



# Jay-Bee Oil & Gas

Tyler County

Moe Pad

Moe 1

Wellbore #1

Plan: Design #1

## QES Well Planning Report

10 October, 2018

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JUN 12 2020  
WV Department of  
Environmental Protection





Well Planning Report



**Database:** EDM 5000.1 Single User Db  
**Company:** Jay-Bee Oil & Gas  
**Project:** Tyler County  
**Site:** Moe Pad  
**Well:** Moe 1  
**Wellbore:** Wellbore #1  
**Design:** Design #1

**Local Co-ordinate Reference:** Well Moe 1  
**TVD Reference:** well @ 982.6usft (Patterson #581)  
**MD Reference:** well @ 982.6usft (Patterson #581)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	Tyler County		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	West Virginia Northern Zone		

<b>Site</b>	Moe Pad				
<b>Site Position:</b>		<b>Northing:</b>	355,617.63 usft	<b>Latitude:</b>	39° 28' 4.999 N
<b>From:</b>	Map	<b>Easting:</b>	1,576,794.07 usft	<b>Longitude:</b>	80° 53' 15.224 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.88 °

<b>Well</b>	Moe 1					
<b>Well Position</b>	<b>+N/-S</b>	11.6 usft	<b>Northing:</b>	355,629.25 usft	<b>Latitude:</b>	39° 28' 5.123 N
	<b>+E/-W</b>	58.7 usft	<b>Easting:</b>	1,576,852.77 usft	<b>Longitude:</b>	80° 53' 14.477 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	0.0 usft	<b>Ground Level:</b>	962.0 usft

<b>Wellbore</b>	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>
	IGRF2015	10/10/2018	-8.54	66.62	51,881.79647002

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	156.78

Plan Sections									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00
550.0	0.00	0.00	550.0	0.0	0.0	0.00	0.00	0.00	0.00
800.0	5.00	30.00	799.7	9.4	5.5	2.00	2.00	0.00	30.00
5,016.4	5.00	30.00	5,000.0	327.7	189.2	0.00	0.00	0.00	0.00
5,240.2	18.16	13.77	5,218.9	370.2	202.4	6.00	5.88	-7.25	-22.03
5,724.2	18.16	13.77	5,678.7	516.7	238.3	0.00	0.00	0.00	0.00
6,777.1	90.00	161.57	6,392.0	31.8	531.3	10.00	6.82	14.04	146.47 LP - Moe 1
12,770.8	90.00	161.57	6,392.0	-5,654.5	2,426.2	0.00	0.00	0.00	0.00 PBHL - Moe 1

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 well @ 982.6usft (Patterson #581)  
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## Planned 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP/ (Build 2.00°/100°)</b>									
550.0	0.00	0.00	550.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	1.00	30.00	600.0	0.4	0.2	-0.3	2.00	2.00	0.00
700.0	3.00	30.00	699.9	3.4	2.0	-2.4	2.00	2.00	0.00
<b>EOB @ 5.00° Inc / 30.00° Azm</b>									
800.0	5.00	30.00	799.7	9.4	5.5	-6.5	2.00	2.00	0.00
900.0	5.00	30.00	899.3	17.0	9.8	-11.7	0.00	0.00	0.00
1,000.0	5.00	30.00	998.9	24.5	14.2	-17.0	0.00	0.00	0.00
1,100.0	5.00	30.00	1,098.5	32.1	18.5	-22.2	0.00	0.00	0.00
1,200.0	5.00	30.00	1,198.2	39.6	22.9	-27.4	0.00	0.00	0.00
1,300.0	5.00	30.00	1,297.8	47.2	27.2	-32.6	0.00	0.00	0.00
1,400.0	5.00	30.00	1,397.4	54.7	31.6	-37.8	0.00	0.00	0.00
1,500.0	5.00	30.00	1,497.0	62.3	36.0	-43.1	0.00	0.00	0.00
1,600.0	5.00	30.00	1,596.6	69.8	40.3	-48.3	0.00	0.00	0.00
1,700.0	5.00	30.00	1,696.3	77.4	44.7	-53.5	0.00	0.00	0.00
1,800.0	5.00	30.00	1,795.9	84.9	49.0	-58.7	0.00	0.00	0.00
1,900.0	5.00	30.00	1,895.5	92.5	53.4	-63.9	0.00	0.00	0.00
2,000.0	5.00	30.00	1,995.1	100.0	57.7	-69.1	0.00	0.00	0.00
2,100.0	5.00	30.00	2,094.7	107.6	62.1	-74.4	0.00	0.00	0.00
2,200.0	5.00	30.00	2,194.4	115.1	66.5	-79.6	0.00	0.00	0.00
2,300.0	5.00	30.00	2,294.0	122.7	70.8	-84.8	0.00	0.00	0.00
2,400.0	5.00	30.00	2,393.6	130.2	75.2	-90.0	0.00	0.00	0.00
2,500.0	5.00	30.00	2,493.2	137.8	79.5	-95.2	0.00	0.00	0.00
2,600.0	5.00	30.00	2,592.8	145.3	83.9	-100.5	0.00	0.00	0.00
2,700.0	5.00	30.00	2,692.5	152.9	88.2	-105.7	0.00	0.00	0.00
2,800.0	5.00	30.00	2,792.1	160.4	92.6	-110.9	0.00	0.00	0.00
2,900.0	5.00	30.00	2,891.7	167.9	97.0	-116.1	0.00	0.00	0.00
3,000.0	5.00	30.00	2,991.3	175.5	101.3	-121.3	0.00	0.00	0.00
3,100.0	5.00	30.00	3,090.9	183.0	105.7	-126.5	0.00	0.00	0.00
3,200.0	5.00	30.00	3,190.6	190.6	110.0	-131.8	0.00	0.00	0.00
3,300.0	5.00	30.00	3,290.2	198.1	114.4	-137.0	0.00	0.00	0.00
3,400.0	5.00	30.00	3,389.8	205.7	118.8	-142.2	0.00	0.00	0.00
3,500.0	5.00	30.00	3,489.4	213.2	123.1	-147.4	0.00	0.00	0.00
3,600.0	5.00	30.00	3,589.0	220.8	127.5	-152.6	0.00	0.00	0.00
3,700.0	5.00	30.00	3,688.6	228.3	131.8	-157.8	0.00	0.00	0.00
3,800.0	5.00	30.00	3,788.3	235.9	136.2	-163.1	0.00	0.00	0.00
3,900.0	5.00	30.00	3,887.9	243.4	140.5	-168.3	0.00	0.00	0.00
4,000.0	5.00	30.00	3,987.5	251.0	144.9	-173.5	0.00	0.00	0.00
4,100.0	5.00	30.00	4,087.1	258.5	149.3	-178.7	0.00	0.00	0.00
4,200.0	5.00	30.00	4,186.7	266.1	153.6	-183.9	0.00	0.00	0.00
4,300.0	5.00	30.00	4,286.4	273.6	158.0	-189.2	0.00	0.00	0.00
4,400.0	5.00	30.00	4,386.0	281.2	162.3	-194.4	0.00	0.00	0.00
4,500.0	5.00	30.00	4,485.6	288.7	166.7	-199.6	0.00	0.00	0.00
4,600.0	5.00	30.00	4,585.2	296.3	171.0	-204.8	0.00	0.00	0.00
4,700.0	5.00	30.00	4,684.8	303.8	175.4	-210.0	0.00	0.00	0.00
4,800.0	5.00	30.00	4,784.5	311.4	179.8	-215.2	0.00	0.00	0.00
4,900.0	5.00	30.00	4,884.1	318.9	184.1	-220.5	0.00	0.00	0.00
5,000.0	5.00	30.00	4,983.7	326.5	188.5	-225.7	0.00	0.00	0.00





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<b>Build 6° / 100'</b>									
5,016.4	5.00	30.00	5,000.0	327.7	189.2	-226.5	0.00	0.00	0.00
5,050.0	6.91	23.70	5,033.5	330.8	190.7	-228.8	5.99	5.68	-18.72
5,100.0	9.83	18.93	5,082.9	337.6	193.3	-234.0	6.00	5.84	-9.55
5,150.0	12.79	16.33	5,131.9	347.0	196.3	-241.4	6.00	5.91	-5.19
5,200.0	15.76	14.70	5,180.4	358.8	199.6	-251.1	6.00	5.95	-3.26
<b>EOB @ 18.10° Inc. / 13.85° Azm</b>									
5,239.2	18.10	13.79	5,217.9	369.9	202.4	-260.1	6.00	5.96	-2.32
5,240.2	18.16	13.77	5,218.9	370.2	202.4	-260.4	6.00	5.97	-2.03
5,300.0	18.16	13.77	5,275.7	388.3	206.9	-275.3	0.00	0.00	0.00
5,400.0	18.16	13.77	5,370.7	418.6	214.3	-300.2	0.00	0.00	0.00
5,500.0	18.16	13.77	5,465.7	448.8	221.7	-325.1	0.00	0.00	0.00
5,600.0	18.16	13.77	5,560.7	479.1	229.1	-350.0	0.00	0.00	0.00
5,700.0	18.16	13.77	5,655.7	509.4	236.5	-374.8	0.00	0.00	0.00
5,724.2	18.16	13.77	5,678.7	516.7	238.3	-380.9	0.00	0.00	0.00
<b>Build 10° / 100'</b>									
5,724.6	18.12	13.85	5,679.2	516.9	238.4	-381.0	10.00	-8.33	17.76
5,750.0	16.07	18.92	5,703.4	524.0	240.4	-386.7	10.00	-8.09	20.01
5,800.0	12.54	33.38	5,751.8	535.1	245.7	-394.9	10.00	-7.07	28.92
5,850.0	10.28	56.18	5,800.9	542.1	252.4	-398.7	10.00	-4.52	45.60
5,900.0	10.17	84.63	5,850.1	545.0	260.5	-398.1	10.00	-0.21	56.89
5,950.0	12.28	108.17	5,899.2	543.8	269.9	-393.3	10.00	4.22	47.08
6,000.0	15.74	123.24	5,947.7	538.4	280.7	-384.1	10.00	6.91	30.14
6,050.0	19.85	132.62	5,995.3	528.9	292.6	-370.7	10.00	8.23	18.75
6,100.0	24.29	138.78	6,041.6	515.4	305.6	-353.1	10.00	8.87	12.33
6,150.0	28.90	143.11	6,086.3	498.0	319.7	-331.6	10.00	9.22	8.66
6,200.0	33.62	146.33	6,129.1	476.8	334.6	-306.2	10.00	9.43	6.43
6,250.0	38.40	148.83	6,169.5	452.0	350.3	-277.2	10.00	9.56	5.00
6,300.0	43.22	150.85	6,207.4	423.7	366.7	-244.8	10.00	9.65	4.04
6,350.0	48.07	152.54	6,242.3	392.3	383.6	-209.2	10.00	9.71	3.38
6,400.0	52.95	153.99	6,274.1	357.8	401.0	-170.7	10.00	9.75	2.90
6,450.0	57.83	155.26	6,302.5	320.6	418.6	-129.6	10.00	9.78	2.55
6,500.0	62.74	156.40	6,327.3	281.0	436.4	-86.2	10.00	9.80	2.29
6,550.0	67.64	157.45	6,348.2	239.3	454.1	-40.8	10.00	9.82	2.09
6,600.0	72.56	158.42	6,365.2	195.7	471.8	6.2	10.00	9.83	1.95
6,650.0	77.48	159.35	6,378.2	150.7	489.2	54.4	10.00	9.84	1.85
6,700.0	82.40	160.23	6,386.9	104.5	506.2	103.6	10.00	9.85	1.78
6,750.0	87.33	161.10	6,391.4	57.5	522.7	153.2	10.00	9.85	1.74
<b>EOB @ 90.00° Inc. / 161.57° Azm</b>									
6,776.9	89.98	161.57	6,392.0	32.0	531.3	180.1	10.00	9.85	1.72
6,777.1	90.00	161.57	6,392.0	31.8	531.3	180.3	10.00	9.85	1.72
6,800.0	90.00	161.57	6,392.0	10.1	538.6	203.1	0.00	0.00	0.00
6,900.0	90.00	161.57	6,392.0	-84.8	570.2	302.7	0.00	0.00	0.00
7,000.0	90.00	161.57	6,392.0	-179.6	601.8	402.4	0.00	0.00	0.00
7,100.0	90.00	161.57	6,392.0	-274.5	633.4	502.0	0.00	0.00	0.00
7,200.0	90.00	161.57	6,392.0	-369.4	665.0	601.7	0.00	0.00	0.00
7,300.0	90.00	161.57	6,392.0	-464.2	696.6	701.3	0.00	0.00	0.00
7,400.0	90.00	161.57	6,392.0	-559.1	728.2	801.0	0.00	0.00	0.00
7,500.0	90.00	161.57	6,392.0	-654.0	759.9	900.6	0.00	0.00	0.00
7,600.0	90.00	161.57	6,392.0	-748.9	791.5	1,000.3	0.00	0.00	0.00
7,700.0	90.00	161.57	6,392.0	-843.7	823.1	1,099.9	0.00	0.00	0.00
7,800.0	90.00	161.57	6,392.0	-938.6	854.7	1,199.6	0.00	0.00	0.00
7,900.0	90.00	161.57	6,392.0	-1,033.5	886.3	1,299.2	0.00	0.00	0.00



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8,000.0	90.00	161.57	6,392.0	-1,128.3	917.9	1,398.9	0.00	0.00	0.00
8,100.0	90.00	161.57	6,392.0	-1,223.2	949.6	1,498.5	0.00	0.00	0.00
8,200.0	90.00	161.57	6,392.0	-1,318.1	981.2	1,598.2	0.00	0.00	0.00
8,300.0	90.00	161.57	6,392.0	-1,413.0	1,012.8	1,697.8	0.00	0.00	0.00
8,400.0	90.00	161.57	6,392.0	-1,507.8	1,044.4	1,797.5	0.00	0.00	0.00
8,500.0	90.00	161.57	6,392.0	-1,602.7	1,076.0	1,897.1	0.00	0.00	0.00
8,600.0	90.00	161.57	6,392.0	-1,697.6	1,107.6	1,996.8	0.00	0.00	0.00
8,700.0	90.00	161.57	6,392.0	-1,792.4	1,139.2	2,096.4	0.00	0.00	0.00
8,800.0	90.00	161.57	6,392.0	-1,887.3	1,170.9	2,196.1	0.00	0.00	0.00
8,900.0	90.00	161.57	6,392.0	-1,982.2	1,202.5	2,295.7	0.00	0.00	0.00
9,000.0	90.00	161.57	6,392.0	-2,077.1	1,234.1	2,395.4	0.00	0.00	0.00
9,100.0	90.00	161.57	6,392.0	-2,171.9	1,265.7	2,495.0	0.00	0.00	0.00
9,200.0	90.00	161.57	6,392.0	-2,266.8	1,297.3	2,594.7	0.00	0.00	0.00
9,300.0	90.00	161.57	6,392.0	-2,361.7	1,328.9	2,694.3	0.00	0.00	0.00
9,400.0	90.00	161.57	6,392.0	-2,456.5	1,360.5	2,794.0	0.00	0.00	0.00
9,500.0	90.00	161.57	6,392.0	-2,551.4	1,392.2	2,893.6	0.00	0.00	0.00
9,600.0	90.00	161.57	6,392.0	-2,646.3	1,423.8	2,993.3	0.00	0.00	0.00
9,700.0	90.00	161.57	6,392.0	-2,741.1	1,455.4	3,092.9	0.00	0.00	0.00
9,800.0	90.00	161.57	6,392.0	-2,836.0	1,487.0	3,192.6	0.00	0.00	0.00
9,900.0	90.00	161.57	6,392.0	-2,930.9	1,518.6	3,292.2	0.00	0.00	0.00
10,000.0	90.00	161.57	6,392.0	-3,025.8	1,550.2	3,391.9	0.00	0.00	0.00
10,100.0	90.00	161.57	6,392.0	-3,120.6	1,581.8	3,491.5	0.00	0.00	0.00
10,200.0	90.00	161.57	6,392.0	-3,215.5	1,613.5	3,591.2	0.00	0.00	0.00
10,300.0	90.00	161.57	6,392.0	-3,310.4	1,645.1	3,690.8	0.00	0.00	0.00
10,400.0	90.00	161.57	6,392.0	-3,405.2	1,676.7	3,790.5	0.00	0.00	0.00
10,500.0	90.00	161.57	6,392.0	-3,500.1	1,708.3	3,890.1	0.00	0.00	0.00
10,600.0	90.00	161.57	6,392.0	-3,595.0	1,739.9	3,989.8	0.00	0.00	0.00
10,700.0	90.00	161.57	6,392.0	-3,689.9	1,771.5	4,089.4	0.00	0.00	0.00
10,800.0	90.00	161.57	6,392.0	-3,784.7	1,803.1	4,189.1	0.00	0.00	0.00
10,900.0	90.00	161.57	6,392.0	-3,879.6	1,834.8	4,288.7	0.00	0.00	0.00
11,000.0	90.00	161.57	6,392.0	-3,974.5	1,866.4	4,388.4	0.00	0.00	0.00
11,100.0	90.00	161.57	6,392.0	-4,069.3	1,898.0	4,488.0	0.00	0.00	0.00
11,200.0	90.00	161.57	6,392.0	-4,164.2	1,929.6	4,587.7	0.00	0.00	0.00
11,300.0	90.00	161.57	6,392.0	-4,259.1	1,961.2	4,687.3	0.00	0.00	0.00
11,400.0	90.00	161.57	6,392.0	-4,354.0	1,992.8	4,787.0	0.00	0.00	0.00
11,500.0	90.00	161.57	6,392.0	-4,448.8	2,024.4	4,886.6	0.00	0.00	0.00
11,600.0	90.00	161.57	6,392.0	-4,543.7	2,056.1	4,986.3	0.00	0.00	0.00
11,700.0	90.00	161.57	6,392.0	-4,638.6	2,087.7	5,085.9	0.00	0.00	0.00
11,800.0	90.00	161.57	6,392.0	-4,733.4	2,119.3	5,185.6	0.00	0.00	0.00
11,900.0	90.00	161.57	6,392.0	-4,828.3	2,150.9	5,285.2	0.00	0.00	0.00
12,000.0	90.00	161.57	6,392.0	-4,923.2	2,182.5	5,384.9	0.00	0.00	0.00
12,100.0	90.00	161.57	6,392.0	-5,018.1	2,214.1	5,484.5	0.00	0.00	0.00
12,200.0	90.00	161.57	6,392.0	-5,112.9	2,245.7	5,584.2	0.00	0.00	0.00
12,300.0	90.00	161.57	6,392.0	-5,207.8	2,277.4	5,683.8	0.00	0.00	0.00
12,400.0	90.00	161.57	6,392.0	-5,302.7	2,309.0	5,783.5	0.00	0.00	0.00
12,500.0	90.00	161.57	6,392.0	-5,397.5	2,340.6	5,883.1	0.00	0.00	0.00
12,600.0	90.00	161.57	6,392.0	-5,492.4	2,372.2	5,982.8	0.00	0.00	0.00
12,700.0	90.00	161.57	6,392.0	-5,587.3	2,403.8	6,082.4	0.00	0.00	0.00
<b>TD @ 12770.6' MD / 6392.0' TVD</b>									
12,770.6	90.00	161.57	6,392.0	-5,654.3	2,426.2	6,152.8	0.00	0.00	0.00
12,770.8	90.00	161.57	6,392.0	-5,654.5	2,426.2	6,153.0	0.00	0.00	0.00





# Well Planning Report



**Database:** EDM 5000.1 Single User Db  
**Company:** Jay-Bee Oil & Gas  
**Project:** Tyler County  
**Site:** Moe Pad  
**Well:** Moe 1  
**Wellbore:** Wellbore #1  
**Design:** Design #1

**Local Co-ordinate Reference:** Well Moe 1  
**TVD Reference:** well @ 982.6usft (Patterson #581)  
**MD Reference:** well @ 982.6usft (Patterson #581)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

## Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
PBHL - Moe 1 - plan hits target center - Point	0.00	360.00	6,392.0	-5,654.5	2,426.2	349,974.76	1,579,278.98	39° 27' 9.611 N	80° 52' 42.436 W
LP - Moe 1 - plan hits target center - Point	0.00	0.00	6,392.0	31.8	531.3	355,661.06	1,577,384.10	39° 28' 5.518 N	80° 53' 7.709 W

## Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
550.0	550.0	0.0	0.0	KOP/ (Build 2.00°/100')
800.0	799.7	9.4	5.5	EOB @ 5.00° Inc / 30.00° Azm
5,016.4	5,000.0	327.7	189.2	Build 6° / 100'
5,239.2	5,217.9	369.9	202.4	EOB @ 18.10° Inc. / 13.85° Azm
5,724.6	5,679.2	516.9	238.4	Build 10° / 100'
6,776.9	6,392.0	32.0	531.3	EOB @ 90.00° Inc. / 161.57° Azm
12,770.6	6,392.0	-5,654.3	2,426.2	TD @ 12770.6' MD / 6392.0' TVD

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 JUN 12 2020  
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