

Results of Directional Survey

API number:	30-025-40410		
OGRID:		Operator:	EOG RESOURCES INC
		Property:	RED HILLS WEST 16 STATE # 1H

surface	ULSTR:	D	16	T	26S	R	32E
				180	FNL	640	FWL

BH Loc	ULSTR:	M	16	T	26S	R	32E
13434	MD	8917.7	TVD	269	FSL	411	FWL
				5011	FNL		

Top Perf/OH	ULSTR:	D	16	T	26S	R	32E
9453	MD	8943.5	TVD	1034	FNL	361	FWL

Bot Perf/OH	ULSTR:	M	16	T	26S	R	32E
13292	MD	8917.2	TVD	411	FSL	408	FWL
				4869	FNL		

	MD	N/S	E/W	VD
	9438	-839.10	-279.70	8943.7
TOP PERFS/OH	9453	-854.07	-279.30	8943.53
	9483	-884.00	-278.50	8943.20
	13203	-4589.80	-233.90	8916.60
BOT PERFS/OH	13292	-4688.69	-231.82	8917.19
	13293	-4689.80	-231.80	8917.20

NEXT TO LAST	13382	-4778.80	-229.60	8917.60
LAST READING	13434	-4830.80	-228.70	8917.70
TD	13434	-4830.80	-228.70	8917.70

Surface Location	180	FN	640	FW
Projected BHL	5011	FN	411	FW
Location of				
Top Perfs/OH	1034	FN	361	FW
Bottom Perfs/OH	4869	FN	408	FW

SUMMARY of Subsurface Locations

Surface Location	D-16-26S-32E	180	FN	640	FW	Vert. Depth
Top Perfs/OH	D-16-26S-32E	1034	FN	361	FW	8943.53
Bottom Perfs/OH	M-16-26S-32E	4869	FN	408	FW	8917.19
Projected TD	M-16-26S-32E	5011	FN	411	FW	8917.70

SEP 05 2013



Gyrodata Incorporated
3811 South County Road 1285
Odessa, Texas 79765

432-561-8458
Fax: 432-563-7982

HOBBS OCD

MAR 12 2013

RECEIVED

State of Texas
County of Harris

I, Frank Pawlik, certify that; I am employed by Gyrodata Inc.; that I am authorized and qualified to review the Rate Gyro Multishot survey from a depth of 0 feet to a depth of 8054 feet conducted on the day(s) of 09/03/2012 through 09/04/2012; that this survey was conducted at the request of Conoco Phillips for the Red Hills West 16 State #1H Well API No. 30-025-40410 in Lea County, New Mexico; that the data is true, correct, complete, and within the limitations of the tool as set forth by Gyrodata Inc.; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Gyrodata Inc.

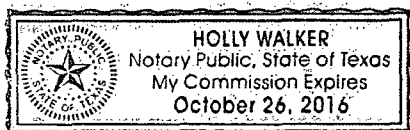
Frank Pawlik
District Manager – Midland, TX

STATE OF TEXAS

COUNTY OF MIDLAND

This instrument was acknowledged before me on the 21st of January, 2013 by Frank Pawlik, District Manager.

Notary Public



A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

CONOCO-PHILLIPS

Lease: RED HILLS WEST 16 STATE Well: #1H, 5" DRILLPIPE
Location: PRECISION DRILLING #827, LEA COUNTY, NEW MEXICO

Job Number: MD0912GDM496

Run Date: 04 Sep 2012

Report Generated: 19 Jan 2013 12:31

Surveyor: Jason Solomon

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Well Plan/Plot

Survey Latitude: 32.049758 deg. N Longitude: 103.686531 deg. W

Azimuth Correction:

Gyro: -0.34000 deg to Grid North

Depth Reference: Rotary Table

Rotary Table Elevation: 16.00

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

HOBBS OCD

MAR 12 2013

A Gyrodata Directional Survey

CONOCO PHILLIPS

Lease: RED HILLS WEST 16 STATE Well: #1H, 5" DRILLPIPE

Location: PRECISION DRILLING #827, LEA COUNTY, NEW MEXICO

Job Number: MD0912GDM496

RECEIVED

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	N 0 0 E	0.00	0.00	0.0	0.0	0.00 N 0.00 E
0 - 8054 FT RATE GYROSCOPIC MULTISHOT DROP RUN INSIDE 5" DRILLPIPE ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO PRECISION DRILLING #827 RKB 16 FT								
100.00	0.22	184.51	S 4 31 W	0.22	100.00	0.2	184.5	0.19 S 0.02 W
200.00	0.23	177.58	S 2 25 E	0.03	200.00	0.6	182.1	0.58 S 0.02 W
300.00	0.24	198.70	S 18 42 W	0.09	300.00	1.0	184.7	0.98 S 0.08 W
400.00	0.32	345.03	N 14 58 W	0.54	400.00	0.9	193.6	0.91 S 0.22 W
502.90	0.77	143.75	S 36 15 E	1.04	502.90	1.2	174.5	1.19 S 0.11 E
592.30	1.32	150.56	S 29 26 E	0.63	592.28	2.8	159.2	2.57 S 0.98 E
681.60	1.65	151.88	S 28 7 E	0.37	681.55	5.1	155.6	4.60 S 2.09 E
771.00	1.97	149.32	S 30 41 E	0.37	770.91	7.9	153.8	7.06 S 3.48 E
860.40	2.96	139.44	S 40 34 E	1.20	860.22	11.7	150.4	10.13 S 5.76 E
949.80	3.26	133.64	S 46 22 E	0.49	949.49	16.4	146.3	13.64 S 9.10 E
1039.20	3.27	126.67	S 53 20 E	0.44	1038.75	21.3	142.5	16.92 S 12.99 E
1128.60	3.32	106.27	S 73 44 E	1.31	1128.00	26.0	137.6	19.17 S 17.52 E
1217.90	3.79	92.76	S 87 14 E	1.07	1217.13	30.5	131.1	20.03 S 22.95 E
1307.30	2.64	76.38	N 76 23 E	1.63	1306.39	34.2	125.2	19.69 S 27.90 E
1396.70	2.03	55.83	N 55 50 E	1.15	1395.72	36.2	120.4	18.32 S 31.21 E
1486.10	1.96	35.78	N 35 47 E	0.78	1485.06	37.1	115.8	16.19 S 33.42 E
1575.50	1.80	4.69	N 4 41 E	1.14	1574.42	37.0	111.5	13.55 S 34.43 E
1664.80	1.90	341.40	N 18 36 W	0.84	1663.67	35.7	107.5	10.75 S 34.07 E

A Gyrodata Directional Survey

CONOCO PHILLIPS

Lease: RED HILLS WEST 16 STATE Well: #1H, 5" DRILLPIPE

Location: PRECISION DRILLING #827, LEA COUNTY, NEW MEXICO

Job Number: MD0912GDM496

MEASURED INCL DEPTH: feet	deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
1754.20	1.90	301.25	N 58 45 W	1.46	1753.03	33.4 104.9	8.57 S 32.33 E
1843.60	1.63	260.42	S 80 25 W	1.41	1842.39	30.9 105.1	8.02 S 29.81 E
1933.00	1.89	232.82	S 52 49 W	0.98	1931.75	28.9 108.4	9.12 S 27.38 E
2022.30	1.97	201.93	S 21 56 W	1.15	2021.00	28.1 114.0	11.43 S 25.63 E
2111.70	2.01	170.54	S 9 28 E	1.20	2110.35	29.1 119.6	14.40 S 25.32 E
2201.10	1.84	144.81	S 35 11 E	0.98	2199.70	31.5 123.0	17.12 S 26.40 E
2290.50	1.44	128.25	S 51 45 E	0.69	2289.06	33.9 124.0	18.99 S 28.11 E
2379.90	0.90	105.87	S 74 8 E	0.78	2378.44	35.7 123.8	19.88 S 29.67 E
2469.30	0.34	17.80	N 17 48 E	1.06	2467.84	36.3 123.1	19.82 S 30.42 E
2558.60	0.96	303.33	N 56 40 W	1.04	2557.13	35.5 122.7	19.16 S 29.88 E
2648.00	1.09	286.62	N 73 23 W	0.36	2646.52	33.9 123.0	18.50 S 28.44 E
2737.40	0.73	260.62	S 80 37 W	0.60	2735.91	32.7 124.1	18.35 S 27.06 E
2826.80	1.14	217.34	S 37 20 W	0.88	2825.30	32.3 126.4	19.15 S 25.96 E
2916.20	1.27	178.36	S 1 38 E	0.91	2914.68	32.9 129.3	20.85 S 25.45 E
3005.50	1.39	108.57	S 71 26 E	1.71	3003.96	34.6 129.9	22.18 S 26.51 E
3094.90	2.44	82.25	N 82 15 E	1.50	3093.31	36.9 127.1	22.27 S 29.42 E
3184.30	2.78	67.19	N 67 11 E	0.85	3182.62	39.5 122.4	21.17 S 33.30 E
3273.70	2.44	50.82	N 50 49 E	0.91	3271.93	41.5 117.5	19.13 S 36.78 E
3363.10	1.83	28.12	N 28 7 E	1.15	3361.27	42.3 113.2	16.67 S 38.93 E
3452.40	1.72	5.42	N 5 25 E	0.79	3450.53	42.1 109.5	14.08 S 39.72 E
3541.80	1.24	313.59	N 46 25 W	1.53	3539.90	41.0 107.1	12.07 S 39.15 E

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CONOCO PHILLIPS

Lease: RED HILLS WEST 16 STATE Well: #1H, 5" DRILLPIPE

Location: PRECISION DRILLING #827, LEA COUNTY, NEW MEXICO

Job Number: MD0912GDM496

MEASURED DEPTH feet	FN C L deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
3631.20	0.87	263.61	S 83 37 W	1.07	3629.29	39.5 106.9	11.48 S 37.77 E
3720.60	0.64	209.07	S 29 4 W	0.81	3718.68	38.8 108.0	12.00 S 36.86 E
3809.90	1.17	126.95	S 53 3 E	1.40	3807.97	39.5 109.2	12.98 S 37.34 E
3899.30	1.61	109.39	S 70 37 E	0.68	3897.34	41.7 109.6	13.94 S 39.26 E
3988.70	1.47	57.45	N 57 27 E	1.52	3986.72	43.6 108.4	13.74 S 41.41 E
4078.10	1.41	61.54	N 61 32 E	0.13	4076.09	45.1 106.2	12.60 S 43.34 E
4167.50	1.72	81.28	N 81 17 E	0.69	4165.46	47.2 104.6	11.88 S 45.64 E
4256.90	1.98	82.36	N 82 22 E	0.29	4254.81	49.8 103.3	11.47 S 48.49 E
4346.20	0.94	35.76	N 35 46 E	1.68	4344.08	51.6 101.9	10.67 S 50.45 E
4435.60	0.65	351.03	N 8 58 W	0.74	4433.47	51.7 100.7	9.57 S 50.80 E
4525.00	0.76	334.16	N 25 50 W	0.26	4522.87	51.2 99.6	8.54 S 50.46 E
4614.40	0.93	315.88	N 44 7 W	0.35	4612.26	50.3 98.6	7.48 S 49.70 E
4703.80	0.97	316.16	N 43 50 W	0.05	4701.64	49.1 97.5	6.42 S 48.67 E
4793.10	0.92	312.77	N 47 14 W	0.08	4790.93	47.9 96.5	5.38 S 47.62 E
4882.50	0.88	323.28	N 36 43 W	0.19	4880.32	46.9 95.3	4.35 S 46.68 E
4971.90	0.89	307.13	N 52 52 W	0.28	4969.71	45.8 94.2	3.38 S 45.72 E
5061.30	0.93	303.40	N 56 36 W	0.08	5059.10	44.6 93.3	2.56 S 44.56 E
5150.60	0.94	314.16	N 45 50 W	0.20	5148.39	43.5 92.2	1.65 S 43.43 E
5240.00	0.91	306.97	N 53 2 W	0.13	5237.78	42.3 91.0	0.71 S 42.34 E
5329.40	0.98	302.19	N 57 49 W	0.12	5327.16	41.1 89.8	0.12 N 41.12 E
5418.80	1.00	290.31	N 69 41 W	0.23	5416.55	39.8 88.8	0.80 N 39.74 E
5508.20	1.29	290.44	N 69 34 W	0.32	5505.93	38.1 87.9	1.42 N 38.07 E

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Lease: RED HILLS WEST 16 STATE Well: #1H, 5" DRILLPIPE

Location: PRECISION DRILLING #827, LEA COUNTY, NEW MEXICO

Job Number: MD0912GDM496

MEASURED INCL	AZIMUTH		BOREHOLE BEARING		DOGLEG SEVERITY	VERTICAL DEPTH	CLOSURE		HORIZONTAL COORDINATES	
DEPTH	deg.	deg.	deg. min.		deg./100 ft.	feet	feet	deg.	feet	
5597.60	1.36	285.21	N	74 47 W	0.16	5595.31	36.2	86.7	2.05 N	36.10 E
5686.90	1.44	299.23	N	60 46 W	0.39	5684.58	34.2	85.2	2.88 N	34.10 E
5776.30	1.32	287.34	N	72 40 W	0.35	5773.96	32.4	83.4	3.73 N	32.14 E
5865.70	1.34	284.96	N	75 2 W	0.07	5863.33	30.5	81.9	4.31 N	30.14 E
5955.10	1.43	274.49	N	85 31 W	0.30	5952.71	28.4	80.5	4.67 N	28.02 E
6044.40	1.43	281.92	N	78 5 W	0.21	6041.98	26.3	79.1	4.99 N	25.82 E
6133.80	1.50	276.66	N	83 20 W	0.17	6131.35	24.2	77.2	5.35 N	23.57 E
6223.20	1.61	271.20	N	88 48 W	0.21	6220.72	21.9	75.4	5.51 N	21.15 E
6312.60	1.78	264.53	S	84 32 W	0.29	6310.08	19.3	73.7	5.41 N	18.51 E
6402.00	1.79	263.62	S	83 37 W	0.03	6399.43	16.6	72.0	5.12 N	15.74 E
6491.40	1.84	278.55	N	81 27 W	0.53	6488.79	13.9	68.2	5.18 N	12.93 E
6580.70	1.94	262.94	S	82 56 W	0.59	6578.04	11.3	62.5	5.21 N	10.02 E
6670.10	1.86	260.78	S	80 47 W	0.12	6667.39	8.5	55.9	4.79 N	7.08 E
6759.50	1.91	259.17	S	79 10 W	0.08	6756.74	6.0	44.4	4.27 N	4.19 E
6848.90	1.98	248.73	S	68 44 W	0.40	6846.09	3.7	20.5	3.43 N	1.28 E
6938.30	2.10	250.83	S	70 50 W	0.16	6935.44	2.9	323.9	2.34 N	1.70 W
7027.60	2.19	248.60	S	68 36 W	0.14	7024.67	5.0	283.7	1.18 N	4.84 W
7117.00	2.15	250.68	S	70 41 W	0.10	7114.01	8.0	270.0	0.00 S	8.01 W
7206.40	2.30	248.30	S	68 18 W	0.20	7203.34	11.3	263.8	1.22 S	11.26 W
7295.80	2.36	245.21	S	65 13 W	0.16	7292.67	14.8	259.7	2.65 S	14.60 W
7385.10	1.47	241.89	S	61 53 W	1.00	7381.92	17.7	257.1	3.97 S	17.28 W
7474.50	0.92	248.66	S	68 40 W	0.63	7471.30	19.5	255.9	4.77 S	18.96 W

A Gyrodata Directional Survey

CONOCO PHILLIPS

Lease: RED HILLS WEST 16 STATE Well: #1H, 5" DRILLPIPE

Location: PRECISION DRILLING #827, LEA COUNTY, NEW MEXICO

Job Number: MD0912GDM496.

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
7563.90	1.15	252.40	S 72 24 W	0.27	7560.68	21.2 255.5	5.30 S 20.48 W
7653.30	1.28	250.63	S 70 38 W	0.15	7650.06	23.0 255.2	5.90 S 22.28 W
7742.70	1.50	247.25	S 67 15 W	0.26	7739.44	25.2 254.6	6.69 S 24.30 W
7832.10	1.63	240.75	S 60 45 W	0.25	7828.80	27.6 253.7	7.76 S 26.49 W
7921.40	1.74	239.70	S 59 42 W	0.13	7918.07	30.2 252.5	9.06 S 28.76 W
8010.80	1.99	236.33	S 56 20 W	0.31	8007.42	33.0 251.2	10.61 S 31.23 W
8054.80	1.88	228.20	S 48 12 W	0.67	8051.39	34.4 250.4	11.51 S 32.40 W

Final Station Closure: Distance: 34.39 ft Az: 250.44 deg.



Conoco Phillips

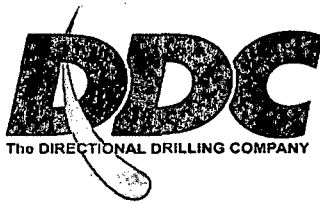
**Lea County, New Mexico
Sec 16, T26S, R32E NMPM
Red Hills West 16 State 1H**

Wellbore #1

Survey: MWD

DDC Survey Report

14 January, 2013



Survey Certification Sheet

Conoco Phillips
Company

GC-12624
Job Number

1/9/13
Date

Sec16, T26S, R32W
Lease

Red Hills West 16 State #1H
Well Name

Lea, NM
County & State

API: 30-025-40410

Surveyed from a depth of: 8054.8 feet to 13434 feet MD

Type of Survey: MWD

Directional Supervisor/Surveyor: Kevin Whittington

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by **The Directional Drilling Company (DDC)**. This report represents a true and correct Directional survey of this well based on the original data obtained at the well site. Wellbore Coordinates are calculated using minimum curvature.

Digitally signed by Larry Wright
DN: cn=Larry Wright, o=The
Directional Drilling Company,
ou=GM of Guidance Services,
email=larryw@directionaldrillers.co
m, c=US
Date: 2013.01.14 12:14:29 -06'00'

Larry Wright
MWD General Manager

Company:	Conoco Phillips	Local Co-ordinate Reference:	Well Red Hills West 16 State 1H
Project:	Lea County, New Mexico	TVD Reference:	WELL @ 3217.0usft (Precision #827)
Site:	Sec 16, T26S, R32E NMPM	MD Reference:	WELL @ 3217.0usft (Precision #827)
Well:	Red Hills West 16 State 1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000:1, Single User Db

Project	Lea County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Sec 16, T26S, R32E NMPM		
Site Position:		Northing:	382,382.50 usft
From:	Map	Easting:	700,544.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 2' 58.675 N
		Longitude:	103° 41' 9.818 W
		Grid Convergence:	0.34 °

Well	Red Hills West 16 State 1H		
Well Position	+N/-S	0.0 usft	Latitude: 32° 2' 58.675 N
	+E/-W	0.0 usft	Longitude: 103° 41' 9.818 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Ground Level:	3,201.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2012	6/29/2012	7.50
			Dip Angle (°)
			59.98
			Field Strength (nT)
			48,396

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			182.83

Survey Program	Date 9/18/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.0	8,054.8	Gyro Survey (Wellbore #1)	Good_gyro
8,108.0	13,434.0	MWD (Wellbore #1)	MWD default
			Description
			Good Gyro
			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)	
TIE IN @ 8055' MD / 8051' TVD										
8,054.8	1.88	228.20	8,051.4	-11.5	-32.4	13.1	0.00	0.00	0.00	
8,108.0	2.10	233.50	8,104.6	-12.7	-33.8	14.3	0.54	0.41	9.96	
8,153.0	4.30	209.40	8,149.5	-14.6	-35.3	16.4	5.63	4.89	-53.56	
8,198.0	8.50	205.00	8,194.2	-19.1	-37.6	21.0	9.39	9.33	-9.78	
8,242.0	13.20	201.60	8,237.4	-26.7	-40.8	28.7	10.78	10.68	-7.73	
8,287.0	17.30	202.20	8,280.8	-37.7	-45.2	39.9	9.12	9.11	1.33	
8,332.0	20.80	207.10	8,323.3	-51.0	-51.4	53.5	8.54	7.78	10.89	
8,376.0	25.90	206.10	8,363.7	-66.6	-59.2	69.5	11.63	11.59	-2.27	
8,421.0	29.60	207.30	8,403.5	-85.3	-68.6	88.6	8.32	8.22	2.67	

Company:	Conoco Phillips	Local Co-ordinate Reference:	Well Red Hills West 16 State 1H
Project:	Lea County New Mexico	TVD Reference:	WELL @ 3217.0usft (Precision #827)
Site:	Sec 16 T26S R32E NMPM	MD Reference:	WELL @ 3217.0usft (Precision #827)
Well:	Red Hills West 16 State 1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,466.0	31.70	205.00	8,442.3	-105.9	-78.7	109.7	5.34	4.67	-5.11
8,511.0	34.40	205.50	8,480.0	-128.1	-89.2	132.4	6.03	6.00	1.11
CROSSED HARD LINE @ 8555' MD / 8516' TVD									
8,555.0	36.80	205.90	8,515.7	-151.2	-100.3	156.0	5.48	5.45	0.91
8,600.0	38.90	206.20	8,551.3	-176.0	-112.4	181.3	4.68	4.67	0.67
8,645.0	40.40	206.60	8,585.9	-201.7	-125.2	207.7	3.38	3.33	0.89
8,690.0	41.90	206.90	8,619.8	-228.2	-138.5	234.7	3.36	3.33	0.67
8,734.0	42.10	207.40	8,652.5	-254.4	-151.9	261.6	0.89	0.45	1.14
8,779.0	43.40	209.70	8,685.5	-281.2	-166.5	289.1	4.51	2.89	5.11
8,824.0	47.40	211.90	8,717.1	-308.7	-183.0	317.3	9.55	8.89	4.89
8,868.0	50.90	215.00	8,745.9	-336.4	-201.3	346.0	9.57	7.95	7.05
8,913.0	54.50	211.90	8,773.2	-366.3	-221.0	376.8	9.70	8.00	-6.89
8,958.0	56.30	205.90	8,798.8	-398.7	-238.9	410.0	11.68	4.00	-13.33
9,003.0	57.90	200.10	8,823.2	-433.5	-253.6	445.5	11.39	3.56	-12.89
9,047.0	57.80	193.60	8,846.6	-469.1	-264.4	481.6	12.51	-0.23	-14.77
9,092.0	59.90	188.80	8,869.9	-506.9	-271.9	519.7	10.25	4.67	-10.67
9,137.0	64.40	186.70	8,890.9	-546.3	-277.2	559.3	10.82	10.00	-4.67
9,181.0	68.80	183.70	8,908.4	-586.5	-280.9	599.6	11.80	10.00	-6.82
9,226.0	73.60	182.00	8,922.9	-629.0	-283.0	642.2	11.25	10.67	-3.78
9,271.0	79.10	180.40	8,933.5	-672.7	-283.9	685.9	12.70	12.22	-3.56
9,305.0	83.60	178.60	8,938.7	-706.3	-283.6	719.5	14.23	13.24	-5.29
9,392.0	89.80	177.90	8,943.7	-793.1	-280.9	806.0	7.17	7.13	-0.80
9,438.0	90.10	179.10	8,943.7	-839.1	-279.7	851.9	2.69	0.65	2.61
9,483.0	91.20	177.90	8,943.2	-884.0	-278.5	896.7	3.62	2.44	-2.67
9,574.0	94.30	175.30	8,938.8	-974.8	-273.2	987.1	4.44	3.41	-2.86
9,665.0	93.70	174.80	8,932.5	-1,065.2	-265.3	1,077.0	0.86	-0.66	-0.55
9,756.0	94.00	177.00	8,926.4	-1,155.8	-258.8	1,167.1	2.43	0.33	2.42
9,846.0	91.50	176.50	8,922.0	-1,245.5	-253.7	1,256.5	2.83	-2.78	-0.56
9,937.0	90.10	178.60	8,920.8	-1,336.4	-249.8	1,347.1	2.77	-1.54	2.31
10,028.0	87.80	177.80	8,922.4	-1,427.3	-247.0	1,437.8	2.68	-2.53	-0.88
10,118.0	90.00	179.70	8,924.2	-1,517.3	-245.0	1,527.5	3.23	2.44	2.11
10,209.0	90.70	179.00	8,923.6	-1,608.3	-244.0	1,618.4	1.09	0.77	-0.77
10,300.0	91.40	178.60	8,921.9	-1,699.2	-242.1	1,709.1	0.89	0.77	-0.44
10,340.0	90.70	179.90	8,921.2	-1,739.2	-241.6	1,749.0	3.69	-1.75	3.25
10,481.0	88.70	178.10	8,922.0	-1,880.2	-239.1	1,889.7	1.91	-1.42	-1.28
10,572.0	88.40	179.10	8,924.3	-1,971.1	-236.9	1,980.4	1.15	-0.33	1.10
10,663.0	90.30	178.40	8,925.3	-2,062.1	-234.9	2,071.2	2.23	2.09	-0.77
10,753.0	91.10	177.00	8,924.2	-2,152.0	-231.3	2,160.8	1.79	0.89	-1.56
10,844.0	90.60	181.40	8,922.8	-2,243.0	-230.0	2,251.6	4.87	-0.55	4.84
10,935.0	91.40	179.70	8,921.2	-2,334.0	-230.9	2,342.5	2.06	0.88	-1.87
11,025.0	89.80	180.00	8,920.3	-2,424.0	-230.7	2,432.4	1.81	-1.78	0.33
11,116.0	90.00	181.30	8,920.5	-2,514.9	-231.7	2,523.3	1.45	0.22	1.43
11,207.0	90.50	181.10	8,920.1	-2,605.9	-233.6	2,614.3	0.59	0.55	-0.22

Company:	Conoco Phillips	Local Co-ordinate Reference:	Well Red Hills West 16 State 1H
Project:	Lea County, New Mexico	TVD Reference:	WELL @ 3217.0usft (Precision #827)
Site:	Sec 16, T26S, R32E, NMPM	MD Reference:	WELL @ 3217.0usft (Precision #827)
Well:	Red Hills West 16 State 1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
11,297.0	91.00	180.00	8,918.9	-2,695.9	-234.5	2,704.2	1.34	0.56	-1.22
11,388.0	91.40	179.70	8,917.0	-2,786.9	-234.2	2,795.1	0.55	0.44	-0.33
11,479.0	90.70	180.90	8,915.3	-2,877.9	-234.7	2,885.9	1.53	-0.77	1.32
11,570.0	90.00	180.70	8,914.8	-2,968.9	-236.0	2,976.9	0.80	-0.77	-0.22
11,660.0	90.90	180.20	8,914.1	-3,058.9	-236.7	3,066.8	1.14	1.00	-0.56
11,751.0	91.00	182.90	8,912.5	-3,149.8	-239.1	3,157.8	2.97	0.11	2.97
11,842.0	91.40	183.40	8,910.6	-3,240.6	-244.1	3,248.7	0.70	0.44	0.55
11,933.0	88.90	182.70	8,910.4	-3,331.5	-249.0	3,339.7	2.85	-2.75	-0.77
12,023.0	87.40	179.30	8,913.3	-3,421.4	-250.5	3,429.6	4.13	-1.67	-3.78
12,114.0	87.70	180.20	8,917.2	-3,512.3	-250.1	3,520.4	1.04	0.33	0.99
12,205.0	87.70	180.60	8,920.8	-3,603.3	-250.8	3,611.3	0.44	0.00	0.44
12,295.0	86.80	178.60	8,925.2	-3,693.2	-250.2	3,701.0	2.43	-1.00	-2.22
12,386.0	87.10	177.00	8,930.0	-3,784.0	-246.7	3,791.5	1.79	0.33	-1.76
12,477.0	89.80	177.00	8,932.5	-3,874.8	-241.9	3,882.0	2.97	2.97	0.00
12,567.0	91.40	176.30	8,931.5	-3,964.6	-236.6	3,971.5	1.94	1.78	-0.78
12,658.0	92.20	176.00	8,928.7	-4,055.4	-230.5	4,061.8	0.94	0.88	-0.33
12,749.0	93.30	179.00	8,924.3	-4,146.2	-226.6	4,152.3	3.51	1.21	3.30
12,840.0	92.10	180.40	8,920.0	-4,237.1	-226.1	4,243.1	2.02	-1.32	1.54
12,930.0	91.50	182.50	8,917.2	-4,327.0	-228.4	4,333.0	2.43	-0.67	2.33
13,021.0	90.00	182.70	8,916.0	-4,417.9	-232.5	4,424.0	1.66	-1.65	0.22
13,112.0	89.90	180.00	8,916.1	-4,508.9	-234.6	4,514.9	2.97	-0.11	-2.97
13,203.0	89.50	179.00	8,916.6	-4,599.8	-233.9	4,605.8	1.18	-0.44	-1.10
13,293.0	89.70	178.40	8,917.2	-4,689.8	-231.8	4,695.5	0.70	0.22	-0.67
13,382.0	89.80	178.80	8,917.6	-4,778.8	-229.6	4,784.3	0.46	0.11	0.45
TD @ 13434' MD / 8918' TVD									
13,434.0	89.90	179.10	8,917.7	-4,830.8	-228.7	4,836.2	0.61	0.19	0.58

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,054.8	8,051.4	-11.5	-32.4	TIE IN @ 8055' MD / 8051' TVD
8,555.0	8,515.7	-151.2	-100.3	CROSSED HARD LINE @ 8555' MD / 8516' TVD
13,434.0	8,917.7	-4,830.8	-228.7	TD @ 13434' MD / 8918' TVD

Checked By: _____ Approved By: _____ Date: _____