



Total Directional
Services, LLC
USA Operations

Final MWD Survey Certification

Leah County, New Mexico

Client: Devon Energy

Well Name: Green Wave 20-17 Federal 11H

Total Job No: 2019-373-540

API No: 30-025-46018

Start Date: 06/02/2019

End Date: 07/26/2019

Measured Start Depth: 0 feet

Measured End Depth: 20,685 feet

Vertical Section from well center at TD: 7646.57 feet

HOBBS OCD
JAN 14 2020
RECEIVED

I, Shaun Heck, 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: 07/26/2019

Signed: *Shaun Heck*



Green Wave 20-17 State Fed Com 11H

Start date: 6/2/2019

Directional Survey Report

End date: 7/26/2019

Company: Devon Energy

State/Prov: NM

Survey Company: Total Directional

Well Name: Green Wave 20-17 State Fed Com 11H

County: Lea

Job Number: 2019-373-540

Field: WolfCamp

Country: USA

Proposed Azimuth: 359.5

Rig ID: HP 540

Declination: 6.28

Elevations KB: 3375

API/UWI: 3002546018

North Reference: Grid

DF: 30

Location: Lea County, NM

Latitude/Longitude: 32.029630 / -103.493343

GL: 3345

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
TieIn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	
1	180.00	0.10	187.70	180.00	-0.16	-0.02	-0.16	0.16	187.70	0.06	180.00
2	275.00	0.10	253.58	275.00	-0.26	-0.11	-0.26	0.28	203.14	0.11	95.00
3	365.00	0.30	265.10	365.00	-0.30	-0.42	-0.30	0.52	234.25	0.23	90.00
4	456.00	0.30	297.10	456.00	-0.22	-0.87	-0.21	0.90	256.11	0.18	91.00
5	547.00	0.50	305.70	547.00	0.12	-1.41	0.14	1.41	275.07	0.23	91.00
6	637.00	0.50	308.70	636.99	0.60	-2.03	0.62	2.12	286.44	0.03	90.00
7	760.00	0.70	313.50	759.99	1.45	-2.99	1.48	3.33	295.87	0.17	123.00
8	866.00	0.48	290.61	865.98	2.05	-3.88	2.09	4.39	297.90	0.30	106.00
9	956.00	0.57	143.39	955.98	1.83	-3.97	1.86	4.37	294.74	1.12	90.00
10	1,047.00	1.27	127.13	1,046.97	0.86	-2.89	0.88	3.02	286.48	0.81	91.00
11	1,138.00	1.85	121.50	1,137.93	-0.52	-0.84	-0.51	0.98	238.07	0.66	91.00
12	1,230.00	3.12	121.33	1,229.84	-2.60	2.57	-2.62	3.65	135.33	1.38	92.00
13	1,324.00	4.22	120.01	1,323.65	-5.66	7.75	-5.73	9.60	126.14	1.17	94.00
14	1,418.00	4.75	120.54	1,417.36	-9.37	14.10	-9.49	16.92	123.60	0.57	94.00
15	1,512.00	5.98	117.99	1,510.95	-13.64	21.77	-13.83	25.69	122.07	1.33	94.00
16	1,607.00	7.21	117.20	1,605.32	-18.69	31.44	-18.96	36.58	120.73	1.30	95.00
17	1,701.00	8.13	117.64	1,698.48	-24.47	42.58	-24.84	49.11	119.88	0.98	94.00
18	1,795.00	8.13	119.04	1,791.53	-30.78	54.28	-31.25	62.40	119.56	0.21	94.00
19	1,889.00	8.00	119.92	1,884.60	-37.27	65.76	-37.84	75.59	119.54	0.19	94.00
20	1,983.00	7.78	119.04	1,977.71	-43.62	76.99	-44.29	88.49	119.53	0.27	94.00
21	2,078.00	7.65	119.13	2,071.85	-49.82	88.14	-50.59	101.24	119.48	0.14	95.00
22	2,172.00	7.69	118.69	2,165.01	-55.88	99.12	-56.75	113.79	119.41	0.08	94.00
23	2,266.00	7.38	118.52	2,258.20	-61.79	109.94	-62.74	126.11	119.34	0.33	94.00
24	2,360.00	7.38	119.22	2,351.42	-67.62	120.51	-68.66	138.19	119.29	0.10	94.00
25	2,455.00	7.96	121.24	2,445.57	-74.01	131.46	-75.15	150.86	119.38	0.67	95.00
26	2,549.00	7.96	121.33	2,538.66	-80.77	142.59	-82.01	163.87	119.53	0.01	94.00
27	2,643.00	7.91	120.89	2,631.76	-87.47	153.70	-88.81	176.84	119.64	0.08	94.00
28	2,737.00	7.82	121.68	2,724.88	-94.15	164.69	-95.58	189.70	119.76	0.15	94.00
29	2,832.00	7.60	120.89	2,819.02	-100.77	175.58	-102.30	202.44	119.85	0.26	95.00
30	2,926.00	7.43	120.45	2,912.21	-107.04	186.16	-108.66	214.74	119.90	0.19	94.00
31	3,020.00	7.43	118.87	3,005.42	-113.05	196.72	-114.77	226.89	119.89	0.22	94.00
32	3,114.00	7.38	117.81	3,098.64	-118.81	207.38	-120.61	239.00	119.81	0.15	94.00
33	3,209.00	7.78	119.83	3,192.81	-124.85	218.35	-126.75	251.53	119.76	0.51	95.00
34	3,303.00	8.13	117.20	3,285.91	-131.05	229.79	-133.05	264.53	119.70	0.54	94.00
35	3,397.00	8.13	116.58	3,378.96	-137.07	241.64	-139.17	277.81	119.56	0.09	94.00
36	3,491.00	8.04	115.88	3,472.03	-142.91	253.50	-145.12	291.01	119.41	0.14	94.00
37	3,585.00	7.69	120.36	3,565.14	-148.96	264.84	-151.26	303.86	119.36	0.75	94.00
38	3,680.00	7.74	118.08	3,659.28	-155.18	275.97	-157.58	316.61	119.35	0.33	95.00
39	3,774.00	7.43	116.58	3,752.46	-160.88	286.99	-163.38	329.01	119.27	0.39	94.00
40	3,868.00	7.34	118.43	3,845.68	-166.46	297.71	-169.05	341.08	119.21	0.27	94.00
41	3,962.00	7.34	115.44	3,938.91	-171.90	308.41	-174.58	353.08	119.13	0.41	94.00
42	4,056.00	7.34	122.91	4,032.14	-177.74	318.87	-180.51	365.06	119.14	1.01	94.00
43	4,151.00	6.59	120.45	4,126.44	-183.80	328.67	-186.66	376.57	119.21	0.85	95.00
44	4,245.00	6.81	118.87	4,219.80	-189.22	338.20	-192.17	387.53	119.23	0.31	94.00
45	4,339.00	7.16	124.76	4,313.10	-195.25	347.89	-198.28	398.94	119.30	0.85	94.00
46	4,434.00	6.55	125.90	4,407.42	-201.81	357.14	-204.92	410.22	119.47	0.66	95.00
47	4,528.00	5.93	127.57	4,500.87	-207.91	365.34	-211.09	420.35	119.64	0.69	94.00
48	4,622.00	6.59	121.33	4,594.31	-213.68	373.79	-216.93	430.56	119.75	1.01	94.00
49	4,716.00	7.12	117.20	4,687.64	-219.14	383.58	-222.48	441.77	119.74	0.77	94.00

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
50	4,810.00	5.67	123.61	4,781.05	-224.38	392.63	-227.80	452.22	119.75	1.72	94.00
51	4,905.00	5.19	122.03	4,875.62	-229.25	400.18	-232.74	461.20	119.81	0.53	95.00
52	4,999.00	4.62	130.82	4,969.28	-233.98	406.65	-237.52	469.16	119.92	1.00	94.00
53	5,093.00	4.53	134.51	5,062.98	-239.06	412.16	-242.65	476.47	120.11	0.33	94.00
54	5,187.00	2.99	149.10	5,156.78	-243.77	416.07	-247.39	482.22	120.37	1.92	94.00
55	5,281.00	1.54	157.98	5,250.70	-247.04	417.80	-250.68	485.37	120.60	1.58	94.00
56	5,375.00	1.45	147.08	5,344.67	-249.21	418.92	-252.86	487.44	120.75	0.32	94.00
57	5,470.00	0.66	53.39	5,439.66	-249.89	420.01	-253.55	488.73	120.75	1.72	95.00
58	5,564.00	1.14	28.69	5,533.65	-248.75	420.90	-252.41	488.91	120.58	0.65	94.00
59	5,658.00	0.97	317.59	5,627.63	-247.34	420.81	-251.01	488.12	120.45	1.31	94.00
60	5,752.00	0.97	308.10	5,721.62	-246.26	419.65	-249.92	486.57	120.41	0.17	94.00
61	5,846.00	1.01	334.38	5,815.61	-245.03	418.66	-248.67	485.09	120.34	0.48	94.00
62	5,940.00	0.66	16.12	5,909.60	-243.76	418.45	-247.40	484.28	120.22	0.72	94.00
63	6,034.00	0.66	38.36	6,003.59	-242.81	418.94	-246.46	484.22	120.10	0.27	94.00
64	6,129.00	0.62	62.62	6,098.59	-242.15	419.74	-245.80	484.58	119.98	0.29	95.00
65	6,222.00	0.92	36.34	6,191.58	-241.32	420.63	-244.98	484.93	119.84	0.49	93.00
66	6,317.00	0.70	28.96	6,286.57	-240.19	421.36	-243.86	485.01	119.69	0.26	95.00
67	6,411.00	0.04	199.46	6,380.57	-239.72	421.63	-243.39	485.01	119.62	0.79	94.00
68	6,505.00	0.31	263.71	6,474.56	-239.78	421.36	-243.45	484.81	119.64	0.31	94.00
69	6,599.00	0.35	228.03	6,568.56	-240.00	420.90	-243.67	484.51	119.69	0.22	94.00
70	6,694.00	0.22	157.98	6,663.56	-240.36	420.75	-244.03	484.57	119.74	0.36	95.00
71	6,788.00	0.40	188.83	6,757.56	-240.86	420.77	-244.52	484.83	119.79	0.25	94.00
72	6,882.00	0.57	185.66	6,851.56	-241.65	420.67	-245.31	485.13	119.87	0.18	94.00
73	6,976.00	0.57	200.43	6,945.55	-242.55	420.46	-246.21	485.40	119.98	0.16	94.00
74	7,070.00	0.48	172.74	7,039.55	-243.38	420.35	-247.04	485.72	120.07	0.28	94.00
75	7,164.00	0.88	190.76	7,133.54	-244.48	420.26	-248.14	486.20	120.19	0.48	94.00
76	7,259.00	0.75	185.75	7,228.53	-245.81	420.06	-249.47	486.70	120.34	0.16	95.00
77	7,353.00	1.01	179.07	7,322.52	-247.25	420.02	-250.91	487.39	120.48	0.30	94.00
78	7,447.00	0.92	173.71	7,416.51	-248.83	420.11	-252.49	488.27	120.64	0.14	94.00
79	7,541.00	1.19	175.38	7,510.49	-250.56	420.27	-254.21	489.29	120.80	0.29	94.00
80	7,636.00	1.14	163.87	7,605.47	-252.45	420.61	-256.11	490.56	120.97	0.25	95.00
81	7,730.00	1.05	179.42	7,699.46	-254.21	420.88	-257.87	491.69	121.13	0.33	94.00
82	7,824.00	0.92	174.77	7,793.44	-255.82	420.96	-259.48	492.60	121.29	0.16	94.00
83	7,918.00	0.79	227.15	7,887.43	-257.01	420.55	-260.67	492.87	121.43	0.81	94.00
84	8,012.00	0.84	229.17	7,981.42	-257.90	419.56	-261.55	492.49	121.58	0.06	94.00
85	8,106.00	1.14	216.95	8,075.41	-259.10	418.47	-262.74	492.19	121.76	0.39	94.00
86	8,201.00	1.32	226.80	8,170.39	-260.60	417.11	-264.23	491.83	122.00	0.29	95.00
87	8,295.00	1.23	221.52	8,264.36	-262.10	415.65	-265.72	491.39	122.23	0.16	94.00
88	8,389.00	1.49	215.46	8,358.34	-263.85	414.27	-267.46	491.16	122.49	0.32	94.00
89	8,483.00	1.14	219.33	8,452.31	-265.57	412.97	-269.16	490.99	122.74	0.38	94.00
90	8,578.00	1.23	213.97	8,547.29	-267.15	411.80	-270.73	490.87	122.97	0.15	95.00
91	8,671.00	0.97	219.06	8,640.28	-268.59	410.75	-272.16	490.77	123.18	0.30	93.00
92	8,765.00	0.97	214.14	8,734.26	-269.86	409.80	-273.43	490.68	123.37	0.09	94.00
93	8,860.00	1.19	215.37	8,829.24	-271.33	408.78	-274.89	490.63	123.57	0.23	95.00
94	8,954.00	1.01	215.55	8,923.23	-272.80	407.73	-276.35	490.58	123.79	0.19	94.00
95	9,048.00	0.92	229.70	9,017.21	-273.96	406.67	-277.50	490.35	123.97	0.27	94.00
96	9,142.00	0.97	232.33	9,111.20	-274.94	405.47	-278.47	489.89	124.14	0.07	94.00
97	9,236.00	1.10	226.27	9,205.19	-276.05	404.19	-279.57	489.46	124.33	0.18	94.00
98	9,330.00	1.05	237.61	9,299.17	-277.13	402.81	-280.64	488.94	124.53	0.23	94.00
99	9,425.00	1.19	233.39	9,394.15	-278.19	401.28	-281.68	488.28	124.73	0.17	95.00
100	9,519.00	1.01	240.60	9,488.13	-279.18	399.78	-282.65	487.61	124.93	0.24	94.00
101	9,613.00	1.27	250.97	9,582.12	-279.92	398.07	-283.39	486.64	125.11	0.35	94.00
102	9,707.00	1.27	245.25	9,676.09	-280.70	396.14	-284.15	485.51	125.32	0.13	94.00
103	9,802.00	1.14	252.81	9,771.07	-281.42	394.28	-284.85	484.41	125.52	0.22	95.00
104	9,896.00	0.66	299.57	9,865.06	-281.43	392.92	-284.85	483.31	125.61	0.89	94.00
105	9,991.00	0.66	313.55	9,960.05	-280.78	392.04	-284.19	482.22	125.61	0.17	95.00
106	10,084.00	1.23	318.20	10,053.04	-279.67	390.99	-283.07	480.72	125.58	0.62	93.00
107	10,179.00	2.02	346.50	10,148.00	-277.28	389.92	-280.67	478.46	125.42	1.16	95.00
108	10,273.00	2.11	356.62	10,241.94	-273.94	389.43	-277.33	476.13	125.12	0.40	94.00
109	10,367.00	1.63	18.06	10,335.89	-270.94	389.74	-274.33	474.67	124.81	0.89	94.00
110	10,461.00	1.41	27.37	10,429.86	-268.64	390.69	-272.04	474.14	124.51	0.35	94.00
111	10,555.00	1.23	40.03	10,523.84	-266.85	391.87	-270.25	474.10	124.25	0.36	94.00
112	10,649.00	0.79	30.45	10,617.82	-265.51	392.85	-268.93	474.16	124.05	0.50	94.00
113	10,743.00	0.79	40.56	10,711.81	-264.46	393.60	-267.89	474.19	123.90	0.15	94.00
114	10,837.00	0.79	9.44	10,805.80	-263.33	394.12	-266.76	474.00	123.75	0.45	94.00

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
115	10,932.00	0.40	327.08	10,900.80	-262.41	394.05	-265.84	473.43	123.66	0.59	95.00
116	11,026.00	0.75	265.21	10,994.80	-262.18	393.26	-265.61	472.65	123.69	0.71	94.00
117	11,120.00	0.70	262.83	11,088.79	-262.31	392.08	-265.72	471.73	123.78	0.06	94.00
118	11,214.00	0.48	236.03	11,182.78	-262.60	391.18	-266.00	471.15	123.87	0.37	94.00
119	11,309.00	0.62	266.08	11,277.78	-262.86	390.34	-266.25	470.59	123.96	0.33	95.00
120	11,403.00	1.41	272.15	11,371.76	-262.85	388.68	-266.23	469.21	124.07	0.85	94.00
121	11,497.00	2.20	272.32	11,465.72	-262.73	385.72	-266.09	466.70	124.26	0.84	94.00
122	11,592.00	2.15	268.55	11,560.65	-262.70	382.11	-266.03	463.71	124.51	0.16	95.00
123	11,686.00	1.80	264.50	11,654.59	-262.89	378.88	-266.18	461.15	124.75	0.40	94.00
124	11,780.00	1.45	264.50	11,748.55	-263.14	376.23	-266.42	459.12	124.97	0.37	94.00
125	11,873.00	1.67	268.11	11,841.52	-263.30	373.70	-266.55	457.14	125.17	0.26	93.00
126	11,967.00	1.71	274.35	11,935.48	-263.24	370.93	-266.47	454.85	125.36	0.20	94.00
127	12,062.00	1.71	296.06	12,030.44	-262.51	368.25	-265.71	452.24	125.48	0.68	95.00
128	12,156.00	2.24	309.85	12,124.38	-260.72	365.58	-263.90	449.02	125.49	0.75	94.00
129	12,235.00	2.81	317.06	12,203.30	-258.31	363.07	-261.47	445.58	125.43	0.82	79.00
130	12,311.00	3.21	321.10	12,279.20	-255.29	360.47	-258.43	441.71	125.31	0.60	76.00
131	12,342.00	3.25	314.78	12,310.15	-253.99	359.30	-257.12	440.01	125.26	1.16	31.00
132	12,359.00	2.81	316.71	12,327.13	-253.35	358.67	-256.47	439.13	125.24	2.66	17.00
133	12,436.00	2.46	351.43	12,404.05	-250.34	357.13	-253.45	436.14	125.03	2.09	77.00
134	12,483.00	2.81	35.37	12,451.00	-248.41	357.65	-251.52	435.45	124.78	4.25	47.00
135	12,531.00	7.82	11.29	12,498.79	-244.24	358.97	-247.37	434.18	124.23	11.20	48.00
136	12,578.00	10.51	1.01	12,545.19	-236.82	359.67	-239.95	430.63	123.36	6.68	47.00
137	12,625.00	15.96	7.69	12,590.92	-226.12	360.61	-229.26	425.64	122.09	12.02	47.00
138	12,666.00	19.43	2.94	12,629.98	-213.72	361.72	-216.87	420.14	120.58	9.16	41.00
139	12,719.00	24.97	7.33	12,679.04	-193.80	363.60	-196.97	412.02	118.06	10.90	53.00
140	12,766.00	29.27	10.41	12,720.86	-172.65	366.94	-175.85	405.53	115.20	9.62	47.00
141	12,813.00	34.81	7.16	12,760.69	-148.02	370.69	-151.25	399.15	111.77	12.34	47.00
142	12,861.00	41.71	6.46	12,798.36	-118.52	374.20	-121.78	392.52	107.58	14.40	48.00
143	12,907.00	52.44	4.08	12,829.64	-85.03	377.23	-88.32	386.69	102.70	23.63	46.00
144	12,962.00	64.04	3.29	12,858.54	-38.44	380.21	-41.76	382.15	95.77	21.13	55.00
145	13,001.00	69.49	1.80	12,873.92	-2.66	381.79	-5.99	381.80	90.40	14.41	39.00
146	13,048.00	78.11	359.34	12,887.02	42.43	382.22	39.09	384.57	83.67	19.02	47.00
147	13,102.00	85.54	357.14	12,894.70	95.82	380.57	92.49	392.44	75.87	14.34	54.00
148	13,134.00	86.55	357.40	12,896.91	127.70	379.05	124.39	399.98	71.38	3.26	32.00
149	13,181.00	88.84	357.32	12,898.80	174.61	376.88	171.32	415.37	65.14	4.88	47.00
150	13,228.00	90.02	357.75	12,899.26	221.56	374.86	218.28	435.45	59.41	2.67	47.00
151	13,323.00	90.59	357.93	12,898.76	316.50	371.28	313.24	487.87	49.55	0.63	95.00
152	13,417.00	90.68	357.32	12,897.72	410.41	367.39	407.19	550.82	41.83	0.66	94.00
153	13,511.00	91.03	357.93	12,896.31	504.32	363.49	501.13	621.66	35.78	0.75	94.00
154	13,605.00	90.59	357.32	12,894.98	598.23	359.60	595.06	697.99	31.01	0.80	94.00
155	13,699.00	91.08	357.14	12,893.61	692.11	355.06	688.98	777.87	27.16	0.56	94.00
156	13,794.00	91.52	357.23	12,891.46	786.97	350.39	783.88	861.45	24.00	0.47	95.00
157	13,888.00	90.55	358.55	12,889.76	880.88	346.93	877.82	946.74	21.50	1.74	94.00
158	13,982.00	91.21	359.42	12,888.32	974.86	345.27	971.81	1,034.19	19.50	1.16	94.00
159	14,076.00	90.81	0.57	12,886.66	1,068.84	345.26	1,065.79	1,123.22	17.90	1.30	94.00
160	14,170.00	90.68	0.65	12,885.44	1,162.83	346.26	1,159.76	1,213.29	16.58	0.16	94.00
161	14,264.00	89.54	358.99	12,885.26	1,256.82	345.96	1,253.75	1,303.57	15.39	2.14	94.00
162	14,359.00	90.59	359.60	12,885.15	1,351.81	344.79	1,348.75	1,395.09	14.31	1.28	95.00
163	14,453.00	90.95	359.34	12,883.89	1,445.80	343.92	1,442.74	1,486.14	13.38	0.47	94.00
164	14,547.00	89.49	0.92	12,883.53	1,539.79	344.14	1,536.73	1,577.78	12.60	2.29	94.00
165	14,641.00	88.57	359.78	12,885.12	1,633.78	344.71	1,630.71	1,669.75	11.91	1.56	94.00
166	14,736.00	90.02	359.78	12,886.29	1,728.77	344.35	1,725.69	1,762.73	11.27	1.53	95.00
167	14,830.00	91.69	2.85	12,884.88	1,822.72	346.50	1,819.62	1,855.36	10.76	3.72	94.00
168	14,924.00	91.87	2.15	12,881.96	1,916.58	350.60	1,913.45	1,948.38	10.37	0.77	94.00
169	15,018.00	89.49	359.34	12,880.85	2,010.55	351.82	2,007.40	2,041.10	9.93	3.92	94.00
170	15,113.00	91.08	355.29	12,880.37	2,105.42	347.37	2,102.31	2,133.89	9.37	4.58	95.00
171	15,207.00	88.62	353.89	12,880.62	2,198.99	338.51	2,195.95	2,224.90	8.75	3.01	94.00
172	15,301.00	90.24	0.83	12,881.56	2,292.83	334.19	2,289.82	2,317.05	8.29	7.58	94.00
173	15,395.00	89.80	1.62	12,881.52	2,386.80	336.20	2,383.78	2,410.37	8.02	0.96	94.00
174	15,490.00	88.92	357.05	12,882.59	2,481.77	335.09	2,478.75	2,504.29	7.69	4.90	95.00
175	15,584.00	90.33	358.28	12,883.20	2,575.68	331.27	2,572.69	2,596.90	7.33	1.99	94.00
176	15,678.00	88.31	359.42	12,884.32	2,669.65	329.38	2,666.67	2,689.89	7.03	2.47	94.00
177	15,772.00	89.98	1.62	12,885.72	2,763.63	330.23	2,760.64	2,783.29	6.81	2.94	94.00
178	15,867.00	90.11	1.45	12,885.64	2,858.59	332.78	2,855.58	2,877.90	6.64	0.23	95.00
179	15,961.00	88.79	3.03	12,886.55	2,952.51	336.45	2,949.46	2,971.62	6.50	2.19	94.00

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
180	16,055.00	89.49	4.52	12,887.96	3,046.29	342.64	3,043.19	3,065.50	6.42	1.75	94.00
181	16,149.00	89.93	1.45	12,888.43	3,140.15	347.53	3,137.00	3,159.33	6.32	3.30	94.00
182	16,243.00	89.45	355.12	12,888.94	3,234.06	344.72	3,230.93	3,252.38	6.08	6.75	94.00
183	16,337.00	90.55	355.29	12,888.94	3,327.73	336.86	3,324.67	3,344.74	5.78	1.18	94.00
184	16,431.00	89.27	357.58	12,889.09	3,421.54	331.02	3,418.52	3,437.52	5.53	2.79	94.00
185	16,525.00	90.86	358.28	12,888.98	3,515.48	327.62	3,512.48	3,530.71	5.32	1.85	94.00
186	16,619.00	90.33	356.17	12,888.01	3,609.36	323.07	3,606.40	3,623.79	5.11	2.31	94.00
187	16,714.00	89.98	352.22	12,887.75	3,703.85	313.47	3,700.97	3,717.09	4.84	4.17	95.00
188	16,808.00	92.92	356.44	12,885.37	3,797.33	304.18	3,794.53	3,809.49	4.58	5.47	94.00
189	16,855.00	89.01	355.47	12,884.58	3,844.19	300.87	3,841.42	3,855.95	4.48	8.57	47.00
190	16,901.00	89.36	356.88	12,885.23	3,890.09	297.80	3,887.34	3,901.47	4.38	3.16	46.00
191	16,948.00	90.15	1.62	12,885.43	3,937.07	297.19	3,934.32	3,948.27	4.32	10.22	47.00
192	16,995.00	90.77	4.35	12,885.06	3,984.00	299.63	3,981.23	3,995.25	4.30	5.96	47.00
193	17,042.00	90.33	3.64	12,884.61	4,030.88	302.91	4,028.08	4,042.25	4.30	1.78	47.00
194	17,089.00	90.42	2.94	12,884.30	4,077.80	305.60	4,074.98	4,089.24	4.29	1.50	47.00
195	17,136.00	91.34	5.66	12,883.58	4,124.66	309.13	4,121.80	4,136.23	4.29	6.11	47.00
196	17,183.00	92.35	7.95	12,882.06	4,171.30	314.69	4,168.40	4,183.15	4.31	5.32	47.00
197	17,231.00	90.95	7.07	12,880.68	4,218.87	320.96	4,215.91	4,231.06	4.35	3.44	48.00
198	17,278.00	90.73	6.72	12,879.99	4,265.52	326.61	4,262.51	4,278.01	4.38	0.88	47.00
199	17,325.00	91.56	6.72	12,879.05	4,312.19	332.10	4,309.13	4,324.96	4.40	1.77	47.00
200	17,372.00	91.60	6.90	12,877.76	4,358.84	337.68	4,355.73	4,371.90	4.43	0.39	47.00
201	17,466.00	91.60	6.37	12,875.13	4,452.17	348.53	4,448.96	4,465.80	4.48	0.56	94.00
202	17,561.00	89.41	3.91	12,874.30	4,546.78	357.04	4,543.49	4,560.77	4.49	3.47	95.00
203	17,655.00	89.76	4.52	12,874.98	4,640.52	363.95	4,637.17	4,654.77	4.48	0.75	94.00
204	17,749.00	89.89	4.79	12,875.26	4,734.21	371.58	4,730.78	4,748.77	4.49	0.32	94.00
205	17,843.00	89.01	2.50	12,876.17	4,828.01	377.55	4,824.53	4,842.75	4.47	2.61	94.00
206	17,937.00	88.92	2.85	12,877.86	4,921.89	381.94	4,918.37	4,936.68	4.44	0.38	94.00
207	18,032.00	88.62	0.39	12,879.90	5,016.82	384.63	5,013.27	5,031.54	4.38	2.61	95.00
208	18,126.00	89.85	1.36	12,881.16	5,110.80	386.06	5,107.23	5,125.36	4.32	1.67	94.00
209	18,220.00	90.81	0.65	12,880.62	5,204.78	387.71	5,201.20	5,219.20	4.26	1.27	94.00
210	18,314.00	91.16	359.25	12,879.00	5,298.76	387.63	5,295.18	5,312.92	4.18	1.53	94.00
211	18,408.00	88.84	357.23	12,879.00	5,392.71	384.74	5,389.15	5,406.42	4.08	3.27	94.00
212	18,502.00	88.97	359.34	12,880.80	5,486.64	381.93	5,483.10	5,499.92	3.98	2.25	94.00
213	18,597.00	89.32	0.48	12,882.21	5,581.63	381.78	5,578.09	5,594.67	3.91	1.26	95.00
214	18,691.00	90.46	1.27	12,882.40	5,675.62	383.21	5,672.06	5,688.54	3.86	1.48	94.00
215	18,785.00	88.97	4.87	12,882.86	5,769.46	388.25	5,765.86	5,782.51	3.85	4.14	94.00
216	18,879.00	88.44	4.52	12,884.99	5,863.12	395.94	5,859.45	5,876.48	3.86	0.68	94.00
217	18,973.00	89.76	359.07	12,886.47	5,957.03	398.88	5,953.32	5,970.37	3.83	5.96	94.00
218	19,067.00	89.80	357.05	12,886.83	6,050.97	395.70	6,047.29	6,063.89	3.74	2.15	94.00
219	19,161.00	89.19	356.26	12,887.65	6,144.80	390.22	6,141.17	6,157.18	3.63	1.06	94.00
220	19,256.00	90.37	357.40	12,888.02	6,239.66	384.96	6,236.06	6,251.52	3.53	1.73	95.00
221	19,350.00	90.95	358.46	12,886.94	6,333.59	381.57	6,330.01	6,345.07	3.45	1.29	94.00
222	19,444.00	89.10	355.73	12,886.90	6,427.45	376.80	6,423.92	6,438.49	3.36	3.51	94.00
223	19,538.00	89.76	0.74	12,887.83	6,521.37	373.91	6,517.86	6,532.08	3.28	5.38	94.00
224	19,633.00	90.59	358.02	12,887.54	6,616.36	372.88	6,612.85	6,626.86	3.23	2.99	95.00
225	19,727.00	90.99	357.84	12,886.24	6,710.29	369.49	6,706.81	6,720.45	3.15	0.47	94.00
226	19,821.00	90.86	0.65	12,884.73	6,804.26	368.25	6,800.78	6,814.21	3.10	2.99	94.00
227	19,915.00	89.05	352.48	12,884.80	6,898.00	362.62	6,894.58	6,907.53	3.01	8.90	94.00
228	20,010.00	89.01	352.48	12,886.41	6,992.17	350.19	6,988.85	7,000.94	2.87	0.04	95.00
229	20,104.00	91.74	354.24	12,885.79	7,085.53	339.32	7,082.30	7,093.65	2.74	3.46	94.00
230	20,198.00	90.55	350.99	12,883.92	7,178.72	327.24	7,175.59	7,186.17	2.61	3.68	94.00
231	20,292.00	90.33	347.03	12,883.19	7,270.97	309.33	7,267.99	7,277.55	2.44	4.22	94.00
232	20,387.00	91.25	347.47	12,881.88	7,363.62	288.36	7,360.82	7,369.26	2.24	1.07	95.00
233	20,481.00	91.08	343.52	12,879.97	7,454.59	264.83	7,451.99	7,459.29	2.03	4.21	94.00
234	20,575.00	91.43	342.11	12,877.91	7,544.36	237.06	7,542.01	7,548.09	1.80	1.55	94.00
235	20,631.00	92.75	343.69	12,875.87	7,597.85	220.61	7,595.64	7,601.05	1.66	3.68	56.00
PTB	20,684.00	92.75	343.69	12,873.33	7,648.66	205.74	7,646.57	7,651.43	1.54	0.00	53.00



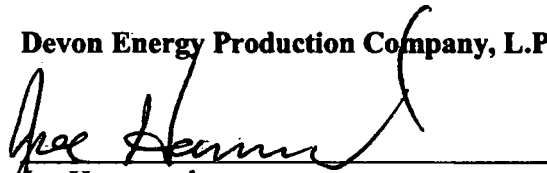
Devon Energy Production Company LP
333 West Sheridan Avenue
Oklahoma City, OK 73102

405 235 3611 Phone
www.devonenergy.com

Certificate of Ownership

I have reviewed the ownership of the oil and gas leasehold for Federal Oil & Gas Lease No. NMNM 114991 covering all of Section 17 and the N/2 of Section 20-T26S-R34E, Lea County, New Mexico, for purposes of identifying an "area of uniform ownership" as set forth in NMAC 19.15.16.15B(8) and C(7). As of this date below, the ownership in the above described lease and lands is uniform as to the mineral estate in the objective formation as provided in 19.15.16.15B(8) and C(7) NMAC.

Devon Energy Production Company, L.P.


Joe Hammond
Land Advisor
January 7, 2020

AREA OF COMMON OWNERSHIP

Section 17: All and Section 20: N/2
Township 26 South, Range 34 East
Lea County, New Mexico
Pool Name: Bobcat Draw Upper Wolfcamp (98094)

-  Area of Common Ownership
 Standard Horizontal Spacing Unit

