

PRODIRECTIONAL

30-025-42072

P.O. Box 750 | Conroe, TX 77305 | Phone: 936-441-7266
www.prodirectional.com


ConocoPhillips

Vacuum ABO Unit No. 707 (OH)
Lea County, NM

HOBBS OCD

JUN 08 2015

December 16, 2014

RECEIVED

Job No. LNM 5114514

Survey Completion Report

SEP 23 2015



PRODIRECTIONAL

Professional Directional Ltd.

P.O. Box 750 | Conroe, TX 77305 | (936) 441-7266

December 16, 2014


ConocoPhillips

ConocoPhillips

Vacuum ABO Unit No. 707 (OH)

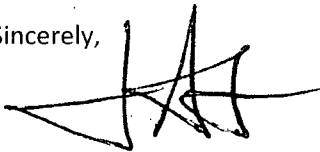
Lea County, NM

Job No. LNM 5114514

Survey Certification Form:

This is to certify surveys from **1,693'MD** to a depth of **9,135'MD** are true and correct MWD Surveys.
These surveys were taken from **12/06/2014** through **12/15/2014**.

Sincerely,



John Jordan | Well Planning

PRODIRECTIONAL



Conoco Phillips

Lea County, NM

Vacuum ABO Unit No. 707

OH

Survey : ProDirectional

Survey Report

16 December, 2014





Professional Directional
Wellpath Report



Company:	Conoco Phillips	Local Co-ordinate Reference:	Well No. 707
Project:	Lea County, N.M.	TVD Reference:	WELL @ 3938.70usft (Original Well Elev)
Site:	Vacuum ABO Unit	MD Reference:	WELL @ 3938.70usft (Original Well Elev)
Well:	No. 707	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Well_Planner1

Project	Lea County, N.M.		
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	Vacuum ABO Unit		
Site Position:		Northing:	657,758.66 usft
From:	Map	Easting:	778,438.28 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 48' 17.957 N
		Longitude:	103° 25' 37.702 W
		Grid Convergence:	0.49 °

Well	No. 707		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 47' 51.488 N
		Longitude:	103° 26' 30.315 W
		Ground Level:	3,925.70 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	12/16/2014	7.13
			Dip Angle
			(°)
			60.65
			Field Strength
			(nT)
			48,619

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			86.82



Professional Directional Wellpath Report



Company:	Conoco Phillips	Local Co-ordinate Reference:	Well No. 707
Project:	Lea County, N.M.	TVD Reference:	WELL @ 3938.70usft (Original Well Elev)
Site:	Vacuum ABO Unit	MD Reference:	WELL @ 3938.70usft (Original Well Elev)
Well:	No. 707	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Well_Planner1

Survey Program	Date	12/16/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
60.00	982.00	Survey #1 (OH)	UNKNOWN	Unknown survey
1,693.00	9,135.00	Survey #2 (OH)	MWD	MWD - Standard

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	TFace (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	655,045.50	773,970.16	0.00
60.00	0.00	0.00	60.00	0.00	0.00	0.00	0.00	655,045.50	773,970.16	0.00
193.00	0.70	341.00	193.00	0.77	-0.26	-0.22	0.53	655,046.27	773,969.90	341.00
390.00	0.20	31.00	389.99	2.20	-0.48	-0.36	0.30	655,047.70	773,969.68	164.99
595.00	0.10	305.00	594.99	2.61	-0.44	-0.30	0.11	655,048.11	773,969.72	-152.67
804.00	0.10	355.00	803.99	2.90	-0.61	-0.45	0.04	655,048.40	773,969.55	115.00
982.00	0.00	40.00	981.99	3.05	-0.62	-0.45	0.06	655,048.55	773,969.54	180.00
Last Teledrift Survey: 982' MD										
1,693.00	0.20	317.40	1,692.99	3.96	-1.46	-1.24	0.03	655,049.46	773,968.70	317.40
ProDirectional First Survey: 1,693' MD										
1,872.00	0.50	327.90	1,871.98	4.86	-2.09	-1.81	0.17	655,050.36	773,968.07	17.35
2,051.00	0.90	340.10	2,050.97	6.84	-2.98	-2.60	0.24	655,052.34	773,967.18	26.61
2,229.00	1.10	346.30	2,228.94	9.81	-3.86	-3.31	0.13	655,055.31	773,966.30	31.54
2,408.00	0.70	30.10	2,407.92	12.43	-3.72	-3.02	0.43	655,057.93	773,966.44	140.83
2,587.00	0.80	36.10	2,586.91	14.38	-2.43	-1.63	0.07	655,059.88	773,967.73	41.17
2,766.00	1.30	39.40	2,765.88	16.96	-0.41	0.53	0.28	655,062.46	773,969.75	8.55
2,944.00	1.10	24.00	2,943.84	20.08	1.57	2.68	0.21	655,065.58	773,971.73	-129.35
3,123.00	0.40	119.90	3,122.83	21.34	2.81	3.99	0.68	655,066.84	773,972.97	160.78
3,302.00	0.20	216.20	3,301.82	20.78	3.16	4.31	0.26	655,066.28	773,973.32	154.77
3,480.00	0.60	349.60	3,479.82	21.45	2.81	4.00	0.42	655,066.95	773,972.97	144.55
3,659.00	1.40	348.80	3,658.79	24.51	2.22	3.58	0.45	655,070.01	773,972.38	-1.40
3,837.00	0.70	144.90	3,836.78	25.76	2.42	3.85	1.16	655,071.26	773,972.58	172.08



Professional Directional
Wellpath Report



Company:	Conoco Phillips	Local Co-ordinate Reference:	Well No. 707
Project:	Lea County, N.M.	TVD Reference:	WELL @ 3938.70usft (Original Well Elev)
Site:	Vacuum ABO Unit	MD Reference:	WELL @ 3938.70usft (Original Well Elev)
Well:	No. 707	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Well_Planner1

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	TFace (°)
4,016.00	0.10	143.20	4,015.77	24.74	3.14	4.51	0.34	655,070.24	773,973.30	-179.72
4,194.00	0.40	354.80	4,193.77	25.23	3.18	4.58	0.27	655,070.73	773,973.34	-154.56
4,373.00	0.50	21.00	4,372.77	26.58	3.40	4.87	0.13	655,072.08	773,973.56	77.58
4,551.00	0.30	30.40	4,550.76	27.71	3.92	5.45	0.12	655,073.21	773,974.08	166.50
4,730.00	0.10	160.60	4,729.76	27.97	4.21	5.75	0.21	655,073.47	773,974.37	168.17
4,909.00	0.30	170.00	4,908.76	27.36	4.34	5.85	0.11	655,072.86	773,974.50	14.04
4,998.00	0.40	193.00	4,997.76	26.83	4.31	5.79	0.19	655,072.33	773,974.47	66.42
5,128.00	0.50	155.10	5,127.76	25.87	4.45	5.88	0.24	655,071.37	773,974.61	-91.02
5,317.00	5.90	87.10	5,316.41	25.61	14.50	15.90	3.03	655,071.11	773,984.66	-72.62
5,507.00	5.80	86.30	5,505.42	26.73	33.84	35.27	0.07	655,072.23	774,004.00	-141.20
5,696.00	5.60	87.90	5,693.49	27.68	52.58	54.04	0.14	655,073.18	774,022.74	142.33
5,886.00	5.30	89.50	5,882.63	28.10	70.62	72.07	0.18	655,073.60	774,040.78	153.93
6,075.00	4.90	88.90	6,070.88	28.33	87.42	88.86	0.21	655,073.83	774,057.58	-172.70
6,265.00	4.50	86.20	6,260.24	28.98	102.97	104.42	0.24	655,074.48	774,073.13	-152.39
6,453.00	6.10	92.70	6,447.43	28.99	120.31	121.73	0.91	655,074.49	774,090.47	23.83
6,642.00	6.10	96.60	6,635.36	27.37	140.32	141.62	0.22	655,072.87	774,110.48	91.94
6,832.00	8.20	92.60	6,823.87	25.59	163.88	165.05	1.14	655,071.09	774,134.04	-15.33
7,021.00	8.00	89.50	7,010.99	25.10	190.50	191.60	0.25	655,070.60	774,160.66	-116.13
7,210.00	8.20	94.20	7,198.11	24.22	217.09	218.10	0.37	655,069.72	774,187.25	75.53
7,400.00	9.00	90.90	7,385.97	23.00	245.47	246.36	0.49	655,068.50	774,215.63	-33.31
7,589.00	8.30	89.40	7,572.82	22.91	273.89	274.74	0.39	655,068.41	774,244.05	-162.88
7,778.00	10.40	89.80	7,759.30	23.11	304.59	305.41	1.11	655,068.61	774,274.75	1.97
7,966.00	9.70	86.80	7,944.41	24.05	337.38	338.19	0.46	655,069.55	774,307.54	-144.68
8,154.00	8.90	87.10	8,129.94	25.67	367.71	368.57	0.43	655,071.17	774,337.87	176.68
8,343.00	8.30	86.20	8,316.81	27.32	395.93	396.83	0.33	655,072.82	774,366.09	-167.80
8,534.00	7.90	81.40	8,505.91	30.19	422.66	423.68	0.41	655,075.69	774,392.82	-122.96
8,724.00	8.50	75.00	8,693.97	35.78	449.14	450.43	0.57	655,081.28	774,419.30	-59.88



Professional Directional Wellpath Report



Company:	Conoco Phillips	Local Co-ordinate Reference:	Well No. 707
Project:	Lea County, N.M.	TVD Reference:	WELL @ 3938.70usft (Original Well Elev)
Site:	Vacuum ABO Unit	MD Reference:	WELL @ 3938.70usft (Original Well Elev)
Well:	No. 707	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Well_Planner1

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	TFace (°)
8,914.00	8.80	74.60	8,881.81	43.27	476.71	478.38	0.16	655,088.77	774,446.87	-11.54
9,073.00	9.10	73.50	9,038.87	50.08	500.49	502.50	0.22	655,095.58	774,470.65	-30.25
Last Survey: 9,073' MD, 9,038.87' TVD										
9,135.00	9.10	73.50	9,100.09	52.86	509.89	512.04	0.00	655,098.36	774,480.05	0.00
PTB: 9,135' MD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
982.00	981.99	3.05	-0.62	Last Teledrift Survey: 982' MD	
1,693.00	1,692.99	3.96	-1.46	ProDirectional First Survey: 1,693' MD	
9,073.00	9,038.87	50.08	500.49	Last Survey: 9,073' MD, 9,038.87' TVD	
9,135.00	9,100.09	52.86	509.89	PTB: 9,135' MD	