

NABORS

NABORS DRILLING TECHNOLOGIES USA, INC.

515 West Greens Road

Houston, TX 77067

Phone: 281.874.0035

Fax: 281.872.5205

Thursday, November 30, 2017

State of New Mexico

County of Lea

HOBBS OCD
APR 11 2018
RECEIVED

Subject: Survey Certification Letter

Survey Company: NABORS DRILLING TECH USA, INC.

Job Number: T4038

Survey Job Type: Nabors MWD

Customer: Devon Energy Corporation

Well Name: Boundary Raider 6-7 Fed Com 213H

Rig Name: Nabors X20

Surface: 32.3392230 N 103.7150733 W

A.P.I. No: 30-025-4414700

Location: Lea, NM

RKB Height: 33'

Distance to Bit: 65'

Surveyor Name	Surveyor Title	Borehole Number	Start Depth	End Depth	Start Date	End Date	Type of	TD Straight Line Projection
Joe Moore	MWD Supervisor	OH	154'	20441'	11/11/17	11/30/17	MWD	20506'

The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by NABORS DRILLING TECHNOLOGIES USA, INC. I am authorized and qualified to review the data, calculations and these reports; the reports represents true and correct Directional Surveys of this well based on the original data, the minimum curvature method, corrected to Grid North and obtained at the well site.



Joe Moore

MWD Supervisor

NABORS DRILLING TECHNOLOGIES USA, INC.

The logo for Devon Energy, featuring the word "devon" in a white, lowercase, sans-serif font on a black rectangular background. Above the "v" is a small, stylized graphic of a building or structure.

Devon Energy Corporation

**Lea Co., NM
Boundary Raider
6-7 Fed 213H**

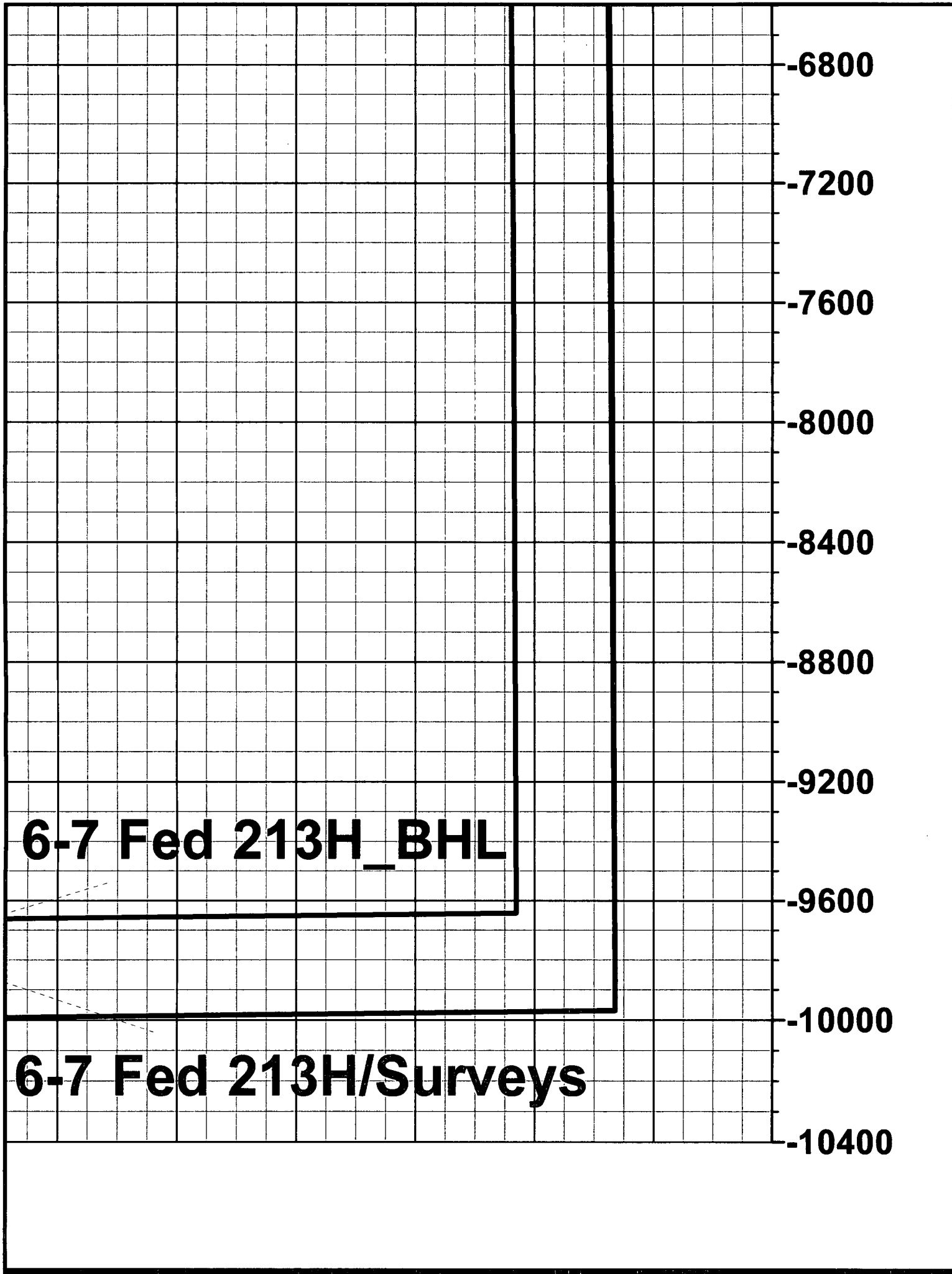
OH

Survey: Survey #1

Standard Survey Report

02 February, 2018





Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 213H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 6-7 Fed 213H
TVD Reference: KB=32' (Nabors X20) @ 3563.60ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3563.60ft (Nabors X20)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Project	Lea Co., NM
Map System:	US State Plane 1983
Geo Datum:	North American Datum 1983
Map Zone:	New Mexico Eastern Zone
System Datum:	Mean Sea Level

Site	Boundary Raider
Site Position:	
From:	Map
Position Uncertainty:	0.00 ft
Northing:	482,895.110 usft
Easting:	734,450.880 usft
Slot Radius:	13-3/16 "
Latitude:	32° 19' 33.60721 N
Longitude:	103° 42' 29.32604 W
Grid Convergence:	0.33 °

Well	6-7 Fed 213H
Well Position	
+N/-S	0.00 ft
+E/-W	0.00 ft
Position Uncertainty	0.00 ft
Northing:	487,692.700 usft
Easting:	732,313.410 usft
Wellhead Elevation:	3,563.60 ft
Latitude:	32° 20' 21.20361 N
Longitude:	103° 42' 53.91357 W
Ground Level:	3,531.60 ft

Wellbore	OH
Magnetics	
Model Name	HDGM
Sample Date	10/26/2017
Declination (°)	6.90
Dip Angle (°)	60.13
Field Strength (nT)	48,204.70000000

Design	Surveys
Audit Notes:	
Version:	1.0
Phase:	ACTUAL
Tie On Depth:	0.00
Vertical Section:	
Depth From (TVD) (ft)	0.00
+N/-S (ft)	0.00
+E/-W (ft)	0.00
Direction (°)	175.29

Survey Program	Date	2/2/2018
From (ft)	To (ft)	Survey (Wellbore)
154.00	20,506.00	Survey #1 (OH)
Tool Name	Description	
MWD+HRGM	OWSG MWD + HRGM	

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154.00	0.50	202.21	154.00	-0.62	-0.25	0.60	0.32	0.32	0.00
246.00	0.50	224.19	245.99	-1.28	-0.69	1.22	0.21	0.00	23.89
338.00	0.56	222.08	337.99	-1.90	-1.27	1.79	0.07	0.07	-2.29
430.00	0.56	220.32	429.99	-2.58	-1.86	2.42	0.02	0.00	-1.91
521.00	0.50	243.52	520.98	-3.10	-2.50	2.88	0.24	-0.07	25.49
613.00	0.50	241.41	612.98	-3.47	-3.21	3.19	0.02	0.00	-2.29
705.00	0.38	240.71	704.98	-3.81	-3.83	3.48	0.13	-0.13	-0.76
771.00	0.44	252.49	770.97	-3.99	-4.26	3.63	0.16	0.09	17.85
885.00	0.31	283.43	884.97	-4.05	-4.98	3.63	0.21	-0.11	27.14

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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

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)
977.00	0.31	279.21	976.97	-3.95	-5.47	3.49	0.02	0.00	-4.59
1,068.00	0.31	286.06	1,067.97	-3.85	-5.95	3.34	0.04	0.00	7.53
1,159.00	0.44	318.23	1,158.97	-3.52	-6.42	2.98	0.27	0.14	35.35
1,251.00	0.50	305.57	1,250.96	-3.02	-6.98	2.44	0.13	0.07	-13.76
1,345.00	0.50	359.71	1,344.96	-2.37	-7.32	1.76	0.48	0.00	57.60
1,439.00	0.38	289.75	1,438.96	-1.86	-7.61	1.22	0.55	-0.13	-74.43
1,533.00	0.38	308.03	1,532.96	-1.56	-8.15	0.88	0.13	0.00	19.45
1,627.00	0.25	309.44	1,626.96	-1.24	-8.55	0.53	0.14	-0.14	1.50
1,721.00	0.25	284.48	1,720.96	-1.06	-8.91	0.32	0.11	0.00	-26.55
1,815.00	0.25	267.61	1,814.95	-1.01	-9.32	0.24	0.08	0.00	-17.95
1,909.00	0.19	285.36	1,908.95	-0.98	-9.67	0.18	0.10	-0.06	18.88
2,002.00	0.25	305.57	2,001.95	-0.82	-9.98	0.00	0.10	0.06	21.73
2,096.00	0.94	53.33	2,095.95	-0.24	-9.53	-0.54	1.11	0.73	114.64
2,191.00	1.38	58.78	2,190.93	0.82	-7.93	-1.47	0.48	0.46	5.74
2,285.00	1.13	52.45	2,284.91	1.97	-6.23	-2.47	0.30	-0.27	-6.73
2,379.00	0.94	57.72	2,378.89	2.95	-4.84	-3.33	0.23	-0.20	5.61
2,474.00	1.63	56.49	2,473.87	4.11	-3.05	-4.34	0.73	0.73	-1.29
2,568.00	3.00	59.30	2,567.79	6.10	0.18	-6.07	1.46	1.46	2.99
2,662.00	4.06	58.60	2,661.61	9.09	5.13	-8.64	1.13	1.13	-0.74
2,756.00	5.06	54.91	2,755.31	13.21	11.36	-12.23	1.11	1.06	-3.93
2,850.00	5.75	57.37	2,848.89	18.13	18.72	-16.53	0.77	0.73	2.62
2,944.00	6.63	58.25	2,942.34	23.52	27.30	-21.20	0.94	0.94	0.94
3,038.00	7.63	57.55	3,035.61	29.73	37.18	-26.57	1.07	1.06	-0.74
3,131.00	7.75	57.72	3,127.78	36.39	47.69	-32.35	0.13	0.13	0.18
3,225.00	7.19	57.90	3,220.98	42.90	58.04	-37.99	0.60	-0.60	0.19
3,319.00	6.75	58.25	3,314.28	48.93	67.72	-43.21	0.47	-0.47	0.37
3,413.00	6.69	57.90	3,407.64	54.75	77.05	-48.24	0.08	-0.06	-0.37
3,506.00	6.88	60.53	3,499.99	60.37	86.49	-53.06	0.39	0.20	2.83
3,601.00	6.69	61.06	3,594.32	65.85	96.29	-57.71	0.21	-0.20	0.56
3,695.00	7.06	59.30	3,687.65	71.45	106.05	-62.49	0.45	0.39	-1.87
3,790.00	7.25	61.77	3,781.91	77.26	116.35	-67.44	0.38	0.20	2.60
3,884.00	7.88	63.70	3,875.09	82.92	127.35	-72.18	0.72	0.67	2.05
3,978.00	7.81	61.59	3,968.21	88.82	138.74	-77.12	0.32	-0.07	-2.24
4,071.00	8.56	61.24	4,060.26	95.15	150.37	-82.48	0.81	0.81	-0.38
4,165.00	9.56	61.06	4,153.09	102.30	163.33	-88.53	1.06	1.06	-0.19
4,260.00	9.00	64.58	4,246.84	109.30	176.95	-94.40	0.84	-0.59	3.71
4,354.00	8.94	63.52	4,339.69	115.72	190.13	-99.71	0.19	-0.06	-1.13
4,407.00	8.19	62.64	4,392.10	119.29	197.17	-102.69	1.44	-1.42	-1.66
4,531.00	7.06	63.52	4,515.00	126.74	211.83	-108.91	0.92	-0.91	0.71
4,625.00	6.44	65.11	4,608.35	131.54	221.78	-112.87	0.69	-0.66	1.69
4,720.00	7.63	59.48	4,702.64	136.98	232.05	-117.46	1.45	1.25	-5.93
4,814.00	8.94	57.72	4,795.65	144.05	243.60	-123.55	1.42	1.39	-1.87
4,908.00	10.13	56.84	4,888.35	152.48	256.70	-130.87	1.28	1.27	-0.94
5,002.00	9.88	57.55	4,980.92	161.33	270.42	-138.56	0.30	-0.27	0.76

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Wellbore: OH
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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)
5,096.00	9.63	56.32	5,073.57	170.01	283.77	-146.13	0.35	-0.27	-1.31
5,190.00	9.69	56.14	5,166.23	178.78	296.88	-153.79	0.07	0.06	-0.19
5,285.00	9.81	54.56	5,259.86	187.93	310.12	-161.82	0.31	0.13	-1.66
5,379.00	9.88	53.33	5,352.48	197.39	323.11	-170.18	0.24	0.07	-1.31
5,474.00	9.56	53.50	5,446.11	206.95	335.99	-178.65	0.34	-0.34	0.18
5,568.00	8.69	54.03	5,538.92	215.76	348.01	-186.44	0.93	-0.93	0.56
5,663.00	8.56	53.50	5,632.85	224.18	359.50	-193.89	0.16	-0.14	-0.56
5,756.00	8.25	53.33	5,724.85	232.28	370.42	-201.07	0.33	-0.33	-0.18
5,851.00	8.31	53.50	5,818.86	240.44	381.40	-208.29	0.07	0.06	0.18
5,945.00	8.88	58.07	5,911.80	248.32	393.02	-215.19	0.95	0.61	4.86
6,038.00	8.81	59.30	6,003.70	255.75	405.24	-221.59	0.22	-0.08	1.32
6,133.00	8.25	58.60	6,097.65	263.01	417.31	-227.84	0.60	-0.59	-0.74
6,227.00	8.13	58.25	6,190.69	270.03	428.72	-233.89	0.14	-0.13	-0.37
6,320.00	7.44	57.90	6,282.83	276.69	439.41	-239.65	0.74	-0.74	-0.38
6,415.00	8.13	58.43	6,376.95	283.47	450.35	-245.52	0.73	0.73	0.56
6,509.00	8.44	58.95	6,469.97	290.51	461.92	-251.58	0.34	0.33	0.55
6,603.00	8.44	58.95	6,562.95	297.62	473.74	-257.70	0.00	0.00	0.00
6,697.00	8.25	58.07	6,655.96	304.75	485.37	-263.84	0.24	-0.20	-0.94
6,791.00	7.38	62.12	6,749.09	311.14	496.43	-269.30	1.09	-0.93	4.31
6,885.00	8.38	58.60	6,842.20	317.53	507.62	-274.76	1.18	1.06	-3.74
6,979.00	8.38	58.60	6,935.19	324.67	519.31	-280.91	0.00	0.00	0.00
7,073.00	8.63	56.67	7,028.16	332.11	531.05	-287.36	0.40	0.27	-2.05
7,167.00	8.56	57.19	7,121.10	339.78	542.82	-294.04	0.11	-0.07	0.55
7,261.00	8.94	57.55	7,214.01	347.49	554.86	-300.73	0.41	0.40	0.38
7,355.00	8.56	53.86	7,306.92	355.53	566.68	-307.78	0.72	-0.40	-3.93
7,450.00	9.44	55.61	7,400.75	364.10	578.81	-315.32	0.97	0.93	1.84
7,544.00	9.56	56.14	7,493.46	372.81	591.66	-322.94	0.16	0.13	0.56
7,638.00	8.88	56.67	7,586.24	381.14	604.20	-330.22	0.73	-0.72	0.56
7,732.00	8.19	58.95	7,679.20	388.58	616.00	-336.66	0.82	-0.73	2.43
7,826.00	8.56	60.89	7,772.20	395.44	627.85	-342.52	0.50	0.39	2.06
7,920.00	8.75	61.77	7,865.13	402.22	640.26	-348.27	0.25	0.20	0.94
8,014.00	9.13	62.29	7,957.99	409.07	653.16	-354.03	0.41	0.40	0.55
8,109.00	8.81	62.64	8,051.82	415.92	666.30	-359.78	0.34	-0.34	0.37
8,203.00	9.06	58.60	8,144.68	423.09	679.01	-365.87	0.72	0.27	-4.30
8,297.00	8.63	59.48	8,237.57	430.52	691.40	-372.27	0.48	-0.46	0.94
8,392.00	8.00	62.64	8,331.57	437.18	703.41	-377.92	0.82	-0.66	3.33
8,485.00	8.69	57.19	8,423.58	443.96	715.06	-383.72	1.13	0.74	-5.86
8,579.00	8.50	54.38	8,516.53	451.86	726.68	-390.63	0.49	-0.20	-2.99
8,673.00	7.00	50.87	8,609.67	459.52	736.77	-397.44	1.67	-1.60	-3.73
8,768.00	6.19	50.34	8,704.04	466.44	745.20	-403.64	0.86	-0.85	-0.56
8,863.00	5.31	39.62	8,798.56	473.10	751.95	-409.72	1.46	-0.93	-11.28
8,956.00	5.00	48.41	8,891.19	479.10	757.73	-415.23	0.91	-0.33	9.45
9,050.00	5.25	54.03	8,984.81	484.35	764.27	-419.92	0.60	0.27	5.98

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9,144.00	5.06	64.05	9,078.43	488.69	771.48	-423.66	0.98	-0.20	10.66
9,238.00	5.13	65.98	9,172.06	492.21	779.04	-426.55	0.20	0.07	2.05
9,332.00	5.06	77.23	9,265.69	494.84	786.93	-428.52	1.06	-0.07	11.97
9,427.00	3.63	78.11	9,360.42	496.38	793.95	-429.48	1.51	-1.51	0.93
9,521.00	4.31	86.73	9,454.19	497.20	800.39	-429.76	0.96	0.72	9.17
9,615.00	3.56	104.66	9,547.97	496.66	806.74	-428.71	1.52	-0.80	19.07
9,709.00	2.44	114.68	9,641.84	495.09	811.38	-426.76	1.31	-1.19	10.66
9,824.00	2.44	121.00	9,756.74	492.80	815.71	-424.13	0.23	0.00	5.50
9,899.00	4.56	166.88	9,831.61	489.08	817.75	-420.24	4.47	2.83	61.17
9,914.26	6.40	174.10	9,846.80	487.64	817.98	-418.79	12.87	12.07	47.31
6-7 Fed 213H_KOP									
9,945.00	10.25	180.59	9,877.21	483.20	818.13	-414.35	12.87	12.52	21.12
9,993.00	14.63	184.11	9,924.07	472.88	817.65	-404.11	9.26	9.13	7.33
10,039.00	19.00	183.93	9,968.09	459.61	816.72	-390.96	9.50	9.50	-0.39
10,087.00	22.56	182.18	10,012.97	442.60	815.83	-374.08	7.53	7.42	-3.65
10,132.00	22.31	178.48	10,054.56	425.44	815.73	-356.99	3.19	-0.56	-8.22
10,181.00	26.06	174.97	10,099.26	405.41	816.92	-336.93	8.19	7.65	-7.16
10,226.00	28.69	173.91	10,139.21	384.82	818.93	-316.24	5.94	5.84	-2.36
10,275.00	29.81	175.32	10,181.96	360.99	821.18	-292.30	2.68	2.29	2.88
10,320.00	36.50	176.90	10,219.62	336.44	822.81	-267.71	14.99	14.87	3.51
10,369.00	44.56	176.73	10,256.83	304.68	824.58	-235.91	16.45	16.45	-0.35
10,414.00	53.06	176.02	10,286.44	270.91	826.74	-202.08	18.93	18.89	-1.58
10,463.00	62.44	175.67	10,312.56	229.63	829.74	-160.69	19.15	19.14	-0.71
10,508.00	72.19	176.55	10,329.89	188.26	832.55	-119.22	21.74	21.67	1.96
10,526.00	76.25	177.61	10,334.78	170.96	833.43	-101.91	23.26	22.56	5.89
10,584.00	85.00	182.35	10,344.23	113.81	833.42	-44.96	17.10	15.09	8.17
10,675.00	85.06	182.70	10,352.11	23.24	829.42	44.98	0.39	0.07	0.38
10,717.86	85.80	182.14	10,355.53	-19.45	827.62	87.37	2.15	1.72	-1.30
6-7 Fed 213H_EOC									
10,770.00	86.69	181.47	10,358.95	-71.45	825.98	139.06	2.15	1.72	-1.29
10,864.00	87.75	181.30	10,363.51	-165.31	823.71	232.42	1.14	1.13	-0.18
10,959.00	89.38	179.54	10,365.88	-260.27	823.01	327.00	2.52	1.72	-1.85
11,053.00	90.81	179.71	10,365.73	-354.26	823.63	420.73	1.53	1.52	0.18
11,147.00	90.63	180.07	10,364.55	-448.26	823.81	514.42	0.43	-0.19	0.38
11,242.00	90.13	179.89	10,363.92	-543.25	823.84	609.10	0.56	-0.53	-0.19
11,336.00	89.75	179.71	10,364.02	-637.25	824.17	702.81	0.45	-0.40	-0.19
11,431.00	89.81	179.19	10,364.38	-732.25	825.08	797.56	0.55	0.06	-0.55
11,525.00	89.94	179.36	10,364.59	-826.24	826.27	891.33	0.23	0.14	0.18
11,619.00	89.63	179.01	10,364.94	-920.23	827.61	985.11	0.50	-0.33	-0.37
11,714.00	89.56	180.07	10,365.61	-1,015.22	828.37	1,079.84	1.12	-0.07	1.12
11,808.00	90.31	180.42	10,365.72	-1,109.22	827.97	1,173.49	0.88	0.80	0.37
11,901.00	90.00	181.12	10,365.47	-1,202.21	826.72	1,266.07	0.82	-0.33	0.75
11,996.00	89.50	181.12	10,365.88	-1,297.19	824.86	1,360.57	0.53	-0.53	0.00
12,091.00	89.06	181.82	10,367.07	-1,392.15	822.42	1,455.01	0.87	-0.46	0.74



Nabors
Survey Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 213H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 6-7 Fed 213H
TVD Reference: KB=32' (Nabors X20) @ 3563.60ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3563.60ft (Nabors X20)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

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)
12,185.00	88.31	181.82	10,369.23	-1,486.08	819.44	1,548.38	0.80	-0.80	0.00
12,275.00	88.44	181.82	10,371.78	-1,576.00	816.58	1,637.76	0.14	0.14	0.00
12,369.00	89.13	179.71	10,373.78	-1,669.96	815.33	1,731.30	2.36	0.73	-2.24
12,463.00	89.50	180.24	10,374.90	-1,763.96	815.37	1,824.98	0.69	0.39	0.56
12,557.00	89.06	178.84	10,376.08	-1,857.94	816.12	1,918.71	1.56	-0.47	-1.49
12,652.00	89.75	179.19	10,377.07	-1,952.92	817.76	2,013.50	0.81	0.73	0.37
12,747.00	89.44	180.07	10,377.74	-2,047.92	818.37	2,108.23	0.98	-0.33	0.93
12,841.00	88.88	177.78	10,379.12	-2,141.88	820.13	2,202.02	2.51	-0.60	-2.44
12,935.00	89.19	177.61	10,380.70	-2,235.80	823.91	2,295.92	0.38	0.33	-0.18
13,029.00	89.56	178.31	10,381.73	-2,329.73	827.26	2,389.82	0.84	0.39	0.74
13,123.00	90.25	179.01	10,381.88	-2,423.70	829.46	2,483.65	1.05	0.73	0.74
13,218.00	90.25	179.54	10,381.47	-2,518.69	830.66	2,578.42	0.56	0.00	0.56
13,313.00	88.56	179.89	10,382.45	-2,613.68	831.13	2,673.13	1.82	-1.78	0.37
13,407.00	88.38	180.77	10,384.96	-2,707.65	830.59	2,766.73	0.96	-0.19	0.94
13,500.00	88.56	181.82	10,387.45	-2,800.59	828.49	2,859.19	1.15	0.19	1.13
13,595.00	88.31	180.95	10,390.04	-2,895.52	826.19	2,953.61	0.95	-0.26	-0.92
13,689.00	89.25	179.19	10,392.04	-2,989.50	826.08	3,047.26	2.12	1.00	-1.87
13,783.00	89.56	179.54	10,393.02	-3,083.49	827.12	3,141.02	0.50	0.33	0.37
13,878.00	89.44	180.59	10,393.85	-3,178.48	827.01	3,235.68	1.11	-0.13	1.11
13,972.00	89.75	181.12	10,394.51	-3,272.47	825.61	3,329.23	0.65	0.33	0.56
14,066.00	89.69	179.89	10,394.97	-3,366.46	824.78	3,422.84	1.31	-0.06	-1.31
14,161.00	89.75	179.54	10,395.44	-3,461.46	825.25	3,517.56	0.37	0.06	-0.37
14,255.00	89.94	180.59	10,395.69	-3,555.46	825.15	3,611.23	1.14	0.20	1.12
14,349.00	90.38	181.82	10,395.43	-3,649.44	823.17	3,704.73	1.39	0.47	1.31
14,443.00	88.88	180.77	10,396.04	-3,743.41	821.05	3,798.20	1.95	-1.60	-1.12
14,537.00	88.81	181.12	10,397.93	-3,837.37	819.50	3,891.73	0.38	-0.07	0.37
14,632.00	87.38	179.19	10,401.09	-3,932.31	819.24	3,986.32	2.53	-1.51	-2.03
14,726.00	87.69	179.19	10,405.13	-4,026.22	820.57	4,080.02	0.33	0.33	0.00
14,820.00	88.13	179.54	10,408.56	-4,120.15	821.61	4,173.72	0.60	0.47	0.37
14,914.00	88.56	179.89	10,411.27	-4,214.11	822.08	4,267.40	0.59	0.46	0.37
14,944.52	88.88	179.67	10,411.96	-4,244.62	822.19	4,297.82	1.28	1.05	-0.74
6-7 Fed 213H_T1									
15,009.00	89.56	179.19	10,412.83	-4,309.09	822.84	4,362.12	1.28	1.05	-0.74
15,103.00	89.13	178.48	10,413.91	-4,403.06	824.75	4,455.94	0.88	-0.46	-0.76
15,196.00	89.50	179.01	10,415.02	-4,496.03	826.79	4,548.76	0.69	0.40	0.57
15,291.00	90.00	179.89	10,415.43	-4,591.03	827.70	4,643.51	1.07	0.53	0.93
15,385.00	90.81	180.95	10,414.77	-4,685.02	827.01	4,737.13	1.42	0.86	1.13
15,479.00	89.38	179.54	10,414.61	-4,779.01	826.61	4,830.77	2.14	-1.52	-1.50
15,574.00	89.63	179.71	10,415.43	-4,874.01	827.23	4,925.49	0.32	0.26	0.18
15,668.00	89.88	180.24	10,415.84	-4,968.01	827.27	5,019.18	0.62	0.27	0.56
15,762.00	87.88	179.54	10,417.67	-5,061.98	827.45	5,112.85	2.25	-2.13	-0.74
15,856.00	87.56	179.71	10,421.41	-5,155.91	828.06	5,206.51	0.39	-0.34	0.18
15,951.00	88.00	180.24	10,425.09	-5,250.84	828.11	5,301.12	0.72	0.46	0.56

Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 213H
Wellbore: OH
Design: Surveys

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TVD Reference: KB=32' (Nabors X20) @ 3563.60ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3563.60ft (Nabors X20)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

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)
16,046.00	88.56	180.59	10,427.94	-5,345.79	827.42	5,395.69	0.70	0.59	0.37
16,139.00	88.38	181.82	10,430.43	-5,438.73	825.46	5,488.16	1.34	-0.19	1.32
16,234.00	89.38	181.82	10,432.28	-5,533.67	822.45	5,582.53	1.05	1.05	0.00
16,328.00	89.06	181.30	10,433.56	-5,627.62	819.89	5,675.96	0.65	-0.34	-0.55
16,422.00	88.63	180.59	10,435.46	-5,721.59	818.34	5,769.48	0.88	-0.46	-0.76
16,515.00	89.31	179.36	10,437.13	-5,814.57	818.38	5,862.15	1.51	0.73	-1.32
16,610.00	90.00	179.19	10,437.70	-5,909.56	819.58	5,956.92	0.75	0.73	-0.18
16,705.00	89.81	180.42	10,437.86	-6,004.56	819.90	6,051.62	1.31	-0.20	1.29
16,799.00	90.44	180.07	10,437.65	-6,098.56	819.50	6,145.27	0.77	0.67	-0.37
16,894.00	90.44	179.89	10,436.93	-6,193.56	819.53	6,239.95	0.19	0.00	-0.19
16,988.00	90.63	180.42	10,436.05	-6,287.55	819.28	6,333.60	0.60	0.20	0.56
17,082.00	90.81	181.30	10,434.87	-6,381.53	817.87	6,427.15	0.96	0.19	0.94
17,175.00	90.13	180.59	10,434.10	-6,474.52	816.34	6,519.69	1.06	-0.73	-0.76
17,270.00	90.56	180.24	10,433.53	-6,569.51	815.65	6,614.31	0.58	0.45	-0.37
17,364.00	89.63	178.84	10,433.38	-6,663.50	816.40	6,708.05	1.79	-0.99	-1.49
17,458.00	89.13	178.13	10,434.39	-6,757.47	818.89	6,801.90	0.92	-0.53	-0.76
17,552.00	88.88	179.36	10,436.03	-6,851.43	820.95	6,895.71	1.34	-0.27	1.31
17,646.00	89.19	180.24	10,437.61	-6,945.41	821.27	6,989.40	0.99	0.33	0.94
17,740.00	87.81	179.01	10,440.07	-7,039.37	821.89	7,083.10	1.97	-1.47	-1.31
17,835.00	87.63	179.19	10,443.85	-7,134.29	823.38	7,177.81	0.27	-0.19	0.19
17,929.00	87.56	179.89	10,447.79	-7,228.20	824.13	7,271.47	0.75	-0.07	0.74
18,024.00	88.13	179.54	10,451.37	-7,323.13	824.61	7,366.12	0.70	0.60	-0.37
18,118.00	88.63	179.36	10,454.02	-7,417.09	825.51	7,459.84	0.57	0.53	-0.19
18,212.00	89.13	180.42	10,455.86	-7,511.07	825.69	7,553.51	1.25	0.53	1.13
18,306.00	87.50	179.19	10,458.62	-7,605.02	826.01	7,647.17	2.17	-1.73	-1.31
18,400.00	88.13	177.43	10,462.21	-7,698.91	828.78	7,740.97	1.99	0.67	-1.87
18,495.00	88.25	177.43	10,465.21	-7,793.77	833.04	7,835.86	0.13	0.13	0.00
18,589.00	89.75	176.55	10,466.85	-7,887.62	837.97	7,929.80	1.85	1.60	-0.94
18,683.00	91.00	176.37	10,466.23	-7,981.44	843.77	8,023.77	1.34	1.33	-0.19
18,777.00	92.44	178.13	10,463.41	-8,075.28	848.28	8,117.67	2.42	1.53	1.87
18,871.00	93.50	179.01	10,458.54	-8,169.12	850.63	8,211.39	1.46	1.13	0.94
18,965.00	92.81	179.89	10,453.37	-8,262.97	851.53	8,305.00	1.19	-0.73	0.94
19,059.00	92.63	181.12	10,448.91	-8,356.86	850.70	8,398.50	1.32	-0.19	1.31
19,154.00	92.00	182.35	10,445.07	-8,451.74	847.82	8,492.82	1.45	-0.66	1.29
19,247.00	90.63	181.47	10,442.94	-8,544.66	844.73	8,585.17	1.75	-1.47	-0.95
19,342.00	89.81	181.65	10,442.57	-8,639.62	842.14	8,679.60	0.88	-0.86	0.19
19,436.00	89.38	180.77	10,443.24	-8,733.60	840.16	8,773.10	1.04	-0.46	-0.94
19,530.00	88.81	180.95	10,444.72	-8,827.58	838.74	8,866.64	0.64	-0.61	0.19
19,624.00	88.13	180.59	10,447.23	-8,921.53	837.48	8,960.18	0.82	-0.72	-0.38
19,719.00	87.88	179.71	10,450.54	-9,016.47	837.23	9,054.78	0.96	-0.26	-0.93
19,814.00	90.38	179.71	10,451.98	-9,111.45	837.71	9,149.48	2.63	2.63	0.00
19,908.00	91.31	180.77	10,450.59	-9,205.44	837.32	9,243.11	1.50	0.99	1.13
20,002.00	92.44	181.12	10,447.52	-9,299.38	835.77	9,336.60	1.26	1.20	0.37
20,097.00	92.94	181.82	10,443.06	-9,394.24	833.34	9,430.94	0.90	0.53	0.74

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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)
20,192.00	91.81	182.70	10,439.12	-9,489.08	829.59	9,525.16	1.51	-1.19	0.93
20,286.00	91.44	183.41	10,436.46	-9,582.91	824.59	9,618.26	0.85	-0.39	0.76
20,366.30	91.70	184.15	10,434.25	-9,663.00	819.29	9,697.65	0.98	0.33	0.93
Cross 330' Line @ 20366.30' MD									
20,380.00	91.75	184.28	10,433.84	-9,676.66	818.28	9,711.17	0.98	0.33	0.93
20,404.81	91.85	184.50	10,433.06	-9,701.38	816.39	9,735.66	0.96	0.41	0.87
6-7 Fed 213H_BHL									
20,441.00	92.00	184.81	10,431.84	-9,737.44	813.45	9,771.35	0.96	0.41	0.87
20,506.00	92.00	184.81	10,429.58	-9,802.17	808.01	9,835.41	0.00	0.00	0.00
PTB									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
20,366.30	10,434.25	-9,663.00	819.29	Cross 330' Line @ 20366.30' MD
20,506.00	10,429.58	-9,802.17	808.01	PTB

Checked By: _____ Approved By: _____ Date: _____