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30-015-36970

Devon Energy

Eddy Co., New Mexico (Nad 83)

Condor 7 Fed Com #3H

Condor 7 Fed Com #3H

30-015-36970

Lateral #1

Survey: Cudd MWD Survey #2

Standard Survey Report

01 May, 2010



CUDD
DRILLING & MEASUREMENT
SERVICES



CUDD Drilling & Measurement Services

Survey Report



Company:	Devon Energy	Local Co-ordinate Reference:	Site Condor 7 Fed Com #3H
Project:	Eddy Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3305.00ft (Original Well Elev)
Site:	Condor 7 Fed Com #3H	MD Reference:	WELL @ 3305.00ft (Original Well Elev)
Well:	Condor 7 Fed Com #3H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 2003.21 Single User Db

Project	Eddy 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	Condor 7 Fed Com #3H, Sec 7, T-18S, R-27E		
Site Position:		Northing:	642,154.87 ft
From:	Map	Easting:	545,665.08 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 45' 55.144 N
		Longitude:	104° 19' 9.317 W
		Grid Convergence:	0.01 °

Well	Condor 7 Fed Com #3H		
Well Position	+N/-S	0.00 ft	Northing: 642,154.87 ft
	+E/-W	0.00 ft	Easting: 545,665.08 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	3,305.00 ft
		Ground Level:	3,290.00 ft

Wellbore	Lateral #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	04/01/10	8.10	60.61	49,011

Design	Lateral #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 1,900.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	92.34

Survey Program	Date	05/01/10			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	1,900.00	Gyro Survey #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,987.00	2,752.00	Cudd MWD Survey #1 (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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,080.00	7.80	104.20	2,079.33	-34.11	18.80	20.17	0.00	0.00	0.00
Tie-In to MWD Survey #1									
2,173.00	24.00	92.20	2,168.49	-36.40	43.99	45.44	17.68	17.42	-12.90
First MWD Survey									
2,205.00	31.40	91.30	2,196.80	-36.84	58.84	60.30	23.16	23.13	-2.81
2,236.00	37.00	92.30	2,222.43	-37.40	76.25	77.72	18.15	18.06	3.23
2,268.00	38.80	87.60	2,247.69	-37.37	95.90	97.34	10.63	5.63	-14.69
2,300.00	40.80	85.60	2,272.27	-36.14	116.34	117.72	7.42	6.25	-6.25
2,332.00	42.60	84.10	2,296.16	-34.23	137.54	138.82	6.43	5.63	-4.69
2,364.00	44.80	83.40	2,319.30	-31.82	159.51	160.68	7.04	6.88	-2.19
2,395.00	46.80	83.20	2,340.91	-29.23	181.59	182.63	6.47	6.45	-0.65
2,427.00	48.00	81.80	2,362.57	-26.15	204.94	205.83	4.94	3.75	-4.38



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Site:	Condor 7 Fed Com #3H	MD Reference:	WELL @ 3305.00ft (Original Well Elev)
Well:	Condor 7 Fed Com #3H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	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)
2,459.00	49.70	80.40	2,383.63	-22.42	228.74	229.46	6.25	5.31	-4.38
2,491.00	50.90	78.00	2,404.07	-17.80	252.92	253.44	6.88	3.75	-7.50
2,522.00	52.60	77.30	2,423.26	-12.59	276.70	276.98	5.76	5.48	-2.26
2,554.00	54.10	77.00	2,442.36	-6.88	301.73	301.76	4.75	4.69	-0.94
2,585.00	56.00	77.80	2,460.12	-1.34	326.53	326.31	6.48	6.13	2.58
2,617.00	57.80	79.40	2,477.59	3.95	352.80	352.35	7.01	5.63	5.00
2,649.00	60.20	80.90	2,494.08	8.64	379.83	379.16	8.51	7.50	4.69
2,680.00	62.90	81.80	2,508.84	12.74	406.77	405.91	9.08	8.71	2.90
2,712.00	65.30	83.50	2,522.82	16.41	435.32	434.28	8.89	7.50	5.31
2,743.00	68.20	84.80	2,535.06	19.31	463.65	462.47	10.12	9.35	4.19
2,775.00	71.00	86.70	2,546.21	21.53	493.55	492.26	10.37	8.75	5.94
2,807.00	73.70	90.20	2,555.91	22.35	524.03	522.68	13.41	8.44	10.94
2,838.00	76.00	89.20	2,564.02	22.51	553.95	552.57	8.05	7.42	-3.23
2,870.00	77.20	91.20	2,571.43	22.40	585.07	583.67	7.14	3.75	6.25
2,901.00	78.60	92.70	2,577.93	21.36	615.36	613.98	6.54	4.52	4.84
2,933.00	80.70	92.80	2,583.68	19.85	646.81	645.46	6.57	6.56	0.31
2,965.00	82.80	93.30	2,588.27	18.17	678.43	677.12	6.74	6.56	1.56
2,996.00	84.70	83.40	2,591.65	19.06	709.19	707.82	32.33	6.13	-31.94
3,028.00	86.00	94.90	2,594.26	19.53	741.03	739.61	36.05	4.06	35.94
3,122.00	86.60	95.00	2,600.32	11.43	834.48	833.32	0.65	0.64	0.11
3,217.00	89.00	95.00	2,603.97	3.16	929.04	928.14	2.53	2.53	0.00
3,312.00	89.70	95.10	2,605.05	-5.20	1,023.67	1,023.03	0.74	0.74	0.11
3,406.00	89.80	94.80	2,605.46	-13.31	1,117.32	1,116.93	0.34	0.11	-0.32
3,501.00	89.20	94.50	2,606.29	-21.01	1,212.00	1,211.85	0.71	-0.63	-0.32
3,596.00	88.00	93.90	2,608.61	-27.97	1,306.71	1,306.77	1.41	-1.26	-0.63
3,691.00	87.70	91.90	2,612.17	-32.77	1,401.52	1,401.69	2.13	-0.32	-2.11
3,785.00	87.30	91.50	2,616.27	-35.56	1,495.39	1,495.59	0.60	-0.43	-0.43
3,880.00	87.70	91.20	2,620.42	-37.79	1,590.27	1,590.49	0.53	0.42	-0.32
3,975.00	88.50	86.30	2,623.57	-35.72	1,685.17	1,685.22	5.22	0.84	-5.16
4,071.00	87.70	89.00	2,626.75	-31.79	1,781.02	1,780.84	2.93	-0.83	2.81
4,166.00	88.10	90.80	2,630.23	-31.62	1,875.96	1,875.68	1.94	0.42	1.89
4,261.00	89.40	93.50	2,632.31	-35.18	1,970.85	1,970.65	3.15	1.37	2.84
4,356.00	88.50	95.20	2,634.05	-42.39	2,065.56	2,065.57	2.02	-0.95	1.79
4,450.00	88.60	96.60	2,636.42	-52.05	2,159.03	2,159.36	1.49	0.11	1.49
4,544.00	89.00	96.00	2,638.39	-62.36	2,252.44	2,253.11	0.77	0.43	-0.64
4,639.00	88.00	97.00	2,640.88	-73.11	2,346.80	2,347.82	1.49	-1.05	1.05
4,734.00	87.60	98.60	2,644.53	-85.99	2,440.85	2,442.32	1.73	-0.42	1.68
4,828.00	86.90	98.70	2,649.04	-100.11	2,533.67	2,535.64	0.75	-0.74	0.11
4,923.00	87.80	98.30	2,653.43	-114.14	2,627.52	2,629.99	1.04	0.95	-0.42
Last MWD Survey									
4,966.00	88.20	98.10	2,654.93	-120.27	2,670.06	2,672.74	1.04	0.93	-0.47
Proj to Bit									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,080.00	2,079.33	-34.11	18.80	Tie-In to MWD Survey #1
2,173.00	2,168.49	-36.40	43.99	First MWD Survey
4,923.00	2,653.43	-114.14	2,627.52	Last MWD Survey
4,966.00	2,654.93	-120.27	2,670.06	Proj to Bit



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Survey Report



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Project:	Eddy Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3305.00ft (Original Well Elev)
Site:	Condor 7 Fed Com #3H	MD Reference:	WELL @ 3305.00ft (Original Well Elev)
Well:	Condor 7 Fed Com #3H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 2003.21 Single User Db

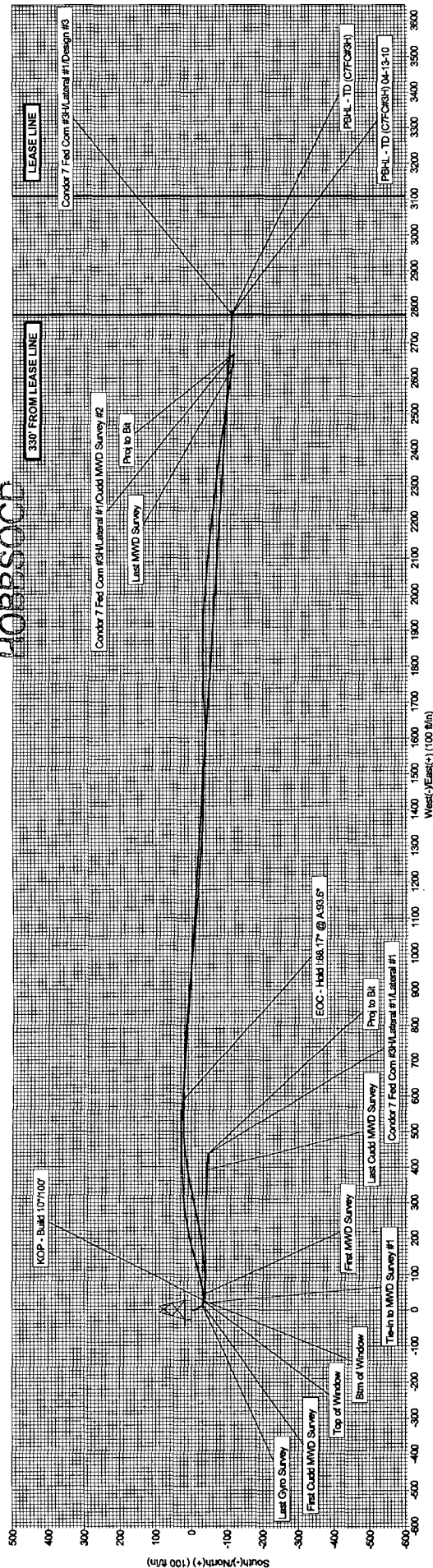
Checked By: _____	Approved By: _____	Date: _____
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Project: Eddy Co., New Mexico (Nad 83)
Site: Condon 7 Fed Com #3H
Well: Condon 7 Fed Com #3H
Wellbore: Lateral #1
Design: Design #3



WELLBORE TARGET DETAILS (MAP COORDINATES AND LAT/LONG)									
Name	TVD	+E/W	+N/S	Northing	Easting	Latitude	Longitude	Shape	Point
PBHL - TD (C7FCR3H) 04-13-10	2660.00	-113.71	2776.38	642041.16	546443.45	32° 45' 54.014" N	104° 19' 38.778" W		

Plan: Design #3 (Condon 7 Fed Com #3H-Lateral #1)

Created By: Mike Starkey Date: 8/31/2010

Checked: _____ Date: _____

Reviewed: _____ Date: _____

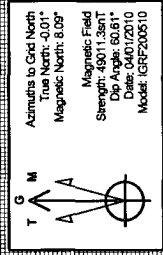
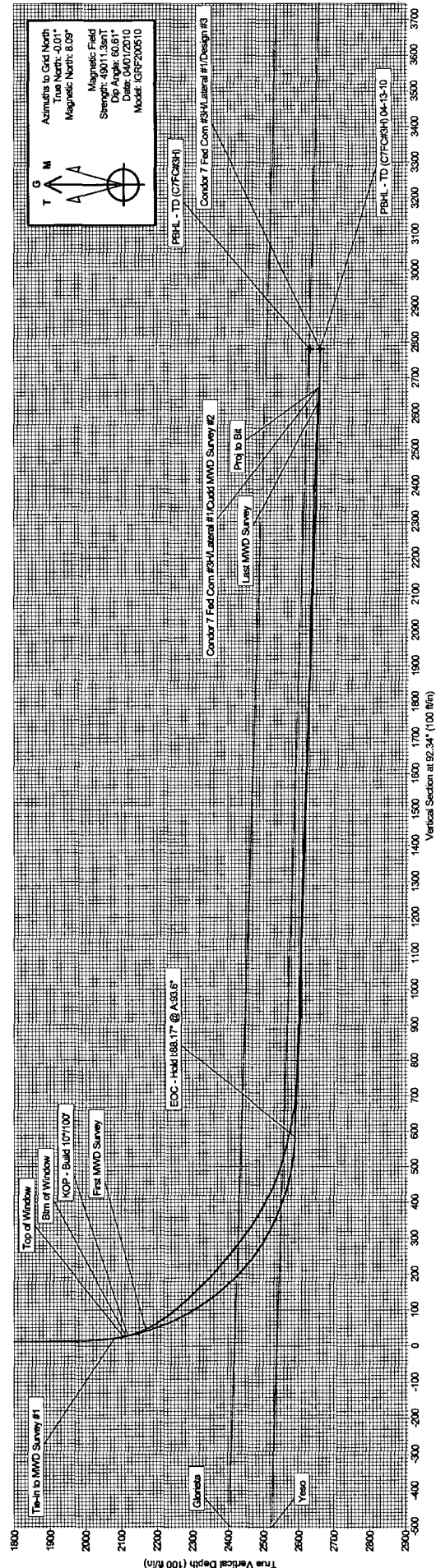
Approved: _____ Date: _____

WELL DETAILS: Condon 7 Fed Com #3H					
Ground Level	3290.00				
WELL @ 3305.00ft (Original Well Elev)					
+E/W	0.00	+N/S	0.00	Longitude	104° 19' 38.778" W
Northing	642154.87	Easting	546555.08	Latitude	32° 45' 55.144" N

SECTION DETAILS									
Sec	MD	Inc	Asl	TVD	+E/W	+N/S	DLog	TFace	VSec
1	2060.00	7.80	104.20	2075.33	-34.11	18.80	0.00	0.00	20.17
2	2107.00	10.41	101.33	2105.99	-35.04	22.97	9.81	-11.29	24.38
3	2120.00	12.50	99.00	2118.71	-35.53	25.62	32.06	0.00	27.24
4	2220.00	21.73	79.44	2214.21	-32.45	54.70	10.00	-30.00	55.98
5	2220.00	31.49	74.50	2303.52	-22.05	98.18	10.00	-15.00	99.00
6	2420.00	41.49	74.50	2383.81	-6.18	155.42	10.00	0.00	155.55
7	2514.85	88.17	93.60	2560.00	24.00	587.40	10.00	25.47	585.93
8	2514.85	88.17	93.60	2560.00	24.00	587.40	10.00	25.47	585.93
9	2514.85	88.17	93.60	2560.00	24.00	587.40	10.00	25.47	585.93

PROJECT DETAILS: Eddy Co., New Mexico (Nad 83)			
Geodetic System:	US State Plane 1983		
Datum:	North American Datum 1983		
Ellipsoid:	GRS 1980		
System Datum:	Mean Sea Level		

ANNOTATIONS			
TVD	MD	Annotation	
2105.99	2107.00	Top of Window	
2113.83	2115.00	Bottom of Window	
2118.71	2120.00	KOP - Build 107100	
2380.00	2314.04	EOC - Hold 158.17' @ A-33.6'	



Azimuths to Grid North
True North: 0.01°
Magnetic North: 8.05°
Shape: NAD 83
Datum: NAD 83
Date: 04/01/2010
Model: GRS200510