



Conoco Phillips

Lea County, New Mexico
Sec 28, T26S, R32E
Wilder Federal 28 3H

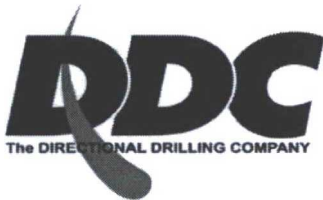
Wellbore #1

Survey: MWD

DDC Survey Report

16 January, 2014

HOBBS OCD
DEC 15 2016
RECEIVED



Survey Certification Sheet

Conoco Phillips
Company

GC-131005
Job Number

1/16/14
Date

Sec28, T26S, R32E
Lease

Wilder Federal 28 #3H
Well Name

Lea, NM
County & State

API: 30-025-40501

Surveyed from a depth of: 891 feet to 16030 feet MD

Type of Survey: MWD

Directional Supervisor/Surveyor: Andrew Fisher

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@directionaldrille
rs.com, c=US
Date: 2014.01.21 11:36:06
-06'00'

Larry Wright
MWD General Manager

• 11390 FM 830 • Willis, Texas 77318 •
• PH 936-856-4332 • FAX 936-856-8678 •



DDC
Survey Report

Company:	Conoco Phillips	Local Co-ordinate Reference:	Well Wilder Federal 28 3H
Project:	Lea County, New Mexico	TVD Reference:	WELL @ 3193.0usft (H&P #486)
Site:	Sec 28, T26S, R32E	MD Reference:	WELL @ 3193.0usft (H&P #486)
Well:	Wilder Federal 28 3H	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 28, T26S, R32E		
Site Position:		Northing:	371,284.70 usft
From:	Map	Easting:	704,476.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 8.615 N
		Longitude:	103° 40' 24.926 W
		Grid Convergence:	0.35 °

Well	Wilder Federal 28 3H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 1' 12.435 N
		Longitude:	103° 40' 59.371 W
		Ground Level:	3,168.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	12/23/2013	7.42	59.90	48,260

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)	Direction (°)
	0.0	0.0	0.0	178.23

Survey Program	Date 1/16/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	800.0	GYRO (Wellbore #1)	Good_gyro	Good Gyro
891.0	16,030.0	MWD (Wellbore #1)	MWD default	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)
First Survey @ 891' MD / 890' TVD									
891.0	5.60	16.80	890.0	34.1	-1.9	-34.1	1.32	1.19	6.60
986.0	5.70	17.30	984.5	43.0	0.8	-43.0	0.12	0.11	0.53
1,081.0	5.30	18.70	1,079.1	51.7	3.6	-51.6	0.44	-0.42	1.47
1,176.0	5.00	22.00	1,173.7	59.7	6.6	-59.5	0.44	-0.32	3.47
1,270.0	5.10	28.40	1,267.3	67.2	10.1	-66.8	0.61	0.11	6.81
1,365.0	5.20	29.40	1,361.9	74.6	14.2	-74.1	0.14	0.11	1.05
1,460.0	3.50	35.70	1,456.7	80.7	18.0	-80.1	1.86	-1.79	6.63
1,554.0	2.80	42.80	1,550.5	84.7	21.3	-84.0	0.85	-0.74	7.55
1,649.0	2.60	41.90	1,645.4	88.1	24.3	-87.3	0.22	-0.21	-0.95



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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)
1,744.0	2.10	34.20	1,740.3	91.1	26.7	-90.2	0.62	-0.53	-8.11
1,838.0	2.00	24.50	1,834.3	94.0	28.4	-93.1	0.38	-0.11	-10.32
1,933.0	0.80	110.10	1,929.2	95.3	29.7	-94.3	2.21	-1.26	90.11
2,028.0	1.20	145.20	2,024.2	94.2	30.9	-93.2	0.75	0.42	36.95
2,122.0	0.50	152.30	2,118.2	93.1	31.6	-92.1	0.75	-0.74	7.55
2,217.0	0.20	322.10	2,213.2	92.8	31.7	-91.8	0.73	-0.32	178.74
2,312.0	0.40	270.20	2,308.2	93.0	31.3	-92.0	0.33	0.21	-54.63
2,406.0	0.30	254.20	2,402.2	92.9	30.7	-91.9	0.15	-0.11	-17.02
2,501.0	0.40	240.20	2,497.2	92.7	30.2	-91.7	0.14	0.11	-14.74
2,596.0	0.60	271.80	2,592.2	92.5	29.4	-91.6	0.35	0.21	33.26
2,691.0	0.70	275.00	2,687.2	92.6	28.3	-91.7	0.11	0.11	3.37
2,785.0	0.50	288.10	2,781.2	92.8	27.4	-91.9	0.26	-0.21	13.94
2,880.0	0.60	296.90	2,876.2	93.1	26.5	-92.3	0.14	0.11	9.26
2,975.0	0.50	303.30	2,971.2	93.6	25.7	-92.7	0.12	-0.11	6.74
3,069.0	0.30	3.00	3,065.2	94.0	25.4	-93.2	0.46	-0.21	63.51
3,164.0	0.30	86.00	3,160.2	94.3	25.7	-93.5	0.42	0.00	87.37
3,259.0	0.50	77.00	3,255.2	94.4	26.3	-93.6	0.22	0.21	-9.47
3,353.0	0.80	74.40	3,349.2	94.7	27.3	-93.8	0.32	0.32	-2.77
3,448.0	0.70	65.60	3,444.2	95.1	28.5	-94.2	0.16	-0.11	-9.26
3,543.0	0.30	22.70	3,539.2	95.6	29.1	-94.6	0.55	-0.42	-45.16
3,637.0	0.20	336.70	3,633.2	96.0	29.2	-95.0	0.23	-0.11	-48.94
3,732.0	0.30	84.60	3,728.2	96.1	29.3	-95.2	0.43	0.11	113.58
3,827.0	0.50	117.60	3,823.2	96.0	30.0	-95.0	0.31	0.21	34.74
3,922.0	0.50	109.40	3,918.2	95.6	30.7	-94.6	0.08	0.00	-8.63
4,016.0	0.60	139.60	4,012.2	95.1	31.4	-94.1	0.32	0.11	32.13
4,111.0	1.20	136.80	4,107.1	94.0	32.4	-93.0	0.63	0.63	-2.95
4,205.0	1.60	131.20	4,201.1	92.4	34.1	-91.3	0.45	0.43	-5.96
4,300.0	1.10	132.80	4,296.1	90.9	35.8	-89.8	0.53	-0.53	1.68
4,395.0	0.80	135.80	4,391.1	89.8	36.9	-88.7	0.32	-0.32	3.16
4,489.0	0.70	126.40	4,485.1	89.0	37.8	-87.8	0.17	-0.11	-10.00
4,512.0	0.80	135.60	4,508.1	88.8	38.0	-87.6	0.68	0.43	40.00
4,583.0	0.80	128.70	4,579.1	88.2	38.8	-86.9	0.14	0.00	-9.72
4,678.0	2.20	103.10	4,674.0	87.3	41.1	-86.0	1.60	1.47	-26.95
4,772.0	4.30	91.30	4,767.9	86.9	46.3	-85.4	2.33	2.23	-12.55
4,867.0	4.90	89.50	4,862.6	86.8	54.0	-85.1	0.65	0.63	-1.89
4,962.0	4.80	89.20	4,957.2	86.9	62.0	-84.9	0.11	-0.11	-0.32
5,056.0	4.70	90.90	5,050.9	86.9	69.8	-84.7	0.18	-0.11	1.81
5,151.0	5.20	91.30	5,145.6	86.7	78.0	-84.3	0.53	0.53	0.42
5,246.0	4.80	92.50	5,240.2	86.5	86.2	-83.8	0.44	-0.42	1.26
5,340.0	5.50	83.40	5,333.8	86.8	94.7	-83.8	1.14	0.74	-9.68
5,435.0	5.40	83.40	5,428.4	87.9	103.6	-84.6	0.11	-0.11	0.00
5,529.0	5.40	82.50	5,522.0	88.9	112.4	-85.4	0.09	0.00	-0.96
5,624.0	4.90	83.20	5,616.6	90.0	120.9	-86.2	0.53	-0.53	0.74



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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)
5,719.0	4.90	80.70	5,711.2	91.1	128.9	-87.1	0.22	0.00	-2.63
5,813.0	4.80	82.30	5,804.9	92.3	136.7	-88.0	0.18	-0.11	1.70
5,908.0	4.60	83.70	5,899.6	93.3	144.5	-88.8	0.24	-0.21	1.47
6,003.0	3.40	95.80	5,994.3	93.4	151.1	-88.7	1.54	-1.26	12.74
6,097.0	3.00	106.40	6,088.2	92.4	156.2	-87.6	0.76	-0.43	11.28
6,192.0	2.80	106.00	6,183.1	91.1	160.8	-86.1	0.21	-0.21	-0.42
6,286.0	1.90	129.30	6,277.0	89.5	164.2	-84.3	1.38	-0.96	24.79
6,381.0	1.70	135.80	6,372.0	87.5	166.4	-82.3	0.30	-0.21	6.84
6,476.0	1.60	139.10	6,466.9	85.4	168.3	-80.2	0.15	-0.11	3.47
6,570.0	1.40	141.40	6,560.9	83.5	169.9	-78.3	0.22	-0.21	2.45
6,665.0	1.40	145.40	6,655.9	81.7	171.2	-76.4	0.10	0.00	4.21
6,760.0	1.40	145.80	6,750.8	79.8	172.5	-74.4	0.01	0.00	0.42
6,854.0	0.80	155.80	6,844.8	78.2	173.5	-72.8	0.67	-0.64	10.64
6,949.0	0.80	166.50	6,939.8	77.0	173.9	-71.6	0.16	0.00	11.26
7,044.0	0.90	177.40	7,034.8	75.6	174.1	-70.2	0.20	0.11	11.47
7,139.0	0.70	171.40	7,129.8	74.3	174.2	-68.8	0.23	-0.21	-6.32
7,233.0	0.80	176.40	7,223.8	73.0	174.3	-67.6	0.13	0.11	5.32
7,328.0	0.90	183.60	7,318.8	71.6	174.3	-66.2	0.15	0.11	7.58
7,423.0	1.00	193.90	7,413.7	70.1	174.1	-64.7	0.21	0.11	10.84
7,517.0	1.10	204.70	7,507.7	68.5	173.5	-63.1	0.24	0.11	11.49
7,612.0	0.90	208.20	7,602.7	67.0	172.8	-61.6	0.22	-0.21	3.68
7,707.0	1.10	209.90	7,697.7	65.5	172.0	-60.2	0.21	0.21	1.79
7,801.0	1.10	209.40	7,791.7	64.0	171.1	-58.7	0.01	0.00	-0.53
7,896.0	1.20	200.40	7,886.7	62.2	170.3	-57.0	0.22	0.11	-9.47
7,991.0	1.30	196.20	7,981.6	60.3	169.6	-55.0	0.14	0.11	-4.42
8,086.0	1.30	203.30	8,076.6	58.2	168.9	-53.0	0.17	0.00	7.47
8,180.0	1.40	209.60	8,170.6	56.3	167.9	-51.1	0.19	0.11	6.70
8,275.0	1.50	210.80	8,265.6	54.2	166.7	-49.0	0.11	0.11	1.26
8,369.0	1.40	218.70	8,359.5	52.2	165.3	-47.1	0.24	-0.11	8.40
8,464.0	1.60	226.30	8,454.5	50.4	163.7	-45.3	0.30	0.21	8.00
8,559.0	2.20	237.90	8,549.4	48.5	161.2	-43.5	0.75	0.63	12.21
8,654.0	2.90	238.80	8,644.4	46.3	157.6	-41.4	0.74	0.74	0.95
8,726.0	3.40	207.50	8,716.2	43.5	155.0	-38.7	2.45	0.69	-43.47
8,758.0	6.90	185.10	8,748.1	40.7	154.4	-35.9	12.41	10.94	-70.00
8,790.0	11.10	176.00	8,779.7	35.7	154.5	-30.9	13.82	13.13	-28.44
8,821.0	13.80	174.30	8,810.0	29.1	155.0	-24.3	8.79	8.71	-5.48
8,853.0	16.40	173.20	8,840.9	20.8	155.9	-16.0	8.17	8.13	-3.44
8,884.0	20.00	173.90	8,870.3	11.2	157.0	-6.3	11.63	11.61	2.26
8,916.0	23.00	177.80	8,900.1	-0.5	157.8	5.4	10.38	9.38	12.19
8,948.0	24.60	179.00	8,929.4	-13.4	158.2	18.3	5.22	5.00	3.75
8,979.0	27.60	176.50	8,957.2	-27.0	158.8	31.9	10.31	9.68	-8.06
9,011.0	30.60	176.50	8,985.2	-42.6	159.7	47.5	9.38	9.38	0.00
9,042.0	33.60	177.10	9,011.4	-59.0	160.6	64.0	9.73	9.68	1.94



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9,074.0	35.90	177.10	9,037.7	-77.2	161.5	82.2	7.19	7.19	0.00
9,105.0	36.90	176.50	9,062.7	-95.6	162.6	100.6	3.42	3.23	-1.94
9,137.0	38.40	176.00	9,088.0	-115.1	163.8	120.1	4.78	4.69	-1.56
9,169.0	40.10	176.20	9,112.8	-135.3	165.2	140.4	5.33	5.31	0.63
9,200.0	42.10	178.80	9,136.1	-155.7	166.1	160.7	8.49	6.45	8.39
9,232.0	45.20	180.90	9,159.3	-177.7	166.1	182.8	10.69	9.69	6.56
9,263.0	47.20	183.40	9,180.8	-200.1	165.3	205.1	8.69	6.45	8.06
9,295.0	50.00	185.70	9,201.9	-224.0	163.4	229.0	10.28	8.75	7.19
9,326.0	53.40	184.40	9,221.1	-248.3	161.3	253.1	11.45	10.97	-4.19
9,358.0	57.40	180.90	9,239.3	-274.6	160.1	279.4	15.40	12.50	-10.94
9,389.0	61.90	179.40	9,255.0	-301.3	160.0	306.1	15.10	14.52	-4.84
9,421.0	65.00	180.60	9,269.3	-329.9	160.0	334.7	10.25	9.69	3.75
9,453.0	69.90	178.60	9,281.5	-359.5	160.2	364.2	16.36	15.31	-6.25
9,484.0	74.10	178.50	9,291.1	-388.9	161.0	393.7	13.55	13.55	-0.32
9,516.0	78.30	178.50	9,298.7	-420.0	161.8	424.8	13.13	13.13	0.00
9,547.0	83.10	177.80	9,303.7	-450.6	162.8	455.4	15.64	15.48	-2.26
9,631.0	92.40	176.50	9,307.0	-534.3	166.9	539.2	11.18	11.07	-1.55
9,695.0	92.30	175.10	9,304.4	-598.1	171.6	603.1	2.19	-0.16	-2.19
9,789.0	89.00	178.60	9,303.3	-691.9	176.8	697.0	5.12	-3.51	3.72
9,884.0	89.40	180.10	9,304.7	-786.9	177.8	792.0	1.63	0.42	1.58
9,979.0	88.20	178.10	9,306.7	-881.8	179.3	887.0	2.45	-1.26	-2.11
10,074.0	88.70	179.00	9,309.2	-976.8	181.7	981.9	1.08	0.53	0.95
10,168.0	89.00	179.00	9,311.1	-1,070.7	183.4	1,075.9	0.32	0.32	0.00
10,263.0	88.90	179.90	9,312.9	-1,165.7	184.3	1,170.8	0.95	-0.11	0.95
10,358.0	89.20	178.50	9,314.4	-1,260.7	185.6	1,265.8	1.51	0.32	-1.47
10,453.0	88.90	178.60	9,316.0	-1,355.6	188.0	1,360.8	0.33	-0.32	0.11
10,547.0	88.90	178.60	9,317.8	-1,449.6	190.3	1,454.8	0.00	0.00	0.00
10,642.0	90.80	178.30	9,318.1	-1,544.6	192.9	1,549.8	2.02	2.00	-0.32
10,737.0	90.90	179.50	9,316.7	-1,639.5	194.7	1,644.8	1.27	0.11	1.26
10,832.0	89.00	180.20	9,316.7	-1,734.5	195.0	1,739.7	2.13	-2.00	0.74
10,927.0	88.40	180.90	9,318.9	-1,829.5	194.1	1,834.6	0.97	-0.63	0.74
11,022.0	88.50	180.40	9,321.5	-1,924.5	193.0	1,929.5	0.54	0.11	-0.53
11,117.0	88.60	179.20	9,323.9	-2,019.4	193.3	2,024.4	1.27	0.11	-1.26
11,212.0	89.50	182.50	9,325.4	-2,114.4	191.9	2,119.3	3.60	0.95	3.47
11,307.0	90.00	180.90	9,325.9	-2,209.3	189.1	2,214.1	1.76	0.53	-1.68
11,402.0	90.70	179.00	9,325.3	-2,304.3	189.2	2,309.1	2.13	0.74	-2.00
11,496.0	91.40	179.40	9,323.6	-2,398.3	190.5	2,403.0	0.86	0.74	0.43
11,591.0	90.10	179.90	9,322.3	-2,493.3	191.1	2,498.0	1.47	-1.37	0.53
11,686.0	90.50	179.20	9,321.8	-2,588.3	191.8	2,593.0	0.85	0.42	-0.74
11,781.0	89.30	180.90	9,322.0	-2,683.3	191.7	2,687.9	2.19	-1.26	1.79
11,876.0	90.00	179.90	9,322.6	-2,778.3	191.1	2,782.8	1.28	0.74	-1.05
11,971.0	91.00	180.60	9,321.7	-2,873.3	190.6	2,877.8	1.28	1.05	0.74
12,066.0	90.60	181.40	9,320.4	-2,968.2	189.0	2,972.7	0.94	-0.42	0.84
12,089.0	90.90	181.80	9,320.1	-2,991.2	188.3	2,995.6	2.17	1.30	1.74



DDC
Survey Report

Company:	Conoco Phillips	Local Co-ordinate Reference:	Well Wilder Federal 28 3H
Project:	Lea County, New Mexico	TVD Reference:	WELL @ 3193.0usft (H&P #486)
Site:	Sec 28, T26S, R32E	MD Reference:	WELL @ 3193.0usft (H&P #486)
Well:	Wilder Federal 28 3H	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)
12,183.0	90.10	179.70	9,319.3	-3,085.2	187.1	3,089.5	2.39	-0.85	-2.23
12,278.0	89.70	182.30	9,319.4	-3,180.2	185.5	3,184.4	2.77	-0.42	2.74
12,373.0	87.60	181.10	9,321.7	-3,275.1	182.6	3,279.2	2.55	-2.21	-1.26
12,467.0	88.20	180.60	9,325.1	-3,369.0	181.2	3,373.0	0.83	0.64	-0.53
12,561.0	88.60	182.50	9,327.8	-3,463.0	178.7	3,466.8	2.06	0.43	2.02
12,656.0	87.50	178.30	9,331.0	-3,557.9	178.0	3,561.7	4.57	-1.16	-4.42
12,751.0	88.90	180.10	9,334.0	-3,652.8	179.4	3,656.6	2.40	1.47	1.89
12,846.0	85.60	174.80	9,338.5	-3,747.6	183.6	3,751.5	6.57	-3.47	-5.58
12,941.0	86.40	175.30	9,345.2	-3,842.0	191.7	3,846.1	0.99	0.84	0.53
13,036.0	87.60	175.80	9,350.1	-3,936.6	199.1	3,940.8	1.37	1.26	0.53
13,132.0	89.20	178.10	9,352.8	-4,032.4	204.2	4,036.8	2.92	1.67	2.40
13,226.0	88.50	179.40	9,354.7	-4,126.3	206.3	4,130.7	1.57	-0.74	1.38
13,321.0	89.80	179.70	9,356.1	-4,221.3	207.0	4,225.7	1.40	1.37	0.32
13,417.0	90.80	179.70	9,355.6	-4,317.3	207.5	4,321.7	1.04	1.04	0.00
13,511.0	91.30	180.60	9,353.9	-4,411.3	207.3	4,415.6	1.10	0.53	0.96
13,606.0	90.90	182.50	9,352.1	-4,506.2	204.7	4,510.4	2.04	-0.42	2.00
13,700.0	90.50	182.50	9,350.9	-4,600.2	200.6	4,604.2	0.43	-0.43	0.00
13,795.0	90.70	181.10	9,349.9	-4,695.1	197.6	4,699.0	1.49	0.21	-1.47
13,891.0	89.30	178.60	9,349.9	-4,791.1	197.9	4,794.9	2.98	-1.46	-2.60
13,985.0	88.90	179.50	9,351.4	-4,885.1	199.4	4,888.9	1.05	-0.43	0.96
14,081.0	89.80	178.30	9,352.5	-4,981.0	201.3	4,984.9	1.56	0.94	-1.25
14,175.0	91.00	178.10	9,351.8	-5,075.0	204.2	5,078.9	1.29	1.28	-0.21
14,270.0	90.80	177.40	9,350.3	-5,169.9	207.9	5,173.9	0.77	-0.21	-0.74
14,365.0	91.20	179.40	9,348.7	-5,264.8	210.6	5,268.8	2.15	0.42	2.11
14,460.0	91.00	179.70	9,346.9	-5,359.8	211.3	5,363.8	0.38	-0.21	0.32
14,555.0	92.40	180.40	9,344.0	-5,454.8	211.3	5,458.7	1.65	1.47	0.74
14,650.0	91.30	180.80	9,341.0	-5,549.7	210.3	5,553.6	1.23	-1.16	0.42
14,745.0	89.20	181.30	9,340.6	-5,644.7	208.5	5,648.4	2.27	-2.21	0.53
14,840.0	90.90	181.40	9,340.5	-5,739.7	206.3	5,743.3	1.79	1.79	0.11
14,934.0	89.00	180.80	9,340.6	-5,833.6	204.5	5,837.2	2.12	-2.02	-0.64
15,029.0	88.20	181.10	9,342.9	-5,928.6	202.9	5,932.0	0.90	-0.84	0.32
15,124.0	87.70	180.20	9,346.3	-6,023.5	201.8	6,026.9	1.08	-0.53	-0.95
15,219.0	88.50	179.20	9,349.4	-6,118.5	202.3	6,121.8	1.35	0.84	-1.05
15,313.0	89.40	177.40	9,351.1	-6,212.4	205.1	6,215.8	2.14	0.96	-1.91
15,408.0	90.00	177.80	9,351.6	-6,307.3	209.1	6,310.8	0.76	0.63	0.42
15,503.0	90.40	179.00	9,351.3	-6,402.3	211.8	6,405.8	1.33	0.42	1.26
15,598.0	90.40	179.70	9,350.6	-6,497.3	212.8	6,500.8	0.74	0.00	0.74
15,693.0	92.20	182.20	9,348.5	-6,592.2	211.3	6,595.6	3.24	1.89	2.63
15,787.0	90.00	181.80	9,346.7	-6,686.2	208.0	6,689.4	2.38	-2.34	-0.43
15,883.0	89.40	180.60	9,347.2	-6,782.1	206.0	6,785.3	1.40	-0.63	-1.25
15,973.0	89.60	181.60	9,348.0	-6,872.1	204.2	6,875.1	1.13	0.22	1.11
TD @ 16030' MD / 9348' TVD									
16,030.0	89.60	181.60	9,348.4	-6,929.1	202.6	6,932.0	0.00	0.00	0.00



DDC
Survey Report

Company:	Conoco Phillips	Local Co-ordinate Reference:	Well Wilder Federal 28 3H
Project:	Lea County, New Mexico	TVD Reference:	WELL @ 3193.0usft (H&P #486)
Site:	Sec 28, T26S, R32E	MD Reference:	WELL @ 3193.0usft (H&P #486)
Well:	Wilder Federal 28 3H	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)

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
891.0	890.0	34.1	-1.9	First Survey @ 891' MD / 890' TVD
16,030.0	9,348.4	-6,929.1	202.6	TD @ 16030' MD / 9348' TVD

Checked By: _____	Approved By: _____	Date: _____
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