

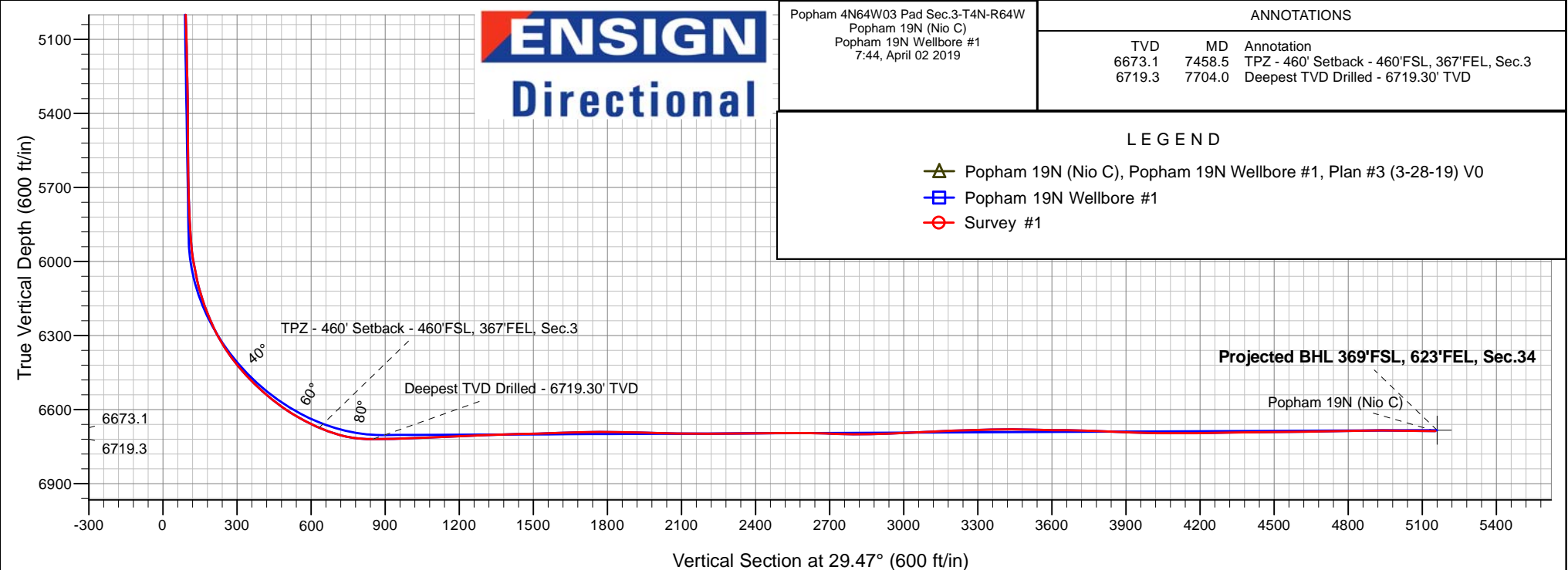
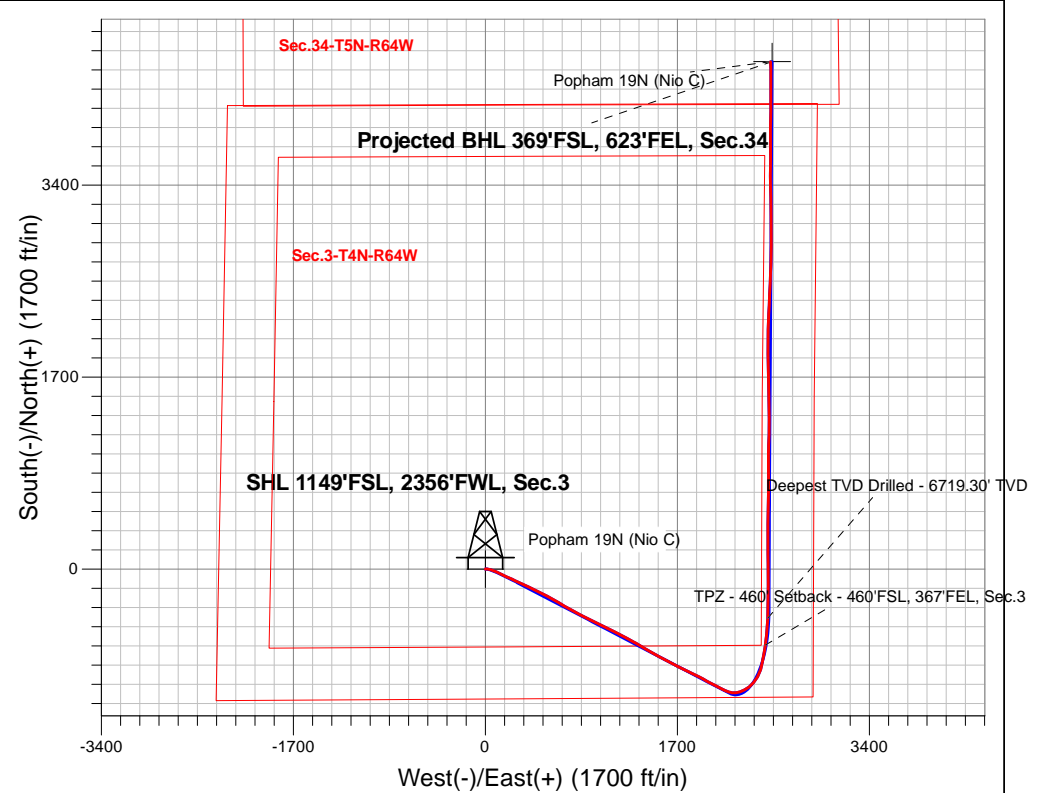
# PDC Energy Inc. DJ Basin

Well Name: **Popham 19N (Nio C)**

Surface Location: Popham 4N64W03 Pad Sec.3-T4N-R64W  
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
 Ground Elevation: 4662.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1367167.96 3268306.17 40.337280 -104.537510  
 WELL @ 4685.0ft

## FINAL SURVEY

**Projected Bottom Hole Location**  
**12,633'MD 6687'TVD 4492'N & 2526'E of SHL**  
**89.07 degree Incl @ 359.24 degree AZM**



Popham 4N64W03 Pad Sec.3-T4N-R64W  
 Popham 19N (Nio C)  
 Popham 19N Wellbore #1  
 7:44, April 02 2019

### ANNOTATIONS

TVD	MD	Annotation
6673.1	7458.5	TPZ - 460' Setback - 460'FSL, 367'FEL, Sec.3
6719.3	7704.0	Deepest TVD Drilled - 6719.30' TVD

### LEGEND

- ▲ Popham 19N (Nio C), Popham 19N Wellbore #1, Plan #3 (3-28-19) V0
- Popham 19N Wellbore #1
- Survey #1



## **PDC Energy Inc. DJ Basin**

**SEC.3-T4N-R64W**

**Popham 4N64W03 Pad Sec.3-T4N-R64W**

**Popham 19N (Nio C)**

**Popham 19N Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**02 April, 2019**

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Popham 19N (Nio C)
<b>Project:</b>	SEC.3-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4685.0ft
<b>Site:</b>	Popham 4N64W03 Pad Sec.3-T4N-R64W	<b>MD Reference:</b>	WELL @ 4685.0ft
<b>Well:</b>	Popham 19N (Nio C)	<b>North Reference:</b>	True
<b>Wellbore:</b>	Popham 19N Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Popham 19N Wellbore #1	<b>Database:</b>	US_EDM

<b>Project</b>	SEC.3-T4N-R64W, Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Popham 4N64W03 Pad Sec.3-T4N-R64W				
Site Position:		Northing:	1,367,183.37 usft	Latitude:	40.337327
From:	Lat/Long	Easting:	3,268,156.99 usft	Longitude:	-104.538045
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.62 °

Well	Popham 19N (Nio C)					
Well Position	+N/-S	0.0 ft	Northing:	1,367,167.96 usft	Latitude:	40.337280
	+E/-W	0.0 ft	Easting:	3,268,306.17 usft	Longitude:	-104.537510
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,662.0 ft

<b>Wellbore</b>	Popham 19N Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	3/28/2019	8.15	66.85	52,167

<b>Design</b>	Popham 19N Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	29.47	

<b>Survey Program</b>	<b>Date</b>	4/2/2019			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
157.0	12,633.0	Survey #1 (Popham 19N Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1.0	0.01	63.20	1.0	0.0	0.0	0.0	0.55	0.55	0.00	
<b>SHL 1149'FSL, 2356'FWL, Sec.3</b>										
157.0	0.87	63.20	157.0	0.5	1.1	1.0	0.55	0.55	0.00	
252.0	1.97	84.44	252.0	1.0	3.3	2.5	1.26	1.16	22.36	
347.0	2.76	83.82	346.9	1.4	7.2	4.8	0.83	0.83	-0.65	
442.0	3.52	92.70	441.7	1.5	12.4	7.4	0.95	0.80	9.35	
537.0	4.85	104.09	536.5	0.4	19.2	9.8	1.64	1.40	11.99	
633.0	6.56	101.89	632.0	-1.7	28.5	12.6	1.80	1.78	-2.29	
728.0	8.27	103.57	726.2	-4.4	40.5	16.1	1.81	1.80	1.77	
823.0	9.17	107.43	820.1	-8.3	54.3	19.5	1.13	0.95	4.06	

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Popham 19N (Nio C)
<b>Project:</b>	SEC.3-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4685.0ft
<b>Site:</b>	Popham 4N64W03 Pad Sec.3-T4N-R64W	<b>MD Reference:</b>	WELL @ 4685.0ft
<b>Well:</b>	Popham 19N (Nio C)	<b>North Reference:</b>	True
<b>Wellbore:</b>	Popham 19N Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Popham 19N Wellbore #1	<b>Database:</b>	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
918.0	9.83	109.75	913.8	-13.3	69.2	22.5	0.80	0.69	2.44
1,013.0	11.10	112.36	1,007.2	-19.5	85.3	25.0	1.43	1.34	2.75
1,109.0	12.80	117.45	1,101.1	-27.9	103.3	26.5	2.08	1.77	5.30
1,204.0	14.01	115.50	1,193.6	-37.7	123.0	27.6	1.36	1.27	-2.05
1,299.0	16.66	113.86	1,285.2	-48.2	145.8	29.8	2.83	2.79	-1.73
1,394.0	20.71	114.70	1,375.1	-60.7	173.6	32.5	4.27	4.26	0.88
1,489.0	20.70	116.07	1,464.0	-75.1	203.9	34.9	0.51	-0.01	1.44
1,595.0	19.63	115.62	1,563.5	-91.1	236.8	37.2	1.02	-1.01	-0.42
1,676.0	19.05	113.81	1,639.9	-102.3	261.1	39.4	1.03	-0.72	-2.23
1,772.0	20.75	116.05	1,730.2	-116.1	290.8	42.0	1.94	1.77	2.33
1,867.0	22.65	115.60	1,818.5	-131.4	322.4	44.2	2.01	2.00	-0.47
1,963.0	24.87	114.21	1,906.3	-147.6	357.5	47.3	2.38	2.31	-1.45
2,058.0	27.06	115.60	1,991.7	-165.2	395.2	50.6	2.39	2.31	1.46
2,153.0	28.80	116.45	2,075.7	-184.7	435.2	53.3	1.88	1.83	0.89
2,247.0	27.44	115.86	2,158.6	-204.2	474.9	55.8	1.48	-1.45	-0.63
2,342.0	25.85	115.26	2,243.5	-222.6	513.4	58.7	1.70	-1.67	-0.63
2,437.0	27.28	119.23	2,328.4	-242.1	551.1	60.3	2.40	1.51	4.18
2,533.0	26.05	119.04	2,414.2	-263.1	588.7	60.6	1.28	-1.28	-0.20
2,628.0	27.23	121.06	2,499.2	-284.4	625.6	60.1	1.57	1.24	2.13
2,723.0	27.67	120.32	2,583.5	-306.8	663.2	59.2	0.59	0.46	-0.78
2,818.0	30.01	120.37	2,666.7	-329.9	702.8	58.5	2.46	2.46	0.05
2,914.0	30.34	118.95	2,749.7	-353.8	744.7	58.3	0.82	0.34	-1.48
3,009.0	29.54	118.39	2,832.0	-376.5	786.3	59.0	0.89	-0.84	-0.59
3,105.0	28.03	118.15	2,916.1	-398.4	827.0	59.9	1.58	-1.57	-0.25
3,200.0	27.52	117.11	3,000.2	-419.0	866.2	61.4	0.74	-0.54	-1.09
3,295.0	25.48	116.32	3,085.2	-438.0	904.1	63.4	2.18	-2.15	-0.83
3,390.0	25.75	116.88	3,170.8	-456.4	940.8	65.4	0.38	0.28	0.59
3,486.0	26.52	116.35	3,257.0	-475.4	978.6	67.5	0.84	0.80	-0.55
3,581.0	25.40	114.56	3,342.4	-493.2	1,016.2	70.4	1.44	-1.18	-1.88
3,677.0	23.21	114.28	3,429.9	-509.6	1,052.1	73.9	2.28	-2.28	-0.29
3,773.0	23.65	116.63	3,518.0	-526.0	1,086.6	76.6	1.08	0.46	2.45
3,868.0	27.46	118.41	3,603.7	-545.0	1,122.9	77.9	4.09	4.01	1.87
3,964.0	27.86	118.32	3,688.7	-566.1	1,162.1	78.8	0.42	0.42	-0.09
4,060.0	27.68	118.10	3,773.7	-587.3	1,201.5	79.8	0.22	-0.19	-0.23
4,155.0	26.03	117.83	3,858.4	-607.4	1,239.4	80.9	1.74	-1.74	-0.28
4,251.0	25.22	116.77	3,945.0	-626.4	1,276.3	82.4	0.97	-0.84	-1.10
4,347.0	27.15	118.11	4,031.1	-646.0	1,313.9	83.9	2.10	2.01	1.40
4,442.0	28.02	120.98	4,115.3	-667.7	1,352.2	83.8	1.67	0.92	3.02
4,538.0	27.74	121.45	4,200.2	-690.9	1,390.6	82.5	0.37	-0.29	0.49
4,633.0	29.14	118.27	4,283.7	-713.4	1,429.8	82.2	2.17	1.47	-3.35
4,729.0	27.10	119.04	4,368.4	-735.1	1,469.5	82.8	2.16	-2.13	0.80
4,824.0	27.34	121.32	4,452.9	-757.0	1,507.1	82.3	1.13	0.25	2.40
4,920.0	27.73	120.66	4,538.0	-779.8	1,545.1	81.1	0.52	0.41	-0.69

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Popham 19N (Nio C)
<b>Project:</b>	SEC.3-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4685.0ft
<b>Site:</b>	Popham 4N64W03 Pad Sec.3-T4N-R64W	<b>MD Reference:</b>	WELL @ 4685.0ft
<b>Well:</b>	Popham 19N (Nio C)	<b>North Reference:</b>	True
<b>Wellbore:</b>	Popham 19N Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Popham 19N Wellbore #1	<b>Database:</b>	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,015.0	27.73	118.50	4,622.1	-801.6	1,583.5	81.0	1.06	0.00	-2.27
5,111.0	29.04	116.44	4,706.6	-822.7	1,624.0	82.6	1.70	1.36	-2.15
5,206.0	26.65	114.56	4,790.6	-841.8	1,664.1	85.7	2.68	-2.52	-1.98
5,302.0	25.90	115.67	4,876.6	-859.8	1,702.5	88.9	0.93	-0.78	1.16
5,397.0	27.05	116.36	4,961.7	-878.4	1,740.6	91.5	1.25	1.21	0.73
5,492.0	26.53	115.74	5,046.5	-897.2	1,779.1	94.0	0.62	-0.55	-0.65
5,587.0	26.59	117.81	5,131.4	-916.3	1,817.0	96.0	0.98	0.06	2.18
5,682.0	26.45	116.76	5,216.5	-935.8	1,854.7	97.6	0.52	-0.15	-1.11
5,778.0	24.74	117.62	5,303.0	-954.7	1,891.6	99.3	1.82	-1.78	0.90
5,873.0	25.20	118.38	5,389.2	-973.6	1,927.0	100.3	0.59	0.48	0.80
5,967.0	25.29	118.61	5,474.2	-992.7	1,962.2	101.0	0.14	0.10	0.24
6,062.0	26.69	118.28	5,559.6	-1,012.5	1,998.8	101.7	1.48	1.47	-0.35
6,156.0	27.66	117.43	5,643.2	-1,032.6	2,036.8	102.9	1.11	1.03	-0.90
6,251.0	27.68	117.08	5,727.3	-1,052.8	2,076.0	104.6	0.17	0.02	-0.37
6,347.0	24.47	114.29	5,813.5	-1,071.1	2,114.0	107.4	3.58	-3.34	-2.91
6,441.0	24.20	111.13	5,899.2	-1,086.1	2,149.7	111.9	1.41	-0.29	-3.36
6,537.0	20.85	96.35	5,987.9	-1,095.1	2,185.1	121.5	6.83	-3.49	-15.40
6,632.0	21.32	81.86	6,076.6	-1,094.5	2,219.0	138.7	5.50	0.49	-15.25
6,728.0	24.78	72.28	6,165.0	-1,085.9	2,255.5	164.1	5.31	3.60	-9.98
6,822.0	28.15	63.07	6,249.2	-1,069.8	2,294.0	197.0	5.64	3.59	-9.80
6,917.0	32.81	52.11	6,331.1	-1,043.8	2,334.4	239.5	7.62	4.91	-11.54
7,012.0	38.62	40.70	6,408.3	-1,005.5	2,374.1	292.4	9.28	6.12	-12.01
7,107.0	44.74	29.26	6,479.3	-953.7	2,409.8	355.1	10.26	6.44	-12.04
7,201.0	49.77	16.88	6,543.2	-890.3	2,436.5	423.4	11.04	5.35	-13.17
7,296.0	57.81	10.65	6,599.3	-816.0	2,454.5	497.0	9.97	8.46	-6.56
7,392.0	63.91	8.64	6,646.0	-733.3	2,468.5	575.8	6.61	6.35	-2.09
7,458.5	68.04	8.62	6,673.1	-673.3	2,477.6	632.6	6.21	6.21	-0.03
TPZ - 460' Setback - 460'FSL, 367'FEL, Sec.3									
7,488.0	69.87	8.61	6,683.7	-646.1	2,481.7	658.3	6.21	6.21	-0.03
7,583.0	79.13	5.18	6,709.1	-555.3	2,492.7	742.7	10.35	9.75	-3.61
7,704.0	91.15	1.91	6,719.3	-435.2	2,500.1	850.9	10.29	9.93	-2.70
Deepest TVD Drilled - 6719.30' TVD									
7,743.4	90.83	1.77	6,718.6	-395.8	2,501.3	885.8	0.88	-0.80	-0.35
LPL 737'FSL, 400'FEL, Sec.3									
7,800.0	90.38	1.57	6,718.0	-339.2	2,503.0	935.9	0.88	-0.80	-0.35
7,895.0	92.72	359.93	6,715.4	-244.3	2,504.2	1,019.2	3.01	2.46	-1.73
7,992.0	92.08	359.82	6,711.4	-147.4	2,504.0	1,103.4	0.67	-0.66	-0.11
8,087.0	91.75	359.97	6,708.2	-52.4	2,503.8	1,186.0	0.38	-0.35	0.16
8,182.0	92.08	359.58	6,705.0	42.5	2,503.5	1,268.5	0.54	0.35	-0.41
8,278.0	91.96	358.81	6,701.7	138.4	2,502.1	1,351.4	0.81	-0.13	-0.80
8,374.0	91.16	0.59	6,699.0	234.4	2,501.6	1,434.7	2.03	-0.83	1.85
8,469.0	91.41	0.04	6,696.9	329.4	2,502.1	1,517.6	0.64	0.26	-0.58
8,565.0	91.63	0.10	6,694.4	425.3	2,502.3	1,601.2	0.24	0.23	0.06
8,660.0	91.51	1.55	6,691.8	520.3	2,503.6	1,684.6	1.53	-0.13	1.53

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<b>Site:</b>	Popham 4N64W03 Pad Sec.3-T4N-R64W	<b>MD Reference:</b>	WELL @ 4685.0ft
<b>Well:</b>	Popham 19N (Nio C)	<b>North Reference:</b>	True
<b>Wellbore:</b>	Popham 19N Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Popham 19N Wellbore #1	<b>Database:</b>	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,756.0	89.76	1.09	6,690.7	616.3	2,505.8	1,769.2	1.88	-1.82	-0.48
8,851.0	89.50	0.42	6,691.3	711.2	2,507.1	1,852.5	0.76	-0.27	-0.71
8,947.0	88.85	0.26	6,692.7	807.2	2,507.7	1,936.4	0.70	-0.68	-0.17
9,042.0	88.19	359.47	6,695.1	902.2	2,507.4	2,018.9	1.08	-0.69	-0.83
9,138.0	89.44	359.97	6,697.1	998.2	2,507.0	2,102.3	1.40	1.30	0.52
9,233.0	90.39	1.87	6,697.3	1,093.2	2,508.5	2,185.7	2.24	1.00	2.00
9,329.0	90.11	1.06	6,696.9	1,189.1	2,510.9	2,270.5	0.89	-0.29	-0.84
9,425.0	90.22	0.00	6,696.6	1,285.1	2,511.8	2,354.5	1.11	0.11	-1.10
9,520.0	90.49	0.02	6,696.0	1,380.1	2,511.8	2,437.2	0.28	0.28	0.02
9,616.0	90.70	359.25	6,695.0	1,476.1	2,511.2	2,520.5	0.83	0.22	-0.80
9,711.0	89.31	358.33	6,695.0	1,571.1	2,509.2	2,602.2	1.75	-1.46	-0.97
9,807.0	88.59	357.73	6,696.7	1,667.0	2,505.9	2,684.1	0.98	-0.75	-0.63
9,902.0	88.76	359.23	6,698.9	1,761.9	2,503.4	2,765.5	1.59	0.18	1.58
9,997.0	90.47	359.57	6,699.6	1,856.9	2,502.4	2,847.7	1.84	1.80	0.36
10,092.0	92.03	0.87	6,697.5	1,951.9	2,502.8	2,930.6	2.14	1.64	1.37
10,188.0	92.04	359.69	6,694.1	2,047.8	2,503.2	3,014.3	1.23	0.01	-1.23
10,284.0	93.44	1.77	6,689.5	2,143.7	2,504.5	3,098.4	2.61	1.46	2.17
10,379.0	91.37	3.14	6,685.5	2,238.5	2,508.5	3,183.0	2.61	-2.18	1.44
10,475.0	91.09	2.52	6,683.5	2,334.4	2,513.3	3,268.7	0.71	-0.29	-0.65
10,570.0	91.97	2.47	6,680.9	2,429.3	2,517.4	3,353.4	0.93	0.93	-0.05
10,666.0	89.25	2.81	6,679.9	2,525.2	2,521.8	3,439.0	2.86	-2.83	0.35
10,762.0	88.90	2.22	6,681.4	2,621.1	2,526.0	3,524.6	0.71	-0.36	-0.61
10,857.0	89.01	1.20	6,683.2	2,716.0	2,528.9	3,608.7	1.08	0.12	-1.07
10,952.0	89.06	0.67	6,684.8	2,811.0	2,530.4	3,692.1	0.56	0.05	-0.56
11,048.0	88.83	0.17	6,686.5	2,906.9	2,531.1	3,776.0	0.57	-0.24	-0.52
11,143.0	88.13	359.51	6,689.1	3,001.9	2,530.9	3,858.6	1.01	-0.74	-0.69
11,238.0	87.18	359.74	6,693.0	3,096.8	2,530.2	3,940.9	1.03	-1.00	0.24
11,334.0	89.71	358.19	6,695.6	3,192.8	2,528.5	4,023.6	3.09	2.64	-1.61
11,430.0	90.27	359.55	6,695.6	3,288.7	2,526.6	4,106.2	1.53	0.58	1.42
11,525.0	90.03	358.66	6,695.3	3,383.7	2,525.1	4,188.2	0.97	-0.25	-0.94
11,620.0	91.43	0.39	6,694.1	3,478.7	2,524.3	4,270.5	2.34	1.47	1.82
11,716.0	90.84	0.03	6,692.2	3,574.7	2,524.7	4,354.2	0.72	-0.61	-0.38
11,812.0	90.78	0.27	6,690.9	3,670.7	2,524.9	4,437.9	0.26	-0.06	0.25
11,907.0	90.19	359.99	6,690.1	3,765.7	2,525.2	4,520.7	0.69	-0.62	-0.29
12,003.0	89.73	359.57	6,690.1	3,861.7	2,524.8	4,604.1	0.65	-0.48	-0.44
12,099.0	91.72	1.06	6,688.9	3,957.7	2,525.3	4,688.0	2.59	2.07	1.55
12,194.0	91.04	0.51	6,686.6	4,052.6	2,526.6	4,771.3	0.92	-0.72	-0.58
12,290.0	90.57	0.31	6,685.3	4,148.6	2,527.3	4,855.2	0.53	-0.49	-0.21
12,384.0	90.15	0.11	6,684.7	4,242.6	2,527.7	4,937.2	0.49	-0.45	-0.21
12,480.0	89.47	359.66	6,685.0	4,338.6	2,527.5	5,020.7	0.85	-0.71	-0.47
12,573.0	89.07	359.24	6,686.2	4,431.6	2,526.6	5,101.2	0.62	-0.43	-0.45
12,633.0	89.07	359.24	6,687.2	4,491.6	2,525.8	5,153.0	0.00	0.00	0.00
Projected BHL 369'FSL, 623'FEL, Sec.34									

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Popham 19N (Nio C)
<b>Project:</b>	SEC.3-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4685.0ft
<b>Site:</b>	Popham 4N64W03 Pad Sec.3-T4N-R64W	<b>MD Reference:</b>	WELL @ 4685.0ft
<b>Well:</b>	Popham 19N (Nio C)	<b>North Reference:</b>	True
<b>Wellbore:</b>	Popham 19N Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Popham 19N Wellbore #1	<b>Database:</b>	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL 1149'FSL, 2356'FW	0.00	0.00	1.0	0.0	0.0	1,367,167.98	3,268,306.17	40.337280	-104.537510
- survey hits target center									
- Point									
Projected BHL 369'FSL,	0.00	0.00	6,683.0	4,492.8	2,538.4	1,371,687.81	3,270,795.59	40.349612	-104.528403
- survey misses target center by 13.4ft at 12633.0ft MD (6687.2 TVD, 4491.6 N, 2525.8 E)									
- Point									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,458.5	6,673.1	-673.3	2,477.6	TPZ - 460' Setback - 460'FSL, 367'FEL, Sec.3
7,704.0	6,719.3	-435.2	2,500.1	Deepest TVD Drilled - 6719.30' TVD

Checked By: _____	Approved By: _____	Date: _____
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