

Results of Directional Survey

API number:	30-025-41399	DD
OGRID:		Operator: CONOCOPHILLIPS COMPANY
		Property: MCA UNIT # 513

surface	ULSTR:	J	27	T 17S	R 32E
				1510 FSL	2180 FEL

BH Loc	ULSTR:	J	27	T 17S	R 32E
4454 MD		4453.1	TVD	1578 FSL	2155 FEL

Top Perf/OH	ULSTR:	J	27	T 17S	R 32E
4092 MD		4091.1	TVD	1576 FSL	2156 FEL

Bot Perf/OH	ULSTR:	J	27	T 17S	R 32E
4187 MD		4186.1	TVD	1576 FSL	2156 FEL

	MD	N/S	E/W	VD
	3959	65.15	23.78	3958.09
TOP PERFS/OH	4092	65.79	23.96	4091.09
	4139	66.02	24.02	4138.09
	4139	66.02	24.02	4138.09
BOT PERFS/OH	4187	66.38	24.23	4186.09
	4318	67.36	24.81	4317.08

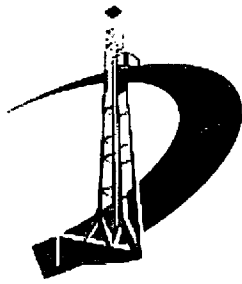
NEXT TO LAST	4409	67.96	25.29	4408.08
LAST READING	4454	68.07	25.50	4453.08
TD	4454	68.07	25.50	4453.08

Surface Location	1510 FS	2180 FE
Projected BHL	1578 FS	2155 FE
Location of		
Top Perfs/OH	1576 FS	2156 FE
Bottom Perfs/OH	1576 FS	2156 FE

SUMMARY of Subsurface Locations

Surface Location	J-27-17S-32E	1510 FS	2180 FE	Vert. Depth
Top Perfs/OH	J-27-17S-32E	1576 FS	2156 FE	4091.09
Bottom Perfs/OH	J-27-17S-32E	1576 FS	2156 FE	4186.09
Projected TD	J-27-17S-32E	1578 FS	2155 FE	4453.08

NOV 01 2014



PRODIRECTIONAL

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

ConocoPhillips

MCA Unit Well No. 513

Lea County, NM

HOBBS OCD

DEC 12 2013

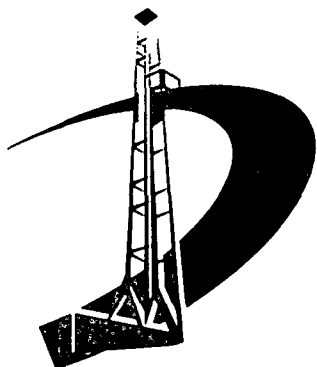
RECEIVED

October 16, 2013

Job Number LNM 5106713

Survey Completion Report

ORIGINAL



PRODIRECTIONAL

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

October 16, 2013

ConocoPhillips

MCA Unit Well No. 513

Lea County, NM

This is to certify surveys from *1,096'* MD to a depth of *4,454'* MD are true and correct MWD surveys. These surveys were taken from *10/14/2013* through *10/16/2013*.

Sincerely,

John Jordan

Well Planning



ConocoPhillips

Lea County, NM

MCA Unit Well

No. 513

Original Hole

Survey: ProDirectional

Survey Report

16 October, 2013





Survey Program		Date	10/16/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
1,096.00	4,454.00	Survey #1 (Original Hole)	MWD	MWD - Standard	



Professional Directional
Survey Report (NM)



Company: Conoco Phillips
Project: Lea County, N.M.
Site: MCA Unit
Well: No. 513
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well No. 513
TVD Reference: WELL @ 3971.00usft (RKB: 13' + GL: 3958')
MD Reference: WELL @ 3971.00usft (RKB: 13' + GL: 3958')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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	656,097.60	678,546.80	
1,096.00	1.90	47.80	1,095.80	12.21	13.46	0.17	47.80	18.17	656,109.81	678,560.26	
ProDirectional First MWD Survey											
1,274.00	1.70	39.20	1,273.71	16.23	17.32	0.19	46.85	23.74	656,113.83	678,564.12	
1,453.00	0.50	0.10	1,452.68	19.07	19.00	0.75	44.88	26.92	656,116.67	678,565.80	
1,632.00	0.20	13.80	1,631.67	20.16	19.07	0.17	43.41	27.75	656,117.76	678,565.87	
1,809.00	0.40	23.40	1,808.67	21.02	19.39	0.12	42.68	28.60	656,118.62	678,566.19	
1,988.00	1.00	43.80	1,987.66	22.72	20.72	0.36	42.36	30.75	656,120.32	678,567.52	
2,167.00	2.00	40.10	2,166.59	26.24	23.81	0.56	42.22	35.44	656,123.84	678,570.61	
2,346.00	1.40	6.60	2,345.52	30.80	26.08	0.63	40.25	40.36	656,128.40	678,572.88	
2,525.00	1.10	5.60	2,524.48	34.69	26.49	0.17	37.37	43.65	656,132.29	678,573.29	
2,705.00	1.60	355.30	2,704.43	38.91	26.46	0.31	34.21	47.05	656,136.51	678,573.26	
2,884.00	1.30	350.30	2,883.37	43.40	25.91	0.18	30.84	50.55	656,141.00	678,572.71	
3,063.00	1.90	344.70	3,062.30	48.27	24.79	0.35	27.18	54.26	656,145.87	678,571.59	
3,242.00	1.50	348.50	3,241.22	53.42	23.54	0.23	23.78	58.38	656,151.02	678,570.34	
3,421.00	1.50	1.30	3,420.16	58.06	23.12	0.19	21.71	62.50	656,155.66	678,569.92	
3,601.00	1.20	4.30	3,600.11	62.30	23.32	0.17	20.52	66.52	656,159.90	678,570.12	
3,780.00	0.20	34.10	3,779.09	64.42	23.63	0.58	20.14	68.62	656,162.02	678,570.43	
3,959.00	0.30	357.20	3,958.09	65.15	23.78	0.10	20.06	69.36	656,162.75	678,570.58	
4,139.00	0.30	33.00	4,138.09	66.02	24.02	0.10	19.99	70.25	656,163.62	678,570.82	
4,318.00	0.70	29.20	4,317.08	67.36	24.81	0.22	20.22	71.79	656,164.96	678,571.61	
4,409.00	0.30	62.10	4,408.08	67.96	25.29	0.52	20.41	72.51	656,165.56	678,572.09	
4,454.00	0.30	62.10	4,453.08	68.07	25.50	0.00	20.53	72.69	656,165.67	678,572.30	
PTB @ 4,454' MD											



Professional Directional
Survey Report (NM)



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Survey Calculation Method: Minimum Curvature
Database: Well_Planner1

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,096.00	1,095.80	12.21	13.46	ProDirectional First MWD Survey
4,454.00	4,453.08	68.07	25.50	PTB @ 4,454' MD