



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1168289
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1168289

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR: _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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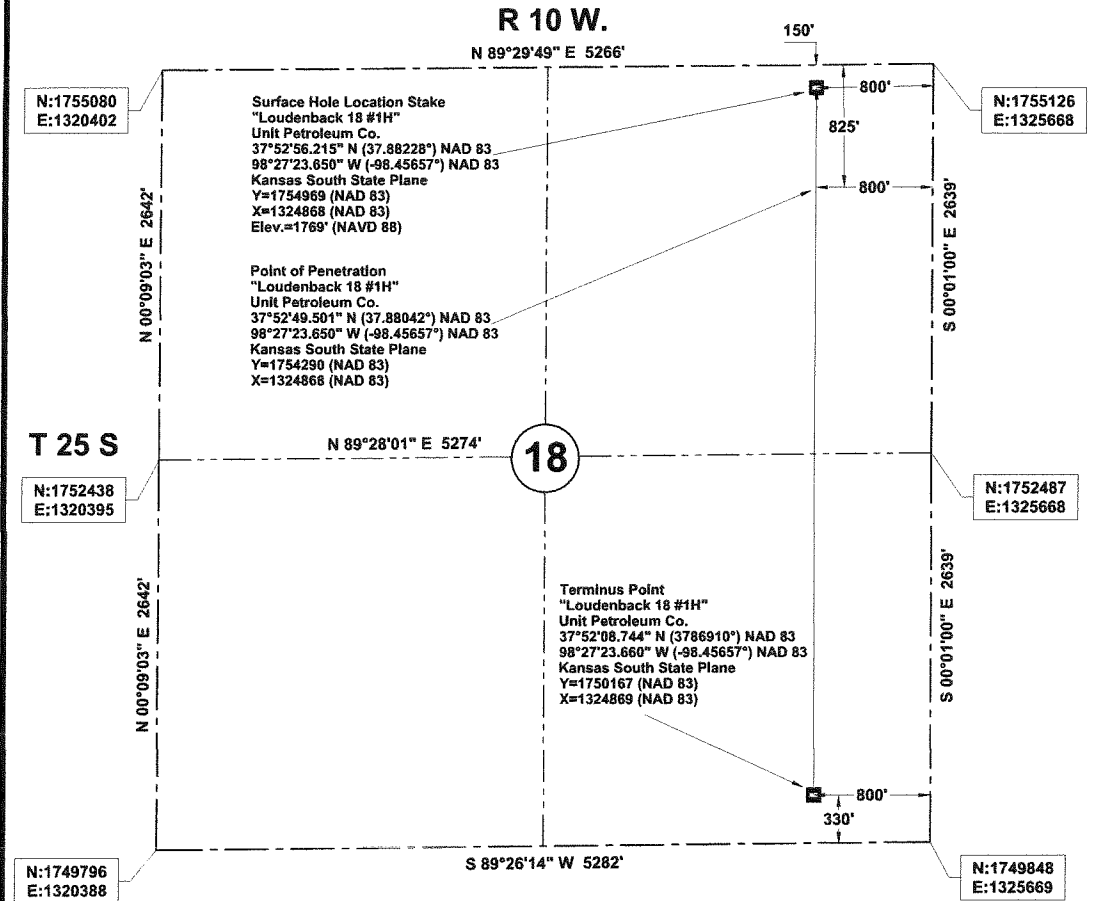
DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Unit Petroleum Company
Well Name	Loudenback 18 #1H
Doc ID	1168289

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	28	16	65	145		120	2% cc
Intermediate	12.25	9.625	36	1506	A	570	2% cc 1/4" celloflake
Production	8.75	7	26	4320	A	180	2% cc 1/4# celloflake
Liner	6.125	4.50	11.6	8458	Prem H	500	2% cc 1/4# celloflake

Section 18, T 25 S, R 10 W., Reno County, Kansas.



We do hereby certify that this survey was done in accordance to records, maps and other information as provided to us by the client herein named and that great care was taken in the actual staking of this well and the determination of any obstacles thereupon. However, the accuracy of this survey is not guaranteed and if there appears to be any discrepancy, please notify us immediately.

48 HOURS BEFORE YOU DIG...
CALL KANSAS ONE-CALL
1-800-344-7233

KANSAS ONE-CALL SYSTEM

Buried utilities are not necessarily shown. It is the contractor's responsibility to locate and preserve all utility services.

Contractor is responsible for contacting all utility companies prior to construction.

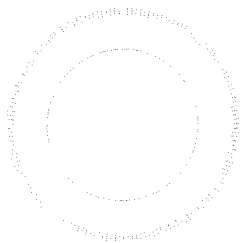
Datum: NAD 83
Units: US Survey Feet
North: Grid
Coordinates: State Plane
Zone: 1502
State: Kansas
Region: South

LEGEND
--- SECTION LINE
--- 1/4 SECTION LINE

Description: Surface Hole Location Stake "Loudenback 18 #1H" situated 150 feet from the north section line and 800 feet from the east section line of Section 18, T 25 S, R 10 W., Reno County, Kansas.

Description: Point of Penetration "Loudenback 18 #1H" situated 825 feet from the north section line and 800 feet from the east section line of Section 18, T 25 S, R 10 W., Reno County, Kansas.

Description: Terminus Point "Loudenback 18 #1H" situated 330 feet from the south section line and 800 feet from the east section line of Section 18, T 25 S, R 10 W., Reno County, Kansas.



Survey is valid only if print has original seal and signature of surveyor present

 JVIDENS LAND SURVEY CO., INC. 1210 19TH STREET / P.O. BOX 943 WOODWARD, OKLAHOMA 73802 Phone 580-256-7174 - Fax 580-256-3424 roger@jvidenslandsurvey.com mike@jvidenslandsurvey.com	Survey For: Unit Petroleum Co. P.O. Box 2726 Woodward, Oklahoma 73802 Attn: Jason Rummy	JOB 249-13	DATE OF PLAT 06-04-2013	SCALE 1"=1000'	SHEET 1 OF 5
		DRAWN BY C.A.N.	OKLA. CA #2064, EXP. 06/30/2013 KANSAS CA #143, EXP. 12/31/2014		



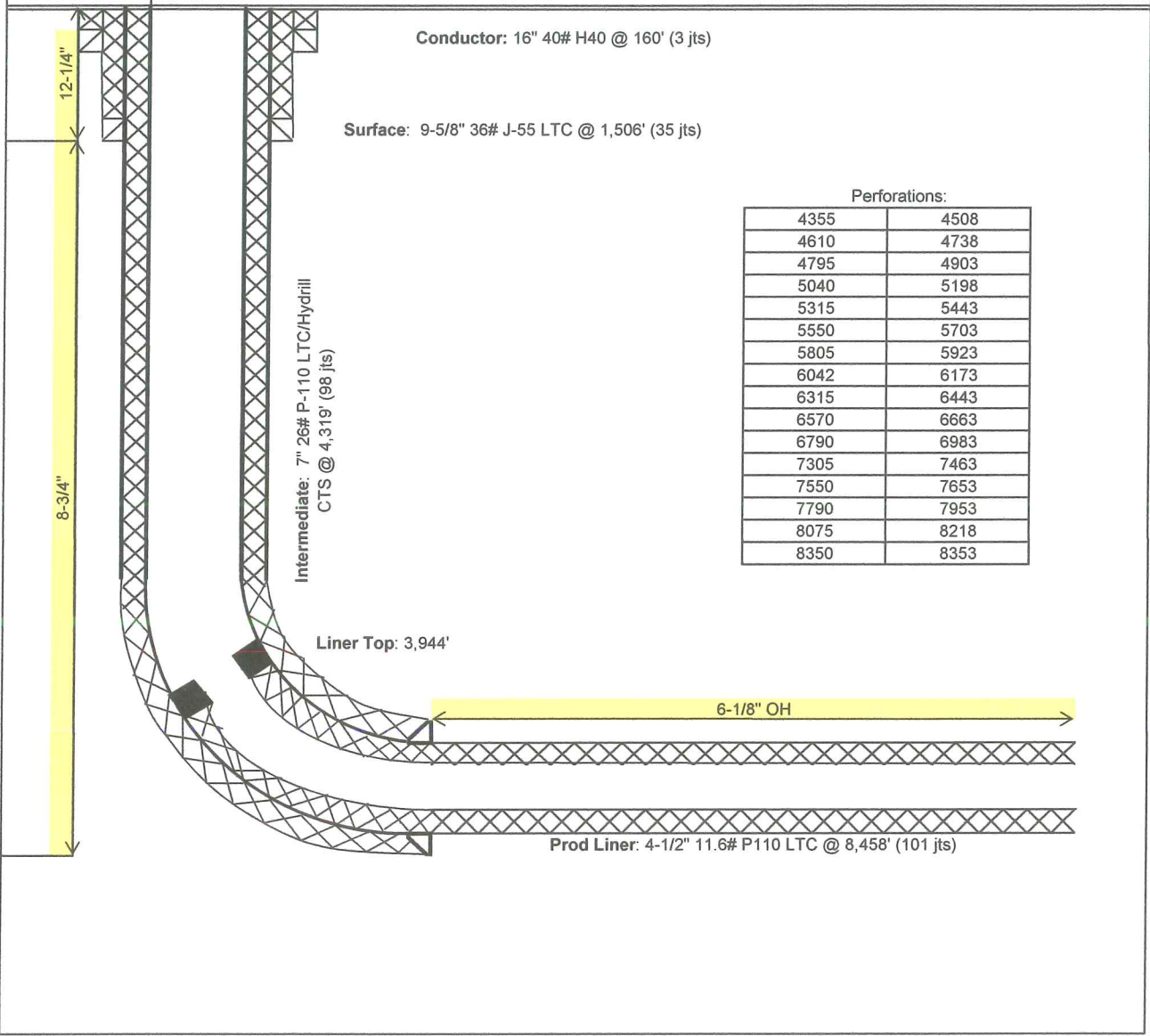
Unit Petroleum Company

Date of Last Revision:
22-Oct-13

Well: Loudenback 18 #1H
Location: 18-25S-10W
County, State: Reno County, KS
Surface Location: 150' FNL & 850' FEL

API No.: 1515521661
Rig: Unit Drilling #331
Engineer: Brent Keys (918) 477-4510
Geology: Rob Wilson (928) 477-5728

OH Size



Perforations:

4355	4508
4610	4738
4795	4903
5040	5198
5315	5443
5550	5703
5805	5923
6042	6173
6315	6443
6570	6663
6790	6983
7305	7463
7550	7653
7790	7953
8075	8218
8350	8353

Unit Petroleum

Reno County, Kansas

Loudenback

Loudenback 18 #1H

OH

Design: OH

Standard Survey Report

26 August, 2013





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



SECTION DETAILS

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

WELL DETAILS: Loudenback 18 #1H

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

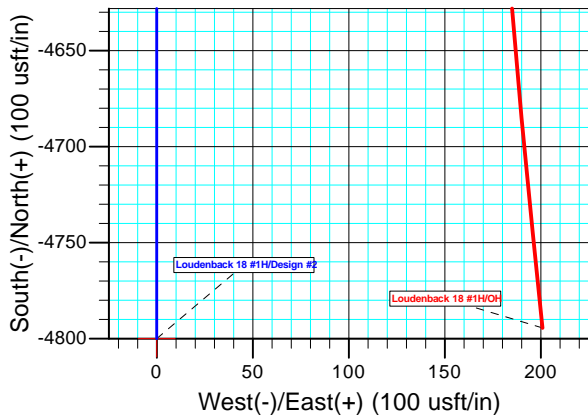
PROJECT DETAILS: Reno County, Kansas

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

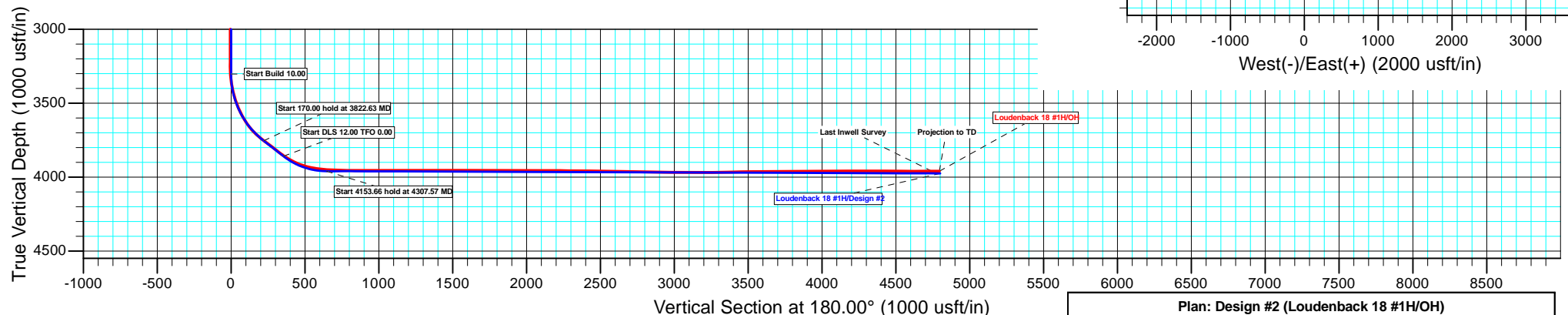
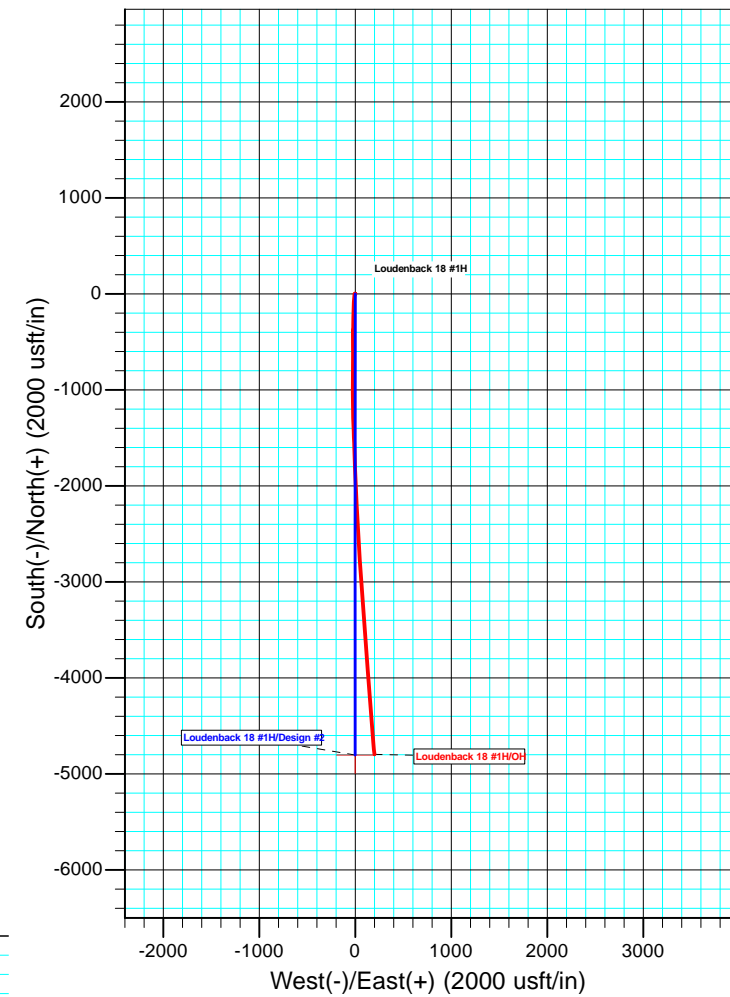
WELLBORE TARGET DETAILS (LAT/LONG)

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

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



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



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

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

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

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

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

Design	OH				
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	180.00	

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

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142.98	0.47	74.50	142.98	0.16	0.57	-0.16	0.33	0.33	0.00	
237.99	0.82	83.69	237.98	0.34	1.62	-0.34	0.38	0.37	9.67	
333.00	0.46	63.66	332.99	0.58	2.63	-0.58	0.44	-0.38	-21.08	
428.01	0.57	33.81	427.99	1.14	3.24	-1.14	0.30	0.12	-31.42	
523.02	0.13	355.07	523.00	1.64	3.49	-1.64	0.50	-0.46	-40.77	
618.03	0.07	13.87	618.01	1.81	3.50	-1.81	0.07	-0.06	19.79	
713.04	0.27	325.52	713.02	2.05	3.38	-2.05	0.24	0.21	-50.89	
808.05	0.26	25.01	808.03	2.43	3.35	-2.43	0.28	-0.01	62.61	
903.06	0.38	63.40	903.04	2.76	3.72	-2.76	0.25	0.13	40.41	

Company:	Unit Petroleum	Local Co-ordinate Reference:	Well Loudenback 18 #1H
Project:	Reno County, Kansas	TVD Reference:	KB 14' @ 1784.00usft (UDI 331)
Site:	Loudenback	MD Reference:	KB 14' @ 1784.00usft (UDI 331)
Well:	Loudenback 18 #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)	
998.07	0.45	323.95	998.05	3.21	3.78	-3.21	0.67	0.07	-104.67	
1,093.08	0.57	268.92	1,093.05	3.50	3.09	-3.50	0.51	0.13	-57.92	
1,188.09	0.36	211.65	1,188.06	3.23	2.46	-3.23	0.51	-0.22	-60.28	
1,283.10	0.41	170.13	1,283.07	2.65	2.36	-2.65	0.29	0.05	-43.70	
1,378.11	0.37	266.64	1,378.08	2.29	2.12	-2.29	0.61	-0.04	101.58	
1,473.12	0.52	274.81	1,473.08	2.31	1.38	-2.31	0.17	0.16	8.60	
1,568.13	0.36	311.10	1,568.09	2.54	0.73	-2.54	0.33	-0.17	38.20	
1,663.00	0.41	305.96	1,662.96	2.94	0.23	-2.94	0.06	0.05	-5.42	
1,758.15	0.23	251.28	1,758.11	3.08	-0.23	-3.08	0.35	-0.19	-57.47	
1,853.16	0.06	131.79	1,853.12	2.98	-0.37	-2.98	0.28	-0.18	-125.77	
1,948.17	0.17	260.58	1,948.13	2.93	-0.48	-2.93	0.22	0.12	135.55	
2,043.18	0.47	298.55	2,043.14	3.09	-0.96	-3.09	0.37	0.32	39.96	
2,138.19	0.27	308.00	2,138.14	3.41	-1.48	-3.41	0.22	-0.21	9.95	
2,233.20	0.24	273.65	2,233.15	3.56	-1.85	-3.56	0.16	-0.03	-36.15	
2,328.21	0.22	247.94	2,328.16	3.51	-2.22	-3.51	0.11	-0.02	-27.06	
2,423.22	0.12	281.34	2,423.17	3.46	-2.48	-3.46	0.14	-0.11	35.15	
2,518.23	0.11	298.09	2,518.18	3.52	-2.66	-3.52	0.04	-0.01	17.63	
2,613.24	0.34	327.63	2,613.19	3.80	-2.89	-3.80	0.26	0.24	31.09	
2,708.25	0.39	343.65	2,708.20	4.35	-3.14	-4.35	0.12	0.05	16.86	
2,803.26	0.23	4.91	2,803.21	4.85	-3.21	-4.85	0.20	-0.17	22.38	
2,898.27	0.11	344.39	2,898.22	5.13	-3.22	-5.13	0.14	-0.13	-21.60	
2,993.28	0.10	321.49	2,993.23	5.28	-3.30	-5.28	0.05	-0.01	-24.10	
3,088.29	0.27	330.81	3,088.24	5.54	-3.46	-5.54	0.18	0.18	9.81	
3,183.30	0.32	264.59	3,183.25	5.71	-3.83	-5.71	0.34	0.05	-69.70	
3,223.00	0.50	258.40	3,222.94	5.67	-4.11	-5.67	0.47	0.45	-15.59	
3,254.00	0.70	240.30	3,253.94	5.55	-4.41	-5.55	0.88	0.65	-58.39	
3,284.00	2.10	203.40	3,283.93	4.95	-4.78	-4.95	5.32	4.67	-123.00	
3,316.00	4.60	196.50	3,315.88	3.18	-5.38	-3.18	7.90	7.81	-21.56	
3,348.00	7.30	191.60	3,347.70	-0.04	-6.15	0.04	8.58	8.44	-15.31	
3,379.00	9.90	188.30	3,378.35	-4.61	-6.94	4.61	8.53	8.39	-10.65	
3,410.00	12.60	186.30	3,408.75	-10.61	-7.69	10.61	8.80	8.71	-6.45	
3,443.00	15.00	185.90	3,440.80	-18.43	-8.53	18.43	7.28	7.27	-1.21	
3,474.00	17.40	185.60	3,470.56	-27.04	-9.39	27.04	7.75	7.74	-0.97	
3,506.00	20.00	184.80	3,500.87	-37.25	-10.32	37.25	8.16	8.13	-2.50	
3,538.00	22.70	183.80	3,530.67	-48.87	-11.18	48.87	8.51	8.44	-3.13	
3,570.00	25.60	183.50	3,559.87	-61.93	-12.01	61.93	9.07	9.06	-0.94	
3,600.00	28.80	183.20	3,586.55	-75.62	-12.81	75.62	10.68	10.67	-1.00	
3,631.00	32.20	183.10	3,613.26	-91.33	-13.68	91.33	10.97	10.97	-0.32	
3,663.00	35.60	183.00	3,639.81	-109.15	-14.63	109.15	10.63	10.63	-0.31	
3,695.00	39.00	183.00	3,665.26	-128.51	-15.64	128.51	10.63	10.63	0.00	
3,726.00	42.60	182.90	3,688.73	-148.74	-16.68	148.74	11.61	11.61	-0.32	
3,758.00	46.40	182.00	3,711.55	-171.14	-17.63	171.14	12.04	11.88	-2.81	
3,790.00	50.20	181.50	3,732.83	-195.02	-18.36	195.02	11.93	11.88	-1.56	
3,822.00	52.50	181.20	3,752.81	-220.00	-18.95	220.00	7.22	7.19	-0.94	



Company:	Unit Petroleum	Local Co-ordinate Reference:	Well Loudenback 18 #1H
Project:	Reno County, Kansas	TVD Reference:	KB 14' @ 1784.00usft (UDI 331)
Site:	Loudenback	MD Reference:	KB 14' @ 1784.00usft (UDI 331)
Well:	Loudenback 18 #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)	
3,853.00	52.80	181.20	3,771.62	-244.64	-19.47	244.64	0.97	0.97	0.00	
3,885.00	52.90	181.20	3,790.95	-270.14	-20.00	270.14	0.31	0.31	0.00	
3,917.00	52.50	181.50	3,810.34	-295.59	-20.60	295.59	1.46	-1.25	0.94	
3,949.00	52.80	181.10	3,829.75	-321.02	-21.18	321.02	1.37	0.94	-1.25	
3,981.00	53.90	181.00	3,848.85	-346.69	-21.65	346.69	3.45	3.44	-0.31	
4,013.00	57.10	180.90	3,866.98	-373.05	-22.08	373.05	10.00	10.00	-0.31	
4,044.00	60.50	179.80	3,883.03	-399.56	-22.24	399.56	11.38	10.97	-3.55	
4,076.00	63.90	179.40	3,897.96	-427.87	-22.04	427.87	10.68	10.63	-1.25	
4,108.00	68.00	179.70	3,910.99	-457.08	-21.81	457.08	12.84	12.81	0.94	
4,140.00	72.00	180.00	3,921.94	-487.14	-21.74	487.14	12.53	12.50	0.94	
4,171.00	75.90	180.60	3,930.51	-516.93	-21.89	516.93	12.72	12.58	1.94	
4,202.00	79.00	180.90	3,937.24	-547.18	-22.29	547.18	10.04	10.00	0.97	
4,234.00	81.80	180.10	3,942.58	-578.73	-22.56	578.73	9.09	8.75	-2.50	
4,266.00	84.20	179.90	3,946.48	-610.49	-22.56	610.49	7.53	7.50	-0.63	
4,344.00	87.60	180.10	3,952.05	-688.28	-22.56	688.28	4.37	4.36	0.26	
4,406.00	88.20	180.00	3,954.32	-750.24	-22.62	750.24	0.98	0.97	-0.16	
4,467.00	89.30	180.20	3,955.65	-811.22	-22.72	811.22	1.83	1.80	0.33	
4,529.00	90.10	180.70	3,955.98	-873.22	-23.21	873.22	1.52	1.29	0.81	
4,591.00	90.10	180.70	3,955.87	-935.21	-23.97	935.21	0.00	0.00	0.00	
4,652.00	90.90	180.80	3,955.34	-996.20	-24.77	996.20	1.32	1.31	0.16	
4,714.00	89.50	179.80	3,955.12	-1,058.20	-25.09	1,058.20	2.77	-2.26	-1.61	
4,776.00	89.90	179.00	3,955.45	-1,120.20	-24.44	1,120.20	1.44	0.65	-1.29	
4,838.00	90.10	178.60	3,955.45	-1,182.18	-23.14	1,182.18	0.72	0.32	-0.65	
4,899.00	90.50	178.50	3,955.13	-1,243.16	-21.60	1,243.16	0.68	0.66	-0.16	
4,961.00	90.30	178.00	3,954.69	-1,305.13	-19.71	1,305.13	0.87	-0.32	-0.81	
5,023.00	90.70	177.80	3,954.15	-1,367.09	-17.44	1,367.09	0.72	0.65	-0.32	
5,085.00	89.00	178.30	3,954.32	-1,429.05	-15.33	1,429.05	2.86	-2.74	0.81	
5,147.00	89.30	178.40	3,955.24	-1,491.02	-13.54	1,491.02	0.51	0.48	0.16	
5,209.00	89.90	178.30	3,955.67	-1,552.99	-11.76	1,552.99	0.98	0.97	-0.16	
5,271.00	90.60	178.30	3,955.40	-1,614.96	-9.92	1,614.96	1.13	1.13	0.00	
5,332.00	89.50	177.80	3,955.34	-1,675.92	-7.84	1,675.92	1.98	-1.80	-0.82	
5,394.00	90.10	177.70	3,955.56	-1,737.87	-5.41	1,737.87	0.98	0.97	-0.16	
5,455.00	89.70	177.50	3,955.67	-1,798.82	-2.85	1,798.82	0.73	-0.66	-0.33	
5,516.00	90.00	177.70	3,955.83	-1,859.77	-0.30	1,859.77	0.59	0.49	0.33	
5,576.00	90.40	177.30	3,955.62	-1,919.71	2.32	1,919.71	0.94	0.67	-0.67	
5,638.00	89.70	177.40	3,955.56	-1,981.64	5.19	1,981.64	1.14	-1.13	0.16	
5,699.00	89.50	177.40	3,955.99	-2,042.58	7.95	2,042.58	0.33	-0.33	0.00	
5,761.00	89.90	177.40	3,956.31	-2,104.51	10.77	2,104.51	0.65	0.65	0.00	
5,822.00	90.10	177.10	3,956.31	-2,165.44	13.69	2,165.44	0.59	0.33	-0.49	
5,884.00	89.10	177.70	3,956.75	-2,227.38	16.50	2,227.38	1.88	-1.61	0.97	
5,945.00	88.90	177.50	3,957.81	-2,288.31	19.06	2,288.31	0.46	-0.33	-0.33	
6,007.00	89.40	177.40	3,958.73	-2,350.25	21.82	2,350.25	0.82	0.81	-0.16	
6,068.00	90.00	177.10	3,959.05	-2,411.17	24.74	2,411.17	1.10	0.98	-0.49	



Company:	Unit Petroleum	Local Co-ordinate Reference:	Well Loudenback 18 #1H
Project:	Reno County, Kansas	TVD Reference:	KB 14' @ 1784.00usft (UDI 331)
Site:	Loudenback	MD Reference:	KB 14' @ 1784.00usft (UDI 331)
Well:	Loudenback 18 #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)	
6,130.00	89.60	176.50	3,959.27	-2,473.08	28.20	2,473.08	1.16	-0.65	-0.97	
6,191.00	88.80	176.40	3,960.12	-2,533.95	31.98	2,533.95	1.32	-1.31	-0.16	
6,253.00	88.80	176.20	3,961.42	-2,595.81	35.98	2,595.81	0.32	0.00	-0.32	
6,314.00	88.80	175.90	3,962.69	-2,656.65	40.18	2,656.65	0.49	0.00	-0.49	
6,376.00	89.50	176.30	3,963.61	-2,718.50	44.40	2,718.50	1.30	1.13	0.65	
6,437.00	88.90	176.00	3,964.47	-2,779.36	48.49	2,779.36	1.10	-0.98	-0.49	
6,499.00	89.10	175.50	3,965.55	-2,841.18	53.09	2,841.18	0.87	0.32	-0.81	
6,560.00	89.40	176.00	3,966.35	-2,902.00	57.61	2,902.00	0.96	0.49	0.82	
6,621.00	89.60	175.70	3,966.88	-2,962.84	62.02	2,962.84	0.59	0.33	-0.49	
6,683.00	89.40	176.50	3,967.42	-3,024.70	66.24	3,024.70	1.33	-0.32	1.29	
6,744.00	88.90	175.90	3,968.33	-3,085.55	70.28	3,085.55	1.28	-0.82	-0.98	
6,806.00	89.70	176.00	3,969.08	-3,147.39	74.66	3,147.39	1.30	1.29	0.16	
6,867.00	89.80	175.70	3,969.35	-3,208.23	79.07	3,208.23	0.52	0.16	-0.49	
6,929.00	90.70	175.70	3,969.08	-3,270.06	83.72	3,270.06	1.45	1.45	0.00	
6,990.00	91.30	175.50	3,968.01	-3,330.87	88.40	3,330.87	1.04	0.98	-0.33	
7,051.00	91.90	175.60	3,966.31	-3,391.66	93.13	3,391.66	1.00	0.98	0.16	
7,113.00	91.30	175.60	3,964.58	-3,453.45	97.89	3,453.45	0.97	-0.97	0.00	
7,175.00	90.30	176.00	3,963.71	-3,515.28	102.43	3,515.28	1.74	-1.61	0.65	
7,236.00	90.20	176.20	3,963.45	-3,576.14	106.58	3,576.14	0.37	-0.16	0.33	
7,298.00	90.90	175.80	3,962.85	-3,637.98	110.90	3,637.98	1.30	1.13	-0.65	
7,359.00	90.30	175.70	3,962.21	-3,698.81	115.42	3,698.81	1.00	-0.98	-0.16	
7,421.00	90.30	176.20	3,961.89	-3,760.66	119.80	3,760.66	0.81	0.00	0.81	
7,483.00	90.30	176.50	3,961.56	-3,822.53	123.75	3,822.53	0.48	0.00	0.48	
7,545.00	90.10	176.10	3,961.35	-3,884.40	127.75	3,884.40	0.72	-0.32	-0.65	
7,607.00	90.40	176.10	3,961.08	-3,946.26	131.97	3,946.26	0.48	0.48	0.00	
7,669.00	90.20	175.80	3,960.75	-4,008.10	136.34	4,008.10	0.58	-0.32	-0.48	
7,730.00	90.20	175.90	3,960.54	-4,068.94	140.76	4,068.94	0.16	0.00	0.16	
7,792.00	91.00	176.00	3,959.89	-4,130.78	145.14	4,130.78	1.30	1.29	0.16	
7,854.00	90.30	175.40	3,959.19	-4,192.60	149.79	4,192.60	1.49	-1.13	-0.97	
7,916.00	90.80	175.30	3,958.59	-4,254.39	154.81	4,254.39	0.82	0.81	-0.16	
7,977.00	88.80	175.20	3,958.81	-4,315.18	159.86	4,315.18	3.28	-3.28	-0.16	
8,039.00	89.30	175.20	3,959.83	-4,376.96	165.05	4,376.96	0.81	0.81	0.00	
8,101.00	90.00	175.00	3,960.21	-4,438.73	170.35	4,438.73	1.17	1.13	-0.32	
8,162.00	89.40	175.90	3,960.53	-4,499.53	175.18	4,499.53	1.77	-0.98	1.48	
8,224.00	89.90	175.60	3,960.91	-4,561.36	179.78	4,561.36	0.94	0.81	-0.48	
8,286.00	89.90	175.40	3,961.02	-4,623.17	184.64	4,623.17	0.32	0.00	-0.32	
8,348.00	90.30	174.80	3,960.91	-4,684.94	189.94	4,684.94	1.16	0.65	-0.97	
8,408.00	90.10	174.10	3,960.70	-4,744.66	195.74	4,744.66	1.21	-0.33	-1.17	
Last Inwell Survey										
8,442.93	90.10	174.10	3,960.64	-4,779.41	199.33	4,779.41	0.00	0.00	0.00	
Loudenback 18 #1H PBHL										
8,458.00	90.10	174.10	3,960.61	-4,794.40	200.88	4,794.40	0.00	0.00	0.00	
Projection to TD										



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

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

Checked By: _____ Approved By: _____ Date: _____



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

FIELD: Mississippi Lime
Township:
Range

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

Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

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

Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

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

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Note: Surveys listed are interpolated from the actual surveys

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

Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

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

Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

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

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Note: Surveys listed are interpolated from the actual surveys

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

Slide Report for all BHA's in Job: 13200

Note: Surveys listed are interpolated from the actual surveys

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

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



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

FIELD: Mississippi Lime
Township:
Range

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

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

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

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

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

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



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

FIELD: Mississippi Lime
Township:
Range

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

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

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

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

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

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



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

FIELD: Mississippi Lime
Township:
Range

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

Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

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

Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

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

Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

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

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



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

FIELD: Mississippi Lime
Township:
Range

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

Slide Report for BHA # 4

Note: Surveys listed are interpolated from the actual surveys

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

Slide Report for BHA # 4

Note: Surveys listed are interpolated from the actual surveys

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

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



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

FIELD: Mississippi Lime
Township:
Range

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

Slide Report for BHA # 5

Note: Surveys listed are interpolated from the actual surveys

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

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



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

FIELD: Mississippi Lime
Township:
SECT/RANGE:

COMMENT

BHA Summary Report for JOB

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

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



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

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

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

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

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

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

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



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

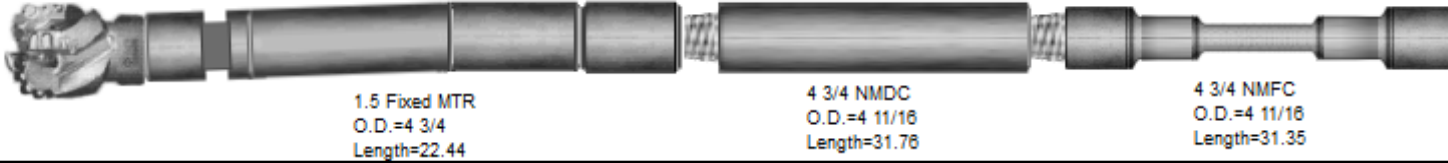
4 3/4 NMDC
O.D.=4 11/16
Length=31.76

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

BHA Summary Report for JOB

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

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



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

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



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

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



Well Information

BHA # 1



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

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

BHA Summary Information

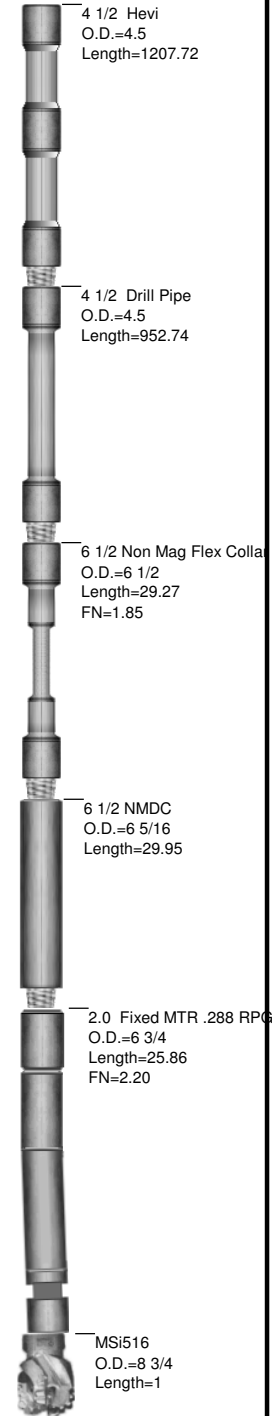
TIME IN - OUT		Rotary Hours	3.83	Start Depth	3271.00	RPM	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	28.83 / 5.75	End Depth	4319.00	Range	
15-Aug-13 @ 08:45	17-Aug-13 @ 21:15	Slide Hours	19.25	Percent Rotary:	20.13	0 -45	0 -500
		Below Rotary Hrs.	60.50	Percent Slide:	79.87		
Total Drilled:		1048.00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

Bit Data				MOTOR DATA				Mud Data					
SMITH	MSI516			Curve Assembly				Type	Water Base				
Type Bit		PDC		Model: 675785		Pad OD		WT	9.9	GAS	0	Solids	11.2
TFA	0.751		MFG. InWell		7 5/16		Vis	35	SAND	0	T °	90	
JETS		14	14	14	14	14	Bend °	2	Stator/Rotor	7/8		PV	11 PH 11.5 Chlor 3800
		0	0	0	0	0	Bit to Bend	5.66	Motor Diff				
Bit Coding		IADC#		Rev/GAL	0.288		PUMPS		PUMP1		PUMP1		
IR	OR	DL	Loc	BS	G	ODL	NB Stab	0	NAME	Gardner		Gardner	
0	0						Rotor Jet	0	Model	PZ8		PZ8	
Bit Drop:		404 PSI @ 500 GPM		Sensor Offsets		Type		Triplex		Triplex			
Comments		Sensor	51.53	Sonic	0		Liner	6.00		6.00			
		Gamma	36.02	DNCS	0		Stroke	8.00		8.00			
		Restiv	0	GYRO	0		Efficiency	95.00		95.00			

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

BHA Detail

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



Well Information

BHA # 2



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

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

BHA Summary Information

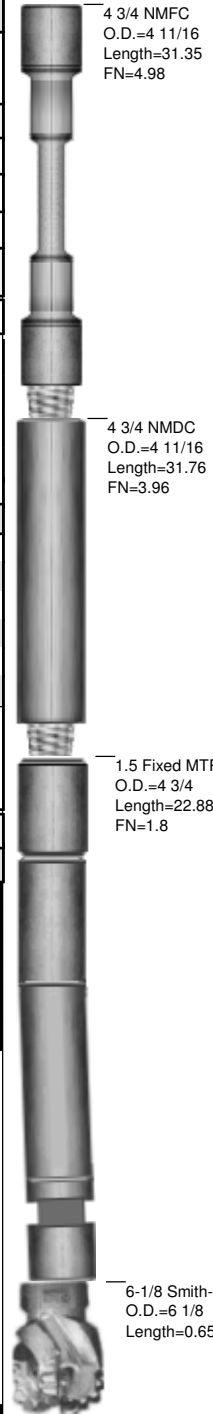
TIME IN - OUT		Rotary Hours	14.48	Start Depth	4319.00	RPM	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	22.32 / 4.58	End Depth	5073.00	Range	
17-Aug-13 @ 21:15	19-Aug-13 @ 07:45	Slide Hours	3.25	Percent Rotary:	93.36	45 -75	200 -277
		Below Rotary Hrs.	34.33	Percent Slide:	6.64		
Total Drilled:		753.00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

Bit Data				MOTOR DATA				Mud Data					
SMITH	6-1/8 Smith-MSi613-			6-1/8 Slick Assembly				Type					
Type Bit		PDC		Model: 475_7_8lobe3_8Stage		Pad OD		WT 0 GAS 0 Solids 0					
TFA	1.006				MFG. Inwell		5.0		Vis 0 SAND 0 T ° 0				
JETS		16	16	16	16	12	Bend ° 1.5 Stator/Rotor 7/8		PV 0 PH 0 Chlor 0				
		12	0	0	0	0	Bit to Bend 4.32 Motor Diff		YP 0 WL 0 Oil % 0				
Bit Coding			IADC#			Rev/GAL 0.521		BHT° 0					
IR	OR	DL	Loc	BS	G	ODL	NB Stab 0		PUMPS		PUMP1		
0	0			0			Rotor Jet 0		NAME		Gardner		
Bit Drop:		0 PSI @ 277 GPM			Sensor Offsets				Model		PZ8		
		Sensor		47.8	Sonic		0	Type		Triplex		Triplex	
		Gamma		33	DNSC		0	Liner		6.00		6.00	
		Restiv		0	GYRO		0	Stroke		8.00		8.00	
								Efficiency		95.00		95.00	

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

BHA Detail

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



Well Information

BHA # 3



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

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

BHA Summary Information

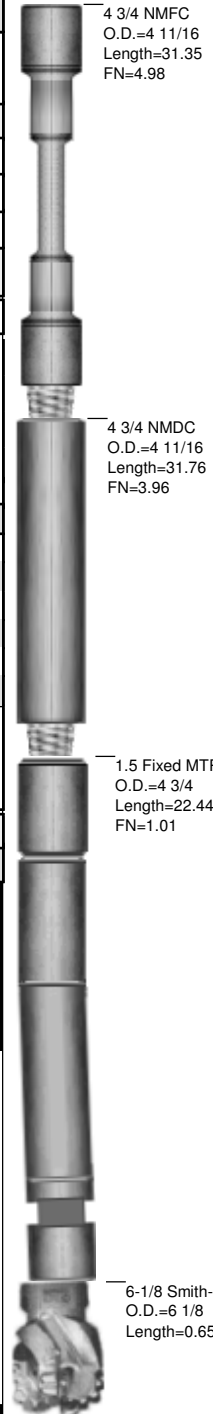
TIME IN - OUT		Rotary Hours	31.67	Start Depth	5073.00	RPM	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	45.83 / 7.33	End Depth	6906.00	Range	
19-Aug-13 @ 07:45	21-Aug-13 @ 19:00	Slide Hours	6.83	Percent Rotary:	95.42	75 -75	277 -304
		Below Rotary Hrs.	59.25	Percent Slide:	4.58		
Total Drilled:		1833.00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

Bit Data				MOTOR DATA				Mud Data						
SMITH	6-1/8 Smith-MSi613-			6-1/8 Slick Assembly				Type	Water					
Type Bit		PDC		Model:	475_7_8lobe3_8Stage		Pad OD	WT	8.6	GAS	0	Solids	0	
TFA	0.81		MFG.	Inwell			5	Vis	28	SAND	0	T °	90	
JETS		16	16	16	12	12	Bend °	1.5	Stator/Rotor	7/8		PV	3	
		0	0	0	0	0	Bit to Bend	4.32	Motor Diff			PH	8.5	
Bit Coding		IADC#		Rev/GAL	0.521							Chlor	1.7	
IR	OR	DL	Loc	BS	G	ODL	NB Stab	0	PUMPS		PUMP1		PUMP1	
8	8						Rotor Jet	0	NAME	Gardner		Gardner		
Bit Drop:		112 PSI @ 304 GPM		Sensor Offsets					Model	PZ8		PZ8		
Comments		Sensor	48	Sonic	0				Type	Triplex		Triplex		
		Gamma	32	DNCS	0				Liner	6.00		6.00		
		Restiv	0	GYRO	0				Stroke	8.00		8.00		
									Efficiency	95.00		95.00		

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

BHA Detail

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



Well Information

BHA # 4



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

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

BHA Summary Information

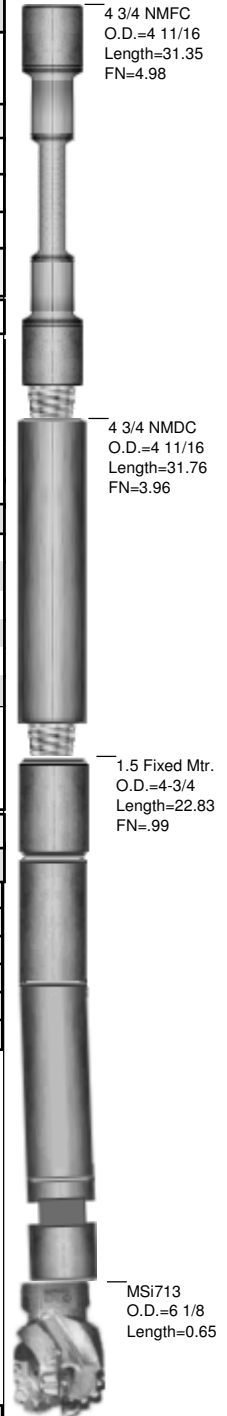
TIME IN - OUT		Rotary Hours	16.73	Start Depth	6906.00	RPM	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	29.07 / 3.92	End Depth	7882.00	Range	
21-Aug-13 @ 19:00	23-Aug-13 @ 10:30	Slide Hours	8.42	Percent Rotary:	90.46	65 -75	277 -304
		Below Rotary Hrs.	39.50	Percent Slide:	9.54		
Total Drilled:		975.00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

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

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

BHA Detail

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



Well Information

BHA # 5



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

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

BHA Summary Information

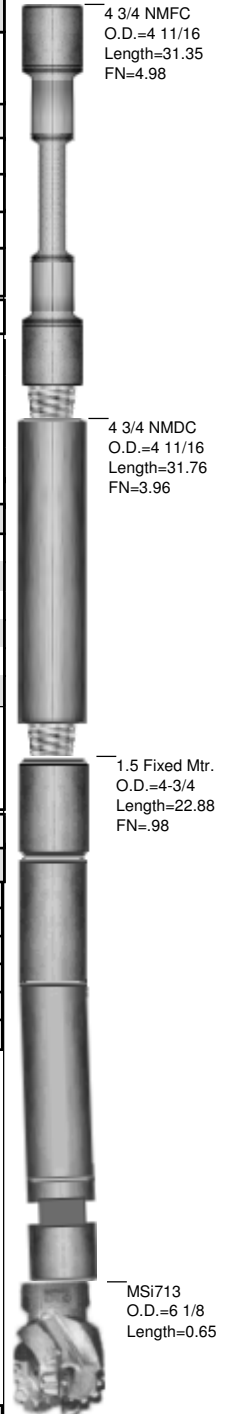
TIME IN - OUT		Rotary Hours	8.25	Start Depth	7882.00	RPM		Flow Rate	
Start Time	End Time	Circ Hrs Tot/Only	11.58 / 1.75	End Depth	8305.00	Range			
23-Aug-13 @ 10:30	24-Aug-13 @ 05:00	Slide Hours	1.58	Percent Rotary:	94.33	65 -65		277	
		Below Rotary Hrs.	18.50	Percent Slide:	5.67			-277	
Total Drilled: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

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

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

BHA Detail

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





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

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

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

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

GENERAL COMMENT

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



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

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

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

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

GENERAL COMMENT

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



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

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

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

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

GENERAL COMMENT

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

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



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

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

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

GENERAL COMMENT

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

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



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

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

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

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

GENERAL COMMENT

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



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

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

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

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

GENERAL COMMENT

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

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



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

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

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

GENERAL COMMENT

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

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



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

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

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

GENERAL COMMENT

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

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



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

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

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

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

GENERAL COMMENT

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

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



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

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

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

GENERAL COMMENT

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

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



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

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

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

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

GENERAL COMMENT

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

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



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

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

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

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

GENERAL COMMENT

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

BHA # 1

Mud Motor Report



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

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

Motor Failed?: NO

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

Mud Data

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

Formation:**EXPANDED REASON PULLED:**

Landed Curve

BHA PERFORMANCE:

Good Run

ADDITIONAL COMMENTS: (Expands to next page if necessary)

BHA # 2**Mud Motor Report**

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

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

Motor Failed?: NO

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

Mud Data

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

Formation:**EXPANDED REASON PULLED:**

Penetration Rate and NOT Getting Build Rate When Sliding

BHA PERFORMANCE:

Good Run

ADDITIONAL COMMENTS: (Expands to next page if necessary)

BHA # 3

Mud Motor Report



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

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

Motor Failed?: NO

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

Mud Data

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

Formation:

EXPANDED REASON PULLED:

Hours on BHA

BHA PERFORMANCE:

Good Run

ADDITIONAL COMMENTS: (Expands to next page if necessary)

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

BHA # 4

Mud Motor Report



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

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

Motor Failed?: NO

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

Mud Data

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

Formation:**EXPANDED REASON PULLED:**

ROP slowed down and troque started increasing

BHA PERFORMANCE:

do good

ADDITIONAL COMMENTS: (Expands to next page if necessary)

BHA # 5**Mud Motor Report**

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

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

Motor Failed?: NO

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

Mud Data

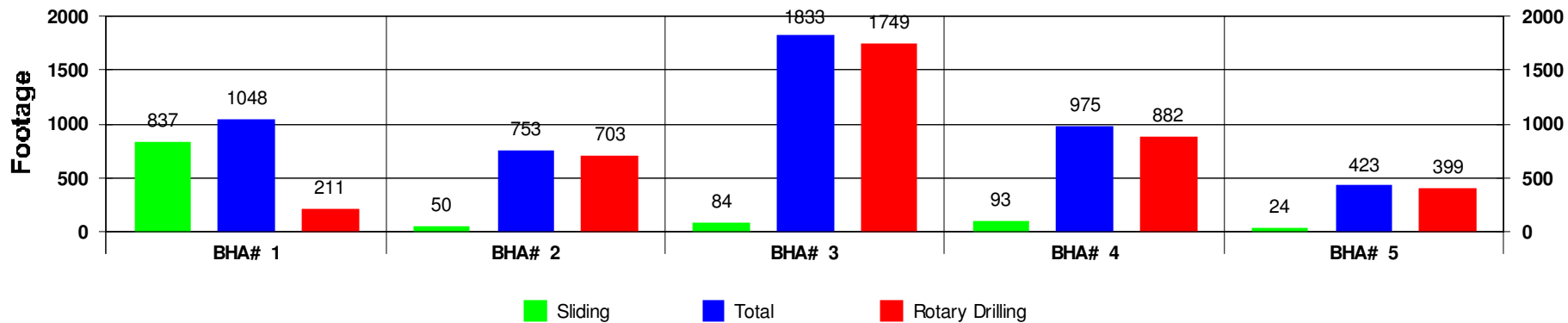
Type Water **WT:** 8.6 **Vis:** 28 **WL:** 99 **PV:** 3 **Flow T °:** 90
SAND 0 **Chlor:** 1.7 **GAS** 0 **SOL:** 0 **Oil %:** 0 **YP:** 2 **PH:** 8.5 **Bottom Hole T °:** 134.6

Formation:**EXPANDED REASON PULLED:****BHA PERFORMANCE:****ADDITIONAL COMMENTS:** (Expands to next page if necessary)

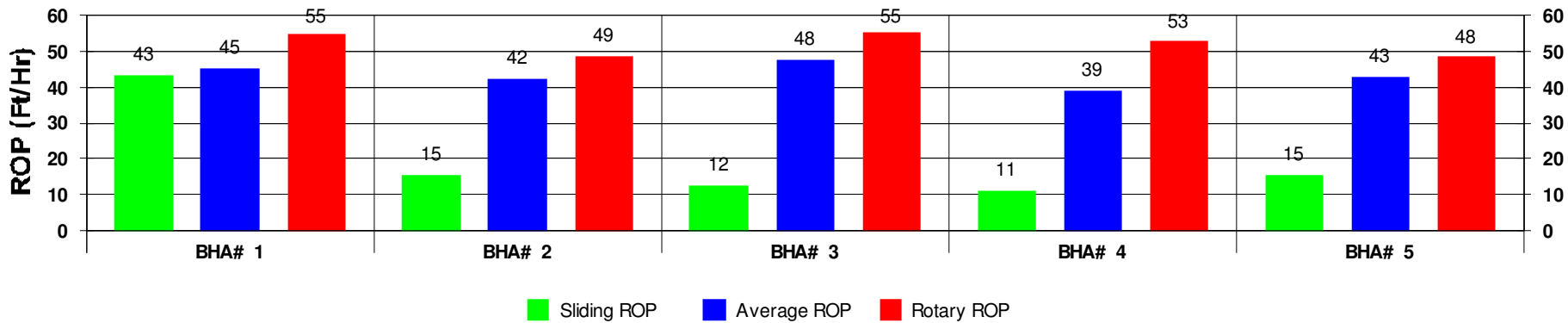


JOB NO.:	13200	FIELD:	Mississippi Lime	
Company:	Unit Petroleum	Township:		
LOCATION:	Reno County	SECT\ RANGE:		
RIG NAME:	Unit Texas #331	COMMENT		
STATE:	Kansas			
COUNTY:	Reno County			
WELL NAME:	Loudenback 18 #1H			

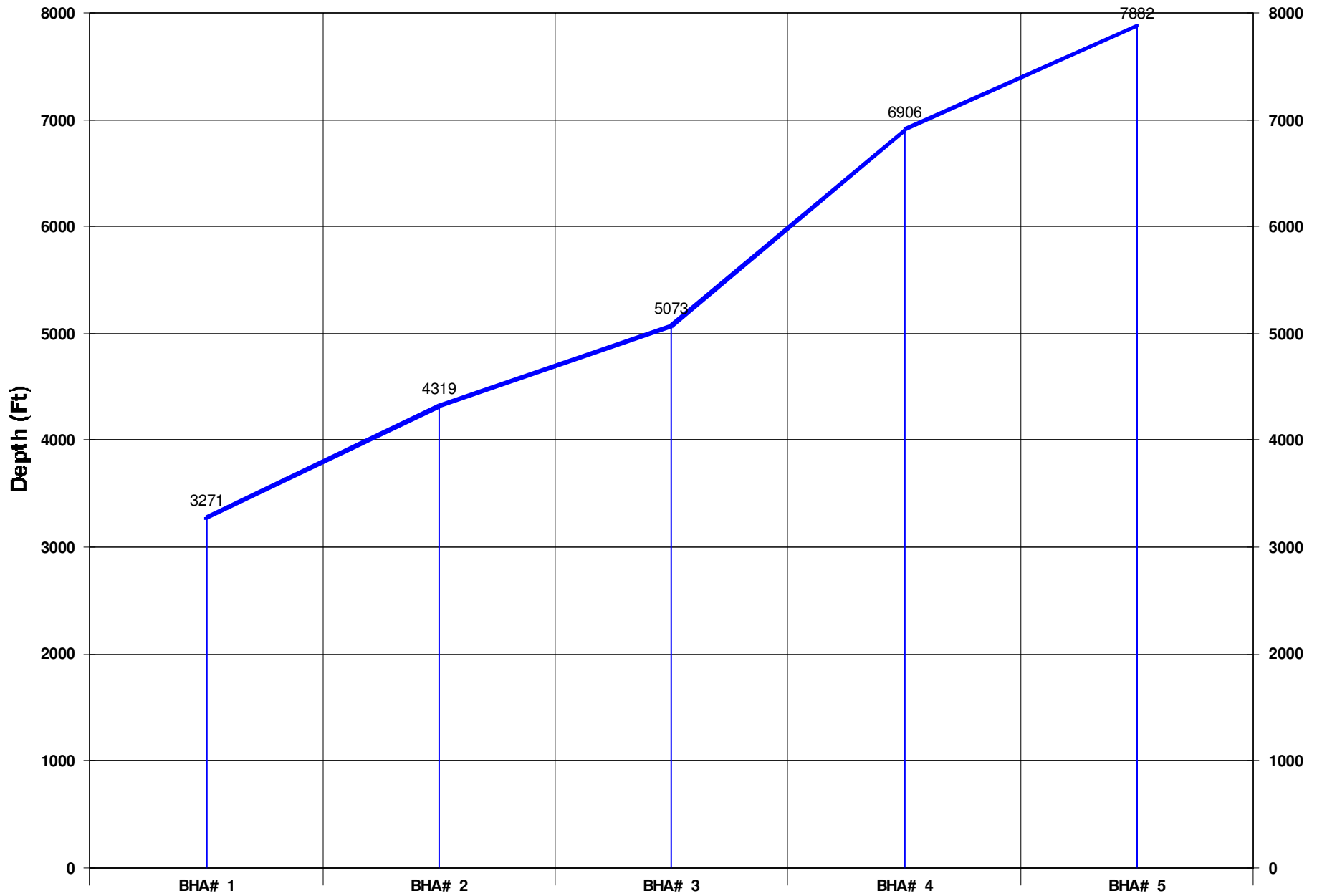
Footage Drilled with BHA



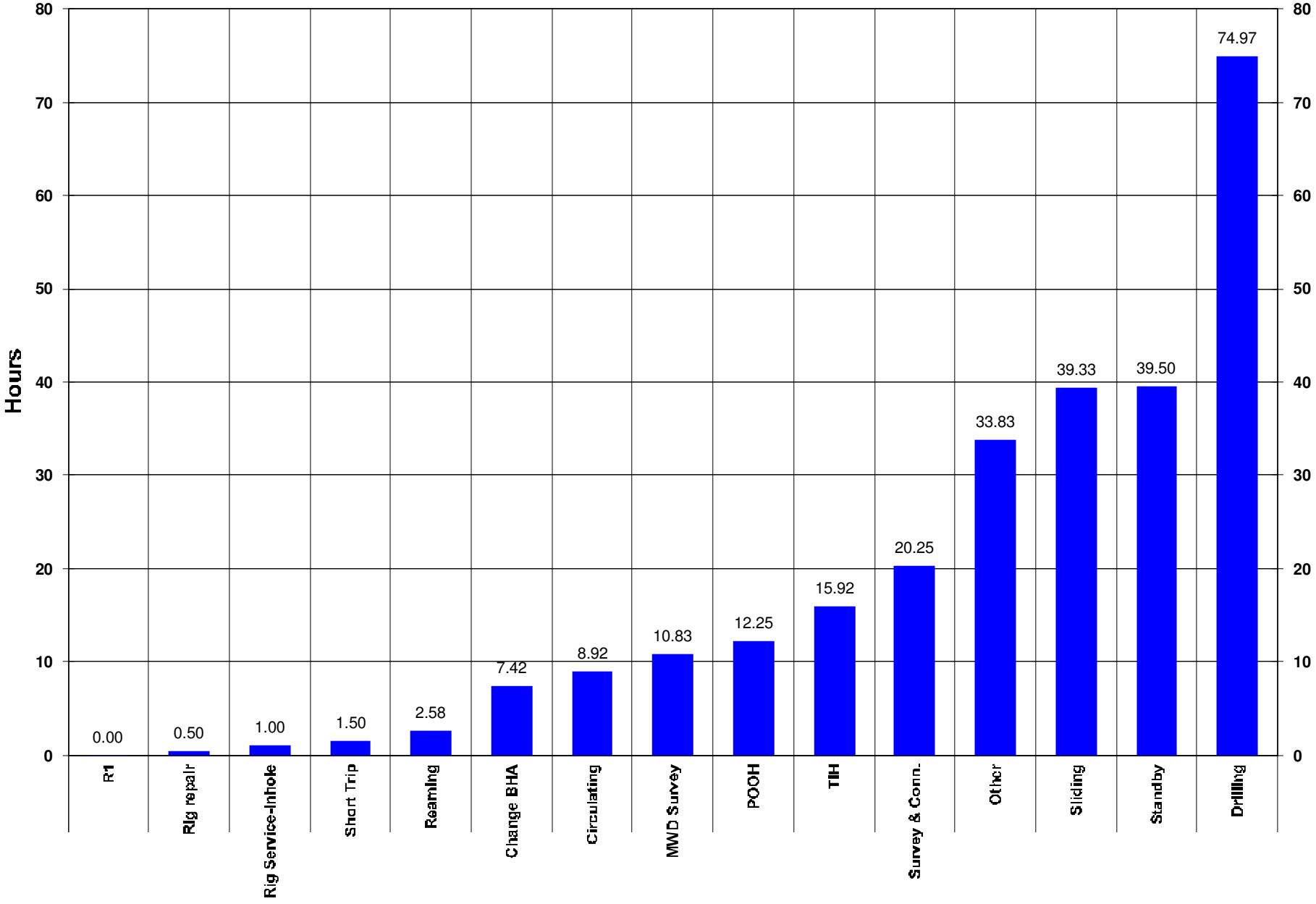
ROP vs BHA



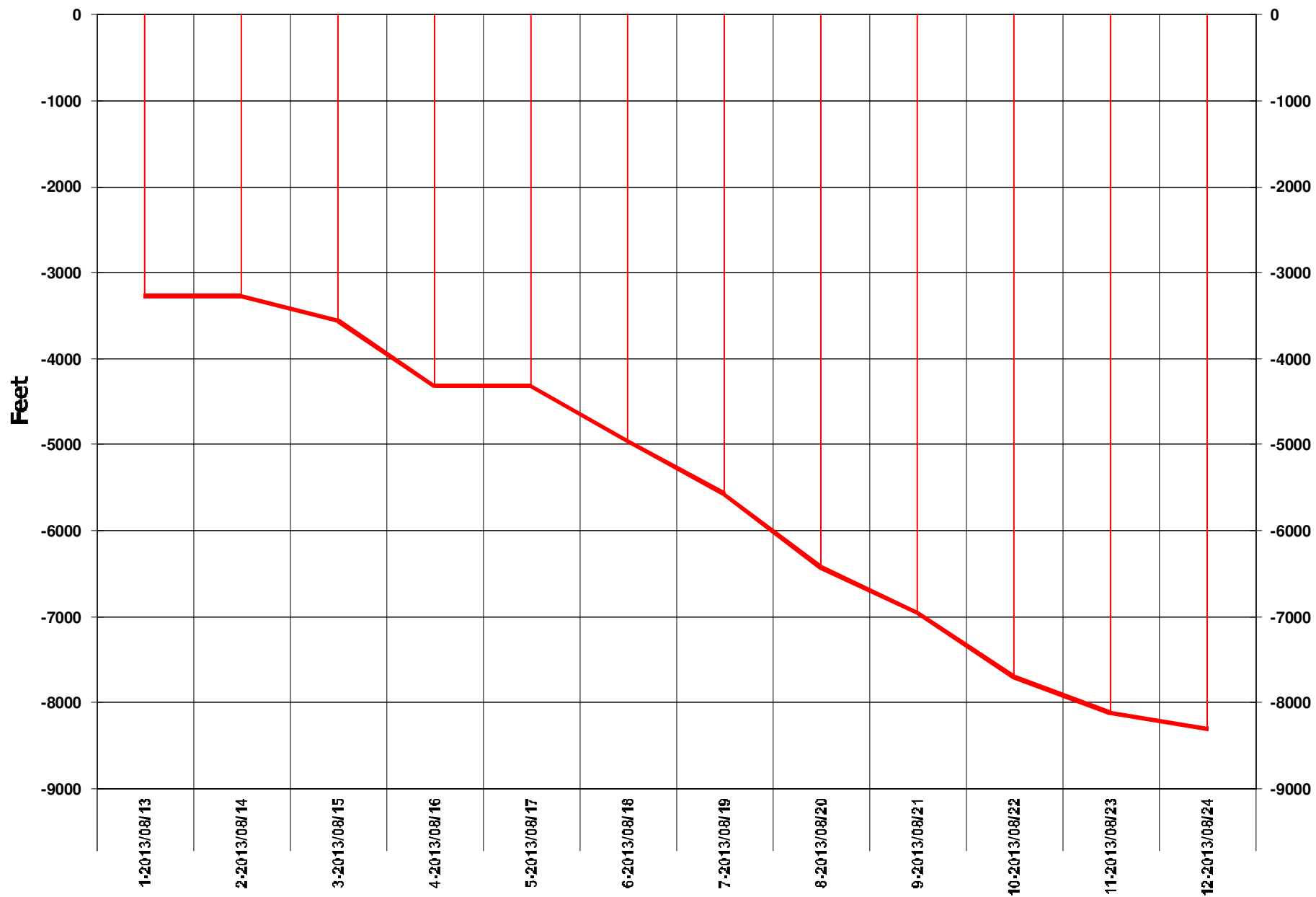
Depth vs BHA



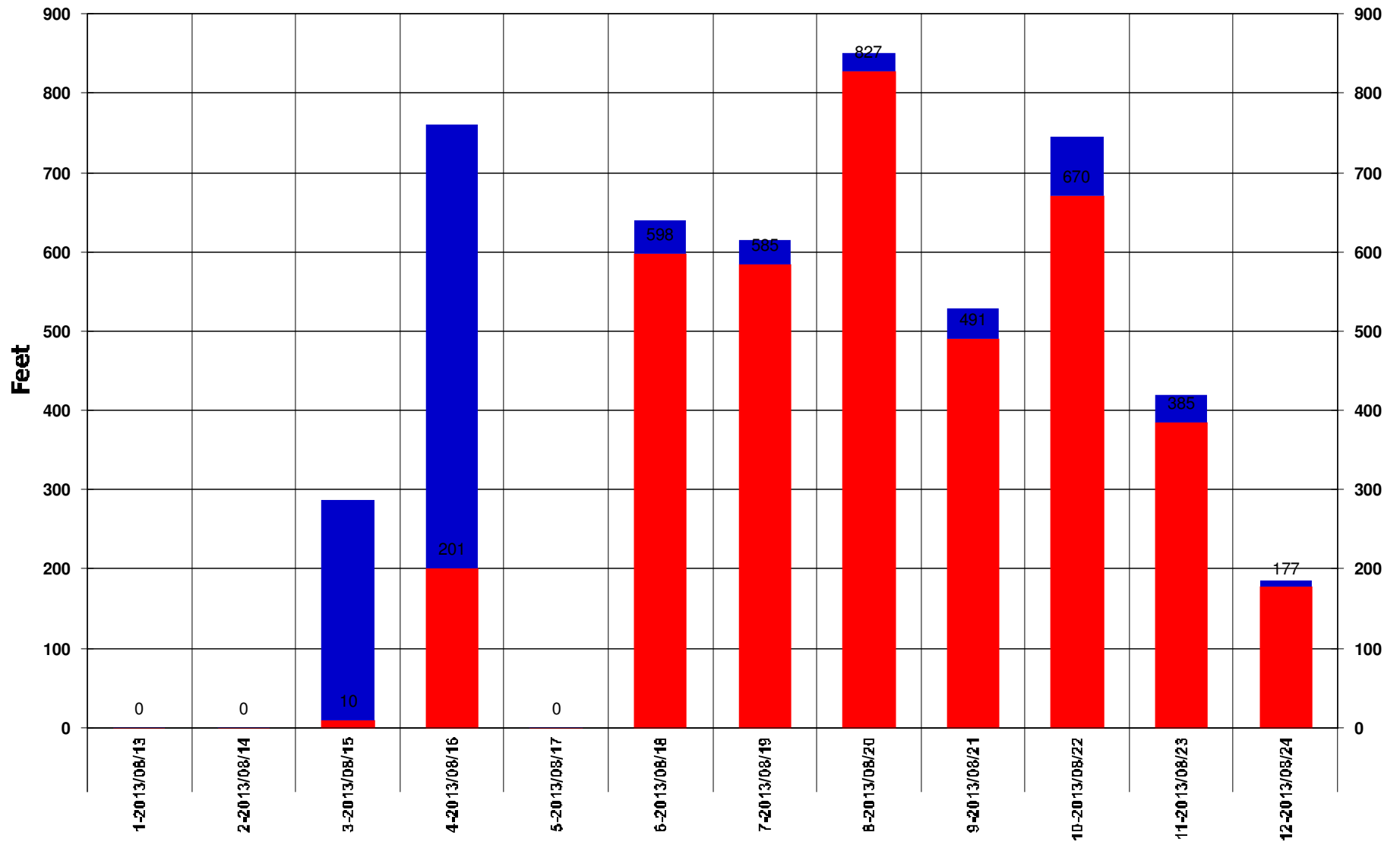
Activity Histogram



Measured Depth vs Days

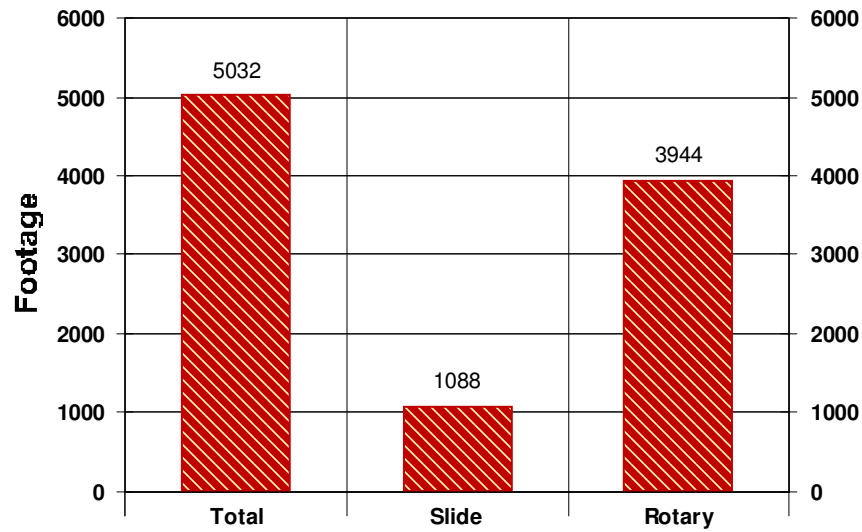


Daily Footage

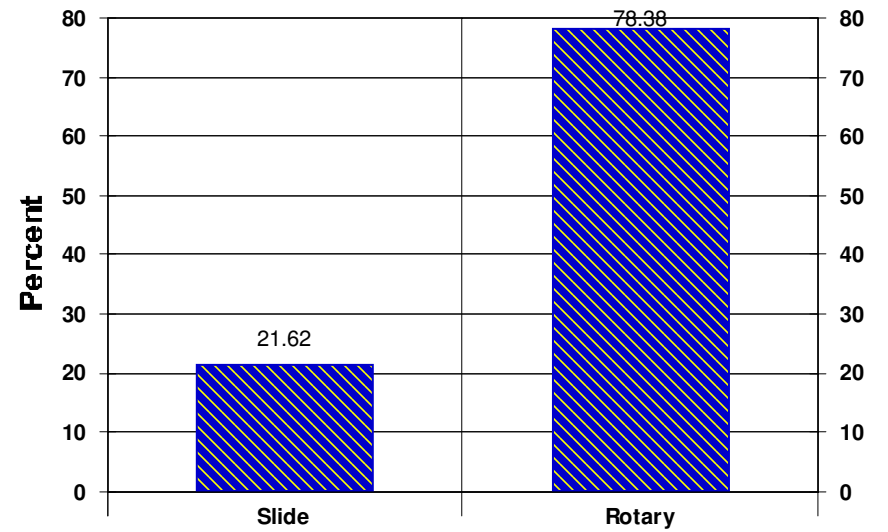


Rotary Drilling Sliding

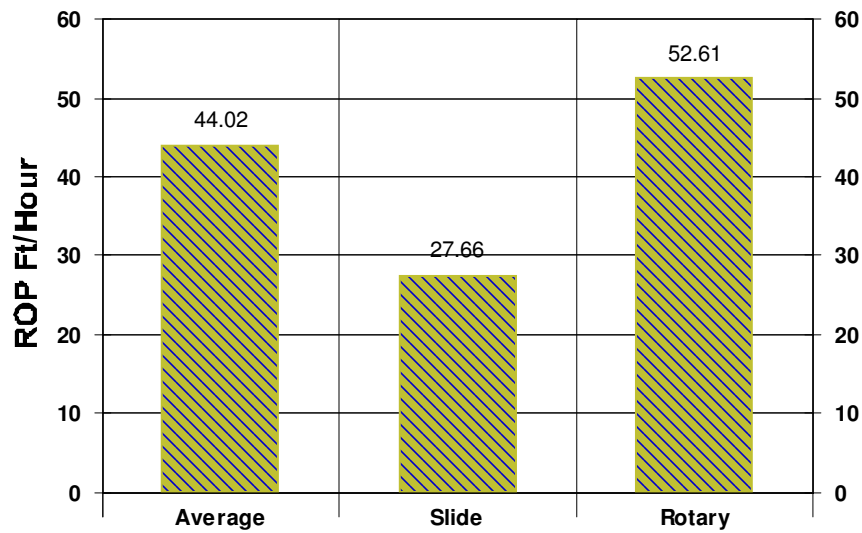
Footage Drilled Totals



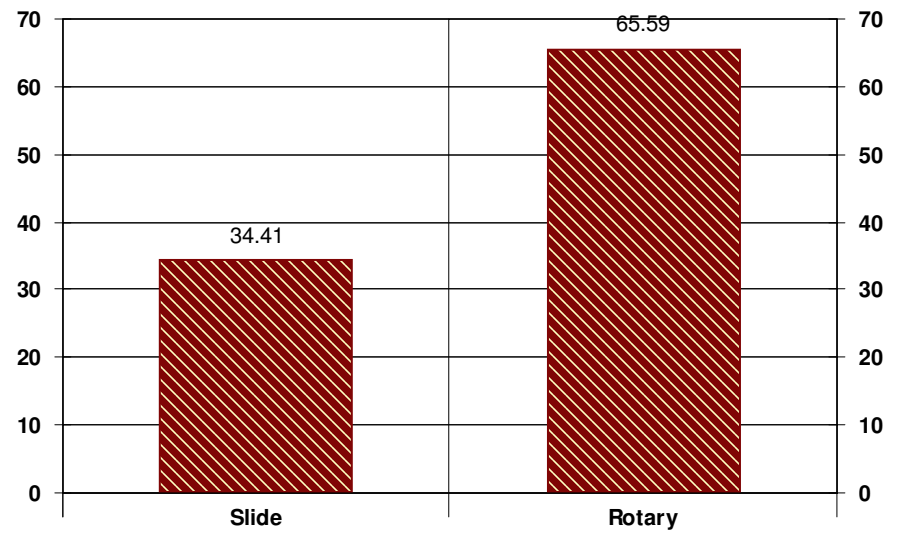
Footage Percent



Rate of Penetration Totals



Time Percent



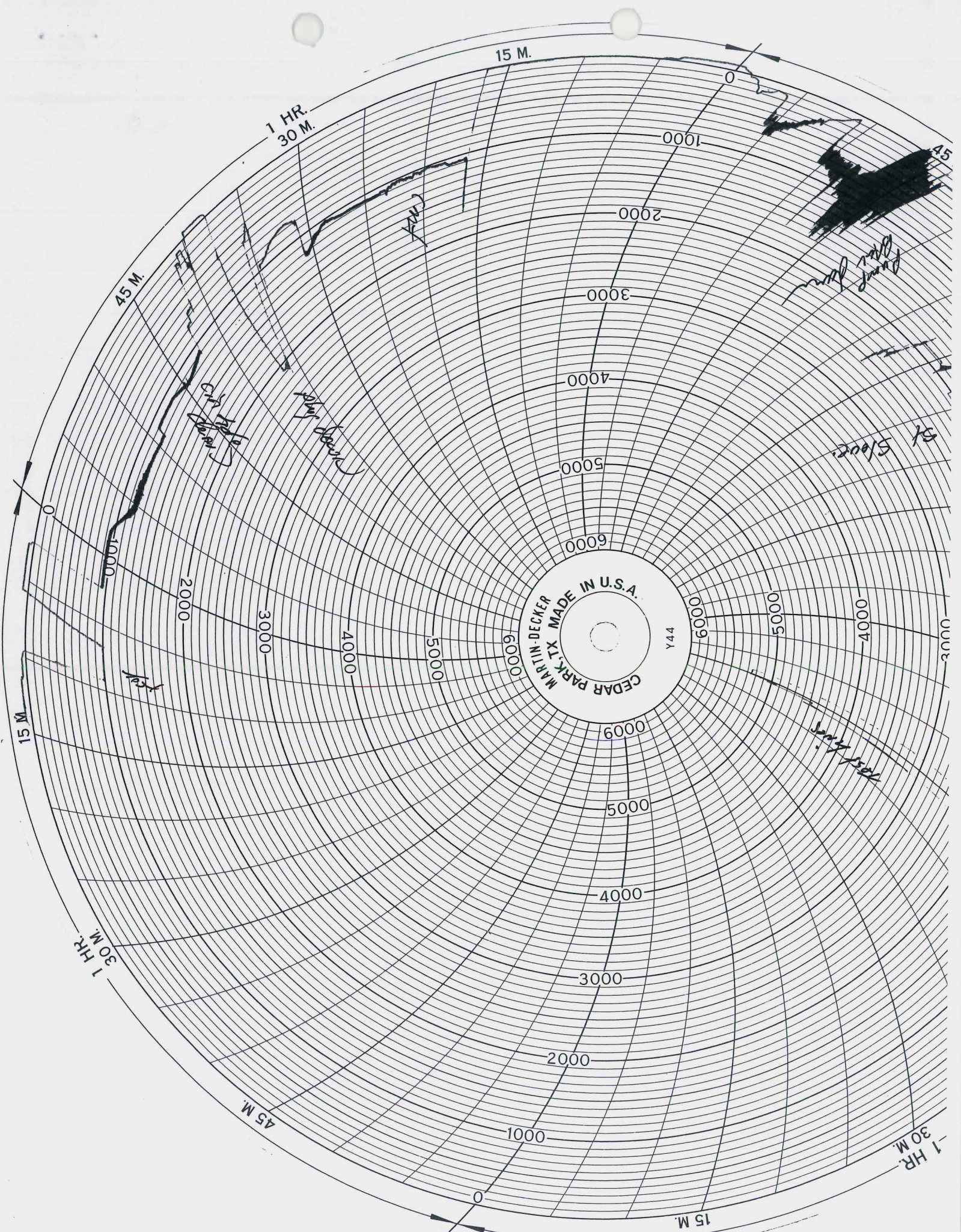
Customer <i>UNIT-ROTOR</i>	Lease No.	Date <i>08-26-13</i>	
Lease <i>LODGENBACK</i>	Well # <i>18-1-4</i>		
Field Order # <i>8109</i>	Station <i>AAA 71 AS</i>	Casing <i>4 1/2</i>	Depth <i>8458</i>
Type Job <i>CDW 4 1/2 LINDER</i>	Formation	County <i>RENO</i>	State <i>KS</i>
		Legal Description <i>18-25-10</i>	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>4 1/2</i>	<i>0.8</i>	<i>1917</i>						
Depth <i>4513</i>	Depth <i>0.8</i>	From <i>644'</i>	To	Pre Pad	Max		5 Min.	
Volume <i>95-71</i>	Volume <i>HD</i>	From <i>383</i>	To	Pad	Min		10 Min.	
Max Press	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth <i>8458</i>	Packer Depth	From	To	Flush	Gas Volume		Total Load	

Customer Representative	Station Manager <i>DAVE SOCH</i>	Treater <i>Robert Sullivan</i>
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Service Units <i>22900</i>	<i>23708</i>	<i>20920</i>	<i>19903</i>	<i>73768</i>	<i>19824</i>	<i>17860</i>			
Driver Names <i>Calvin</i>	<i>McKraw</i>	<i>Phyllis</i>		<i>MURKIN</i>					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>0630</i>					<i>on loc softy marking</i>
					<i>Run liner 4 1/2 11.6 cgs. 4513 TO. 8458'</i>
					<i>O.P. 1917' DRILL C. 644' HD. 1383' str 49'</i>
<i>1120</i>					<i>CASING ON BOTTOM</i>
<i>1130</i>					<i>Hook up on 4 1/2</i>
<i>1150</i>	<i>5300</i>				<i>TST LIND</i>
					<i>Release Ps. Drop BALL</i>
<i>1152</i>	<i>200</i>			<i>3.5</i>	<i>At Pump in BALL down</i>
	<i>800</i>		<i>94</i>		
<i>12:25</i>	<i>1800</i>				<i>At shoe</i>
					<i>Release Ps.</i>
<i>1235</i>	<i>1800</i>				<i>Ps. back</i>
	<i>2400</i>		<i>6</i>	<i>2</i>	<i>Pump BALL OUT</i>
					<i>shut down</i>
<i>12:40</i>			<i>12</i>	<i>3</i>	<i>At Pump in flush</i>
	<i>200</i>			<i>5.5</i>	<i>At mix cont 550 st Pressure cont 1800 543</i>
<i>1:12</i>			<i>120</i>		<i>quid 1.24 mix 15.6 ppq. = 12000 cont</i>
<i>1:15</i>	<i>500</i>			<i>5</i>	<i>cont mix shut down wash pump-liner</i>
			<i>80</i>	<i>3</i>	<i>At Dip</i>
<i>1:40</i>	<i>2000</i>		<i>92</i>		<i>slow rate</i>
					<i>plug down</i>



15 M.

1 HR.
30 M.

0000

2000

3000

4000

5000

6000

45 M.

CITY

TEMP

WIND

SEA 1000

ST 5/1000

SEA 1000

CEDAR PARK, TX
MADE IN U.S.A.
Y44

15 M.

1 HR.
30 M.

0009

0009

0005

0007

0008

5000

4000

3000

2000

1000

45 M.

15 M.

1 HR.
30 M.

Customer <i>UNIT Petroleum</i>	Lease No.	Date <i>08-12-13</i>	
Lease <i>Landback</i>	Well # <i>18-14</i>		
Field Order # <i>8707</i>	Station <i>Pratt KS</i>	Casing <i>9 5/8</i>	Depth <i>1506</i>
Type Job <i>ENW 2 7/8 bitline</i>	Formation	Cour <i>RENO</i>	State <i>KS</i>
		Legal Description <i>18-25-10</i>	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
<i>9 5/8</i>							
Depth <i>1506'</i>	Depth	From	To	Pre Pad	Max		5 Min.
Volume <i>116 1/2</i>	Volume	From	To	Pad	Min		10 Min.
Max Press <i>200</i>	Max Press	From	To	Frac	Avg		15 Min.
Well Connection <i>P.C.</i>	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth <i>1509'</i>	Packer Depth	From	To	Flush	Gas Volume		Total Load

Customer Representative	Station Manager <i>DAVE COY</i>	Treater <i>Robert Williams</i>
Service Units <i>37900 19889 19843 70959 19918 19960 70010</i>		
Driver Names <i>Soltis Edamo Phin Lannan</i>		

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>6:30</i>	<i>psi</i>				<i>in loc</i>
					<i>Truck on loc Soltis met</i>
					<i>Run 9 5/8 # 36 csg</i>
<i>9:20</i>					<i>CASING on Bottom</i>
<i>9:30</i>					<i>Hook up circ</i>
<i>10:20</i>	<i>200</i>		<i>3</i>	<i>4.5</i>	<i>14 SPACER</i>
			<i>143</i>	<i>5.5</i>	<i>mix cont 325k Acid cont @ 12.6 app</i>
			<i>60</i>		<i>mix Tail cont 280k cement @ 15.6 app</i>
					<i>cont mix @ shut down</i>
					<i>Release Plug</i>
				<i>5.5</i>	<i>14 Disp</i>
	<i>350</i>		<i>60</i>		<i>1 1/2 PSI</i>
<i>11:30</i>	<i>1,000</i>		<i>116</i>	<i>2.5</i>	<i>plug down</i>
					<i>1 circ 45 min cont test</i>
					<i>503 complete</i>
					<i>Thank you</i>

Customer <i>Unit Petroleum Co.</i>	Lease No.	Date <i>8-17-13</i>	
Lease <i>Lundenback</i>	Well # <i>18#1H</i>		
Field Order # <i>8750</i>	Station <i>Pratt</i>	Casing <i>7"</i>	Depth <i>4320</i>
Type Job <i>CNW 7in INT</i>		Formation	Legal Description <i>18-255-10W</i>
County <i>Renov</i>		State <i>KS</i>	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size <i>7"</i>	Tubing Size	Shots/Ft		Acid <i>160 SK, AA-2</i>	RATE <i>5 H</i>	PRESS <i>300</i>	ISIP <i>520</i>	
Depth <i>4320</i>	Depth	From	To	Pre Pad <i>10% salt</i>	Max		5 Min.	
Volume <i>165</i>	Volume	From	To	Pad	Min		10 Min.	
Max Press <i>150</i>	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection <i>P.C.</i>	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth <i>4320</i>	Packer Depth	From	To	Flush	Gas Volume		Total Load	

Customer Representative <i>Brent Keys</i>	Station Manager <i>Kevin Gurdy</i>	Treater <i>Mike Mattai</i>
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Service Units <i>37900</i>	<i>33709</i>	<i>20920</i>	<i>19821</i>	<i>19862</i>				
Driver Names <i>MATTAI</i>	<i>Mel Horn</i>		<i>Pierison</i>	<i>Phye</i>				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
11:00					Trucks at location / safety meeting
1:10					Pipe on bottom
1:50					Hook up to casing
1:58	150		5	5	Pump 5 Bbl H ₂ O
1:59	150		12	5	Pump 12 Bbl mud flush
2:02	150		3	5	Pump 3 Bbl H ₂ O
2:03	300		40	6	Mix 160 SKS OR AA-2 cmf
2:10					release plug
2:15	50			6	start displacement
2:45	350		150	3	slow rate
2:51	550		167		plug did not land @ 165 Bbls STOPPED PUMPING @ 167 Bbls per customer
2:51 PM					release pressure
					Circulation thru job
					JOB complete
					THANK YOU
					MIKE MATTAI

Mid-Continent Conductor, LLC

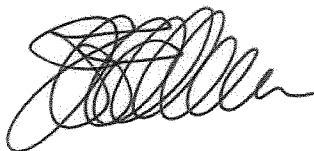
P.O. Box 1570, Woodward, OK 73802

Ph. 580-254-5400 Fax 580-254-3242

CEMENTING REPORT

Operator: Unit Corporation
Well Name: Loudenback 18-1H
Legal Description: Reno Cnty, KS

Cement Casing Data	
Cementing Date	6-20-13
Size of Drill Bit (Inches)	28
Size of Casing (Inches O.D.)	16
Setting Depth of Casing (ft.) from ground level	145
Type of Cement	Common Cement
Sacks of Cement Used	120
Was cement circulated?	Yes
Job witnessed by: Sonny Lauer	



Jeff M. Owen

Mid-Continent Conductor, LLC

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

November 14, 2013

Brent Keys
Unit Petroleum Company
7130 S LEWIS AVE
STE 1000
TULSA, OK 74136-5492

Re: ACO1
API 15-155-21661-01-00
Loudenback 18 #1H
NE/4 Sec.18-25S-10W
Reno County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Brent Keys