



# Jay-Bee Oil & Gas

Tyler County

Moe Pad

Moe 3

Wellbore #1

Plan: Design #3

## QES Well Planning Report

26 September, 2018

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WV Department of  
Environmental Protection





# Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Moe 3
<b>Company:</b>	Jay-Bee Oil & Gas	<b>TVD Reference:</b>	well @ 982.6usft (Patterson #581)
<b>Project:</b>	Tyler County	<b>MD Reference:</b>	well @ 982.6usft (Patterson #581)
<b>Site:</b>	Moe Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Moe 3	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

<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 3					
<b>Well Position</b>	<b>+N/-S</b>	3.9 usft	<b>Northing:</b>	355,621.49 usft	<b>Latitude:</b>	39° 28' 5.040 N
	<b>+E/-W</b>	19.3 usft	<b>Easting:</b>	1,576,813.41 usft	<b>Longitude:</b>	80° 53' 14.978 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		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/26/2018	-8.54	66.62	51,886.23538440

<b>Design</b>	Design #3			
<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	168.27

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
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00
625.0	5.00	300.00	624.8	2.7	-4.7	4.00	4.00	0.00	300.00
969.0	5.00	300.00	967.5	17.7	-30.7	0.00	0.00	0.00	0.00
1,018.7	6.00	281.92	1,017.0	19.3	-35.1	4.00	2.01	-36.37	-69.22
4,370.7	6.00	281.92	4,350.7	91.7	-377.9	0.00	0.00	0.00	0.00
4,570.6	17.99	282.97	4,545.9	100.8	-418.4	6.00	6.00	0.52	1.56
5,838.9	17.99	282.97	5,752.1	188.7	-800.2	0.00	0.00	0.00	0.00
6,830.6	90.00	161.92	6,392.0	-404.2	-793.9	10.00	7.26	-12.21	-119.79
14,605.5	90.00	161.92	6,392.0	-7,795.3	1,619.0	0.00	0.00	0.00	0.00

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WV Department of Environmental Protection



Well Planning Report



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 Company: Jay-Bee Oil & Gas  
 Project: Tyler County  
 Site: Moe Pad  
 Well: Moe 3  
 Wellbore: Wellbore #1  
 Design: Design #3

Local Co-ordinate Reference:  
 TVD Reference:  
 MD Reference:  
 North Reference:  
 Survey Calculation Method:

Well Moe 3  
 well @ 982.6usft (Patterson #581)  
 well @ 982.6usft (Patterson #581)  
 Grid  
 Minimum Curvature

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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
<b>Build 4° / 100'</b>									
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	4.00	300.00	599.9	1.7	-3.0	-2.3	4.00	4.00	0.00
<b>EOB @ 5.00° Inc. / 300.00° Azm</b>									
625.0	5.00	300.00	624.8	2.7	-4.7	-3.6	4.00	4.00	0.00
700.0	5.00	300.00	699.6	6.0	-10.4	-8.0	0.00	0.00	0.00
800.0	5.00	300.00	799.2	10.4	-17.9	-13.8	0.00	0.00	0.00
900.0	5.00	300.00	898.8	14.7	-25.5	-19.6	0.00	0.00	0.00
<b>Build 4° / 100'</b>									
969.0	5.00	300.00	967.5	17.7	-30.7	-23.6	0.00	0.00	0.00
1,000.0	5.56	287.95	998.4	18.9	-33.3	-25.2	4.00	1.81	-38.87
<b>EOB @ 6.00° Inc. / 281.92° Azm</b>									
1,018.7	6.00	281.92	1,017.0	19.3	-35.1	-26.1	4.00	2.34	-32.23
1,100.0	6.00	281.92	1,097.9	21.1	-43.4	-29.5	0.00	0.00	0.00
1,200.0	6.00	281.92	1,197.3	23.3	-53.6	-33.7	0.00	0.00	0.00
1,300.0	6.00	281.92	1,296.8	25.4	-63.9	-37.9	0.00	0.00	0.00
1,400.0	6.00	281.92	1,396.2	27.6	-74.1	-42.1	0.00	0.00	0.00
1,500.0	6.00	281.92	1,495.7	29.7	-84.3	-46.3	0.00	0.00	0.00
1,600.0	6.00	281.92	1,595.1	31.9	-94.6	-50.4	0.00	0.00	0.00
1,700.0	6.00	281.92	1,694.6	34.0	-104.8	-54.6	0.00	0.00	0.00
1,800.0	6.00	281.92	1,794.0	36.2	-115.0	-58.8	0.00	0.00	0.00
1,900.0	6.00	281.92	1,893.5	38.4	-125.2	-63.0	0.00	0.00	0.00
2,000.0	6.00	281.92	1,992.9	40.5	-135.5	-67.2	0.00	0.00	0.00
2,100.0	6.00	281.92	2,092.4	42.7	-145.7	-71.4	0.00	0.00	0.00
2,200.0	6.00	281.92	2,191.8	44.8	-155.9	-75.6	0.00	0.00	0.00
2,300.0	6.00	281.92	2,291.3	47.0	-166.1	-79.8	0.00	0.00	0.00
2,400.0	6.00	281.92	2,390.7	49.2	-176.4	-84.0	0.00	0.00	0.00
2,500.0	6.00	281.92	2,490.2	51.3	-186.6	-88.2	0.00	0.00	0.00
2,600.0	6.00	281.92	2,589.6	53.5	-196.8	-92.4	0.00	0.00	0.00
2,700.0	6.00	281.92	2,689.1	55.6	-207.1	-96.6	0.00	0.00	0.00
2,800.0	6.00	281.92	2,788.5	57.8	-217.3	-100.8	0.00	0.00	0.00
2,900.0	6.00	281.92	2,888.0	60.0	-227.5	-105.0	0.00	0.00	0.00
3,000.0	6.00	281.92	2,987.5	62.1	-237.7	-109.2	0.00	0.00	0.00
3,100.0	6.00	281.92	3,086.9	64.3	-248.0	-113.4	0.00	0.00	0.00
3,200.0	6.00	281.92	3,186.4	66.4	-258.2	-117.5	0.00	0.00	0.00
3,300.0	6.00	281.92	3,285.8	68.6	-268.4	-121.7	0.00	0.00	0.00
3,400.0	6.00	281.92	3,385.3	70.7	-278.6	-125.9	0.00	0.00	0.00
3,500.0	6.00	281.92	3,484.7	72.9	-288.9	-130.1	0.00	0.00	0.00
3,600.0	6.00	281.92	3,584.2	75.1	-299.1	-134.3	0.00	0.00	0.00
3,700.0	6.00	281.92	3,683.6	77.2	-309.3	-138.5	0.00	0.00	0.00
3,800.0	6.00	281.92	3,783.1	79.4	-319.6	-142.7	0.00	0.00	0.00
3,900.0	6.00	281.92	3,882.5	81.5	-329.8	-146.9	0.00	0.00	0.00
4,000.0	6.00	281.92	3,982.0	83.7	-340.0	-151.1	0.00	0.00	0.00
4,100.0	6.00	281.92	4,081.4	85.9	-350.2	-155.3	0.00	0.00	0.00
4,200.0	6.00	281.92	4,180.9	88.0	-360.5	-159.5	0.00	0.00	0.00
4,300.0	6.00	281.92	4,280.3	90.2	-370.7	-163.7	0.00	0.00	0.00
<b>Build 6° / 100'</b>									
4,370.7	6.00	281.92	4,350.7	91.7	-377.9	-166.6	0.00	0.00	0.00
4,400.0	7.76	282.27	4,379.7	92.4	-381.4	-168.1	6.00	6.00	1.21



Well Planning Report



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<b>Company:</b>	Jay-Bee Oil & Gas	<b>TVD Reference:</b>	well @ 982.6usft (Patterson #581)
<b>Project:</b>	Tyler County	<b>MD Reference:</b>	well @ 982.6usft (Patterson #581)
<b>Site:</b>	Moe Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Moe 3	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

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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)
4,450.0	10.76	282.61	4,429.1	94.2	-389.2	-171.4	6.00	6.00	0.68
4,500.0	13.76	282.80	4,477.9	96.5	-399.6	-175.7	6.00	6.00	0.38
4,550.0	16.76	282.93	4,526.2	99.4	-412.4	-181.2	6.00	6.00	0.25
4,570.6	17.99	282.97	4,545.9	100.8	-418.4	-183.8	6.00	6.00	0.19
<b>EOB @ 18.00° Inc. / 282.94° Azm</b>									
4,570.7	17.99	282.97	4,545.9	100.8	-418.4	-183.8	0.00	0.00	0.00
4,600.0	17.99	282.97	4,573.8	102.9	-427.2	-187.6	0.00	0.00	0.00
4,700.0	17.99	282.97	4,668.9	109.8	-457.3	-200.5	0.00	0.00	0.00
4,800.0	17.99	282.97	4,764.0	116.7	-487.4	-213.4	0.00	0.00	0.00
4,900.0	17.99	282.97	4,859.1	123.7	-517.5	-226.3	0.00	0.00	0.00
5,000.0	17.99	282.97	4,954.2	130.6	-547.7	-239.2	0.00	0.00	0.00
5,100.0	17.99	282.97	5,049.3	137.5	-577.8	-252.1	0.00	0.00	0.00
5,200.0	17.99	282.97	5,144.4	144.5	-607.9	-265.0	0.00	0.00	0.00
5,300.0	17.99	282.97	5,239.5	151.4	-638.0	-277.9	0.00	0.00	0.00
5,400.0	17.99	282.97	5,334.7	158.3	-668.1	-290.9	0.00	0.00	0.00
5,500.0	17.99	282.97	5,429.8	165.2	-698.2	-303.8	0.00	0.00	0.00
5,600.0	17.99	282.97	5,524.9	172.2	-728.3	-316.7	0.00	0.00	0.00
5,700.0	17.99	282.97	5,620.0	179.1	-758.4	-329.6	0.00	0.00	0.00
5,800.0	17.99	282.97	5,715.1	186.0	-788.5	-342.5	0.00	0.00	0.00
5,838.9	17.99	282.97	5,752.1	188.7	-800.2	-347.5	0.00	0.00	0.00
<b>Build 10° / 100'</b>									
5,839.0	17.99	282.97	5,752.2	188.7	-800.2	-347.5	0.00	0.00	0.00
5,850.0	17.47	279.75	5,762.7	189.4	-803.5	-348.8	10.11	-4.79	-29.24
5,900.0	15.84	263.18	5,810.6	189.9	-817.7	-352.2	10.00	-3.25	-33.14
5,950.0	15.67	244.71	5,858.7	186.2	-830.6	-351.2	10.00	-0.34	-36.96
6,000.0	17.00	227.49	5,906.7	178.3	-842.1	-345.8	10.00	2.65	-34.43
6,050.0	19.52	213.65	5,954.3	166.4	-852.1	-336.2	10.00	5.04	-27.69
6,100.0	22.84	203.27	6,000.9	150.6	-860.6	-322.4	10.00	6.65	-20.76
6,150.0	26.67	195.56	6,046.3	130.8	-867.4	-304.5	10.00	7.66	-15.41
6,200.0	30.82	189.73	6,090.1	107.4	-872.6	-282.6	10.00	8.29	-11.66
6,250.0	35.16	185.19	6,132.1	80.4	-876.1	-256.9	10.00	8.70	-9.08
6,300.0	39.65	181.54	6,171.8	50.1	-877.8	-227.5	10.00	8.97	-7.29
6,350.0	44.23	178.53	6,209.0	16.7	-877.8	-194.8	10.00	9.16	-6.02
6,400.0	48.87	175.98	6,243.3	-19.5	-876.0	-159.0	10.00	9.29	-5.10
6,450.0	53.57	173.77	6,274.7	-58.4	-872.5	-120.3	10.00	9.39	-4.42
6,500.0	58.30	171.82	6,302.7	-99.4	-867.3	-79.0	10.00	9.46	-3.91
6,550.0	63.06	170.05	6,327.1	-142.5	-860.4	-35.5	10.00	9.51	-3.53
6,600.0	67.83	168.43	6,347.9	-187.1	-851.9	10.0	10.00	9.56	-3.24
6,650.0	72.63	166.91	6,364.8	-233.1	-841.9	57.0	10.00	9.59	-3.03
6,700.0	77.43	165.48	6,377.7	-280.0	-830.3	105.3	10.00	9.61	-2.87
6,750.0	82.24	164.09	6,386.6	-327.4	-817.4	154.4	10.00	9.62	-2.77
6,800.0	87.06	162.74	6,391.2	-375.1	-803.2	204.0	10.00	9.63	-2.71
6,830.6	90.00	161.92	6,392.0	-404.2	-793.9	234.3	10.00	9.63	-2.68
<b>EOB @ 90.00° Inc. / 161.92° Azm</b>									
6,830.6	90.00	161.92	6,392.0	-404.3	-793.9	234.4	0.00	0.00	0.00
6,900.0	90.00	161.92	6,392.0	-470.2	-772.4	303.4	0.00	0.00	0.00
7,000.0	90.00	161.92	6,392.0	-565.3	-741.4	402.7	0.00	0.00	0.00
7,100.0	90.00	161.92	6,392.0	-660.4	-710.3	502.1	0.00	0.00	0.00
7,200.0	90.00	161.92	6,392.0	-755.4	-679.3	601.5	0.00	0.00	0.00
7,300.0	90.00	161.92	6,392.0	-850.5	-648.2	700.9	0.00	0.00	0.00
7,400.0	90.00	161.92	6,392.0	-945.6	-617.2	800.3	0.00	0.00	0.00
7,500.0	90.00	161.92	6,392.0	-1,040.6	-586.2	899.7	0.00	0.00	0.00
7,600.0	90.00	161.92	6,392.0	-1,135.7	-555.1	999.1	0.00	0.00	0.00

WV Department of Environmental Protection



Well Planning Report



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<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

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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)
7,700.0	90.00	161.92	6,392.0	-1,230.7	-524.1	1,098.5	0.00	0.00	0.00
7,800.0	90.00	161.92	6,392.0	-1,325.8	-493.1	1,197.8	0.00	0.00	0.00
7,900.0	90.00	161.92	6,392.0	-1,420.9	-462.0	1,297.2	0.00	0.00	0.00
8,000.0	90.00	161.92	6,392.0	-1,515.9	-431.0	1,396.6	0.00	0.00	0.00
8,100.0	90.00	161.92	6,392.0	-1,611.0	-400.0	1,496.0	0.00	0.00	0.00
8,200.0	90.00	161.92	6,392.0	-1,706.1	-368.9	1,595.4	0.00	0.00	0.00
8,300.0	90.00	161.92	6,392.0	-1,801.1	-337.9	1,694.8	0.00	0.00	0.00
8,400.0	90.00	161.92	6,392.0	-1,896.2	-306.9	1,794.2	0.00	0.00	0.00
8,500.0	90.00	161.92	6,392.0	-1,991.2	-275.8	1,893.6	0.00	0.00	0.00
8,600.0	90.00	161.92	6,392.0	-2,086.3	-244.8	1,992.9	0.00	0.00	0.00
8,700.0	90.00	161.92	6,392.0	-2,181.4	-213.8	2,092.3	0.00	0.00	0.00
8,800.0	90.00	161.92	6,392.0	-2,276.4	-182.7	2,191.7	0.00	0.00	0.00
8,900.0	90.00	161.92	6,392.0	-2,371.5	-151.7	2,291.1	0.00	0.00	0.00
9,000.0	90.00	161.92	6,392.0	-2,466.6	-120.7	2,390.5	0.00	0.00	0.00
9,100.0	90.00	161.92	6,392.0	-2,561.6	-89.6	2,489.9	0.00	0.00	0.00
9,200.0	90.00	161.92	6,392.0	-2,656.7	-58.6	2,589.3	0.00	0.00	0.00
9,300.0	90.00	161.92	6,392.0	-2,751.7	-27.6	2,688.6	0.00	0.00	0.00
9,400.0	90.00	161.92	6,392.0	-2,846.8	3.5	2,788.0	0.00	0.00	0.00
9,500.0	90.00	161.92	6,392.0	-2,941.9	34.5	2,887.4	0.00	0.00	0.00
9,600.0	90.00	161.92	6,392.0	-3,036.9	65.5	2,986.8	0.00	0.00	0.00
9,700.0	90.00	161.92	6,392.0	-3,132.0	96.6	3,086.2	0.00	0.00	0.00
9,800.0	90.00	161.92	6,392.0	-3,227.1	127.6	3,185.6	0.00	0.00	0.00
9,900.0	90.00	161.92	6,392.0	-3,322.1	158.6	3,285.0	0.00	0.00	0.00
10,000.0	90.00	161.92	6,392.0	-3,417.2	189.7	3,384.4	0.00	0.00	0.00
10,100.0	90.00	161.92	6,392.0	-3,512.2	220.7	3,483.7	0.00	0.00	0.00
10,200.0	90.00	161.92	6,392.0	-3,607.3	251.7	3,583.1	0.00	0.00	0.00
10,300.0	90.00	161.92	6,392.0	-3,702.4	282.8	3,682.5	0.00	0.00	0.00
10,400.0	90.00	161.92	6,392.0	-3,797.4	313.8	3,781.9	0.00	0.00	0.00
10,500.0	90.00	161.92	6,392.0	-3,892.5	344.9	3,881.3	0.00	0.00	0.00
10,600.0	90.00	161.92	6,392.0	-3,987.6	375.9	3,980.7	0.00	0.00	0.00
10,700.0	90.00	161.92	6,392.0	-4,082.6	406.9	4,080.1	0.00	0.00	0.00
10,800.0	90.00	161.92	6,392.0	-4,177.7	438.0	4,179.5	0.00	0.00	0.00
10,900.0	90.00	161.92	6,392.0	-4,272.7	469.0	4,278.8	0.00	0.00	0.00
11,000.0	90.00	161.92	6,392.0	-4,367.8	500.0	4,378.2	0.00	0.00	0.00
11,100.0	90.00	161.92	6,392.0	-4,462.9	531.1	4,477.6	0.00	0.00	0.00
11,200.0	90.00	161.92	6,392.0	-4,557.9	562.1	4,577.0	0.00	0.00	0.00
11,300.0	90.00	161.92	6,392.0	-4,653.0	593.1	4,676.4	0.00	0.00	0.00
11,400.0	90.00	161.92	6,392.0	-4,748.1	624.2	4,775.8	0.00	0.00	0.00
11,500.0	90.00	161.92	6,392.0	-4,843.1	655.2	4,875.2	0.00	0.00	0.00
11,600.0	90.00	161.92	6,392.0	-4,938.2	686.2	4,974.6	0.00	0.00	0.00
11,700.0	90.00	161.92	6,392.0	-5,033.2	717.3	5,073.9	0.00	0.00	0.00
11,800.0	90.00	161.92	6,392.0	-5,128.3	748.3	5,173.3	0.00	0.00	0.00
11,900.0	90.00	161.92	6,392.0	-5,223.4	779.3	5,272.7	0.00	0.00	0.00
12,000.0	90.00	161.92	6,392.0	-5,318.4	810.4	5,372.1	0.00	0.00	0.00
12,100.0	90.00	161.92	6,392.0	-5,413.5	841.4	5,471.5	0.00	0.00	0.00
12,200.0	90.00	161.92	6,392.0	-5,508.6	872.4	5,570.9	0.00	0.00	0.00
12,300.0	90.00	161.92	6,392.0	-5,603.6	903.5	5,670.3	0.00	0.00	0.00
12,400.0	90.00	161.92	6,392.0	-5,698.7	934.5	5,769.6	0.00	0.00	0.00
12,500.0	90.00	161.92	6,392.0	-5,793.7	965.5	5,869.0	0.00	0.00	0.00
12,600.0	90.00	161.92	6,392.0	-5,888.8	996.6	5,968.4	0.00	0.00	0.00
12,700.0	90.00	161.92	6,392.0	-5,983.9	1,027.6	6,067.8	0.00	0.00	0.00
12,800.0	90.00	161.92	6,392.0	-6,078.9	1,058.6	6,167.2	0.00	0.00	0.00
12,900.0	90.00	161.92	6,392.0	-6,174.0	1,089.7	6,266.6	0.00	0.00	0.00
13,000.0	90.00	161.92	6,392.0	-6,269.1	1,120.7	6,366.0	0.00	0.00	0.00



Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Moe 3
<b>Company:</b>	Jay-Bee Oil & Gas	<b>TVD Reference:</b>	well @ 982.6usft (Patterson #581)
<b>Project:</b>	Tyler County	<b>MD Reference:</b>	well @ 982.6usft (Patterson #581)
<b>Site:</b>	Moe Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Moe 3	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

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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)	
13,100.0	90.00	161.92	6,392.0	-6,364.1	1,151.7	6,465.4	0.00	0.00	0.00	
13,200.0	90.00	161.92	6,392.0	-6,459.2	1,182.8	6,564.7	0.00	0.00	0.00	
13,300.0	90.00	161.92	6,392.0	-6,554.2	1,213.8	6,664.1	0.00	0.00	0.00	
13,400.0	90.00	161.92	6,392.0	-6,649.3	1,244.9	6,763.5	0.00	0.00	0.00	
13,500.0	90.00	161.92	6,392.0	-6,744.4	1,275.9	6,862.9	0.00	0.00	0.00	
13,600.0	90.00	161.92	6,392.0	-6,839.4	1,306.9	6,962.3	0.00	0.00	0.00	
13,700.0	90.00	161.92	6,392.0	-6,934.5	1,338.0	7,061.7	0.00	0.00	0.00	
13,800.0	90.00	161.92	6,392.0	-7,029.6	1,369.0	7,161.1	0.00	0.00	0.00	
13,900.0	90.00	161.92	6,392.0	-7,124.6	1,400.0	7,260.5	0.00	0.00	0.00	
14,000.0	90.00	161.92	6,392.0	-7,219.7	1,431.1	7,359.8	0.00	0.00	0.00	
14,100.0	90.00	161.92	6,392.0	-7,314.7	1,462.1	7,459.2	0.00	0.00	0.00	
14,200.0	90.00	161.92	6,392.0	-7,409.8	1,493.1	7,558.6	0.00	0.00	0.00	
14,300.0	90.00	161.92	6,392.0	-7,504.9	1,524.2	7,658.0	0.00	0.00	0.00	
14,400.0	90.00	161.92	6,392.0	-7,599.9	1,555.2	7,757.4	0.00	0.00	0.00	
14,500.0	90.00	161.92	6,392.0	-7,695.0	1,586.2	7,856.8	0.00	0.00	0.00	
<b>TD @ 14605.6' MD / 6392.0' TVD</b>										
14,605.5	90.00	161.92	6,392.0	-7,795.3	1,619.0	7,961.7	0.00	0.00	0.00	

WV Department of Environmental Protection

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LP - Moe 3 - NEW - hit/miss target center - Point	0.00	0.00	6,392.0	-404.2	-793.9	355,217.25	1,576,019.47	39° 28' 0.924 N	80° 53' 25.021 W
PBHL - Moe 3 - NEW - plan hits target center - Point	0.00	0.00	6,392.0	-7,795.3	1,619.0	347,826.16	1,578,432.39	39° 26' 48.248 N	80° 52' 52.807 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
500.0	500.0	0.0	0.0	Build 4° / 100'
625.0	624.8	2.7	-4.7	EOB @ 5.00° Inc. / 300.00° Azm
969.0	967.5	17.7	-30.7	Build 4° / 100'
1,018.7	1,017.0	19.3	-35.1	EOB @ 6.00° Inc. / 281.92° Azm
4,370.7	4,350.7	91.7	-377.9	Build 6° / 100'
4,570.7	4,545.9	100.8	-418.4	EOB @ 18.00° Inc. / 282.94° Azm
5,839.0	5,752.2	188.7	-800.2	Build 10° / 100'
6,830.6	6,392.0	-404.3	-793.9	EOB @ 90.00° Inc. / 161.92° Azm
14,605.5	6,392.0	-7,795.3	1,619.0	TD @ 14605.6' MD / 6392.0' TVD