

Results of Directional Survey

API number:	30-025-39365		
OGRID:		Operator:	DEVON ENERGY PRODUCTION CO LP
		Property:	NANA 30 FEDERAL # 1H

surface	ULSTR:	I	30	T	18S	R	32E
				2310	FSL	660	FEL

BH Loc	ULSTR:	P	30	T	18S	R	32E
9807	MD	8287.1	TVD	359	FSL	677	FEL

Top Perf/OH	ULSTR:	P	30	T	18S	R	32E
9295	MD	8281.2	TVD	871	FSL	674	FEL

Bot Perf/OH	ULSTR:	P	30	T	18S	R	32E
9697	MD	8285.4	TVD	469	FSL	678	FEL

	MD	N/S	E/W	VD
	9257	-1401.13	-13.57	8280.83
TOP PERFS/OH	9295	-1439.12	-14.20	8281.23
	9352	-1496.11	-15.15	8281.83
	9636	-1780.08	-18.13	8284.56
BOT PERFS/OH	9697	-1841.07	-17.81	8285.36
	9731	-1875.07	-17.63	8285.80

NEXT TO LAST	9731	-1875.07	-17.63	8285.80
LAST READING	9757	-1901.06	-17.36	8286.23
TD	9807	-1951.04	-16.84	8287.06

Surface Location	2310	FS	660	FE
Projected BHL	359	FS	677	FE
Location of				
Top Perfs/OH	871	FS	674	FE
Bottom Perfs/OH	469	FS	678	FE

SUMMARY of Subsurface Locations

Surface Location	I-30-18S-32E	2310	FS	660	FE	Vert. Depth
Top Perfs/OH	P-30-18S-32E	871	FS	674	FE	8281.23
Bottom Perfs/OH	P-30-18S-32E	469	FS	678	FE	8285.36
Projected TD	P-30-18S-32E	359	FS	677	FE	8287.06



Devon Energy

Lea Co., New Mexico (Nad 83)

NANA 30 Fed #1H

NANA 30 Fed #1H

30-025-39365

Lateral #1

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SEP 28 2010

HOBBSOCD

Survey: Cudd MWD Survey #1

Standard Survey Report

16 July, 2010

SUR @ I-30-18S-32E, 2310/S & 660/E
BHL @ P-30-18s-32e, 359/S & 677/E
API # 30-025-39365





CUDD Drilling & Measurement Services
Survey Report



Company:	Devon Energy	Local Co-ordinate Reference:	Site NANA 30 Fed #1H
Project:	Lea Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3725.00ft (Original Well Elev)
Site:	NANA 30 Fed #1H	MD Reference:	WELL @ 3725.00ft (Original Well Elev)
Well:	NANA 30 Fed #1H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 2003.21 Midland Server

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	NANA 30 Fed #1H, Sec 30, T-18S, R-32E				
Site Position:		Northing:	625,225.99 ft	Latitude:	32° 43' 3.536 N
From:	Map	Easting:	705,601.49 ft	Longitude:	103° 47' 57.229 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.29 °

Well	NANA 30 Fed #1H					
Well Position	+N/-S	0.00 ft	Northing:	625,225.99 ft	Latitude:	32° 43' 3.536 N
	+E/-W	0.00 ft	Easting:	705,601.49 ft	Longitude:	103° 47' 57.229 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,709.00 ft

Wellbore	Lateral #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/2/2010	7.83	60.65	49,015

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	179.63	

Survey Program	Date 7/16/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	7,200.00	Gyro Survey #1 (Lateral #1)	NS-GYRO-MS	North sensing gyrocompassing m/s
7,259.00	9,807.00	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)
7,200.00	1.43	274.07	7,198.79	35.25	35.78	-35.02	0.00	0.00	0.00
7,259.00	1.80	267.80	7,257.76	35.27	34.12	-35.05	0.69	0.63	-10.63
7,291.00	1.70	265.50	7,289.75	35.21	33.14	-35.00	0.38	-0.31	-7.19
7,323.00	1.10	261.60	7,321.74	35.13	32.37	-34.92	1.90	-1.88	-12.19
7,354.00	0.70	106.90	7,352.74	35.03	32.25	-34.82	5.67	-1.29	-499.03
7,386.00	4.50	126.60	7,384.70	34.22	33.45	-34.01	12.03	11.88	61.56
7,418.00	8.50	137.60	7,416.49	31.73	36.05	-31.49	13.04	12.50	34.38
7,450.00	11.80	147.50	7,447.98	27.22	39.41	-26.97	11.63	10.31	30.94
7,481.00	14.40	162.30	7,478.18	20.87	42.28	-20.60	13.63	8.39	47.74
7,513.00	17.30	170.90	7,508.97	12.38	44.25	-12.09	11.64	9.06	26.88
7,544.00	20.10	175.50	7,538.33	2.52	45.39	-2.22	10.20	9.03	14.84
7,576.00	23.10	177.40	7,568.08	-9.24	46.11	9.54	9.63	9.38	5.94



CUDD Drilling & Measurement Services

Survey Report



Company:	Devon Energy	Local Co-ordinate Reference:	Site NANA 30 Fed #1H
Project:	Lea Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3725.00ft (Original Well Elev)
Site:	NANA 30 Fed #1H	MD Reference:	WELL @ 3725.00ft (Original Well Elev)
Well:	NANA 30 Fed #1H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 2003.21 Midland Server

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)
7,608.00	25.70	178.90	7,597.22	-22.45	46.53	22.75	8.35	8.13	4.69
7,639.00	28.00	179.00	7,624.88	-36.45	46.78	36.75	7.42	7.42	0.32
7,671.00	29.70	178.80	7,652.90	-51.89	47.08	52.19	5.32	5.31	-0.63
7,703.00	29.70	178.10	7,680.70	-67.73	47.51	68.04	1.08	0.00	-2.19
7,735.00	29.30	177.40	7,708.55	-83.48	48.13	83.79	1.65	-1.25	-2.19
7,766.00	30.70	180.90	7,735.40	-98.97	48.35	99.28	7.23	4.52	11.29
7,798.00	31.80	181.90	7,762.76	-115.57	47.94	115.87	3.80	3.44	3.13
7,829.00	32.80	183.30	7,788.96	-132.11	47.19	132.41	4.03	3.23	4.52
7,861.00	34.30	183.90	7,815.63	-149.76	46.07	150.06	4.80	4.69	1.88
7,892.00	37.10	184.10	7,840.80	-167.81	44.81	168.09	9.04	9.03	0.65
7,924.00	39.60	184.00	7,865.89	-187.61	43.41	187.89	7.81	7.81	-0.31
7,956.00	41.40	183.40	7,890.23	-208.35	42.07	208.61	5.76	5.63	-1.88
7,988.00	42.90	183.40	7,913.95	-229.78	40.80	230.04	4.69	4.69	0.00
8,019.00	44.70	183.70	7,936.32	-251.20	39.47	251.45	5.84	5.81	0.97
8,051.00	47.00	184.40	7,958.61	-274.10	37.84	274.34	7.36	7.19	2.19
8,083.00	48.90	184.80	7,980.04	-297.78	35.94	298.01	6.01	5.94	1.25
8,115.00	49.90	185.30	8,000.87	-321.98	33.80	322.20	3.34	3.13	1.56
8,146.00	51.50	185.80	8,020.50	-345.86	31.48	346.06	5.31	5.16	1.61
8,178.00	53.30	185.00	8,040.03	-371.10	29.09	371.28	5.96	5.63	-2.50
8,210.00	54.60	183.70	8,058.86	-396.90	27.13	397.06	5.22	4.06	-4.06
8,241.00	56.30	183.00	8,076.44	-422.38	25.64	422.54	5.79	5.48	-2.26
8,273.00	58.10	183.10	8,093.77	-449.24	24.21	449.39	5.63	5.63	0.31
8,305.00	59.90	183.10	8,110.25	-476.63	22.73	476.77	5.63	5.63	0.00
8,337.00	61.70	183.10	8,125.86	-504.52	21.22	504.65	5.63	5.63	0.00
8,368.00	63.70	183.00	8,140.08	-532.03	19.75	532.15	6.46	6.45	-0.32
8,400.00	65.90	183.60	8,153.70	-560.93	18.08	561.04	7.08	6.88	1.88
8,432.00	67.90	183.60	8,166.26	-590.31	16.23	590.40	6.25	6.25	0.00
8,463.00	69.70	183.80	8,177.47	-619.15	14.37	619.23	5.84	5.81	0.65
8,495.00	71.40	183.50	8,188.12	-649.26	12.45	649.33	5.39	5.31	-0.94
8,527.00	73.10	183.10	8,197.88	-679.69	10.70	679.74	5.44	5.31	-1.25
8,559.00	75.50	182.40	8,206.54	-710.45	9.22	710.50	7.79	7.50	-2.19
8,591.00	76.50	182.30	8,214.28	-741.48	7.95	741.51	3.14	3.13	-0.31
8,622.00	76.50	182.40	8,221.52	-771.59	6.71	771.62	0.31	0.00	0.32
8,654.00	77.60	182.30	8,228.69	-802.75	5.43	802.77	3.45	3.44	-0.31
8,686.00	78.10	182.10	8,235.42	-834.01	4.23	834.02	1.68	1.56	-0.63
8,718.00	78.20	182.00	8,241.99	-865.31	3.11	865.31	0.44	0.31	-0.31
8,749.00	78.00	181.70	8,248.39	-895.63	2.13	895.63	1.15	-0.65	-0.97
8,781.00	78.40	181.50	8,254.93	-926.94	1.26	926.93	1.39	1.25	-0.63
8,813.00	80.40	181.50	8,260.82	-958.38	0.43	958.37	6.25	6.25	0.00
8,845.00	82.40	181.70	8,265.60	-990.01	-0.45	989.99	6.28	6.25	0.63
8,876.00	83.80	181.90	8,269.32	-1,020.77	-1.42	1,020.74	4.56	4.52	0.65
8,908.00	84.50	182.00	8,272.59	-1,052.58	-2.50	1,052.55	2.21	2.19	0.31
8,940.00	85.50	181.80	8,275.38	-1,084.44	-3.56	1,084.40	3.19	3.13	-0.63
8,971.00	86.50	181.60	8,277.54	-1,115.35	-4.48	1,115.30	3.29	3.23	-0.65
9,003.00	87.90	181.70	8,279.10	-1,147.30	-5.40	1,147.24	4.39	4.38	0.31
9,035.00	88.10	182.30	8,280.22	-1,179.26	-6.51	1,179.20	1.98	0.63	1.88
9,067.00	89.40	182.50	8,280.92	-1,211.23	-7.85	1,211.15	4.11	4.06	0.63
9,162.00	90.60	181.70	8,280.92	-1,306.16	-11.33	1,306.06	1.52	1.26	-0.84
9,257.00	89.50	181.00	8,280.83	-1,401.13	-13.57	1,401.02	1.37	-1.16	-0.74
9,352.00	89.30	180.90	8,281.83	-1,496.11	-15.15	1,495.98	0.24	-0.21	-0.11
9,447.00	89.30	180.90	8,282.99	-1,591.09	-16.64	1,590.95	0.00	0.00	0.00
9,542.00	89.70	180.50	8,283.82	-1,686.08	-17.80	1,685.93	0.60	0.42	-0.42
9,636.00	89.40	179.90	8,284.56	-1,780.08	-18.13	1,779.93	0.71	-0.32	-0.64
9,731.00	89.10	179.50	8,285.80	-1,875.07	-17.63	1,874.92	0.53	-0.32	-0.42



CUDD Drilling & Measurement Services
Survey Report



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Project:	Lea Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3725.00ft (Original Well Elev)
Site:	NANA 30 Fed #1H	MD Reference:	WELL @ 3725.00ft (Original Well Elev)
Well:	NANA 30 Fed #1H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 2003 21 Midland Server

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)
9,757.00	89.00	179.30	8,286.23	-1,901.06	-17.36	1,900.91	0.86	-0.38	-0.77
9,807.00	89.00	179.30	8,287.10	-1,951.05	-16.75	1,950.90	0.00	0.00	0.00

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
9,757.00	8,286.23	35.25	35.78	Last Cudd MWD Survey
9,807.00	8,287.10	35.25	35.76	Proj. To TD

Checked By: _____	Approved By: _____	Date: _____
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Project: Lea Co., New Mexico (Nad 83)
 Site: NANA 30 Fed #1H
 Well: NANA 30 Fed #1H
 Wellbore: Lateral #1
 Design: Design #1



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec	Target
1	7400 00	176	260 20	7398 71	35 30	30 32	0 00	0 00	-35.10	
2	8711 35	89 00	179 79	8240 88	-797 00	8 25	6 78	-80.44	797 03	
3	9864 04	89 00	179 79	8261 00	-1949 50	12 42	0 00	0 00	1949 54	PBHL - TD N30F#1H)

ANNOTATIONS

TVD	MD	Annotation
7398.71	7400.00	KOP - Build 6.76°/100'
8240.88	8711.36	EOC - Hold 1.89 0° @ A:179.79°

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD N30F#1H)	8261 00	-1949 50	12 42	823276.50	705813 91	32° 42' 44 246 N	103° 47' 57.199 W	Point

Plan: Design #1 (NANA 30 Fed #1H/Lateral #1)

Created By: Mike Starkey Date: 11 40, July 16 2010
 Checked: _____ Date: _____
 Reviewed: _____ Date: _____
 Approved: _____ Date: _____

WELL DETAILS NANA 30 Fed #1H

Ground Level 3709 00					
WELL @ 3725 00ft (Original Well Elev)					
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0 00	0 00	825225.99	705601 49	32° 43' 3 536 N	103° 47' 57 229 W

PROJECT DETAILS: Lea Co., New Mexico (Nad 83)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level



Azimuths to Grid North
 True North: -0 29°
 Magnetic North: 7 54°
 Magnetic Field
 Strength: 49014.5nT
 Dip Angle: 60 65°
 Date: 7/2/2010
 Model: IGRF200510

