

Results of Directional Survey

LAT 1 ST 2

API number:	30-025-40016			
OGRID:		Operator:	DEVON ENERGY PRODUCTION COMPANY, LP	
		Property:	THISTLE UNIT	# 32H

surface	ULSTR:	P	33	T	23S	R	33E
				150	FSL	150	FEL

BH Loc ST 2	ULSTR:	A	33	T	23S	R	33E
13792	MD	8994.0	TVD	5125	FSL	1180	FEL
				155	FNL		

Top Perf/OH	ULSTR:	H	33	T	23S	R	33E
11586 *	MD	8968.1	TVD	2961	FSL	756	FEL

* Tie in to Sidetrack 1

Bot Perf/OH	ULSTR:	A	33	T	23S	R	33E
13682	MD	8990.7	TVD	5018	FSL	1156	FEL
				262	FNL		

	MD	N/S	E/W	VD
	11578	2803.55	-604.01	8962.65
TOP PERFS/OH	11586	2811.35	-605.81	8962.65
	11586	2811.35	-605.81	8962.65
	13630	4817.35	-994.51	8989.33
BOT PERFS/OH	13682	4868.11	-1005.67	8990.74
	13725	4910.09	-1014.90	8991.90

NEXT TO LAST	13725	4910.09	-1014.90	8991.90
LAST READING	13792	4975.40	-1029.74	8994.01
TD	13792	4975.40	-1029.74	8994.01

Surface Location	150	FS	150	FE
Projected BHL	5125	FS	1180	FE
Location of				
Top Perfs/OH	2961	FS	756	FE
Bottom Perfs/OH	5018	FS	1156	FE

SUMMARY of Subsurface Locations

Surface Location	P-33-23S-33E	150	FS	150	FE	Vert. Depth
Top Perfs/OH	P-33-23S-33E	2961	FS	756	FE	8962.65
Bottom Perfs/OH	A-33-23S-33E	5018	FS	1156	FE	8990.74
Projected TD	A-33-23S-33E	5125	FS	1180	FE	8994.01



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Devon Energy Production Co, LP

Lea Co., New Mexico (Nad 83)

Thistle Unit #32H

Thistle Unit #32H

30-025-40016

Lateral #1

Survey: Sidetrack #2

SUR: P-33-23s-33e, 150/S & 150/E

LAT 1, Sidetrack #2

BHL: A-33-23s-33e, 5125/S & 1180/E

API # 30-025-40016

Standard Survey Report

31 August, 2011



CUDD Drilling and Measurement Survey Report

Company:	Devon Energy Production Co, LP	Local Co-ordinate Reference:	Site Thistle Unit #32H
Project:	Lea Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3663.00ft (Original Well Elev)
Site:	Thistle Unit #32H	MD Reference:	WELL @ 3663.00ft (Original Well Elev)
Well:	Thistle Unit #32H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000 1 Single User Db

Project	Lea Co., New Mexico (Nad 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Thistle Unit #32H, Sec 33, T-23S, R-33E			
Site Position:		Northing:	457,042.52 usft	Latitude:	32° 15' 15.026 N
From:	Map	Easting:	777,566.44 usft	Longitude:	103° 34' 9.010 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41 °

Well	Thistle Unit #32H					
Well Position	+N/-S	0.00 ft	Northing:	457,042.52 usfl	Latitude:	32° 15' 15.026 N
	+E/-W	0.00 ft	Easting:	777,566.44 usfl	Longitude:	103° 34' 9.010 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	3,663.00 ft	Ground Level:	3,644.00 ft

Wellbore	Lateral #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/15/2011	7.58	60.24	48,670

Design	Lateral #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	348.02

Survey Program	Date 8/31/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
99.00	8,362.60	Gyro (Lateral #1)	NS-GYRO-MS	North sensing gyrocompassing m/s
8,394.00	10,098.00	Lateral #1 (Lateral #1)	CUDD MWD	MWD - Standard CUDD MWD
10,160.00	11,578.00	Sidetrack #1 (Lateral #1)	CUDD MWD	MWD - Standard CUDD MWD
11,586.00	13,792.00	Sidetrack #2 (Lateral #1)	CUDD MWD	MWD - Standard CUDD MWD

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,578.00	90.50	346.60	8,962.65	2,803.55	-604.01	2,867.87	0.00	0.00	0.00	
Tie-in to ST1										
11,586.00	89.50	347.30	8,962.65	2,811.35	-605.81	2,875.87	15.26	-12.50	8.75	
11,596.00	89.30	348.00	8,962.76	2,821.12	-607.95	2,885.87	7.28	-2.00	7.00	
11,617.00	89.00	350.00	8,963.07	2,841.73	-611.96	2,906.86	9.63	-1.43	9.52	
11,648.00	88.80	350.10	8,963.66	2,872.25	-617.31	2,937.83	0.72	-0.65	0.32	
11,678.00	87.30	349.70	8,964.68	2,901.77	-622.57	2,967.80	5.17	-5.00	-1.33	
11,710.00	87.50	350.40	8,966.14	2,933.26	-628.10	2,999.75	2.27	0.63	2.19	



CUDD Drilling and Measurement Survey Report

Company:	Devon Energy Production Co, LP	Local Co-ordinate Reference:	Site Thistle Unit #32H
Project:	Lea Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3663.00ft (Original Well Elev)
Site:	Thistle Unit #32H	MD Reference:	WELL @ 3663.00ft (Original Well Elev)
Well:	Thistle Unit #32H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000 1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,741.00	87.80	350.10	8,967.41	2,963.78	-633.34	3,030.70	1.37	0.97	-0.97
11,772.00	87.80	349.90	8,968.60	2,994.29	-638.72	3,061.65	0.64	0.00	-0.65
11,864.00	88.40	349.40	8,971.65	3,084.74	-655.24	3,153.57	0.85	0.65	-0.54
11,957.00	88.30	349.80	8,974.33	3,176.18	-672.02	3,246.49	0.44	-0.11	0.43
12,050.00	87.50	349.90	8,977.73	3,267.66	-688.40	3,339.38	0.87	-0.86	0.11
12,144.00	87.70	349.10	8,981.67	3,360.00	-705.51	3,433.27	0.88	0.21	-0.85
12,236.00	87.90	349.30	8,985.20	3,450.31	-722.74	3,525.18	0.31	0.22	0.22
12,329.00	88.30	348.80	8,988.28	3,541.56	-740.40	3,618.11	0.69	0.43	-0.54
12,420.00	89.10	348.50	8,990.35	3,630.76	-758.30	3,709.08	0.94	0.88	-0.33
12,513.00	90.80	348.00	8,990.43	3,721.81	-777.24	3,802.08	1.91	1.83	-0.54
12,605.00	90.20	349.00	8,989.63	3,811.96	-795.58	3,894.07	1.27	-0.65	1.09
12,697.00	90.40	349.20	8,989.15	3,902.29	-812.98	3,986.05	0.31	0.22	0.22
12,789.00	90.70	348.70	8,988.26	3,992.58	-830.61	4,078.03	0.63	0.33	-0.54
12,882.00	89.90	348.40	8,987.78	4,083.73	-849.07	4,171.03	0.92	-0.86	-0.32
12,975.00	90.80	348.60	8,987.21	4,174.86	-867.61	4,264.02	0.99	0.97	0.22
13,068.00	91.40	349.50	8,985.42	4,266.15	-885.27	4,356.99	1.16	0.65	0.97
13,160.00	90.80	349.20	8,983.66	4,356.55	-902.27	4,448.95	0.73	-0.65	-0.33
13,253.00	89.10	349.40	8,983.74	4,447.93	-919.54	4,541.92	1.84	-1.83	0.22
13,348.00	89.10	348.70	8,985.23	4,541.19	-937.58	4,636.89	0.74	0.00	-0.74
13,443.00	89.10	348.50	8,986.72	4,634.30	-956.36	4,731.87	0.21	0.00	-0.21
13,537.00	89.50	348.20	8,987.87	4,726.36	-975.34	4,825.87	0.53	0.43	-0.32
13,630.00	88.70	348.00	8,989.33	4,817.35	-994.51	4,918.85	0.89	-0.86	-0.22
13,725.00	88.20	347.20	8,991.90	4,910.09	-1,014.90	5,013.81	0.99	-0.53	-0.84
Last CUDD survey									
13,792.00	88.20	347.20	8,994.01	4,975.40	-1,029.74	5,080.78	0.00	0.00	0.00
Projection to Bit									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,578.00	8,962.65	2,803.55	-604.01	Tie-in to ST1
13,725.00	8,991.90	4,910.09	-1,014.90	Last CUDD survey
13,792.00	8,994.01	4,975.40	-1,029.74	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____