



Devon Energy

Eddy Co., New Mexico (Nad 83)

Strawberry 7 Fed #6H

Strawberry 7 Fed #6H

30-015-38195

Lateral #1

30-015-38195

Survey: Cudd MWD Survey #1

Standard Survey Report

24 November, 2010





CUDD Drilling & Measurement Services

Survey Report



Company: Devon Energy
Project: Eddy Co., New Mexico (Nad 83)
Site: Strawberry 7 Fed #6H
Well: Strawberry 7 Fed #6H
Wellbore: Lateral #1
Design: Lateral #1

Local Co-ordinate Reference: Site Strawberry 7 Fed #6H
TVD Reference: WELL @ 3490.00ft (Original Well Elev)
MD Reference: WELL @ 3490.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.21 Single User Db

Project: Eddy Co., New Mexico (Nad 83)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site: Strawberry 7 Fed #6H, Sec 7, T-19S, R-31E

Site Position: Northing: 608,543.62 ft Latitude: 32° 40' 19.875 N
From: Map Easting: 674,309.35 ft Longitude: 103° 54' 4.301 W
Position Uncertainty: 0.00 ft Slot Radius: " Grid Convergence: 0.23 °

Well: Strawberry 7 Fed #6H

Well Position: +N/-S 0.00 ft Northing: 608,543.62 ft Latitude: 32° 40' 19.875 N
+E/-W 0.00 ft Easting: 674,309.35 ft Longitude: 103° 54' 4.301 W
Position Uncertainty: 0.00 ft Wellhead Elevation: 3,490.00 ft Ground Level: 3,465.00 ft

Wellbore: Lateral #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/05/10	7.84	60.58	48,953

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	269.55

Survey Program: Date 11/24/10

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	8,160.00	Gyro Survey #1 (Lateral #1)	NS-GYRO-MS	North sensing gyrocompassing m/s

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,160.00	1.21	313.19	8,158.91	40.28	0.97	-1.29	0.00	0.00	0.00
Tie-In to Gyro									
8,325.00	1.20	344.80	8,323.87	43.14	-0.75	0.41	0.40	-0.01	19.16
First Cudd MWD Survey									
8,346.00	1.20	344.80	8,344.87	43.56	-0.87	0.53	0.00	0.00	0.00
8,378.00	2.50	291.50	8,376.85	44.14	-1.61	1.26	6.33	4.06	-166.56
8,409.00	6.20	276.40	8,407.76	44.58	-3.90	3.55	12.39	11.94	-48.71
8,440.00	9.50	271.90	8,438.46	44.85	-8.12	7.77	10.82	10.65	-14.52
8,472.00	12.70	263.50	8,469.86	44.54	-14.26	13.91	11.18	10.00	-26.25
8,503.00	15.50	253.70	8,499.93	42.99	-21.62	21.28	11.84	9.03	-31.61
8,535.00	17.80	245.00	8,530.59	39.72	-30.16	29.85	10.58	7.19	-27.19
8,566.00	21.20	238.90	8,559.81	34.82	-39.26	38.98	12.77	10.97	-19.68
8,598.00	25.20	235.90	8,589.22	28.01	-49.86	49.64	13.03	12.50	-9.38



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Design: Lateral #1

Local Co-ordinate Reference: Site Strawberry 7 Fed #6H
TVD Reference: WELL @ 3490.00ft (Original Well Elev)
MD Reference: WELL @ 3490.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.21 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,629.00	28.50	233.00	8,616.88	19.86	-61.23	61.08	11.45	10.65	-9.35
8,661.00	32.80	232.90	8,644.40	10.03	-74.25	74.17	13.44	13.44	-0.31
8,692.00	36.80	234.80	8,669.85	-0.39	-88.54	88.54	13.37	12.90	6.13
8,722.00	40.60	236.40	8,693.26	-10.98	-104.02	104.10	13.10	12.67	5.33
8,755.00	45.00	237.90	8,717.47	-23.13	-122.86	123.03	13.69	13.33	4.55
8,787.00	49.30	238.90	8,739.22	-35.41	-142.84	143.11	13.63	13.44	3.13
8,818.00	53.80	240.50	8,758.50	-47.64	-163.80	164.17	15.07	14.52	5.16
8,850.00	57.60	243.50	8,776.53	-60.04	-187.14	187.60	14.18	11.88	9.38
8,881.00	61.40	245.80	8,792.26	-71.46	-211.27	211.83	13.82	12.26	7.42
8,912.00	65.30	248.40	8,806.17	-82.23	-236.79	237.43	14.64	12.58	8.39
8,944.00	69.50	250.70	8,818.46	-92.54	-264.47	265.18	14.71	13.13	7.19
8,975.00	73.80	252.90	8,828.22	-101.72	-292.41	293.20	15.42	13.87	7.10
9,007.00	77.60	255.20	8,836.12	-110.23	-322.22	323.08	13.77	11.88	7.19
9,038.00	81.20	257.60	8,841.83	-117.39	-351.83	352.74	13.88	11.61	7.74
9,070.00	84.70	260.10	8,845.75	-123.53	-382.98	383.94	13.41	10.94	7.81
9,099.00	87.80	263.40	8,847.65	-127.68	-411.61	412.60	15.59	10.69	11.38
9,132.00	90.60	271.10	8,848.11	-129.26	-444.54	445.55	24.82	8.48	23.33
9,163.00	91.60	273.60	8,847.52	-127.99	-475.51	476.50	8.68	3.23	8.06
9,194.00	91.70	274.20	8,846.62	-125.88	-506.42	507.40	1.96	0.32	1.94
9,289.00	91.60	278.40	8,843.89	-115.46	-600.79	601.68	4.42	-0.11	4.42
9,384.00	92.20	277.80	8,840.74	-102.09	-694.79	695.57	0.89	0.63	-0.63
9,478.00	91.40	277.70	8,837.79	-89.42	-787.88	788.56	0.86	-0.85	-0.11
9,572.00	91.70	277.30	8,835.24	-77.15	-881.05	881.63	0.53	0.32	-0.43
9,667.00	90.40	277.90	8,833.50	-64.59	-975.19	975.67	1.51	-1.37	0.63
9,761.00	90.80	277.50	8,832.52	-52.00	-1,068.34	1,068.72	0.60	0.43	-0.43
9,855.00	91.20	277.10	8,830.88	-40.05	-1,161.56	1,161.84	0.60	0.43	-0.43
9,949.00	91.80	277.20	8,828.42	-28.36	-1,254.80	1,254.98	0.65	0.64	0.11
10,044.00	92.20	276.80	8,825.10	-16.79	-1,349.03	1,349.12	0.60	0.42	-0.42
10,138.00	92.60	276.70	8,821.16	-5.75	-1,442.30	1,442.30	0.44	0.43	-0.11
10,233.00	91.70	274.70	8,817.60	3.68	-1,536.76	1,536.68	2.31	-0.95	-2.11
10,327.00	90.70	273.30	8,815.63	10.23	-1,630.51	1,630.38	1.83	-1.06	-1.49
10,422.00	90.80	270.60	8,814.39	13.47	-1,725.43	1,725.28	2.84	0.11	-2.84
10,516.00	91.20	268.70	8,812.75	12.89	-1,819.41	1,819.26	2.07	0.43	-2.02
10,611.00	92.30	267.90	8,809.85	10.08	-1,914.33	1,914.19	1.43	1.16	-0.84
10,705.00	91.40	267.50	8,806.81	6.31	-2,008.20	2,008.09	1.05	-0.96	-0.43
10,799.00	92.20	266.90	8,803.86	1.72	-2,102.04	2,101.96	1.06	0.85	-0.64
10,894.00	89.60	267.40	8,802.37	-3.01	-2,196.90	2,196.86	2.79	-2.74	0.53
10,988.00	90.90	266.80	8,801.96	-7.76	-2,290.78	2,290.77	1.52	1.38	-0.64
11,082.00	89.50	266.80	8,801.63	-13.01	-2,384.63	2,384.66	1.49	-1.49	0.00
11,177.00	89.80	267.90	8,802.21	-17.40	-2,479.52	2,479.58	1.20	0.32	1.16
11,271.00	90.60	268.60	8,801.88	-20.27	-2,573.48	2,573.56	1.13	0.85	0.74
11,366.00	90.90	265.70	8,800.64	-24.99	-2,668.34	2,668.46	3.07	0.32	-3.05
11,459.00	91.70	267.20	8,798.53	-30.75	-2,761.14	2,761.29	1.83	0.86	1.61
11,554.00	89.20	269.90	8,797.78	-33.15	-2,856.09	2,856.26	3.87	-2.63	2.84
11,649.00	91.20	270.40	8,797.45	-32.91	-2,951.08	2,951.25	2.17	2.11	0.53
11,743.00	91.80	270.00	8,794.99	-32.58	-3,045.05	3,045.21	0.77	0.64	-0.43
11,838.00	92.60	269.40	8,791.34	-33.07	-3,139.97	3,140.14	1.05	0.84	-0.63
11,932.00	92.30	270.80	8,787.32	-32.91	-3,233.89	3,234.04	1.52	-0.32	1.49
12,027.00	90.20	270.60	8,785.25	-31.75	-3,328.85	3,329.00	2.22	-2.21	-0.21
12,121.00	91.00	270.30	8,784.27	-31.01	-3,422.84	3,422.98	0.91	0.85	-0.32
12,215.00	90.00	270.80	8,783.45	-30.11	-3,516.83	3,516.96	1.19	-1.06	0.53
12,310.00	90.50	270.70	8,783.03	-28.87	-3,611.82	3,611.94	0.54	0.53	-0.11
12,404.00	91.30	270.20	8,781.56	-28.13	-3,705.81	3,705.91	1.00	0.85	-0.53
12,499.00	92.10	269.80	8,778.74	-28.13	-3,800.77	3,800.87	0.94	0.84	-0.42



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Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,593.00	91.80	269.70	8,775.54	-28.54	-3,894.71	3,894.81	0.34	-0.32	-0.11
12,687.00	90.70	270.10	8,773.49	-28.70	-3,988.69	3,988.79	1.25	-1.17	0.43
12,782.00	91.10	269.70	8,772.00	-28.87	-4,083.67	4,083.77	0.60	0.42	-0.42
12,876.00	92.10	269.30	8,769.37	-29.69	-4,177.63	4,177.74	1.15	1.06	-0.43
12,971.00	93.20	269.00	8,764.98	-31.09	-4,272.52	4,272.63	1.20	1.16	-0.32
13,065.00	94.10	268.60	8,758.99	-33.06	-4,366.31	4,366.43	1.05	0.96	-0.43
13,141.00	94.50	268.10	8,753.30	-35.24	-4,442.06	4,442.20	0.84	0.53	-0.66
Last Cudd MWD Survey									
13,189.00	94.50	268.10	8,749.53	-36.83	-4,489.89	4,490.04	0.00	0.00	0.00
Proj to Bit									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
8,160.00	8,158.91	40.28	0.97	Tie-In to Gyro
8,325.00	8,323.87	43.14	-0.75	First Cudd MWD Survey
13,141.00	8,753.30	-35.24	-4,442.06	Last Cudd MWD Survey
13,189.00	8,749.53	-36.83	-4,489.89	Proj to Bit

Checked By: _____ Approved By: _____ Date: _____

Strawberry 7 Fed #6H_Final MWD Survey_Report_11-24-10.txt

Devon Energy
Strawberry 7 Fed #6H - Cudd MWD Survey #1

Eddy Co., New Mexico (Nad 83)
Strawberry 7 Fed #6H

Measured Dogleg Depth Rate (ft) (°/100ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)
8160.00	1.21	313.19	8158.91	40.28 N	0.97 E	-1.29
0.00						
8325.00	1.20	344.80	8323.87	43.14 N	0.75 W	0.41
0.40						
8346.00	1.20	344.80	8344.87	43.56 N	0.87 W	0.53
0.00						
8378.00	2.50	291.50	8376.85	44.14 N	1.61 W	1.26
6.33						
8409.00	6.20	276.40	8407.76	44.58 N	3.90 W	3.55
12.39						
8440.00	9.50	271.90	8438.46	44.85 N	8.12 W	7.77
10.82						
8472.00	12.70	263.50	8469.86	44.54 N	14.26 W	13.91
11.18						
8503.00	15.50	253.70	8499.93	42.99 N	21.62 W	21.28
11.84						
8535.00	17.80	245.00	8530.59	39.72 N	30.16 W	29.85
10.58						
8566.00	21.20	238.90	8559.81	34.82 N	39.26 W	38.98
12.77						
8598.00	25.20	235.90	8589.22	28.01 N	49.86 W	49.64
13.03						
8629.00	28.50	233.00	8616.88	19.86 N	61.23 W	61.08
11.45						
8661.00	32.80	232.90	8644.40	10.03 N	74.25 W	74.17
13.44						
8692.00	36.80	234.80	8669.85	0.39 S	88.54 W	88.54
13.37						
8722.00	40.60	236.40	8693.26	10.98 S	104.02 W	104.10
13.10						
8755.00	45.00	237.90	8717.47	23.13 S	122.86 W	123.03
13.69						
8787.00	49.30	238.90	8739.22	35.41 S	142.84 W	143.11
13.63						
8818.00	53.80	240.50	8758.50	47.64 S	163.80 W	164.17
15.07						
8850.00	57.60	243.50	8776.53	60.04 S	187.14 W	187.60
14.18						
8881.00	61.40	245.80	8792.26	71.46 S	211.27 W	211.83
13.82						
8912.00	65.30	248.40	8806.17	82.23 S	236.79 W	237.43
14.64						
8944.00	69.50	250.70	8818.46	92.54 S	264.47 W	265.18
14.71						
8975.00	73.80	252.90	8828.22	101.72 S	292.41 W	293.20
15.42						
9007.00	77.60	255.20	8836.12	110.23 S	322.22 W	323.08
13.77						
9038.00	81.20	257.60	8841.83	117.39 S	351.83 W	352.74
13.88						

	Strawberry 7 Fed #6H_Final MWD Survey_Report_11-24-10.txt					
9070.00	84.70	260.10	8845.75	123.53 S	382.98 W	383.94
13.41						
9099.00	87.80	263.40	8847.65	127.68 S	411.61 W	412.60
15.59						
9132.00	90.60	271.10	8848.11	129.26 S	444.54 W	445.55
24.82						
9163.00	91.60	273.60	8847.52	127.99 S	475.51 W	476.50
8.68						
9194.00	91.70	274.20	8846.62	125.88 S	506.42 W	507.40
1.96						
9289.00	91.60	278.40	8843.89	115.46 S	600.79 W	601.68
4.42						
9384.00	92.20	277.80	8840.74	102.09 S	694.79 W	695.57
0.89						
9478.00	91.40	277.70	8837.79	89.42 S	787.88 W	788.56
0.86						
9572.00	91.70	277.30	8835.24	77.15 S	881.05 W	881.63
0.53						
9667.00	90.40	277.90	8833.50	64.59 S	975.19 W	975.67
1.51						
9761.00	90.80	277.50	8832.52	52.00 S	1068.34 W	1068.72
0.60						
9855.00	91.20	277.10	8830.88	40.05 S	1161.56 W	1161.84
0.60						
9949.00	91.80	277.20	8828.42	28.36 S	1254.80 W	1254.98
0.65						
10044.00	92.20	276.80	8825.10	16.79 S	1349.03 W	1349.12
0.60						
10138.00	92.60	276.70	8821.16	5.75 S	1442.30 W	1442.30
0.44						
10233.00	91.70	274.70	8817.60	3.68 N	1536.76 W	1536.68
2.31						
10327.00	90.70	273.30	8815.63	10.23 N	1630.51 W	1630.38
1.83						
10422.00	90.80	270.60	8814.39	13.47 N	1725.43 W	1725.28
2.84						
10516.00	91.20	268.70	8812.75	12.89 N	1819.41 W	1819.26
2.07						
10611.00	92.30	267.90	8809.85	10.08 N	1914.33 W	1914.19
1.43						
10705.00	91.40	267.50	8806.81	6.31 N	2008.20 W	2008.09
1.05						
10799.00	92.20	266.90	8803.86	1.72 N	2102.04 W	2101.96
1.06						
10894.00	89.60	267.40	8802.37	3.01 S	2196.90 W	2196.86
2.79						
10988.00	90.90	266.80	8801.96	7.76 S	2290.78 W	2290.77
1.52						
11082.00	89.50	266.80	8801.63	13.01 S	2384.63 W	2384.66
1.49						
11177.00	89.80	267.90	8802.21	17.40 S	2479.52 W	2479.58
1.20						
11271.00	90.60	268.60	8801.88	20.27 S	2573.48 W	2573.56
1.13						
11366.00	90.90	265.70	8800.64	24.99 S	2668.34 W	2668.46
3.07						
11459.00	91.70	267.20	8798.53	30.75 S	2761.14 W	2761.29
1.83						
11554.00	89.20	269.90	8797.78	33.15 S	2856.09 W	2856.26
3.87						
11649.00	91.20	270.40	8797.45	32.91 S	2951.08 W	2951.25
2.17						
11743.00	91.80	270.00	8794.99	32.58 S	3045.05 W	3045.21

Strawberry 7 Fed #6H_Final MWD Survey_Report_11-24-10.txt

0.77	11838.00	92.60	269.40	8791.34	33.07 S	3139.97 W	3140.14
1.05	11932.00	92.30	270.80	8787.32	32.91 S	3233.89 W	3234.04
1.52	12027.00	90.20	270.60	8785.25	31.75 S	3328.85 W	3329.00
2.22	12121.00	91.00	270.30	8784.27	31.01 S	3422.84 W	3422.98
0.91	12215.00	90.00	270.80	8783.45	30.11 S	3516.83 W	3516.96
1.19	12310.00	90.50	270.70	8783.03	28.87 S	3611.82 W	3611.94
0.54	12404.00	91.30	270.20	8781.56	28.13 S	3705.81 W	3705.91
1.00	12499.00	92.10	269.80	8778.74	28.13 S	3800.77 W	3800.87
0.94	12593.00	91.80	269.70	8775.54	28.54 S	3894.71 W	3894.81
0.34	12687.00	90.70	270.10	8773.49	28.70 S	3988.69 W	3988.79
1.25	12782.00	91.10	269.70	8772.00	28.87 S	4083.67 W	4083.77
0.60	12876.00	92.10	269.30	8769.37	29.69 S	4177.63 W	4177.74
1.15	12971.00	93.20	269.00	8764.98	31.09 S	4272.52 W	4272.63
1.20	13065.00	94.10	268.60	8758.99	33.06 S	4366.31 W	4366.43
1.05	13141.00	94.50	268.10	8753.30	35.24 S	4442.06 W	4442.20
0.84	13189.00	94.50	268.10	8749.53	36.83 S	4489.89 W	4490.04
0.00							

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to WELL. Northings and Eastings are relative to Site.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Slot and calculated along an Azimuth of 269.550° (Grid).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.
Central meridian is -104.333°.
Grid Convergence at Surface is 0.233°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 13189.00ft., the Bottom Hole Displacement is 4490.04ft., in the Direction of 269.550° (Grid).

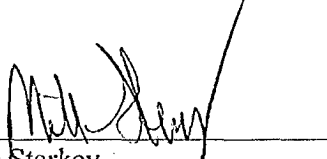


CUDD Drilling & Measurement Services
3201 E. Loop 250 N.
Midland, TX 79705
Tel: (432) 689-5700
Fax: (432) 689-5716

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, Mike Starkey, certify that; I am employed by CUDD Drilling and Measurement Services; that I did on the day(s) of 11/06/10 – 11/25/10 conduct or supervise the taking of MWD surveys from a depth of 8,325 feet to a depth of 13,189 feet; and that the data is true, correct, complete and within the limitations of the tool as set forth by CUDD Drilling and Measurement Services.; that I am authorized and qualified to make this report; that this survey was conducted at the request of Devon Energy Prod. Co. LP. for the Strawberry 7 Fed #6H, API # 30-015-38195 in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by CUDD Drilling and Measurement Services.



Mike Starkey
Operations Coordinator