



July 20, 2017

30-015-44200

Devon Energy Production Company, LP
Well: Agate PWU 21 11H
County/Parish: Eddy County, NM

LEAM MWD: (OH) from 279' MD – 13,590' MD
Projection: 13,668'

This Borehole Survey taken between 07/01/2017 and 07/12/2017 had been conducted and calculated according to the highest professional standards and complies with all known State and Federal requirements.

Reviewed and Approved:

Date: July 20, 2017

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 15 2018

RECEIVED



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 07/01/2017 through 07/12/2017, conduct or supervise the taking of MWD Survey from a depth of 279' MD to 13,668' 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 11H 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 15 2016

RECEIVED

LEAM Drilling Systems LLC

Survey Report

Company:	Devon Energy	Well:	11H
Project:	Eddy County, NM (NAD-83)	Well Position:	3323.7' GE + 25' KB @ 3348.70usft
Site:	AGATE PWU 21	Wellhead:	3323.7' GE + 25' KB @ 3348.70usft
Well:	11H	Grid:	Minimum Curvature
Wellhead:	OH	EDM:	EDM 5000.1 MULTI User DB
Design:	OH		

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		

AGATE PWU 21					
Site Position:		Northing:	599,285.26 usft	Latitude:	32° 38' 50.084 N
From:	Map	Easting:	616,483.03 usft	Longitude:	104° 5' 21.079 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.13 °

Well:	11H					
Well Position	+N-S	0.00 usft	Northing:	597,731.43 usft	Latitude:	32° 38' 34.715 N
	+E-W	0.00 usft	Easting:	616,181.09 usft	Longitude:	104° 5' 24.653 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,323.70 usft	

Wellhead	OH				
Designation	Designation	Designation	Designation	Designation	Designation
HDGM	5/1/2017	7.47	60.52	48,222	

Design:	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Datum:					
		0.00	0.00	0.00	90.00

Survey Program:	90.00	145.00	Survey #1 - Gyro (OH)	VES GyroFlex V2
279.00	13,590.00	Survey #2 - MWD (OH)	LEAM MWD+HDGM	MWD+HDGM
13,668.00	13,668.00	Survey #3 (OH)	Project	Projection

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90.00	0.72	117.67	90.00	-0.26	0.50	0.50	0.80	0.80	0.00
145.00	0.62	158.14	144.99	-0.70	0.92	0.92	0.86	-0.18	73.58
279.00	1.10	117.00	278.98	-1.96	2.33	2.33	0.56	0.36	-30.70
334.00	0.90	92.40	333.97	-2.21	3.24	3.24	0.85	-0.36	-44.73
432.00	1.00	80.80	431.96	-2.11	4.85	4.85	0.22	0.10	-11.84
515.00	1.50	61.70	514.94	-1.48	6.52	6.52	0.78	0.60	-23.01
614.00	1.80	46.00	613.90	0.22	8.78	8.78	0.55	0.30	-15.86
706.00	1.60	52.70	705.86	2.00	10.84	10.84	0.31	-0.22	7.28

LEAM Drilling Systems LLC

Survey Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: AGATE PWU 21
Well: 11H
Wellbore: OH
Design: OH

Local Coordinate Reference: Well 11H
TVD Reference: 3323.7' GE + 25' KB @ 3348.70usft
KB Reference: 3323.7' GE + 25' KB @ 3348.70usft
Survey Orientation Method: Grid
Survey: Minimum Curvature
Database: EDM 5000.1 MULTI User DB

Survey

Measured Depth (ft)	Interval (ft)	Interval (ft)	True Vertical Depth (ft)	Interval (ft)	Interval (ft)	Interval (ft)	Interval (ft)	Interval (ft)	Interval (ft)
797.00	1.80	55.00	796.82	3.59	13.02	13.02	0.23	0.22	2.53
888.00	1.80	62.50	887.77	5.07	15.46	15.46	0.26	0.00	8.24
980.00	1.80	67.50	979.73	6.29	18.08	18.08	0.17	0.00	5.43
1,071.00	1.80	50.90	1,070.68	7.74	20.51	20.51	0.57	0.00	-18.24
1,162.00	2.10	27.60	1,161.63	10.11	22.39	22.39	0.92	0.33	-25.60
1,253.00	2.20	24.70	1,252.57	13.18	23.89	23.89	0.16	0.11	-3.19
1,344.00	2.00	21.20	1,343.51	16.25	25.19	25.19	0.26	-0.22	-3.85
1,440.00	2.00	21.40	1,439.45	19.37	26.41	26.41	0.01	0.00	0.21
1,535.00	1.90	16.80	1,534.39	22.42	27.47	27.47	0.20	-0.11	-4.84
1,631.00	1.70	10.70	1,630.35	25.34	28.20	28.20	0.29	-0.21	-6.35
1,727.00	1.50	10.90	1,726.31	27.97	28.70	28.70	0.21	-0.21	0.21
1,822.00	1.20	6.60	1,821.28	30.18	29.05	29.05	0.33	-0.32	-4.53
1,918.00	1.50	14.90	1,917.26	32.40	29.49	29.49	0.37	0.31	8.65
2,014.00	1.30	11.00	2,013.23	34.68	30.02	30.02	0.23	-0.21	-4.06
2,109.00	1.30	13.00	2,108.20	36.79	30.46	30.46	0.05	0.00	2.11
2,205.00	1.10	14.40	2,204.18	38.74	30.94	30.94	0.21	-0.21	1.46
2,301.00	1.30	5.20	2,300.16	40.72	31.27	31.27	0.29	0.21	-9.58
2,396.00	1.40	5.60	2,395.13	42.95	31.48	31.48	0.11	0.11	0.42
2,492.00	1.90	16.30	2,491.09	45.64	32.04	32.04	0.61	0.52	11.15
2,587.00	2.50	14.70	2,586.02	49.16	33.01	33.01	0.63	0.63	-1.68
2,683.00	3.30	19.50	2,681.90	53.79	34.46	34.46	0.87	0.83	5.00
2,778.00	4.10	23.30	2,776.70	59.48	36.72	36.72	0.88	0.84	4.00
2,874.00	5.20	27.70	2,872.38	66.49	40.10	40.10	1.20	1.15	4.58
2,969.00	6.20	28.80	2,966.91	74.79	44.57	44.57	1.06	1.05	1.16
3,065.00	7.30	28.40	3,062.25	84.70	49.97	49.97	1.15	1.15	-0.42
3,161.00	7.50	28.10	3,157.45	95.59	55.82	55.82	0.21	0.21	-0.31
3,246.00	7.20	28.40	3,241.75	105.17	60.97	60.97	0.36	-0.35	0.35
3,348.00	6.70	28.30	3,343.00	116.04	66.83	66.83	0.49	-0.49	-0.10
3,444.00	7.60	27.40	3,438.25	126.60	72.40	72.40	0.94	0.94	-0.94
3,539.00	8.40	28.60	3,532.33	138.27	78.62	78.62	0.86	0.84	1.26
3,634.00	7.60	25.60	3,626.40	150.03	84.65	84.65	0.95	-0.84	-3.16
3,730.00	7.70	26.70	3,721.55	161.50	90.29	90.29	0.18	0.10	1.15
3,825.00	8.50	24.40	3,815.60	173.58	96.05	96.05	0.91	0.84	-2.42
3,921.00	8.00	21.40	3,910.60	186.26	101.41	101.41	0.69	-0.52	-3.13
4,016.00	8.10	21.60	4,004.67	198.64	106.29	106.29	0.11	0.11	0.21
4,112.00	8.40	24.70	4,099.68	211.30	111.71	111.71	0.56	0.31	3.23
4,208.00	8.50	28.80	4,194.63	223.89	118.06	118.06	0.64	0.10	4.27
4,303.00	8.40	30.00	4,288.60	236.05	124.91	124.91	0.21	-0.11	1.26
4,399.00	7.80	30.70	4,383.64	247.72	131.74	131.74	0.63	-0.63	0.73
4,495.00	8.40	31.90	4,478.69	259.28	138.77	138.77	0.65	0.63	1.25
4,590.00	9.40	34.10	4,572.54	271.59	146.79	146.79	1.11	1.05	2.32
4,685.00	8.70	31.90	4,666.36	284.12	154.94	154.94	0.82	-0.74	-2.32
4,781.00	8.40	31.10	4,761.29	296.28	162.39	162.39	0.34	-0.31	-0.83

LEAM Drilling Systems LLC

Survey Report

Company: Devon Energy
 Project: Eddy County, NM (NAD-83)
 Site: AGATE PWU 21
 Well: 11H
 Method: OH
 Datum: OH

Least Squares Adjustment
 Tied Station
 Station
 Station
 Station
 Station

Well 11H
 3323.7' GE + 25' KB @ 3348.70usft
 3323.7' GE + 25' KB @ 3348.70usft
 Grid
 Minimum Curvature
 EDM 5000.1 MULTI User DB

Station	Latitude	Longitude	Height	North	East	Height	North	East	Height
11H	N	W	ft	ft	ft	ft	ft	ft	ft
4,877.00	7.30	27.40	4,856.39	307.70	168.82	168.82	1.26	-1.15	-3.85
4,972.00	8.50	29.30	4,950.49	319.19	175.04	175.04	1.29	1.26	2.00
5,068.00	8.60	31.90	5,045.42	331.47	182.30	182.30	0.42	0.10	2.71
5,163.00	8.70	33.00	5,139.34	343.52	189.97	189.97	0.20	0.11	1.16
5,259.00	8.70	35.60	5,234.24	355.52	198.15	198.15	0.41	0.00	2.71
5,354.00	8.00	30.50	5,328.23	367.05	205.69	205.69	1.07	-0.74	-5.37
5,450.00	7.40	28.80	5,423.36	378.23	212.06	212.06	0.67	-0.63	-1.77
5,545.00	7.70	25.40	5,517.54	389.34	217.73	217.73	0.57	0.32	-3.58
5,641.00	7.80	22.60	5,612.67	401.16	223.00	223.00	0.41	0.10	-2.92
5,736.00	9.00	23.20	5,706.64	413.94	228.40	228.40	1.27	1.26	0.63
5,832.00	8.90	22.60	5,801.48	427.70	234.21	234.21	0.14	-0.10	-0.63
5,927.00	8.30	17.40	5,895.41	441.03	239.09	239.09	1.03	-0.63	-5.47
6,023.00	7.90	20.50	5,990.45	453.82	243.47	243.47	0.62	-0.42	3.23
6,118.00	8.20	28.60	6,084.52	465.88	249.00	249.00	1.23	0.32	8.53
6,214.00	7.70	28.80	6,179.59	477.53	255.37	255.37	0.52	-0.52	0.21
6,309.00	7.70	23.90	6,273.74	488.93	261.02	261.02	0.69	0.00	-5.16
6,405.00	7.00	22.50	6,368.95	500.21	265.86	265.86	0.75	-0.73	-1.46
6,500.00	7.20	26.10	6,463.22	510.91	270.70	270.70	0.51	0.21	3.79
6,596.00	8.00	25.60	6,558.38	522.33	276.23	276.23	0.84	0.83	-0.52
6,692.00	8.50	26.00	6,653.38	534.73	282.23	282.23	0.52	0.52	0.42
6,787.00	8.40	30.00	6,747.35	547.05	288.78	288.78	0.63	-0.11	4.21
6,884.00	9.00	30.40	6,843.24	559.73	296.16	296.16	0.62	0.62	0.41
6,980.00	8.00	27.40	6,938.18	572.14	303.03	303.03	1.14	-1.04	-3.13
7,075.00	7.70	27.70	7,032.29	583.65	309.03	309.03	0.32	-0.32	0.32
7,171.00	5.90	28.40	7,127.61	593.68	314.37	314.37	1.88	-1.88	0.73
7,267.00	5.20	31.40	7,223.16	601.73	318.98	318.98	0.79	-0.73	3.13
7,362.00	5.00	30.00	7,317.79	608.99	323.29	323.29	0.25	-0.21	-1.47
7,458.00	4.70	35.80	7,413.44	615.81	327.69	327.69	0.60	-0.31	6.04
7,553.00	4.80	35.60	7,508.12	622.20	332.28	332.28	0.11	0.11	-0.21
7,649.00	4.50	36.90	7,603.80	628.47	336.88	336.88	0.33	-0.31	1.35
7,744.00	2.90	21.80	7,698.60	633.69	340.01	340.01	1.96	-1.68	-15.89
7,840.00	1.90	1.20	7,794.52	637.53	340.94	340.94	1.36	-1.04	-21.46
7,932.00	0.40	27.40	7,886.50	639.34	341.12	341.12	1.69	-1.63	28.48
7,990.00	0.30	81.70	7,944.50	639.54	341.37	341.37	0.57	-0.17	93.62
8,086.00	0.20	139.90	8,040.50	639.45	341.72	341.72	0.27	-0.10	60.63
8,181.00	0.50	162.40	8,135.49	638.93	341.95	341.95	0.34	0.32	23.68
8,277.00	2.20	115.10	8,231.46	637.75	343.75	343.75	1.98	1.77	-49.27
8,309.00	5.20	82.60	8,263.40	637.67	345.75	345.75	11.08	9.38	-101.56
8,341.00	8.20	76.60	8,295.18	638.39	349.40	349.40	9.61	9.38	-18.75
8,373.00	13.10	72.40	8,326.62	640.02	355.08	355.08	15.49	15.31	-13.13
8,421.00	18.80	69.70	8,372.75	644.35	367.53	367.53	11.97	11.88	-5.63
8,468.00	24.10	75.40	8,416.48	649.40	383.94	383.94	12.10	11.28	12.13
8,516.00	27.70	81.90	8,459.66	653.44	404.48	404.48	9.54	7.50	13.54

LEAM Drilling Systems LLC

Survey Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: AGATE PWU 21
Well: 11H
Wellbore: OH
Design: OH

Local Coordinates Reference: Well 11H
TVD Reference: 3323.7' GE + 25' KB @ 3348.70usft
MD Reference: 3323.7' GE + 25' KB @ 3348.70usft
North Reference: Grid
Survey Substation Method: Minimum Curvature
Database: EDM 5000.1 MULTI User DB

Survey

Station	Depth	Angle	Depth	Angle	Depth	Angle	Depth	Angle	Depth
11H	11H	11H	11H	11H	11H	11H	11H	11H	11H
8,564.00	31.70	83.70	8,501.35	656.40	428.07	428.07	8.54	8.33	3.75
8,612.00	34.30	86.20	8,541.60	658.68	454.10	454.10	6.11	5.42	5.21
8,660.00	36.90	82.80	8,580.63	661.38	481.90	481.90	6.81	5.42	-7.08
8,708.00	40.30	82.40	8,618.14	665.24	511.59	511.59	7.10	7.08	-0.83
8,754.15	42.95	83.19	8,652.64	669.08	542.00	542.00	5.85	5.74	1.70
SL Crossing - 8754.15' MD									
8,755.00	43.00	83.20	8,653.26	669.15	542.58	542.58	5.85	5.75	1.62
8,803.00	45.30	85.70	8,687.70	672.37	575.85	575.85	6.01	4.79	5.21
8,851.00	46.50	86.40	8,721.10	674.74	610.24	610.24	2.71	2.50	1.46
8,899.00	50.10	87.50	8,753.03	676.64	646.02	646.02	7.69	7.50	2.29
8,946.00	54.80	88.70	8,781.67	677.86	683.25	683.25	10.20	10.00	2.55
8,994.00	57.80	89.30	8,808.30	678.56	723.17	723.17	6.34	6.25	1.25
9,042.00	59.40	88.50	8,833.30	679.35	764.13	764.13	3.62	3.33	-1.67
9,090.00	62.30	88.10	8,856.68	680.59	806.03	806.03	6.09	6.04	-0.83
9,138.00	66.80	89.10	8,877.30	681.64	849.35	849.35	9.56	9.38	2.08
9,162.51	68.38	89.56	8,886.65	681.91	872.00	872.00	6.69	6.46	1.89
HL Crossing - 9162.51' MD									
9,186.00	69.90	90.00	8,895.01	681.99	893.95	893.95	6.69	6.46	1.85
9,233.00	72.30	90.40	8,910.23	681.83	938.42	938.42	5.17	5.11	0.85
9,281.00	74.00	90.70	8,924.15	681.39	984.35	984.35	3.59	3.54	0.63
9,329.00	75.10	89.70	8,936.93	681.23	1,030.62	1,030.62	3.05	2.29	-2.08
9,377.00	78.30	88.40	8,947.98	682.01	1,077.31	1,077.31	7.17	6.67	-2.71
9,424.00	82.80	86.90	8,955.69	683.91	1,123.62	1,123.62	10.08	9.57	-3.19
9,472.00	86.20	86.00	8,960.29	686.87	1,171.30	1,171.30	7.33	7.08	-1.88
9,520.00	87.50	85.50	8,962.93	690.42	1,219.10	1,219.10	2.90	2.71	-1.04
9,568.00	87.30	85.00	8,965.11	694.39	1,266.88	1,266.88	1.12	-0.42	-1.04
9,616.00	87.00	85.30	8,967.49	698.45	1,314.65	1,314.65	0.88	-0.63	0.63
9,664.00	86.10	83.60	8,970.38	703.08	1,362.34	1,362.34	4.00	-1.88	-3.54
9,712.00	86.30	83.80	8,973.56	708.34	1,409.94	1,409.94	0.59	0.42	0.42
9,760.00	86.80	84.60	8,976.45	713.18	1,457.61	1,457.61	1.96	1.04	1.67
9,807.00	87.20	86.10	8,978.91	716.98	1,504.39	1,504.39	3.30	0.85	3.19
9,855.00	87.80	88.00	8,981.00	719.45	1,552.28	1,552.28	4.15	1.25	3.96
9,903.00	89.10	88.90	8,982.30	720.75	1,600.24	1,600.24	3.29	2.71	1.88
9,951.00	88.80	89.00	8,983.18	721.63	1,648.23	1,648.23	0.66	-0.63	0.21
9,998.00	88.60	90.10	8,984.25	722.00	1,695.21	1,695.21	2.38	-0.43	2.34
10,094.00	87.40	90.00	8,987.60	721.91	1,791.15	1,791.15	1.25	-1.25	-0.10
10,190.00	87.40	90.40	8,991.95	721.58	1,887.05	1,887.05	0.42	0.00	0.42
10,285.00	88.10	90.00	8,995.68	721.25	1,981.98	1,981.98	0.85	0.74	-0.42
10,381.00	88.50	90.30	8,998.53	721.00	2,077.94	2,077.94	0.52	0.42	0.31
10,477.00	90.70	90.40	8,999.20	720.41	2,173.93	2,173.93	2.29	2.29	0.10
10,572.00	90.10	90.20	8,998.54	719.91	2,268.92	2,268.92	0.67	-0.63	-0.21
10,668.00	90.60	90.10	8,997.95	719.66	2,364.92	2,364.92	0.53	0.52	-0.10
10,764.00	89.80	89.70	8,997.62	719.83	2,460.92	2,460.92	0.93	-0.83	-0.42
10,859.00	88.00	90.10	8,999.44	719.99	2,555.90	2,555.90	1.94	-1.89	0.42

LEAM Drilling Systems LLC

Survey Report

Company: Devon Energy
 Project: Eddy County, NM (NAD-83)
 Site: AGATE PWU 21
 Well: 11H
 Wellbore: OH
 Design: OH

Local Coordinate System:
 TVD Reference:
 BHP Reference:
 North Reference:
 Survey Calculation Method:
 Software:

Well 11H
 3323.7' GE + 25' KB @ 3348.70usft
 3323.7' GE + 25' KB @ 3348.70usft
 Grid
 Minimum Curvature
 EDM 5000.1 MULTI User DB

Survey

Station	True Azimuth	Magnetic Azimuth	True Azimuth	True Azimuth	True Azimuth	True Azimuth	True Azimuth	True Azimuth	True Azimuth
10,955.00	87.70	90.10	9,003.04	719.83	2,651.83	2,651.83	0.31	-0.31	0.00
11,050.00	88.20	89.10	9,006.44	720.49	2,746.76	2,746.76	1.18	0.53	-1.05
11,146.00	90.80	88.50	9,007.28	722.50	2,842.73	2,842.73	2.78	2.71	-0.63
11,241.00	91.20	88.00	9,005.62	725.40	2,937.67	2,937.67	0.67	0.42	-0.53
11,337.00	90.30	88.10	9,004.36	728.67	3,033.61	3,033.61	0.94	-0.94	0.10
11,446.00	89.80	88.90	9,004.27	731.52	3,142.57	3,142.57	0.87	-0.46	0.73
11,541.00	90.30	89.20	9,004.19	733.10	3,237.55	3,237.55	0.61	0.53	0.32
11,637.00	90.90	89.30	9,003.18	734.35	3,333.54	3,333.54	0.63	0.63	0.10
11,733.00	90.90	89.20	9,001.67	735.61	3,429.52	3,429.52	0.10	0.00	-0.10
11,828.00	90.80	89.30	9,000.26	736.85	3,524.50	3,524.50	0.15	-0.11	0.11
11,924.00	89.20	90.00	9,000.26	737.44	3,620.49	3,620.49	1.82	-1.67	0.73
12,020.00	88.50	90.00	9,002.19	737.44	3,716.47	3,716.47	0.73	-0.73	0.00
12,115.00	87.60	89.80	9,005.42	737.60	3,811.42	3,811.42	0.97	-0.95	-0.21
12,211.00	87.70	88.70	9,009.36	738.86	3,907.33	3,907.33	1.15	0.10	-1.15
12,306.00	88.00	89.10	9,012.92	740.68	4,002.24	4,002.24	0.53	0.32	0.42
12,402.00	88.20	87.70	9,016.11	743.36	4,098.15	4,098.15	1.47	0.21	-1.46
12,497.00	87.90	87.10	9,019.34	747.67	4,193.00	4,193.00	0.71	-0.32	-0.63
12,593.00	88.40	87.30	9,022.44	752.35	4,288.83	4,288.83	0.56	0.52	0.21
12,689.00	88.30	86.20	9,025.20	757.80	4,384.64	4,384.64	1.15	-0.10	-1.15
12,784.00	89.00	86.40	9,027.44	763.92	4,479.41	4,479.41	0.77	0.74	0.21
12,880.00	89.70	87.50	9,028.53	769.03	4,575.27	4,575.27	1.36	0.73	1.15
12,975.00	90.80	86.40	9,028.11	774.09	4,670.13	4,670.13	1.64	1.16	-1.16
13,071.00	90.80	88.00	9,026.77	778.77	4,766.00	4,766.00	1.67	0.00	1.67
13,166.00	90.20	88.70	9,025.95	781.51	4,860.96	4,860.96	0.97	-0.63	0.74
13,262.00	89.20	89.40	9,026.45	783.10	4,956.94	4,956.94	1.27	-1.04	0.73
13,357.00	89.30	89.70	9,027.69	783.85	5,051.93	5,051.93	0.33	0.11	0.32
13,453.00	90.40	88.60	9,027.94	785.27	5,147.92	5,147.92	1.62	1.15	-1.15
13,548.00	91.10	88.60	9,026.70	787.59	5,242.88	5,242.88	0.74	0.74	0.00
13,590.00	91.10	89.30	9,025.89	788.36	5,284.87	5,284.87	1.67	0.00	1.67
13,668.00	91.10	89.30	9,024.40	789.31	5,362.84	5,362.84	0.00	0.00	0.00

Projection

Devon Energy

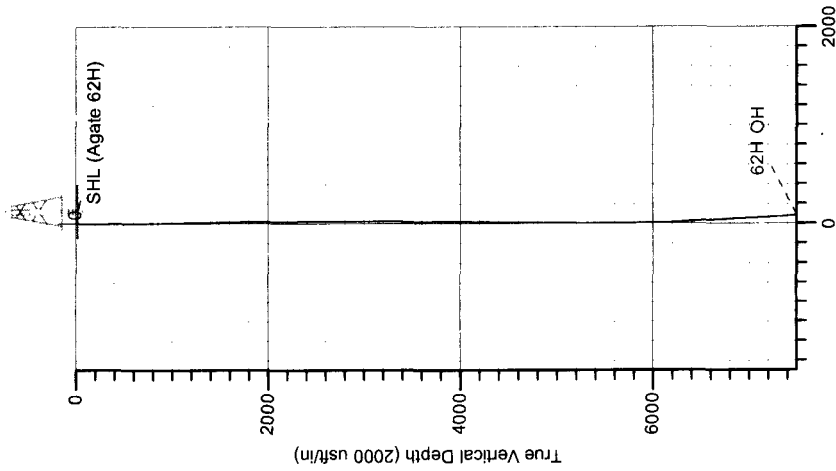
Project: Eddy County, NM (NAD-83)
Site: Agate PWU 21-22
Well: 62H
Wellbore: OH
Design: OH

Azimuths to Grid North
True North: -0.13°
Magnetic North: 7.34°
Magnetic Field
Strength: 48221.5nT
Dip Angle: 60.52°
Date: 5/1/2017
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

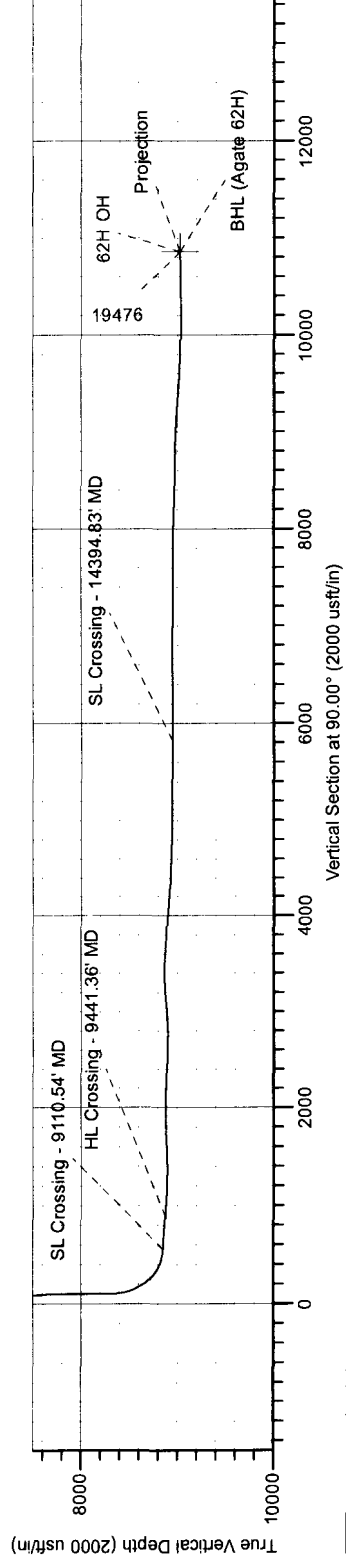
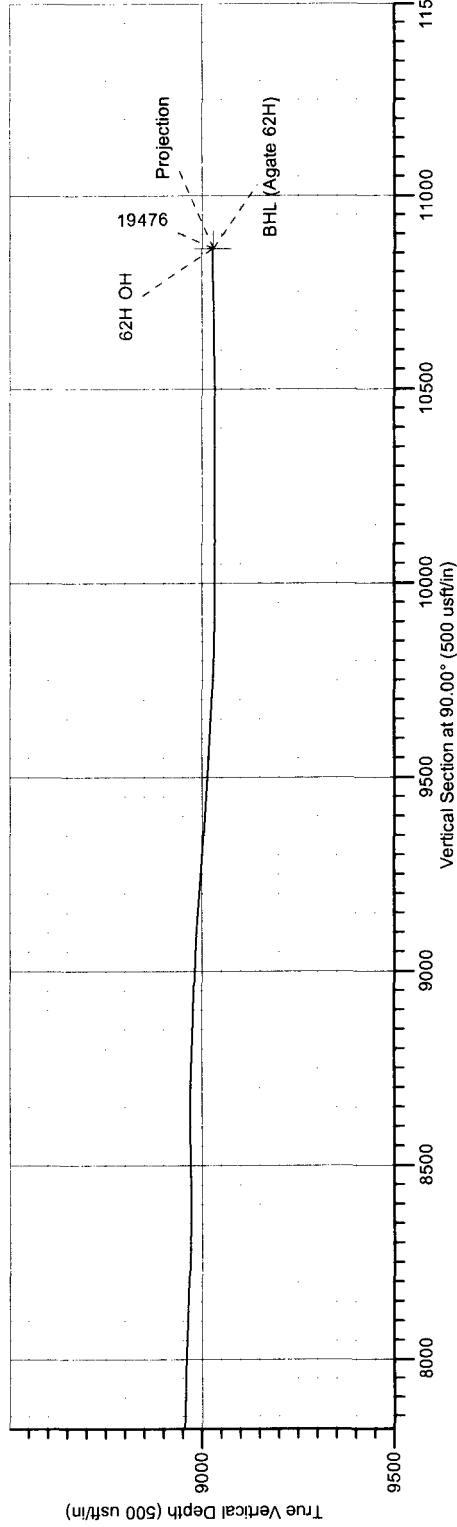


3323.7 GE + 25' KB @ 3348.70usft
Ground Level: 3323.70



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
BHL (Agate 62H)	9028.43	-823.72	10861.31	32° 38' 26.004 N	104° 3' 17.648 W
SHL (Agate 62H)	0.00	0.00	0.00	32° 38' 34.419 N	104° 5' 24.652 W



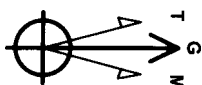
LEAM DRILLING SYSTEMS LLC
2010 East Davis, Conroe, Texas 77301
Phone: 936/756-7577, Fax: 936/756-7595

Design: OH (62H/OH)
Agate PWU 21-22
Created By: Dustin Ault
Date: 14:58, August 15 2017
Approved: _____
Date: _____

Devon Energy

Project: Eddy County, NM (NAD-83)
Site: Agate PWU 21-22
Well: 62H
Wellbore: OH
Design: OH

devon



Azimuths to Grid North
True North: -0.13°
Magnetic North: 7.34°
Magnetic Field
Strength: 48221.5 nT
Dip Angle: 60.52°
Date: 5/12/2017
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

Name
SHL (Agate 62H)
BHL (Agate 62H)

TVD
0.00
9028.43

+N/-S
0.00
-823.72

+E/W
0.00
10861.31

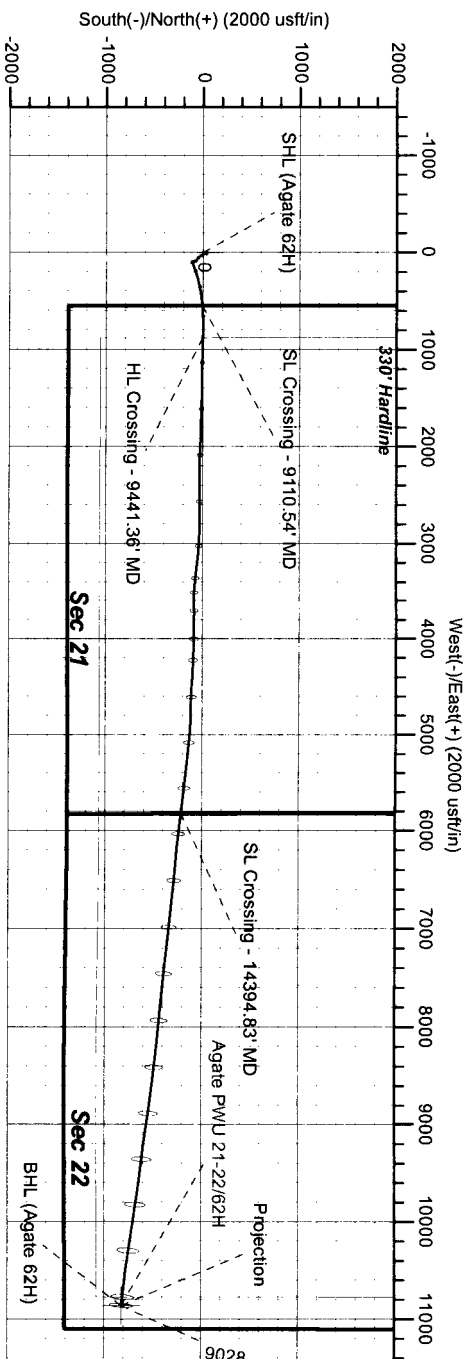
Nothing
597701.49
596877.77

Easting
616181.24
627042.55

Latitude
32° 38' 34.419" N
32° 38' 26.004" N

Longitude
104° 5' 24.652" W
104° 3' 17.648" W

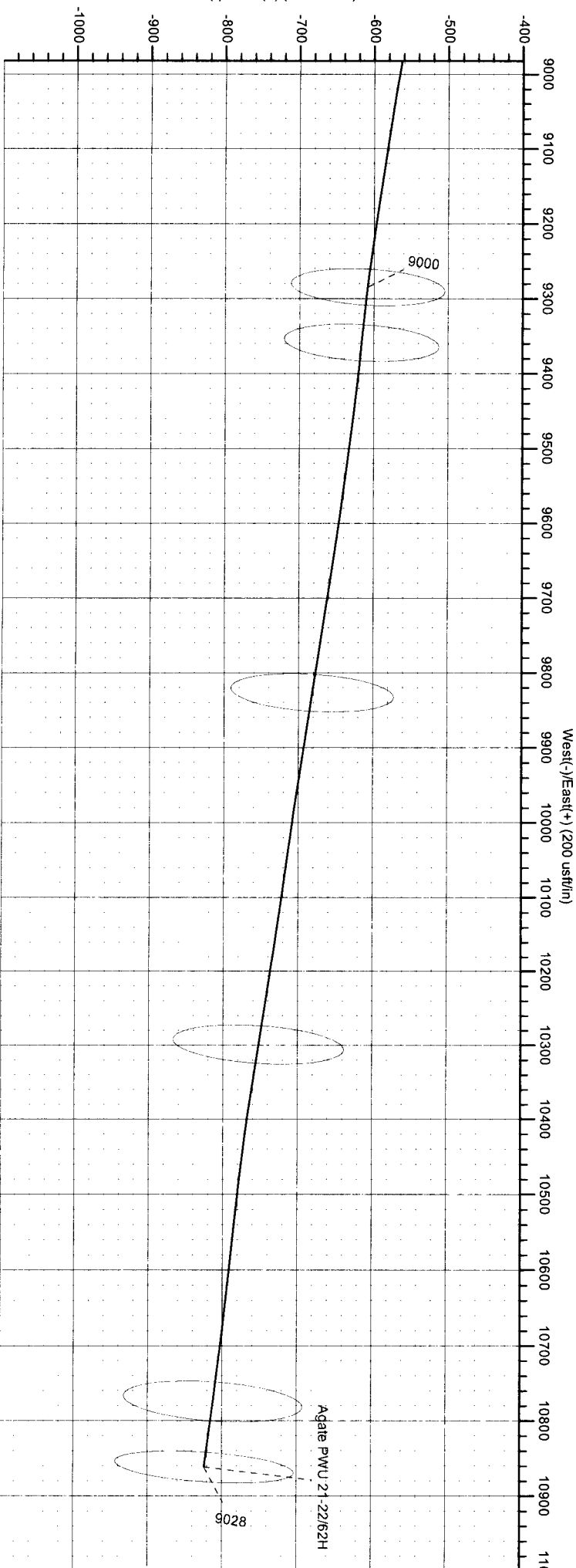
DESIGN TARGET DETAILS



ACTUAL LINE CALLS

SHL: 550' FEL, 1390' FSL of Sec 20
BHL: 238' FEL, 590' FSL of Sec 22

South(-)/North(+) (200 usft/in)



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

Design: OH (62H/OH)
Created By: Dustin Ault
Date: _____
Approved: _____
Date: 14.57, August 15 2017