



Final MWD Survey Certification

Eddy County, NM

Client: Devon Energy

Well Name: Bora Bora 13-24 Fed Com 215H Pilot Hole

Total Job No: SW-200079

API No: 30-015-46117

Start Date: February 03, 2020

End Date: February 19, 2020

Measured Start Depth: 0 feet

Measured End Depth: 13,255 feet

I, Jesse Yerxa, certify that; I am employed by Total Directional Services, LLC and we conducted or supervised the taking of these open hole MWD surveys at the request of this client. This data is true, correct, complete and within the limitations of the tool as set forth by Total Directional Services, LLC. I am authorized and qualified to make this report and have reviewed this report and find that it conforms to the principals and procedures as set forth by Total Directional Services, LLC.

Date: March 10, 2020

Signed: *Jesse Yerxa*



Devon Energy

Eddy County, NM (NAD83)

Bora Bora 13-24 Fed Com

Bora Bora 13-24 Fed Com 215H

OH

Design: OH

Standard Survey Report

14 March, 2020



Company:	Devon Energy	Local Co-ordinate Reference:	Well Bora Bora 13-24 Fed Com 215H
Project:	Eddy County, NM (NAD83)	TVD Reference:	3507' GE + 30' KB @ 3537.00usft
Site:	Bora Bora 13-24 Fed Com	MD Reference:	3507' GE + 30' KB @ 3537.00usft
Well:	Bora Bora 13-24 Fed Com 215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single User Db

Project	Eddy County, NM (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Bora Bora 13-24 Fed Com			
Site Position:		Northing:	477,557.32 usft	Latitude:	32.311421
From:	Map	Easting:	728,695.61 usft	Longitude:	-103.726875
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well							Bora Bora 13-24 Fed Com 215H						
Well Position		+N/-S	0.00 usft	Northing:		477,557.50 usft	Latitude:		32.311421				
		+E/-W	0.00 usft	Easting:		728,725.57 usft	Longitude:		-103.726778				
Position Uncertainty			0.00 usft	Wellhead Elevation:		usft	Ground Level:		3,507.00 usft				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/7/2020	6.75	60.08	47,709.82009638

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	9,869.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.83	

Survey Program	Date	3/14/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
113.00	9,869.00	Survey #1 (Pilot Hole)	OWSG (Rev2) MWD	OWSG MWD - Standard	
9,908.00	20,411.00	Survey #1 (OH)	OWSG (Rev2) MWD	OWSG MWD - Standard	
20,465.00	20,480.00	Survey #2 - Proj to TD (OH)	BLIND	OWSG BLIND	

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	
OH SHL (Bora Bora 13-24 Fed Com 215H)										
113.00	0.30	235.90	113.00	-0.17	-0.24	0.17	0.27	0.27	0.00	
208.00	0.60	211.40	208.00	-0.73	-0.71	0.73	0.37	0.32	-25.79	
303.00	0.40	204.40	302.99	-1.46	-1.11	1.45	0.22	-0.21	-7.37	
397.00	0.50	210.40	396.99	-2.11	-1.45	2.10	0.12	0.11	6.38	
491.00	0.30	208.50	490.99	-2.68	-1.77	2.67	0.21	-0.21	-2.02	
586.00	0.30	261.80	585.99	-2.93	-2.14	2.93	0.28	0.00	56.11	
680.00	0.40	245.00	679.98	-3.11	-2.68	3.10	0.15	0.11	-17.87	

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Well:	Bora Bora 13-24 Fed Com 215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single 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)
775.00	0.60	259.00	774.98	-3.34	-3.47	3.33	0.25	0.21	14.74
880.00	0.60	278.60	879.98	-3.36	-4.55	3.35	0.19	0.00	18.67
993.00	0.80	283.60	992.97	-3.09	-5.90	3.07	0.18	0.18	4.42
1,088.00	0.60	291.40	1,087.96	-2.75	-7.01	2.73	0.23	-0.21	8.21
1,183.00	0.50	289.50	1,182.96	-2.43	-7.87	2.41	0.11	-0.11	-2.00
1,279.00	0.40	288.20	1,278.95	-2.19	-8.58	2.16	0.10	-0.10	-1.35
1,375.00	0.30	307.00	1,374.95	-1.93	-9.10	1.91	0.16	-0.10	19.58
1,471.00	0.10	300.00	1,470.95	-1.74	-9.37	1.71	0.21	-0.21	-7.29
1,567.00	0.20	246.70	1,566.95	-1.76	-9.60	1.74	0.17	0.10	-55.52
1,662.00	0.30	221.00	1,661.95	-2.02	-9.91	1.99	0.16	0.11	-27.05
1,758.00	0.30	207.40	1,757.95	-2.43	-10.19	2.40	0.07	0.00	-14.17
1,854.00	0.30	213.70	1,853.95	-2.86	-10.45	2.83	0.03	0.00	6.56
1,950.00	0.30	215.00	1,949.95	-3.28	-10.73	3.25	0.01	0.00	1.35
2,046.00	0.30	199.80	2,045.94	-3.72	-10.96	3.69	0.08	0.00	-15.83
2,142.00	0.40	185.60	2,141.94	-4.29	-11.08	4.26	0.14	0.10	-14.79
2,237.00	0.50	189.50	2,236.94	-5.03	-11.18	5.00	0.11	0.11	4.11
2,333.00	0.60	182.80	2,332.93	-5.94	-11.27	5.91	0.12	0.10	-6.98
2,427.00	0.50	180.70	2,426.93	-6.85	-11.30	6.81	0.11	-0.11	-2.23
2,523.00	0.60	168.10	2,522.93	-7.76	-11.20	7.72	0.16	0.10	-13.13
2,618.00	0.60	157.10	2,617.92	-8.70	-10.91	8.67	0.12	0.00	-11.58
2,713.00	0.60	137.20	2,712.92	-9.52	-10.38	9.49	0.22	0.00	-20.95
2,809.00	0.60	127.50	2,808.91	-10.20	-9.64	10.17	0.11	0.00	-10.10
2,904.00	0.80	121.40	2,903.90	-10.85	-8.68	10.82	0.22	0.21	-6.42
2,998.00	0.80	123.30	2,997.89	-11.55	-7.57	11.53	0.03	0.00	2.02
3,094.00	0.80	127.70	3,093.88	-12.33	-6.48	12.31	0.06	0.00	4.58
3,189.00	1.00	100.40	3,188.87	-12.88	-5.14	12.87	0.49	0.21	-28.74
3,285.00	1.10	81.70	3,284.86	-12.90	-3.40	12.89	0.37	0.10	-19.48
3,381.00	0.90	105.00	3,380.84	-12.96	-1.76	12.96	0.47	-0.21	24.27
3,476.00	0.80	109.10	3,475.83	-13.37	-0.41	13.37	0.12	-0.11	4.32
3,572.00	0.70	107.90	3,571.82	-13.77	0.78	13.77	0.11	-0.10	-1.25
3,668.00	0.90	109.30	3,667.82	-14.20	2.05	14.21	0.21	0.21	1.46
3,763.00	2.00	123.90	3,762.78	-15.37	4.13	15.39	1.21	1.16	15.37
3,859.00	2.90	128.10	3,858.69	-17.81	7.43	17.83	0.96	0.94	4.38
3,954.00	2.30	143.20	3,953.60	-20.82	10.46	20.85	0.95	-0.63	15.89
4,050.00	2.00	159.20	4,049.53	-23.92	12.21	23.96	0.70	-0.31	16.67
4,146.00	1.80	161.90	4,145.48	-26.92	13.27	26.96	0.23	-0.21	2.81
4,242.00	1.30	167.50	4,241.44	-29.42	13.98	29.46	0.54	-0.52	5.83
4,338.00	1.00	172.70	4,337.42	-31.31	14.32	31.36	0.33	-0.31	5.42
4,433.00	1.10	182.60	4,432.41	-33.05	14.38	33.09	0.22	0.11	10.42
4,529.00	1.00	193.10	4,528.39	-34.78	14.15	34.83	0.23	-0.10	10.94
4,625.00	1.00	192.90	4,624.38	-36.42	13.78	36.46	0.00	0.00	-0.21
4,721.00	1.00	190.90	4,720.36	-38.05	13.43	38.09	0.04	0.00	-2.08
4,816.00	0.90	192.10	4,815.35	-39.60	13.12	39.64	0.11	-0.11	1.26

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Well:	Bora Bora 13-24 Fed Com 215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single 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)
4,912.00	0.70	231.50	4,911.34	-40.70	12.50	40.74	0.60	-0.21	41.04
5,008.00	0.70	236.00	5,007.33	-41.39	11.56	41.43	0.06	0.00	4.69
5,104.00	0.70	238.10	5,103.33	-42.03	10.57	42.06	0.03	0.00	2.19
5,199.00	0.70	237.00	5,198.32	-42.65	9.59	42.68	0.01	0.00	-1.16
5,294.00	1.00	267.80	5,293.31	-43.00	8.28	43.03	0.56	0.32	32.42
5,390.00	1.00	270.70	5,389.29	-43.02	6.60	43.04	0.05	0.00	3.02
5,485.00	1.00	275.60	5,484.28	-42.93	4.95	42.95	0.09	0.00	5.16
5,581.00	1.10	272.80	5,580.26	-42.81	3.19	42.82	0.12	0.10	-2.92
5,677.00	1.10	270.80	5,676.25	-42.75	1.35	42.75	0.04	0.00	-2.08
5,772.00	1.20	269.80	5,771.23	-42.74	-0.55	42.74	0.11	0.11	-1.05
5,867.00	1.10	268.20	5,866.21	-42.77	-2.46	42.76	0.11	-0.11	-1.68
5,963.00	0.80	291.20	5,962.19	-42.56	-4.01	42.55	0.50	-0.31	23.96
6,058.00	0.90	293.60	6,057.18	-42.02	-5.31	42.00	0.11	0.11	2.53
6,153.00	0.90	294.20	6,152.17	-41.41	-6.67	41.39	0.01	0.00	0.63
6,248.00	0.80	288.40	6,247.16	-40.90	-7.98	40.88	0.14	-0.11	-6.11
6,344.00	0.80	288.60	6,343.15	-40.47	-9.25	40.45	0.00	0.00	0.21
6,439.00	0.80	282.60	6,438.14	-40.12	-10.53	40.09	0.09	0.00	-6.32
6,534.00	0.80	294.80	6,533.13	-39.69	-11.78	39.66	0.18	0.00	12.84
6,630.00	0.60	288.60	6,629.13	-39.25	-12.86	39.21	0.22	-0.21	-6.46
6,726.00	0.60	293.00	6,725.12	-38.90	-13.80	38.86	0.05	0.00	4.58
6,821.00	0.50	355.20	6,820.12	-38.29	-14.29	38.25	0.60	-0.11	65.47
6,917.00	1.00	24.10	6,916.11	-37.11	-13.99	37.07	0.64	0.52	30.10
7,012.00	1.40	22.10	7,011.09	-35.28	-13.21	35.24	0.42	0.42	-2.11
7,108.00	1.50	19.90	7,107.06	-33.01	-12.34	32.97	0.12	0.10	-2.29
7,203.00	0.90	12.90	7,202.04	-31.11	-11.75	31.08	0.65	-0.63	-7.37
7,298.00	0.30	304.80	7,297.03	-30.24	-11.79	30.21	0.88	-0.63	-71.68
7,394.00	0.30	305.30	7,393.03	-29.95	-12.20	29.92	0.00	0.00	0.52
7,489.00	0.20	303.50	7,488.03	-29.72	-12.54	29.68	0.11	-0.11	-1.89
7,584.00	0.30	271.40	7,583.03	-29.62	-12.93	29.58	0.18	0.11	-33.79
7,679.00	0.30	260.30	7,678.03	-29.66	-13.42	29.62	0.06	0.00	-11.68
7,774.00	0.30	250.10	7,773.03	-29.78	-13.90	29.74	0.06	0.00	-10.74
7,869.00	0.40	239.00	7,868.02	-30.04	-14.42	29.99	0.13	0.11	-11.68
7,964.00	0.50	228.50	7,963.02	-30.48	-15.02	30.44	0.14	0.11	-11.05
8,059.00	0.70	223.30	8,058.02	-31.18	-15.73	31.13	0.22	0.21	-5.47
8,154.00	0.70	222.60	8,153.01	-32.03	-16.52	31.98	0.01	0.00	-0.74
8,250.00	0.70	224.70	8,249.00	-32.88	-17.33	32.83	0.03	0.00	2.19
8,345.00	0.60	216.10	8,344.00	-33.69	-18.03	33.64	0.15	-0.11	-9.05
8,440.00	0.70	206.00	8,438.99	-34.62	-18.57	34.56	0.16	0.11	-10.63
8,535.00	0.70	205.90	8,533.98	-35.66	-19.08	35.60	0.00	0.00	-0.11
8,631.00	0.70	204.50	8,629.98	-36.72	-19.58	36.66	0.02	0.00	-1.46
8,726.00	0.90	218.10	8,724.97	-37.84	-20.28	37.78	0.29	0.21	14.32
8,822.00	1.30	231.90	8,820.95	-39.10	-21.60	39.04	0.50	0.42	14.38
8,917.00	1.60	231.60	8,915.92	-40.59	-23.49	40.52	0.32	0.32	-0.32
9,012.00	1.50	233.80	9,010.88	-42.15	-25.53	42.07	0.12	-0.11	2.32

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9,106.00	1.40	229.90	9,104.85	-43.61	-27.41	43.53	0.15	-0.11	-4.15
9,201.00	1.40	221.70	9,199.83	-45.23	-29.07	45.14	0.21	0.00	-8.63
9,297.00	1.30	209.00	9,295.80	-47.06	-30.37	46.97	0.33	-0.10	-13.23
9,392.00	1.20	184.80	9,390.78	-48.99	-30.98	48.90	0.56	-0.11	-25.47
9,487.00	1.10	173.50	9,485.76	-50.89	-30.96	50.79	0.26	-0.11	-11.89
9,583.00	1.30	171.10	9,581.74	-52.88	-30.69	52.79	0.21	0.21	-2.50
9,678.00	1.00	168.40	9,676.72	-54.76	-30.35	54.66	0.32	-0.32	-2.84
9,773.00	1.10	166.30	9,771.70	-56.45	-29.97	56.36	0.11	0.11	-2.21
9,869.00	1.50	169.20	9,867.68	-58.58	-29.52	58.49	0.42	0.42	3.02
KOP									
9,896.24	5.83	173.44	9,894.85	-60.31	-29.29	60.22	15.91	15.89	15.57
OH KOP (Bora Bora 13-24 Fed Com 215H)									
9,908.00	7.70	173.80	9,906.53	-61.69	-29.14	61.60	15.91	15.91	3.04
9,939.00	11.80	170.20	9,937.08	-66.88	-28.37	66.79	13.36	13.23	-11.61
9,971.00	15.20	169.60	9,968.19	-74.23	-27.06	74.15	10.63	10.63	-1.88
10,066.00	25.60	177.30	10,057.12	-107.07	-23.84	107.00	11.28	10.95	8.11
10,161.00	32.00	177.30	10,140.33	-152.77	-21.68	152.70	6.74	6.74	0.00
10,256.00	42.20	173.90	10,216.01	-209.79	-17.09	209.74	10.95	10.74	-3.58
10,351.00	48.70	173.50	10,282.62	-277.05	-9.65	277.02	6.85	6.84	-0.42
10,447.00	55.50	177.60	10,341.57	-352.51	-3.91	352.49	7.84	7.08	4.27
10,542.00	63.00	177.90	10,390.11	-434.03	-0.71	434.03	7.90	7.89	0.32
10,638.00	68.20	179.60	10,429.76	-521.40	1.17	521.40	5.65	5.42	1.77
10,733.00	74.20	178.60	10,460.36	-611.28	2.59	611.28	6.39	6.32	-1.05
10,776.21	74.65	178.14	10,471.96	-652.89	3.78	652.90	1.46	1.05	-1.06
OH LP (Bora Bora 13-24 Fed Com 215H)									
10,828.00	75.20	177.60	10,485.43	-702.86	5.63	702.87	1.46	1.05	-1.05
10,923.00	78.10	179.30	10,507.36	-795.24	8.13	795.27	3.51	3.05	1.79
11,018.00	83.60	179.90	10,522.46	-889.00	8.78	889.02	5.82	5.79	0.63
11,114.00	87.40	180.10	10,529.99	-984.68	8.78	984.71	3.96	3.96	0.21
11,209.00	90.10	180.00	10,532.07	-1,079.65	8.69	1,079.67	2.84	2.84	-0.11
11,304.00	91.10	180.30	10,531.07	-1,174.65	8.44	1,174.67	1.10	1.05	0.32
11,399.00	88.50	181.50	10,531.40	-1,269.62	6.95	1,269.64	3.01	-2.74	1.26
11,494.00	88.40	181.20	10,533.97	-1,364.56	4.71	1,364.57	0.33	-0.11	-0.32
11,590.00	87.90	180.20	10,537.07	-1,460.50	3.54	1,460.51	1.16	-0.52	-1.04
11,685.00	89.70	179.90	10,539.06	-1,555.48	3.46	1,555.48	1.92	1.89	-0.32
11,780.00	89.90	178.90	10,539.39	-1,650.47	4.45	1,650.48	1.07	0.21	-1.05
11,876.00	89.80	177.50	10,539.64	-1,746.42	7.47	1,746.44	1.46	-0.10	-1.46
11,971.00	90.10	180.10	10,539.73	-1,841.39	9.46	1,841.41	2.75	0.32	2.74
12,067.00	92.10	180.60	10,537.88	-1,937.37	8.87	1,937.39	2.15	2.08	0.52
12,162.00	90.60	181.20	10,535.65	-2,032.33	7.38	2,032.34	1.70	-1.58	0.63
12,257.00	88.40	182.30	10,536.47	-2,127.27	4.48	2,127.28	2.59	-2.32	1.16
12,353.00	88.40	182.70	10,539.15	-2,223.14	0.29	2,223.13	0.42	0.00	0.42
12,448.00	88.70	182.10	10,541.56	-2,318.03	-3.68	2,318.01	0.71	0.32	-0.63

Company:	Devon Energy	Local Co-ordinate Reference:	Well Bora Bora 13-24 Fed Com 215H
Project:	Eddy County, NM (NAD83)	TVD Reference:	3507' GE + 30' KB @ 3537.00usft
Site:	Bora Bora 13-24 Fed Com	MD Reference:	3507' GE + 30' KB @ 3537.00usft
Well:	Bora Bora 13-24 Fed Com 215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single 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)
12,543.00	88.50	182.20	10,543.88	-2,412.93	-7.25	2,412.90	0.24	-0.21	0.11
12,638.00	88.50	181.80	10,546.37	-2,507.84	-10.56	2,507.80	0.42	0.00	-0.42
12,734.00	88.30	181.00	10,549.05	-2,603.78	-12.90	2,603.72	0.86	-0.21	-0.83
12,828.00	90.60	180.30	10,549.95	-2,697.76	-13.97	2,697.70	2.56	2.45	-0.74
12,924.00	91.70	180.40	10,548.02	-2,793.74	-14.56	2,793.68	1.15	1.15	0.10
13,019.00	88.90	180.20	10,547.53	-2,888.72	-15.05	2,888.67	2.95	-2.95	-0.21
13,115.00	88.40	179.80	10,549.79	-2,984.70	-15.05	2,984.64	0.67	-0.52	-0.42
13,210.00	89.90	179.60	10,551.20	-3,079.68	-14.56	3,079.62	1.59	1.58	-0.21
13,305.00	90.40	178.10	10,550.95	-3,174.66	-12.65	3,174.61	1.66	0.53	-1.58
13,400.00	91.40	178.90	10,549.46	-3,269.61	-10.16	3,269.57	1.35	1.05	0.84
13,495.00	92.40	179.50	10,546.31	-3,364.55	-8.84	3,364.51	1.23	1.05	0.63
13,591.00	91.50	180.80	10,543.04	-3,460.49	-9.09	3,460.45	1.65	-0.94	1.35
13,686.00	90.70	179.80	10,541.21	-3,555.47	-9.59	3,555.43	1.35	-0.84	-1.05
13,782.00	89.90	179.10	10,540.71	-3,651.46	-8.66	3,651.42	1.11	-0.83	-0.73
13,878.00	89.80	178.50	10,540.96	-3,747.44	-6.65	3,747.40	0.63	-0.10	-0.63
13,973.00	88.70	177.30	10,542.21	-3,842.37	-3.17	3,842.34	1.71	-1.16	-1.26
14,069.00	89.80	178.40	10,543.46	-3,938.29	0.43	3,938.27	1.62	1.15	1.15
14,164.00	89.40	178.40	10,544.13	-4,033.25	3.08	4,033.24	0.42	-0.42	0.00
14,259.00	89.50	178.10	10,545.04	-4,128.20	5.98	4,128.20	0.33	0.11	-0.32
14,355.00	90.70	179.60	10,544.87	-4,224.17	7.91	4,224.18	2.00	1.25	1.56
14,451.00	91.30	180.10	10,543.20	-4,320.16	8.16	4,320.16	0.81	0.63	0.52
14,547.00	91.50	179.70	10,540.85	-4,416.13	8.33	4,416.14	0.47	0.21	-0.42
14,643.00	89.40	180.70	10,540.10	-4,512.12	7.99	4,512.12	2.42	-2.19	1.04
14,738.00	90.30	180.50	10,540.35	-4,607.11	7.00	4,607.11	0.97	0.95	-0.21
14,834.00	91.20	182.50	10,539.09	-4,703.07	4.48	4,703.06	2.28	0.94	2.08
14,930.00	88.80	183.00	10,539.09	-4,798.95	-0.12	4,798.93	2.55	-2.50	0.52
15,026.00	89.30	183.30	10,540.68	-4,894.79	-5.40	4,894.75	0.61	0.52	0.31
15,122.00	90.40	183.90	10,540.93	-4,990.60	-11.42	4,990.54	1.31	1.15	0.63
15,217.00	88.80	181.40	10,541.59	-5,085.48	-15.82	5,085.41	3.12	-1.68	-2.63
15,306.91	89.64	182.34	10,542.82	-5,175.34	-18.75	5,175.26	1.40	0.94	1.04
S13/24 Crossing									
15,313.00	89.70	182.40	10,542.85	-5,181.42	-19.00	5,181.34	1.40	0.94	1.04
15,409.00	88.70	181.60	10,544.19	-5,277.35	-22.35	5,277.26	1.33	-1.04	-0.83
15,505.00	88.90	180.90	10,546.20	-5,373.31	-24.44	5,373.21	0.76	0.21	-0.73
15,601.00	89.30	180.90	10,547.71	-5,469.28	-25.95	5,469.18	0.42	0.42	0.00
15,697.00	88.90	180.20	10,549.22	-5,565.27	-26.87	5,565.16	0.84	-0.42	-0.73
15,792.00	89.80	180.90	10,550.30	-5,660.25	-27.78	5,660.14	1.20	0.95	0.74
15,888.00	92.70	183.40	10,548.20	-5,756.14	-31.38	5,756.03	3.99	3.02	2.60
15,984.00	89.60	182.60	10,546.27	-5,851.98	-36.40	5,851.85	3.33	-3.23	-0.83
16,080.00	89.40	180.30	10,547.11	-5,947.94	-38.83	5,947.80	2.40	-0.21	-2.40
16,176.00	89.30	180.00	10,548.20	-6,043.93	-39.08	6,043.79	0.33	-0.10	-0.31
16,272.00	92.10	182.90	10,547.03	-6,139.88	-41.51	6,139.72	4.20	2.92	3.02
16,364.00	89.80	182.50	10,545.50	-6,231.76	-45.85	6,231.59	2.54	-2.50	-0.43
16,460.00	87.30	180.00	10,547.93	-6,327.69	-47.94	6,327.51	3.68	-2.60	-2.60

Company:	Devon Energy	Local Co-ordinate Reference:	Well Bora Bora 13-24 Fed Com 215H
Project:	Eddy County, NM (NAD83)	TVD Reference:	3507' GE + 30' KB @ 3537.00usft
Site:	Bora Bora 13-24 Fed Com	MD Reference:	3507' GE + 30' KB @ 3537.00usft
Well:	Bora Bora 13-24 Fed Com 215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single 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)
16,555.00	88.40	177.90	10,551.50	-6,422.60	-46.20	6,422.43	2.49	1.16	-2.21
16,651.00	89.10	178.00	10,553.59	-6,518.51	-42.77	6,518.35	0.74	0.73	0.10
16,747.00	88.50	177.90	10,555.60	-6,614.43	-39.33	6,614.28	0.63	-0.63	-0.10
16,842.00	90.90	176.30	10,556.10	-6,709.30	-34.53	6,709.16	3.04	2.53	-1.68
16,938.00	90.10	175.30	10,555.26	-6,805.03	-27.50	6,804.92	1.33	-0.83	-1.04
17,034.00	89.90	175.80	10,555.26	-6,900.74	-20.05	6,900.65	0.56	-0.21	0.52
17,130.00	92.50	177.60	10,553.25	-6,996.55	-14.52	6,996.48	3.29	2.71	1.88
17,226.00	91.60	176.90	10,549.82	-7,092.38	-9.92	7,092.32	1.19	-0.94	-0.73
17,321.00	91.50	178.80	10,547.25	-7,187.27	-6.36	7,187.22	2.00	-0.11	2.00
17,417.00	90.60	177.80	10,545.49	-7,283.21	-3.51	7,283.17	1.40	-0.94	-1.04
17,513.00	92.30	181.50	10,543.06	-7,379.16	-2.92	7,379.12	4.24	1.77	3.85
17,609.00	93.40	181.20	10,538.28	-7,475.01	-5.18	7,474.96	1.19	1.15	-0.31
17,704.00	91.70	181.90	10,534.06	-7,569.88	-7.75	7,569.82	1.93	-1.79	0.74
17,800.00	87.90	181.40	10,534.39	-7,665.82	-10.51	7,665.75	3.99	-3.96	-0.52
17,896.00	87.30	180.20	10,538.41	-7,761.72	-11.85	7,761.65	1.40	-0.63	-1.25
17,992.00	90.90	182.00	10,539.92	-7,857.67	-13.70	7,857.60	4.19	3.75	1.88
18,088.00	90.90	182.20	10,538.41	-7,953.60	-17.21	7,953.51	0.21	0.00	0.21
18,183.00	88.30	181.40	10,539.08	-8,048.54	-20.20	8,048.44	2.86	-2.74	-0.84
18,279.00	88.70	181.00	10,541.59	-8,144.49	-22.21	8,144.38	0.59	0.42	-0.42
18,375.00	88.30	181.30	10,544.10	-8,240.43	-24.13	8,240.32	0.52	-0.42	0.31
18,471.00	87.70	181.20	10,547.45	-8,336.35	-26.23	8,336.24	0.63	-0.63	-0.10
18,567.00	87.50	180.20	10,551.47	-8,432.26	-27.40	8,432.14	1.06	-0.21	-1.04
18,663.00	89.70	179.20	10,553.82	-8,528.22	-26.89	8,528.10	2.52	2.29	-1.04
18,758.00	89.80	179.30	10,554.23	-8,623.21	-25.65	8,623.10	0.15	0.11	0.11
18,854.00	90.40	178.60	10,554.07	-8,719.20	-23.89	8,719.08	0.96	0.63	-0.73
18,950.00	90.70	178.40	10,553.14	-8,815.16	-21.38	8,815.05	0.38	0.31	-0.21
19,045.00	90.60	178.30	10,552.07	-8,910.11	-18.64	8,910.02	0.15	-0.11	-0.11
19,141.00	90.60	177.70	10,551.06	-9,006.05	-15.29	9,005.96	0.62	0.00	-0.63
19,237.00	89.90	178.10	10,550.64	-9,101.98	-11.78	9,101.91	0.84	-0.73	0.42
19,333.00	90.90	178.00	10,549.97	-9,197.92	-8.51	9,197.86	1.05	1.04	-0.10
19,429.00	91.10	177.40	10,548.30	-9,293.83	-4.66	9,293.77	0.66	0.21	-0.63
19,525.00	90.60	176.80	10,546.87	-9,389.70	0.20	9,389.65	0.81	-0.52	-0.63
19,621.00	91.30	179.10	10,545.28	-9,485.61	3.63	9,485.58	2.50	0.73	2.40
19,717.00	92.50	179.40	10,542.10	-9,581.55	4.89	9,581.52	1.29	1.25	0.31
19,813.00	92.60	179.10	10,537.83	-9,677.45	6.14	9,677.42	0.33	0.10	-0.31
19,908.00	94.00	179.10	10,532.36	-9,772.28	7.63	9,772.26	1.47	1.47	0.00
20,004.00	94.60	178.60	10,525.16	-9,867.99	9.55	9,867.97	0.81	0.63	-0.52
20,100.00	95.10	178.10	10,517.04	-9,963.60	12.31	9,963.59	0.74	0.52	-0.52
20,196.00	95.30	177.60	10,508.34	-10,059.14	15.90	10,059.14	0.56	0.21	-0.52
20,291.00	95.60	176.90	10,499.32	-10,153.60	20.43	10,153.62	0.80	0.32	-0.74
20,387.00	96.60	176.80	10,489.12	-10,248.91	25.68	10,248.94	1.05	1.04	-0.10
20,411.00	97.20	176.70	10,486.24	-10,272.70	27.03	10,272.73	2.53	2.50	-0.42
20,480.00	97.20	176.70	10,477.59	-10,341.04	30.97	10,341.09	0.00	0.00	0.00



Total Directional Services

Survey Report



Company:	Devon Energy	Local Co-ordinate Reference:	Well Bora Bora 13-24 Fed Com 215H
Project:	Eddy County, NM (NAD83)	TVD Reference:	3507' GE + 30' KB @ 3537.00usft
Site:	Bora Bora 13-24 Fed Com	MD Reference:	3507' GE + 30' KB @ 3537.00usft
Well:	Bora Bora 13-24 Fed Com 215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.15 Single 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)
BHL - OH PBHL (Bora Bora 13-24 Fed Com 215H)									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
9,869.00	9,867.68	-58.58	-29.52	KOP	
15,306.91	10,542.82	-5,175.34	-18.75	S13/24 Crossing	
20,480.00	10,477.59	-10,341.04	30.97	BHL	

Checked By: _____	Approved By: _____	Date: _____
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