

30-015-44120



May 19, 2017

Devon Energy Production Company, LP
Well: Agate PWU 21-22 10H
County/Parish: Eddy County, NM

LEAM MWD: (OH) from 230.99' MD – 18,940' MD
Projection: 19,022'

This Borehole Survey taken between 04/27/2017 and 05/12/2017 had been conducted and calculated according to the highest professional standards and complies with all known State and Federal requirements.

Reviewed and Approved:

Date: May 19, 2017

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 08 2018

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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 04/27/2017 through 05/12/2017, conduct or supervise the taking of MWD Survey from a depth of 230.99' MD to 19,022' 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 Agate PWU 21-22 10H 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', is written over a solid horizontal line.

Randy W. Rakowitz
MWD Operations Coordinator

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 08 2018

RECEIVED

LEAM Drilling Systems LLC

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 10H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3314.1' GE + 25' KB @ 3339.10usft
Site:	Agate PWU 21-22	MD Reference:	3314.1' GE + 25' KB @ 3339.10usft
Well:	10H	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	Agate PWU 21-22		
Site Position:		Northing:	601,009.77 usft
From:	Map	Easting:	616,495.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 39' 7.149 N
		Longitude:	104° 5' 20.890 W
		Grid Convergence:	0.13 °

Well	10H		
Well Position	+N/-S	0.00 usft	Northing: 599,684.20 usft
	+E/-W	0.00 usft	Easting: 617,088.53 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 38' 54.018 N
		Longitude:	104° 5' 13.987 W
		Ground Level:	3,314.10 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	4/12/2017	7.48
			(°)
			60.52
			48,229
			(nT)

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

Survey Program	Date 5/18/2017		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
230.99	18,940.00	Survey #1 (OH)	LEAM MWD+HDGM
19,022.00	19,022.00	Survey #2 (OH)	Project
			Description
			MWD+HDGM
			Projection

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230.99	0.44	246.93	230.99	-0.35	-0.82	-0.82	0.19	0.19	0.00
326.79	0.62	229.90	326.78	-0.83	-1.55	-1.55	0.25	0.19	-17.78
435.00	0.50	206.00	434.99	-1.63	-2.21	-2.21	0.24	-0.11	-22.09
527.00	0.40	200.40	526.99	-2.29	-2.49	-2.49	0.12	-0.11	-6.09
618.00	0.40	210.70	617.98	-2.86	-2.77	-2.77	0.08	0.00	11.32
710.00	0.40	196.50	709.98	-3.44	-3.02	-3.02	0.11	0.00	-15.43
802.00	0.10	200.90	801.98	-3.83	-3.14	-3.14	0.33	-0.33	4.78
893.00	0.20	109.70	892.98	-3.95	-3.02	-3.02	0.25	0.11	-100.22
985.00	0.30	93.00	984.98	-4.02	-2.63	-2.63	0.13	0.11	-18.15

LEAM Drilling Systems LLC

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Site:	Agate PWU 21-22	MD Reference:	3314.1' GE + 25' KB @ 3339.10usft
Well:	10H	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)
1,077.00	0.20	150.60	1,076.98	-4.17	-2.31	-2.31	0.28	-0.11	62.61
1,168.00	0.30	109.30	1,167.98	-4.39	-2.01	-2.01	0.22	0.11	-45.38
1,261.00	0.20	110.00	1,260.98	-4.53	-1.62	-1.62	0.11	-0.11	0.75
1,353.00	0.30	73.60	1,352.98	-4.51	-1.24	-1.24	0.20	0.11	-39.57
1,448.00	0.20	34.80	1,447.98	-4.31	-0.91	-0.91	0.20	-0.11	-40.84
1,544.00	0.30	71.70	1,543.97	-4.09	-0.57	-0.57	0.19	0.10	38.44
1,640.00	0.40	42.90	1,639.97	-3.77	-0.11	-0.11	0.21	0.10	-30.00
1,735.00	0.50	18.80	1,734.97	-3.13	0.25	0.25	0.22	0.11	-25.37
1,831.00	0.70	44.40	1,830.96	-2.32	0.80	0.80	0.34	0.21	26.67
1,927.00	0.60	38.60	1,926.96	-1.50	1.52	1.52	0.12	-0.10	-6.04
2,022.00	0.50	24.00	2,021.95	-0.74	2.00	2.00	0.18	-0.11	-15.37
2,118.00	0.40	349.80	2,117.95	-0.02	2.11	2.11	0.29	-0.10	-35.63
2,213.00	0.40	283.70	2,212.95	0.38	1.73	1.73	0.46	0.00	-69.58
2,309.00	1.00	276.80	2,308.94	0.56	0.57	0.57	0.63	0.63	-7.19
2,404.00	1.70	265.20	2,403.91	0.54	-1.66	-1.66	0.79	0.74	-12.21
2,500.00	2.50	260.30	2,499.85	0.07	-5.14	-5.14	0.85	0.83	-5.10
2,595.00	3.20	255.00	2,594.73	-0.97	-9.74	-9.74	0.79	0.74	-5.58
2,691.00	4.00	254.90	2,690.54	-2.53	-15.56	-15.56	0.83	0.83	-0.10
2,786.00	4.90	255.60	2,785.25	-4.41	-22.69	-22.69	0.95	0.95	0.74
2,882.00	5.80	253.30	2,880.84	-6.82	-31.31	-31.31	0.96	0.94	-2.40
2,978.00	6.20	250.80	2,976.31	-9.92	-40.85	-40.85	0.50	0.42	-2.60
3,080.00	6.90	248.30	3,077.64	-13.99	-51.75	-51.75	0.74	0.69	-2.45
3,176.00	7.20	245.50	3,172.92	-18.62	-62.58	-62.58	0.48	0.31	-2.92
3,271.00	7.20	244.50	3,267.17	-23.65	-73.37	-73.37	0.13	0.00	-1.05
3,366.00	7.10	245.50	3,361.43	-28.65	-84.08	-84.08	0.17	-0.11	1.05
3,431.00	6.90	245.90	3,425.95	-31.91	-91.30	-91.30	0.32	-0.31	0.62
3,546.00	6.90	246.20	3,540.11	-37.52	-103.93	-103.93	0.03	0.00	0.26
3,641.00	6.30	247.60	3,634.48	-41.81	-113.97	-113.97	0.65	-0.63	1.47
3,737.00	5.90	246.40	3,729.94	-45.79	-123.36	-123.36	0.44	-0.42	-1.25
3,832.00	5.40	249.60	3,824.48	-49.30	-132.03	-132.03	0.62	-0.53	3.37
3,928.00	5.50	253.40	3,920.04	-52.19	-140.67	-140.67	0.39	0.10	3.96
4,023.00	5.90	254.30	4,014.57	-54.82	-149.73	-149.73	0.43	0.42	0.95
4,119.00	6.20	252.00	4,110.04	-57.75	-159.41	-159.41	0.40	0.31	-2.40
4,214.00	6.50	252.40	4,204.46	-60.96	-169.42	-169.42	0.32	0.32	0.42
4,310.00	7.30	248.90	4,299.76	-64.80	-180.29	-180.29	0.94	0.83	-3.65
4,405.00	6.90	248.90	4,394.03	-69.03	-191.24	-191.24	0.42	-0.42	0.00
4,501.00	6.90	250.30	4,489.34	-73.05	-202.05	-202.05	0.18	0.00	1.46
4,596.00	6.50	243.10	4,583.69	-77.41	-212.22	-212.22	0.98	-0.42	-7.58
4,692.00	6.80	240.30	4,679.04	-82.68	-222.00	-222.00	0.46	0.31	-2.92
4,787.00	4.70	246.60	4,773.56	-87.01	-230.46	-230.46	2.30	-2.21	6.63
4,882.00	4.20	253.40	4,868.27	-89.55	-237.37	-237.37	0.76	-0.53	7.16
4,978.00	4.90	249.60	4,963.97	-91.99	-244.58	-244.58	0.79	0.73	-3.96
5,073.00	5.40	242.90	5,058.59	-95.44	-252.36	-252.36	0.82	0.53	-7.05

LEAM Drilling Systems LLC

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Well:	10H	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)
5,169.00	6.20	244.00	5,154.10	-99.77	-261.04	-261.04	0.84	0.83	1.15
5,264.00	6.30	244.70	5,248.53	-104.24	-270.36	-270.36	0.13	0.11	0.74
5,359.00	6.40	246.40	5,342.95	-108.59	-279.93	-279.93	0.22	0.11	1.79
5,455.00	6.80	246.20	5,438.31	-113.03	-290.03	-290.03	0.42	0.42	-0.21
5,550.00	6.30	243.40	5,532.69	-117.63	-299.84	-299.84	0.62	-0.53	-2.95
5,645.00	5.30	245.50	5,627.21	-121.78	-308.49	-308.49	1.08	-1.05	2.21
5,741.00	4.70	246.20	5,722.84	-125.21	-316.12	-316.12	0.63	-0.63	0.73
5,836.00	5.40	252.60	5,817.47	-128.12	-323.95	-323.95	0.94	0.74	6.74
5,932.00	5.60	256.10	5,913.03	-130.59	-332.81	-332.81	0.41	0.21	3.65
6,027.00	6.60	252.70	6,007.49	-133.33	-342.52	-342.52	1.12	1.05	-3.58
6,122.00	7.00	249.20	6,101.82	-137.01	-353.14	-353.14	0.61	0.42	-3.68
6,218.00	6.80	247.50	6,197.13	-141.26	-363.86	-363.86	0.30	-0.21	-1.77
6,313.00	6.80	249.40	6,291.46	-145.39	-374.32	-374.32	0.24	0.00	2.00
6,408.00	6.10	256.10	6,385.86	-148.58	-384.49	-384.49	1.08	-0.74	7.05
6,504.00	6.70	252.70	6,481.26	-151.47	-394.79	-394.79	0.74	0.63	-3.54
6,599.00	6.80	259.60	6,575.60	-154.14	-405.61	-405.61	0.86	0.11	7.26
6,631.00	6.80	260.70	6,607.38	-154.79	-409.34	-409.34	0.41	0.00	3.44
6,663.00	6.80	258.50	6,639.15	-155.47	-413.07	-413.07	0.81	0.00	-6.88
6,695.00	7.10	255.70	6,670.92	-156.34	-416.84	-416.84	1.41	0.94	-8.75
6,726.00	7.70	255.60	6,701.66	-157.33	-420.71	-420.71	1.94	1.94	-0.32
6,758.00	8.00	253.10	6,733.36	-158.51	-424.92	-424.92	1.42	0.94	-7.81
6,790.00	7.50	252.00	6,765.07	-159.80	-429.03	-429.03	1.63	-1.56	-3.44
6,822.00	6.90	250.80	6,796.82	-161.08	-432.84	-432.84	1.93	-1.88	-3.75
6,853.00	6.80	247.80	6,827.59	-162.38	-436.29	-436.29	1.20	-0.32	-9.68
6,876.00	6.80	245.40	6,850.43	-163.46	-438.79	-438.79	1.24	0.00	-10.43
6,908.00	7.00	243.10	6,882.20	-165.13	-442.25	-442.25	1.07	0.63	-7.19
6,940.00	7.80	241.70	6,913.93	-167.05	-445.90	-445.90	2.56	2.50	-4.38
6,972.00	8.40	242.00	6,945.61	-169.17	-449.88	-449.88	1.88	1.88	0.94
7,067.00	7.40	236.20	7,039.71	-175.83	-461.09	-461.09	1.34	-1.05	-6.11
7,162.00	7.70	233.90	7,133.89	-182.99	-471.32	-471.32	0.45	0.32	-2.42
7,257.00	7.00	225.80	7,228.11	-190.77	-480.61	-480.61	1.31	-0.74	-8.53
7,353.00	5.60	223.20	7,323.53	-198.27	-488.01	-488.01	1.49	-1.46	-2.71
7,448.00	5.10	225.10	7,418.12	-204.63	-494.17	-494.17	0.56	-0.53	2.00
7,543.00	4.70	227.40	7,512.77	-210.24	-500.03	-500.03	0.47	-0.42	2.42
7,638.00	4.30	242.00	7,607.48	-214.55	-506.04	-506.04	1.27	-0.42	15.37
7,733.00	5.30	245.20	7,702.14	-218.06	-513.17	-513.17	1.09	1.05	3.37
7,828.00	5.40	248.70	7,796.73	-221.52	-521.32	-521.32	0.36	0.11	3.68
7,924.00	4.60	244.80	7,892.36	-224.80	-529.01	-529.01	0.90	-0.83	-4.06
8,019.00	3.80	238.50	7,987.11	-228.07	-535.14	-535.14	0.97	-0.84	-6.63
8,114.00	2.80	229.50	8,081.95	-231.22	-539.59	-539.59	1.18	-1.05	-9.47
8,209.00	1.40	195.30	8,176.89	-233.85	-541.66	-541.66	1.92	-1.47	-36.00
8,274.00	2.10	140.20	8,241.86	-235.53	-541.11	-541.11	2.67	1.08	-84.77
8,341.00	2.80	124.10	8,308.80	-237.39	-538.96	-538.96	1.46	1.04	-24.03

LEAM Drilling Systems LLC

Survey Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: Agate PWU 21-22
Well: 10H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 10H
TVD Reference: 3314.1' GE + 25' KB @ 3339.10usft
MD Reference: 3314.1' GE + 25' KB @ 3339.10usft
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)
8,389.00	8.90	90.70	8,356.54	-238.09	-534.28	-534.28	14.04	12.71	-69.58
8,436.00	14.50	86.30	8,402.54	-237.76	-524.76	-524.76	12.06	11.91	-9.36
8,484.00	21.50	79.60	8,448.17	-235.78	-510.09	-510.09	15.18	14.58	-13.96
8,531.00	26.70	78.90	8,491.06	-232.19	-491.25	-491.25	11.08	11.06	-1.49
8,579.00	33.40	78.50	8,532.58	-227.47	-467.69	-467.69	13.96	13.96	-0.83
8,626.00	38.40	80.10	8,570.64	-222.38	-440.62	-440.62	10.82	10.64	3.40
8,674.00	44.80	84.70	8,606.53	-218.25	-409.05	-409.05	14.77	13.33	9.58
8,722.00	49.20	90.10	8,639.27	-216.72	-374.02	-374.02	12.31	9.17	11.25
8,770.00	54.80	93.50	8,668.82	-217.95	-336.24	-336.24	12.93	11.67	7.08
8,817.00	59.40	94.00	8,694.34	-220.54	-296.87	-296.87	9.83	9.79	1.06
8,865.00	62.50	93.80	8,717.64	-223.39	-255.01	-255.01	6.47	6.46	-0.42
8,912.00	66.00	93.00	8,738.06	-225.89	-212.76	-212.76	7.60	7.45	-1.70
8,960.00	69.00	93.00	8,756.43	-228.21	-168.48	-168.48	6.25	6.25	0.00
9,008.00	71.70	93.00	8,772.56	-230.58	-123.34	-123.34	5.63	5.63	0.00
9,056.00	74.00	92.80	8,786.72	-232.90	-77.54	-77.54	4.81	4.79	-0.42
9,103.00	76.60	91.40	8,798.64	-234.56	-32.11	-32.11	6.24	5.53	-2.98
9,151.00	79.20	90.70	8,808.70	-235.42	14.81	14.81	5.60	5.42	-1.46
9,198.00	81.80	90.30	8,816.46	-235.82	61.16	61.16	5.60	5.53	-0.85
9,262.00	85.00	88.70	8,823.82	-235.27	124.72	124.72	5.58	5.00	-2.50
9,310.00	84.80	88.90	8,828.08	-234.27	172.52	172.52	0.59	-0.42	0.42
9,357.00	84.60	89.80	8,832.43	-233.74	219.32	219.32	1.95	-0.43	1.91
9,405.00	84.20	90.70	8,837.11	-233.94	267.09	267.09	2.04	-0.83	1.88
9,452.00	84.30	90.50	8,841.82	-234.43	313.85	313.85	0.47	0.21	-0.43
9,500.00	85.00	90.80	8,846.29	-234.98	361.64	361.64	1.59	1.46	0.63
9,548.00	86.30	90.70	8,849.93	-235.60	409.49	409.49	2.72	2.71	-0.21
9,596.00	87.10	91.00	8,852.70	-236.31	457.41	457.41	1.78	1.67	0.63
9,643.00	88.20	91.40	8,854.62	-237.30	504.36	504.36	2.49	2.34	0.85
9,691.00	89.70	91.40	8,855.50	-238.47	552.33	552.33	3.13	3.13	0.00
9,738.00	89.80	91.70	8,855.71	-239.74	599.32	599.32	0.67	0.21	0.64
9,833.00	89.60	92.10	8,856.21	-242.89	694.26	694.26	0.47	-0.21	0.42
9,928.00	89.90	92.10	8,856.62	-246.37	789.20	789.20	0.32	0.32	0.00
10,024.00	89.80	91.50	8,856.87	-249.39	885.15	885.15	0.63	-0.10	-0.63
10,119.00	89.80	91.00	8,857.20	-251.46	980.13	980.13	0.53	0.00	-0.53
10,214.00	89.30	90.50	8,857.95	-252.70	1,075.11	1,075.11	0.74	-0.53	-0.53
10,309.00	88.90	90.00	8,859.44	-253.12	1,170.10	1,170.10	0.67	-0.42	-0.53
10,405.00	88.50	90.50	8,861.62	-253.54	1,266.08	1,266.08	0.67	-0.42	0.52
10,500.00	88.20	91.70	8,864.36	-255.36	1,361.02	1,361.02	1.30	-0.32	1.26
10,595.00	88.20	91.40	8,867.34	-257.93	1,455.94	1,455.94	0.32	0.00	-0.32
10,687.00	89.30	90.10	8,869.35	-259.13	1,547.90	1,547.90	1.85	1.20	-1.41
10,780.00	90.30	89.60	8,869.67	-258.89	1,640.90	1,640.90	1.20	1.08	-0.54
10,871.00	90.90	89.30	8,868.72	-258.01	1,731.89	1,731.89	0.74	0.66	-0.33
10,962.00	90.70	89.30	8,867.45	-256.90	1,822.87	1,822.87	0.22	-0.22	0.00
11,055.00	90.80	89.80	8,866.23	-256.17	1,915.86	1,915.86	0.55	0.11	0.54
11,146.00	90.70	90.00	8,865.04	-256.01	2,006.86	2,006.86	0.25	-0.11	0.22

LEAM Drilling Systems LLC

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 10H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3314.1' GE + 25' KB @ 3339.10usft
Site:	Agate PWU 21-22	MD Reference:	3314.1' GE + 25' KB @ 3339.10usft
Well:	10H	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)
11,237.00	90.80	90.30	8,863.85	-256.25	2,097.85	2,097.85	0.35	0.11	0.33
11,329.00	91.60	90.80	8,861.92	-257.13	2,189.82	2,189.82	1.03	0.87	0.54
11,420.00	91.60	91.50	8,859.38	-258.96	2,280.77	2,280.77	0.77	0.00	0.77
11,513.00	91.10	91.70	8,857.19	-261.56	2,373.70	2,373.70	0.58	-0.54	0.22
11,605.00	90.70	91.00	8,855.74	-263.72	2,465.67	2,465.67	0.88	-0.43	-0.76
11,696.00	90.60	91.50	8,854.71	-265.71	2,556.64	2,556.64	0.56	-0.11	0.55
11,787.00	90.50	90.70	8,853.84	-267.45	2,647.62	2,647.62	0.89	-0.11	-0.88
11,879.00	90.10	90.00	8,853.36	-268.02	2,739.61	2,739.61	0.88	-0.43	-0.76
11,971.00	90.10	89.80	8,853.20	-267.86	2,831.61	2,831.61	0.22	0.00	-0.22
12,066.00	89.90	90.00	8,853.20	-267.69	2,926.61	2,926.61	0.30	-0.21	0.21
12,161.00	90.00	90.10	8,853.28	-267.77	3,021.61	3,021.61	0.15	0.11	0.11
12,257.00	89.70	90.00	8,853.53	-267.86	3,117.61	3,117.61	0.33	-0.31	-0.10
12,352.00	89.90	90.10	8,853.86	-267.94	3,212.61	3,212.61	0.24	0.21	0.11
12,447.00	89.60	90.00	8,854.28	-268.02	3,307.61	3,307.61	0.33	-0.32	-0.11
12,542.00	89.40	89.80	8,855.11	-267.86	3,402.61	3,402.61	0.30	-0.21	-0.21
12,638.00	89.30	89.60	8,856.20	-267.35	3,498.60	3,498.60	0.23	-0.10	-0.21
12,733.00	89.20	90.00	8,857.44	-267.02	3,593.59	3,593.59	0.43	-0.11	0.42
12,828.00	89.00	90.00	8,858.93	-267.02	3,688.58	3,688.58	0.21	-0.21	0.00
12,923.00	88.70	90.00	8,860.84	-267.02	3,783.56	3,783.56	0.32	-0.32	0.00
13,018.00	88.50	89.80	8,863.16	-266.86	3,878.53	3,878.53	0.30	-0.21	-0.21
13,112.00	88.90	90.80	8,865.29	-267.35	3,972.50	3,972.50	1.15	0.43	1.06
13,207.00	88.70	90.50	8,867.28	-268.43	4,067.48	4,067.48	0.38	-0.21	-0.32
13,303.00	88.60	90.70	8,869.54	-269.43	4,163.44	4,163.44	0.23	-0.10	0.21
13,398.00	89.50	90.70	8,871.12	-270.59	4,258.42	4,258.42	0.95	0.95	0.00
13,493.00	89.30	90.80	8,872.11	-271.84	4,353.41	4,353.41	0.24	-0.21	0.11
13,589.00	89.30	91.20	8,873.29	-273.51	4,449.39	4,449.39	0.42	0.00	0.42
13,684.00	89.50	91.20	8,874.28	-275.50	4,544.36	4,544.36	0.21	0.21	0.00
13,779.00	89.50	90.70	8,875.11	-277.07	4,639.35	4,639.35	0.53	0.00	-0.53
13,874.00	89.70	91.40	8,875.77	-278.82	4,734.33	4,734.33	0.77	0.21	0.74
13,970.00	89.00	91.00	8,876.86	-280.83	4,830.30	4,830.30	0.84	-0.73	-0.42
14,065.00	88.80	91.20	8,878.68	-282.65	4,925.26	4,925.26	0.30	-0.21	0.21
14,160.00	89.00	91.20	8,880.51	-284.64	5,020.22	5,020.22	0.21	0.21	0.00
14,255.00	88.80	91.40	8,882.33	-286.79	5,115.18	5,115.18	0.30	-0.21	0.21
14,351.00	88.50	90.70	8,884.59	-288.55	5,211.14	5,211.14	0.79	-0.31	-0.73
14,446.00	88.60	90.10	8,887.00	-289.22	5,306.11	5,306.11	0.64	0.11	-0.63
14,541.00	88.50	90.50	8,889.40	-289.71	5,401.07	5,401.07	0.43	-0.11	0.42
14,636.00	88.50	90.50	8,891.89	-290.54	5,496.04	5,496.04	0.00	0.00	0.00
14,731.00	88.00	90.80	8,894.79	-291.62	5,590.99	5,590.99	0.61	-0.53	0.32
14,827.00	88.50	90.70	8,897.72	-292.87	5,686.93	5,686.93	0.53	0.52	-0.10
14,922.00	88.90	90.70	8,899.88	-294.03	5,781.90	5,781.90	0.42	0.42	0.00
15,017.00	89.00	89.30	8,901.62	-294.03	5,876.88	5,876.88	1.48	0.11	-1.47
15,112.00	88.80	88.70	8,903.44	-292.38	5,971.85	5,971.85	0.67	-0.21	-0.63
15,207.00	90.20	88.90	8,904.27	-290.39	6,066.82	6,066.82	1.49	1.47	0.21

LEAM Drilling Systems LLC

Survey Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: Agate PWU 21-22
Well: 10H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 10H
TVD Reference: 3314.1' GE + 25' KB @ 3339.10usft
MD Reference: 3314.1' GE + 25' KB @ 3339.10usft
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)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
15,302.00	90.20	88.70	8,903.94	-288.40	6,161.80	6,161.80	0.21	0.00	-0.21
15,397.00	90.30	89.10	8,903.52	-286.57	6,256.78	6,256.78	0.43	0.11	0.42
15,493.00	90.40	89.10	8,902.94	-285.07	6,352.77	6,352.77	0.10	0.10	0.00
15,588.00	89.30	89.40	8,903.19	-283.82	6,447.76	6,447.76	1.20	-1.16	0.32
15,683.00	89.00	90.00	8,904.60	-283.33	6,542.75	6,542.75	0.71	-0.32	0.63
15,778.00	89.20	89.60	8,906.09	-282.99	6,637.74	6,637.74	0.47	0.21	-0.42
15,873.00	89.70	89.60	8,907.00	-282.33	6,732.73	6,732.73	0.53	0.53	0.00
15,969.00	90.40	90.20	8,906.92	-282.16	6,828.73	6,828.73	0.96	0.73	0.63
16,064.00	90.80	89.90	8,905.92	-282.25	6,923.72	6,923.72	0.53	0.42	-0.32
16,159.00	91.30	91.50	8,904.18	-283.41	7,018.70	7,018.70	1.76	0.53	1.68
16,255.00	90.50	91.50	8,902.67	-285.92	7,114.65	7,114.65	0.83	-0.83	0.00
16,350.00	90.00	92.00	8,902.26	-288.82	7,209.60	7,209.60	0.74	-0.53	0.53
16,445.00	90.20	91.80	8,902.09	-291.97	7,304.55	7,304.55	0.30	0.21	-0.21
16,540.00	89.20	90.60	8,902.59	-293.96	7,399.53	7,399.53	1.64	-1.05	-1.26
16,635.00	88.80	90.10	8,904.25	-294.54	7,494.51	7,494.51	0.67	-0.42	-0.53
16,731.00	89.30	90.20	8,905.84	-294.79	7,590.50	7,590.50	0.53	0.52	0.10
16,826.00	89.40	90.30	8,906.92	-295.21	7,685.49	7,685.49	0.15	0.11	0.11
16,921.00	89.90	90.30	8,907.50	-295.70	7,780.49	7,780.49	0.53	0.53	0.00
17,016.00	89.90	90.10	8,907.66	-296.03	7,875.49	7,875.49	0.21	0.00	-0.21
17,111.00	90.00	89.70	8,907.75	-295.87	7,970.48	7,970.48	0.43	0.11	-0.42
17,206.00	90.30	90.10	8,907.50	-295.70	8,065.48	8,065.48	0.53	0.32	0.42
17,302.00	90.40	90.50	8,906.91	-296.21	8,161.48	8,161.48	0.43	0.10	0.42
17,396.00	90.30	90.60	8,906.34	-297.11	8,255.47	8,255.47	0.15	-0.11	0.11
17,491.00	90.50	91.40	8,905.67	-298.77	8,350.46	8,350.46	0.87	0.21	0.84
17,586.00	88.20	91.90	8,906.75	-301.50	8,445.40	8,445.40	2.48	-2.42	0.53
17,681.00	86.60	91.60	8,911.06	-304.40	8,540.26	8,540.26	1.71	-1.68	-0.32
17,777.00	87.10	90.90	8,916.34	-306.49	8,636.09	8,636.09	0.90	0.52	-0.73
17,873.00	88.30	90.10	8,920.19	-307.33	8,732.01	8,732.01	1.50	1.25	-0.83
17,968.00	90.20	90.70	8,921.43	-307.99	8,826.99	8,826.99	2.10	2.00	0.63
18,064.00	90.00	90.50	8,921.26	-309.00	8,922.99	8,922.99	0.29	-0.21	-0.21
18,160.00	90.00	89.50	8,921.26	-309.00	9,018.99	9,018.99	1.04	0.00	-1.04
18,255.00	89.60	89.30	8,921.60	-308.00	9,113.98	9,113.98	0.47	-0.42	-0.21
18,351.00	89.10	89.70	8,922.69	-307.16	9,209.97	9,209.97	0.67	-0.52	0.42
18,476.00	88.90	89.90	8,924.87	-306.73	9,334.95	9,334.95	0.23	-0.16	0.16
18,542.00	89.00	90.10	8,926.08	-306.73	9,400.94	9,400.94	0.34	0.15	0.30
18,638.00	88.70	89.70	8,928.00	-306.56	9,496.92	9,496.92	0.52	-0.31	-0.42
18,733.00	88.80	89.80	8,930.08	-306.14	9,591.89	9,591.89	0.15	0.11	0.11
18,829.00	89.10	89.80	8,931.83	-305.81	9,687.88	9,687.88	0.31	0.31	0.00
18,925.00	88.90	90.20	8,933.51	-305.81	9,783.86	9,783.86	0.47	-0.21	0.42
18,940.00	88.40	90.30	8,933.86	-305.87	9,798.86	9,798.86	3.40	-3.33	0.67
19,022.00	88.40	90.30	8,936.15	-306.30	9,880.83	9,880.83	0.00	0.00	0.00

Projection