



**NM OIL CONSERVATION
ARTESIA DISTRICT**

FEB 05 2019

RECEIVED

July 31, 2018

30-015-44962

Devon Energy Production Company, LP
Well: Coral PWU 28-27 62H
County/Parish: Eddy County, NM

LEAM MWD: (OH) from 0' MD – 16,612' MD
Projection; 16,693' MD

This Borehole Survey taken between 07/12/18 and 07/26/18 had been conducted and calculated according to the highest professional standards and complies with all known State and Federal requirements.

Reviewed and Approved:

Date: July 31, 2018



Survey Certification Form

State of New Mexico

Eddy County

I, Randy W. Rakowitz, certify that; I am employed by LEAM Drilling Services, that I did on the day(s) of 07/12/2018 through 07/26/2018, conduct or supervise the taking of MWD Survey from a depth of 0' MD to 16,693' MD; that the data is true, correct, complete and within the limitations of the tools as set forth by LEAM Drilling Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Devon Energy Production Company, LP for the Coral PWU 28-27 62H in Eddy County, New Mexico; and that I reviewed this report and find that it conforms to the principals and procedures as set forth by LEAM Drilling Services.

A handwritten signature in black ink, appearing to read 'Randy W. Rakowitz', written over a solid horizontal line.

Randy W. Rakowitz
MWD Operations Coordinator

LEAM Drilling Services

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well PWU 28-27 62H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3300.5' + KB 26' @ 3326.50usft (H&P 466)
Site:	Coral	MD Reference:	GE 3300.5' + KB 26' @ 3326.50usft (H&P 466)
Well:	PWU 28-27 62H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User Db

Project	Eddy County, NM (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	Coral				
Site Position:		Northing:	595,949.65 usft	Latitude:	32° 38' 17.0628 N
From:	Lat/Long	Easting:	617,115.75 usft	Longitude:	104° 5' 13.7695 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.13 °

Well	PWU 28-27 62H					
Well Position	+N/-S	0.00 usft	Northing:	592,241.10 usft	Latitude:	32° 37' 40.3123 N
	+E/-W	0.00 usft	Easting:	619,405.50 usft	Longitude:	104° 4' 47.0945 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,300.50 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/25/2018	7.37	60.43	48,089

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	90.00	

Survey Program	Date 7/31/2018				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	16,612.00	Survey #1 (OH)	LEAM MWD+HDGM	MWD+HDGM	
16,693.00	16,693.00	Survey #2 (OH)	Project	Projection	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.40	260.83	100.00	-0.06	-0.34	-0.34	0.40	0.40	0.00
183.00	0.75	277.05	182.99	-0.04	-1.17	-1.17	0.46	0.42	19.54
304.00	1.14	267.74	303.98	0.01	-3.16	-3.16	0.35	0.32	-7.69
397.00	1.23	277.23	396.96	0.10	-5.07	-5.07	0.23	0.10	10.20
489.00	1.23	280.29	488.94	0.40	-7.02	-7.02	0.07	0.00	3.33
582.00	1.36	283.38	581.91	0.84	-9.08	-9.08	0.16	0.14	3.32
674.00	1.45	281.10	673.89	1.31	-11.28	-11.28	0.12	0.10	-2.48
767.00	0.97	262.73	766.87	1.44	-13.22	-13.22	0.66	-0.52	-19.75
859.00	0.70	261.10	858.86	1.26	-14.55	-14.55	0.29	-0.29	-1.77

LEAM Drilling Services

Survey Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: Coral
Well: PWU 28-27 62H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well PWU 28-27 62H
TVD Reference: GE 3300.5' + KB 26' @ 3326.50usft (H&P 466)
MD Reference: GE 3300.5' + KB 26' @ 3326.50usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
952.00	0.53	238.18	951.85	0.94	-15.47	-15.47	0.32	-0.18	-24.65
1,044.00	0.35	237.24	1,043.85	0.57	-16.07	-16.07	0.20	-0.20	-1.02
1,136.00	0.31	220.19	1,135.85	0.22	-16.47	-16.47	0.11	-0.04	-18.53
1,229.00	0.40	207.09	1,228.84	-0.26	-16.78	-16.78	0.13	0.10	-14.09
1,321.00	0.31	218.34	1,320.84	-0.74	-17.08	-17.08	0.12	-0.10	12.23
1,414.00	0.31	225.64	1,413.84	-1.11	-17.42	-17.42	0.04	0.00	7.85
1,506.00	0.35	231.61	1,505.84	-1.46	-17.81	-17.81	0.06	0.04	6.49
1,599.00	0.48	226.49	1,598.84	-1.91	-18.32	-18.32	0.15	0.14	-5.51
1,693.00	0.31	232.58	1,692.83	-2.33	-18.81	-18.81	0.19	-0.18	6.48
1,787.00	0.31	204.63	1,786.83	-2.72	-19.11	-19.11	0.16	0.00	-29.73
1,882.00	0.44	207.62	1,881.83	-3.27	-19.39	-19.39	0.14	0.14	3.15
1,976.00	0.31	212.37	1,975.83	-3.81	-19.69	-19.69	0.14	-0.14	5.05
2,070.00	0.26	207.80	2,069.83	-4.21	-19.93	-19.93	0.06	-0.05	-4.86
2,165.00	0.26	203.31	2,164.83	-4.60	-20.12	-20.12	0.02	0.00	-4.73
2,259.00	0.35	186.44	2,258.83	-5.08	-20.23	-20.23	0.13	0.10	-17.95
2,354.00	0.40	190.22	2,353.82	-5.70	-20.32	-20.32	0.06	0.05	3.98
2,448.00	0.44	198.57	2,447.82	-6.36	-20.50	-20.50	0.08	0.04	8.88
2,542.00	0.57	191.89	2,541.82	-7.16	-20.71	-20.71	0.15	0.14	-7.11
2,637.00	0.53	194.35	2,636.81	-8.05	-20.91	-20.91	0.05	-0.04	2.59
2,731.00	0.62	192.59	2,730.81	-8.97	-21.13	-21.13	0.10	0.10	-1.87
2,825.00	0.62	197.16	2,824.80	-9.95	-21.39	-21.39	0.05	0.00	4.86
2,920.00	0.88	199.62	2,919.79	-11.13	-21.79	-21.79	0.28	0.27	2.59
3,014.00	0.83	200.94	3,013.78	-12.44	-22.28	-22.28	0.06	-0.05	1.40
3,108.00	0.70	205.16	3,107.78	-13.60	-22.76	-22.76	0.15	-0.14	4.49
3,203.00	0.83	203.23	3,202.77	-14.76	-23.28	-23.28	0.14	0.14	-2.03
3,297.00	0.83	212.19	3,296.76	-15.96	-23.91	-23.91	0.14	0.00	9.53
3,384.00	0.70	203.31	3,383.75	-16.98	-24.46	-24.46	0.20	-0.15	-10.21
3,484.00	0.70	199.10	3,483.74	-18.12	-24.90	-24.90	0.05	0.00	-4.21
3,579.00	0.60	210.50	3,578.74	-19.09	-25.34	-25.34	0.17	-0.11	12.00
3,672.00	0.50	204.70	3,671.73	-19.88	-25.76	-25.76	0.12	-0.11	-6.24
3,767.00	0.50	234.80	3,766.73	-20.50	-26.27	-26.27	0.27	0.00	31.68
3,861.00	0.50	277.50	3,860.73	-20.68	-27.01	-27.01	0.39	0.00	45.43
3,954.00	0.50	299.80	3,953.72	-20.43	-27.77	-27.77	0.21	0.00	23.98
4,048.00	0.40	226.70	4,047.72	-20.45	-28.36	-28.36	0.58	-0.11	-77.77
4,143.00	0.50	228.60	4,142.72	-20.95	-28.91	-28.91	0.11	0.11	2.00
4,238.00	0.70	225.50	4,237.71	-21.63	-29.64	-29.64	0.21	0.21	-3.26
4,332.00	0.30	217.90	4,331.71	-22.23	-30.20	-30.20	0.43	-0.43	-8.09
4,426.00	0.10	246.20	4,425.71	-22.45	-30.43	-30.43	0.23	-0.21	30.11
4,520.00	0.30	78.50	4,519.71	-22.44	-30.26	-30.26	0.42	0.21	-178.40
4,615.00	0.26	59.88	4,614.71	-22.28	-29.83	-29.83	0.10	-0.04	-19.60
4,710.00	0.97	37.03	4,709.70	-21.53	-29.16	-29.16	0.78	0.75	-24.05
4,804.00	1.76	27.01	4,803.67	-19.61	-28.02	-28.02	0.87	0.84	-10.66
4,898.00	1.49	32.98	4,897.63	-17.30	-26.70	-26.70	0.34	-0.29	6.35

LEAM Drilling Services

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Well:	PWU 28-27 62H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,993.00	1.32	22.09	4,992.61	-15.25	-25.62	-25.62	0.33	-0.18	-11.46
5,087.00	1.67	15.23	5,086.57	-12.92	-24.85	-24.85	0.42	0.37	-7.30
5,181.00	1.06	1.34	5,180.55	-10.73	-24.47	-24.47	0.73	-0.65	-14.78
5,276.00	0.88	279.61	5,275.54	-9.73	-25.17	-25.17	1.34	-0.19	-86.03
5,370.00	1.41	275.56	5,369.52	-9.50	-27.03	-27.03	0.57	0.56	-4.31
5,465.00	0.35	258.86	5,464.51	-9.44	-28.48	-28.48	1.14	-1.12	-17.58
5,559.00	0.26	277.14	5,558.50	-9.47	-28.98	-28.98	0.14	-0.10	19.45
5,653.00	0.79	349.21	5,652.50	-8.81	-29.31	-29.31	0.80	0.56	76.67
5,748.00	1.23	10.84	5,747.49	-7.16	-29.24	-29.24	0.61	0.46	22.77
5,842.00	1.58	19.10	5,841.46	-4.95	-28.63	-28.63	0.43	0.37	8.79
5,936.00	0.70	347.28	5,935.44	-3.16	-28.33	-28.33	1.12	-0.94	-33.85
6,030.00	0.26	19.45	6,029.44	-2.40	-28.38	-28.38	0.53	-0.47	34.22
6,125.00	0.70	70.07	6,124.43	-2.00	-27.77	-27.77	0.60	0.46	53.28
6,219.00	1.23	61.81	6,218.42	-1.33	-26.34	-26.34	0.58	0.58	-8.79
6,313.00	1.58	56.19	6,312.39	-0.13	-24.37	-24.37	0.40	0.37	-5.98
6,408.00	2.02	64.27	6,407.34	1.33	-21.77	-21.77	0.53	0.46	8.51
6,502.00	1.58	89.23	6,501.30	2.06	-18.99	-18.99	0.95	-0.47	26.55
6,597.00	1.93	109.80	6,596.25	1.54	-16.17	-16.17	0.75	0.37	21.65
6,692.00	2.29	126.85	6,691.19	-0.14	-13.15	-13.15	0.76	0.38	17.95
6,817.00	1.23	184.86	6,816.14	-2.98	-11.26	-11.26	1.55	-0.85	46.41
6,912.00	1.41	137.57	6,911.12	-4.86	-10.56	-10.56	1.13	0.19	-49.78
7,006.00	1.49	153.04	7,005.09	-6.80	-9.23	-9.23	0.42	0.09	16.46
7,101.00	0.88	220.19	7,100.07	-8.46	-9.14	-9.14	1.48	-0.64	70.68
7,196.00	1.23	253.24	7,195.05	-9.31	-10.58	-10.58	0.72	0.37	34.79
7,290.00	1.41	218.08	7,289.03	-10.51	-12.26	-12.26	0.87	0.19	-37.40
7,384.00	0.26	134.94	7,383.02	-11.57	-12.83	-12.83	1.49	-1.22	-88.45
7,479.00	0.62	336.38	7,478.02	-11.25	-12.88	-12.88	0.91	0.38	-166.91
7,573.00	1.23	326.19	7,572.01	-9.95	-13.64	-13.64	0.67	0.65	-10.84
7,667.00	1.14	303.86	7,665.99	-8.59	-14.98	-14.98	0.50	-0.10	-23.76
7,761.00	1.23	279.86	7,759.97	-7.89	-16.75	-16.75	0.53	0.10	-25.53
7,855.00	1.85	198.92	7,853.94	-9.16	-18.24	-18.24	2.18	0.66	-86.11
7,950.00	3.34	179.23	7,948.84	-13.38	-18.70	-18.70	1.81	1.57	-20.73
8,044.00	2.37	193.30	8,042.73	-18.01	-19.11	-19.11	1.27	-1.03	14.97
8,138.00	1.14	202.44	8,136.68	-20.76	-19.91	-19.91	1.34	-1.31	9.72
8,233.00	0.53	233.37	8,231.67	-21.90	-20.63	-20.63	0.78	-0.64	32.56
8,327.00	0.97	160.78	8,325.66	-22.91	-20.71	-20.71	1.02	0.47	-77.22
8,422.00	1.06	177.12	8,420.65	-24.54	-20.41	-20.41	0.32	0.09	17.20
8,471.00	1.49	181.52	8,469.64	-25.63	-20.40	-20.40	0.90	0.88	8.98
8,518.00	3.43	120.70	8,516.60	-26.96	-19.21	-19.21	6.38	4.13	-129.40
8,565.00	8.79	106.99	8,563.32	-28.73	-14.56	-14.56	11.74	11.40	-29.17
8,613.00	14.16	102.95	8,610.34	-31.12	-5.32	-5.32	11.31	11.19	-8.42
8,660.00	19.43	95.03	8,655.33	-33.10	8.08	8.08	12.20	11.21	-16.85
8,707.00	23.74	93.10	8,699.02	-34.29	25.32	25.32	9.29	9.17	-4.11

LEAM Drilling Services

Survey Report

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User Db

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8,754.00	28.05	96.97	8,741.29	-36.15	45.75	45.75	9.85	9.17	8.23
8,802.00	34.12	100.48	8,782.39	-39.97	70.21	70.21	13.19	12.65	7.31
8,849.00	38.60	98.73	8,820.23	-44.59	97.68	97.68	9.78	9.53	-3.72
8,896.00	43.09	94.86	8,855.78	-48.18	128.19	128.19	10.96	9.55	-8.23
8,943.00	47.22	90.82	8,888.92	-49.79	161.45	161.45	10.69	8.79	-8.60
8,990.00	52.32	86.95	8,919.27	-49.05	197.30	197.30	12.54	10.85	-8.23
9,037.00	57.42	87.65	8,946.31	-47.24	235.69	235.69	10.92	10.85	1.49
9,084.00	59.36	90.29	8,970.95	-46.53	275.70	275.70	6.32	4.13	5.62
9,131.00	64.19	89.94	8,993.17	-46.61	317.10	317.10	10.30	10.28	-0.74
9,179.00	68.06	88.71	9,012.59	-46.09	360.98	360.98	8.40	8.06	-2.56
9,226.00	71.14	87.65	9,028.97	-44.69	405.00	405.00	6.89	6.55	-2.26
9,273.00	73.34	86.95	9,043.31	-42.58	449.71	449.71	4.89	4.68	-1.49
9,320.00	75.53	88.18	9,055.92	-40.66	494.94	494.94	5.30	4.66	2.62
9,367.00	77.65	89.76	9,066.82	-39.84	540.65	540.65	5.57	4.51	3.36
9,414.00	81.07	88.00	9,075.50	-38.93	586.82	586.82	8.15	7.28	-3.74
9,462.00	86.26	85.89	9,080.79	-36.39	634.44	634.44	11.66	10.81	-4.40
9,576.00	90.04	87.00	9,084.47	-29.32	748.14	748.14	3.46	3.32	0.97
9,669.00	89.78	88.92	9,084.62	-26.01	841.08	841.08	2.08	-0.28	2.06
9,761.00	89.78	89.45	9,084.97	-24.70	933.07	933.07	0.58	0.00	0.58
9,855.00	89.87	89.62	9,085.26	-23.94	1,027.06	1,027.06	0.20	0.10	0.18
9,949.00	89.96	89.80	9,085.40	-23.47	1,121.06	1,121.06	0.21	0.10	0.19
10,043.00	90.22	89.80	9,085.25	-23.14	1,215.06	1,215.06	0.28	0.28	0.00
10,137.00	88.64	89.45	9,086.19	-22.52	1,309.05	1,309.05	1.72	-1.68	-0.37
10,231.00	88.64	89.62	9,088.42	-21.76	1,403.02	1,403.02	0.18	0.00	0.18
10,326.00	88.81	89.80	9,090.53	-21.28	1,498.00	1,498.00	0.26	0.18	0.19
10,420.00	89.34	89.97	9,092.05	-21.09	1,591.99	1,591.99	0.59	0.56	0.18
10,515.00	89.60	89.97	9,092.93	-21.04	1,686.98	1,686.98	0.27	0.27	0.00
10,609.00	89.69	89.97	9,093.51	-20.99	1,780.98	1,780.98	0.10	0.10	0.00
10,704.00	90.04	89.97	9,093.73	-20.94	1,875.98	1,875.98	0.37	0.37	0.00
10,798.00	90.57	90.15	9,093.23	-21.04	1,969.98	1,969.98	0.60	0.56	0.19
10,892.00	89.78	89.80	9,092.95	-21.00	2,063.98	2,063.98	0.92	-0.84	-0.37
10,986.00	89.16	89.80	9,093.82	-20.67	2,157.97	2,157.97	0.66	-0.66	0.00
11,081.00	89.08	89.62	9,095.27	-20.19	2,252.96	2,252.96	0.21	-0.08	-0.19
11,175.00	88.90	89.62	9,096.93	-19.57	2,346.94	2,346.94	0.19	-0.19	0.00
11,269.00	89.43	89.80	9,098.30	-19.09	2,440.93	2,440.93	0.60	0.56	0.19
11,363.00	89.69	88.74	9,099.02	-17.89	2,534.92	2,534.92	1.16	0.28	-1.13
11,457.00	90.66	88.74	9,098.74	-15.83	2,628.89	2,628.89	1.03	1.03	0.00
11,551.00	91.45	89.09	9,097.01	-14.05	2,722.86	2,722.86	0.92	0.84	0.37
11,646.00	91.28	88.39	9,094.74	-11.96	2,817.81	2,817.81	0.76	-0.18	-0.74
11,740.00	90.84	88.39	9,093.00	-9.32	2,911.76	2,911.76	0.47	-0.47	0.00
11,834.00	90.48	89.97	9,091.92	-7.97	3,005.74	3,005.74	1.72	-0.38	1.68
11,928.00	90.57	90.50	9,091.06	-8.36	3,099.73	3,099.73	0.57	0.10	0.56
12,022.00	90.57	90.15	9,090.12	-8.89	3,193.73	3,193.73	0.37	0.00	-0.37
12,116.00	90.40	90.15	9,089.33	-9.14	3,287.72	3,287.72	0.18	-0.18	0.00

LEAM Drilling Services

Survey Report

Company: Devon Energy
 Project: Eddy County, NM (NAD-83)
 Site: Coral
 Well: PWU 28-27 62H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well PWU 28-27 62H
 TVD Reference: GE 3300.5' + KB 26' @ 3326.50usft (H&P 466)
 MD Reference: GE 3300.5' + KB 26' @ 3326.50usft (H&P 466)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Multi User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,210.00	89.96	91.03	9,089.03	-10.11	3,381.72	3,381.72	1.05	-0.47	0.94
12,304.00	89.78	91.03	9,089.25	-11.79	3,475.70	3,475.70	0.19	-0.19	0.00
12,399.00	89.43	91.20	9,089.90	-13.64	3,570.68	3,570.68	0.41	-0.37	0.18
12,494.00	89.34	90.85	9,090.92	-15.34	3,665.66	3,665.66	0.38	-0.09	-0.37
12,589.00	88.20	91.20	9,092.96	-17.04	3,760.62	3,760.62	1.26	-1.20	0.37
12,683.00	87.58	91.56	9,096.42	-19.30	3,854.53	3,854.53	0.76	-0.66	0.38
12,778.00	88.11	91.38	9,099.99	-21.74	3,949.43	3,949.43	0.59	0.56	-0.19
12,872.00	88.20	91.56	9,103.02	-24.15	4,043.35	4,043.35	0.21	0.10	0.19
12,967.00	88.11	91.73	9,106.08	-26.88	4,138.26	4,138.26	0.20	-0.09	0.18
13,061.00	89.25	90.68	9,108.24	-28.85	4,232.21	4,232.21	1.65	1.21	-1.12
13,156.00	89.08	90.85	9,109.63	-30.12	4,327.19	4,327.19	0.25	-0.18	0.18
13,250.00	88.72	91.03	9,111.43	-31.66	4,421.16	4,421.16	0.43	-0.38	0.19
13,344.00	88.81	89.80	9,113.46	-32.34	4,515.14	4,515.14	1.31	0.10	-1.31
13,439.00	89.16	89.62	9,115.14	-31.86	4,610.12	4,610.12	0.41	0.37	-0.19
13,533.00	89.43	89.80	9,116.30	-31.39	4,704.11	4,704.11	0.35	0.29	0.19
13,627.00	89.60	89.80	9,117.09	-31.06	4,798.11	4,798.11	0.18	0.18	0.00
13,722.00	89.87	89.80	9,117.53	-30.73	4,893.11	4,893.11	0.28	0.28	0.00
13,816.00	89.25	89.97	9,118.26	-30.54	4,987.10	4,987.10	0.68	-0.66	0.18
13,911.00	89.16	89.97	9,119.57	-30.49	5,082.10	5,082.10	0.09	-0.09	0.00
14,005.00	89.08	89.97	9,121.02	-30.44	5,176.08	5,176.08	0.09	-0.09	0.00
14,099.00	88.99	90.32	9,122.60	-30.68	5,270.07	5,270.07	0.38	-0.10	0.37
14,193.00	88.72	90.50	9,124.48	-31.35	5,364.05	5,364.05	0.35	-0.29	0.19
14,287.00	88.55	90.50	9,126.72	-32.17	5,458.02	5,458.02	0.18	-0.18	0.00
14,381.00	87.93	90.85	9,129.61	-33.28	5,551.97	5,551.97	0.76	-0.66	0.37
14,475.00	88.64	90.32	9,132.42	-34.23	5,645.92	5,645.92	0.94	0.76	-0.56
14,570.00	89.16	90.15	9,134.24	-34.62	5,740.90	5,740.90	0.58	0.55	-0.18
14,665.00	89.25	89.97	9,135.56	-34.72	5,835.89	5,835.89	0.21	0.09	-0.19
14,759.00	89.60	90.32	9,136.50	-34.96	5,929.89	5,929.89	0.53	0.37	0.37
14,854.00	89.78	89.45	9,137.02	-34.77	6,024.88	6,024.88	0.94	0.19	-0.92
14,948.00	89.78	89.09	9,137.38	-33.57	6,118.88	6,118.88	0.38	0.00	-0.38
15,042.00	89.96	89.45	9,137.59	-32.38	6,212.87	6,212.87	0.43	0.19	0.38
15,136.00	89.96	89.45	9,137.66	-31.47	6,306.86	6,306.86	0.00	0.00	0.00
15,230.00	89.60	88.22	9,138.02	-29.56	6,400.84	6,400.84	1.36	-0.38	-1.31
15,324.00	87.49	88.57	9,140.41	-26.93	6,494.77	6,494.77	2.28	-2.24	0.37
15,418.00	86.97	88.22	9,144.95	-24.30	6,588.62	6,588.62	0.67	-0.55	-0.37
15,512.00	86.53	88.57	9,150.28	-21.67	6,682.43	6,682.43	0.60	-0.47	0.37
15,607.00	87.93	89.62	9,154.87	-20.17	6,777.31	6,777.31	1.84	1.47	1.11
15,701.00	88.37	89.80	9,157.90	-19.70	6,871.26	6,871.26	0.51	0.47	0.19
15,795.00	87.49	89.62	9,161.30	-19.22	6,965.19	6,965.19	0.96	-0.94	-0.19
15,889.00	88.64	90.50	9,164.47	-19.32	7,059.14	7,059.14	1.54	1.22	0.94
15,983.00	88.55	90.85	9,166.78	-20.43	7,153.10	7,153.10	0.38	-0.10	0.37
16,077.00	89.60	91.56	9,168.29	-22.40	7,247.07	7,247.07	1.35	1.12	0.76
16,172.00	90.66	92.08	9,168.08	-25.42	7,342.02	7,342.02	1.24	1.12	0.55

LEAM Drilling Services

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well PWU 28-27 62H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3300.5' + KB 26' @ 3326.50usft (H&P 466)
Site:	Coral	MD Reference:	GE 3300.5' + KB 26' @ 3326.50usft (H&P 466)
Well:	PWU 28-27 62H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,266.00	90.66	91.91	9,167.00	-28.69	7,435.95	7,435.95	0.18	0.00	-0.18
16,360.00	91.01	92.26	9,165.63	-32.11	7,529.88	7,529.88	0.53	0.37	0.37
16,454.00	91.10	91.73	9,163.90	-35.39	7,623.81	7,623.81	0.57	0.10	-0.56
16,549.00	89.87	90.68	9,163.09	-37.38	7,718.78	7,718.78	1.70	-1.29	-1.11
16,612.00	89.78	90.85	9,163.28	-38.22	7,781.77	7,781.77	0.31	-0.14	0.27
16,693.00	89.78	90.85	9,163.59	-39.43	7,862.76	7,862.76	0.00	0.00	0.00
Projection									

Devon Energy

Project: Eddy County, NM (NAD-83)
Site: Coral
Well: PWU 28-27 62H
Wellbore: OH
Design: OH

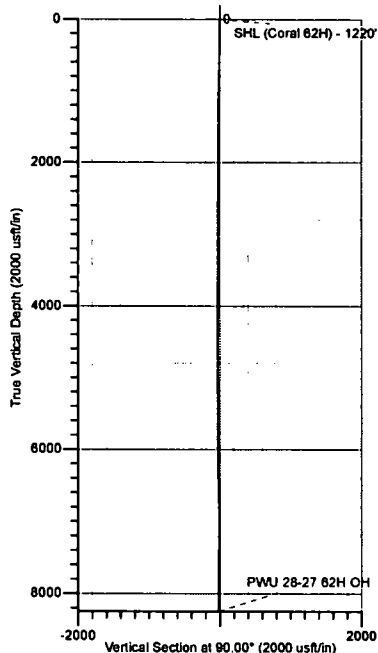


Azimuths to Grid North
True North: -0.14°
Magnetic North: 7.23°

Magnetic Field
Strength: 48088.8nT
Dip Angle: 60.43°
Date: 6/25/2018
Model: HDGM

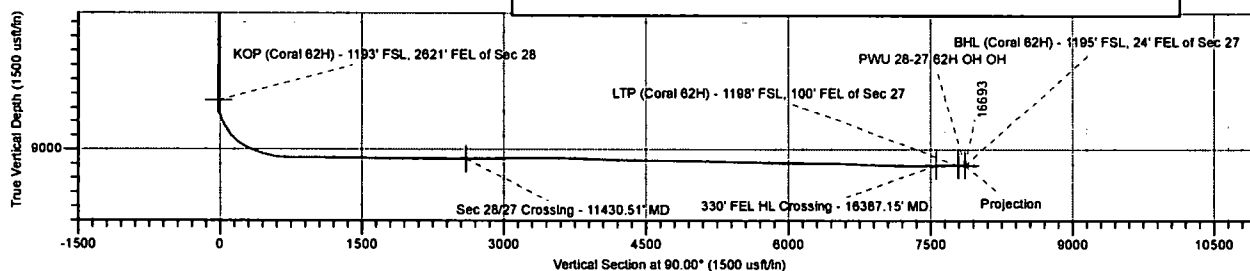
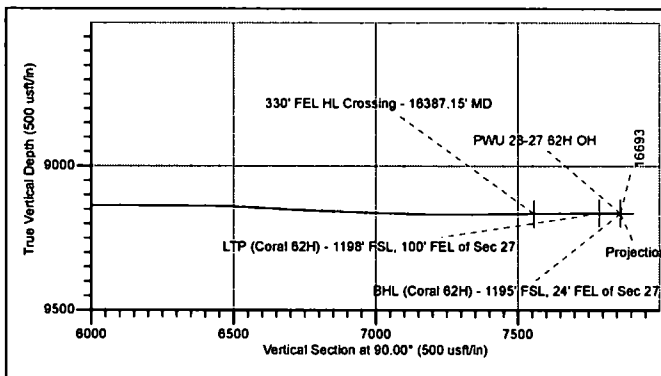
PROJECT DETAILS: Eddy County, NM (NAD-83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
Datum: GE 3300.5' + KB 26' @ 3326.50usft (H&P 466)



DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
330' FEL HL Crossing	9185.14	-33.15	7557.01	592207.95	626982.51	32° 37' 39.7972 N	104° 3' 18.7268 W
BHL (Coral 62H)	9183.59	-39.43	7862.78	592201.67	627268.26	32° 37' 39.7271 N	104° 3' 15.1517 W
KOP (Coral 62H)	8469.84	-25.63	-20.40	592215.47	619385.10	32° 37' 40.0591 N	104° 4' 47.3338 W
LTP (Coral 62H)	9183.31	-38.32	7788.25	592202.78	627193.75	32° 37' 39.7400 N	104° 3' 16.0229 W
Sec 28/27 Crossing	9098.98	-18.41	2602.41	592224.89	622007.91	32° 37' 40.0874 N	104° 4' 18.6634 W
SHL (Coral 62H)	0.00	0.00	0.00	592241.10	619405.50	32° 37' 40.3123 N	104° 4' 47.0945 W

ACTUAL LINE CALLS
SHL: 1220' FSL, 2601' FEL of Sec 28
BHL: 1195' FSL, 24' FEL of Sec 27



LEAM DRILLING SERVICES
2010 East Davis, Conroe, Texas 77301
Phone: 936/756-7577, Fax: 936/756-7595

Design: OH (PWU 28-27 62H OH)
Created By: Dustin Ault
Date: 14/28, August 22 2018
Approved: _____
Date: _____