

PATHFINDER

A Schlumberger Company

A WORLD OF TECHNOLOGY

End-of-Well *Report*



Southwestern Energy
Linnebur Flying Service 3-61 #1-30
Adams County, CO
Patterson 180

Directional Drilling Services End of Well Report

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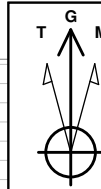
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WELL DETAILS: Linnebur Flying Service 3-61 #1-30

+N/-S	+E/-W	Northing	GL 5188.00 Easting	KB @ 5208.00usft Latitude	Longitude
0.00	0.00	1158344.83	3349975.33	39° 45' 40.608 N	104° 15' 18.324 W

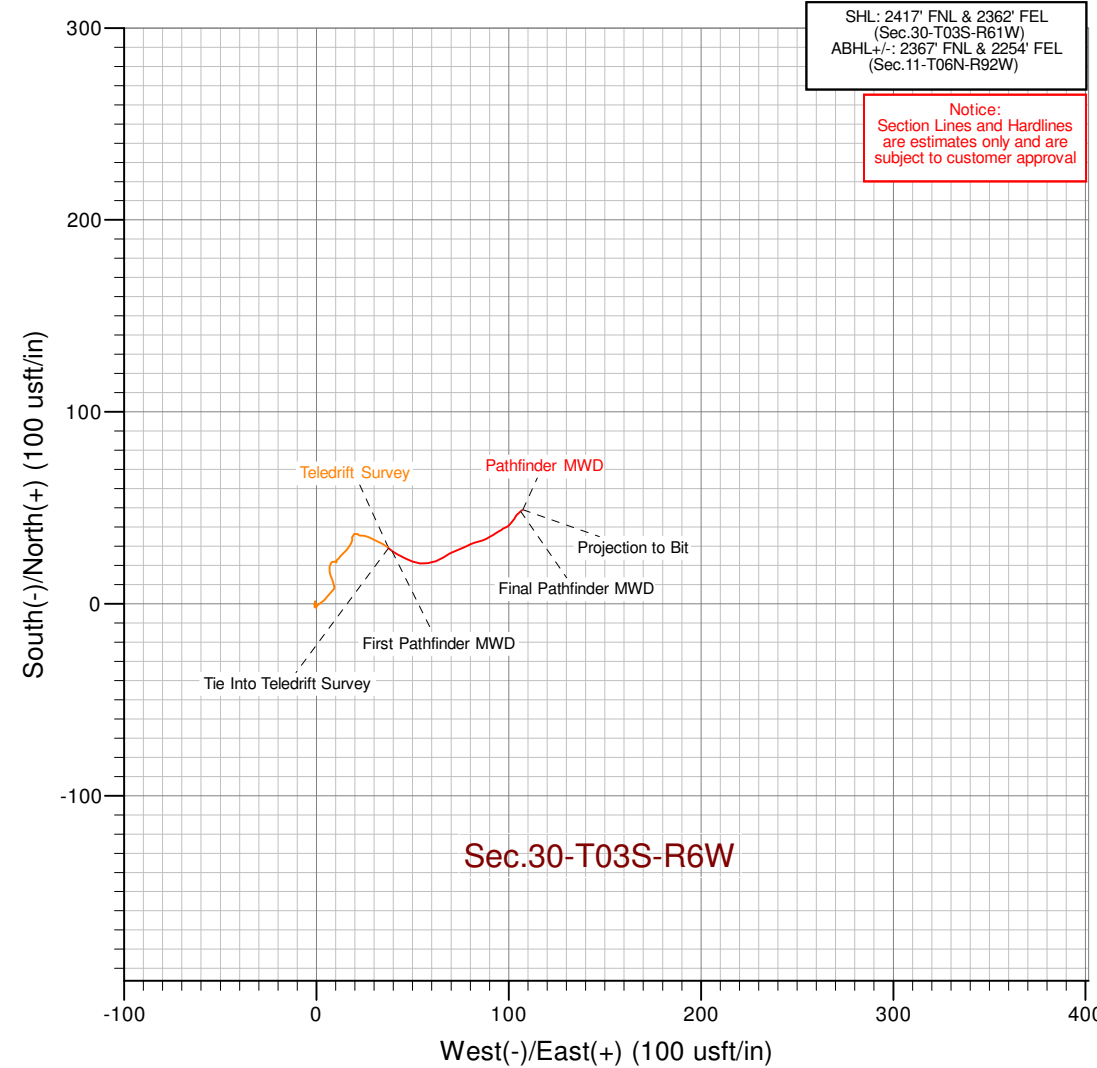
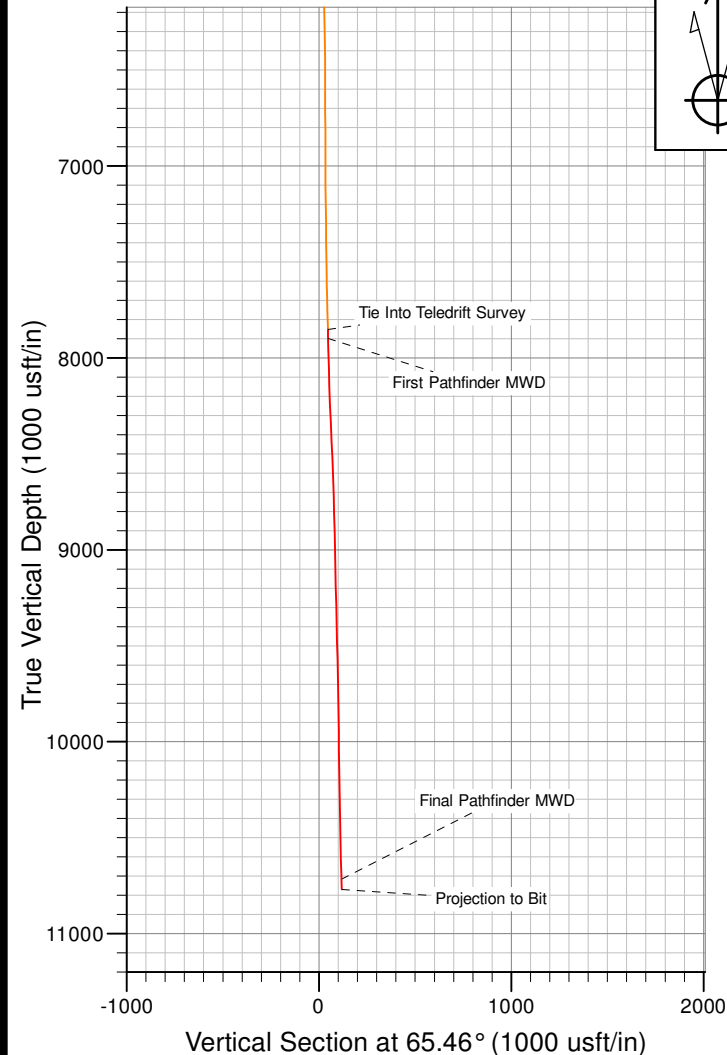
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
7852.20	7853.00	3.10	129.00	29.07	37.49	46.18	0.00	Tie Into Teledrift Survey
7898.14	7899.00	2.99	128.80	27.54	39.39	47.27	2.44	First Pathfinder MWD
10716.92	10719.00	1.49	53.91	48.20	106.25	116.67	79.10	Final Pathfinder MWD
10770.90	10773.00	1.49	53.91	49.03	107.39	118.05	80.50	Projection to Bit



Azimuths to Grid North
 True North: -0.80°
 Magnetic North: 7.29°

Magnetic Field
 Strength: 52495.5snT
 Dip Angle: 66.50°
 Date: 10/8/2014
 Model: IGRF2010



SHL: 2417' FNL & 2362' FEL
 (Sec.30-T03S-R61W)
 ABHL +/-: 2367' FNL & 2254' FEL
 (Sec.11-T06N-R92W)

Notice:
 Section Lines and Hardlines
 are estimates only and are
 subject to customer approval



Southwestern Energy Production Company

**Adams Co., CO
Sec.30-T03S-R61W
Linnebur Flying Service 3-61 #1-30**

Original Hole

Survey: Pathfinder MWD

Standard Survey Report

08 October, 2014



Company:	Southwestern Energy Production Company	Local Co-ordinate Reference:	Well Linnebur Flying Service 3-61 #1-30
Project:	Adams Co., CO	TVD Reference:	KB @ 5208.00usft
Site:	Sec.30-T03S-R61W	MD Reference:	KB @ 5208.00usft
Well:	Linnebur Flying Service 3-61 #1-30	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db

Project	Adams Co., CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Sec.30-T03S-R61W		
Site Position:		Northing:	1,158,344.83 usft
From:	Lat/Long	Easting:	3,349,975.33 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	39° 45' 40.608 N
		Longitude:	104° 15' 18.324 W
		Grid Convergence:	0.80 °

Well	Linnebur Flying Service 3-61 #1-30		
Well Position	+N/-S	0.00 usft	Northing: 1,158,344.83 usft
	+E/-W	0.00 usft	Easting: 3,349,975.33 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	5,208.00 usft
		Ground Level:	5,188.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/8/2014	8.09	66.50	52,496

Design	Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	65.46	

Survey Program	Date	10/8/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
7,899.00	10,773.00	Pathfinder MWD (Original Hole)	Pathfinder	Pathfinder MWD	

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)	
7,853.00	3.10	129.00	7,852.20	29.07	37.49	46.18	0.00	0.00	0.00	
Tie Into Teledrift Survey										
7,899.00	2.99	128.80	7,898.14	27.54	39.39	47.27	0.24	-0.24	-0.43	
First Pathfinder MWD										
7,961.00	2.73	117.99	7,960.06	25.83	41.96	48.89	0.96	-0.42	-17.44	
8,059.00	2.74	116.69	8,057.95	23.68	46.11	51.78	0.06	0.01	-1.33	
8,151.00	2.55	109.69	8,149.85	22.00	50.00	54.62	0.41	-0.21	-7.61	
8,246.00	2.37	95.63	8,244.76	21.10	53.95	57.84	0.66	-0.19	-14.80	
8,341.00	2.64	81.58	8,339.67	21.23	58.06	61.64	0.70	0.28	-14.79	
8,435.00	2.55	69.10	8,433.58	22.29	62.16	65.80	0.61	-0.10	-13.28	

Company:	Southwestern Energy Production Company	Local Co-ordinate Reference:	Well Linnebur Flying Service 3-61 #1-30
Project:	Adams Co., CO	TVD Reference:	KB @ 5208.00usft
Site:	Sec.30-T03S-R61W	MD Reference:	KB @ 5208.00usft
Well:	Linnebur Flying Service 3-61 #1-30	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	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)	
8,530.00	2.73	58.93	8,528.48	24.21	66.07	70.16	0.53	0.19	-10.71	
8,625.00	1.85	61.83	8,623.40	26.10	69.36	73.94	0.93	-0.93	3.05	
8,722.00	1.58	66.18	8,720.36	27.38	71.97	76.84	0.31	-0.28	4.48	
8,816.00	1.49	67.06	8,814.32	28.38	74.28	79.35	0.10	-0.10	0.94	
8,911.00	1.23	67.45	8,909.30	29.25	76.36	81.61	0.27	-0.27	0.41	
9,001.00	1.23	65.96	8,999.27	30.02	78.13	83.54	0.04	0.00	-1.66	
9,095.00	1.14	61.58	9,093.25	30.87	79.87	85.48	0.14	-0.10	-4.66	
9,192.00	1.41	74.44	9,190.23	31.65	81.87	87.62	0.40	0.28	13.26	
9,288.00	1.49	70.92	9,286.20	32.38	84.19	90.03	0.12	0.08	-3.67	
9,383.00	1.32	73.49	9,381.17	33.09	86.41	92.35	0.19	-0.18	2.71	
9,477.00	1.41	60.18	9,475.14	33.98	88.45	94.57	0.35	0.10	-14.16	
9,572.00	0.97	59.64	9,570.12	34.96	90.15	96.53	0.46	-0.46	-0.57	
9,666.00	1.32	63.66	9,664.11	35.85	91.81	98.41	0.38	0.37	4.28	
9,760.00	0.97	52.96	9,758.09	36.81	93.42	100.27	0.43	-0.37	-11.38	
9,855.00	0.97	61.09	9,853.07	37.68	94.76	101.85	0.14	0.00	8.56	
9,949.00	0.88	56.01	9,947.06	38.47	96.06	103.36	0.13	-0.10	-5.40	
10,044.00	0.70	60.34	10,042.05	39.16	97.17	104.66	0.20	-0.19	4.56	
10,138.00	0.79	72.22	10,136.04	39.64	98.28	105.87	0.19	0.10	12.64	
10,233.00	0.97	48.75	10,231.03	40.38	99.51	107.29	0.42	0.19	-24.71	
10,327.00	0.79	42.69	10,325.02	41.38	100.55	108.65	0.22	-0.19	-6.45	
10,421.00	1.14	42.86	10,419.01	42.54	101.62	110.11	0.37	0.37	0.18	
10,516.00	1.32	29.84	10,513.99	44.18	102.81	111.87	0.35	0.19	-13.71	
10,610.00	1.67	37.26	10,607.95	46.21	104.18	113.96	0.42	0.37	7.89	
10,705.00	1.41	54.23	10,702.92	47.99	105.97	116.33	0.55	-0.27	17.86	
10,719.00	1.49	53.91	10,716.92	48.20	106.25	116.67	0.57	0.57	-2.29	
Final Pathfinder MWD										
10,773.00	1.49	53.91	10,770.90	49.03	107.39	118.05	0.00	0.00	0.00	
Projection to Bit										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
7,853.00	7,852.20	29.07	37.49	Tie Into Teledrift Survey	
7,899.00	7,898.14	27.54	39.39	First Pathfinder MWD	
10,719.00	10,716.92	48.20	106.25	Final Pathfinder MWD	
10,773.00	10,770.90	49.03	107.39	Projection to Bit	

Checked By: _____ Approved By: _____ Date: _____

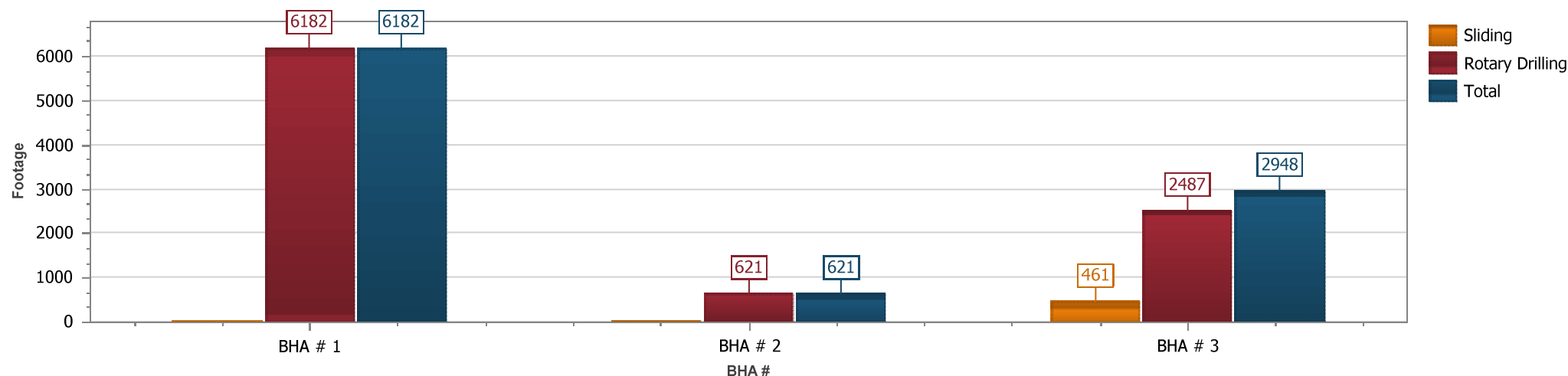


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Well Name: Linnebur Flying Service 3-61 #
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Well State:

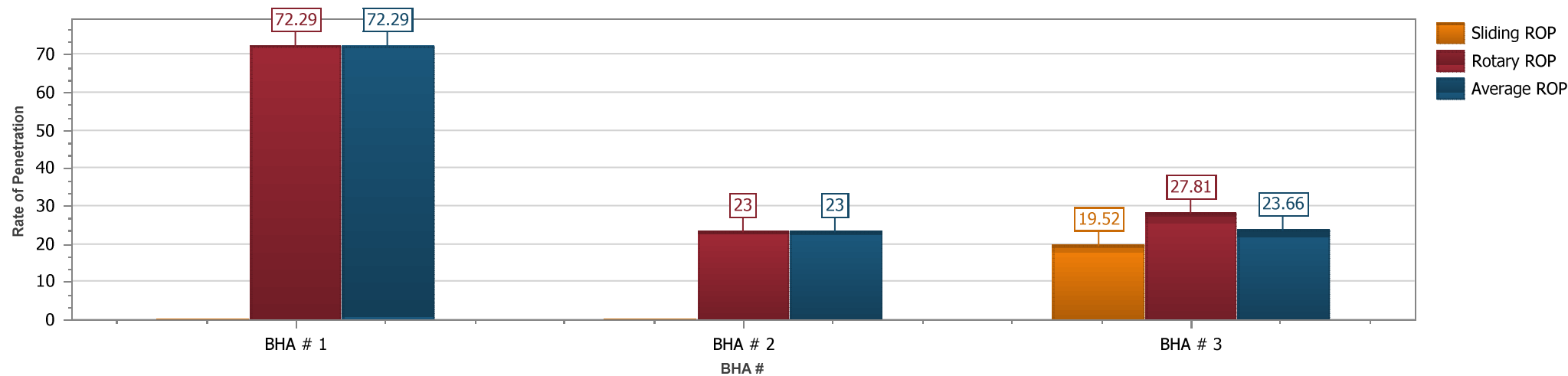
Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2: lbm/bbl • PRE_2: lbf/100ft2 • VIS_1: s/qt • VIS_2: cP • SMAS: l

Footage Drilled for BHA



ROP vs BHA



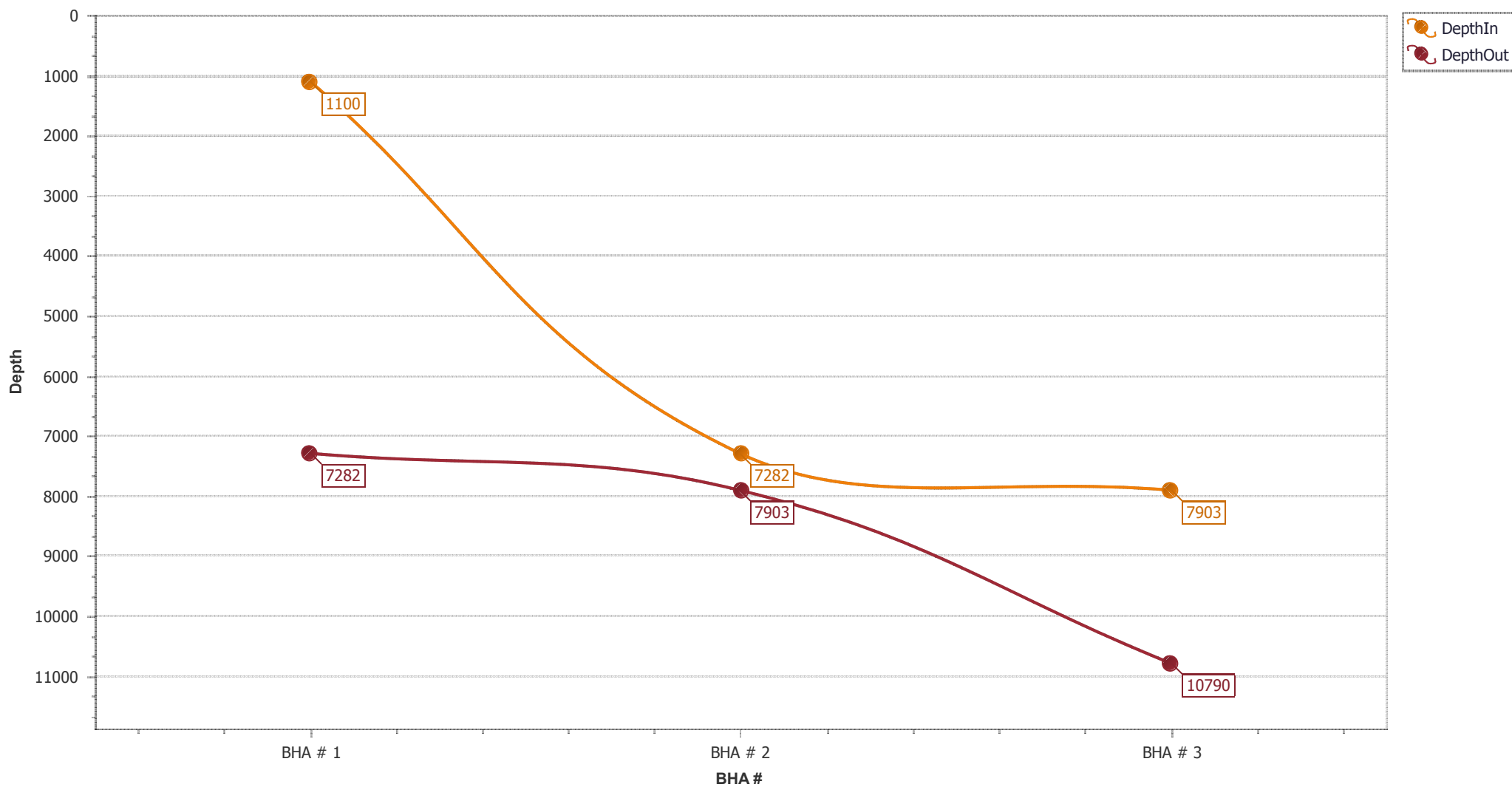


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Depth vs BHA



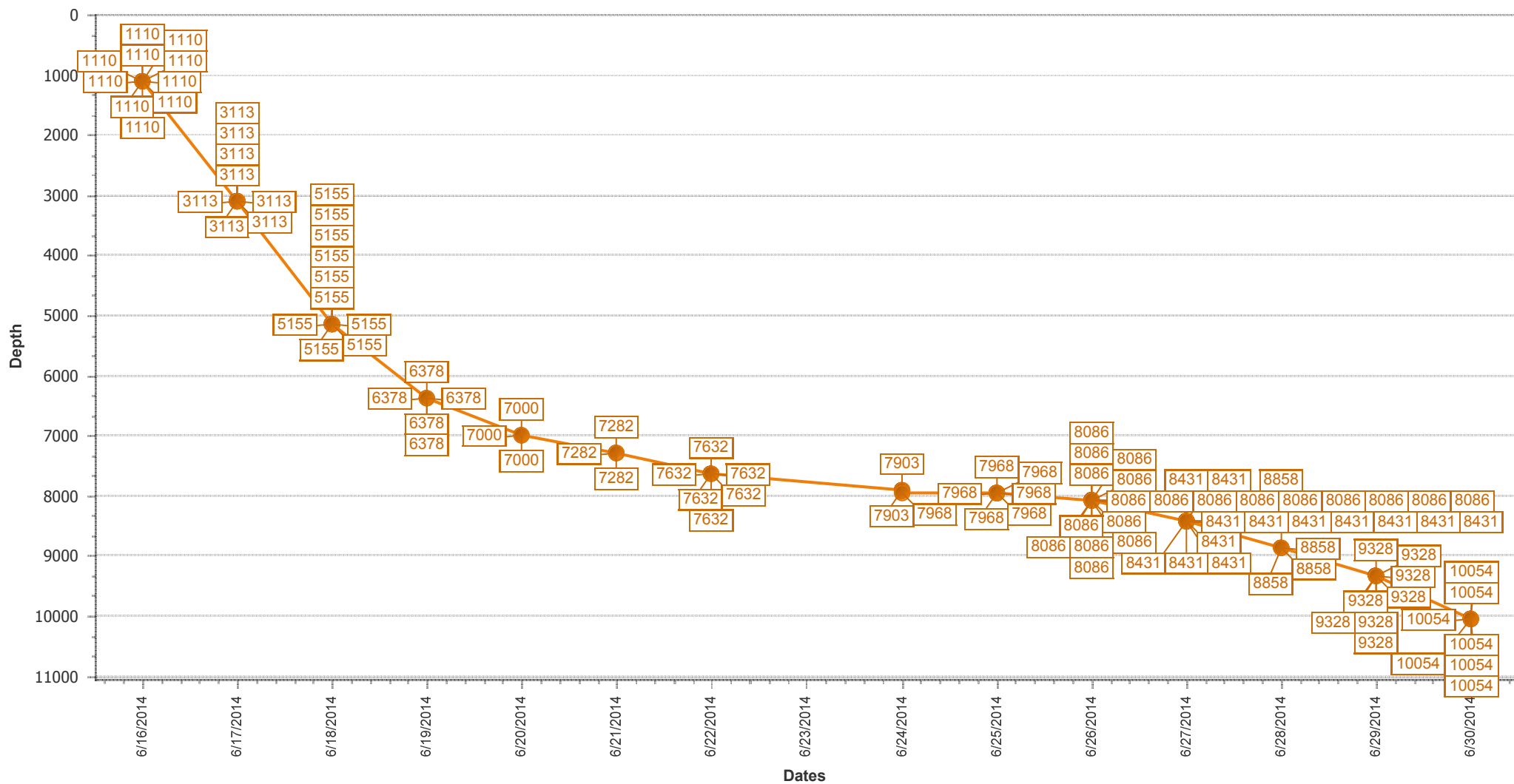


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Depth vs Days



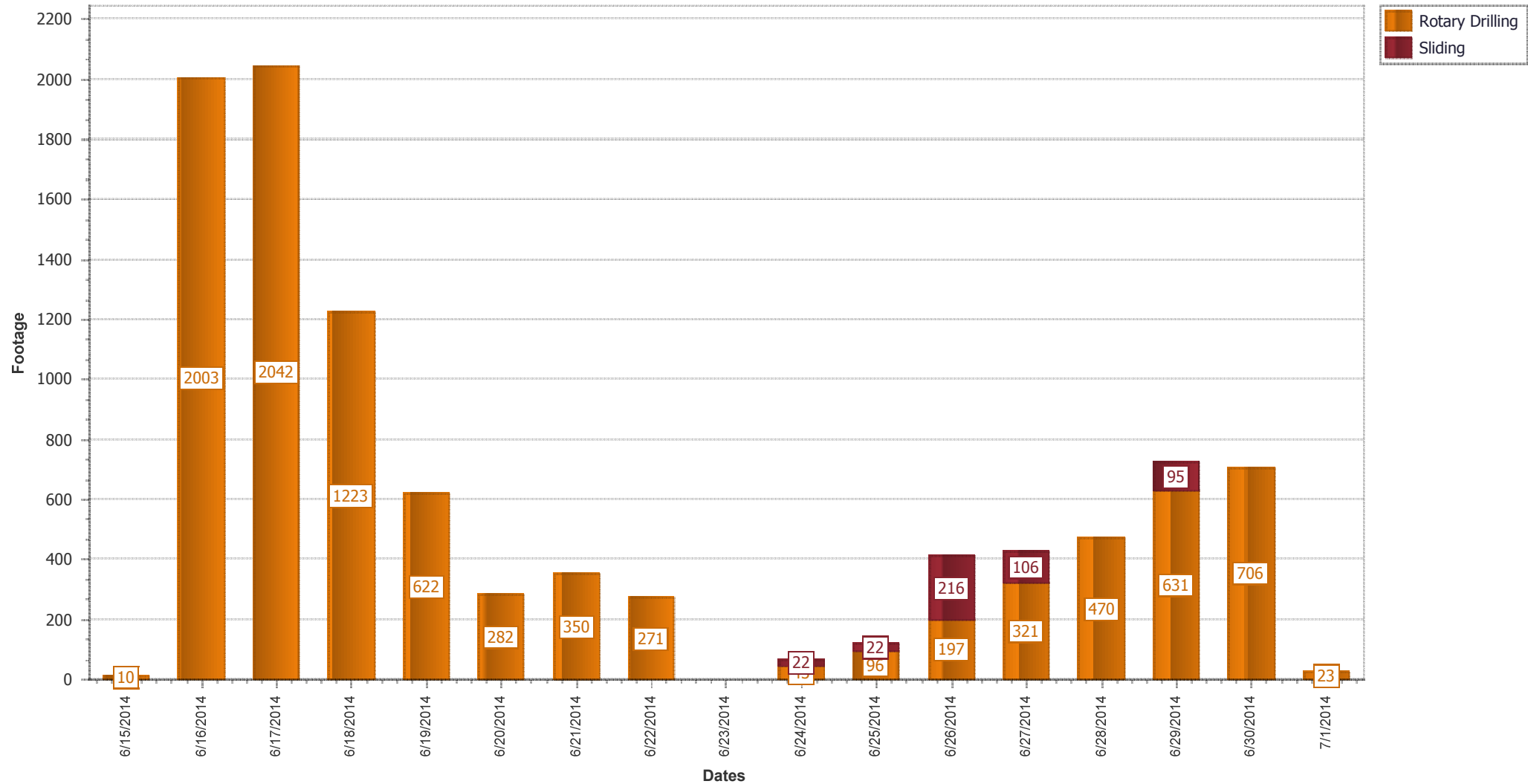


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Daily Footage



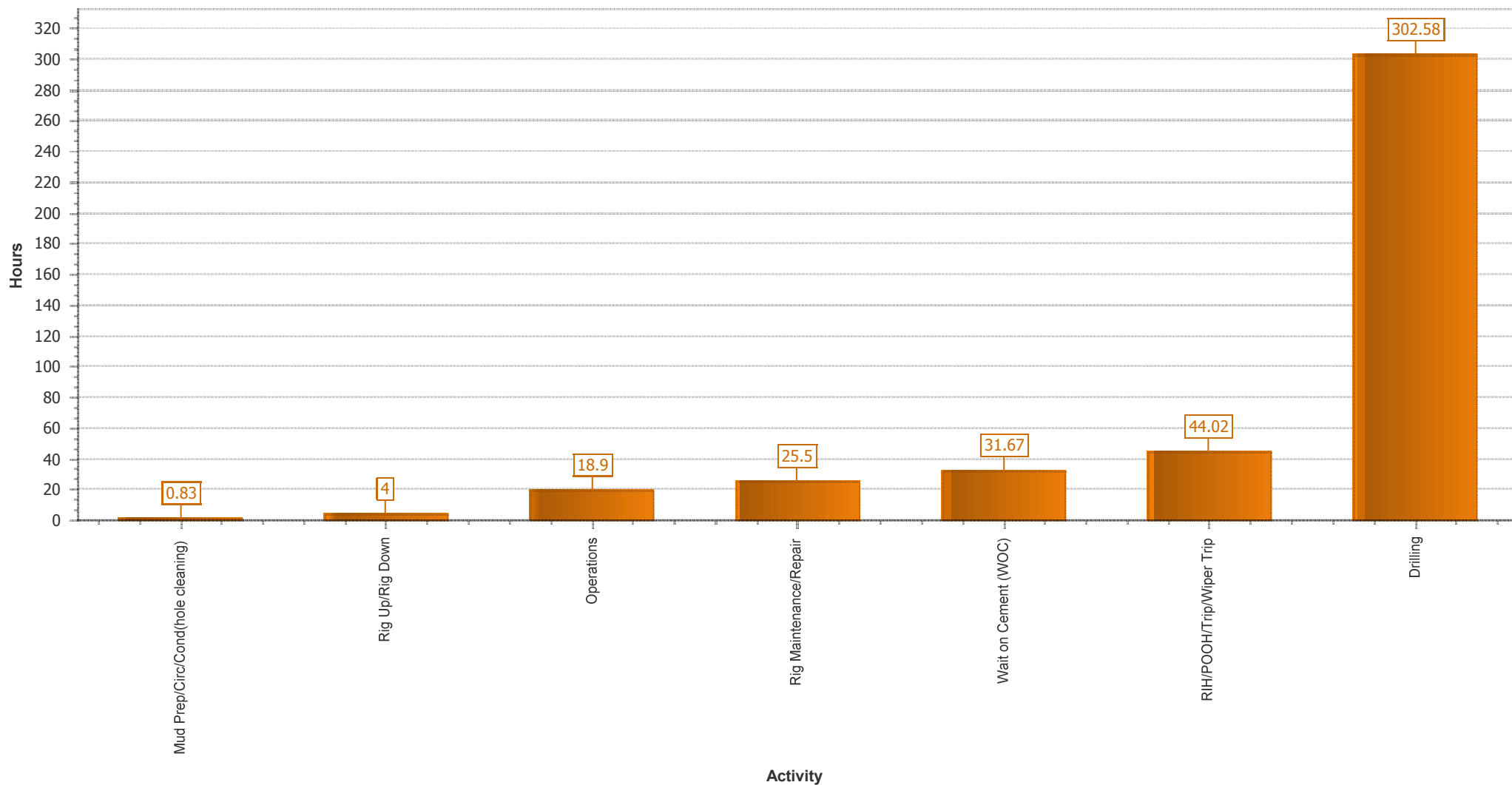


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Activity Histogram



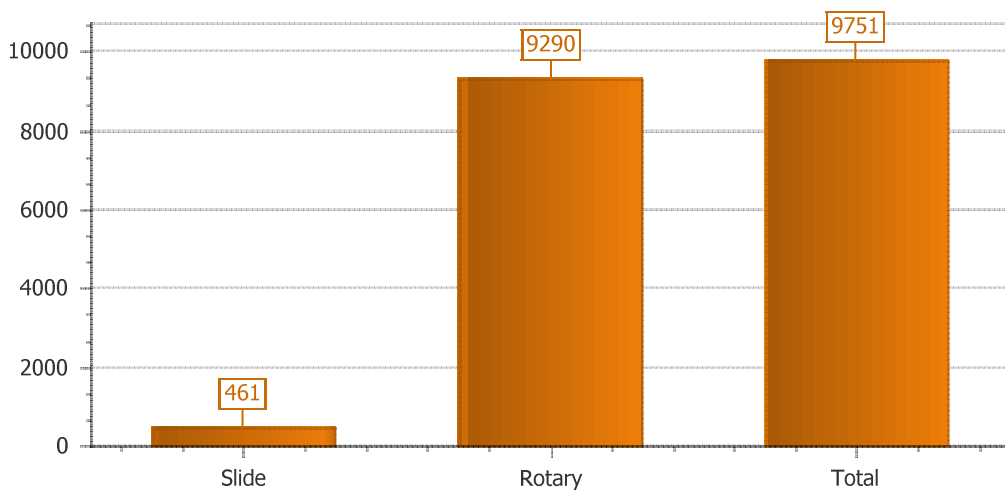


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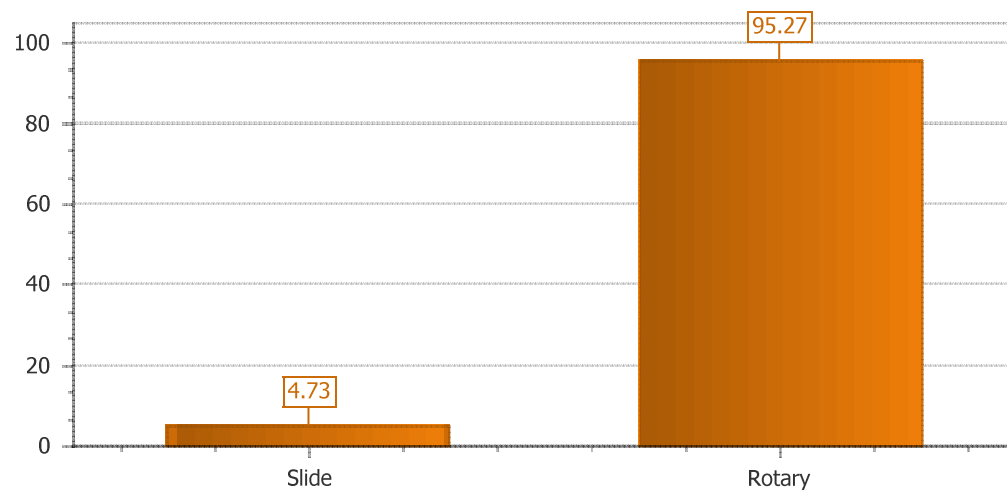
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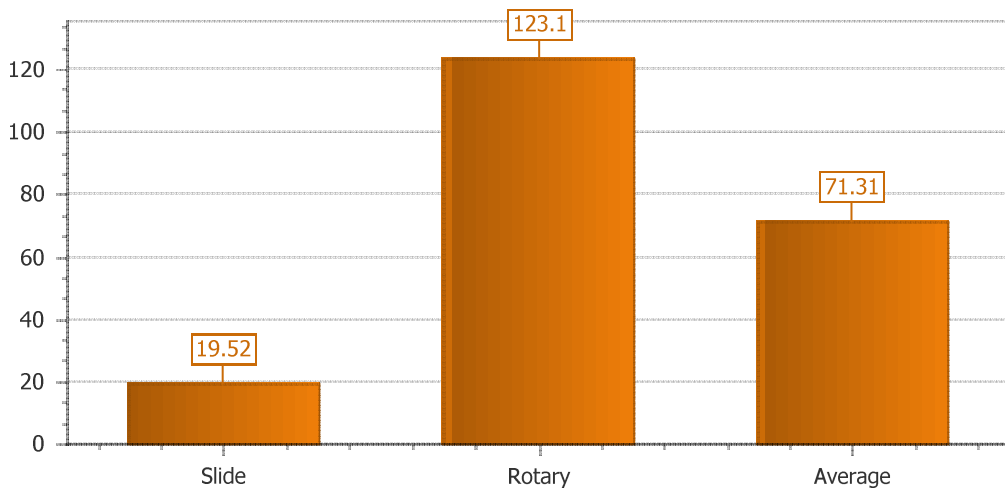
Totals for Footage Drilled



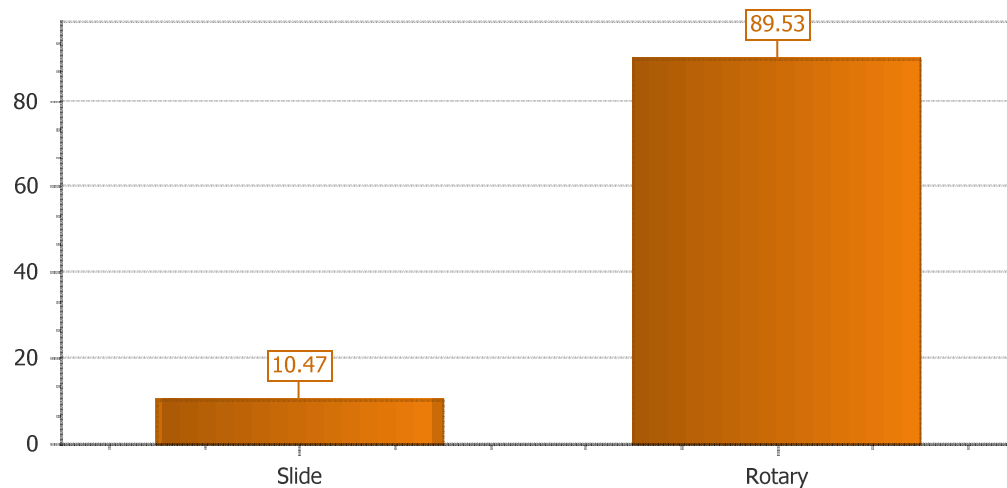
Percentage of Footage



Rate of Penetration



Percentage of Total Time



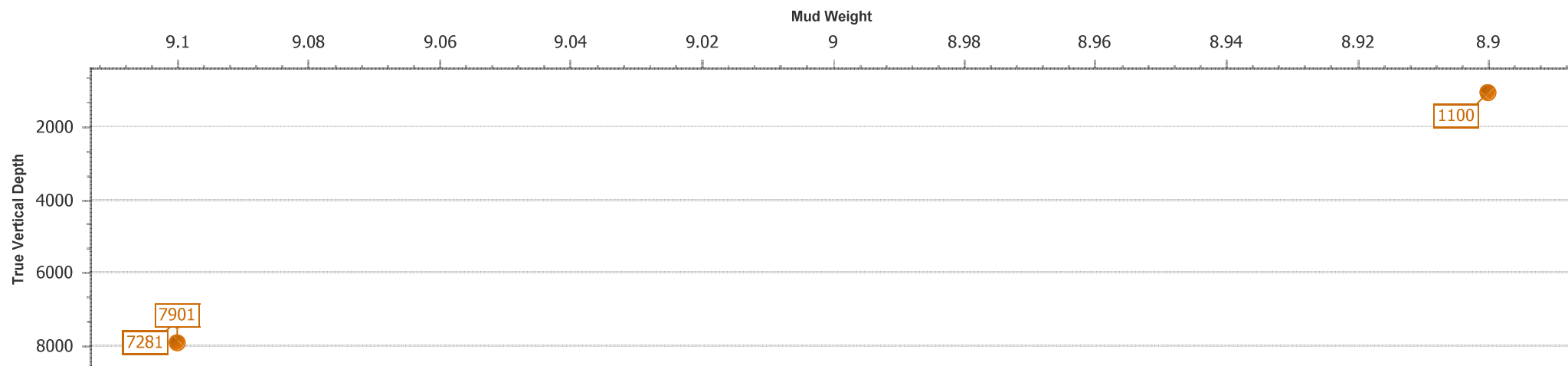


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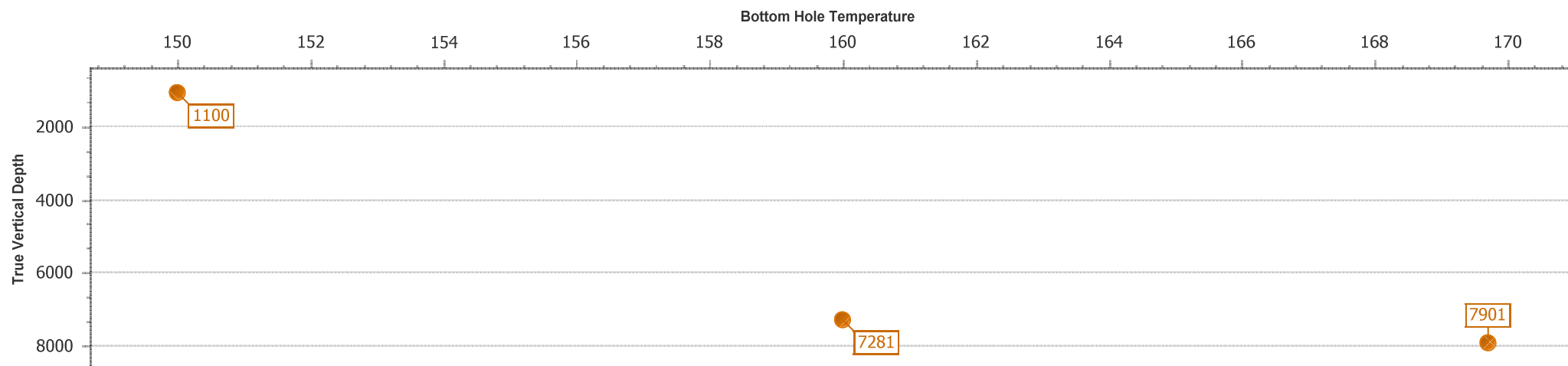
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Mud Weight vs TVD Depth



Bottom Hole Temp vs TVD Depth





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Daily Report for Sunday, June, 15 2014

From: Jun-14-2014 00:00 To: Jun-15-2014 00:00

DRILLING SUMMARY						DRILLING PARAMETERS					
Start Depth	0	Rotary Hours		WOB Rot	0	PU	0	Slack Off	0		
End Depth	0	Total Circu. Hours		WOB Slid	0	SPP	0	Flow Rate			
Total Drilled		Avg. Total ROP		RAB	0	SPM	0				
Total Rotary Drilled		Avg. Rotary ROP		MUD DATA							
Total Sliding Drilled		Avg. Slide ROP		Type			PV		SOLID		
Slide Hours		Percent Rotary		Weight		Gas	YP		BHT°		
Below Rotary Hrs		Percent Slide		Viscosity		Sand	PH		Flow T°		
				Chlorides		WL			Oil%		
PERSONNEL				CASING							
Directional Company				Size			Set Depth				
Company Man		Randy Monin & Tom Howard		9.625			1,100				
DD - Cell Manager		Zitkovic, Frank Joseph		DAILY COST							
				Daily Cost: \$1,200.00							
				Cumulative Cost: \$1,200.00							
				Signature:							
Incl. In	1	Azm. In	0	Incl. Out	1	Azm. Out	77				
BHA & COMMENTS											
PU BOP & nipple up - PU BHA #1 - TIH - drill cement											
FORECAST NEXT 24											
test - drill ahead											
DD JOURNAL											
Date	Start	End	Hours	Start	End	Activity	Comment				
14-Jun-14	05:00	09:30	4.5	0	0	Standby	Travel to rig				
14-Jun-14	09:30	18:00	8.5	0	0	N/U BOPS					
14-Jun-14	18:00	00:00	6	0	0	N/U BOPS					
MWD JOURNAL											
Date	Start	End	Hours	Start	End	Activity	Comment				
14-Jun-14	00:00	00:00	24	0	0	Wait on Cement (WOC)					



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
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Well State:

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Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Monday, June, 16 2014

From: Jun-15-2014 00:00 To: Jun-16-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS					
Start Depth	0	Rotary Hours	0.17	WOB Rot	0	PU	0	Slack Off	0
End Depth	1,110	Total Circu. Hours	11.00	WOB Slid	0	SPP	0	Flow Rate	
Total Drilled	10	Avg. Total ROP	60	RAB	0	SPM	0		
Total Rotary Drilled	10	Avg. Rotary ROP	60.00	MUD DATA					
Total Sliding Drilled	0	Avg. Slide ROP		Type			PV		SOLID
Slide Hours	0.00	Percent Rotary	100%	Weight		Gas	YP		BHT°
Below Rotary Hrs	16.33	Percent Slide	0%	Viscosity		Sand	PH		Flow T°
				Chlorides		WL			Oil%

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Randy Monin & Tom Howard				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
								Daily Cost: \$17,800.00			
								Cumulative Cost: \$19,000.00			
Incl. In	1	Azm. In	0	Incl. Out	1	Azm. Out	77	Signature:			

BHA & COMMENTS

Drill vertical well to 10,500 MD maintaining <2 deg Incl, and < 1 deg Dog Leg - within a 50 ft radius target

As expected

FORECAST NEXT 24

Drill as planned

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
15-Jun-14	00:00	05:00	5	0	0	N/U BOPS	
15-Jun-14	05:00	06:00	1	0	0	Rig Service-Outhole	
15-Jun-14	06:00	06:30	0.5	0	0	Other – Outhole	Safety meeting
15-Jun-14	06:30	07:30	1	0	0	Pick Up BHA	PU Motor
15-Jun-14	07:30	08:00	0.5	0	0	Pick Up BHA	Found missing Float Sub
15-Jun-14	08:00	09:44	1.73	0	298	Pick Up BHA	
15-Jun-14	09:44	13:00	3.27	298	1076	TIH	to top of Cement
15-Jun-14	13:00	14:35	1.58	1076	1100	Drilling Cement	
15-Jun-14	14:35	14:45	0.17	1100	1110	Rotating	
15-Jun-14	14:45	15:00	0.25	1110	1110	Circulating	
15-Jun-14	15:00	00:00	9	1110	1110	Change Mud - Inhole	

MWD JOURNAL

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357

Well County: Adams

Company Name: SOUTHWESTERN ENERGY CO

Well Field:

Rig Name: PATTERSON #180

Well Country:

Well Name: Linnebur Flying Service 3-61 #

Lead DD: Zitkovic, Frank Joseph

Well Location: Lat: 39.761389, Long: -104.255

Co. Man: Randy Monin & Tom Howard

Well State:

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Date	Start	End	Hours	Start	End	Activity	Comment
15-Jun-14	00:00	07:40	7.67	0	0	Wait on Cement (WOC)	
15-Jun-14	07:40	07:40	0	0	0	Run Start - TBRT	
15-Jun-14	07:40	00:00	16.33	1100	1110	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Tuesday, June, 17 2014

From: Jun-16-2014 00:00 To: Jun-17-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS							
Start Depth	1,110	Rotary Hours	17.12	WOB Rot	3,800.00	PU	0	Slack Off	0		
End Depth	3,113	Total Circu. Hours	17.53	WOB Slid	0	SPP	1,601.00	Flow Rate	400.00 - 575.00		
Total Drilled	2,003	Avg. Total ROP	117.02	RAB	0	SPM	84.30				
Total Rotary Drilled	2,003	Avg. Rotary ROP	117.02	MUD DATA							
Total Sliding Drilled	0	Avg. Slide ROP		Type	Oil Base		PV	0	SOLID	0	
Slide Hours	0.00	Percent Rotary	100%	Weight	8.90	Gas	0	YP	0	BHT°	150
Below Rotary Hrs	24.00	Percent Slide	0%	Viscosity	42	Sand	0	PH	0.0	Flow T°	0
				Chlorides	0	WL	0			Oil%	0

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Randy Monin & Tom Howard				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
								Daily Cost: \$6,000.00			
								Cumulative Cost: \$25,000.00			
Incl. In	1	Azm. In	0	Incl. Out	1	Azm. Out	77	Signature:			

BHA & COMMENTS

Drilled Vertical pilot hole keeping within 50 ft radius cylinder to TD. Maintaining <2 degree Inclination and <1 degree Dogleg corrections

BHA performing as planned.

FORECAST NEXT 24

Continue drilling as required

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
16-Jun-14	00:00	00:05	0.08	1110	1126	Rotating	using 1 pump
16-Jun-14	00:05	00:10	0.08	1126	1126	MWD Survey & Conn.	
16-Jun-14	00:10	00:40	0.5	1126	1215	Rotating	
16-Jun-14	00:40	00:45	0.08	1215	1215	MWD Survey & Conn.	
16-Jun-14	00:45	01:55	1.17	1215	1306	Rotating	
16-Jun-14	01:55	02:05	0.17	1306	1306	MWD Survey & Conn.	
16-Jun-14	02:05	03:05	1	1306	1398	Rotating	Using 2 pumps
16-Jun-14	03:05	03:25	0.33	1398	1398	MWD Survey & Conn.	
16-Jun-14	03:25	04:15	0.83	1398	1489	Rotating	
16-Jun-14	04:15	04:30	0.25	1489	1489	MWD Survey & Conn.	
16-Jun-14	04:30	05:25	0.92	1489	1583	Rotating	
16-Jun-14	05:25	05:40	0.25	1583	1583	MWD Survey & Conn.	

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
16-Jun-14	05:40	06:20	0.67	1583	1673	Rotating	
16-Jun-14	06:20	06:40	0.33	1673	1673	MWD Survey & Conn.	
16-Jun-14	06:40	07:15	0.58	1673	1765	Rotating	
16-Jun-14	07:15	07:45	0.5	1765	1765	MWD Survey & Conn.	
16-Jun-14	07:45	08:30	0.75	1765	1857	Rotating	
16-Jun-14	08:30	08:45	0.25	1857	1857	MWD Survey & Conn.	
16-Jun-14	08:45	09:50	1.08	1857	1951	Rotating	
16-Jun-14	09:50	10:00	0.17	1951	1951	MWD Survey & Conn.	
16-Jun-14	10:00	10:35	0.58	1951	2046	Rotating	
16-Jun-14	10:35	10:55	0.33	2046	2046	MWD Survey & Conn.	
16-Jun-14	10:55	11:30	0.58	2046	2140	Rotating	
16-Jun-14	11:30	11:45	0.25	2140	2140	MWD Survey & Conn.	
16-Jun-14	11:45	12:20	0.58	2140	2235	Rotating	
16-Jun-14	12:20	12:45	0.42	2235	2235	MWD Survey & Conn.	
16-Jun-14	12:45	13:10	0.42	2235	2329	Rotating	
16-Jun-14	13:10	13:35	0.42	2329	2329	MWD Survey & Conn.	
16-Jun-14	13:35	14:15	0.67	2329	2424	Rotating	
16-Jun-14	14:15	14:30	0.25	2424	2424	MWD Survey & Conn.	
16-Jun-14	14:30	15:10	0.67	2424	2518	Rotating	
16-Jun-14	15:10	15:38	0.47	2518	2518	MWD Survey & Conn.	
16-Jun-14	15:38	16:15	0.62	2518	2613	Rotating	
16-Jun-14	16:15	16:45	0.5	2613	2613	MWD Survey & Conn.	
16-Jun-14	16:45	17:40	0.92	2613	2707	Rotating	
16-Jun-14	17:40	17:45	0.08	2707	2707	BOP Drill	
16-Jun-14	17:45	18:05	0.33	2707	2707	MWD Survey & Conn.	
16-Jun-14	18:05	18:25	0.33	2707	2738	Rotating	
16-Jun-14	18:35	19:40	1.08	2738	2802	Rotating	control drill to reduce incl
16-Jun-14	19:40	19:50	0.17	2802	2802	MWD Survey & Conn.	
16-Jun-14	19:50	21:00	1.17	2802	2896	Rotating	control drill to reduce incl
16-Jun-14	21:00	21:15	0.25	2896	2896	MWD Survey & Conn.	
16-Jun-14	21:15	22:20	1.08	2896	2991	Rotating	hold @ 150 ROP & WOB 4K
16-Jun-14	22:20	22:30	0.17	2991	2991	MWD Survey & Conn.	
16-Jun-14	22:30	22:55	0.42	2991	2991	Rig Service-Inhole	
16-Jun-14	22:55	23:30	0.58	2991	3085	Rotating	Increase WOB to 6K
16-Jun-14	23:30	23:45	0.25	3085	3085	MWD Survey & Conn.	
16-Jun-14	23:45	00:00	0.25	3085	3113	Rotating	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
16-Jun-14	00:00	00:00	24	1110	3113	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Wednesday, June, 18 2014

From: Jun-17-2014 00:00 To: Jun-18-2014 00:00

DRILLING SUMMARY								DRILLING PARAMETERS															
Start Depth		3,113		Rotary Hours		16.73		WOB Rot		4,750.00		PU		0		Slack Off		0					
End Depth		5,155		Total Circu. Hours		18.00		WOB Slid		0		SPP		2,092.50		Flow Rate		575.00 - 575.00					
Total Drilled		2,042		Avg. Total ROP		122.03		RAB		0		SPM		80.00									
Total Rotary Drilled		2,042		Avg. Rotary ROP		122.03		MUD DATA															
Total Sliding Drilled		0		Avg. Slide ROP				Type		Oil Base			PV		10		SOLID		5.00				
Slide Hours		0.00		Percent Rotary		100%		Weight		8.90		Gas		0		YP		8		BHT°		150	
Below Rotary Hrs		24.00		Percent Slide		0%		Viscosity		43		Sand		0.50		PH		0.0		Flow T°		140.00	
								Chlorides		0		WL		0				Oil%		23.90			
PERSONNEL								CASING															
Directional Company								Size				Set Depth											
Company Man				Randy Monin & Tom Howard				9.625				1,100											
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST															
								Daily Cost: \$6,000.00															
								Cumulative Cost: \$31,000.00															
								Signature:															
Incl. In		1		Azm. In		0														Incl. Out		1	
BHA & COMMENTS																							
Drilling Vertical Pilot well bore to TD within a 50 ft radius cylinder, maintaining <2 deg. Inclination, and <1 degree Dog Leg.																							
BHA performing as designed, allowing controlled drilling with WOB, RPM, and Flow Rates to adjust Inclination.																							
FORECAST NEXT 24																							
Drill vertical pilot well bore as directed																							
DD JOURNAL																							
Date		Start		End		Hours		Start		End		Activity				Comment							
17-Jun-14		00:00		00:30		0.5		3113		3180		Rotating											
17-Jun-14		00:30		00:45		0.25		3180		3180		MWD Survey & Conn.											
17-Jun-14		00:45		01:20		0.58		3180		3274		Rotating											
17-Jun-14		01:20		01:30		0.17		3274		3274		MWD Survey & Conn.											
17-Jun-14		01:30		02:10		0.67		3274		3368		Rotating											
17-Jun-14		02:10		02:25		0.25		3368		3368		MWD Survey & Conn.											
17-Jun-14		02:25		03:00		0.58		3368		3463		Rotating											
17-Jun-14		03:00		03:15		0.25		3463		3463		MWD Survey & Conn.											
17-Jun-14		03:15		03:50		0.58		3463		3557		Rotating											
17-Jun-14		03:50		04:05		0.25		3557		3557		MWD Survey & Conn.											
17-Jun-14		04:05		04:40		0.58		3557		3651		Rotating											
17-Jun-14		04:40		04:55		0.25		3651		3651		MWD Survey & Conn.											

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
17-Jun-14	04:55	05:35	0.67	3651	3745	Rotating	
17-Jun-14	05:35	05:45	0.17	3745	3745	MWD Survey & Conn.	
17-Jun-14	05:45	06:30	0.75	3745	3840	Rotating	
17-Jun-14	06:30	06:50	0.33	3840	3840	MWD Survey & Conn.	
17-Jun-14	06:50	07:50	1	3840	3934	Rotating	
17-Jun-14	07:50	08:25	0.58	3934	3934	MWD Survey & Conn.	
17-Jun-14	08:25	09:45	1.33	3934	4028	Rotating	
17-Jun-14	09:45	10:10	0.42	4028	4028	MWD Survey & Conn.	
17-Jun-14	10:10	11:05	0.92	4028	4123	Rotating	
17-Jun-14	11:05	11:30	0.42	4123	4123	MWD Survey & Conn.	
17-Jun-14	11:30	12:30	1	4123	4217	Rotating	
17-Jun-14	12:30	12:55	0.42	4217	4217	MWD Survey & Conn.	
17-Jun-14	12:55	14:05	1.17	4217	4312	Rotating	
17-Jun-14	14:05	14:25	0.33	4312	4312	MWD Survey & Conn.	
17-Jun-14	14:25	15:15	0.83	4312	4406	Rotating	
17-Jun-14	15:15	15:35	0.33	4406	4406	MWD Survey & Conn.	
17-Jun-14	15:35	16:06	0.52	4406	4406	Rig Service-Inhole	
17-Jun-14	16:06	17:00	0.9	4406	4501	Rotating	
17-Jun-14	17:00	17:20	0.33	4501	4501	MWD Survey & Conn.	
17-Jun-14	17:20	18:05	0.75	4501	4595	Rotating	
17-Jun-14	18:05	18:30	0.42	4595	4595	MWD Survey & Conn.	
17-Jun-14	18:30	19:20	0.83	4595	4689	Rotating	
17-Jun-14	19:20	19:35	0.25	4689	4689	MWD Survey & Conn.	
17-Jun-14	19:35	20:25	0.83	4689	4784	Rotating	
17-Jun-14	20:25	20:40	0.25	4784	4784	MWD Survey & Conn.	
17-Jun-14	20:40	21:15	0.58	4784	4878	Rotating	
17-Jun-14	21:15	21:35	0.33	4878	4878	MWD Survey & Conn.	
17-Jun-14	21:35	22:10	0.58	4878	4973	Rotating	
17-Jun-14	22:10	22:35	0.42	4973	4973	MWD Survey & Conn.	
17-Jun-14	22:35	23:10	0.58	4973	5067	Rotating	
17-Jun-14	23:10	23:30	0.33	5067	5067	MWD Survey & Conn.	
17-Jun-14	23:30	00:00	0.5	5067	5155	Rotating	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
17-Jun-14	00:00	00:00	24	3113	5155	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Thursday, June, 19 2014

From: Jun-18-2014 00:00 To: Jun-19-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS							
Start Depth	5,155	Rotary Hours	19.58	WOB Rot	4,210.00	PU	0	Slack Off	0		
End Depth	6,378	Total Circu. Hours	19.58	WOB Slid	0	SPP	2,330.00	Flow Rate	575.00 - 575.00		
Total Drilled	1,223	Avg. Total ROP	62.45	RAB	0	SPM	80.00				
Total Rotary Drilled	1,223	Avg. Rotary ROP	62.45	MUD DATA							
Total Sliding Drilled	0	Avg. Slide ROP		Type	Oil Base		PV	10	SOLID	5.00	
Slide Hours	0.00	Percent Rotary	100%	Weight	8.90	Gas	0	YP	9	BHT°	150
Below Rotary Hrs	24.00	Percent Slide	0%	Viscosity	43	Sand	0.50	PH	0.0	Flow T°	140.00
				Chlorides	0	WL	0		Oil%	20.40	

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Randy Monin & Tom Howard				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
								Daily Cost: \$6,000.00			
								Cumulative Cost: \$37,000.00			
								Signature:			
Incl. In	1	Azm. In	0	Incl. Out	1	Azm. Out	77				

BHA & COMMENTS

Drill vertical pilot well bore within 50ft radius cylinder to TD. Maintain <2 deg Inclination, and < 1 deg DogLeg.

FORECAST NEXT 24

DRill as requi9red.

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
18-Jun-14	00:00	00:05	0.08	5155	5161	Rotating	
18-Jun-14	00:05	00:20	0.25	5161	5161	MWD Survey & Conn.	
18-Jun-14	00:20	01:00	0.67	5161	5256	Rotating	
18-Jun-14	01:00	01:20	0.33	5256	5256	MWD Survey & Conn.	
18-Jun-14	01:20	02:35	1.25	5256	5350	Rotating	
18-Jun-14	02:35	03:00	0.42	5350	5350	MWD Survey & Conn.	
18-Jun-14	03:00	03:55	0.92	5350	5444	Rotating	
18-Jun-14	03:55	04:05	0.17	5444	5444	MWD Survey & Conn.	
18-Jun-14	04:05	04:50	0.75	5444	5539	Rotating	
18-Jun-14	04:50	05:05	0.25	5539	5539	MWD Survey & Conn.	
18-Jun-14	05:05	06:05	1	5539	5633	Rotating	
18-Jun-14	06:05	06:35	0.5	5633	5633	MWD Survey & Conn.	

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
18-Jun-14	06:35	07:50	1.25	5633	5728	Rotating	
18-Jun-14	07:50	08:05	0.25	5728	5728	MWD Survey & Conn.	
18-Jun-14	08:05	09:15	1.17	5728	5822	Rotating	
18-Jun-14	09:15	09:30	0.25	5822	5822	MWD Survey & Conn.	
18-Jun-14	09:30	10:15	0.75	5822	5917	Rotating	
18-Jun-14	10:15	11:05	0.83	5917	5917	MWD Survey & Conn.	
18-Jun-14	11:05	12:10	1.08	5917	6011	Rotating	
18-Jun-14	12:10	12:20	0.17	6011	6011	MWD Survey & Conn.	
18-Jun-14	12:20	13:20	1	6011	6105	Rotating	
18-Jun-14	13:20	13:45	0.42	6105	6105	MWD Survey & Conn.	
18-Jun-14	13:45	16:05	2.33	6105	6200	Rotating	
18-Jun-14	16:05	16:25	0.33	6200	6200	MWD Survey & Conn.	
18-Jun-14	16:25	18:45	2.33	6200	6294	Rotating	
18-Jun-14	18:45	19:00	0.25	6294	6294	MWD Survey & Conn.	
18-Jun-14	19:00	00:00	5	6294	6378	Rotating	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
18-Jun-14	00:00	00:00	24	5155	6378	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Friday, June, 20 2014

From: Jun-19-2014 00:00 To: Jun-20-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS					
Start Depth	6,378	Rotary Hours	18.50	WOB Rot	4,140.00	PU	0	Slack Off	0
End Depth	7,000	Total Circu. Hours	21.33	WOB Slid	0	SPP	2,330.00	Flow Rate	575.00 - 575.00
Total Drilled	622	Avg. Total ROP	33.62	RAB	0	SPM	80.00		
Total Rotary Drilled	622	Avg. Rotary ROP	33.62	MUD DATA					
Total Sliding Drilled	0	Avg. Slide ROP		Type			PV		SOLID
Slide Hours	0.00	Percent Rotary	100%	Weight		Gas	YP		BHT°
Below Rotary Hrs	24.00	Percent Slide	0%	Viscosity		Sand	PH		Flow T°
				Chlorides		WL			Oil%

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Randy Monin & Tom Howard				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
								Daily Cost: \$6,000.00 Cumulative Cost: \$43,000.00			
Incl. In	1	Azm. In	0	Incl. Out	1	Azm. Out	77	Signature:			

BHA & COMMENTS

Continue drillingvertical pilot well bore remaining within a 50 ft radius cylinder to TD. Maintaining <2* inclination and <1* Dog Leg as planned.

BHA performing as designed.

FORECAST NEXT 24

Continue drilling as planned

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
19-Jun-14	00:00	01:30	1.5	6378	6389	Rotating	
19-Jun-14	01:30	01:45	0.25	6389	6389	MWD Survey & Conn.	
19-Jun-14	01:45	07:30	5.75	6389	6483	Rotating	
19-Jun-14	07:30	07:50	0.33	6483	6483	MWD Survey & Conn.	
19-Jun-14	07:50	08:40	0.83	6483	6514	Rotating	
19-Jun-14	09:00	10:10	1.17	6514	6543	Rotating	
19-Jun-14	10:30	11:05	0.58	6543	6577	Rotating	
19-Jun-14	11:05	11:20	0.25	6577	6577	MWD Survey & Conn.	
19-Jun-14	11:20	11:50	0.5	6577	6609	Rotating	
19-Jun-14	11:55	13:35	1.67	6609	6672	Rotating	
19-Jun-14	13:45	14:15	0.5	6672	6703	Rotating	
19-Jun-14	14:15	14:20	0.08	6703	6703	MWD Survey & Conn.	

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
19-Jun-14	14:20	14:45	0.42	6703	6735	Rotating	
19-Jun-14	14:50	14:50	0	6735	6735	Circulating	
19-Jun-14	14:50	17:10	2.33	6735	6735	Rig Service-Inhole	change out Rotating Rubber
19-Jun-14	17:10	17:45	0.58	6735	6766	Rotating	
19-Jun-14	17:45	17:55	0.17	6766	6766	MWD Survey & Conn.	
19-Jun-14	17:55	20:00	2.08	6766	6861	Rotating	
19-Jun-14	20:00	20:15	0.25	6861	6861	MWD Survey & Conn.	
19-Jun-14	20:15	20:45	0.5	6861	6861	Rig Service-Inhole	
19-Jun-14	20:45	22:25	1.67	6861	6955	Rotating	
19-Jun-14	22:25	22:45	0.33	6955	6955	MWD Survey & Conn.	
19-Jun-14	22:45	00:00	1.25	6955	7000	Rotating	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
19-Jun-14	00:00	00:00	24	6378	7000	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Saturday, June, 21 2014

From: Jun-20-2014 00:00 To: Jun-21-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS					
Start Depth	7,000	Rotary Hours	13.42	WOB Rot	7,000.00	PU	0	Slack Off	0
End Depth	7,282	Total Circu. Hours	16.38	WOB Slid	0	SPP	2,370.00	Flow Rate	575.00 - 575.00
Total Drilled	282	Avg. Total ROP	21.02	RAB	0	SPM	80.00		
Total Rotary Drilled	282	Avg. Rotary ROP	21.02	MUD DATA					
Total Sliding Drilled	0	Avg. Slide ROP		Type			PV		SOLID
Slide Hours	0.00	Percent Rotary	100%	Weight		Gas	YP		BHT°
Below Rotary Hrs	24.00	Percent Slide	0%	Viscosity		Sand	PH		Flow T°
				Chlorides		WL			Oil%

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Randy Monin & Tom Howard				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
								Daily Cost: \$6,000.00			
								Cumulative Cost: \$49,000.00			
Incl. In	1	Azm. In	0	Incl. Out	1	Azm. Out	77	Signature:			

BHA & COMMENTS

Continue drilling vertical pilot well bore remaining within a 50 ft radius cylinder to TD. Maintain <2° inclination and <1° Dog Leg as planned.

BHA producing excellent results, using controlled drilling of WOB, RPM, ROP, etc to increase and/or decrease inclination as needed.

FORECAST NEXT 24

Continue to drill as planned

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
20-Jun-14	00:00	02:10	2.17	7000	7050	Rotating	
20-Jun-14	02:10	02:25	0.25	7050	7050	MWD Survey & Conn.	
20-Jun-14	02:25	05:50	3.42	7050	7096	Rotating	
20-Jun-14	05:50	06:05	0.25	7096	7096	MWD Survey & Conn.	
20-Jun-14	06:05	07:45	1.67	7096	7144	Rotating	
20-Jun-14	07:45	07:55	0.17	7144	7144	MWD Survey & Conn.	
20-Jun-14	07:55	10:30	2.58	7144	7239	Rotating	
20-Jun-14	10:30	10:45	0.25	7239	7239	MWD Survey & Conn.	
20-Jun-14	10:45	14:20	3.58	7239	7282	Rotating	
20-Jun-14	14:20	14:40	0.33	7282	7282	MWD Survey	
20-Jun-14	14:40	16:38	1.97	7282	7282	Circulating	
20-Jun-14	16:38	21:00	4.37	7282	7282	Short Trip	

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357

Company Name: SOUTHWESTERN ENERGY CO

Rig Name: PATTERSON #180

Well Name: Linnebur Flying Service 3-61 #

Well Location: Lat: 39.761389, Long: -104.255

Well State:

Well County: Adams

Well Field:

Well Country:

Lead DD: Zitkovic, Frank Joseph

Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
20-Jun-14	21:00	23:05	2.08	7282	7282	POOH	
20-Jun-14	23:05	23:45	0.67	7282	7282	Circulating	Shut down due to lightning
20-Jun-14	23:45	00:00	0.25	7282	7282	POOH	

MWD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
20-Jun-14	00:00	14:20	14.33	7000	7282	Drilling	
20-Jun-14	14:20	00:00	9.67	7282	216	RIH/POOH/Trip/Wiper Tr	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Sunday, June, 22 2014

From: Jun-21-2014 00:00 To: Jun-22-2014 00:00

DRILLING SUMMARY								DRILLING PARAMETERS															
Start Depth		7,282		Rotary Hours		7.92		WOB Rot		7,666.67		PU		0		Slack Off		0					
End Depth		7,632		Total Circu. Hours		8.50		WOB Slid		0		SPP		2,770.00		Flow Rate		550.00 - 550.00					
Total Drilled		350		Avg. Total ROP		44.21		RAB		0		SPM		80.00									
Total Rotary Drilled		350		Avg. Rotary ROP		44.21		MUD DATA															
Total Sliding Drilled		0		Avg. Slide ROP				Type		Oil Base			PV		13		SOLID		5.60				
Slide Hours		0.00		Percent Rotary		100%		Weight		9.50		Gas		0		YP		9		BHT°		160	
Below Rotary Hrs		21.67		Percent Slide		0%		Viscosity		43		Sand		0.50		PH		0.0		Flow T°		155.00	
								Chlorides		0		WL		0				Oil%		81.50			
PERSONNEL								CASING															
Directional Company								Size				Set Depth											
Company Man				Randy Monin & Tom Howard				9.625				1,100											
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST															
								Daily Cost: \$17,800.00															
								Cumulative Cost: \$66,800.00															
								Signature:															
Incl. In		1		Azm. In		77														Incl. Out		3.1	
BHA & COMMENTS																							
Drill vertical pilot well bore																							
As expected																							
FORECAST NEXT 24																							
Drill vertical pilot well ore																							
DD JOURNAL																							
Date		Start		End		Hours		Start		End		Activity				Comment							
21-Jun-14		00:00		02:15		2.25		7282		7282		POOH											
21-Jun-14		02:15		02:50		0.58		7282		0		Lay Down BHA											
21-Jun-14		02:50		04:40		1.83		0		0		Pick Up BHA											
21-Jun-14		04:40		12:40		8		0		7282		TIH											
21-Jun-14		12:40		12:55		0.25		7282		7282		Circulating											
21-Jun-14		12:55		13:00		0.08		7282		7287		Rotating											
21-Jun-14		13:00		13:05		0.08		7287		7306		Rotating											
21-Jun-14		13:05		14:30		1.42		7306		7306		MWD Survey & Conn.											
21-Jun-14		14:30		15:10		0.67		7306		7381		Rotating											
21-Jun-14		15:10		15:30		0.33		7381		7381		MWD Survey & Conn.											
21-Jun-14		15:30		16:10		0.67		7381		7431		Rotating											
21-Jun-14		16:10		16:30		0.33		7431		7431		MWD Survey & Conn.											

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357

Company Name: SOUTHWESTERN ENERGY CO

Rig Name: PATTERSON #180

Well Name: Linnebur Flying Service 3-61 #

Well Location: Lat: 39.761389, Long: -104.255

Well State:

Well County: Adams

Well Field:

Well Country:

Lead DD: Zitkovic, Frank Joseph

Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
21-Jun-14	16:30	17:55	1.42	7431	7525	Rotating	
21-Jun-14	17:55	18:30	0.58	7525	7525	MWD Survey & Conn.	
21-Jun-14	18:30	22:50	4.33	7525	7620	Rotating	
21-Jun-14	22:50	23:10	0.33	7620	7620	Rig Service-Inhole	
21-Jun-14	23:10	23:20	0.17	7620	7620	MWD Survey & Conn.	
21-Jun-14	23:20	00:00	0.67	7620	7632	Rotating	

MWD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
21-Jun-14	00:00	02:15	2.25	216	0	RIH/POOH/Trip/Wiper Tr	
21-Jun-14	02:15	02:15	0	0	0	Run End - TART	
21-Jun-14	02:15	02:20	0.08	0	0	Operations	Clean floor and prep for TIH.
21-Jun-14	02:20	02:20	0	0	0	Run Start - TBRT	
21-Jun-14	02:20	13:00	10.67	0	7282	RIH/POOH/Trip/Wiper Tr	
21-Jun-14	13:00	00:00	11	7282	7632	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Monday, June, 23 2014

From: Jun-22-2014 00:00 To: Jun-23-2014 00:00

DRILLING SUMMARY								DRILLING PARAMETERS										
Start Depth		7,632		Rotary Hours		19.08		WOB Rot		6,266.67		PU	0		Slack Off		0	
End Depth		7,903		Total Circu. Hours		23.25		WOB Slid		0		SPP	2,733.33		Flow Rate		550.00 - 550.00	
Total Drilled		271		Avg. Total ROP		14.2		RAB		0		SPM	80.00					
Total Rotary Drilled		271		Avg. Rotary ROP		14.20		MUD DATA										
Total Sliding Drilled		0		Avg. Slide ROP				Type		Oil Base			PV	13		SOLID	5.60	
Slide Hours		0.00		Percent Rotary		100%		Weight		9.10	Gas	0	YP	9	BHT°	160		
Below Rotary Hrs		24.00		Percent Slide		0%		Viscosity		43	Sand	0.50	PH	0.0	Flow T°	155.00		
								Chlorides	0	WL	0				Oil%	81.50		
PERSONNEL								CASING										
Directional Company								Size				Set Depth						
Company Man				Randy Monin & Tom Howard				9.625				1,100						
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST										
MLWD - Cell Manager				Dominguez, Michael Patrick				Daily Cost: \$6,000.00 Cumulative Cost: \$72,800.00										
Incl. In	1	Azm. In	77	Incl. Out	3.1	Azm. Out	129	Signature:										
BHA & COMMENTS																		
Drill vertical pilot well bore																		
As expected																		
FORECAST NEXT 24																		
Continue drilling vertical pilot well bore																		
DD JOURNAL																		
Date		Start	End	Hours		Start		End		Activity			Comment					
22-Jun-14		00:00	06:45	6.75		7632		7714		Rotating								
22-Jun-14		06:45	07:10	0.42		7714		7714		MWD Survey & Conn.								
22-Jun-14		07:10	08:45	1.58		7714		7725		Rotating								
22-Jun-14		08:45	09:15	0.5		7725		7725		Circulating								
22-Jun-14		09:15	10:30	1.25		7725		7739		Rotating								
22-Jun-14		10:30	11:15	0.75		7739		7739		MWD Survey			check shot					
22-Jun-14		12:00	13:50	1.83		7739		7777		Rotating								
22-Jun-14		13:50	14:00	0.17		7777		7777		MWD Survey			check shot					
22-Jun-14		11:15	12:00	0.75		7739		7739		Circulating			pump sweep					
22-Jun-14		14:00	14:15	0.25		7777		7777		Circulating								
22-Jun-14		14:15	16:00	1.75		7777		7808		Rotating								
22-Jun-14		16:00	16:15	0.25		7808		7808		MWD Survey & Conn.								

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
22-Jun-14	16:15	16:35	0.33	7808	7808	Circulating	pump LCM sweep
22-Jun-14	16:35	18:30	1.92	7808	7842	Rotating	
22-Jun-14	18:30	18:35	0.08	7842	7842	MWD Survey	check shot
22-Jun-14	18:35	19:40	1.08	7842	7872	Rotating	
22-Jun-14	19:40	19:45	0.08	7872	7872	MWD Survey	check shot
22-Jun-14	19:45	22:40	2.92	7872	7903	Rotating	
22-Jun-14	22:40	22:55	0.25	7903	7903	Circulating	
22-Jun-14	22:55	23:20	0.42	7903	7903	Rig Service-Inhole	
22-Jun-14	23:20	23:25	0.08	7903	7903	MWD Survey & Conn.	
22-Jun-14	23:25	00:00	0.58	7903	7903	Circulating	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
22-Jun-14	00:00	00:00	24	7632	7903	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Tuesday, June, 24 2014

From: Jun-23-2014 00:00 To: Jun-24-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS					
Start Depth	0	Rotary Hours	0.00	WOB Rot	0	PU	0	Slack Off	0
End Depth	0	Total Circu. Hours	0.17	WOB Slid	0	SPP	0	Flow Rate	
Total Drilled	0	Avg. Total ROP		RAB	0	SPM	0		
Total Rotary Drilled	0	Avg. Rotary ROP		MUD DATA					
Total Sliding Drilled	0	Avg. Slide ROP		Type			PV		SOLID
Slide Hours	0.00	Percent Rotary		Weight		Gas	YP		BHT°
Below Rotary Hrs	5.18	Percent Slide		Viscosity		Sand	PH		Flow T°
				Chlorides		WL			Oil%

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Randy Monin & Tom Howard				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST Daily Cost: \$8,597.00 Cumulative Cost: \$81,397.00 Signature:			
MLWD - Cell Manager				Dominguez, Michael Patrick							
Incl. In	1	Azm. In	77	Incl. Out	3.1	Azm. Out	129				

BHA & COMMENTS

Tripped in hile, made 2 slides, then vibrator hose burst. Shut down drilling to clean up spill.

As expected

FORECAST NEXT 24

Drill vertical pilot well bore

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
23-Jun-14	00:00	00:10	0.17	7903	7903	Circulating	
23-Jun-14	00:10	05:10	5	7903	0	POOH	
23-Jun-14	05:10	05:30	0.33	0	0	Lay Down BHA	LD TeleDrift
23-Jun-14	05:30	00:00	18.5	0	0	Standby	Waiting on tools

MWD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
23-Jun-14	00:00	05:11	5.18	7903	0	RIH/POOH/Trip/Wiper Tr	
23-Jun-14	05:11	05:11	0	0	0	Run End - TART	
23-Jun-14	05:11	00:00	18.82	0	0	Operations	Waiting on tools, and rigging up MWD.
23-Jun-14	20:00	00:00	4	0	0	Rig Up/Rig Down	MWD hand on location and rigging up surface equipme



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Wednesday, June, 25 2014

From: Jun-24-2014 00:00 To: Jun-25-2014 00:00

DRILLING SUMMARY								DRILLING PARAMETERS															
Start Depth		0		Rotary Hours		2.25		WOB Rot		10,000.00		PU		0		Slack Off		0					
End Depth		7,968		Total Circu. Hours		18.42		WOB Slid		17,000.00		SPP		2,650.00		Flow Rate		550.00 - 550.00					
Total Drilled		65		Avg. Total ROP		21.56		RAB		0		SPM		80.00									
Total Rotary Drilled		43		Avg. Rotary ROP		19.11		MUD DATA															
Total Sliding Drilled		22		Avg. Slide ROP		24.00		Type		Oil Base			PV		8		SOLID		5.00				
Slide Hours		0.92		Percent Rotary		66.15%		Weight		9.10		Gas		0		YP		10		BHT°		170	
Below Rotary Hrs		24.00		Percent Slide		33.85%		Viscosity		42		Sand		0.50		PH		0.0		Flow T°		150.00	
								Chlorides		0		WL		0				Oil%		83.00			
PERSONNEL								CASING															
Directional Company								Size				Set Depth											
Company Man				Thomas Howard & Chris Johnson				9.625				1,100											
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST															
MLWD - Cell Manager				Dominguez, Michael Patrick				Daily Cost: \$14,085.00															
								Cumulative Cost: \$95,482.00															
								Signature:															
Incl. In				3.1		Azm. In														129		Incl. Out	
BHA & COMMENTS																							
Slid 2 times, then kelly hose burst spraying oil base mud over the location. Drilling ceased until while cleanup progressed.																							
None at this time.																							
FORECAST NEXT 24																							
Repair rig, clean up oil base, continue to drill																							
DD JOURNAL																							
Date		Start		End		Hours		Start		End		Activity				Comment							
24-Jun-14		00:00		05:15		5.25		0		7903		TIH											
24-Jun-14		05:15		06:30		1.25		7903		7903		Circulating											
24-Jun-14		06:30		06:45		0.25		7903		7913		Sliding											
24-Jun-14		06:45		07:20		0.58		7913		7927		Rotating											
24-Jun-14		07:20		07:40		0.33		7927		7927		MWD Survey & Conn.											
24-Jun-14		07:40		09:20		1.67		7927		7956		Rotating											
24-Jun-14		09:20		09:50		0.5		7956		7956		MWD Survey											
24-Jun-14		09:50		10:30		0.67		7956		7968		Sliding											
24-Jun-14		10:30		00:00		13.5		7968		7968		Rig Repair - Inhole				clean up from vibrator hose burst							
MWD JOURNAL																							
Date		Start		End		Hours		Start		End		Activity				Comment							
24-Jun-14		00:00		05:15		5.25		0		7903		RIH/POOH/Trip/Wiper Tr											

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

24-Jun-14	05:15	10:30	5.25	7903	7968	Drilling	
24-Jun-14	10:30	00:00	13.5	7968	7968	Rig Maintenance/Repair	Kelly hose parted. Waiting on parts, and clean up OBM



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Thursday, June, 26 2014

From: Jun-25-2014 00:00 To: Jun-26-2014 00:00

DRILLING SUMMARY								DRILLING PARAMETERS															
Start Depth		7,968		Rotary Hours		8.50		WOB Rot		10,150.00		PU		0		Slack Off		0					
End Depth		8,086		Total Circu. Hours		23.20		WOB Slid		16,666.67		SPP		2,403.87		Flow Rate		550.00 - 566.00					
Total Drilled		118		Avg. Total ROP		12.45		RAB		0		SPM		91.86									
Total Rotary Drilled		96		Avg. Rotary ROP		11.29		MUD DATA															
Total Sliding Drilled		22		Avg. Slide ROP		13.61		Type		Oil Base			PV		19		SOLID		6.40				
Slide Hours		1.62		Percent Rotary		81.36%		Weight		9.10		Gas		0		YP		29		BHT°		177	
Below Rotary Hrs		24.00		Percent Slide		18.64%		Viscosity		54		Sand		0.80		PH		0.0		Flow T°		155.00	
								Chlorides		0		WL		0				Oil%		82.40			
PERSONNEL								CASING															
Directional Company								Size				Set Depth											
Company Man				Thomas Howard & Chris Johnson				9.625				1,100											
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST															
MLWD - Cell Manager				Dominguez, Michael Patrick				Daily Cost: \$14,085.00															
								Cumulative Cost: \$109,567.00															
Incl. In	3.1	Azm. In	129	Incl. Out	1.43	Azm. Out	58	Signature:															
BHA & COMMENTS																							
Clean up site from drilling fluid spray. Drilled vertical pilot well bore as planned																							
BHA will not build angle as desired. Placement of top stablizer on motor negates the expectwed 6.2 degree/100 drop. Instead it builds.																							
FORECAST NEXT 24																							
Drill vertical pilot well bore as planned																							
DD JOURNAL																							
Date		Start		End		Hours		Start		End		Activity				Comment							
25-Jun-14		00:00		12:00		12		7968		7968		Rig Repair - Inhole				Kelly Hose							
25-Jun-14		12:00		12:50		0.83		7968		7968		Circulating											
25-Jun-14		12:50		14:25		1.58		7968		7990		Rotating											
25-Jun-14		14:25		14:30		0.08		7990		7990		MWD Survey				check shot							
25-Jun-14		14:30		15:00		0.5		7990		8002		Sliding											
25-Jun-14		15:00		15:35		0.58		8002		8021		Rotating											
25-Jun-14		15:35		15:50		0.25		8021		8021		MWD Survey & Conn.											
25-Jun-14		15:50		18:10		2.33		8021		8034		Rotating											
25-Jun-14		18:10		18:43		0.55		8034		8034		Other – Inhole				Reprogramming MWD							
25-Jun-14		18:43		19:40		0.95		8034		8044		Sliding											
25-Jun-14		19:40		20:35		0.92		8044		8053		Rotating											
25-Jun-14		20:35		20:40		0.08		8053		8053		MWD Survey				check shot							

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
25-Jun-14	20:40	23:35	2.92	8053	8084	Rotating	
25-Jun-14	23:35	23:40	0.08	8084	8084	MWD Survey	
25-Jun-14	23:40	23:50	0.17	8084	8086	Rotating	
25-Jun-14	23:50	00:00	0.17	8086	8086	Sliding	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
25-Jun-14	00:00	12:00	12	7968	7968	Rig Maintenance/Repair	Kelly hose parted. Waiting on parts, and clean up OBM
25-Jun-14	12:00	12:50	0.83	7968	7968	Mud Prep/Circ/Cond(hol	Circ bottoms up.
25-Jun-14	12:50	00:00	11.17	7968	8086	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Friday, June, 27 2014

From: Jun-26-2014 00:00 To: Jun-27-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS							
Start Depth	8,086	Rotary Hours	8.33	WOB Rot	10,909.09	PU	0	Slack Off	0		
End Depth	8,431	Total Circu. Hours	23.00	WOB Slid	12,090.91	SPP	2,637.69	Flow Rate	534.00 - 550.00		
Total Drilled	413	Avg. Total ROP	20.35	RAB	0	SPM	83.38				
Total Rotary Drilled	197	Avg. Rotary ROP	23.64	MUD DATA							
Total Sliding Drilled	216	Avg. Slide ROP	17.05	Type	Oil Base		PV	24	SOLID	7.20	
Slide Hours	12.67	Percent Rotary	47.7%	Weight	9.10	Gas	0	YP	29	BHT°	178
Below Rotary Hrs	24.00	Percent Slide	52.3%	Viscosity	53	Sand	0.80	PH	0.0	Flow T°	160.00
				Chlorides	0	WL	0			Oil%	81.80

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Thomas Howard & Chris Johnson				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
MLWD - Cell Manager				Dominguez, Michael Patrick				Daily Cost: \$14,085.00			
DD				Long III, Albert E				Cumulative Cost: \$123,652.00			
Incl. In	3.1	Azm. In	129	Incl. Out	1.43	Azm. Out	58	Signature:			

BHA & COMMENTS

Drilled vertical pilot well bore, attempting to drop angle and turn well bore toward center point

BHA designed to drill straight well bore, and it performs very well at that. We have not been able to steer the well by dropping angle.

FORECAST NEXT 24

Unknown at this time

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
26-Jun-14	00:00	00:25	0.42	8086	8096	Sliding	
26-Jun-14	00:25	02:25	2	8096	8116	Rotating	
26-Jun-14	02:25	03:00	0.58	8116	8116	Rig Service-Inhole	
26-Jun-14	03:00	03:10	0.17	8116	8116	MWD Survey & Conn.	
26-Jun-14	03:10	04:00	0.83	8116	8128	Sliding	
26-Jun-14	04:00	04:20	0.33	8128	8147	Rotating	
26-Jun-14	04:20	04:40	0.33	8147	8147	MWD Survey	ck sht
26-Jun-14	04:40	06:10	1.5	8147	8160	Sliding	
26-Jun-14	06:10	08:20	2.17	8160	8179	Rotating	
26-Jun-14	08:20	08:25	0.08	8179	8179	MWD Survey	ck sht
26-Jun-14	08:25	09:50	1.42	8179	8196	Sliding	
26-Jun-14	09:50	10:20	0.5	8196	8196	MWD Survey & Conn.	

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
26-Jun-14	10:20	11:25	1.08	8196	8226	Sliding	
26-Jun-14	11:25	12:00	0.58	8226	8242	Rotating	
26-Jun-14	12:00	12:10	0.17	8242	8242	MWD Survey	ck sht
26-Jun-14	12:10	12:40	0.5	8242	8260	Sliding	
26-Jun-14	12:40	13:20	0.67	8260	8273	Rotating	
26-Jun-14	13:20	13:25	0.08	8273	8273	MWD Survey	ck sht
26-Jun-14	13:25	14:30	1.08	8273	8288	Sliding	
26-Jun-14	14:30	14:50	0.33	8288	8365	Rotating	
26-Jun-14	14:50	15:00	0.17	8365	8365	MWD Survey & Conn.	
26-Jun-14	15:00	15:20	0.33	8365	8365	Rig Service-Inhole	
26-Jun-14	15:20	16:50	1.5	8365	8331	Sliding	
26-Jun-14	16:50	16:55	0.08	8331	8336	Rotating	
26-Jun-14	16:55	17:00	0.08	8336	8339	Rotating	
26-Jun-14	17:00	17:15	0.25	8339	8339	MWD Survey	
26-Jun-14	17:15	19:00	1.75	8339	8363	Sliding	
26-Jun-14	19:00	19:30	0.5	8363	8368	Rotating	
26-Jun-14	19:30	19:40	0.17	8368	8368	MWD Survey	
26-Jun-14	19:40	20:45	1.08	8368	8386	Sliding	
26-Jun-14	20:45	21:50	1.08	8386	8398	Rotating	
26-Jun-14	21:50	22:00	0.17	8398	8398	MWD Survey & Conn.	
26-Jun-14	22:00	23:30	1.5	8398	8423	Sliding	
26-Jun-14	23:30	00:00	0.5	8423	8431	Rotating	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
26-Jun-14	00:00	00:00	24	8086	8431	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Saturday, June, 28 2014

From: Jun-27-2014 00:00 To: Jun-28-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS							
Start Depth	8,431	Rotary Hours	13.00	WOB Rot	9,875.00	PU	0	Slack Off	0		
End Depth	8,858	Total Circu. Hours	23.17	WOB Slid	8,800.00	SPP	2,572.93	Flow Rate	535.00 - 550.00		
Total Drilled	427	Avg. Total ROP	19.04	RAB	0	SPM	85.54				
Total Rotary Drilled	321	Avg. Rotary ROP	24.69	MUD DATA							
Total Sliding Drilled	106	Avg. Slide ROP	13.39	Type	Oil Base		PV	27	SOLID	6.40	
Slide Hours	7.92	Percent Rotary	75.18%	Weight	9.00	Gas	0	YP	27	BHT°	180
Below Rotary Hrs	24.00	Percent Slide	24.82%	Viscosity	57	Sand	0.50	PH	0.0	Flow T°	125.00
				Chlorides	0	WL	0			Oil%	82.00

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Thomas Howard & Chris Johnson				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
MLWD - Cell Manager				Dominguez, Michael Patrick				Daily Cost: \$15,585.00 Cumulative Cost: \$139,237.00 Signature:			
DD				Long III, Albert E							
Incl. In	3.1	Azm. In	129	Incl. Out	1.43	Azm. Out	58				

BHA & COMMENTS

Drilled vertical pilot well bore.

BHA performed as designed. It resisted efforets to slide and reduce inclination.

FORECAST NEXT 24

Drill vertical pilot wellbore

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
27-Jun-14	00:00	00:05	0.08	8431	8431	MWD Survey	ch shot
27-Jun-14	00:05	02:40	2.58	8431	8464	Sliding	
27-Jun-14	02:40	03:00	0.33	8464	8464	MWD Survey & Conn.	
27-Jun-14	03:00	03:30	0.5	8464	8474	Rotating	
27-Jun-14	03:30	04:55	1.42	8474	8492	Sliding	
27-Jun-14	04:55	06:15	1.33	8492	8525	Rotating	
27-Jun-14	06:15	06:25	0.17	8525	8525	MWD Survey	ck shot
27-Jun-14	06:25	07:30	1.08	8525	8530	Rotating	
27-Jun-14	07:30	09:05	1.58	8530	8550	Sliding	
27-Jun-14	09:05	09:45	0.67	8550	8560	Rotating	
27-Jun-14	09:45	09:55	0.17	8560	8560	MWD Survey	ck shot
27-Jun-14	09:55	10:45	0.83	8560	8580	Sliding	

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
27-Jun-14	10:45	11:15	0.5	8580	8587	Rotating	
27-Jun-14	11:15	11:25	0.17	8587	8587	MWD Survey & Conn.	
27-Jun-14	11:25	12:15	0.83	8587	8620	Rotating	
27-Jun-14	12:15	12:25	0.17	8620	8620	MWD Survey	ck shot
27-Jun-14	12:25	13:10	0.75	8620	8651	Rotating	
27-Jun-14	13:10	13:20	0.17	8651	8651	MWD Survey	ck shot
27-Jun-14	13:20	14:30	1.17	8651	8651	Rig Repair - Inhole	replace Rubber
27-Jun-14	14:30	16:00	1.5	8651	8666	Sliding	
27-Jun-14	16:00	16:25	0.42	8666	8682	Rotating	
27-Jun-14	16:25	16:35	0.17	8682	8682	MWD Survey & Conn.	
27-Jun-14	16:35	17:15	0.67	8682	8714	Rotating	
27-Jun-14	17:15	17:25	0.17	8714	8714	MWD Survey	ck shot
27-Jun-14	17:25	18:50	1.42	8714	8745	Rotating	
27-Jun-14	18:50	19:00	0.17	8745	8745	MWD Survey	ck shot
27-Jun-14	19:00	20:20	1.33	8745	8776	Rotating	
27-Jun-14	20:20	20:30	0.17	8776	8776	MWD Survey & Conn.	
27-Jun-14	20:30	22:30	2	8776	8824	Rotating	
27-Jun-14	22:30	22:30	0	8824	8824	MWD Survey	ck shot
27-Jun-14	22:30	00:00	1.5	8824	8858	Rotating	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
27-Jun-14	00:00	00:00	24	8431	8858	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Sunday, June, 29 2014

From: Jun-28-2014 00:00 To: Jun-29-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS							
Start Depth	8,858	Rotary Hours	15.08	WOB Rot	27,475.00	PU	285,333.33	Slack Off	244,333.33		
End Depth	9,328	Total Circu. Hours	23.33	WOB Slid	0	SPP	2,381.55	Flow Rate	522.00 - 550.00		
Total Drilled	470	Avg. Total ROP	31.16	RAB	277,000.00	SPM	134.00				
Total Rotary Drilled	470	Avg. Rotary ROP	31.16	MUD DATA							
Total Sliding Drilled	0	Avg. Slide ROP		Type	Oil Base		PV	16	SOLID	7.20	
Slide Hours	0.00	Percent Rotary	100%	Weight	9.10	Gas	0	YP	17	BHT°	181
Below Rotary Hrs	24.00	Percent Slide	0%	Viscosity	53	Sand	0.50	PH	0.0	Flow T°	115.00
				Chlorides	0	WL	0			Oil%	84.00

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Thomas Howard & Chris Johnson				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
MLWD - Cell Manager				Dominguez, Michael Patrick				Daily Cost: \$15,585.00 Cumulative Cost: \$154,822.00 Signature:			
DD				Long III, Albert E							
Incl. In	3.1	Azm. In	129	Incl. Out	1.43	Azm. Out	58				

BHA & COMMENTS

Drilled ahead until loss of Circulation at 9328 ft. Spent the remainder of the evening circulating and attempting to regain circulatin and heal the hole.

Drilled vertical pilot well bore.

BHA performed as designed. It resisted efforets to slide and reduce inclination.

FORECAST NEXT 24

Continue to drill ahead until we either reach TD or have to trip.

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
28-Jun-14	00:00	00:30	0.5	8858	8871	Rotating	
28-Jun-14	00:30	01:00	0.5	8871	8871	MWD Survey	ck shot
28-Jun-14	01:00	05:00	4	8871	8966	Rotating	
28-Jun-14	05:00	05:15	0.25	8966	8966	MWD Survey & Conn.	
28-Jun-14	05:15	05:30	0.25	8966	8966	Rig Service-Inhole	
28-Jun-14	05:30	09:15	3.75	8966	9060	Rotating	
28-Jun-14	09:15	09:25	0.17	9060	9060	MWD Survey	ck shot
28-Jun-14	09:25	11:50	2.42	9060	9155	Rotating	
28-Jun-14	11:50	12:00	0.17	9155	9155	MWD Survey & Conn.	
28-Jun-14	12:00	12:15	0.25	9155	9155	Rig Service-Inhole	
28-Jun-14	12:15	14:50	2.58	9155	9249	Rotating	

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357

Company Name: SOUTHWESTERN ENERGY CO

Rig Name: PATTERSON #180

Well Name: Linnebur Flying Service 3-61 #

Well Location: Lat: 39.761389, Long: -104.255

Well State:

Well County: Adams

Well Field:

Well Country:

Lead DD: Zitkovic, Frank Joseph

Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
28-Jun-14	14:50	15:05	0.25	9249	9249	MWD Survey & Conn.	
28-Jun-14	15:05	16:55	1.83	9249	9328	Rotating	
28-Jun-14	16:55	00:00	7.08	9328	9328	Circulating	Loss of circulation / pump LCM Pill / Pull 2 stands / Pum
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
28-Jun-14	00:00	00:00	24	8858	9328	Drilling	Loss of circulation.



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Monday, June, 30 2014

From: Jun-29-2014 00:00 To: Jun-30-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS							
Start Depth	9,328	Rotary Hours	19.83	WOB Rot	33,175.00		PU	289,333.33		Slack Off	250,777.78
End Depth	10,054	Total Circu. Hours	21.83	WOB Slid	32,200.00		SPP	2,679.98		Flow Rate	332.00 - 547.00
Total Drilled	726	Avg. Total ROP	110.91	RAB	278,666.67		SPM	147.11			
Total Rotary Drilled	631	Avg. Rotary ROP	31.82	MUD DATA							
Total Sliding Drilled	95	Avg. Slide ROP	190.00	Type	Oil Base			PV	19	SOLID	7.80
Slide Hours	0.50	Percent Rotary	86.91%	Weight	9.25	Gas	0	YP	23	BHT°	199
Below Rotary Hrs	24.00	Percent Slide	13.09%	Viscosity	50	Sand	0.50	PH	0.0	Flow T°	150.00
				Chlorides	0	WL	0			Oil%	81.10

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Thomas Howard & Chris Johnson				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
MLWD - Cell Manager				Dominguez, Michael Patrick				Daily Cost: \$15,585.00 Cumulative Cost: \$170,407.00 Signature:			
DD				Long III, Albert E							
Incl. In	3.1	Azm. In	129	Incl. Out	1.43	Azm. Out	58				

BHA & COMMENTS

Drilling ahead, maintaining desired <2 deg.

Maintaining <2 deg INC.

FORECAST NEXT 24

Continue drilling ahead in the vertical pilot hole until we either reach TD or have to trip.

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
29-Jun-14	00:00	01:30	1.5	9328	9328	Circulating	
29-Jun-14	01:30	01:55	0.42	9328	9343	Rotating	
29-Jun-14	01:55	02:10	0.25	9343	9343	MWD Survey & Conn.	
29-Jun-14	02:10	05:10	3	9343	9438	Rotating	
29-Jun-14	05:10	05:25	0.25	9438	9438	MWD Survey & Conn.	
29-Jun-14	05:25	08:05	2.67	9438	9532	Rotating	
29-Jun-14	08:05	08:25	0.33	9532	9532	MWD Survey & Conn.	
29-Jun-14	08:25	08:55	0.5	9532	9627	Sliding	
29-Jun-14	08:55	11:30	2.58	9627	9627	Rotating	
29-Jun-14	11:30	11:40	0.17	9627	9627	MWD Survey & Conn.	
29-Jun-14	11:40	14:15	2.58	9627	9721	Rotating	
29-Jun-14	14:15	14:30	0.25	9721	9721	MWD Survey & Conn.	

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357

Company Name: SOUTHWESTERN ENERGY CO

Rig Name: PATTERSON #180

Well Name: Linnebur Flying Service 3-61 #

Well Location: Lat: 39.761389, Long: -104.255

Well State:

Well County: Adams

Well Field:

Well Country:

Lead DD: Zitkovic, Frank Joseph

Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
29-Jun-14	14:30	16:15	1.75	9721	9815	Rotating	
29-Jun-14	16:15	16:25	0.17	9815	9815	MWD Survey & Conn.	
29-Jun-14	16:25	19:15	2.83	9815	9910	Rotating	
29-Jun-14	19:15	19:30	0.25	9910	9910	MWD Survey & Conn.	
29-Jun-14	19:30	22:20	2.83	9910	10004	Rotating	
29-Jun-14	22:20	22:50	0.5	10004	10004	MWD Survey & Conn.	
29-Jun-14	22:50	00:00	1.17	10004	10054	Rotating	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
29-Jun-14	00:00	00:00	24	9328	10054	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Tuesday, July, 01 2014

From: Jun-30-2014 00:00 To: Jul-01-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS							
Start Depth	10,054	Rotary Hours	20.25	WOB Rot	30,157.14	PU	298,166.67	Slack Off	264,333.33		
End Depth	10,767	Total Circu. Hours	22.33	WOB Slid	0	SPP	2,494.45	Flow Rate	480.00 - 522.00		
Total Drilled	706	Avg. Total ROP	34.86	RAB	287,333.33	SPM	142.86				
Total Rotary Drilled	706	Avg. Rotary ROP	34.86	MUD DATA							
Total Sliding Drilled	0	Avg. Slide ROP		Type	Oil Base		PV	25	SOLID	7.40	
Slide Hours	0.00	Percent Rotary	100%	Weight	9.10	Gas	0	YP	25	BHT°	212
Below Rotary Hrs	24.00	Percent Slide	0%	Viscosity	46	Sand	0.50	PH	0.0	Flow T°	150.00
				Chlorides	0	WL	0			Oil%	81.20

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Thomas Howard & Chris Johnson				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST			
MLWD - Cell Manager				Dominguez, Michael Patrick				Daily Cost: \$15,585.00 Cumulative Cost: \$185,992.00 Signature:			
DD				Long III, Albert E							
Incl. In	3.1	Azm. In	129	Incl. Out	1.43	Azm. Out	58				

BHA & COMMENTS

Drill vertical pilot well bore

As designed.

FORECAST NEXT 24

Drilling vertical pilot well bore to TD, circulate out, POOH, LD tools

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
30-Jun-14	00:00	01:10	1.17	10054	10099	Rotating	
30-Jun-14	01:10	01:25	0.25	10099	10099	MWD Survey & Conn.	
30-Jun-14	01:25	03:50	2.42	10099	10193	Rotating	
30-Jun-14	03:50	03:55	0.08	10193	10193	MWD Survey	
30-Jun-14	03:55	04:30	0.58	10193	10193	Rig Service-Inhole	Make connection and do rig service.
30-Jun-14	04:30	07:15	2.75	10193	10288	Rotating	
30-Jun-14	07:15	08:40	1.42	10288	10288	Rig Service-Inhole	
30-Jun-14	08:40	09:00	0.33	10288	10288	MWD Survey & Conn.	
30-Jun-14	09:00	11:10	2.17	10288	10382	Rotating	
30-Jun-14	11:10	11:25	0.25	10382	10382	MWD Survey & Conn.	
30-Jun-14	11:25	14:00	2.58	10382	10476	Rotating	
30-Jun-14	14:00	14:10	0.17	10476	10476	MWD Survey & Conn.	

Run Statistics Calculated from DD Journal



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

DD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
30-Jun-14	14:10	15:50	1.67	10476	10571	Rotating	
30-Jun-14	15:50	16:00	0.17	10571	10571	MWD Survey & Conn.	
30-Jun-14	16:00	18:40	2.67	10571	10666	Rotating	
30-Jun-14	18:40	19:00	0.33	10666	10666	MWD Survey & Conn.	
30-Jun-14	19:00	23:00	4	10666	10760	Rotating	
30-Jun-14	23:00	23:10	0.17	10760	10767	MWD Survey & Conn.	
30-Jun-14	23:10	00:00	0.83	10767	10767	Rotating	
MWD JOURNAL							
Date	Start	End	Hours	Start	End	Activity	Comment
30-Jun-14	00:00	00:00	24	10054	10767	Drilling	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Wednesday, July, 02 2014

From: Jul-01-2014 00:00 To: Jul-02-2014 00:00

DRILLING SUMMARY				DRILLING PARAMETERS					
Start Depth	10,767	Rotary Hours	2.17	WOB Rot	0	PU	0	Slack Off	0
End Depth	0	Total Circu. Hours	5.50	WOB Slid	0	SPP	0	Flow Rate	
Total Drilled	23	Avg. Total ROP	10.62	RAB	0	SPM	0		
Total Rotary Drilled	23	Avg. Rotary ROP	10.62	MUD DATA					
Total Sliding Drilled	0	Avg. Slide ROP		Type			PV		SOLID
Slide Hours	0.00	Percent Rotary	100%	Weight		Gas	YP		BHT°
Below Rotary Hrs	15.50	Percent Slide	0%	Viscosity		Sand	PH		Flow T°
				Chlorides		WL			Oil%

PERSONNEL								CASING			
Directional Company								Size		Set Depth	
Company Man				Thomas Howard & Chris Johnson				9.625		1,100	
DD - Cell Manager				Zitkovic, Frank Joseph				<div>DAILY COST</div> <div>Daily Cost: \$14,085.00</div> <div>Cumulative Cost: \$200,077.00</div> <div>Signature:</div>			
MLWD - Cell Manager				Dominguez, Michael Patrick							
Incl. In	3.1	Azm. In	129	Incl. Out	1.43	Azm. Out	58				

BHA & COMMENTS

FORECAST NEXT 24

DD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
01-Jul-14	00:00	01:20	1.33	10767	10767	Rig Repair - Inhole	Blew Rotating Rubber
01-Jul-14	01:20	03:30	2.17	10767	10790	Rotating	
01-Jul-14	03:30	05:30	2	10790	10790	Circulating	
01-Jul-14	05:30	15:00	9.5	10790	0	POOH	
01-Jul-14	15:00	17:00	2	0	0	Lay Down BHA	
01-Jul-14	17:00	17:00	0	0	0	Lay Down BHA	move tools off floor
01-Jul-14	17:00	20:00	3	0	0	Standby	Waiting on truck
01-Jul-14	20:00	22:00	2	0	0	Standby	load truck
01-Jul-14	22:00	22:00	0	0	0	Standby	too late to depart on journey
01-Jul-14	22:00	00:00	2	0	0	Standby	

MWD JOURNAL

Date	Start	End	Hours	Start	End	Activity	Comment
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Run Statistics Calculated from DD Journal



Job Number: 14CAS0357

Company Name: SOUTHWESTERN ENERGY CO

Rig Name: PATTERSON #180

Well Name: Linnebur Flying Service 3-61 #

Well Location: Lat: 39.761389, Long: -104.255

Well State:

Well County: Adams

Well Field:

Well Country:

Lead DD: Zitkovic, Frank Joseph

Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2							
01-Jul-14	00:00	04:30	4.5	10767	10790	Drilling	TD
01-Jul-14	04:30	15:30	11	10790	0	RIH/POOH/Trip/Wiper Tr	
01-Jul-14	15:30	15:30	0	0	0	Run End - TART	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Daily Report for Thursday, July, 03 2014

From: Jul-02-2014 00:00 To: Jul-03-2014 00:00

DRILLING SUMMARY								DRILLING PARAMETERS											
Start Depth	0		Rotary Hours					WOB Rot	0		PU	0		Slack Off	0				
End Depth	0		Total Circu. Hours					WOB Slid	0		SPP	0		Flow Rate					
Total Drilled			Avg. Total ROP					RAB	0		SPM	0							
Total Rotary Drilled			Avg. Rotary ROP					MUD DATA											
Total Sliding Drilled			Avg. Slide ROP					Type					PV			SOLID			
Slide Hours			Percent Rotary					Weight			Gas			YP			BHT°	0	
Below Rotary Hrs			Percent Slide					Viscosity			Sand			PH			Flow T°		
							Chlorides			WL					Oil%				
PERSONNEL								CASING											
Directional Company								Size				Set Depth							
Company Man				Thomas Howard & Chris Johnson				9.625				1,100							
DD - Cell Manager				Zitkovic, Frank Joseph				DAILY COST											
MLWD - Cell Manager				Dominguez, Michael Patrick				Daily Cost: Cumulative Cost: \$200,077.00 Signature:											
Incl. In	3.1	Azm. In	129	Incl. Out	1.43	Azm. Out	58												
BHA & COMMENTS																			
FORECAST NEXT 24																			
DD JOURNAL																			
Date	Start	End	Hours	Start	End	Activity	Comment												
02-Jul-14	00:00	12:00	12	0	0	Standby	travel home												



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

BHA # 1 on Run # 1 - BHA Summary Information

TIME IN - OUT						Rotary Hours		85.52		Start Depth		1100		RPM Range		Flow Rate															
Start Time			End Time			Total Circu. Hours		103.83		End Depth		7282		40-112		400-575															
15-Jun-14 @ 07:40			21-Jun-14 @ 02:15			Slide Hours		0.00		Percent Rotary		100%																			
						Below Rotary Hour		138.58		Percent Slide		0%																			
Total Drilled			6,182.00			Avg. Total ROP			72.29		Incl.			Azimuth																	
Total Rotary Drilled			6,182.00			Avg. Rotary ROP			72.29		IN		OUT		IN		OUT														
Total Drilled Sliding			0.00			Avg. Slide ROP					1		1		0		77														
SPP		900-2,340			wt. SOW		-		PUW		-		RSW		-		Rea. POOH		Change Bottom Hole Assembly (non-failure)												
Bit Data						Motor Data						Mud Data																			
Security DBS (HAL)				FX65D				MOTOR ASSY 675 - G2 - FIXED						Type		Oil Base			BHT		151										
Bit Type		PDC				Model		G2		Pad OD		0.00		WT		8.9		Gas				Solids		5							
TFA		1.491				MFG		Pathfinder		Stator / Ro		7:8		Vis		43		Sand		0.5		T		140							
JETS		18		18		18		18		18		Bend		0.00		Motor Diff		80		PV		10		PH				Chlor			
		18										Bit to Bend				Output		0.29		YP		9		WL				Oil%		20.4	
Bit Coding		IADC #		M111				NB Stab		0.00		Rotor Jet				PUMPS		PUMP1			PUMP2										
IR	OR	DL	LOC	BS	G	ODL		Sensor Offsets						NAME																	
1	1	CT	T	X	I	BTBHA										Model		F-1600													
Bit Drop		53 PSI @ 400 GPM														Type		Triplex													
																Liner		5.5													
																		Stroke		12											
																				Output		353									

Comments

BHA Performed as expected. Slight WOB variations increased or decreased inclination as desired.

BHA Detail

#	Description	Serial #	I.D	O.D	Length	Sum	Top Conn
1	PDC	12175658		8.75	1	1	4 1/2 in REG PIN
2	MOTOR ASSY 675 - G2 - FIXED	F67B176				1	
3	Pony DC	DR14436	2.38	6.5	11.95	12.95	4 1/2 in XH BOX
4	Non-Mag Drill Collar	DR7784	2.75	6.5	30.29	43.24	4 1/2 in XH BOX
5	Straight Blade	620-430	2.25	8.5	4.42	47.66	4 1/2 in XH BOX
6	Drill Collar	col-2	2.25	6	61.44	109.1	4 1/2 in XH BOX
7	String Stabilizer	670-342	2.25	8.5	4.89	113.99	4 1/2 in XH BOX
8	Drill Collar	col-5	2.25	6	153.32	267.31	4 1/2 in XH BOX
9	Xover Subs	xxxx-1	2.25	6.5	3.04	270.35	4 1/2 in NC50(XH) BOX
10	HWDP	xxxx-39		5	1191.14	1461.49	4 1/2 in NC50(XH) BOX
11	Drilling Jar	xxxx-2		6.5	31.4	1492.89	4 1/2 in NC50(XH) BOX
12	HWDP	xxxx-11		5	335.92	1828.81	4 1/2 in NC50(XH) BOX

HWDP, O.D=5,
Length=335.92

Drilling Jar,
O.D=6.5,
Length=31.4

HWDP, O.D=5,
Length=1191.14

Xover Subs,
O.D=6.5, Length
Drill Collar,
O.D=6,
Length=153.32,
F.N=6

String Stabilizer,
O.D=8.5,
Length=4.89,
F.N=6.25

Drill Collar,
O.D=6,
Length=61.44,
F.N=6

Straight Blade,
O.D=8.5,
Length=4.42

Non-Mag Drill
Collar, O.D=6.5,
Length=30.29,
F.N=6.5

Pony DC,
O.D=6.5,
Length=11.95

MOTOR ASSY
675 - G2 -
FIXED

PDC, O.D=8.75,
Length=1



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

BHA # 2 on Run # 2 - BHA Summary Information

TIME IN - OUT						Rotary Hours		27.00	Start Depth		7282	RPM Range		Flow Rate			
Start Time			End Time			Total Circu. Hours		31.92	End Depth		7903	114-118		550-550			
21-Jun-14 @ 02:20			23-Jun-14 @ 05:11			Slide Hours		0.00	Percent Rotary		100%						
						Below Rotary Hour		50.85	Percent Slide		0%						
Total Drilled			621.00			Avg. Total ROP		23		Incl.			Azimuth				
Total Rotary Drilled			621.00			Avg. Rotary ROP		23		IN		OUT		IN		OUT	
Total Drilled Sliding			0.00			Avg. Slide ROP				1		3.1		77		129	
SPP	2,660-2,720			wt. SOW		-		PUW	-	RSW	-		Rea. POOH	Change Bottom Hole Assembly (non-failure)			
Bit Data						Motor Data						Mud Data					
Smith-SLB				MDSi616				Rental Motor, 675				Type	Oil Base			BHT	160
Bit Type		PDC				Model	Rental Moto		Pad OD			WT	9.1	Gas		Solids	5.6
TFA		1.107				MFG	Cougar Drill		Stator / Ro		7:8	Vis	43	Sand	0.5	T	155
JETS		15	15	15	16	16	Bend			Motor Diff	40	PV	13	PH		Chlor	
		16					Bit to Bend			Output	0.29	YP	9	WL	18.5	Oil%	81.5
Bit Coding		IADC #		M111				NB Stab			Rotor Jet			PUMPS	PUMP1		PUMP2
IR	OR	DL	LOC	BS	G	ODL		Sensor Offsets				NAME					
0	0	NO	A	X	I	NOBHA						Model					
Bit Drop		854 PSI @ 550 GPM										Type		Triplex			
												Liner		5.5			
												Stroke		12			
												Output		353			

Comments

BHA ran as expected.

BHA Detail

#	Description	Serial #	I.D	O.D	Length	Sum	Top Conn
1	PDC	JE9226		8.75	0.9	0.9	4 1/2 in REG PIN
2	Rental Motor, 675	650-101		6.75	31.33	32.23	
3	Pony DC	DR14436	2.38	6.5	11.95	44.18	4 1/2 in XH BOX
4	Non-Mag Drill Collar	DR7784	2.75	6.5	30.29	74.47	4 1/2 in XH BOX
5	Straight Blade	620-430	2.25	8.5	4.42	78.89	4 1/2 in XH BOX
6	Drill Collar	Rig-2ea	2.25	6.5	61.44	140.33	4 1/2 in XH BOX
7	Straight Blade	670-342	2.25	8.5	4.89	145.22	4 1/2 in XH BOX
8	Drill Collar	Rig-11ea	2.25	6.5	153.32	298.54	4 1/2 in XH BOX
9	Xover Subs	Rig-3	2.25	6.5	3.04	301.58	4 1/2 in NC50(XH) BOX
10	HWDP	Rig-39	3	5	1191.14	1492.72	4 1/2 in NC50(XH) BOX
11	Drilling Jar	X2	2.25	6.5	31.4	1524.12	4 1/2 in NC50(XH) BOX
12	HWDP	Rig-11	3	5	335.92	1860.04	4 1/2 in NC50(XH) BOX

HWDP, O.D.=5,
Length=335.92

Drilling Jar,
O.D=6.5,
Length=31.4

HWDP, O.D.=5,
Length=1191.14

Xover Subs,
O.D=6.5, Length
Drill Collar,
O.D=6.5,
Length=153.32

Straight Blade,
O.D=8.5,
Length=4.89

Drill Collar,
O.D=6.5,
Length=61.44

Straight Blade,
O.D=8.5,
Length=4.42

Non-Mag Drill
Collar, O.D=6.5,
Length=30.29

Pony DC,
O.D=6.5,
Length=11.95

Rental Motor,
675, O.D=6.75,
Length=31.33

PDC, O.D=8.75,
Length=0.9



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

BHA # 3 on Run # 3 - BHA Summary Information

TIME IN - OUT							Rotary Hours		89.42		Start Depth		7903 <th colspan="2">RPM Range</th> <th colspan="2">Flow Rate</th>		RPM Range		Flow Rate			
Start Time			End Time				Total Circu. Hours		160.78		End Depth		10790		0-120		332-566			
24-Jun-14 @ 00:00			01-Jul-14 @ 15:30				Slide Hours		23.62		Percent Rotary		84.36%							
							Below Rotary Hour		183.50		Percent Slide		15.64%							
Total Drilled			2,948.00		Avg. Total ROP			23.67		Incl.			Azimuth							
Total Rotary Drilled			2,487.00		Avg. Rotary ROP			27.81		IN		OUT		IN		OUT				
Total Drilled Sliding			461.00		Avg. Slide ROP			19.52		3.1		1.43		129		58				
SPP	392-3,017		wt. SOW		240,000-269,000		PUW	280,000-30		RSW	251,000-28		Rea. POOH		Well Total Depth					
Bit Data							Motor Data					Mud Data								
Smith-SLB			MDSi616				Rental Motor, 675					Type		Oil Base			BHT	185		
Bit Type		PDC					Model	Rental Moto		Pad OD			WT	9.10	Gas		Solids	7.40		
TFA		1.107					MFG	Cougar Drill		Stator / Ro		7:8	Vis	46	Sand	0.50	T	150.00		
JETS		16	16	16	15	15	Bend				Motor Diff	4.3508	PV	25	PH		Chlor			
		15					Bit to Bend				Output	0.29	YP	25	WL	29	Oil%	81.20		
Bit Coding		IADC #		M111			NB Stab				Rotor Jet				PUMPS		PUMP1		PUMP2	
IR	OR	DL	LOC	BS	G	ODL		Sensor Offsets					NAME							
1	8	WT	S	X	4	WTTD		HDS1		52.84					Model					
Bit Drop		240 PSI @ 332 GPM													Type		Triplex			
															Liner		5.5			
															Stroke		12			
															Output		353			

Comments

Good MWD runs.

Company : SOUTHWESTERN ENERGY
Well : LINNEBUR 3-61-1-30PH
Field :
API Well : 05-001-09804-00

TCM : XL0713

Start Time : 07-Jan-2000 00:43:50 (BAD DATE AND TIME)
End Time : 08-Jan-2000 11:53:34

0 - 20 cps 21.24 hrs 504 pts
21 - 50 cps 9.76 hrs 262 pts
51 - 100 cps 2.77 hrs 83 pts
101 - 200 cps 1.37 hrs 42 pts
201 - 300 cps 0.03 hrs 1 pts
> 300 cps 0 hrs 0 pts

BHA Detail

#	Description	Serial #	I.D	O.D	Length	Sum	Top Conn
1	PDC	JE9226		8.75	0.9	0.9	
2	Rental Motor, 675	650-101		6.75	31.33	32.23	
3	String Stabilizer	670-342		8.5	4.89	37.12	
4	FLOAT SUB 675	D67F608A		6.5	3.12	40.24	
5	COLLAR HDS1 675	D67C666		6.5	29.68	69.92	
6	Xover Subs	B67X175		6.5	3.41	73.33	
7	Non-Mag Drill Collar	DR7784		6.5	30.29	103.62	
8	String Stabilizer	620-430		8.5	4.42	108.04	
9	Drill Collar	RIG-1x13			214.76	322.8	
10	Xover Subs	RIG-3				322.8	

Xover Subs

Drill Collar,
Length=214.76

String Stabilizer,
O.D=8.5,
Length=4.42

Non-Mag Drill
Collar, O.D=6.5,
Length=30.29

Xover Subs,
O.D=6.5,
Length=3.41

COLLAR HDS1
675, O.D=6.5,
Length=29.68

FLOAT SUB 675
String Stabilizer,
O.D=8.5,
Length=4.89

Rental Motor,
675, O.D=6.75,
Length=31.33

PDC, O.D=8.75,
Length=0.9



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Mud Motor / Rotary Steerable Report for BHA # 1 on Run # 1

Time and Depths		Motor		RSS	
Date In:	15-Jun-2014 @ 07:40	Desc:	MOTOR ASSY 675 - G2 - FI	Desc:	
Date Out:	21-Jun-2014 @ 02:15	MFG:	Pathfinder	Service Name:	
Hours In Hole:	139	BHA Circ/All BHA:	103.833333333333 / 296.533	BHA Circ/All BHA:	
Start Depth:	1100	Motor SN:	F67B176	Rotary SN:	
End Depth:	7282	Pad OD:	0.00	RS Pad OD:	
Total Drilled:	6,182	NB Stab:	0.00	RS Stab OD:	
Avg. Total ROP:	44.61	Bit to Bend Dist:		Bias Unit Type:	
Total Circu. Hours:	103.833333333333	Bent Hsg / Sub:	0.00	RT Com M Method:	
Percent Slide:	0%	Lobe / Stage:	7:8 / 5	Control Collar Stab:	
Percent Slide Hours:	0%	Output:	0.290	CC Stab Size:	
Slide Hours:	0.00	Rotor Jet:		Prop BUR:	
Total Sliding:	0	Prop Yield:	1.00	Act BUR:	
Avg. Slide ROP:		Act Yield:	1.00	Strike Ring Size:	
Percent Rotary:	100%	Stator Clearance:		Bit Period:	
Percent Rotary Hours:	100%	Number of Stalls:		Bit to Ref Point:	
Rot / Total Hours:	85.52	Stall Pressure:		% Drop Flow:	
Rotary Drilled:	6,182				
Avg. Rotary ROP:	72.29				
Reason POOH:	Change Bottom Hole As				

Drilling Parameters

SO / PU:	/	SPP On Bot:	900 - 2,450	Flow Rate:	400 - 575
Rotating WOB:	4,438.89	SPP Off Bot:	750 - 2,340		
Sliding WOB:		Avg Diff:	89.44		
On Bot Torque:	0	Motor RPM:	162.4		
Off Bot Torque:	0	Rotary RPM:	40 - 112		

Bit Record

Description:	PDC	Jets:	18,18,18,18,18,18	IADC#	M111
Run #	1	Bit Drop:	53 PSI @ 400 GPM	TFA:	1.491
Type Bit:	PDC	Condition:	1,1,CT,T,X,I,BT,BHA		

Mud Data

Type:	Oil Base							WT:	8.9	Vis:	43	WL:		PV:	10	Flow T:	140
Sand:	0.5	Chlor:		Gas:		Sol:	5	Oil %:	20.4	YP:	9	PH:		BH Temp:		151	

Formation:

Expanded Reason to Pull: Unplanned Change of Bit

BHA Performance and Comments:

BHA Performed as expected. Slight WOB variations increased or decreased inclination as desired.



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Mud Motor / Rotary Steerable Report for BHA # 2 on Run # 2

Time and Depths		Motor		RSS	
Date In:	21-Jun-2014 @ 02:20	Desc:	Rental Motor, 675	Desc:	
Date Out:	23-Jun-2014 @ 05:11	MFG:	Cougar Drilling Solutions	Service Name:	
Hours In Hole:	51	BHA Circ/All BHA:	31.9166666666667 / 296.533	BHA Circ/All BHA:	
Start Depth:	7282	Motor SN:	650-101	Rotary SN:	
End Depth:	7903	Pad OD:		RS Pad OD:	
Total Drilled:	621	NB Stab:		RS Stab OD:	
Avg. Total ROP:	12.21	Bit to Bend Dist:		Bias Unit Type:	
Total Circu. Hours:	31.9166666666667	Bent Hsg / Sub:	/	RT Com M Method:	
Percent Slide:	0%	Lobe / Stage:	7:8 /	Control Collar Stab:	
Percent Slide Hours:	0%	Output:	0.290	CC Stab Size:	
Slide Hours:	0.00	Rotor Jet:		Prop BUR:	
Total Sliding:	0	Prop Yield:		Act BUR:	
Avg. Slide ROP:		Act Yield:		Strike Ring Size:	
Percent Rotary:	100%	Stator Clearance:		Bit Period:	
Percent Rotary Hours:	100%	Number of Stalls:		Bit to Ref Point:	
Rot / Total Hours:	27.00	Stall Pressure:		% Drop Flow:	
Rotary Drilled:	621				
Avg. Rotary ROP:	23				
Reason POOH:	Change Bottom Hole As				

Drilling Parameters

SO / PU:	/	SPP On Bot:	2,660 - 2,770	Flow Rate:	550 - 550
Rotating WOB:	6,733.33	SPP Off Bot:	2,600 - 2,720		
Sliding WOB:		Avg Diff:	127.78		
On Bot Torque:	5	Motor RPM:	159.5		
Off Bot Torque:	2	Rotary RPM:	114 - 118		

Bit Record

Description:	PDC	Jets:	15,15,15,16,16,16	IADC#	M111
Run #	2	Bit Drop:	854 PSI @ 550 GPM	TFA:	1.107
Type Bit:	PDC	Condition:	0,0,NO,A,X,I,NO,BHA		

Mud Data

Type:	Oil Base							WT:	9.1	Vis:	43	WL:	18.5	PV:	13	Flow T:	155
Sand:	0.5	Chlor:		Gas:		Sol:	5.6	Oil %:	81.5	YP:	9	PH:		BH Temp:		160	

Formation:

Expanded Reason to Pull: Planned change/add of MWD Tool

BHA Performance and Comments:

BHA ran as expected.



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Mud Motor / Rotary Steerable Report for BHA # 3 on Run # 3

Time and Depths		Motor		RSS	
Date In:	24-Jun-2014 @ 00:00	Desc:	Rental Motor, 675	Desc:	
Date Out:	01-Jul-2014 @ 15:30	MFG:	Cougar Drilling Solutions	Service Name:	
Hours In Hole:	184	BHA Circ/All BHA:	160.783333333333 / 296.533	BHA Circ/All BHA:	
Start Depth:	7903	Motor SN:	650-101	Rotary SN:	
End Depth:	10790	Pad OD:		RS Pad OD:	
Total Drilled:	2,948	NB Stab:		RS Stab OD:	
Avg. Total ROP:	16.07	Bit to Bend Dist:		Bias Unit Type:	
Total Circu. Hours:	160.783333333333	Bent Hsg / Sub:	/	RT Com M Method:	
Percent Slide:	15.64%	Lobe / Stage:	7:8 /	Control Collar Stab:	
Percent Slide Hours:	20.9%	Output:	0.290	CC Stab Size:	
Slide Hours:	23.62	Rotor Jet:		Prop BUR:	
Total Sliding:	461	Prop Yield:		Act BUR:	
Avg. Slide ROP:	19.52	Act Yield:		Strike Ring Size:	
Percent Rotary:	84.36%	Stator Clearance:		Bit Period:	
Percent Rotary Hours:	79.11%	Number of Stalls:		Bit to Ref Point:	
Rot / Total Hours:	89.42	Stall Pressure:		% Drop Flow:	
Rotary Drilled:	2,487				
Avg. Rotary ROP:	27.81				
Reason POOH:	Well Total Depth				

Drilling Parameters

SO / PU:	253,706 / 291,588	SPP On Bot:	392 - 3,256	Flow Rate:	332 - 566
Rotating WOB:	19,329.27	SPP Off Bot:	387 - 3,017		
Sliding WOB:	13,272.73	Avg Diff:	125.29		
On Bot Torque:	2	Motor RPM:	155.44		
Off Bot Torque:	1	Rotary RPM:	0 - 120		

Bit Record

Description:	PDC	Jets:	16,16,16,15,15,15	IADC#	M111
Run #	3	Bit Drop:	240 PSI @ 332 GPM	TFA:	1.107
Type Bit:	PDC	Condition:	1,8,WT,S,X,4,WT,TD		

Mud Data

Type:	Oil Base							WT:	9.10	Vis:	46	WL:	29	PV:	25	Flow T:	150.00
Sand:	0.50	Chlor:		Gas:		Sol:	7.40	Oil %:	81.20	YP:	25	PH:		BH Temp:	185		
Formation:																	
Expanded Reason to Pull:																	
BHA Performance and Comments:																	



Job Number: 14CAS0357

Company Name: SOUTHWESTERN ENERGY CO

Rig Name: PATTERSON #180

Well Name: Linnebur Flying Service 3-61 #

Well Location: Lat: 39.761389, Long: -104.255

Well State:

Well County: Adams

Well Field:

Well Country:

Lead DD: Zitkovic, Frank Joseph

Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2

Good MWD runs.

Company : SOUTHWESTERN ENERGY

Well : LINNERBUR 3-61-1-30PH

Field :

API Well : 05-001-09804-00

TCM : XL0713

Start Time : 07-Jan-2000 00:43:50 (BAD DATE AND TIME)

End Time : 08-Jan-2000 11:53:34

0 - 20 cps	21.24 hrs	504 pts
21 - 50 cps	9.76 hrs	262 pts
51 - 100 cps	2.77 hrs	83 pts
101 - 200 cps	1.37 hrs	42 pts
201 - 300 cps	0.03 hrs	1 pts
> 300 cps	0 hrs	0 pts



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

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Motor Information

Desc:	MOTOR ASSY 675 - G2 - FIXED		
Bent Hsg/Sub:	0.00	Bit to Bend:	
Pad OD:		NB Stab:	0.00

Steering Sheet / DD Journal Report for BHA # 1 on Run # 1 for Job # 14CAS0357

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	Surf. RPM	Surf. Torque	Flow Rate	SPP On Bottom	TFO	Steer Ratio	Pad Press.	INC	AZM	DLS	Note
1	15-Jun	Rotating	14:35	14:45	00:10	1100	1110	10	9000	60.00	35	10	300	900							
1	16-Jun	Rotating	00:00	00:05	00:05	1110	1126	16	3000	192.00	40	0	400	900							using 1 pump
1	16-Jun	Rotating	00:10	00:40	00:30	1126	1215	89	3000	178.00	40	0	400	900							
1	16-Jun	Rotating	00:45	01:55	01:10	1215	1306	91	3000	78.00	40	0	400	900				0.300	199.100		
1	16-Jun	Rotating	02:05	03:05	01:00	1306	1398	92	3000	92.00	50	0	500	1100				0.100	188.000		Using 2 pumps
1	16-Jun	Rotating	03:25	04:15	00:50	1398	1489	91	3000	109.20	50	0	500	1100				0.300	194.000		
1	16-Jun	Rotating	04:30	05:25	00:55	1489	1583	94	3000	102.55	50	0	500	1100				0.100	148.000		
1	16-Jun	Rotating	05:40	06:20	00:40	1583	1673	90	3000	135.00	50	0	500	1100				0.000	83.000		
1	16-Jun	Rotating	06:40	07:15	00:35	1673	1765	92	3000	157.71	50	0	500	1100				0.100	268.000		
1	16-Jun	Rotating	07:45	08:30	00:45	1765	1857	92	3000	122.67	50	0	500	1100				0.100	154.000		
1	16-Jun	Rotating	08:45	09:50	01:05	1857	1951	94	3000	86.77	70	0	525	1600				0.000	39.000	0.110	
1	16-Jun	Rotating	10:00	10:35	00:35	1951	2046	95	3000	162.86	70	0	525	1600				0.100	85.000	0.100	
1	16-Jun	Rotating	10:55	11:30	00:35	2046	2140	94	3000	161.14	70	0	525	1600				0.200	180.000	0.250	
1	16-Jun	Rotating	11:45	12:20	00:35	2140	2235	95	5000	162.86	100	0	525	1600				0.200	202.000	0.080	
1	16-Jun	Rotating	12:45	13:10	00:25	2235	2329	94	5000	225.60	100	0	525	1600				0.200	196.000	0.000	
1	16-Jun	Rotating	13:35	14:15	00:40	2329	2424	95	5000	142.50	100	0	525	1600				0.100	90.000	0.260	
1	16-Jun	Rotating	14:30	15:10	00:40	2424	2518	94	5000	141.00	100	0	525	1600				0.300	191.000	0.360	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2: lbm/bbl • PRE_2: lbf/100ft2 • VIS_1: s/qt • VIS_2: cP • SMAS: l

1	16-Jun	Rotating	15:38	16:15	00:37	2518	2613	95	5000	154.05	100	0	525	1600				0.100	80.000	0.370	
1	16-Jun	Rotating	16:45	17:40	00:55	2613	2707	94	5000	102.55	100	1	540	1600				1.100	55.000	1.070	
1	16-Jun	Rotating	18:05	18:25	00:20	2707	2738	31	5000	93.00	100	1	535	1600				1.800	52.000	0.740	
1	16-Jun	Rotating	18:35	19:40	01:05	2738	2802	64	2000	59.08	80	1.9	535	1700				1.800	45.000		control drill to reduce incl
1	16-Jun	Rotating	19:50	21:00	01:10	2802	2896	94	2000	80.57	80	1.9	535	1930				1.600	46.000	0.260	control drill to reduce incl
1	16-Jun	Rotating	21:15	22:20	01:05	2896	2991	95	4000	87.69	80	2.5	535	1930				1.300	37.000	0.400	hold @ 150 ROP & WOB 4K
1	16-Jun	Rotating	22:55	23:30	00:35	2991	3085	94	6000	161.14	80	4.3	575	2050				1.200	43.000	0.170	Increase WOB to 6K
1	16-Jun	Rotating	23:45	00:00	00:15	3085	3113	28	6000	112.00	80	4.3	575	2050				0.900	49.000	0.340	
1	17-Jun	Rotating	00:00	00:30	00:30	3113	3180	67	6000	134.00	80	4.3	575	2050				0.900	49.000	0.340	
1	17-Jun	Rotating	00:45	01:20	00:35	3180	3274	94	6000	161.14	80	4.3	575	2050				0.400	28.000	0.570	
1	17-Jun	Rotating	01:30	02:10	00:40	3274	3368	94	6000	141.00	80	4.3	575	2050				0.500	26.000	0.110	
1	17-Jun	Rotating	02:25	03:00	00:35	3368	3463	95	6000	162.86	80	4.3	575	2050				0.300	320.000	0.500	
1	17-Jun	Rotating	03:15	03:50	00:35	3463	3557	94	6000	161.14	80	4.3	575	2050				0.600	353.000	0.410	
1	17-Jun	Rotating	04:05	04:40	00:35	3557	3651	94	6000	161.14	80	4.3	575	2050				0.800	348.000	0.220	
1	17-Jun	Rotating	04:55	05:35	00:40	3651	3745	94	4000	141.00	80	4.3	575	2050				0.600	331.000	0.300	
1	17-Jun	Rotating	05:45	06:30	00:45	3745	3840	95	4000	126.67	80	4.3	575	2050				0.800	341.000	0.250	
1	17-Jun	Rotating	06:50	07:50	01:00	3840	3934	94	4000	94.00	80	4.3	575	2050				0.900	338.000	0.120	
1	17-Jun	Rotating	08:25	09:45	01:20	3934	4028	94	4000	70.50	80	4.3	575	2050				0.900	350.000	0.200	
1	17-Jun	Rotating	10:10	11:05	00:55	4028	4123	95	4500	103.64	80	4.3	575	2050				0.800	346.000	0.120	
1	17-Jun	Rotating	11:30	12:30	01:00	4123	4217	94	4500	94.00	80	4.3	575	2050				0.500	12.000	0.440	
1	17-Jun	Rotating	12:55	14:05	01:10	4217	4312	95	4500	81.43	80	4.3	575	2050				0.700	348.000	0.340	
1	17-Jun	Rotating	14:25	15:15	00:50	4312	4406	94	4500	112.80	80	4.3	575	2220				0.400	30.000	0.500	
1	17-Jun	Rotating	16:06	17:00	00:54	4406	4501	95	4500	105.56	80	4.3	575	2220				0.500	10.000	0.190	
1	17-Jun	Rotating	17:20	18:05	00:45	4501	4595	94	4500	125.33	80	4.3	575	2220				0.200	50.000	0.390	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2: lbm/bbl • PRE_2: lbf/100ft2 • VIS_1: s/qt • VIS_2: cP • SMAS: l

1	17-Jun	Rotating	18:30	19:20	00:50	4595	4689	94	4500	112.80	80	4.3	575	2220				0.500	35.000	0.350	
1	17-Jun	Rotating	19:35	20:25	00:50	4689	4784	95	4500	114.00	80	4.3	575	2220				0.300	57.000	0.310	
1	17-Jun	Rotating	20:40	21:15	00:35	4784	4878	94	4500	161.14	80	4.3	575	2220				0.000	121.000	0.320	
1	17-Jun	Rotating	21:35	22:10	00:35	4878	4973	95	4500	162.86	80	4.3	575	2220				0.000	250.000	0.000	
1	17-Jun	Rotating	22:35	23:10	00:35	4973	5067	94	4500	161.14	80	4.3	575	2220				0.000	203.000	0.000	
1	17-Jun	Rotating	23:30	00:00	00:30	5067	5155	88	4500	176.00	80	4.3	575	2220				0.300	102.000	0.320	
1	18-Jun	Rotating	00:00	00:05	00:05	5155	5161	6	4500	72.00	80	4.3	575	2220				0.300	102.000	0.320	
1	18-Jun	Rotating	00:20	01:00	00:40	5161	5256	95	4500	142.50	80	4.3	575	2220				0.400	76.000	0.190	
1	18-Jun	Rotating	01:20	02:35	01:15	5256	5350	94	4500	75.20	80	5	575	2330				0.400	80.000	0.030	
1	18-Jun	Rotating	03:00	03:55	00:55	5350	5444	94	4000	102.55	80	5	575	2330				0.100	87.000	0.320	
1	18-Jun	Rotating	04:05	04:50	00:45	5444	5539	95	4500	126.67	80	5	575	2330				0.100	124.000	0.070	
1	18-Jun	Rotating	05:05	06:05	01:00	5539	5633	94	4000	94.00	80	5	575	2330				0.500	172.000	0.460	
1	18-Jun	Rotating	06:35	07:50	01:15	5633	5728	95	3500	76.00	80	5	575	2330				0.700	350.000	1.290	
1	18-Jun	Rotating	08:05	09:15	01:10	5728	5822	94	3500	80.57	110	5	575	2330				0.800	49.000	0.730	
1	18-Jun	Rotating	09:30	10:15	00:45	5822	5917	95	4500	126.67	110	5	575	2330				0.800	51.000	0.030	
1	18-Jun	Rotating	11:05	12:10	01:05	5917	6011	94	5500	86.77	110	5	575	2330				0.700	20.000	0.440	
1	18-Jun	Rotating	12:20	13:20	01:00	6011	6105	94	4500	94.00	110	5	575	2330				0.800	51.000	0.430	
1	18-Jun	Rotating	13:45	16:05	02:20	6105	6200	95	3600	40.71	112	4.7	575	2330				1.100	48.000	0.320	
1	18-Jun	Rotating	16:25	18:45	02:20	6200	6294	94	3600	40.29	112	4.7	575	2330				1.900	39.000	0.880	
1	18-Jun	Rotating	19:00	00:00	05:00	6294	6378	84	3600	16.80	112	4.7	575	2330				2.000	30.000	0.370	
1	19-Jun	Rotating	00:00	01:30	01:30	6378	6389	11	3600	7.33	112	4.7	575	2330				2.000	30.000	0.370	
1	19-Jun	Rotating	01:45	07:30	05:45	6389	6483	94	3600	16.35	112	4.7	575	2330				1.200	6.000	1.090	
1	19-Jun	Rotating	07:50	08:40	00:50	6483	6514	31	3600	37.20	112	4.7	575	2330				0.400	333.000	0.880	
1	19-Jun	Rotating	09:00	10:10	01:10	6514	6543	29	3600	24.86	112	4.7	575	2330				0.000	11.100	1.290	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2: lbm/bbl • PRE_2: lbf/100ft2 • VIS_1: s/qt • VIS_2: cP • SMAS: l

1	19-Jun	Rotating	10:30	11:05	00:35	6543	6577	34	3600	58.29	112	4.7	575	2330				0.600	347.000	1.760	
1	19-Jun	Rotating	11:20	11:50	00:30	6577	6609	32	3600	64.00	112	4.7	575	2330				0.800	43.000	2.350	
1	19-Jun	Rotating	11:55	13:35	01:40	6609	6672	63	3600	37.80	112	4.7	575	2330				0.800	43.000	2.350	
1	19-Jun	Rotating	13:45	14:15	00:30	6672	6703	31	3600	62.00	112	4.7	575	2330				0.500	10.000	0.680	
1	19-Jun	Rotating	14:20	14:45	00:25	6703	6735	32	3600	76.80	112	4.7	575	2330				0.900	65.000	2.380	
1	19-Jun	Rotating	17:10	17:45	00:35	6735	6766	31	4000	53.14	112	4.7	575	2330				0.500	111.000	2.130	
1	19-Jun	Rotating	17:55	20:00	02:05	6766	6861	95	4500	45.60	112	4.7	575	2330				0.200	113.000	0.970	
1	19-Jun	Rotating	20:45	22:25	01:40	6861	6955	94	5000	56.40	112	4.7	575	2330				0.500	82.000	0.390	
1	19-Jun	Rotating	22:45	00:00	01:15	6955	7000	45	4000	36.00	112	4.7	575	2330				0.050	85.000	0.430	
1	20-Jun	Rotating	00:00	02:10	02:10	7000	7050	50	5000	23.08	112	4.7	575	2330				0.050	85.000	0.430	
1	20-Jun	Rotating	02:25	05:50	03:25	7050	7096	46	7000	13.46	112	4.7	575	2330				0.300	134.000	0.320	
1	20-Jun	Rotating	06:05	07:45	01:40	7096	7144	48	9000	28.80	112	4.7	575	2450				0.400	57.000	0.940	
1	20-Jun	Rotating	07:55	10:30	02:35	7144	7239	95	9000	36.77	112	4.7	575	2450				0.300	149.000	0.940	
1	20-Jun	Rotating	10:45	14:20	03:35	7239	7282	43	9000	12.00	112	4.7	575	2450				1.000	100.000	0.880	
								Total Drilled:	6182	Avg. On Bottom ROP:				72.29				DEPTH% - TIME%			
								Total Rotary Drilled:	6182	Avg. Rotary ROP:				72.29	Percent Rotary:			100% - 100%			
								Total Drilled Sliding:	0	Avg. Slide ROP:					Percent Slide:			0% - 0%			



Job Number: 14CAS0357
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Well State:

Well County: Adams
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Motor Information

Desc:	Rental Motor, 675		
Bent Hsg/Sub:		Bit to Bend:	
Pad OD:	6.75	NB Stab:	

Steering Sheet / DD Journal Report for BHA # 2 on Run # 2 for Job # 14CAS0357

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	Surf. RPM	Surf. Torque	Flow Rate	SPP On Bottom	TFO	Steer Ratio	Pad Press.	INC	AZM	DLS	Note
2	21-Jun	Rotating	12:55	13:00	00:05	7282	7287	5	11000	60.00	118	5	550	2770							
2	21-Jun	Rotating	13:00	13:05	00:05	7287	7306	19	11000	228.00	118	5	550	2770							
2	21-Jun	Rotating	14:30	15:10	00:40	7306	7381	75	11000	112.50	118	5	550	2770				0.700	73.000	0.340	
2	21-Jun	Rotating	15:30	16:10	00:40	7381	7431	50	5000	75.00	118	5	550	2770				0.700	113.000	2.820	
2	21-Jun	Rotating	16:30	17:55	01:25	7431	7525	94	5000	66.35	118	5	550	2770				1.400	104.000	0.910	
2	21-Jun	Rotating	18:30	22:50	04:20	7525	7620	95	7000	21.92	118	5	550	2770				1.400	104.000	0.910	
2	21-Jun	Rotating	23:20	00:00	00:40	7620	7632	12	7000	18.00	118	5	550	2770				1.200	126.000	0.610	
2	22-Jun	Rotating	00:00	06:45	06:45	7632	7714	82	4000	12.15	118	5	550	2770				1.200	126.000	0.610	
2	22-Jun	Rotating	07:10	08:45	01:35	7714	7725	11	4000	6.95	118	5	550	2770				2.200	112.100	1.130	
2	22-Jun	Rotating	09:15	10:30	01:15	7725	7739	14	4000	11.20	118	5	550	2770				2.200	112.100	1.130	
2	22-Jun	Rotating	12:00	13:50	01:50	7739	7777	38	4000	20.73	118	5	550	2770				2.500	126.100		
2	22-Jun	Rotating	14:15	16:00	01:45	7777	7808	31	4600	17.71	118	5	550	2770				2.500	126.100		
2	22-Jun	Rotating	16:35	18:30	01:55	7808	7842	34	6000	17.74	118	5	550	2770				1.900	118.000	0.380	
2	22-Jun	Rotating	18:35	19:40	01:05	7842	7872	30	6000	27.69	114	5	550	2660				1.900	129.000	0.960	



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2: lbm/bbl • PRE_2: lbf/100ft2 • VIS_1: s/qt • VIS_2: cP • SMAS: l

2	22-Jun	Rotating	19:45	22:40	02:55	7872	7903	31	6000	10.63	114	5	550	2660				2.100	112.000	0.430	
						Total Drilled:		621	Avg. On Bottom ROP:		23			DEPTH% - TIME%							
						Total Rotary Drilled:		621	Avg. Rotary ROP:		23	Percent Rotary:		100% - 100%							
						Total Drilled Sliding:		0	Avg. Slide ROP:			Percent Slide:		0% - 0%							



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
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Well State:

Well County: Adams
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Motor Information

Desc:	Rental Motor, 675		
Bent Hsg/Sub:		Bit to Bend:	
Pad OD:	6.75	NB Stab:	

Steering Sheet / DD Journal Report for BHA # 3 on Run # 3 for Job # 14CAS0357

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	Surf. RPM	Surf. Torque	Flow Rate	SPP On Bottom	TFO	Steer Ratio	Pad Press.	INC	AZM	DLS	Note
3	24-Jun	Sliding	06:30	06:45	00:15	7903	7913	10	17000	40.00	110	2	550	2650	90L			2.990	127.000	3.290	
3	24-Jun	Rotating	06:45	07:20	00:35	7913	7927	14	10000	24.00	110	2	550	2650				2.990	127.000	3.290	
3	24-Jun	Rotating	07:40	09:20	01:40	7927	7956	29	10000	17.40	110	2	550	2650				2.990	127.000	3.290	
3	24-Jun	Sliding	09:50	10:30	00:40	7956	7968	12	17000	18.00	110	2	550	2650	90L			2.990	128.000	1.530	
3	25-Jun	Rotating	12:50	14:25	01:35	7968	7990	22	10000	13.89	110	2	550	2650							
3	25-Jun	Sliding	14:30	15:00	00:30	7990	8002	12	20000	24.00			550	2750	90L			2.730	129.000	3.290	
3	25-Jun	Rotating	15:00	15:35	00:35	8002	8021	19	10000	32.57	110	3	550	2750				2.730	129.000	3.290	
3	25-Jun	Rotating	15:50	18:10	02:20	8021	8034	13	10000	5.57	110	3	550	2750				2.730	118.000	0.200	
3	25-Jun	Sliding	18:43	19:40	00:57	8034	8044	10	20000	10.53			550	2750	90L			2.730	118.000	0.200	
3	25-Jun	Rotating	19:40	20:35	00:55	8044	8053	9	10000	9.82	110	3	550	2750				2.730	118.000	0.200	
3	25-Jun	Rotating	20:40	23:35	02:55	8053	8084	31	10000	10.63	110	3	550	2750				2.550	120.690		
3	25-Jun	Rotating	23:40	23:50	00:10	8084	8086	2	10000	12.00	110	3	550	2750				2.880	118.000		
3	25-Jun	Sliding	23:50	00:00	00:10	8086	8086	0	10000	.00	110	3	550	2750				2.880	118.000		
3	26-Jun	Sliding	00:00	00:25	00:25	8086	8096	10	10000	24.00	110	3	550	2750				2.880	118.000		
3	26-Jun	Rotating	00:25	02:25	02:00	8096	8116	20	10000	10.00	110	3	550	2750				2.880	118.000		
3	26-Jun	Sliding	03:10	04:00	00:50	8116	8128	12	10000	14.40	110	3	550	2750				2.740	116.000		
3	26-Jun	Rotating	04:00	04:20	00:20	8128	8147	19	10000	57.00	110	3	550	2750				2.740	116.000		



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Well State:

Well County: Adams
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3	26-Jun	Sliding	04:40	06:10	01:30	8147	8160	13	10000	8.67	110	3	550	2750				2.640	126.000		
3	26-Jun	Rotating	06:10	08:20	02:10	8160	8179	19	10000	8.77	110	3	550	2750				2.640	126.000		
3	26-Jun	Sliding	08:25	09:50	01:25	8179	8196	17	10000	12.00	110	3	550	2750				2.460	117.000		
3	26-Jun	Sliding	10:20	11:25	01:05	8196	8226	30	10000	27.69	110	3	550	2750				2.550	109.000		
3	26-Jun	Rotating	11:25	12:00	00:35	8226	8242	16	10000	27.43	110	3	550	2750				2.550	109.000		
3	26-Jun	Sliding	12:10	12:40	00:30	8242	8260	18	10000	36.00	110	3	550	2750				2.460	103.000		
3	26-Jun	Rotating	12:40	13:20	00:40	8260	8273	13	10000	19.50	110	3	550	2750				2.460	103.000		
3	26-Jun	Sliding	13:25	14:30	01:05	8273	8288	15	10000	13.85	110	3	550	2750				103.000	103.000	2.200	
3	26-Jun	Rotating	14:30	14:50	00:20	8288	8365	77	10000	231.00	110	3	550	2750				103.000	103.000	2.200	
3	26-Jun	Sliding	15:20	16:50	01:30	8365	8331	-34	10000	22.67	110	3	550	2750				2.470	95.600		
3	26-Jun	Rotating	16:50	16:55	00:05	8331	8336	5	10000	60.00	110	3	550	2750				2.470	95.600		
3	26-Jun	Rotating	16:55	17:00	00:05	8336	8339	3	10000	36.00	110	3	550	2750				2.470	95.600		
3	26-Jun	Sliding	17:15	19:00	01:45	8339	8363	24	10000	13.71	110	3	550	2750				2.370	87.000		
3	26-Jun	Rotating	19:00	19:30	00:30	8363	8368	5	10000	10.00	110	3	550	2750				2.370	87.000		
3	26-Jun	Sliding	19:40	20:45	01:05	8368	8386	18	10000	16.62	110	3	550	2750				2.370	86.000		
3	26-Jun	Rotating	20:45	21:50	01:05	8386	8398	12	10000	11.08	110	3	550	2750				2.370	86.000		
3	26-Jun	Sliding	22:00	23:30	01:30	8398	8423	25	10000	16.67	110	3	550	2750				2.640	81.000		
3	26-Jun	Rotating	23:30	00:00	00:30	8423	8431	8	10000	16.00	110	3	550	2750				2.640	81.000		
3	27-Jun	Sliding	00:05	02:40	02:35	8431	8464	33	10000	12.77	110	3	550	2750				2.550	70.000		
3	27-Jun	Rotating	03:00	03:30	00:30	8464	8474	10	10000	20.00	110	3	550	2750				2.550	66.710		
3	27-Jun	Sliding	03:30	04:55	01:25	8474	8492	18	10000	12.71	110	3	550	2750				2.550	66.710		
3	27-Jun	Rotating	04:55	06:15	01:20	8492	8525	33	10000	24.75	110	3	550	2750				2.550	66.710		
3	27-Jun	Rotating	06:25	07:30	01:05	8525	8530	5	3500	4.62	110	3	550	2750				2.900	59.520		
3	27-Jun	Sliding	07:30	09:05	01:35	8530	8550	20	2500	12.63	110	3	550	2750				2.900	59.520		



Job Number: 14CAS0357
Company Name: SOUTHWESTERN ENERGY CO
Rig Name: PATTERSON #180
Well Name: Linnebur Flying Service 3-61 #
Well Location: Lat: 39.761389, Long: -104.255
Well State:

Well County: Adams
Well Field:
Well Country:
Lead DD: Zitkovic, Frank Joseph
Co. Man: Randy Monin & Tom Howard

UOM: DEN: lbm/galUS • DEP: ft • DIA: in • FLO: galUS/min • INC: deg • MAS: lbm • PRE: psi • TEM: degF • TOR: kft.lbf • VOL: galUS • DLS: deg/100ft • CON: ppm • CON_2: lbm/bbl • PRE_2: lbf/100ft2 • VIS_1: s/qt • VIS_2: cP • SMAS: l

3	27-Jun	Rotating	09:05	09:45	00:40	8550	8560	10	3500	15.00	110	3	550	2750				2.900	59.520		
3	27-Jun	Sliding	09:55	10:45	00:50	8560	8580	20	2500	24.00	110	3	550	2750				2.730	59.920		
3	27-Jun	Rotating	10:45	11:15	00:30	8580	8587	7	3500	14.00	110	3	550	2750				2.730	59.920		
3	27-Jun	Rotating	11:25	12:15	00:50	8587	8620	33	3500	39.60	110	3	550	2750				2.730	58.930		
3	27-Jun	Rotating	12:25	13:10	00:45	8620	8651	31	3500	41.33	110	3	550	2750				2.550	54.130		
3	27-Jun	Sliding	14:30	16:00	01:30	8651	8666	15	3800	10.00	110	3	550	2750				2.020	56.230		
3	27-Jun	Rotating	16:00	16:25	00:25	8666	8682	16	3500	38.40	110	3	550	2750				2.020	56.230		
3	27-Jun	Rotating	16:35	17:15	00:40	8682	8714	32	3500	48.00	110	3	550	2750				61.880	56.230	1.850	
3	27-Jun	Rotating	17:25	18:50	01:25	8714	8745	31	3500	21.88	110	3	550	2750				1.760	60.310		
3	27-Jun	Rotating	19:00	20:20	01:20	8745	8776	31	3500	23.25	110	3	550	2750				1.760	68.120		
3	27-Jun	Rotating	20:30	22:30	02:00	8776	8824	48	3500	24.00	110	3	550	2750				1.580	68.180		
3	27-Jun	Rotating	22:30	00:00	01:30	8824	8858	34	3500	22.67	110	3	550	2750				1.490	65.400		
3	28-Jun	Rotating	00:00	00:30	00:30	8858	8871	13	3500	26.00	110	3	550	2750				1.490	65.400		
3	28-Jun	Rotating	01:00	05:00	04:00	8871	8966	95	3500	23.75	110	5	550	2750				67.060	65.400	1.490	
3	28-Jun	Rotating	05:30	09:15	03:45	8966	9060	94	3500	25.07	110	5	550	2750				1.230	67.000		
3	28-Jun	Rotating	09:25	11:50	02:25	9060	9155	95	3500	39.31	110	5	550	2750				1.230	65.960		
3	28-Jun	Rotating	12:15	14:50	02:35	9155	9249	94	36200	36.39	120	12.2	541	3105				1.140	61.580		
3	28-Jun	Rotating	15:05	16:55	01:50	9249	9328	79	33200	43.09	119	15.9	522	3220				1.410	74.440		
3	29-Jun	Rotating	01:30	01:55	00:25	9328	9343	15	30400	36.00	120	11.9	524	2996				1.410	74.440		
3	29-Jun	Rotating	02:10	05:10	03:00	9343	9438	95	32200	31.67	100	12.1	505	2889				1.490	70.920		
3	29-Jun	Rotating	05:25	08:05	02:40	9438	9532	94	32200	35.25	100	12.1	505	2889				1.410	60.180		
3	29-Jun	Sliding	08:25	08:55	00:30	9532	9627	95	32200	190.00	100	12.1	505	2889				1.410	60.180		
3	29-Jun	Rotating	08:55	11:30	02:35	9627	9627	0	32200	.00	100	12.1	505	2889				1.410	60.180		
3	29-Jun	Rotating	11:40	14:15	02:35	9627	9721	94	32200	36.39	100	12.1	505	2889				0.970	59.000		



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3	29-Jun	Rotating	14:30	16:15	01:45	9721	9815	94	32200	53.71	100	12.1	505	2889				1.320	63.660		
3	29-Jun	Rotating	16:25	19:15	02:50	9815	9910	95	37000	33.53	99	9.8	332	3256				0.970	52.960		
3	29-Jun	Rotating	19:30	22:20	02:50	9910	10004	94	29900	33.18	94	16.1	515	2998				0.970	61.090		
3	29-Jun	Rotating	22:50	00:00	01:10	10004	10054	50	33500	42.86	93	14.9	485	2857				0.880	56.010		
3	30-Jun	Rotating	00:00	01:10	01:10	10054	10099	45	34100	38.57	95	10.7	480	2848				0.880	56.010		
3	30-Jun	Rotating	01:25	03:50	02:25	10099	10193	94	22700	38.90	110	12.3	489	2736				0.700	60.340		
3	30-Jun	Rotating	04:30	07:15	02:45	10193	10288	95	27600	34.55	111	15.3	522	2867				0.790	72.220		
3	30-Jun	Rotating	09:00	11:10	02:10	10288	10382	94	27600	43.38	111	15.3	522	2867				0.970	48.750		
3	30-Jun	Rotating	11:25	14:00	02:35	10382	10476	94	27600	36.39	111	15.3	522	2867				0.790	42.190		
3	30-Jun	Rotating	14:10	15:50	01:40	10476	10571	95	27600	57.00	111	15.3	522	2867				1.140	42.810		
3	30-Jun	Rotating	16:00	18:40	02:40	10571	10666	95	27600	35.63	111	15.3	522	2867				1.320	29.840	1.320	
3	30-Jun	Rotating	19:00	23:00	04:00	10666	10760	94	27600	23.50	111	15.3	522	2867				1.670	37.260		
3	30-Jun	Rotating	23:10	00:00	00:50	10767	10767	0	27600	.00	111	15.3	522	2867				1.410	54.230		
3	01-Jul	Rotating	01:20	03:30	02:10	10767	10790	23	27600	10.62	111	15.3	522	2867				1.410	54.230		

Total Drilled:	2948	Avg. On Bottom ROP:	26.08		DEPTH% - TIME%
Total Rotary Drilled:	2487	Avg. Rotary ROP:	27.81	Percent Rotary:	84.36% - 79.11%
Total Drilled Sliding:	461	Avg. Slide ROP:	19.52	Percent Slide:	15.64% - 20.89%