	3281	3308	27		36.0	0	0			180	3.97	197.41	7.90	
1	15-Aug	Sliding	16:00	16:35	0.58	3308	3337	29		49.7	0	0			180M	6.37	192.82	8.58	
1	15-Aug	Sliding	16:50	17:45	0.92	3337	3369	32		34.9	0	0	500	1980	160M	9.06	189.16	8.53	
1	15-Aug	Sliding	18:00	18:35	0.58	3369	3401	32		54.9	0	0	500	1980	160M	11.81	186.79	8.80	
1	15-Aug	Sliding	18:50	19:35	0.75	3401	3432	31		41.3	0	0	500	1980	30L	14.20	186.02	7.28	
1	15-Aug	Sliding	19:50	20:15	0.42	3432	3463	31		74.4	0	0	500	1980	20L	16.55	185.70	7.75	
1	15-Aug	Sliding	20:30	21:15	0.75	3463	3496	33		44.0	0	0	500	1980	20L	19.19	185.03	8.16	
1	15-Aug	Sliding	21:30	22:30	1.00	3496	3527	31		31.0	0	0	500	1980	20L	21.77	184.12	8.51	
1	15-Aug	Sliding	22:45	23:35	0.83	3527	3559	32		38.4	0	0	500	1980	20L	24.60	183.60	9.07	
1	16-Aug	Sliding	00:00	00:45	0.75	3559	3591	32		42.7	0	0	500	1980	20L	27.84	183.28	10.68	
1	16-Aug	Sliding	01:00	01:40	0.67	3591	3623	32		48.0	0	0	500	1980	10L	31.32	183.12	10.97	
1	16-Aug	Sliding	01:50	02:30	0.67	3623	3653	30		45.0	0	0	500	1980	10L	34.54	183.03	10.63	
1	16-Aug	Sliding	02:40	03:30	0.83	3653	3684	31		37.2	0	0	500	1980	10L	37.83	183.00	10.63	
1	16-Aug	Sliding	03:40	04:15	0.58	3684	3716	32		54.9	0	0	500	1980	10L	41.44	182.93	11.61	
1	16-Aug	Sliding	04:30	05:30	1.00	3716	3748	32		32.0	0	0	500	1980	10L	45.21	182.27	12.04	
1	16-Aug	Sliding	05:45	06:20	0.58	3748	3779	31		53.1	0	0	500	1980	20L	48.89	181.67	11.93	
1	16-Aug	Sliding	06:35	07:20	0.75	3779	3811	32		42.7	0	0	500	1980	20L	51.71	181.30	7.22	
1	16-Aug	Sliding	07:30	08:00	0.50	3811	3821	10		20.0	0	0	500	1980	20L	52.43	181.21	7.22	
1	16-Aug	Drilling	08:05	08:30	0.42	3821	3843	22	15	52.8	45	0	500	1980		52.70	181.20	0.97	
1	16-Aug	Drilling	08:45	09:15	0.50	3843	3875	32	15	64.0	45	0	500	1980		52.87	181.20	0.31	
1	16-Aug	Drilling	09:30	10:00	0.50	3875	3906	31	15	62.0	45	0	500	1980		52.64	181.40	1.46	
1	16-Aug	Drilling	10:15	10:45	0.50	3906	3938	32	15	64.0	45	0	500	1980		52.70	181.24	1.37	
1	16-Aug	Drilling	11:00	11:30	0.50	3938	3970	32	15	64.0	45	0	500	1980		53.52	181.03	3.45	
1	16-Aug	Drilling	11:45	11:55	0.17	3970	3980	10	15	60.0	45	0	500	1980		53.87	181.00	3.45	

# Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	16-Aug	Sliding	11:55	12:30	0.58	3980	4002	22	25	37.7	45	0	500	1980	20L	56.00	180.93	10.00	
1	16-Aug	Sliding	13:25	14:00	0.58	4002	4034	32	25	54.9	45	0	500	1980	20L	59.40	180.15	11.38	
1	16-Aug	Sliding	14:15	15:00	0.75	4034	4066	32	25	42.7	45	0	500	1980	20L	62.84	179.52	10.68	
1	16-Aug	Sliding	15:15	15:55	0.67	4066	4097	31	25	46.5	45	0	500	1980	20L	66.59	179.60	12.84	
1	16-Aug	Sliding	16:10	16:35	0.42	4097	4129	32	35	76.8	45	0	500	1980	10L	70.62	179.90	12.53	
1	16-Aug	Sliding	16:50	17:25	0.58	4129	4161	32	35	54.9	45	0	500	1980		74.64	180.41	12.72	
1	16-Aug	Sliding	17:40	18:15	0.58	4161	4188	27	35	46.3	45	0	500	1980		77.60	180.77	10.04	
1	16-Aug	Drilling	18:15	18:20	0.08	4188	4193	5	15	60.0	45	0	500	1980		78.10	180.81	10.04	
1	16-Aug	Sliding	18:40	19:00	0.33	4193	4217	24	35	72.0	45	0	500	1980		80.31	180.52	9.09	
1	16-Aug	Drilling	19:00	19:15	0.25	4217	4224	7	15	28.0	45	0	500	1980		80.92	180.35	9.09	
1	16-Aug	Sliding	19:30	20:00	0.50	4224	4242	18	35	36.0	45	0	500	1980	20L	82.40	180.05	7.53	
1	16-Aug	Drilling	20:00	20:10	0.17	4242	4255	13	15	78.0	45	0	500	1980		83.37	179.97	7.53	
1	16-Aug	Sliding	20:20	21:00	0.67	4255	4277	22	35	33.0	45	0	500	1980	20L	84.68	179.93	4.37	
1	16-Aug	Drilling	21:00	21:10	0.17	4277	4287	10	15	60.0	45	0	500	1980		85.12	179.95	4.37	
1	16-Aug	Sliding	21:20	22:00	0.67	4287	4312	25	35	37.5	45	0	500	1980	20L	86.21	180.02	4.37	
1	16-Aug	Drilling	22:00	22:10	0.17	4312	4319	7	15	42.0	45	0	500	1980		86.51	180.04	4.37	

<b>Total Drilled:</b>	1048	<b>Avg. Total ROP:</b>	45.40	<b>DEPTH% - TIME %</b>	
<b>Total Rotary Drilled:</b>	211	<b>Avg. Rotary ROP:</b>	55.04	<b>Percent Rotary:</b>	20.13 - 16.61
<b>Total Drilled Sliding:</b>	837	<b>Avg. Slide ROP:</b>	43.48	<b>Percent Slide:</b>	79.87 - 83.39





**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Country  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**

MOTOR INFORMATION	
Desc: 6-1/8 Slick Assembly	
Bent Hsg/Sub: 1.5 / 1.5	Bit to Bend: 4.32
Pad OD: 5.0	NB Stab:

## Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	18-Aug	Drilling	05:15	05:40	0.42	4319	4332	13	15	31.2	45	120	277	900		87.08	180.07	4.37	
2	18-Aug	Drilling	06:00	06:50	0.83	4332	4363	31	15	37.2	45	120	277	1400		87.78	180.07	0.98	
2	18-Aug	Sliding	07:05	07:20	0.25	4363	4371	8	35	32.0	45	120	277	1400		87.86	180.06	0.98	
2	18-Aug	Drilling	07:20	07:45	0.42	4371	4394	23	15	55.2	45	120	277	1400		88.08	180.02	0.98	
2	18-Aug	Drilling	08:00	08:25	0.42	4394	4425	31	15	74.4	45	120	277	1400		88.54	180.06	1.83	
2	18-Aug	Sliding	08:40	08:55	0.25	4425	4435	10	35	40.0	45	120	277	1400		88.72	180.10	1.83	
2	18-Aug	Drilling	08:55	09:15	0.33	4435	4456	21	15	63.0	45	120	277	1400		89.10	180.16	1.83	
2	18-Aug	Drilling	09:25	09:55	0.50	4456	4486	30	15	60.0	45	120	277	1400		89.55	180.35	1.52	
2	18-Aug	Sliding	10:10	10:20	0.17	4486	4494	8	35	48.0	45	120	277	1400		89.65	180.42	1.52	
2	18-Aug	Drilling	10:20	10:50	0.50	4494	4517	23	15	46.0	75	120	277	1400		89.95	180.60	1.52	
2	18-Aug	Drilling	11:00	11:25	0.42	4517	4548	31	15	74.4	75	120	277	1400		90.10	180.70	0.00	
2	18-Aug	Drilling	11:35	12:10	0.58	4548	4579	31	15	53.1	75	120	277	1400		90.10	180.70	0.00	
2	18-Aug	Drilling	12:20	12:55	0.58	4579	4610	31	15	53.1	75	120	277	1400		90.35	180.73	1.32	
2	18-Aug	Drilling	13:05	13:40	0.58	4610	4641	31	15	53.1	75	120	277	1400		90.76	180.78	1.32	
2	18-Aug	Drilling	14:10	14:40	0.50	4641	4671	30	15	60.0	75	120	277	1400		90.47	180.49	2.77	
2	18-Aug	Sliding	14:50	15:20	0.50	4671	4679	8	35	16.0	75	120	277	1400	160L	90.29	180.36	2.77	
2	18-Aug	Drilling	15:20	15:40	0.33	4679	4702	23	15	69.0	75	120	277	1400		89.77	179.99	2.77	
2	18-Aug	Drilling	15:50	16:40	0.83	4702	4733	31	15	37.2	75	120	277	1400		89.62	179.55	1.44	
2	18-Aug	Drilling	16:50	18:00	1.17	4733	4764	31	15	26.6	75	120	277	1400		89.82	179.15	1.44	
2	18-Aug	Drilling	18:10	18:30	0.33	4764	4795	31	15	93.0	75	120	277	1400		89.96	178.88	0.72	
2	18-Aug	Drilling	18:40	19:30	0.83	4795	4826	31	15	37.2	75	120	277	1400		90.06	178.68	0.72	
2	18-Aug	Drilling	19:40	20:15	0.58	4826	4857	31	15	53.1	75	120	277	1400		90.22	178.57	0.68	
2	18-Aug	Drilling	20:26	20:30	0.07	4858	4860	2	15	30.0	75	120	277	1400		90.24	178.56	0.68	
2	18-Aug	Drilling	20:30	21:00	0.50	4860	4888	28	15	56.0	75	120	277	1400		90.43	178.52	0.68	
2	18-Aug	Drilling	21:10	21:30	0.33	4888	4918	30	15	90.0	75	120	277	1400		90.44	178.35	0.87	
2	18-Aug	Drilling	21:40	22:30	0.83	4918	4949	31	15	37.2	75	120	277	1400		90.34	178.10	0.87	

# Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	18-Aug	Sliding	22:40	23:45	1.08	4949	4957	8	35	7.4	75	120	277	1400	180	90.31	178.03	0.87	
2	18-Aug	Drilling	23:45	24:00	0.25	4957	4960	3	15	12.0	75	120	277	1400		90.30	178.01	0.87	
2	19-Aug	Drilling	00:00	00:30	0.50	4960	4980	20	15	40.0	75	120	277	1400		90.42	177.94	0.72	
2	19-Aug	Drilling	00:40	01:20	0.67	4980	5011	31	15	46.5	75	120	277	1400		90.62	177.84	0.72	
2	19-Aug	Sliding	01:30	02:30	1.00	5011	5019	8	35	8.0	75	120	277	1400	180	90.67	177.81	0.72	
2	19-Aug	Drilling	02:30	03:00	0.50	5019	5042	23	15	46.0	75	120	277	1400		90.18	177.95	2.86	
2	19-Aug	Drilling	03:10	03:50	0.67	5042	5073	31	15	46.5	75	120	277	1400		89.33	178.20	2.86	

<b>Total Drilled:</b>	753	<b>Avg. Total ROP:</b>	42.46	<b>DEPTH% - TIME %</b>	
<b>Total Rotary Drilled:</b>	703	<b>Avg. Rotary ROP:</b>	48.54	<b>Percent Rotary:</b>	93.36 - 81.67
<b>Total Drilled Sliding:</b>	50	<b>Avg. Slide ROP:</b>	15.38	<b>Percent Slide:</b>	6.64 - 18.33



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Country  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**

MOTOR INFORMATION	
Desc: 6-1/8 Slick Assembly	
Bent Hsg/Sub: 1.5 / 1.5 Bit to Bend: 4.32	
Pad OD: 5	NB Stab:

### Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	19-Aug	Drilling	10:30	10:35	0.08	5073	5075	2	15	24.0	75	120	277	1400		89.27	178.22	2.86	
3	19-Aug	Sliding	10:35	10:55	0.33	5075	5083	8	35	24.0	75	120	277	1400	165R	89.05	178.28	2.86	
3	19-Aug	Drilling	10:55	11:20	0.42	5083	5105	22	15	52.8	75	120	277	1400		89.10	178.33	0.51	
3	19-Aug	Drilling	11:30	11:55	0.42	5105	5135	30	15	72.0	75	120	277	1400		89.24	178.38	0.51	
3	19-Aug	Drilling	12:05	12:30	0.42	5135	5167	32	15	76.8	75	120	277	1400		89.49	178.37	0.98	
3	19-Aug	Drilling	12:40	13:10	0.50	5167	5197	30	15	60.0	75	120	277	1400		89.78	178.32	0.98	
3	19-Aug	Drilling	13:25	13:55	0.50	5197	5228	31	15	62.0	75	120	277	1400		90.11	178.30	1.13	
3	19-Aug	Drilling	14:20	14:55	0.58	5228	5259	31	15	53.1	75	120	277	1400		90.46	178.30	1.13	
3	19-Aug	Drilling	15:05	15:35	0.50	5259	5290	31	15	62.0	75	120	277	1400		90.26	178.14	1.98	
3	19-Aug	Drilling	15:45	16:20	0.58	5290	5321	31	15	53.1	75	120	277	1400		89.70	177.89	1.98	
3	19-Aug	Sliding	16:35	16:55	0.33	5321	5329	8	35	24.0	75	120	304	1800	165R	89.55	177.82	1.98	
3	19-Aug	Drilling	16:55	17:15	0.33	5329	5351	22	15	66.0	75	120	277	1800		89.68	177.77	0.98	
3	19-Aug	Drilling	17:30	18:15	0.75	5351	5382	31	15	41.3	75	120	277	1800		89.98	177.72	0.98	
3	19-Aug	Drilling	18:25	19:00	0.58	5382	5413	31	15	53.1	75	120	277	1800		89.98	177.64	0.73	
3	19-Aug	Drilling	19:10	19:50	0.67	5413	5444	31	15	46.5	75	120	277	1800		89.77	177.54	0.73	
3	19-Aug	Sliding	20:00	20:40	0.67	5444	5450	6	35	9.0	75	120	304	1800	165R	89.73	177.52	0.73	
3	19-Aug	Drilling	20:40	21:15	0.58	5450	5475	25	15	42.9	75	120	277	1800		89.80	177.57	0.59	
3	19-Aug	Drilling	21:25	22:00	0.58	5475	5506	31	15	53.1	75	120	277	1800		89.95	177.67	0.59	
3	19-Aug	Drilling	22:10	22:45	0.58	5506	5536	30	15	51.4	75	400	280	1800		90.13	177.57	0.94	
3	19-Aug	Drilling	22:55	23:30	0.58	5536	5566	30	15	51.4	75	400	280	1800		90.33	177.37	0.94	
3	19-Aug	Drilling	23:40	24:00	0.33	5566	5575	9	15	27.0	75	400	280	1800		90.39	177.31	0.94	
3	20-Aug	Drilling	00:00	00:25	0.42	5575	5596	21	15	50.4	75	400	280	1800		90.17	177.33	1.14	
3	20-Aug	Drilling	00:35	01:10	0.58	5596	5626	30	15	51.4	75	400	280	1800		89.84	177.38	1.14	
3	20-Aug	Sliding	01:20	02:10	0.83	5626	5634	8	35	9.6	75	400	304	1800	165R	89.75	177.39	1.14	
3	20-Aug	Drilling	02:10	02:35	0.42	5634	5657	23	15	55.2	75	400	280	1800		89.64	177.40	0.33	
3	20-Aug	Drilling	02:45	03:20	0.58	5657	5688	31	15	53.1	75	400	280	1800		89.54	177.40	0.33	

# Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	20-Aug	Drilling	03:30	04:10	0.67	5688	5718	30	15	45.0	75	400	280	1800		89.62	177.40	0.65	
3	20-Aug	Drilling	04:20	05:00	0.67	5718	5749	31	15	46.5	75	400	280	1800		89.82	177.40	0.65	
3	20-Aug	Drilling	05:10	05:15	0.08	5749	5752	3	15	36.0	75	400	280	1800		89.84	177.40	0.65	
3	20-Aug	Drilling	05:45	06:45	1.00	5752	5781	29	15	29.0	75	400	280	1800		89.97	177.30	0.59	
3	20-Aug	Drilling	07:00	07:30	0.50	5781	5811	30	15	60.0	75	400	280	1800		90.06	177.15	0.59	
3	20-Aug	Drilling	07:40	08:15	0.58	5811	5842	31	15	53.1	75	400	280	1800		89.78	177.29	1.88	
3	20-Aug	Drilling	08:25	09:00	0.58	5842	5872	30	15	51.4	75	400	280	1800		89.29	177.58	1.88	
3	20-Aug	Sliding	09:10	09:45	0.58	5872	5880	8	35	13.7	75	400	304	1800	160R	89.16	177.66	1.88	
3	20-Aug	Drilling	09:45	10:10	0.42	5880	5903	23	15	55.2	75	400	280	1800		89.04	177.64	0.46	
3	20-Aug	Drilling	10:20	10:55	0.58	5903	5934	31	15	53.1	75	400	280	1800		88.94	177.54	0.46	
3	20-Aug	Drilling	11:05	11:40	0.58	5934	5964	30	15	51.4	75	400	280	1800		89.05	177.47	0.82	
3	20-Aug	Drilling	12:05	12:25	0.33	5964	5986	22	15	66.0	75	400	280	1800		89.23	177.43	0.82	
3	20-Aug	Drilling	12:55	13:10	0.25	5986	5995	9	15	36.0	75	400	280	1800		89.30	177.42	0.82	
3	20-Aug	Drilling	13:20	13:55	0.58	5995	6026	31	15	53.1	75	400	280	1800		89.59	177.31	1.10	
3	20-Aug	Drilling	14:05	14:35	0.50	6026	6057	31	15	62.0	75	400	280	1800		89.89	177.15	1.10	
3	20-Aug	Drilling	14:45	15:20	0.58	6057	6088	31	15	53.1	75	400	280	1800		89.87	176.91	1.16	
3	20-Aug	Drilling	15:30	16:00	0.50	6088	6118	30	15	60.0	75	400	280	1800		89.68	176.62	1.16	
3	20-Aug	Drilling	16:10	16:45	0.58	6118	6149	31	15	53.1	75	400	280	1800		89.35	176.47	1.32	
3	20-Aug	Drilling	16:55	17:30	0.58	6149	6180	31	15	53.1	75	400	280	1800		88.94	176.42	1.32	
3	20-Aug	Drilling	17:40	18:25	0.75	6180	6211	31	15	41.3	75	400	280	1800		88.80	176.34	0.32	
3	20-Aug	Drilling	18:35	19:10	0.58	6211	6241	30	15	51.4	75	400	280	1800		88.80	176.24	0.32	
3	20-Aug	Drilling	19:20	19:40	0.33	6241	6272	31	15	93.0	75	400	280	1800		88.80	176.11	0.49	
3	20-Aug	Drilling	19:50	20:15	0.42	6272	6303	31	15	74.4	75	400	280	1800		88.80	175.95	0.49	
3	20-Aug	Drilling	20:25	20:50	0.42	6303	6334	31	15	74.4	75	400	280	1800		89.03	176.03	1.30	
3	20-Aug	Sliding	21:00	21:45	0.75	6334	6342	8	35	10.7	75	400	304	1800	60R	89.12	176.08	1.30	
3	20-Aug	Drilling	21:45	22:10	0.42	6342	6364	22	15	52.8	75	400	280	1800		89.36	176.22	1.30	
3	20-Aug	Drilling	22:20	22:50	0.50	6364	6395	31	15	62.0	75	400	280	1800		89.31	176.21	1.10	
3	20-Aug	Drilling	23:00	23:30	0.50	6395	6426	31	15	62.0	75	400	280	1800		89.01	176.05	1.10	
3	21-Aug	Drilling	00:00	00:30	0.50	6426	6457	31	15	62.0	75	400	280	1800		88.96	175.84	0.87	
3	21-Aug	Drilling	00:40	01:05	0.42	6457	6487	30	15	72.0	75	400	280	1800		89.06	175.60	0.87	
3	21-Aug	Drilling	01:15	01:45	0.50	6487	6518	31	15	62.0	75	400	280	1800		89.19	175.66	0.96	
3	21-Aug	Sliding	01:55	02:40	0.75	6518	6526	8	35	10.7	75	400	304	1800	60R	89.23	175.72	0.96	
3	21-Aug	Drilling	02:40	03:05	0.42	6526	6549	23	15	55.2	75	400	280	1800		89.35	175.91	0.96	
3	21-Aug	Drilling	03:15	03:40	0.42	6549	6580	31	15	74.4	75	400	280	1800		89.47	175.90	0.59	
3	21-Aug	Drilling	03:50	04:10	0.33	6580	6610	30	15	90.0	75	400	280	1800		89.56	175.75	0.59	

# Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	21-Aug	Drilling	04:20	04:50	0.50	6610	6640	30	15	60.0	75	400	280	1800		89.54	175.95	1.33	
3	21-Aug	Drilling	05:00	05:30	0.50	6640	6671	31	15	62.0	75	400	280	1800		89.44	176.35	1.33	
3	21-Aug	Sliding	05:40	06:55	1.25	6671	6686	15	35	12.0	75	400	304	1800	95R	89.38	176.47	1.28	
3	21-Aug	Drilling	06:55	07:25	0.50	6686	6702	16	15	32.0	75	400	280	1800		89.24	176.31	1.28	
3	21-Aug	Drilling	07:35	08:00	0.42	6702	6733	31	15	74.4	75	400	280	1800		88.99	176.01	1.28	
3	21-Aug	Drilling	08:10	08:40	0.50	6733	6763	30	15	60.0	75	400	280	1800		89.15	175.93	1.30	
3	21-Aug	Sliding	08:55	10:15	1.33	6763	6778	15	35	11.3	75	400	304	1800	95R	89.34	175.95	1.30	
3	21-Aug	Drilling	10:15	10:45	0.50	6778	6794	16	15	32.0	75	400	280	1800		89.55	175.98	1.30	
3	21-Aug	Drilling	10:55	11:15	0.33	6794	6825	31	15	93.0	75	400	280	1800		89.73	175.91	0.52	
3	21-Aug	Drilling	11:25	11:50	0.42	6825	6856	31	15	74.4	75	400	280	1800		89.78	175.75	0.52	
3	21-Aug	Drilling	12:00	12:25	0.42	6856	6886	30	15	72.0	75	400	280	1800		90.08	175.70	1.45	
3	21-Aug	Drilling	12:35	13:05	0.50	6886	6906	20	15	40.0	75	400	277	2200		90.37	175.70	1.45	

<b>Total Drilled:</b>	1833	<b>Avg. Total ROP:</b>	47.61	<b>DEPTH% - TIME %</b>
<b>Total Rotary Drilled:</b>	1749	<b>Avg. Rotary ROP:</b>	55.23	<b>Percent Rotary:</b> 95.42 - 82.25
<b>Total Drilled Sliding:</b>	84	<b>Avg. Slide ROP:</b>	12.29	<b>Percent Slide:</b> 4.58 - 17.75



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Country  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**

MOTOR INFORMATION	
Desc: 6-1/8 Slick Assembly	
Bent Hsg/Sub: 1.5 / 0	Bit to Bend: 4.43
Pad OD:	NB Stab:

### Slide Report for BHA # 4

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
4	21-Aug	Drilling	23:00	23:10	0.17	6906	6917	11	15	66.0	75	400	277	2200		90.53	175.70	1.45	
4	21-Aug	Drilling	23:20	23:45	0.42	6917	6948	31	8	74.4	70	400	277	2200		90.89	175.51	1.41	
4	21-Aug	Drilling	23:55	24:00	0.08	6948	6955	7	8	84.0	70	400	277	2200		90.96	175.44	1.41	
4	22-Aug	Drilling	00:00	00:15	0.25	6955	6979	24	8	96.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	00:25	00:45	0.33	6979	7009	30	8	90.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	00:55	01:15	0.33	7009	7040	31	8	93.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	01:25	02:10	0.75	7040	7071	31	8	41.3	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	02:20	03:00	0.67	7071	7079	8	35	12.0	70	400	304	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	03:00	03:30	0.50	7079	7101	22	8	44.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	03:40	04:05	0.42	7101	7132	31	8	74.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	04:15	04:40	0.42	7132	7140	8	35	19.2	70	400	304	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	04:40	05:00	0.33	7140	7163	23	8	69.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	05:10	05:40	0.50	7163	7194	31	8	62.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	05:50	06:15	0.42	7194	7203	9	35	21.6	70	400	304	2200	165R	0.00	0.00	0.00	
4	22-Aug	Drilling	06:15	06:40	0.42	7203	7225	22	8	52.8	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	06:50	07:10	0.33	7225	7255	30	8	90.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	07:20	08:15	0.92	7255	7286	31	8	33.8	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	08:25	08:55	0.50	7286	7317	31	8	62.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	09:05	10:05	1.00	7317	7325	8	35	8.0	70	400	304	2200	165R	0.00	0.00	0.00	
4	22-Aug	Drilling	10:05	10:25	0.33	7325	7348	23	8	69.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	10:35	11:00	0.42	7348	7379	31	8	74.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	11:10	11:35	0.42	7379	7409	30	8	72.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	11:45	12:25	0.67	7409	7417	8	35	12.0	70	400	304	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	12:25	13:00	0.58	7417	7440	23	8	39.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	13:15	13:55	0.67	7440	7471	31	8	46.5	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	14:05	14:40	0.58	7471	7479	8	35	13.7	70	400	304	2200	150R	0.00	0.00	0.00	

# Slide Report for BHA # 4

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
4	22-Aug	Drilling	14:40	15:10	0.50	7479	7502	23	8	46.0	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	15:20	16:10	0.83	7502	7510	8	35	9.6	70	400	304	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	16:10	16:45	0.58	7510	7533	23	8	39.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	16:55	17:35	0.67	7533	7564	31	8	46.5	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	17:45	18:50	1.08	7564	7572	8	8	7.4	70	400	277	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	18:50	19:25	0.58	7572	7595	23	8	39.4	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	19:35	20:15	0.67	7595	7626	31	8	46.5	70	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	20:25	21:00	0.58	7626	7657	31	12	53.1	65	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	21:10	22:10	1.00	7657	7659	2	8	2.0	65	400	277	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	22:10	22:15	0.08	7659	7661	2	12	24.0	65	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Sliding	22:15	22:50	0.58	7661	7669	8	8	13.7	65	400	277	2200	150R	0.00	0.00	0.00	
4	22-Aug	Drilling	22:50	23:30	0.67	7669	7688	19	12	28.5	65	400	277	2200		0.00	0.00	0.00	
4	22-Aug	Drilling	23:40	24:00	0.33	7688	7700	12	12	36.0	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	00:00	00:15	0.25	7700	7719	19	12	76.0	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	00:25	01:00	0.58	7719	7750	31	12	53.1	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	01:10	01:50	0.67	7750	7780	30	12	45.0	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	02:01	02:40	0.65	7781	7811	30	12	46.2	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	02:50	03:25	0.58	7811	7842	31	12	53.1	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Sliding	03:35	04:45	1.17	7842	7860	18	8	15.4	65	400	277	2200	180	0.00	0.00	0.00	
4	23-Aug	Drilling	04:45	05:10	0.42	7860	7873	13	12	31.2	65	400	277	2200		0.00	0.00	0.00	
4	23-Aug	Drilling	05:20	05:35	0.25	7873	7882	9	12	36.0	65	400	277	2200		0.00	0.00	0.00	

<b>Total Drilled:</b>	975	<b>Avg. Total ROP:</b>	38.77	<b>DEPTH% - TIME %</b>	
<b>Total Rotary Drilled:</b>	882	<b>Avg. Rotary ROP:</b>	52.71	<b>Percent Rotary:</b>	90.46 - 66.53
<b>Total Drilled Sliding:</b>	93	<b>Avg. Slide ROP:</b>	11.05	<b>Percent Slide:</b>	9.54 - 33.47



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Country  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**

MOTOR INFORMATION	
Desc:	
Bent Hsg/Sub: 0 / 0	Bit to Bend: 0
Pad OD:	NB Stab:

### Slide Report for BHA # 5

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
5	23-Aug	Drilling	17:00	17:45	0.75	7882	7904	22	12	29.3	65	0	277			0.00	0.00	0.00	
5	23-Aug	Drilling	17:55	18:35	0.67	7904	7935	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Sliding	18:45	19:20	0.58	7935	7943	8	8	13.7	65	400	277	2200	180	0.00	0.00	0.00	
5	23-Aug	Drilling	19:20	19:45	0.42	7943	7966	23	12	55.2	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Sliding	19:55	20:25	0.50	7966	7974	8	8	16.0	65	400	277	2200	180	0.00	0.00	0.00	
5	23-Aug	Drilling	20:25	20:55	0.50	7974	7996	22	12	44.0	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Drilling	21:05	21:45	0.67	7996	8027	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Drilling	21:55	22:35	0.67	8027	8058	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Drilling	22:45	23:15	0.50	8058	8089	31	12	62.0	65	400	277	2200		0.00	0.00	0.00	
5	23-Aug	Drilling	23:25	24:00	0.58	8089	8120	31	12	53.1	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	00:10	00:50	0.67	8120	8151	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Sliding	01:00	01:30	0.50	8151	8159	8	8	16.0	65	400	277	2200	180	0.00	0.00	0.00	
5	24-Aug	Drilling	01:30	02:00	0.50	8159	8182	23	12	46.0	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	02:10	02:45	0.58	8182	8212	30	12	51.4	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	02:55	03:35	0.67	8212	8243	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	03:45	04:25	0.67	8243	8274	31	12	46.5	65	400	277	2200		0.00	0.00	0.00	
5	24-Aug	Drilling	04:35	05:00	0.42	8274	8305	31	12	74.4	65	400	277	2200		0.00	0.00	0.00	

<b>Total Drilled:</b>	423	<b>Avg. Total ROP:</b>	43.02	<b>DEPTH% - TIME %</b>
<b>Total Rotary Drilled:</b>	399	<b>Avg. Rotary ROP:</b>	48.36	<b>Percent Rotary:</b> 94.33 - 83.90
<b>Total Drilled Sliding:</b>	24	<b>Avg. Slide ROP:</b>	15.16	<b>Percent Slide:</b> 5.67 - 16.10





**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**SECT/RANGE:**

COMMENT

## BHA Summary Report for JOB

#	TIME IN - OUT			DEPTHS		Footage			ROP			RPM	FLOW Rate	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide			IN	OUT	IN	OUT	SO	PU	RAB
1	15-Aug-13 @ 08:45	17-Aug-13 @ 21:15	60.50	3271.0	4319.0	211.0	837.0	1048.0	45.40	55.0	43.5	0-45	0-500	.0	.0	.0	.0	0-110	0-110	0-110
				Hours>		3.83	19.25	23.08												

MSi516  
O.D.=8 3/4  
Length=1



2.0 Fixed MTR .288 RPG  
O.D.=6 3/4  
Length=25.88

6 1/2 NMDC  
O.D.=6 5/16  
Length=29.95

6 1/2 Non Mag Flex Collar  
O.D.=6 1/2  
Length=29.27

4 1/2 Drill Pipe  
O.D.=4.5  
Length=952.74

4 1/2 Hevi  
O.D.=4.5  
Length=1207.72

#	TIME IN - OUT			DEPTHS		Footage			ROP			RPM	FLOW Rate	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide			IN	OUT	IN	OUT	SO	PU	RAB
2	17-Aug-13 @ 21:15	19-Aug-13 @ 07:45	34.33	4319.0	5073.0	703.0	50.0	753.0	42.46	48.5	15.4	45-75	200-277	.0	.0	.0	.0	0-70	0-100	0-85
				Hours>		14.48	3.25	17.73												

6-1/8 Smith-MSi613- 4-16's;2-12's Jets  
O.D.=6 1/8  
Length=0.65



1.5 Fixed MTR  
O.D.=4 3/4  
Length=22.88

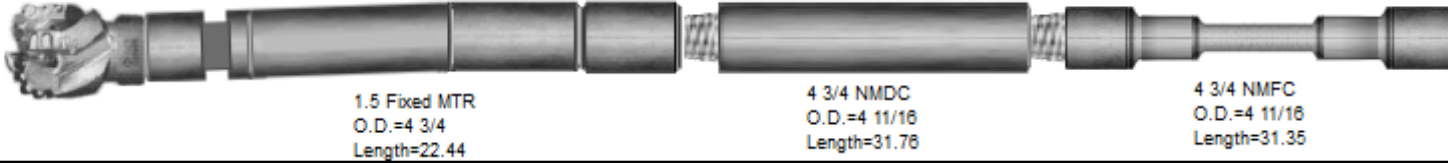
4 3/4 NMDC  
O.D.=4 11/16  
Length=31.76

4 3/4 NMFC  
O.D.=4 11/16  
Length=31.35

# BHA Summary Report for JOB

#	TIME IN - OUT			DEPTHS		Footage			ROP			RPM	FLOW Rate	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide			IN	OUT	IN	OUT	SO	PU	RAB
3	19-Aug-13 @ 07:45	21-Aug-13 @ 19:00	59.25	5073.0	6906.0	1749.0	84.0	1833.0	47.61	55.2	12.3	75-75	277-304	.0	.0	.0	.0	55-70	100-110	85-90
				Hours>		31.67	6.83	38.50												

6-1/8 Smith-MSi613- 4-16's;2-12'sJets  
O.D.=6 1/8  
Length=0.65



#	TIME IN - OUT			DEPTHS		Footage			ROP			RPM	FLOW Rate	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide			IN	OUT	IN	OUT	SO	PU	RAB
4	21-Aug-13 @ 19:00	23-Aug-13 @ 10:30	39.50	6906.0	7882.0	882.0	93.0	975.0	38.77	52.7	11.0	65-75	277-304	.0	.0	.0	.0	55-55	110-110	90-90
				Hours>		16.73	8.42	25.15												

MSi713  
O.D.=6 1/8  
Length=0.65



#	TIME IN - OUT			DEPTHS		Footage			ROP			RPM	FLOW Rate	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide			IN	OUT	IN	OUT	SO	PU	RAB
5	23-Aug-13 @ 10:30	24-Aug-13 @ 05:00	18.50	7882.0	8305.0	399.0	24.0	423.0	43.02	48.4	15.2	65-65	277-277	.0	.0	.0	.0	0-55	0-110	0-90
				Hours>		8.25	1.58	9.83												

MSi713  
O.D.=6 1/8  
Length=0.65



# Well Information

**BHA #** 1



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**SECT. RANGE:**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller  
**BHA TYPE:** Steerable Assembly

## BHA Summary Information

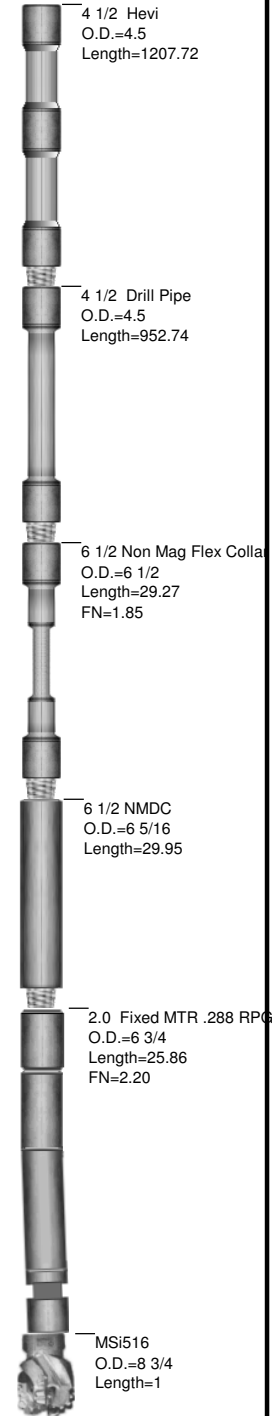
<b>TIME IN - OUT</b>		<b>Rotary Hours</b>	3.83	<b>Start Depth</b>	3271.00	<b>RPM</b>	<b>Flow Rate</b>
<b>Start Time</b>	<b>End Time</b>	<b>Circ Hrs Tot/Only</b>	28.83 / 5.75	<b>End Depth</b>	4319.00	<b>Range</b>	
15-Aug-13 @ 08:45	17-Aug-13 @ 21:15	<b>Slide Hours</b>	19.25	<b>Percent Rotary:</b>	20.13	0 -45	0 -500
		<b>Below Rotary Hrs.</b>	60.50	<b>Percent Slide:</b>	79.87		
<b>Total Drilled:</b>		1048.00	<b>Avg. Total ROP:</b>	45.40	<b>Incl.</b>	<b>Azimuth</b>	
<b>Total Rotary Drilled:</b>		211.00	<b>Avg. Rotary ROP:</b>	55.04	<b>IN</b>	<b>OUT</b>	<b>IN</b> <b>OUT</b>
<b>Total Drilled Sliding:</b>		837.00	<b>Avg. Slide ROP:</b>	43.48	.0	.0	.00 .00
<b>SPP</b>	0 -1980	<b>Weights</b>	<b>SO</b> 0 -110	<b>PU</b> 0 -110	<b>RAB</b> 0 -110	<b>Reason POOH</b>	

Bit Data				MOTOR DATA				Mud Data							
SMITH	MSI516			Curve Assembly				Type	Water Base						
<b>Type Bit</b>		PDC		Model: 675785		Pad OD		WT	9.9	GAS	0	Solids	11.2		
TFA	0.751		MFG. InWell		7 5/16		Vis	35	SAND	0	T °	90			
<b>JETS</b>		14	14	14	14	14	Bend °	2	Stator/Rotor	7/8		PV	11 PH 11.5 Chlor 3800		
		0	0	0	0	0	Bit to Bend	5.66	Motor Diff						
<b>Bit Coding</b>		IADC#		Rev/GAL	0.288				BHT°		120		YP	15 WL 8 Oil % 0	
IR	OR	DL	Loc	BS	G	ODL	NB Stab	0	<b>PUMPS</b>		<b>PUMP1</b>		<b>PUMP1</b>		
0	0						Rotor Jet	0	<b>NAME</b>	Gardner		Gardner			
<b>Bit Drop:</b>		404 PSI @ 500 GPM		Sensor Offsets				<b>Model</b>	PZ8		PZ8				
				<b>Type</b>	Triplex		Triplex		<b>Liner</b>	6.00		6.00			
				<b>Liner</b>	6.00		6.00		<b>Stroke</b>	8.00		8.00			
				<b>Efficiency</b>	95.00		95.00								

6 3/4 In. 7/8 Lobe 5.0 Stage Bit to Bend = 5.66'  
 Rev.Per Gal = .288  
 Bit to Survey 51.53 ft  
 Bit to Gamma 36.02 ft

## BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	MSI516	JF8948		8 3/4	1.00	1.00	P
2	2.0 Fixed MTR .288 RPG	675037	5 3/4	6 3/4	25.86	26.86	4 1/2 XHB
3	6 1/2 Mule Shoe Sub Sub	650-33	2 13/16	6 1/2	2.32	29.18	4 1/2 XHB
4	6 1/2 NMDC	BT650-570	2 13/16	6 5/16	29.95	59.13	B
5	6 1/2 Non Mag Flex Collar	BT650-465	2 13/16	6 1/2	29.27	88.40	4 1/2 XHB
6	4 1/2 Drill Pipe	DP-3.826-S-135	3.826	4.5	952.74	1041.14	4 1/2 XHB
7	4 1/2 Hevi	HWDP-2.75-	2.75	4.5	1,207.72	2248.86	4 1/2 XH
8					0.00	2248.86	



# Well Information

**BHA #** 2



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**SECT. RANGE:**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller  
**BHA TYPE:** Steerable Assembly

## BHA Summary Information

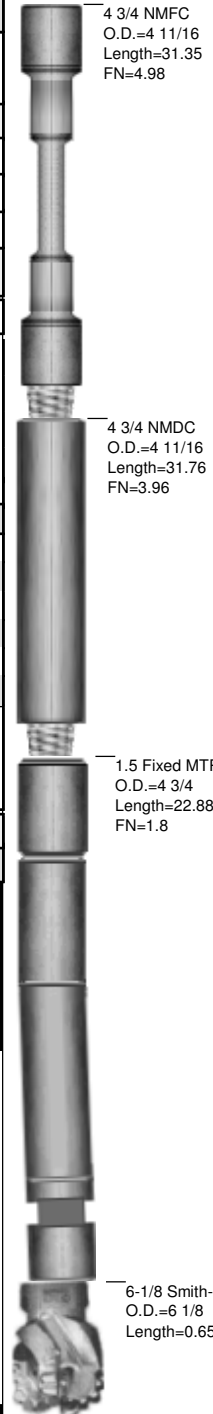
<b>TIME IN - OUT</b>		<b>Rotary Hours</b>	14.48	<b>Start Depth</b>	4319.00	<b>RPM</b>	<b>Flow Rate</b>
<b>Start Time</b>	<b>End Time</b>	<b>Circ Hrs Tot/Only</b>	22.32 / 4.58	<b>End Depth</b>	5073.00	<b>Range</b>	
17-Aug-13 @ 21:15	19-Aug-13 @ 07:45	<b>Slide Hours</b>	3.25	<b>Percent Rotary:</b>	93.36	45 -75	200 -277
		<b>Below Rotary Hrs.</b>	34.33	<b>Percent Slide:</b>	6.64		
<b>Total Drilled:</b>		753.00	<b>Avg. Total ROP:</b>	42.46	<b>Incl. Azimuth</b>		
<b>Total Rotary Drilled:</b>		703.00	<b>Avg. Rotary ROP:</b>	48.54	<b>IN</b>	<b>OUT</b>	<b>IN</b> <b>OUT</b>
<b>Total Drilled Sliding:</b>		50.00	<b>Avg. Slide ROP:</b>	15.38	.0	.0	.00 .00
<b>SPP</b>	900 -1400	<b>Weights</b>	<b>SO</b> 0 -70	<b>PU</b> 0 -100	<b>RAB</b> 0 -85	<b>Reason POOH</b> PR	

Bit Data				MOTOR DATA				Mud Data							
SMITH	6-1/8 Smith-MSi613-			6-1/8 Slick Assembly				Type							
<b>Type Bit</b>		PDC		Model: 475_7_8lobe3_8Stage		Pad OD		WT 0 GAS 0 Solids 0							
TFA	1.006				MFG. Inwell		5.0		Vis 0 SAND 0 T ° 0						
<b>JETS</b>		16	16	16	16	12	Bend ° 1.5 Stator/Rotor 7/8		PV 0 PH 0 Chlor 0						
		12	0	0	0	0	Bit to Bend 4.32 Motor Diff		YP 0 WL 0 Oil % 0						
<b>Bit Coding</b>		IADC#		Rev/GAL 0.521				BHT°  0							
<b>IR</b>	<b>OR</b>	<b>DL</b>	<b>Loc</b>	<b>BS</b>	<b>G</b>	<b>ODL</b>	NB Stab 0		<b>PUMPS</b>		<b>PUMP1</b>		<b>PUMP1</b>		
0	0			0			Rotor Jet 0		NAME Gardner		Gardner				
<b>Bit Drop:</b>		0 PSI @ 277 GPM		Sensor Offsets				Type Triplex		Triplex					
<b>Comments</b>		<b>Sensor</b>	47.8	<b>Sonic</b>	0			Liner 6.00		6.00					
		<b>Gamma</b>	33	<b>DNCS</b>	0			Stroke 8.00		8.00					
		<b>Restiv</b>	0	<b>GYRO</b>	0			Efficiency 95.00		95.00					

4 3/4 In. 7/8 Lobe 3.8 Stage Bit to Bend = 4.32'  
 Rev.Per Gal = .521  
 Bit to Survey = 47.76 ft  
 Bit to Gamma = 32.25 ft

## BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	6-1/8 Smith-MSi613- 4-16's;2-12'sJets	JF 7826	2 1/4	6 1/8	0.65	0.65	3 1/2 REGP
2	1.5 Fixed MTR	475-003	3 3/4	4 3/4	22.88	23.53	3 1/2 IFB
3	4 3/4 M/S Sub	475-08	2 1/4	4 3/4	2.80	26.33	3 1/2 IFB
4	4 3/4 NMDC	475-365	2 11/16	4 11/16	31.76	58.09	3 1/2 IFB
5	4 3/4 NMFC	475-401	2 11/16	4 11/16	31.35	89.44	3 1/2 IF
6					0.00	89.44	



# Well Information

**BHA #** 3



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**SECT. RANGE:**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller  
**BHA TYPE:** Steerable Assembly

## BHA Summary Information

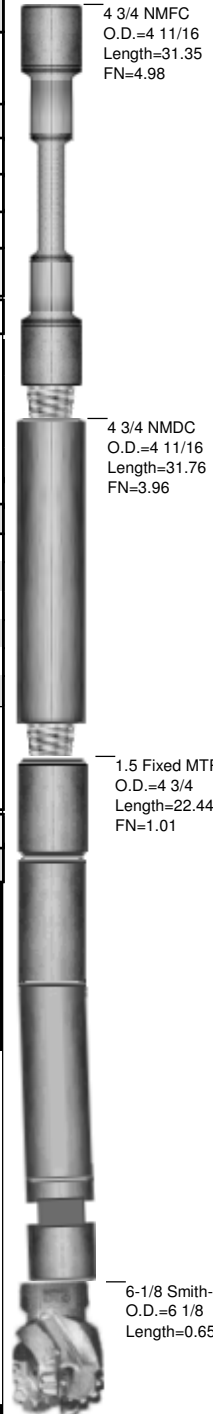
<b>TIME IN - OUT</b>		<b>Rotary Hours</b>	31.67	<b>Start Depth</b>	5073.00	<b>RPM</b>	<b>Flow Rate</b>
<b>Start Time</b>	<b>End Time</b>	<b>Circ Hrs Tot/Only</b>	45.83 / 7.33	<b>End Depth</b>	6906.00	<b>Range</b>	
19-Aug-13 @ 07:45	21-Aug-13 @ 19:00	<b>Slide Hours</b>	6.83	<b>Percent Rotary:</b>	95.42	75 -75	277 -304
		<b>Below Rotary Hrs.</b>	59.25	<b>Percent Slide:</b>	4.58		
<b>Total Drilled:</b>		1833.00	<b>Avg. Total ROP:</b>	47.61	<b>Incl.</b>	<b>Azimuth</b>	
<b>Total Rotary Drilled:</b>		1749.00	<b>Avg. Rotary ROP:</b>	55.23	<b>IN</b>	<b>OUT</b>	<b>IN</b> <b>OUT</b>
<b>Total Drilled Sliding:</b>		84.00	<b>Avg. Slide ROP:</b>	12.29	.0	.0	.00 .00
<b>SPP</b>	1400 -2200	<b>Weights</b>	<b>SO</b> 55 -70	<b>PU</b> 100 -110	<b>RAB</b> 85 -90	<b>Reason POOH</b>	<b>HR</b>

Bit Data				MOTOR DATA				Mud Data						
SMITH	6-1/8 Smith-MSi613-			6-1/8 Slick Assembly				Type	Water					
<b>Type Bit</b>		PDC		Model:	475_7_8lobe3_8Stage			WT	8.6	GAS	0	Solids	0	
TFA	0.81			MFG.	Inwell			Vis	28	SAND	0	T °	90	
<b>JETS</b>		16	16	16	12	12	Bend °	1.5	Stator/Rotor	7/8		PV	3	
		0	0	0	0	0	Bit to Bend	4.32	Motor Diff			PH	8.5	
<b>Bit Coding</b>		IADC#		Rev/GAL	0.521					BHT°		Chlor	1.7	
IR	OR	DL	Loc	BS	G	ODL	NB Stab	0	<b>PUMPS</b>		<b>PUMP1</b>		<b>PUMP1</b>	
8	8						Rotor Jet	0	<b>NAME</b>	Gardner		Gardner		
<b>Bit Drop:</b>		112 PSI @ 304 GPM		<b>Sensor Offsets</b>				<b>Model</b>	PZ8		PZ8			
<b>Comments</b>		Sensor	48	Sonic	0			<b>Type</b>	Triplex		Triplex			
		Gamma	32	DNCS	0			<b>Liner</b>	6.00		6.00			
		Restiv	0	GYRO	0			<b>Stroke</b>	8.00		8.00			
				<b>Efficiency</b>	95.00			<b>Efficiency</b>	95.00		95.00			

4 3/4 In. 7/8 Lobe 3.8 Stage Bit to Bend = 4.76'  
 Rev.Per Gal = .521  
 Bit to Survey = 48.20ft  
 Bit to Gamma = 32.69ft

## BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	6-1/8 Smith-MSi613- 4-16's;2-12'sJets	JG 0711	2 1/4	6 1/8	0.65	0.65	3 1/2 REGP
2	1.5 Fixed MTR	475-020	3 3/4	4 3/4	22.44	23.09	3 1/2 IFB
3	4 3/4 M/S Sub	475-08	2 1/4	4 3/4	2.80	25.89	3 1/2 IFB
4	4 3/4 NMDC	475-365	2 11/16	4 11/16	31.76	57.65	3 1/2 IFB
5	4 3/4 NMFC	475-401	2 11/16	4 11/16	31.35	89.00	3 1/2 IF
6					0.00	89.00	



# Well Information

**BHA #** 4



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**SECT. RANGE:**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller  
**BHA TYPE:** Steerable Assembly

## BHA Summary Information

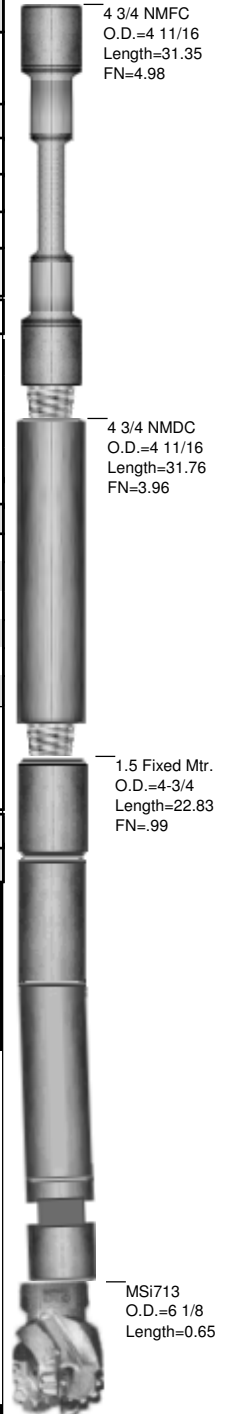
<b>TIME IN - OUT</b>		<b>Rotary Hours</b>	16.73	<b>Start Depth</b>	6906.00	<b>RPM</b>	<b>Flow Rate</b>
<b>Start Time</b>	<b>End Time</b>	<b>Circ Hrs Tot/Only</b>	29.07 / 3.92	<b>End Depth</b>	7882.00	<b>Range</b>	
21-Aug-13 @ 19:00	23-Aug-13 @ 10:30	<b>Slide Hours</b>	8.42	<b>Percent Rotary:</b>	90.46	65 -75	277 -304
		<b>Below Rotary Hrs.</b>	39.50	<b>Percent Slide:</b>	9.54		
<b>Total Drilled:</b>		975.00	<b>Avg. Total ROP:</b>	38.77	<b>Incl. Azimuth</b>		
<b>Total Rotary Drilled:</b>		882.00	<b>Avg. Rotary ROP:</b>	52.71	<b>IN</b>	<b>OUT</b>	<b>IN</b> <b>OUT</b>
<b>Total Drilled Sliding:</b>		93.00	<b>Avg. Slide ROP:</b>	11.05	.0	.0	.00 .00
<b>SPP</b>	2200 -2200	<b>Weights</b>	<b>SO</b> 55 -55	<b>PU</b> 110 -110	<b>RAB</b> 90 -90	<b>Reason POOH</b>	

Bit Data				MOTOR DATA				Mud Data						
SMITH	MSI713			6-1/8 Slick Assembly				Type	Water					
<b>Type Bit</b>				Model: 475_7_8lobe3_8Stage				Pad OD						
TFA	1.202			MFG. Inwell				WT 8.6 GAS 0 Solids 0						
<b>JETS</b>				Bend ° 1.5 Stator/Rotor 7/8				Vis 28 SAND 0 T ° 90						
12 12 16 16 16				Bit to Bend 4.43 Motor Diff				PV 3 PH 8.5 Chlor 1.7						
16 16 0 0 0				Rev/GAL 0.521				YP 2 WL 99 Oil % 0						
<b>Bit Coding</b>				IADC#				BHT ° 134.6						
IR	OR	DL	Loc	BS	G	ODL	<b>PUMPS</b>		<b>PUMP1</b>		<b>PUMP1</b>			
0	0						NAME		Gardner		Gardner			
<b>Bit Drop:</b> 51 PSI @ 304 GPM							Sensor Offsets		Model		PZ8			
<b>Comments</b>							NB Stab 0		Type		Triplex		Triplex	
							Rotor Jet 10		Liner		6.00		6.00	
							Sensor 48 Sonic 0		Stroke		8.00		8.00	
							Gamma 32 DNSC 0		Efficiency		95.00		95.00	
Restiv 0 GYRO 0														

4 3/4 In. 7/8 Lobe 3.8 Stage Bit to Bend = 4.43'  
 Rev.Per Gal = .521  
 Bit to Survey = 48.25ft  
 Bit to Gamma = 32.74ft

## BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	MSI713	JF6004		6 1/8	0.65	0.65	P
2	1.5 Fixed Mtr.	475017	3-3/4	4-3/4	22.83	23.48	3 1/2 IFB
3	4 3/4 M/S Sub	475-08	2 1/4	4 3/4	2.80	26.28	3 1/2 IFB
4	4 3/4 NMDC	475-365	2 11/16	4 11/16	31.76	58.04	3 1/2 IFB
5	4 3/4 NMFC	475-401	2 11/16	4 11/16	31.35	89.39	3 1/2 IF
6					0.00	89.39	



# Well Information

**BHA #** 5



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**SECT. RANGE:**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller  
**BHA TYPE:** Steerable Assembly

## BHA Summary Information

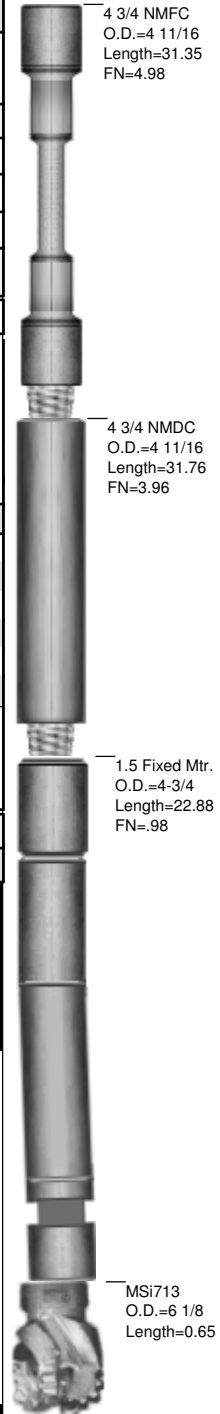
<b>TIME IN - OUT</b>		<b>Rotary Hours</b>	8.25	<b>Start Depth</b>	7882.00	<b>RPM</b>		<b>Flow Rate</b>	
<b>Start Time</b>	<b>End Time</b>	<b>Circ Hrs Tot/Only</b>	11.58 / 1.75	<b>End Depth</b>	8305.00	<b>Range</b>			
23-Aug-13 @ 10:30	24-Aug-13 @ 05:00	<b>Slide Hours</b>	1.58	<b>Percent Rotary:</b>	94.33	65 -65		277	
		<b>Below Rotary Hrs.</b>	18.50	<b>Percent Slide:</b>	5.67			-277	
<b>Total Drilled:</b>		423.00	<b>Avg. Total ROP:</b>	43.02	<b>Incl.</b>	<b>Azimuth</b>			
<b>Total Rotary Drilled:</b>		399.00	<b>Avg. Rotary ROP:</b>	48.36	<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>	
<b>Total Drilled Sliding:</b>		24.00	<b>Avg. Slide ROP:</b>	15.16	.0	.0	.00	.00	
<b>SPP</b>	0 -2200	<b>Weights</b>	<b>SO</b>	0 -55	<b>PU</b>	0 -110	<b>RAB</b>	0 -90	<b>Reason POOH</b>

Bit Data				MOTOR DATA				Mud Data					
SMITH	MSI713							Type	Water				
<b>Type Bit</b>		PDC		Model:	Pad OD			WT	8.6	GAS	0	Solids	0
TFA	1.006			MFG.				Vis	28	SAND	0	T °	90
<b>JETS</b>		16	16	Bend °	0	Stator/Rotor	PV	3	PH	8.5	Chlor	1.7	
		12	0	Bit to Bend	0	Motor Diff	YP	2	WL	99	Oil %	0	
<b>Bit Coding</b>		IADC#		Rev/GAL	0			BHT°		134.6			
IR	OR	DL	Loc	BS	G	ODL	<b>PUMPS</b>		<b>PUMP1</b>		<b>PUMP1</b>		
0	0						<b>NAME</b>	Gardner		Gardner			
<b>Bit Drop:</b>		60 PSI @ 277 GPM		<b>Sensor Offsets</b>			<b>Model</b>	PZ8		PZ8			
<b>Comments</b>		Sensor	0	Sonic	0		<b>Type</b>	Triplex		Triplex			
		Gamma	0	DNCS	0		<b>Liner</b>	6.00		6.00			
		Restiv	0	GYRO	0		<b>Stroke</b>	8.00		8.00			
							<b>Efficiency</b>	95.00		95.00			

4 3/4 In. 7/8 Lobe 3.8 Stage Bit to Bend = 4.11'  
 Rev.Per Gal = .521  
 Bit to Survey = 48.25ft  
 Bit to Gamma = 32.74ft

## BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	MSI713	JF6004		6 1/8	0.65	0.65	P
2	1.5 Fixed Mtr.	475008	3-3/4	4-3/4	22.88	23.53	3 1/2 IFB
3	4 3/4 M/S Sub	475-08	2 1/4	4 3/4	2.80	26.33	3 1/2 IFB
4	4 3/4 NMDC	475-365	2 11/16	4 11/16	31.76	58.09	3 1/2 IFB
5	4 3/4 NMFC	475-401	2 11/16	4 11/16	31.35	89.44	3 1/2 IF
6					0.00	89.44	





<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	1 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Tuesday, August 13, 2013 at 0000 to Tuesday, August 13, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	0	Slack Off	0	SPM	
End Depth	0.00	Circulating Hours	0.00	RAB	0	SPP	0	FlowRate	0-0	0	
Total Drilled:	0.00	Avg. Total ROP:	NA	<b>Mud Data</b>							
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type			PV	0	SOLID	0	
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°	0
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	15.00	Percent Slide:	NA	Chlorides	0	WL	0		Oil %	0	

PERSONNEL				CASING			BHA	
Lead Directional :	Robert Johnson			Size	Lb/ft	Set Depth	N/A	
Second Directional :	Bobby Hardcastle			9 5/8	36	1506		
MWD Operator1	Joe Meyer			7	26	4319		
MWD Operator2	Jarrod Camp			Signature: _____				
Directional Company:	Inwell, Inc.							
Geologist:								
Company Man:	Larry Miller							
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0	

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
13-Aug-13	00:00	15:00	15.00	0	0	Other	Driving to Location
13-Aug-13	15:00	24:00	9.00	0	0	Standby	Standby-Welding head on casing and nipling BOP's





<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	2 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Wednesday, August 14, 2013 at 0000 to Wednesday, August 14, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters									
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	0	Slack Off	0	SPM			
End Depth	0.00	Circulating Hours	0.00	RAB	0	SPP	0	FlowRate	0-0		0		
Total Drilled:	0.00	Avg. Total ROP:	NA	<b>Mud Data</b>									
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type		PV	0	SOLID		0			
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°		0	
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°		0	
Below Rotary Hrs.	0.00	Percent Slide:	NA	Chlorides	0	WL	0			Oil %		0	

PERSONNEL				CASING			BHA	
Lead Directional :	Robert Johnson			Size	Lb/ft	Set Depth	N/A	
Second Directional :	Bobby Hardcastle			9 5/8	36	1506		
MWD Operator1	Joe Meyer			7	26	4319		
MWD Operator2	Jarrod Camp			Signature: _____				
Directional Company:	Inwell, Inc.							
Geologist:								
Company Man:	Larry Miller							
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0	

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Aug-13	00:00	05:00	5.00	0	0	Standby	Drill to KOP
14-Aug-13	05:00	24:00	19.00	3271	3271	Standby	Drill to KOP



<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	3 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Thursday, August 15, 2013 at 0000 to Thursday, August 15, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	3271.00	Rotary Hours	0.42	WOB	0	Pick UP	110	Slack Off	110	SPM	
End Depth	3559.00	Circulating Hours	2.83	RAB	110	SPP	1980	FlowRate	0 - 500	180	
Total Drilled:	288.00	Avg. Total ROP:	41.14	<b>Mud Data</b>							
Total Rotary Drilled:	10.00	Avg. Rotary ROP:	24.00	Type	Water Base			PV	11	SOLID	11.2
Total Drilled Sliding:	278.00	Avg. Slide ROP:	42.23	Weight	9.9	GAS	0	YP	15	BHT°	120
Slide Hours:	6.58	Percent Rotary:	3.47	Viscosity	35	SAND	0	PH	11.5	Flow T°	90
Below Rotary Hrs.	17.50	Percent Slide:	96.53	Chlorides	3800	WL	8			Oil %	0

PERSONNEL				CASING			BHA
Lead Directional :	Robert Johnson			Size	Lb/ft	Set Depth	BHA # 1:MSi516, 2.0 Fixed MTR .288 RPG, 6 1/2 Mule Shoe Sub Sub, 6 1/2 NMDC, 6 1/2 Non Mag Flex Collar, 4 1/2 Drill Pipe, 4 1/2 Hevi, ,
Second Directional :	Bobby Hardcastle			9 5/8	36	1506	
MWD Operator1	Joe Meyer			Signature: _____			
MWD Operator2	Jarrod Camp						
Directional Company:	Inwell, Inc.						
Geologist:							
Company Man:	Larry Miller						
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Aug-13	00:00	06:30	6.50	3271	3271	Standby	POOH, Run Gyro, P/U Curve Ass.
15-Aug-13	06:30	08:45	2.25	3271	3271	Change BHA	Change BHA
15-Aug-13	08:45	09:00	0.25	3271	3271	Circulating	Circulating-Test Motor & MWD
15-Aug-13	09:00	09:45	0.75	3271	3271	TIH	TIH-1500'
15-Aug-13	09:45	11:15	1.50	3271	3271	Other	Other-Slip cut Drill Line
15-Aug-13	11:15	11:45	0.50	3271	3271	TIH	TIH- 2961'
15-Aug-13	11:45	14:20	2.58	3271	3271	Reaming	Reaming F/2961' T/3271'
15-Aug-13	14:20	14:30	0.17	3271	3276	Drilling	Drilling
15-Aug-13	14:30	14:45	0.25	3276	3276	Survey & Conn.	Survey & Conn.@3223' Inc 0.5° Azm 258.4°
15-Aug-13	14:45	15:00	0.25	3276	3281	Drilling	Drilling - (WOB:0;GPM :0;RPM:0)
15-Aug-13	15:00	15:45	0.75	3281	3308	Sliding	Drilling - (WOB:0;GPM :0;RPM:0)
15-Aug-13	15:45	16:00	0.25	3308	3308	Survey & Conn.	Survey & Conn.@3254' Inc 0.7° Azm 240.3°
15-Aug-13	16:00	16:35	0.58	3308	3337	Sliding	Sliding - (WOB:0;GPM :0;TFO:180M))
15-Aug-13	16:35	16:50	0.25	3337	3337	Survey & Conn.	Survey & Conn.@3284' Inc 2.1° Azm 203.4°
15-Aug-13	16:50	17:45	0.92	3337	3369	Sliding	Sliding - (WOB:0;GPM :500;TFO:160M))
15-Aug-13	17:45	18:00	0.25	3369	3369	Survey & Conn.	Survey & Conn.@3316' Inc 4.6° Azm 196.5°
15-Aug-13	18:00	18:35	0.58	3369	3401	Sliding	Sliding - (WOB:0;GPM :500;TFO:160M))

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Aug-13	18:35	18:50	0.25	3401	3401	Survey & Conn.	Survey & Conn.@3348' Inc 7.3° Azm 191.6°
15-Aug-13	18:50	19:35	0.75	3401	3432	Sliding	Sliding - (WOB:0;GPM :500;TFO:160M))
15-Aug-13	19:35	19:50	0.25	3432	3432	Survey & Conn.	Survey & Conn.@3379' Inc 9.9° Azm 188.3°
15-Aug-13	19:50	20:15	0.42	3432	3463	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L))
15-Aug-13	20:15	20:30	0.25	3463	3463	Survey & Conn.	Survey & Conn.@3410' Inc 12.6° Azm 186.3°
15-Aug-13	20:30	21:15	0.75	3463	3496	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L)
15-Aug-13	21:15	21:30	0.25	3496	3496	Survey & Conn.	Survey & Conn.@3443' Inc 15° Azm 185.9°
15-Aug-13	21:30	22:30	1.00	3496	3527	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L)
15-Aug-13	22:30	22:45	0.25	3527	3527	Survey & Conn.	Survey & Conn.@3474' Inc 17.4° Azm 185.6°
15-Aug-13	22:45	23:35	0.83	3527	3559	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L)
15-Aug-13	23:35	24:00	0.42	3559	3559	Survey & Conn.	Survey & Conn.@3506' Inc 20° Azm 184.8°



<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	4 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Friday, August 16, 2013 at 0000 to Friday, August 16, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters										
Start Depth	3559.00	Rotary Hours	3.42	WOB	15	Pick UP	110	Slack Off	110	SPM				
End Depth	4319.00	Circulating Hours	1.92	RAB	110	SPP	1980	FlowRate	500 - 500	180				
Total Drilled:	760.00	Avg. Total ROP:	47.25	<b>Mud Data</b>										
Total Rotary Drilled:	201.00	Avg. Rotary ROP:	58.83	Type	Water Base			PV	11	SOLID	11.2			
Total Drilled Sliding:	559.00	Avg. Slide ROP:	44.13	Weight	9.9	GAS	0	YP	15	BHT°	120			
Slide Hours:	12.67	Percent Rotary:	26.45	Viscosity	35	SAND	0	PH	11.5	Flow T°	90			
Below Rotary Hrs.	24.00	Percent Slide:	73.55	Chlorides	3800	WL	8			Oil %	0			
PERSONNEL				CASING			BHA							
Lead Directional :	Robert Johnson			Size	Lb/ft	Set Depth	BHA # 1:MSi516, 2.0 Fixed MTR .288 RPG, 6 1/2 Mule Shoe Sub Sub, 6 1/2 NMDC, 6 1/2 Non Mag Flex Collar, 4 1/2 Drill Pipe, 4 1/2 Hevi, ,							
Second Directional :	Bobby Hardcastle			9 5/8	36	1506								
MWD Operator1	Joe Meyer			7	26	4319								
MWD Operator2	Jarrod Camp			Signature: _____										
Directional Company:	Inwell, Inc.													
Geologist:														
Company Man:	Larry Miller													
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0							

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Aug-13	00:00	00:45	0.75	3559	3591	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L)
16-Aug-13	00:45	01:00	0.25	3591	3591	Survey & Conn.	Survey & Conn.@3538' Inc 22.7° Azm 183.8°
16-Aug-13	01:00	01:40	0.67	3591	3623	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L)
16-Aug-13	01:40	01:50	0.17	3623	3623	Survey & Conn.	Survey & Conn.@3570' Inc 25.6° Azm 183.5°
16-Aug-13	01:50	02:30	0.67	3623	3653	Sliding	Sliding - (WOB:0;GPM :500;TFO:10L)
16-Aug-13	02:30	02:40	0.17	3653	3653	Survey & Conn.	Survey & Conn.@3600' Inc 28.8° Azm 183.2°
16-Aug-13	02:40	03:30	0.83	3653	3684	Sliding	Sliding - (WOB:0;GPM :500;TFO:10L)
16-Aug-13	03:30	03:40	0.17	3684	3684	Survey & Conn.	Survey & Conn.@3631' Inc 32.2° Azm 183.1°
16-Aug-13	03:40	04:15	0.58	3684	3716	Sliding	Sliding - (WOB:0;GPM :500;TFO:10L)
16-Aug-13	04:15	04:30	0.25	3716	3716	Survey & Conn.	Survey & Conn.@3663' Inc 35.6° Azm 183°
16-Aug-13	04:30	05:30	1.00	3716	3748	Sliding	Sliding - (WOB:0;GPM :500;TFO:10L)
16-Aug-13	05:30	05:45	0.25	3748	3748	Survey & Conn.	Survey & Conn.@3695' Inc 39° Azm 183°
16-Aug-13	05:45	06:20	0.58	3748	3779	Sliding	Sliding - (WOB:0;GPM :500;TFO:10L)
16-Aug-13	06:20	06:35	0.25	3779	3779	Survey & Conn.	Survey & Conn.@3726' Inc 42.6° Azm 182.9°
16-Aug-13	06:35	07:20	0.75	3779	3811	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L)
16-Aug-13	07:20	07:30	0.17	3811	3811	Survey & Conn.	Survey & Conn.@3758' Inc 46.4° Azm 182°
16-Aug-13	07:30	08:00	0.50	3811	3821	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Aug-13	08:00	08:05	0.08	3821	3821	MWD Survey	MWD Survey@3758' Inc 46.4° Azm 182°
16-Aug-13	08:05	08:30	0.42	3821	3843	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	08:30	08:45	0.25	3843	3843	Survey & Conn.	Survey & Conn.@3790' Inc 50.2° Azm 181.5°
16-Aug-13	08:45	09:15	0.50	3843	3875	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	09:15	09:30	0.25	3875	3875	Survey & Conn.	Survey & Conn.@3822' Inc 52.5° Azm 181.2°
16-Aug-13	09:30	10:00	0.50	3875	3906	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	10:00	10:15	0.25	3906	3906	Survey & Conn.	Survey & Conn.@3853' Inc 52.8° Azm 181.2°
16-Aug-13	10:15	10:45	0.50	3906	3938	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	10:45	11:00	0.25	3938	3938	Survey & Conn.	Survey & Conn.@3885' Inc 52.9° Azm 181.2°
16-Aug-13	11:00	11:30	0.50	3938	3970	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	11:30	11:45	0.25	3970	3970	Survey & Conn.	Survey & Conn.@3917' Inc 52.5° Azm 181.5°
16-Aug-13	11:45	11:55	0.17	3970	3980	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	11:55	12:30	0.58	3980	4002	Sliding	Sliding - (WOB:25;GPM :500;TFO:20L))
16-Aug-13	12:30	13:10	0.67	4002	4002	Rig Service-Inhole	Rig Service-Inhole
16-Aug-13	13:10	13:25	0.25	4002	4002	Survey & Conn.	Survey & Conn.@3949' Inc 52.8° Azm 181.1°
16-Aug-13	13:25	14:00	0.58	4002	4034	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L))
16-Aug-13	14:00	14:15	0.25	4034	4034	Survey & Conn.	Survey & Conn.@3981' Inc 53.9° Azm 181°
16-Aug-13	14:15	15:00	0.75	4034	4066	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L))
16-Aug-13	15:00	15:15	0.25	4066	4066	Survey & Conn.	Survey & Conn.@4013' Inc 57.1° Azm 180.9°
16-Aug-13	15:15	15:55	0.67	4066	4097	Sliding	Sliding - (WOB:0;GPM :500;TFO:20L))
16-Aug-13	15:55	16:10	0.25	4097	4097	Survey & Conn.	Survey & Conn.@4044' Inc 60.5° Azm 179.8°
16-Aug-13	16:10	16:35	0.42	4097	4129	Sliding	Sliding - (WOB:35;GPM :500;TFO:10L))
16-Aug-13	16:35	16:50	0.25	4129	4129	Survey & Conn.	Survey & Conn.@4076' Inc 63.9° Azm 179.4°
16-Aug-13	16:50	17:25	0.58	4129	4161	Sliding	Sliding - (WOB:35;GPM :500;TFO:0))
16-Aug-13	17:25	17:40	0.25	4161	4161	Survey & Conn.	Survey & Conn.@4108' Inc 68° Azm 179.7°
16-Aug-13	17:40	18:15	0.58	4161	4188	Sliding	Sliding - (WOB:35;GPM :500;TFO:0))
16-Aug-13	18:15	18:20	0.08	4188	4193	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	18:20	18:40	0.33	4193	4193	Survey & Conn.	Survey & Conn.@4140' Inc 72° Azm 180°
16-Aug-13	18:40	19:00	0.33	4193	4217	Sliding	Sliding - (WOB:35;GPM :500;TFO:0)
16-Aug-13	19:00	19:15	0.25	4217	4224	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	19:15	19:30	0.25	4224	4224	Survey & Conn.	Survey & Conn.@4171' Inc 75.9° Azm 180.6°
16-Aug-13	19:30	20:00	0.50	4224	4242	Sliding	Sliding - (WOB:35;GPM :500;TFO:20L))
16-Aug-13	20:00	20:10	0.17	4242	4255	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	20:10	20:20	0.17	4255	4255	Survey & Conn.	Survey & Conn.@4202' Inc 79° Azm 180.9°
16-Aug-13	20:20	21:00	0.67	4255	4277	Sliding	Sliding - (WOB:35;GPM :500;TFO:20L)
16-Aug-13	21:00	21:10	0.17	4277	4287	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	21:10	21:20	0.17	4287	4287	Survey & Conn.	Survey & Conn.@4234' Inc 81.8° Azm 180.1°
16-Aug-13	21:20	22:00	0.67	4287	4312	Sliding	Sliding - (WOB:35;GPM :500;TFO:20L)
16-Aug-13	22:00	22:10	0.17	4312	4319	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
16-Aug-13	22:10	22:20	0.17	4319	4319	Survey & Conn.	Survey & Conn.@4266' Inc 84.2° Azm 179.9°
16-Aug-13	22:20	23:30	1.17	4319	4319	Circulating	Circulating
16-Aug-13	23:30	24:00	0.50	4319	4319	Short Trip	Short Trip



<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	5 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Saturday, August 17, 2013 at 0000 to Saturday, August 17, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	0	Slack Off	0	SPM	
End Depth	0.00	Circulating Hours	1.00	RAB	0	SPP	0	FlowRate	0 - 500	0	
Total Drilled:	0.00	Avg. Total ROP:	NA	<b>Mud Data</b>							
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type			PV	0	SOLID	0	
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°	0
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	24.00	Percent Slide:	NA	Chlorides	0	WL	0			Oil %	0

PERSONNEL			CASING			BHA	
Lead Directional :	Robert Johnson		Size	Lb/ft	Set Depth	BHA # 2:6-1/8 Smith-MSI613-4-16's;2-12'sJets , 1.5 Fixed MTR, 4 3/4 M/S Sub, 4 3/4 NMDC, 4 3/4 NMFC, ,	
Second Directional :	Bobby Hardcastle		9 5/8	36	1506		
MWD Operator1	Joe Meyer		7	26	4319		
MWD Operator2	Jarrod Camp		Signature: _____				
Directional Company:	Inwell, Inc.						
Geologist:							
Company Man:	Larry Miller						
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
17-Aug-13	00:00	01:00	1.00	4319	4319	Short Trip	Short Trip
17-Aug-13	01:00	02:00	1.00	4319	4319	Circulating	CBU
17-Aug-13	02:00	05:30	3.50	4319	4319	POOH	POOH_Laying Down DP
17-Aug-13	05:30	06:00	0.50	4319	4319	Other	L/D BHA# 1
17-Aug-13	06:00	20:15	14.25	4319	4319	Other	Other_Standby
17-Aug-13	20:15	21:15	1.00	4319	4319	Change BHA	Change to BHA#2
17-Aug-13	21:15	21:45	0.50	4319	4319	Other	M/U Bit & Rig Up L/D Truck
17-Aug-13	21:45	24:00	2.25	4319	4319	TIH	TIH_BHA #2



<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	6 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Sunday, August 18, 2013 at 0000 to Sunday, August 18, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	4319.00	Rotary Hours	12.15	WOB	15	Pick UP	100	Slack Off	70	SPM	
End Depth	4960.00	Circulating Hours	4.08	RAB	85	SPP	1400	FlowRate	0 - 277	100	
Total Drilled:	640.00	Avg. Total ROP:	44.44	<b>Mud Data</b>							
Total Rotary Drilled:	598.00	Avg. Rotary ROP:	49.22	Type			PV	0	SOLID	0	
Total Drilled Sliding:	42.00	Avg. Slide ROP:	18.67	Weight	0	GAS	0	YP	0	BHT°	0
Slide Hours:	2.25	Percent Rotary:	93.44	Viscosity	0	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	23.83	Percent Slide:	6.56	Chlorides	0	WL	0		Oil %	0	

PERSONNEL			CASING			BHA	
Lead Directional :	Robert Johnson		Size	Lb/ft	Set Depth	BHA # 2:6-1/8 Smith-MSI613-4-16's;2-12's;Jets , 1.5 Fixed MTR, 4 3/4 M/S Sub, 4 3/4 NMDC, 4 3/4 NMFC, ,	
Second Directional :	Bobby Hardcastle		9 5/8	36	1506		
MWD Operator1	Joe Meyer		7	26	4319		
MWD Operator2	Jarrod Camp		Signature: _____				
Directional Company:	Inwell, Inc.						
Geologist:							
Company Man:	Larry Miller						
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
18-Aug-13	00:00	02:30	2.50	4319	4319	TIH	TIH_BHA #2
18-Aug-13	02:30	02:45	0.25	4319	4319	Other	Other_Rig Down L/D Truck
18-Aug-13	02:45	05:15	2.50	4319	4319	Circulating	Circulating_Drill Cement & Shoe
18-Aug-13	05:15	05:40	0.42	4319	4332	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
18-Aug-13	05:40	06:00	0.33	4332	4332	Survey & Conn.	Survey & Conn.@4266' Inc 84.2° Azm 179.9°
18-Aug-13	06:00	06:50	0.83	4332	4363	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
18-Aug-13	06:50	07:05	0.25	4363	4363	Survey & Conn.	Survey & Conn.@4344' Inc 87.6° Azm 180.1°
18-Aug-13	07:05	07:20	0.25	4363	4371	Sliding	Sliding - (WOB:35;GPM :500;TFO:0))
18-Aug-13	07:20	07:45	0.42	4371	4394	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
18-Aug-13	07:45	08:00	0.25	4394	4394	Survey & Conn.	Survey & Conn.@4344' Inc 87.6° Azm 180.1°
18-Aug-13	08:00	08:25	0.42	4394	4425	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
18-Aug-13	08:25	08:40	0.25	4425	4425	MWD Survey	MWD Survey@4406' Inc 88.2° Azm 180°
18-Aug-13	08:40	08:55	0.25	4425	4435	Sliding	Sliding - (WOB:35;GPM :500;TFO:0))
18-Aug-13	08:55	09:15	0.33	4435	4456	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
18-Aug-13	09:15	09:25	0.17	4456	4456	Survey & Conn.	Survey & Conn.@4406' Inc 88.2° Azm 180°
18-Aug-13	09:25	09:55	0.50	4456	4486	Drilling	Drilling - (WOB:15;GPM :500;RPM:45)
18-Aug-13	09:55	10:10	0.25	4486	4486	Survey & Conn.	Survey & Conn.@4467' Inc 89.3° Azm 180.2°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
18-Aug-13	10:10	10:20	0.17	4486	4494	Sliding	Sliding - (WOB:35;GPM :277;TFO:0))
18-Aug-13	10:20	10:50	0.50	4494	4517	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	10:50	11:00	0.17	4517	4517	Survey & Conn.	Survey & Conn.@4467' Inc 89.3° Azm 180.2°
18-Aug-13	11:00	11:25	0.42	4517	4548	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	11:25	11:35	0.17	4548	4548	MWD Survey	MWD Survey@4529' Inc 90.1° Azm 180.7°
18-Aug-13	11:35	12:10	0.58	4548	4579	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	12:10	12:20	0.17	4579	4579	Survey & Conn.	Survey & Conn.@4529' Inc 90.1° Azm 180.7°
18-Aug-13	12:20	12:55	0.58	4579	4610	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	12:55	13:05	0.17	4610	4610	MWD Survey	MWD Survey@4591' Inc 90.1° Azm 180.7°
18-Aug-13	13:05	13:40	0.58	4610	4641	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	13:40	14:00	0.33	4641	4641	Rig Service-Inhole	Rig Service-Inhole
18-Aug-13	14:00	14:10	0.17	4641	4641	Survey & Conn.	Survey & Conn.@4591' Inc 90.1° Azm 180.7°
18-Aug-13	14:10	14:40	0.50	4641	4671	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	14:40	14:50	0.17	4671	4671	MWD Survey	MWD Survey@4652' Inc 90.9° Azm 180.8°
18-Aug-13	14:50	15:20	0.50	4671	4679	Sliding	Sliding - (WOB:35;GPM :277;TFO:160L))
18-Aug-13	15:20	15:40	0.33	4679	4702	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	15:40	15:50	0.17	4702	4702	Survey & Conn.	Survey & Conn.@4652' Inc 90.9° Azm 180.8°
18-Aug-13	15:50	16:40	0.83	4702	4733	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	16:40	16:50	0.17	4733	4733	MWD Survey	MWD Survey@4714' Inc 89.5° Azm 179.8°
18-Aug-13	16:50	18:00	1.17	4733	4764	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	18:00	18:10	0.17	4764	4764	Survey & Conn.	Survey & Conn.@4714' Inc 89.5° Azm 179.8°
18-Aug-13	18:10	18:30	0.33	4764	4795	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	18:30	18:40	0.17	4795	4795	MWD Survey	MWD Survey@4776' Inc 89.9° Azm 179°
18-Aug-13	18:40	19:30	0.83	4795	4826	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	19:30	19:40	0.17	4826	4826	Survey & Conn.	Survey & Conn.@4776' Inc 89.9° Azm 179°
18-Aug-13	19:40	20:15	0.58	4826	4857	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	20:25	20:26	0.02	4857	4858		
18-Aug-13	20:26	20:30	0.07	4858	4860	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	20:30	21:00	0.50	4860	4888	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	21:00	21:10	0.17	4888	4888	Survey & Conn.	Survey & Conn.@4838' Inc 90.1° Azm 178.6°
18-Aug-13	21:10	21:30	0.33	4888	4918	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	21:30	21:40	0.17	4918	4918	MWD Survey	MWD Survey@4899' Inc 90.5° Azm 178.5°
18-Aug-13	21:40	22:30	0.83	4918	4949	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
18-Aug-13	22:30	22:40	0.17	4949	4949	Survey & Conn.	Survey & Conn.@4899' Inc 90.5° Azm 178.5°
18-Aug-13	22:40	23:45	1.08	4949	4957	Sliding	Sliding - (WOB:35;GPM :277;TFO:160L))
18-Aug-13	23:45	24:00	0.25	4957	4960	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)





<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	7 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

**From Monday, August 19, 2013 at 0000 to Monday, August 19, 2013 at 2400**

DRILLING SUMMARY				Drilling Parameters									
Start Depth	4960.00	Rotary Hours	11.33	WOB	15	Pick UP	110	Slack Off	55	SPM			
End Depth	5575.00	Circulating Hours	2.42	RAB	90	SPP	1800	FlowRate	277 - 304	110			
Total Drilled:	615.00	Avg. Total ROP:	45.00	<b>Mud Data</b>									
Total Rotary Drilled:	585.00	Avg. Rotary ROP:	51.62	Type	Water	PV	3	SOLID	0				
Total Drilled Sliding:	30.00	Avg. Slide ROP:	12.86	Weight	8.6	GAS	0	YP	2	BHT°	134.6		
Slide Hours:	2.33	Percent Rotary:	95.12	Viscosity	28	SAND	0	PH	8.5	Flow T°	90		
Below Rotary Hrs.	24.00	Percent Slide:	4.88	Chlorides	1.7	WL	99	Oil %	0				
PERSONNEL				CASING			BHA						
Lead Directional :	Robert Johnson			Size	Lb/ft	Set Depth	BHA # 3:6-1/8 Smith-MSI613-4-16's;2-12'sJets , 1.5 Fixed MTR, 4 3/4 M/S Sub, 4 3/4 NMDC, 4 3/4 NMFC, ,						
Second Directional :	Bobby Hardcastle			9 5/8	36	1506							
MWD Operator1	Joe Meyer			7	26	4319							
MWD Operator2	Jarrod Camp			Signature: _____									
Directional Company:	Inwell, Inc.												
Geologist:													
Company Man:	Larry Miller												
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0						

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
19-Aug-13	00:00	00:30	0.50	4960	4980	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	00:30	00:40	0.17	4980	4980	MWD Survey	MWD Survey@4961' Inc 90.3° Azm 178°
19-Aug-13	00:40	01:20	0.67	4980	5011	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	01:20	01:30	0.17	5011	5011	Survey & Conn.	Survey & Conn.@4961' Inc 90.3° Azm 178°
19-Aug-13	01:30	02:30	1.00	5011	5019	Sliding	Sliding - (WOB:35;GPM :277;TFO:180)
19-Aug-13	02:30	03:00	0.50	5019	5042	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	03:00	03:10	0.17	5042	5042	MWD Survey	MWD Survey@5023' Inc 90.7° Azm 177.8°
19-Aug-13	03:10	03:50	0.67	5042	5073	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	03:50	04:10	0.33	5073	5073	Survey & Conn.	Survey & Conn.@5023' Inc 90.7° Azm 177.8°
19-Aug-13	04:10	04:20	0.17	5073	5073	Circulating	Circulating_Pump Sweep For POOH
19-Aug-13	04:20	07:00	2.67	5073	5073	POOH	POOH
19-Aug-13	07:00	07:45	0.75	5073	5073	Change BHA	Change BHA
19-Aug-13	07:45	08:00	0.25	5073	5073	Circulating	Circulating-Test MWD and Motor
19-Aug-13	08:00	10:15	2.25	5073	5073	TIH	TIH
19-Aug-13	10:15	10:30	0.25	5073	5073	Circulating	Circulating Washed F5063 T-5073
19-Aug-13	10:30	10:35	0.08	5073	5075	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	10:35	10:55	0.33	5075	5083	Sliding	Sliding - (WOB:35;GPM :277;TFO:165R))

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
19-Aug-13	10:55	11:20	0.42	5083	5105	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	11:20	11:30	0.17	5105	5105	MWD Survey	MWD Survey@5085' Inc 89° Azm 178.3°
19-Aug-13	11:30	11:55	0.42	5105	5135	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	11:55	12:05	0.17	5135	5135	Survey & Conn.	Survey & Conn.@5085' Inc 89° Azm 178.3°
19-Aug-13	12:05	12:30	0.42	5135	5167	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	12:30	12:40	0.17	5167	5167	MWD Survey	MWD Survey@5147' Inc 89.3° Azm 178.4°
19-Aug-13	12:40	13:10	0.50	5167	5197	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	13:10	13:25	0.25	5197	5197	Survey & Conn.	Survey & Conn.@5147' Inc 89.3° Azm 178.4°
19-Aug-13	13:25	13:55	0.50	5197	5228	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	13:55	14:10	0.25	5228	5228	Other	Other-Rig Service
19-Aug-13	14:10	14:20	0.17	5228	5228	MWD Survey	MWD Survey@5209' Inc 89.9° Azm 178.3°
19-Aug-13	14:20	14:55	0.58	5228	5259	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	14:55	15:05	0.17	5259	5259	Survey & Conn.	Survey & Conn.@5209' Inc 89.9° Azm 178.3°
19-Aug-13	15:05	15:35	0.50	5259	5290	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	15:35	15:45	0.17	5290	5290	MWD Survey	MWD Survey@5271' Inc 90.6° Azm 178.3°
19-Aug-13	15:45	16:20	0.58	5290	5321	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	16:20	16:35	0.25	5321	5321	Survey & Conn.	Survey & Conn.@5271' Inc 90.6° Azm 178.3°
19-Aug-13	16:35	16:55	0.33	5321	5329	Sliding	Sliding - (WOB:35;GPM :304;TFO:165R))
19-Aug-13	16:55	17:15	0.33	5329	5351	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	17:15	17:30	0.25	5351	5351	MWD Survey	MWD Survey@5332' Inc 89.5° Azm 177.8°
19-Aug-13	17:30	18:15	0.75	5351	5382	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	18:15	18:25	0.17	5382	5382	Survey & Conn.	Survey & Conn.@5332' Inc 89.5° Azm 177.8°
19-Aug-13	18:25	19:00	0.58	5382	5413	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	19:00	19:10	0.17	5413	5413	MWD Survey	MWD Survey@5394' Inc 90.1° Azm 177.7°
19-Aug-13	19:10	19:50	0.67	5413	5444	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	19:50	20:00	0.17	5444	5444	Survey & Conn.	Survey & Conn.@5394' Inc 90.1° Azm 177.7°
19-Aug-13	20:00	20:40	0.67	5444	5450	Sliding	Sliding - (WOB:35;GPM :304;TFO:165R)
19-Aug-13	20:40	21:15	0.58	5450	5475	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	21:15	21:25	0.17	5475	5475	MWD Survey	MWD Survey@5455' Inc 89.7° Azm 177.5°
19-Aug-13	21:25	22:00	0.58	5475	5506	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
19-Aug-13	22:00	22:10	0.17	5506	5506	Survey & Conn.	Survey & Conn.@5455' Inc 89.7° Azm 177.5°
19-Aug-13	22:10	22:45	0.58	5506	5536	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
19-Aug-13	22:45	22:55	0.17	5536	5536	MWD Survey	MWD Survey@5516' Inc 90° Azm 177.7°
19-Aug-13	22:55	23:30	0.58	5536	5566	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
19-Aug-13	23:30	23:40	0.17	5566	5566	Survey & Conn.	Survey & Conn.@5516' Inc 90° Azm 177.7°
19-Aug-13	23:40	24:00	0.33	5566	5575	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)



<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	8 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Tuesday, August 20, 2013 at 0000 to Tuesday, August 20, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters									
Start Depth	5575.00	Rotary Hours	15.50	WOB	15	Pick UP	110	Slack Off	55	SPM			
End Depth	6426.00	Circulating Hours	3.08	RAB	90	SPP	1800	FlowRate	280 - 304	110			
Total Drilled:	851.00	Avg. Total ROP:	48.17	<b>Mud Data</b>									
Total Rotary Drilled:	827.00	Avg. Rotary ROP:	53.35	Type	Water	PV	3	SOLID	0				
Total Drilled Sliding:	24.00	Avg. Slide ROP:	11.08	Weight	8.6	GAS	0	YP	2	BHT°	134.6		
Slide Hours:	2.17	Percent Rotary:	97.18	Viscosity	28	SAND	0	PH	8.5	Flow T°	90		
Below Rotary Hrs.	24.00	Percent Slide:	2.82	Chlorides	1.7	WL	99	Oil %	0				
PERSONNEL				CASING			BHA						
Lead Directional :	Robert Johnson			Size	Lb/ft	Set Depth	BHA # 3:6-1/8 Smith-MSI613-4-16's;2-12's;Jets , 1.5 Fixed MTR, 4 3/4 M/S Sub, 4 3/4 NMDC, 4 3/4 NMFC, ,						
Second Directional :	Bobby Hardcastle			9 5/8	36	1506							
MWD Operator1	Joe Meyer			7	26	4319							
MWD Operator2	Jarrod Camp			Signature: _____									
Directional Company:	Inwell, Inc.												
Geologist:													
Company Man:	Larry Miller												
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0						

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
20-Aug-13	00:00	00:25	0.42	5575	5596	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	00:25	00:35	0.17	5596	5596	MWD Survey	MWD Survey@5576' Inc 90.4° Azm 177.3°
20-Aug-13	00:35	01:10	0.58	5596	5626	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	01:10	01:20	0.17	5626	5626	Survey & Conn.	Survey & Conn.@5576' Inc 90.4° Azm 177.3°
20-Aug-13	01:20	02:10	0.83	5626	5634	Sliding	Sliding - (WOB:35;GPM :304;TFO:165R)
20-Aug-13	02:10	02:35	0.42	5634	5657	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	02:35	02:45	0.17	5657	5657	MWD Survey	MWD Survey@5638' Inc 89.7° Azm 177.4°
20-Aug-13	02:45	03:20	0.58	5657	5688	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	03:20	03:30	0.17	5688	5688	Survey & Conn.	Survey & Conn.@5638' Inc 89.7° Azm 177.4°
20-Aug-13	03:30	04:10	0.67	5688	5718	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	04:10	04:20	0.17	5718	5718	MWD Survey	MWD Survey@5699' Inc 89.5° Azm 177.4°
20-Aug-13	04:20	05:00	0.67	5718	5749	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	05:00	05:10	0.17	5749	5749	Survey & Conn.	Survey & Conn.@5699' Inc 89.5° Azm 177.4°
20-Aug-13	05:10	05:15	0.08	5749	5752	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	05:15	05:45	0.50	5752	5752	Circulating	Circulating-WITTS when down-Redone
20-Aug-13	05:45	06:45	1.00	5752	5781	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	06:45	07:00	0.25	5781	5781	MWD Survey	MWD Survey@5761' Inc 89.9° Azm 177.4°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
20-Aug-13	07:00	07:30	0.50	5781	5811	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	07:30	07:40	0.17	5811	5811	Survey & Conn.	Survey & Conn.@5761' Inc 89.9° Azm 177.4°
20-Aug-13	07:40	08:15	0.58	5811	5842	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	08:15	08:25	0.17	5842	5842	MWD Survey	MWD Survey@5822' Inc 90.1° Azm 177.1°
20-Aug-13	08:25	09:00	0.58	5842	5872	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	09:00	09:10	0.17	5872	5872	Survey & Conn.	Survey & Conn.@5822' Inc 90.1° Azm 177.1°
20-Aug-13	09:10	09:45	0.58	5872	5880	Sliding	Sliding - (WOB:35;GPM :304;TFO:160R))
20-Aug-13	09:45	10:10	0.42	5880	5903	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	10:10	10:20	0.17	5903	5903	MWD Survey	MWD Survey@5884' Inc 89.1° Azm 177.7°
20-Aug-13	10:20	10:55	0.58	5903	5934	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	10:55	11:05	0.17	5934	5934	Survey & Conn.	Survey & Conn.@5884' Inc 89.1° Azm 177.7°
20-Aug-13	11:05	11:40	0.58	5934	5964	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	11:40	11:55	0.25	5964	5964	Other	Other-Rig Service
20-Aug-13	11:55	12:05	0.17	5964	5964	MWD Survey	MWD Survey@5945' Inc 88.9° Azm 177.5°
20-Aug-13	12:05	12:25	0.33	5964	5986	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	12:25	12:55	0.50	5986	5986	Rig repair	Rig repair-Replace Clamp on # 2 Pump / #1 Being worked on.
20-Aug-13	12:55	13:10	0.25	5986	5995	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	13:10	13:20	0.17	5995	5995	Survey & Conn.	Survey & Conn.@5945' Inc 88.9° Azm 177.5°
20-Aug-13	13:20	13:55	0.58	5995	6026	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	13:55	14:05	0.17	6026	6026	MWD Survey	MWD Survey@6007' Inc 89.4° Azm 177.4°
20-Aug-13	14:05	14:35	0.50	6026	6057	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	14:35	14:45	0.17	6057	6057	Survey & Conn.	Survey & Conn.@6007' Inc 89.4° Azm 177.4°
20-Aug-13	14:45	15:20	0.58	6057	6088	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	15:20	15:30	0.17	6088	6088	MWD Survey	MWD Survey@6068' Inc 90° Azm 177.1°
20-Aug-13	15:30	16:00	0.50	6088	6118	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	16:00	16:10	0.17	6118	6118	Survey & Conn.	Survey & Conn.@6068' Inc 90° Azm 177.1°
20-Aug-13	16:10	16:45	0.58	6118	6149	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	16:45	16:55	0.17	6149	6149	MWD Survey	MWD Survey@6130' Inc 89.6° Azm 176.5°
20-Aug-13	16:55	17:30	0.58	6149	6180	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	17:30	17:40	0.17	6180	6180	Survey & Conn.	Survey & Conn.@6130' Inc 89.6° Azm 176.5°
20-Aug-13	17:40	18:25	0.75	6180	6211	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	18:25	18:35	0.17	6211	6211	MWD Survey	MWD Survey@6191' Inc 88.8° Azm 176.4°
20-Aug-13	18:35	19:10	0.58	6211	6241	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	19:10	19:20	0.17	6241	6241	Survey & Conn.	Survey & Conn.@6191' Inc 88.8° Azm 176.4°
20-Aug-13	19:20	19:40	0.33	6241	6272	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	19:40	19:50	0.17	6272	6272	MWD Survey	MWD Survey@6253' Inc 88.8° Azm 176.2°
20-Aug-13	19:50	20:15	0.42	6272	6303	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	20:15	20:25	0.17	6303	6303	MWD Survey	MWD Survey@6253' Inc 88.8° Azm 176.2°
20-Aug-13	20:25	20:50	0.42	6303	6334	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	20:50	21:00	0.17	6334	6334	MWD Survey	MWD Survey@6314' Inc 88.8° Azm 175.9°
20-Aug-13	21:00	21:45	0.75	6334	6342	Sliding	Sliding - (WOB:35;GPM :304;TFO:60R))
20-Aug-13	21:45	22:10	0.42	6342	6364	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	22:10	22:20	0.17	6364	6364	Survey & Conn.	Survey & Conn.@6314' Inc 88.8° Azm 175.9°
20-Aug-13	22:20	22:50	0.50	6364	6395	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	22:50	23:00	0.17	6395	6395	MWD Survey	MWD Survey@6376' Inc 89.5° Azm 176.3°
20-Aug-13	23:00	23:30	0.50	6395	6426	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
20-Aug-13	23:30	24:00	0.50	6426	6426	Survey & Conn.	Survey & Conn.@6376' Inc 89.5° Azm 176.3°



<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	9 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Wednesday, August 21, 2013 at 0000 to Wednesday, August 21, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	6426.00	Rotary Hours	7.83	WOB	8	Pick UP	110	Slack Off	55	SPM	
End Depth	6955.00	Circulating Hours	3.25	RAB	90	SPP	2200	FlowRate	277 - 304	100	
Total Drilled:	529.00	Avg. Total ROP:	47.37	Mud Data							
Total Rotary Drilled:	491.00	Avg. Rotary ROP:	62.68	Type	Water	PV	3	SOLID	0		
Total Drilled Sliding:	38.00	Avg. Slide ROP:	11.40	Weight	8.6	GAS	0	YP	2	BHT°	134.6
Slide Hours:	3.33	Percent Rotary:	92.82	Viscosity	28	SAND	0	PH	8.5	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	7.18	Chlorides	1.7	WL	99	Oil %	0		

PERSONNEL			CASING			BHA	
Lead Directional :	Robert Johnson		Size	Lb/ft	Set Depth	BHA # 4:MSi713, 1.5 Fixed Mtr., 4 3/4 M/S Sub, 4 3/4 NMDC, 4 3/4 NMFC, ,	
Second Directional :	Bobby Hardcastle		9 5/8	36	1506		
MWD Operator1	Joe Meyer		7	26	4319		
MWD Operator2	Jarrod Camp		Signature: _____				
Directional Company:	Inwell, Inc.						
Geologist:							
Company Man:	Larry Miller						
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
21-Aug-13	00:00	00:30	0.50	6426	6457	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	00:30	00:40	0.17	6457	6457	MWD Survey	MWD Survey@6437' Inc 88.9° Azm 176°
21-Aug-13	00:40	01:05	0.42	6457	6487	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	01:05	01:15	0.17	6487	6487	Survey & Conn.	Survey & Conn.@6437' Inc 88.9° Azm 176°
21-Aug-13	01:15	01:45	0.50	6487	6518	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	01:45	01:55	0.17	6518	6518	MWD Survey	MWD Survey@6499' Inc 89.1° Azm 175.5°
21-Aug-13	01:55	02:40	0.75	6518	6526	Sliding	Sliding - (WOB:35;GPM :304;TFO:60R)
21-Aug-13	02:40	03:05	0.42	6526	6549	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	03:05	03:15	0.17	6549	6549	Survey & Conn.	Survey & Conn.@6499' Inc 89.1° Azm 175.5°
21-Aug-13	03:15	03:40	0.42	6549	6580	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	03:40	03:50	0.17	6580	6580	MWD Survey	MWD Survey@6560' Inc 89.4° Azm 176°
21-Aug-13	03:50	04:10	0.33	6580	6610	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	04:10	04:20	0.17	6610	6610	Survey & Conn.	Survey & Conn.@6560' Inc 89.4° Azm 176°
21-Aug-13	04:20	04:50	0.50	6610	6640	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	04:50	05:00	0.17	6640	6640	MWD Survey	MWD Survey@6621' Inc 89.6° Azm 175.7°
21-Aug-13	05:00	05:30	0.50	6640	6671	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	05:30	05:40	0.17	6671	6671	Survey & Conn.	Survey & Conn.@6621' Inc 89.6° Azm 175.7°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
21-Aug-13	05:40	06:55	1.25	6671	6686	Sliding	Sliding - (WOB:35;GPM :304;TFO:95R))
21-Aug-13	06:55	07:25	0.50	6686	6702	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	07:25	07:35	0.17	6702	6702	MWD Survey	MWD Survey@6683' Inc 89.4° Azm 176.5°
21-Aug-13	07:35	08:00	0.42	6702	6733	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	08:00	08:10	0.17	6733	6733	Survey & Conn.	Survey & Conn.@6683' Inc 89.4° Azm 176.5°
21-Aug-13	08:10	08:40	0.50	6733	6763	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	08:40	08:55	0.25	6763	6763	MWD Survey	MWD Survey@6744' Inc 88.9° Azm 175.9°
21-Aug-13	08:55	10:15	1.33	6763	6778	Sliding	Sliding - (WOB:35;GPM :304;TFO:95R)
21-Aug-13	10:15	10:45	0.50	6778	6794	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	10:45	10:55	0.17	6794	6794	Survey & Conn.	Survey & Conn.@6744' Inc 88.9° Azm 175.9°
21-Aug-13	10:55	11:15	0.33	6794	6825	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	11:15	11:25	0.17	6825	6825	MWD Survey	MWD Survey@6806' Inc 89.7° Azm 176°
21-Aug-13	11:25	11:50	0.42	6825	6856	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	11:50	12:00	0.17	6856	6856	Survey & Conn.	Survey & Conn.@6806' Inc 89.7° Azm 176°
21-Aug-13	12:00	12:25	0.42	6856	6886	Drilling	Drilling - (WOB:15;GPM :280;RPM:75)
21-Aug-13	12:25	12:35	0.17	6886	6886	MWD Survey	MWD Survey@6867' Inc 89.8° Azm 175.7°
21-Aug-13	12:35	13:05	0.50	6886	6906	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
21-Aug-13	13:05	14:00	0.92	6906	6906	Circulating	Circulating-Check survey @ 6855' 89.9 ang. 175.9 Azm.
21-Aug-13	14:00	16:45	2.75	6906	6906	POOH	POOH
21-Aug-13	16:45	19:00	2.25	6906	6906	Change BHA	Change BHA
21-Aug-13	19:00	22:15	3.25	6906	6906	TIH	TIH
21-Aug-13	22:15	23:00	0.75	6906	6906	Circulating	Circulating_Wash to BTM
21-Aug-13	23:00	23:10	0.17	6906	6917	Drilling	Drilling - (WOB:15;GPM :277;RPM:75)
21-Aug-13	23:10	23:20	0.17	6917	6917	Survey & Conn.	Survey & Conn.@6867' Inc 89.8° Azm 175.7°
21-Aug-13	23:20	23:45	0.42	6917	6948	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
21-Aug-13	23:45	23:55	0.17	6948	6948	MWD Survey	MWD Survey@6929' Inc 90.7° Azm 175.7°
21-Aug-13	23:55	24:00	0.08	6948	6955	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)



<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	10 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Thursday, August 22, 2013 at 0000 to Thursday, August 22, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters									
Start Depth	6955.00	Rotary Hours	12.67	WOB	12	Pick UP	110	Slack Off	55	SPM			
End Depth	7700.00	Circulating Hours	2.08	RAB	90	SPP	2200	FlowRate	277 - 304	100			
Total Drilled:	745.00	Avg. Total ROP:	37.41	<b>Mud Data</b>									
Total Rotary Drilled:	670.00	Avg. Rotary ROP:	52.89	Type	Water	PV	3	SOLID	0				
Total Drilled Sliding:	75.00	Avg. Slide ROP:	10.34	Weight	8.6	GAS	0	YP	2	BHT°	134.6		
Slide Hours:	7.25	Percent Rotary:	89.93	Viscosity	28	SAND	0	PH	8.5	Flow T°	90		
Below Rotary Hrs.	24.00	Percent Slide:	10.07	Chlorides	1.7	WL	99	Oil %	0				
PERSONNEL				CASING			BHA						
Lead Directional :	Robert Johnson			Size	Lb/ft	Set Depth	BHA # 4:MSi713, 1.5 Fixed Mtr., 4 3/4 M/S Sub, 4 3/4 NMDC, 4 3/4 NMFC, ,						
Second Directional :	Bobby Hardcastle			9 5/8	36	1506							
MWD Operator1	Joe Meyer			7	26	4319							
MWD Operator2	Jarrod Camp			Signature: _____									
Directional Company:	Inwell, Inc.												
Geologist:													
Company Man:	Larry Miller												
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0						

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
22-Aug-13	00:00	00:15	0.25	6955	6979	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	00:15	00:25	0.17	6979	6979	Survey & Conn.	Survey & Conn.@6929' Inc 90.7° Azm 175.7°
22-Aug-13	00:25	00:45	0.33	6979	7009	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	00:45	00:55	0.17	7009	7009	MWD Survey	MWD Survey@6959' Inc 91° Azm 175.4°
22-Aug-13	00:55	01:15	0.33	7009	7040	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	01:15	01:25	0.17	7040	7040	Survey & Conn.	Survey & Conn.@6959' Inc 91° Azm 175.4°
22-Aug-13	01:25	02:10	0.75	7040	7071	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	02:10	02:20	0.17	7071	7071	MWD Survey	MWD Survey@6959' Inc 91° Azm 175.4°
22-Aug-13	02:20	03:00	0.67	7071	7079	Sliding	Sliding - (WOB:35;GPM :304;TFO:95R))
22-Aug-13	03:00	03:30	0.50	7079	7101	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	03:30	03:40	0.17	7101	7101	Survey & Conn.	Survey & Conn.@6959' Inc 91° Azm 175.4°
22-Aug-13	03:40	04:05	0.42	7101	7132	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	04:05	04:15	0.17	7132	7132	MWD Survey	MWD Survey@6959' Inc 91° Azm 175.4°
22-Aug-13	04:15	04:40	0.42	7132	7140	Sliding	Sliding - (WOB:35;GPM :304;TFO:150R)
22-Aug-13	04:40	05:00	0.33	7140	7163	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	05:00	05:10	0.17	7163	7163	Survey & Conn.	Survey & Conn.@7113_Inc 91.3° Azm 175.6°
22-Aug-13	05:10	05:40	0.50	7163	7194	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
22-Aug-13	05:40	05:50	0.17	7194	7194	MWD Survey	MWD Survey@7144_Inc 90.4°_Az 175.9°
22-Aug-13	05:50	06:15	0.42	7194	7203	Sliding	Sliding - (WOB:35;GPM :304;TFO:165R))
22-Aug-13	06:15	06:40	0.42	7203	7225	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	06:40	06:50	0.17	7225	7225	Survey & Conn.	Survey & Conn.@7175_Inc 90.3°_Az 176°
22-Aug-13	06:50	07:10	0.33	7225	7255	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	07:10	07:20	0.17	7255	7255	MWD Survey	MWD Survey@7205_Inc 89.8°_Az 176.4°
22-Aug-13	07:20	08:15	0.92	7255	7286	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	08:15	08:25	0.17	7286	7286	Survey & Conn.	Survey & Conn.@7236_Inc 90.2°_Az 176.2°
22-Aug-13	08:25	08:55	0.50	7286	7317	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	08:55	09:05	0.17	7317	7317	MWD Survey	MWD Survey@7267_Inc 90.6°_Az 176.°
22-Aug-13	09:05	10:05	1.00	7317	7325	Sliding	Sliding - (WOB:35;GPM :304;TFO:165R)
22-Aug-13	10:05	10:25	0.33	7325	7348	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	10:25	10:35	0.17	7348	7348	Survey & Conn.	Survey & Conn.@7298_Inc 90.9°_Az 175.8°
22-Aug-13	10:35	11:00	0.42	7348	7379	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	11:00	11:10	0.17	7379	7379	MWD Survey	MWD Survey@7329_Inc 90.1°_Az 175.8°
22-Aug-13	11:10	11:35	0.42	7379	7409	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	11:35	11:45	0.17	7409	7409	Survey & Conn.	Survey & Conn.@7359_Inc 90.2°_Az 175.7°
22-Aug-13	11:45	12:25	0.67	7409	7417	Sliding	Sliding - (WOB:35;GPM :304;TFO:150R))
22-Aug-13	12:25	13:00	0.58	7417	7440	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	13:00	13:15	0.25	7440	7440	MWD Survey	MWD Survey@7390_Inc 91.1°_Az °
22-Aug-13	13:15	13:55	0.67	7440	7471	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	13:55	14:05	0.17	7471	7471	Survey & Conn.	Survey & Conn.@7421_Inc 90.3°_Az 176.2°
22-Aug-13	14:05	14:40	0.58	7471	7479	Sliding	Sliding - (WOB:35;GPM :304;TFO:150R)
22-Aug-13	14:40	15:10	0.50	7479	7502	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	15:10	15:20	0.17	7502	7502	MWD Survey	MWD Survey@7452_Inc 90.7°_Az 176.5°
22-Aug-13	15:20	16:10	0.83	7502	7510	Sliding	Sliding - (WOB:35;GPM :304;TFO:150R)
22-Aug-13	16:10	16:45	0.58	7510	7533	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	16:45	16:55	0.17	7533	7533	Survey & Conn.	Survey & Conn.@7483_Inc 90.3°_Az 176.5°
22-Aug-13	16:55	17:35	0.67	7533	7564	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	17:35	17:45	0.17	7564	7564	MWD Survey	MWD Survey@7572_Inc 89.8°_Az 176.3°
22-Aug-13	17:45	18:50	1.08	7564	7572	Sliding	Sliding - (WOB:8;GPM :277;TFO:0))
22-Aug-13	18:50	19:25	0.58	7572	7595	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	19:25	19:35	0.17	7595	7595	Survey & Conn.	Survey & Conn.@7545_Inc 90.1°_Az 176.1°
22-Aug-13	19:35	20:15	0.67	7595	7626	Drilling	Drilling - (WOB:8;GPM :277;RPM:70)
22-Aug-13	20:15	20:25	0.17	7626	7626	MWD Survey	MWD Survey@7576_Inc 89.6°_Az 176.4°
22-Aug-13	20:25	21:00	0.58	7626	7657	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
22-Aug-13	21:00	21:10	0.17	7657	7657	Survey & Conn.	Survey & Conn.@7607_Inc 90.4°_Az 176.1°
22-Aug-13	21:10	22:10	1.00	7657	7659	Sliding	Sliding - (WOB:8;GPM :277;TFO:150R)
22-Aug-13	22:10	22:15	0.08	7659	7661	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
22-Aug-13	22:15	22:50	0.58	7661	7669	Sliding	Sliding - (WOB:8;GPM :277;TFO:150R)
22-Aug-13	22:50	23:30	0.67	7669	7688	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
22-Aug-13	23:30	23:40	0.17	7688	7688	MWD Survey	MWD Survey@7638_Inc 90.4°_Az 176.1°
22-Aug-13	23:40	24:00	0.33	7688	7700	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)





<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	11 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Friday, August 23, 2013 at 0000 to Friday, August 23, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	7700.00	Rotary Hours	8.15	WOB	12	Pick UP	110	Slack Off	55	SPM	
End Depth	8120.00	Circulating Hours	2.17	RAB	90	SPP	2200	FlowRate	277 - 277	100	
Total Drilled:	419.00	Avg. Total ROP:	40.29	<b>Mud Data</b>							
Total Rotary Drilled:	385.00	Avg. Rotary ROP:	47.24	Type	Water	PV	3	SOLID	0		
Total Drilled Sliding:	34.00	Avg. Slide ROP:	15.11	Weight	8.6	GAS	0	YP	2	BHT°	134.6
Slide Hours:	2.25	Percent Rotary:	91.89	Viscosity	28	SAND	0	PH	8.5	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	8.11	Chlorides	1.7	WL	99	Oil %	0		

PERSONNEL			CASING			BHA	
Lead Directional :	Robert Johnson		Size	Lb/ft	Set Depth	BHA # 5:MSi713, 1.5 Fixed Mtr., 4 3/4 M/S Sub, 4 3/4 NMDC, 4 3/4 NMFC, ,	
Second Directional :	Bobby Hardcastle		9 5/8	36	1506		
MWD Operator1	Joe Meyer		7	26	4319		
MWD Operator2	Jarrod Camp		Signature: _____				
Directional Company:	Inwell, Inc.						
Geologist:							
Company Man:	Larry Miller						
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
23-Aug-13	00:00	00:15	0.25	7700	7719	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	00:15	00:25	0.17	7719	7719	Survey & Conn.	Survey & Conn.@7669_Inc 90.2°_Az m 175.8°
23-Aug-13	00:25	01:00	0.58	7719	7750	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	01:00	01:10	0.17	7750	7750	MWD Survey	MWD Survey@7700_Inc 90.2°_Az m 176°
23-Aug-13	01:10	01:50	0.67	7750	7780	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	01:50	02:00	0.17	7780	7780	Survey & Conn.	Survey & Conn.@7730_Inc 90.2°_Az m 175.9°
23-Aug-13	02:00	02:01	0.02	7780	7781		
23-Aug-13	02:01	02:40	0.65	7781	7811	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	02:40	02:50	0.17	7811	7811	MWD Survey	MWD Survey@7761_Inc 90.7°_Az m 176.2°
23-Aug-13	02:50	03:25	0.58	7811	7842	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	03:25	03:35	0.17	7842	7842	Survey & Conn.	Survey & Conn.@7792_Inc 91°_Az m 176°
23-Aug-13	03:35	04:45	1.17	7842	7860	Sliding	Sliding - (WOB:8;GPM :277;TFO:180))
23-Aug-13	04:45	05:10	0.42	7860	7873	Drilling	Drilling - (WOB:12; :277;RPM:65)
23-Aug-13	05:10	05:20	0.17	7873	7873	MWD Survey	MWD Survey@7823_Inc 91.4°_Az m 176°
23-Aug-13	05:20	05:35	0.25	7873	7882	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	05:35	06:00	0.42	7882	7882	Circulating	Circulating
23-Aug-13	06:00	09:20	3.33	7882	7882	POOH	POOH

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
23-Aug-13	09:20	10:30	1.17	7882	7882	Change BHA	Change BHA
23-Aug-13	10:30	10:45	0.25	7882	7882	Circulating	Circulating-Surface test Motor & MWD
23-Aug-13	10:45	13:00	2.25	7882	7882	TIH	TIH T/ 4303'
23-Aug-13	13:00	14:20	1.33	7882	7882	Other	Other-Slip & Cut Drill Line
23-Aug-13	14:20	16:30	2.17	7882	7882	TIH	
23-Aug-13	16:30	17:00	0.50	7882	7882	Circulating	Circulating-Washed to Bottom -ch.Shot.7836'-91.3-175.8
23-Aug-13	17:00	17:45	0.75	7882	7904	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	17:45	17:55	0.17	7904	7904	Survey & Conn.	Survey & Conn.@7854_Inc 90.3°_Azm 175.4°
23-Aug-13	17:55	18:35	0.67	7904	7935	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	18:35	18:45	0.17	7935	7935	MWD Survey	MWD Survey@7885_Inc 90.2°_Azm 175.4°
23-Aug-13	18:45	19:20	0.58	7935	7943	Sliding	Sliding - (WOB:8;GPM :277;TFO:180)
23-Aug-13	19:20	19:45	0.42	7943	7966	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	19:45	19:55	0.17	7966	7966	Survey & Conn.	Survey & Conn.@7916_Inc 90.8°_Azm 175.3°
23-Aug-13	19:55	20:25	0.50	7966	7974	Sliding	Sliding - (WOB:8;GPM :277;TFO:180)
23-Aug-13	20:25	20:55	0.50	7974	7996	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	20:55	21:05	0.17	7996	7996	MWD Survey	MWD Survey@7946_Inc 89.9°_Azm 175.7°
23-Aug-13	21:05	21:45	0.67	7996	8027	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	21:45	21:55	0.17	8027	8027	Survey & Conn.	Survey & Conn.@8008_Inc 88.8°_Azm 175.2°
23-Aug-13	21:55	22:35	0.67	8027	8058	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	22:35	22:45	0.17	8058	8058	MWD Survey	MWD Survey@8008_Inc 89°_Azm 175.3°
23-Aug-13	22:45	23:15	0.50	8058	8089	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
23-Aug-13	23:15	23:25	0.17	8089	8089	Survey & Conn.	Survey & Conn.@8039_Inc 89.3°_Azm 175.2°
23-Aug-13	23:25	24:00	0.58	8089	8120	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)



<b>JOB NO.:</b>	13200	<b>Report Time:</b>	2400	12 of 12
<b>Company:</b>	Unit Petroleum	<b>API JOB #</b>		
<b>LOCATION:</b>	Reno County	<b>WORK ORDER#</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>FIELD:</b>	Mississippi Lime	
<b>STATE:</b>	Kansas	<b>Township:</b>		
<b>COUNTY:</b>	Reno County	<b>SECTRANGE:</b>		
<b>WELL NAME:</b>	Loudenback 18 #1H			

From Saturday, August 24, 2013 at 0000 to Saturday, August 24, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	7700.00	Rotary Hours	8.15	WOB	12	Pick UP	110	Slack Off	55	SPM	
End Depth	8120.00	Circulating Hours	2.17	RAB	90	SPP	2200	FlowRate	277 - 277	100	
Total Drilled:	419.00	Avg. Total ROP:	40.29	<b>Mud Data</b>							
Total Rotary Drilled:	385.00	Avg. Rotary ROP:	47.24	Type	Water	PV	3	SOLID	0		
Total Drilled Sliding:	34.00	Avg. Slide ROP:	15.11	Weight	8.6	GAS	0	YP	2	BHT°	134.6
Slide Hours:	2.25	Percent Rotary:	91.89	Viscosity	28	SAND	0	PH	8.5	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	8.11	Chlorides	1.7	WL	99	Oil %	0		

PERSONNEL			CASING			BHA	
Lead Directional :	Robert Johnson		Size	Lb/ft	Set Depth	BHA # 5:MSi713, 1.5 Fixed Mtr., 4 3/4 M/S Sub, 4 3/4 NMDC, 4 3/4 NMFC, ,	
Second Directional :	Bobby Hardcastle		9 5/8	36	1506		
MWD Operator1	Joe Meyer		7	26	4319		
MWD Operator2	Jarrod Camp		Signature: _____				
Directional Company:	Inwell, Inc.						
Geologist:							
Company Man:	Larry Miller						
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
24-Aug-13	00:00	00:10	0.17	8120	8120	MWD Survey	MWD Survey@8070_Inc 89.6°_Azm 175.4°
24-Aug-13	00:10	00:50	0.67	8120	8151	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
24-Aug-13	00:50	01:00	0.17	8151	8151	Survey & Conn.	Survey & Conn.@8101_Inc 90°_Azm 175°
24-Aug-13	01:00	01:30	0.50	8151	8159	Sliding	Sliding - (WOB:8;GPM :277;TFO:180)
24-Aug-13	01:30	02:00	0.50	8159	8182	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
24-Aug-13	02:00	02:10	0.17	8182	8182	MWD Survey	MWD Survey@8132_Inc 90.7°_Azm 175°
24-Aug-13	02:10	02:45	0.58	8182	8212	Drilling	Drilling - (WOB:12;GPM :277;RPM:65)
24-Aug-13	02:45	02:55	0.17	8212	8212	Survey & Conn.	Survey & Conn.@8162_Inc 89.4°_Azm 175.9°
24-Aug-13	02:55	03:35	0.67	8212	8243	Drilling	Drilling - (WOB:12; :277;RPM:65)
24-Aug-13	03:35	03:45	0.17	8243	8243	MWD Survey	MWD Survey@8193_Inc 89.6°_Azm 175.8°
24-Aug-13	03:45	04:25	0.67	8243	8274	Drilling	Drilling - (WOB:12; :277;RPM:65)
24-Aug-13	04:25	04:35	0.17	8274	8274	Survey & Conn.	Survey & Conn.@8224_Inc 89.9°_Azm 175.6°
24-Aug-13	04:35	05:00	0.42	8274	8305	Drilling	Drilling - (WOB:12; :277;RPM:65)

**BHA # 1**

# Mud Motor Report



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller

**Motor Failed?: NO**

Time and Depths (This BHA)	MOTOR DATA	Drilling Parameters
<b>Date In:</b> 15-Aug-13 @ 08:45	<b>Desc:</b> Curve Assembly	<b>SO/PU:</b> 0 - 110 0-110
<b>Date Out:</b> 17-Aug-13 @ 21:15	<b>MFG.:</b> InWell	<b>Rot Wt:</b> 0-110
<b>Hrs In Hole:</b> 60.50	<b>BHA Circ/ All BHA:</b> 28.83 / 28.17	<b>WOB:</b> 0 - 35
<b>Start Depth:</b> 3271.00	<b>Motor SN:</b> 675037	<b>TORQ:</b> 0 - 0
<b>End Depth:</b> 4319.00	<b>Pad OD:</b> 7 5/16	<b>SPP:</b> 0 - 1980
<b>Total Drilled:</b> 1048.00	<b>NB Stab:</b> 0	<b>Motor RPM:</b> - 144
<b>Avg. Total ROP:</b> 45.40	<b>Bit to Bend:</b> 5.66	<b>Rotary RPM:</b> 0 - 45
<b>Circ Hrs:Tot/Only</b> 28.83 / 5.75	<b>Bent Hsg / Sub:</b> 2 / 2	<b>Flow Rate:</b> 0 - 500
<b>Percent Slide:</b> 79.87	<b>Lobe/Stage:</b> 7/8 / 5	<b>Avg Diff:</b>
<b>Percent Hrs:</b> 83.39	<b>Rev/GAL:</b> 0.288	<b>Stall Pres.:</b>
<b>Slide Hours:</b> 19.25	<b>Rotor Jet:</b> 0	<b>Off Bot Pres.:</b>
<b>Total Sliding:</b> 837.00	<b>Prop BUR:</b> 12	<b>Bit Record</b>
<b>Avg. Slide ROP:</b> 43.48	<b>Act BUR:</b>	SMITH / MS1516
<b>Percent Rotary:</b> 20.13	<b>Stator Clearance:</b>	<b>Run #:</b>
<b>Percent Hrs:</b> 16.61	<b>Lower Stab OD:</b>	<b>Type Bit:</b> PDC
<b>Rot / Total Hrs:</b> 3.83 / 23.08	<b>Upper Stab OD:</b>	<b>IADC#:</b> TFA: 0.751
<b>Rotary Drilled:</b> 211.00	<b>Extended Motor?</b> NO	<b>JETS:</b> 5-14
<b>Avg. Rotary ROP:</b> 55.04	<b>Number of Stalls:</b>	<b>Bit Drop:</b> 404 PSI @ 500 GPM
<b>Reason POOH:</b>	<b>Stall Duration:</b>	<b>Cond.:</b>

**Mud Data**

**Type** Water Base **WT:** 9.9 **Vis:** 35 **WL:** 8 **PV:** 11 **Flow T °:** 90  
**SAND** 0 **Chlor:** 3800 **GAS** 0 **SOL:** 11.2 **Oil %:** 0 **YP:** 15 **PH:** 11.5 **Bottom Hole T °:** 120

**Formation:****EXPANDED REASON PULLED:**

Landed Curve

**BHA PERFORMANCE:**

Good Run

**ADDITIONAL COMMENTS:** (Expands to next page if necessary)

**BHA # 2****Mud Motor Report**

**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller

**Motor Failed?: NO**

Time and Depths (This BHA)	MOTOR DATA	Drilling Parameters
<b>Date In:</b> 17-Aug-13 @ 21:15	<b>Desc:</b> 6-1/8 Slick Assembly	<b>SO/PU:</b> 0 - 70 0-100
<b>Date Out:</b> 19-Aug-13 @ 07:45	<b>MFG.:</b> Inwell	<b>Rot Wt:</b> 0-85
<b>Hrs In Hole:</b> 34.33	<b>BHA Circ/ All BHA:</b> 22.32 / 21.98	<b>WOB:</b> 6 - 35
<b>Start Depth:</b> 4319.00	<b>Motor SN:</b> 475-003	<b>TORQ:</b> 120 - 120
<b>End Depth:</b> 5073.00	<b>Pad OD:</b> 5.0	<b>SPP:</b> 900 - 1400
<b>Total Drilled:</b> 753.00	<b>NB Stab:</b> 0	<b>Motor RPM:</b> 144
<b>Avg. Total ROP:</b> 42.46	<b>Bit to Bend:</b> 4.32	<b>Rotary RPM:</b> 45 - 75
<b>Circ Hrs:Tot/Only</b> 22.32 / 4.58	<b>Bent Hsg / Sub:</b> 1.5 / 1.5	<b>Flow Rate:</b> 200 - 277
<b>Percent Slide:</b> 6.64	<b>Lobe/Stage:</b> 7/8 / 3.8	<b>Avg Diff:</b>
<b>Percent Hrs:</b> 18.33	<b>Rev/GAL:</b> 0.521	<b>Stall Pres.:</b>
<b>Slide Hours:</b> 3.25	<b>Rotor Jet:</b> 0	<b>Off Bot Pres.:</b>
<b>Total Sliding:</b> 50.00	<b>Prop BUR:</b>	<b>Bit Record</b>
<b>Avg. Slide ROP:</b> 15.38	<b>Act BUR:</b>	SMITH / 6-1/8 Smith-MSi613-
<b>Percent Rotary:</b> 93.36	<b>Stator Clearance:</b>	<b>Run #:</b> 3
<b>Percent Hrs:</b> 81.67	<b>Lower Stab OD:</b>	<b>Type Bit:</b> PDC
<b>Rot / Total Hrs:</b> 14.48 / 17.73	<b>Upper Stab OD:</b>	<b>IADC#:</b> TFA: 1.006
<b>Rotary Drilled:</b> 703.00	<b>Extended Motor?</b> NO	<b>JETS:</b> 2-12,4-16
<b>Avg. Rotary ROP:</b> 48.54	<b>Number of Stalls:</b>	<b>Bit Drop:</b> 0 PSI @ 277 GPM
<b>Reason POOH:</b> PR	<b>Stall Duration:</b>	<b>Cond.:</b>

**Mud Data**

**Type** WT: 0 Vis: 0 WL: 0 PV: 0 Flow T %: 0  
**SAND** 0 Chlor: 0 GAS 0 SOL: 0 Oil %: 0 YP: 0 PH: 0 Bottom Hole T %: 0

**Formation:****EXPANDED REASON PULLED:**

Penetration Rate and NOT Getting Build Rate When Sliding

**BHA PERFORMANCE:**

Good Run

**ADDITIONAL COMMENTS:** (Expands to next page if necessary)

**BHA # 3****Mud Motor Report**

**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller

**Motor Failed?: NO**

Time and Depths (This BHA)	MOTOR DATA	Drilling Parameters
<b>Date In:</b> 19-Aug-13 @ 07:45	<b>Desc:</b> 6-1/8 Slick Assembly	<b>SO/PU:</b> 55 - 70 100-110
<b>Date Out:</b> 21-Aug-13 @ 19:00	<b>MFG.:</b> Inwell	<b>Rot Wt:</b> 85-90
<b>Hrs In Hole:</b> 59.25	<b>BHA Circ/ All BHA:</b> 45.83 / 45.83	<b>WOB:</b> 15 - 35
<b>Start Depth:</b> 5073.00	<b>Motor SN:</b> 475-020	<b>TORQ:</b> 120 - 400
<b>End Depth:</b> 6906.00	<b>Pad OD:</b> 5	<b>SPP:</b> 1400 - 2200
<b>Total Drilled:</b> 1833.00	<b>NB Stab:</b> 0	<b>Motor RPM:</b> 144 - 158
<b>Avg. Total ROP:</b> 47.61	<b>Bit to Bend:</b> 4.32	<b>Rotary RPM:</b> 75 - 75
<b>Circ Hrs:Tot/Only</b> 45.83 / 7.33	<b>Bent Hsg / Sub:</b> 1.5 / 1.5 °	<b>Flow Rate:</b> 277 - 304
<b>Percent Slide:</b> 4.58	<b>Lobe/Stage:</b> 7/8 / 3.8	<b>Avg Diff:</b>
<b>Percent Hrs:</b> 17.75	<b>Rev/GAL:</b> 0.521	<b>Stall Pres.:</b>
<b>Slide Hours:</b> 6.83	<b>Rotor Jet:</b> 0	<b>Off Bot Pres.:</b>
<b>Total Sliding:</b> 84.00	<b>Prop BUR:</b> 10	<b>Bit Record</b>
<b>Avg. Slide ROP:</b> 12.29	<b>Act BUR:</b>	SMITH / 6-1/8 Smith-MSi613-
<b>Percent Rotary:</b> 95.42	<b>Stator Clearance:</b>	<b>Run #:</b> 4
<b>Percent Hrs:</b> 82.25	<b>Lower Stab OD:</b>	<b>Type Bit:</b> PDC
<b>Rot / Total Hrs:</b> 31.67 / 38.50	<b>Upper Stab OD:</b>	<b>IADC#:</b> TFA: 0.81
<b>Rotary Drilled:</b> 1749.00	<b>Extended Motor?</b> NO	<b>JETS:</b> 2-12,3-16
<b>Avg. Rotary ROP:</b> 55.23	<b>Number of Stalls:</b>	<b>Bit Drop:</b> 112 PSI @ 304 GPM
<b>Reason POOH:</b> HR	<b>Stall Duration:</b>	<b>Cond.:</b> Cored/DBR

**Mud Data**

**Type** Water **WT:** 8.6 **Vis:** 28 **WL:** 99 **PV:** 3 **Flow T °:** 90  
**SAND** 0 **Chlor:** 1.7 **GAS** 0 **SOL:** 0 **Oil %:** 0 **YP:** 2 **PH:** 8.5 **Bottom Hole T °:** 134.6

**Formation:****EXPANDED REASON PULLED:**

Hours on BHA

**BHA PERFORMANCE:**

Good Run

**ADDITIONAL COMMENTS: (Expands to next page if necessary)**

Found sleeve and kick pad worn back to body of motor, top protective ring on motor and rest of BHA was fine.

**BHA # 4**

# Mud Motor Report



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller

**Motor Failed?: NO**

Time and Depths (This BHA)	MOTOR DATA	Drilling Parameters
<b>Date In:</b> 21-Aug-13 @ 19:00	<b>Desc:</b> 6-1/8 Slick Assembly	<b>SO/PU:</b> 55 - 55 110-110
<b>Date Out:</b> 23-Aug-13 @ 10:30	<b>MFG.:</b> Inwell	<b>Rot Wt:</b> 90-90
<b>Hrs In Hole:</b> 39.50	<b>BHA Circ/ All BHA:</b> 29.07 / 29.07	<b>WOB:</b> 8 - 35
<b>Start Depth:</b> 6906.00	<b>Motor SN:</b> 475017	<b>TORQ:</b> 400 - 400
<b>End Depth:</b> 7882.00	<b>Pad OD:</b>	<b>SPP:</b> 2200 - 2200
<b>Total Drilled:</b> 975.00	<b>NB Stab:</b> 0	<b>Motor RPM:</b> 144 - 158
<b>Avg. Total ROP:</b> 38.77	<b>Bit to Bend:</b> 4.43	<b>Rotary RPM:</b> 65 - 75
<b>Circ Hrs:Tot/Only</b> 29.07 / 3.92	<b>Bent Hsg / Sub:</b> 1.5 /	<b>Flow Rate:</b> 277 - 304
<b>Percent Slide:</b> 9.54	<b>Lobe/Stage:</b> 7/8 / 3.8	<b>Avg Diff:</b>
<b>Percent Hrs:</b> 33.47	<b>Rev/GAL:</b> 0.521	<b>Stall Pres.:</b>
<b>Slide Hours:</b> 8.42	<b>Rotor Jet:</b> 10	<b>Off Bot Pres.:</b>
<b>Total Sliding:</b> 93.00	<b>Prop BUR:</b>	<b>Bit Record</b>
<b>Avg. Slide ROP:</b> 11.05	<b>Act BUR:</b>	SMITH / MSI713
<b>Percent Rotary:</b> 90.46	<b>Stator Clearance:</b>	<b>Run #:</b> 5
<b>Percent Hrs:</b> 66.53	<b>Lower Stab OD:</b>	<b>Type Bit:</b>
<b>Rot / Total Hrs:</b> 16.73 / 25.15	<b>Upper Stab OD:</b>	<b>IADC#:</b> TFA: 1.202
<b>Rotary Drilled:</b> 882.00	<b>Extended Motor?</b> NO	<b>JETS:</b> 2-12,5-16
<b>Avg. Rotary ROP:</b> 52.71	<b>Number of Stalls:</b>	<b>Bit Drop:</b> 51 PSI @ 304 GPM
<b>Reason POOH:</b>	<b>Stall Duration:</b>	<b>Cond.:</b>

**Mud Data**

**Type** Water **WT:** 8.6 **Vis:** 28 **WL:** 99 **PV:** 3 **Flow T °:** 90  
**SAND** 0 **Chlor:** 1.7 **GAS** 0 **SOL:** 0 **Oil %:** 0 **YP:** 2 **PH:** 8.5 **Bottom Hole T °:** 134.6

**Formation:****EXPANDED REASON PULLED:**

ROP slowed down and troque started increasing

**BHA PERFORMANCE:**

do good

**ADDITIONAL COMMENTS: (Expands to next page if necessary)**

**BHA # 5**

**Mud Motor Report**



**JOB NO.:** 13200  
**Company:** Unit Petroleum  
**LOCATION:** Reno County  
**RIG NAME:** Unit Texas #331  
**STATE:** Kansas  
**COUNTY:** Reno County  
**WELL NAME:** Loudenback 18 #1H

**FIELD:** Mississippi Lime  
**Township:**  
**Range**  
**Lead DD:** Robert Johnson  
**Co. Man:** Larry Miller

**Motor Failed?: NO**

Time and Depths (This BHA)	MOTOR DATA	Drilling Parameters
<b>Date In:</b> 23-Aug-13 @ 10:30	<b>Desc:</b>	<b>SO/PU:</b> 0 - 55 0-110
<b>Date Out:</b> 24-Aug-13 @ 05:00	<b>MFG.:</b>	<b>Rot Wt:</b> 0-90
<b>Hrs In Hole:</b> 18.50	<b>BHA Circ/ All BHA:</b> 11.58 / 11.58	<b>WOB:</b> 8 - 12
<b>Start Depth:</b> 7882.00	<b>Motor SN:</b> 475008	<b>TORQ:</b> 0 - 400
<b>End Depth:</b> 8305.00	<b>Pad OD:</b>	<b>SPP:</b> 0 - 2200
<b>Total Drilled:</b> 423.00	<b>NB Stab:</b> 0	<b>Motor RPM:</b> No Rev/Gal Input
<b>Avg. Total ROP:</b> 43.02	<b>Bit to Bend:</b> 0	<b>Rotary RPM:</b> 65 - 65
<b>Circ Hrs:Tot/Only</b> 11.58 / 1.75	<b>Bent Hsg / Sub:</b> 0 /	<b>Flow Rate:</b> 277 - 277
<b>Percent Slide:</b> 5.67	<b>Lobe/Stage:</b> / 0	<b>Avg Diff:</b>
<b>Percent Hrs:</b> 16.10	<b>Rev/GAL:</b> 0	<b>Stall Pres.:</b>
<b>Slide Hours:</b> 1.58	<b>Rotor Jet:</b> 0	<b>Off Bot Pres.:</b>
<b>Total Sliding:</b> 24.00	<b>Prop BUR:</b>	<b>Bit Record</b>
<b>Avg. Slide ROP:</b> 15.16	<b>Act BUR:</b>	SMITH / MSI713
<b>Percent Rotary:</b> 94.33	<b>Stator Clearance:</b>	<b>Run #:</b>
<b>Percent Hrs:</b> 83.90	<b>Lower Stab OD:</b>	<b>Type Bit:</b> PDC
<b>Rot / Total Hrs:</b> 8.25 / 9.83	<b>Upper Stab OD:</b>	<b>IADC#:</b> TFA: 1.006
<b>Rotary Drilled:</b> 399.00	<b>Extended Motor? NO</b>	<b>JETS:</b> 2-12,4-16
<b>Avg. Rotary ROP:</b> 48.36	<b>Number of Stalls:</b>	<b>Bit Drop:</b> 60 PSI @ 277 GPM
<b>Reason POOH:</b>	<b>Stall Duration:</b>	<b>Cond.:</b>

Mud Data												
Type	Water	WT:	8.6	Vis:	28	WL:	99	PV:	3	Flow T °:	90	
SAND	0	Chlor:	1.7	GAS	0	SOL:	0	Oil %:	0	YP:	2	
										PH: 8.5	Bottom Hole T °:	134.6

**Formation:**

**EXPANDED REASON PULLED:**

**BHA PERFORMANCE:**

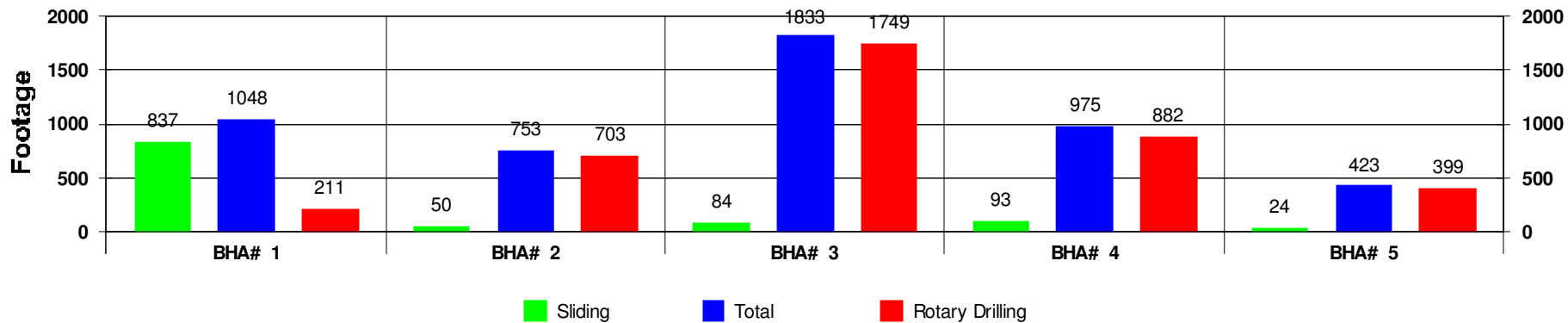
**ADDITIONAL COMMENTS:** (Expands to next page if necessary)



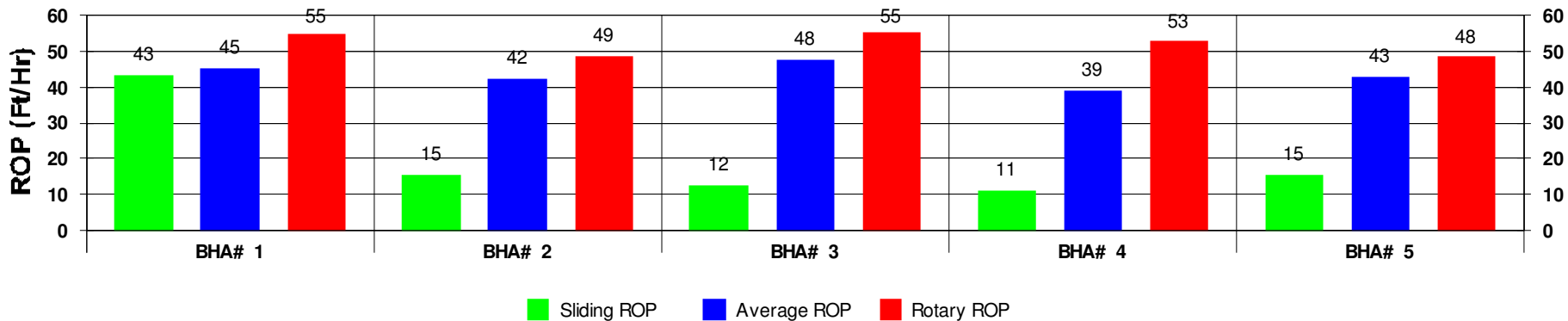


<b>JOB NO.:</b>	13200	<b>FIELD:</b>	Mississippi Lime	
<b>Company:</b>	Unit Petroleum	<b>Township:</b>		
<b>LOCATION:</b>	Reno County	<b>SECT\ RANGE:</b>		
<b>RIG NAME:</b>	Unit Texas #331	<b>COMMENT</b>		
<b>STATE:</b>	Kansas			
<b>COUNTY:</b>	Reno County			
<b>WELL NAME:</b>	Loudenback 18 #1H			

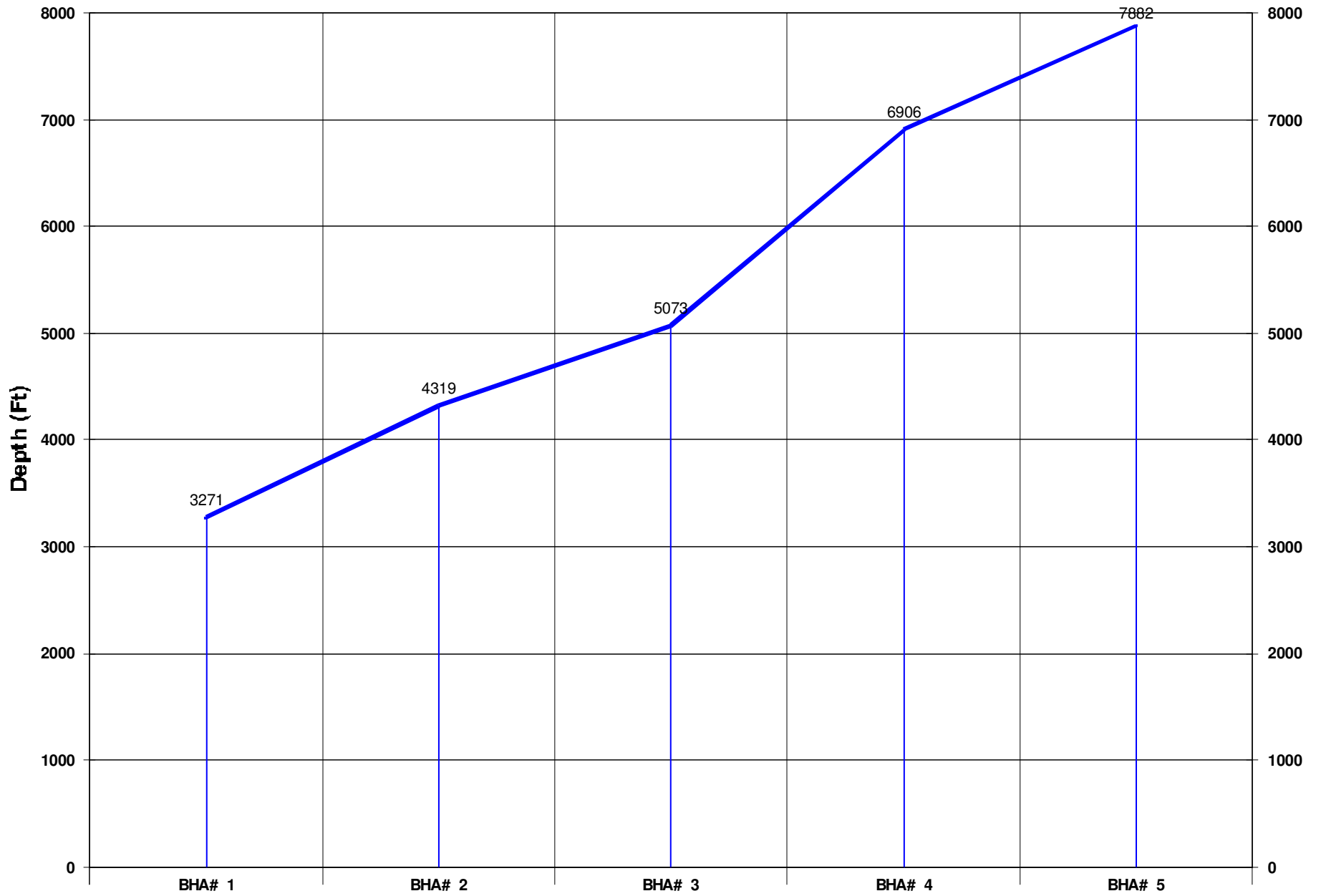
### Footage Drilled with BHA



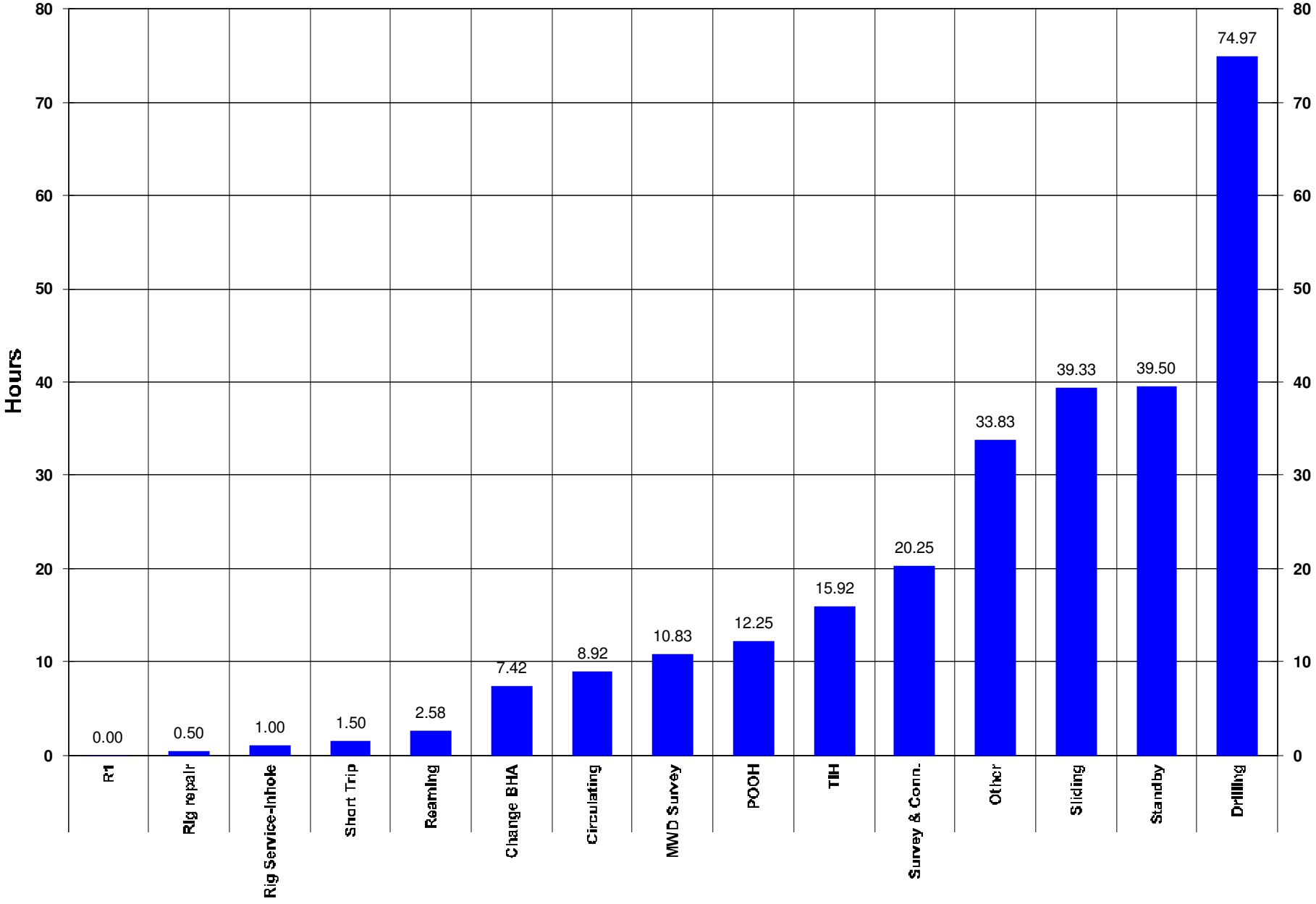
### ROP vs BHA



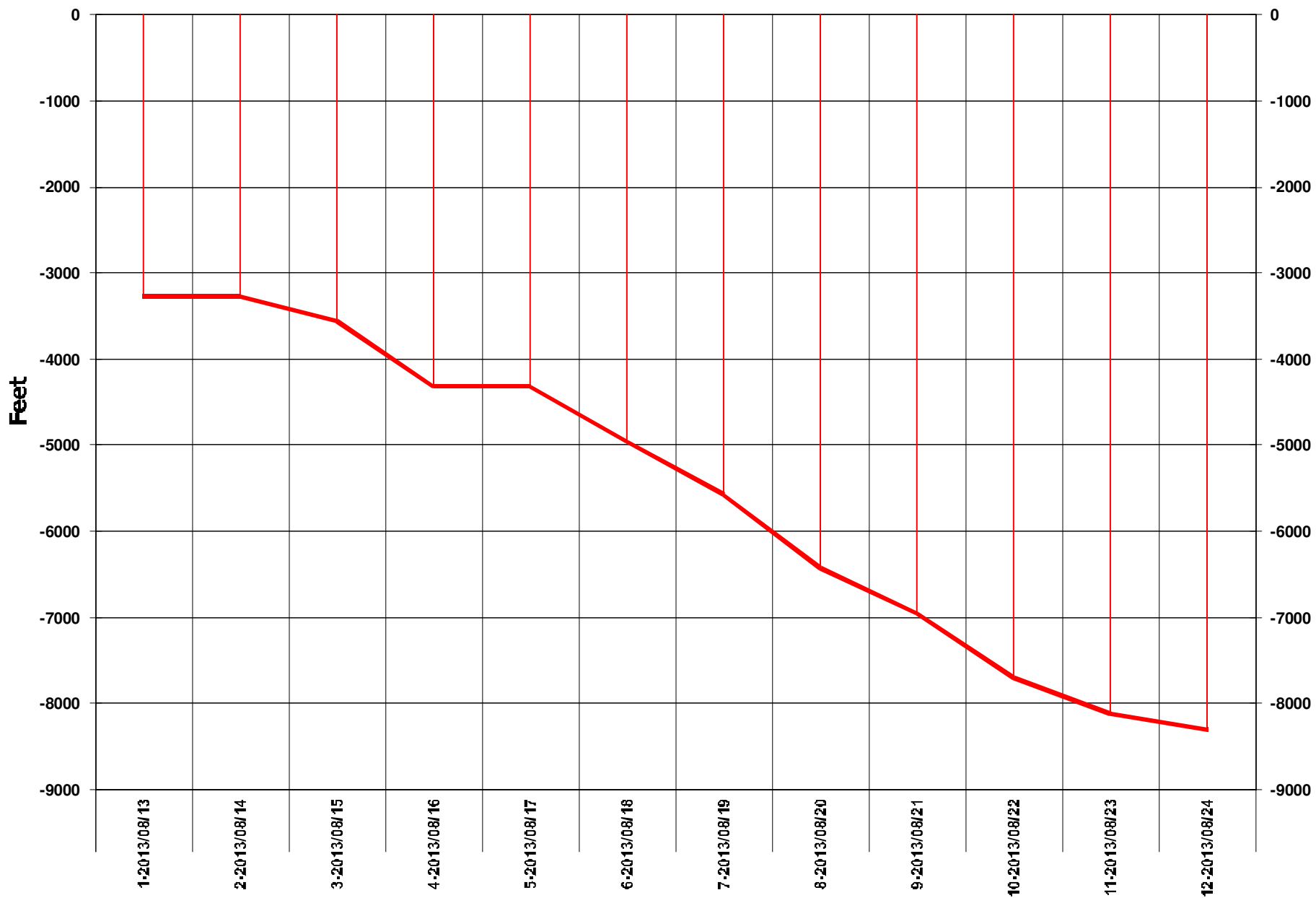
# Depth vs BHA



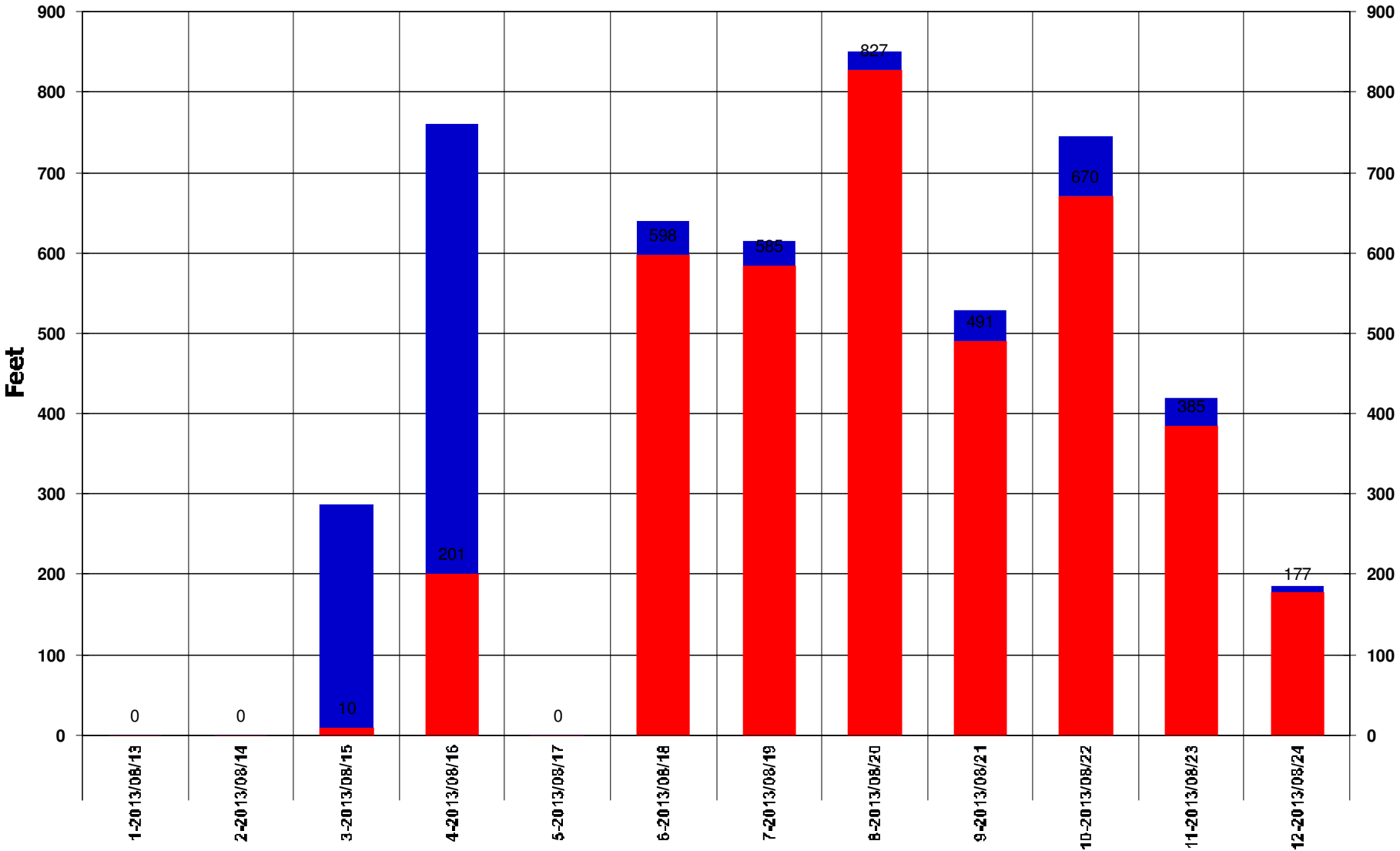
# Activity Histogram



# Measured Depth vs Days

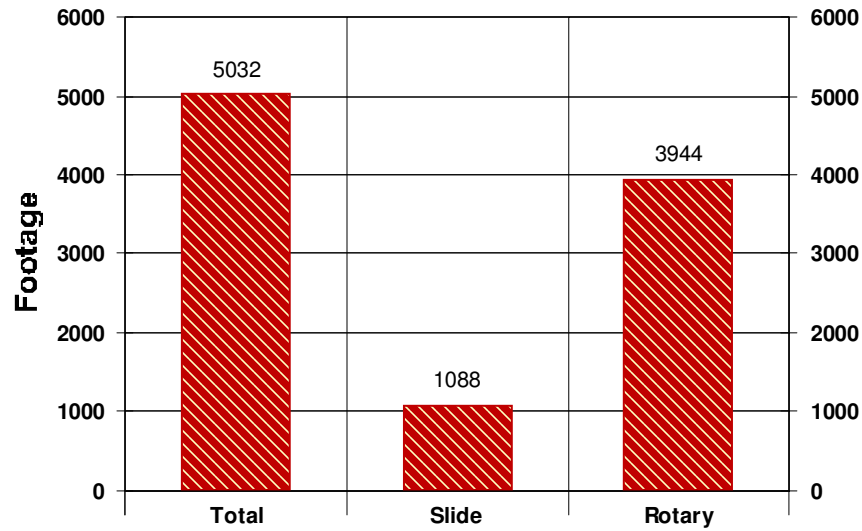


# Daily Footage

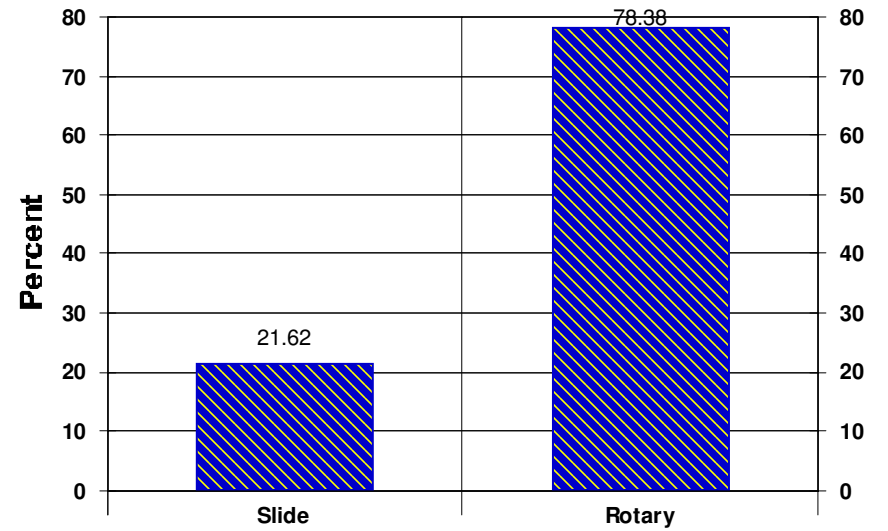


Rotary Drilling Sliding

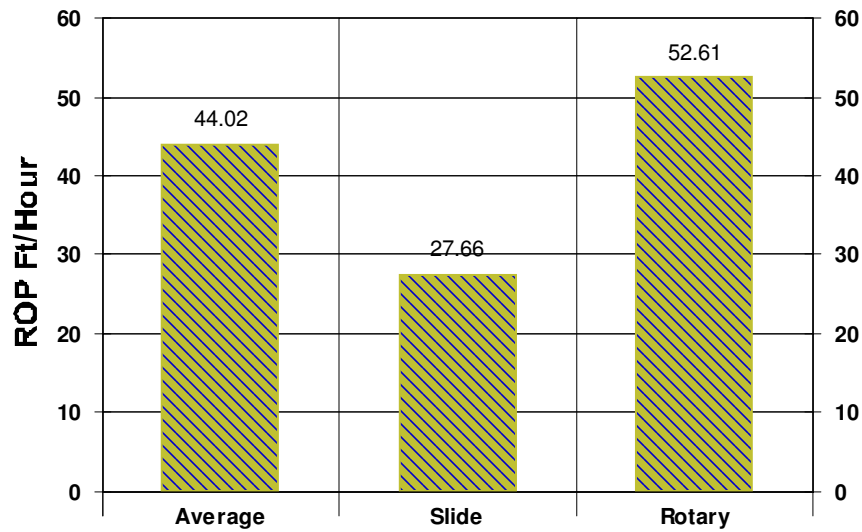
Footage Drilled Totals



Footage Percent



Rate of Penetration Totals



Time Percent

