

Results of Directional Survey

API number:	30-025-41394	DD	
OGRID:		Operator:	CONOCOPHILLIPS COMPANY
		Property:	MCA UNIT # 508

surface	ULSTR:	P	22	T 17S	R 32E
				1295 FSL	660 FEL

BH Loc	ULSTR:	P	22	T 17S	R 32E
4315	MD	4314.4	TVD	1333 FSL	682 FEL

Top Perf/OH	ULSTR:	P	22	T 17S	R 32E
3631	MD	3630.6	TVD	1318 FSL	674 FEL

Bot Perf/OH	ULSTR:	P	22	T 17S	R 32E
4023	MD	4022.5	TVD	1326 FSL	678 FEL

	MD	N/S	E/W	VD
	3310	15.01	-9.94	3309.71
TOP PERFS/OH	3631	22.92	-13.53	3630.59
	3754	25.95	-14.90	3753.55
	3976	30.45	-17.16	3975.49
BOT PERFS/OH	4023	31.45	-17.80	4022.48
	4262	36.55	-21.04	4261.40

NEXT TO LAST	4262	36.55	-21.04	4261.40
LAST READING	4315	37.68	-21.84	4314.38
TD	4315	37.68	-21.84	4314.38

Surface Location	1295	FS	660	FE
Projected BHL	1333	FS	682	FE
Location of				
Top Perfs/OH	1318	FS	674	FE
Bottom Perfs/OH	1326	FS	678	FE

SUMMARY of Subsurface Locations

Surface Location	P-22-17S-32E	1295	FS	660	FE	Vert. Depth
Top Perfs/OH	P-22-17S-32E	1318	FS	674	FE	3630.59
Bottom Perfs/OH	P-22-17S-32E	1326	FS	678	FE	4022.48
Projected TD	P-22-17S-32E	1333	FS	682	FE	4314.38

APR 21 2014



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

ConocoPhillips

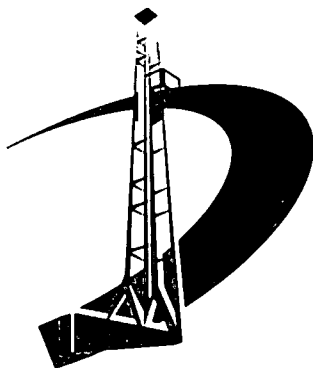
MCA Unit Well No. 508
Lea County, NM

December 13, 2013

Job Number LNM 5107613

Survey Completion Report

ORIGINAL



PRODIRECTIONAL

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

December 13, 2013

ConocoPhillips

MCA Unit Well No. 508
Lea County, NM

This is to certify surveys from **935'** MD to a depth of **4,315'** MD are true and correct MWD surveys. These surveys were taken from **12/10/2013** through **12/12/2013**.

Sincerely,

John Jordan

Well Planning



ConocoPhillips

Lea County, NM

MCA Unit

No. 508

OH

Survey: ProDirectional

Survey Report

13 December, 2013





Professional Directional
Survey Report (NM)



Company: Conoco Phillips
Project: Lea County, N.M.
Site: MCA Unit
Well: No. 508
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well No. 508
TVD Reference: WELL @ 3988.00usft (Original Well Elev)
MD Reference: WELL @ 3988.00usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Well_Planner1

Project Lea County, N.M.

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site MCA Unit

Site Position:		Northing:	656,769.90 usft	Latitude:	32° 48' 15.158 N
From:	Map	Easting:	677,918.00 usft	Longitude:	103° 45' 15.436 W
Position Uncertainty:	3.30 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.31 °

Well No. 508

Well Position	+N/-S	0.00 usft	Northing:	661,168.10 usft	Latitude:	32° 48' 58.562 N
	+E/-W	0.00 usft	Easting:	680,034.40 usft	Longitude:	103° 44' 50.355 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,988.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/13/2013	7.40	60.64	48,699

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 12/13/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
935.00	4,315.00	Survey #1 (OH)	MWD	MWD - Standard



Professional Directional
Survey Report (NM)



Company: Conoco Phillips
Project: Lea County, N.M.
Site: MCA Unit
Well: No. 508
Wellbore: OH
Design: OH

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TVD Reference: WELL @ 3988.00usft (Original Well Elev)
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Database: Well_Planner1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Azimuth (°)	Closure Distance (usft)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	661,168.10	680,034.40
935.00	0.70	238.20	934.98	-3.01	-4.85	0.07	238.20	5.71	661,165.09	680,029.55
ProDirectional MWD										
1,410.00	0.60	239.60	1,409.95	-5.80	-9.47	0.02	238.51	11.10	661,162.30	680,024.93
1,885.00	0.40	42.00	1,884.94	-5.82	-10.50	0.21	240.99	12.01	661,162.28	680,023.90
2,360.00	0.70	43.00	2,359.92	-2.47	-7.41	0.06	251.58	7.81	661,165.63	680,026.99
2,834.00	1.00	351.70	2,833.87	3.74	-6.04	0.17	301.80	7.10	661,171.84	680,028.36
3,310.00	1.90	335.20	3,309.71	15.01	-9.94	0.21	326.48	18.01	661,183.11	680,024.46
3,754.00	1.20	336.30	3,753.55	25.95	-14.90	0.16	330.14	29.93	661,194.05	680,019.50
3,976.00	1.40	330.80	3,975.49	30.45	-17.16	0.11	330.60	34.95	661,198.55	680,017.24
4,262.00	1.50	324.50	4,261.40	36.55	-21.04	0.07	330.08	42.17	661,204.65	680,013.36
4,315.00	1.50	324.50	4,314.38	37.68	-21.84	0.00	329.90	43.55	661,205.78	680,012.56
PTB @ 4,315' MD										

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
935.00	934.98	-3.01	-4.85	ProDirectional MWD
4,315.00	4,314.38	37.68	-21.84	PTB @ 4,315' MD