

Results of Directional Survey

API number:	30-025-41397	DD
OGRID:		Operator: CONOCOPHILLIPS COMPANY
		Property: MCA UNIT # 511

surface	ULSTR:	P	22	T 17S	R 32E
				660 FSL	1310 FEL

BH Loc	ULSTR:	P	22	T 17S	R 32E
4285 MD		4284.4	TVD	712 FSL	1320 FEL

Top Perf/OH	ULSTR:	P	22	T 17S	R 32E
3816 MD		3813.8	TVD	702 FSL	1313 FEL

Bot Perf/OH	ULSTR:	P	22	T 17S	R 32E
4116 MD		4114.8	TVD	709 FSL	1317 FEL

	MD	N/S	E/W	VD
	3383	32.99	2.15	3382.66
TOP PERFS/OH	3816	41.66	-3.11	3813.79
	3878	42.90	-3.86	3875.52
	3878	42.90	-3.86	3875.52
BOT PERFS/OH	4116	48.53	-7.42	4114.77
	4232	51.27	-9.16	4231.38

NEXT TO LAST	4232	51.27	-9.16	4231.38
LAST READING	4285	52.45	-10.04	4284.36
TD	4285	52.45	-10.04	4284.36

Surface Location	660 FS	1310 FE
Projected BHL	712 FS	1320 FE
Location of		
Top Perfs/OH	702 FS	1313 FE
Bottom Perfs/OH	709 FS	1317 FE

SUMMARY of Subsurface Locations

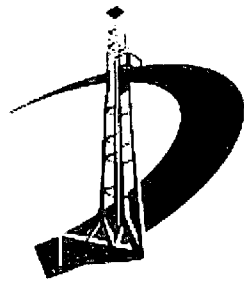
Surface Location	P-22-17S-32E	660 FS	1310 FE	Vert. Depth
Top Perfs/OH	P-22-17S-32E	702 FS	1313 FE	3813.79
Bottom Perfs/OH	P-22-17S-32E	709 FS	1317 FE	4114.77
Projected TD	P-22-17S-32E	712 FS	1320 FE	4284.36

APR 21 2014

HOBBS OCD

MAR 14 2014

RECEIVED



PRODIRECTIONAL

P.O. Box 750, Conroe, TX 77305 Phone: 936-441-7266

ConocoPhillips

MCA Unit Well No. 511

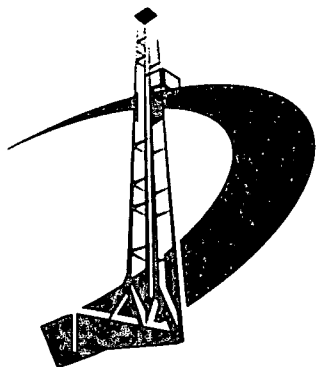
Lea County, NM

November 19, 2013

Job Number LNM 5107213

Survey Completion Report

ORIGINAL



PRODIRECTIONAL

P.O. Box 750, Conroe, TX 77305 Phone: 936-441-7266 Fax: 936-441-7268

November 19, 2013

ConocoPhillips

MCA Unit Well No. 511

Lea County, NM

This is to certify surveys from **964'** MD to a depth of **4,285'** MD are true and correct MWD surveys. These surveys were taken from **11/14/2013** through **11/16/2013**.

Sincerely,

John Jordan

Well Planning



ConocoPhillips

Lea County. N.M.

MCA Unit

No. 511

OH

Survey: ProDirectional

Survey Report

19 November, 2013





Professional Directional
Survey Report with Dleg



Company:	Conoco Phillips	Local Co-ordinate Reference:	Well No. 511
Project:	Lea County, N.M.	TVD Reference:	WELL @ 3987.00usft (Original Well Elev)
Site:	MCA Unit	MD Reference:	WELL @ 3987.00usft (Original Well Elev)
Well:	No. 511	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	MCA Unit		
Site Position:		Northing:	656,769.90 usft
From:	Map	Easting:	677,918.00 usft
Position Uncertainty:	3.30 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 48' 15.158 N
		Longitude:	103° 45' 15.436 W
		Grid Convergence:	0.31 °

Well	No. 511					
Well Position	+N/-S	0.00 usft	Northing:	660,595.40 usft	Latitude:	32° 48' 50.422 N
	+E/-W	0.00 usft	Easting:	720,566.30 usft	Longitude:	103° 36' 55.476 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,987.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/19/2013	7.35	60.66	48,719

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	0.00

Survey Program	Date	11/19/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
964.00	4,285.00	Survey #1 (OH)	MWD	MWD - Standard

Company: Conoco Phillips
Project: Lea County, N.M.
Site: MCA Unit
Well: No. 511
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well No. 511
TVD Reference: WELL @ 3987.00usft (Original Well Elev)
MD Reference: WELL @ 3987.00usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Well_Planner1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	Build (°/100usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
964.00	0.20	5.00	964.00	1.68	0.02	1.68	0.15	1.68	5.00	0.02
ProDirectional MWD										
1,412.00	0.20	261.30	1,412.00	2.34	0.00	2.34	-0.56	2.40	346.57	0.07
1,905.00	0.80	28.90	1,904.98	5.22	0.12	5.22	0.25	5.23	2.79	0.19
2,398.00	1.30	33.40	2,397.90	12.90	0.10	12.90	5.00	13.84	21.17	0.10
2,890.00	1.40	345.00	2,889.78	23.37	0.02	23.37	6.51	24.26	15.58	0.23
3,383.00	1.10	323.60	3,382.66	32.99	-0.06	32.99	2.15	33.06	3.72	0.11
3,876.00	1.60	332.30	3,875.52	42.90	0.10	42.90	-3.86	43.07	354.86	0.11
4,232.00	1.60	323.10	4,231.38	51.27	0.00	51.27	-9.16	52.08	349.88	0.07
4,285.00	1.60	323.10	4,284.36	52.45	0.00	52.45	-10.04	53.41	349.16	0.00
PTB @ 4,285' MD										

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
964.00	964.00	1.68	0.15	ProDirectional MWD
4,285.00	4,284.36	52.45	-10.04	PTB @ 4,285' MD