



Jay-Bee Oil & Gas

Pleasants County

P5 pad

P5N2U - Slot P5N2U

Wellbore #1

Design: Wellbore #1

QES Survey Report

18 September, 2019



05/13/2022



Survey Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well P5N2U - Slot P5N2U
Project:	Pleasants County	TVD Reference:	WELL @ 888.7usft (Patterson #581)
Site:	P5 pad	MD Reference:	WELL @ 888.7usft (Patterson #581)
Well:	P5N2U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Pleasants County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	West Virginia Northern Zone		

Site	P5 pad				
Site Position:		Northing:	337,356.19 usft	Latitude:	39° 24' 55.845 N
From:	Map	Easting:	1,523,500.43 usft	Longitude:	81° 4' 30.636 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.00 °

Well	P5N2U - Slot P5N2U					
Well Position	+N/-S	0.0 usft	Northing:	337,358.06 usft	Latitude:	39° 24' 55.865 N
	+E/-W	0.0 usft	Easting:	1,523,509.78 usft	Longitude:	81° 4' 30.517 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	868.1 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	8/13/2019	-8.08	66.45	51,625.20000000

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	331.65	

Survey Program	Date	9/18/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
50.0	270.0	VES Gyros (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro	
334.0	23,168.0	QES MWD Surveys (Wellbore #1)	OWSG MWD - Standard	OWSG MWD - Standard	

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
50.0	0.22	47.79	50.0	0.1	0.1	0.0	0.44	0.44	0.00
80.0	0.34	293.80	80.0	0.1	0.0	0.1	1.58	0.40	-379.97
100.0	0.49	287.30	100.0	0.2	-0.1	0.2	0.78	0.75	-32.50
150.0	0.45	232.46	150.0	0.1	-0.5	0.3	0.87	-0.08	-109.68
173.0	0.81	254.68	173.0	0.0	-0.7	0.4	1.86	1.57	96.61
200.0	0.74	254.51	200.0	-0.1	-1.0	0.4	0.26	-0.26	-0.63
250.0	0.45	193.94	250.0	-0.3	-1.4	0.4	1.30	-0.58	-121.14
Gyro Tie-in @ 270.0' MD / 270.0' TVD									
270.0	0.54	161.00	270.0	-0.5	-1.4	0.2	1.47	0.45	-164.70



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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)	
334.0	0.59	159.60	334.0	-1.1	-1.2	-0.4	0.08	0.08	-2.19	
429.0	1.15	131.25	429.0	-2.2	-0.3	-1.8	0.73	0.59	-29.84	
523.0	0.85	120.87	523.0	-3.2	1.0	-3.3	0.37	-0.32	-11.04	
618.0	0.50	104.19	618.0	-3.6	2.0	-4.2	0.42	-0.37	-17.56	
713.0	0.44	283.77	713.0	-3.6	2.1	-4.2	0.99	-0.06	189.03	
760.0	0.67	260.11	760.0	-3.6	1.6	-4.0	0.68	0.49	-50.34	
808.0	1.00	277.63	807.9	-3.6	0.9	-3.6	0.86	0.69	36.50	
855.0	1.01	267.24	854.9	-3.6	0.1	-3.2	0.39	0.02	-22.11	
902.0	0.97	245.51	901.9	-3.8	-0.7	-3.0	0.80	-0.09	-46.23	
949.0	0.83	256.90	948.9	-4.0	-1.4	-2.9	0.48	-0.30	24.23	
997.0	1.05	224.26	996.9	-4.4	-2.0	-2.9	1.19	0.46	-68.00	
1,044.0	1.73	212.51	1,043.9	-5.3	-2.7	-3.4	1.56	1.45	-25.00	
1,095.0	2.99	197.28	1,094.9	-7.3	-3.5	-4.7	2.74	2.47	-29.86	
1,190.0	5.85	195.24	1,189.6	-14.3	-5.5	-10.0	3.01	3.01	-2.15	
1,285.0	6.74	181.27	1,284.0	-24.5	-6.9	-18.3	1.86	0.94	-14.71	
1,380.0	6.78	166.75	1,378.3	-35.6	-5.7	-28.6	1.79	0.04	-15.28	
1,475.0	6.33	162.73	1,472.7	-46.0	-2.9	-39.1	0.68	-0.47	-4.23	
1,570.0	5.89	165.63	1,567.2	-55.8	-0.1	-49.0	0.57	-0.46	3.05	
1,664.0	5.97	170.95	1,660.7	-65.3	1.8	-58.3	0.59	0.09	5.66	
1,759.0	5.96	176.99	1,755.2	-75.1	2.9	-67.4	0.66	-0.01	6.36	
1,853.0	3.91	196.68	1,848.8	-83.0	2.2	-74.1	2.80	-2.18	20.95	
1,951.0	3.64	259.03	1,946.7	-86.8	-1.8	-75.5	3.99	-0.28	63.62	
2,046.0	1.16	282.55	2,041.6	-87.2	-5.7	-74.0	2.76	-2.61	24.76	
2,220.0	2.93	79.57	2,215.5	-86.0	-3.1	-74.2	2.31	1.02	90.24	
2,315.0	0.94	211.71	2,310.5	-86.2	-1.1	-75.3	3.82	-2.09	139.09	
2,410.0	2.61	229.31	2,405.4	-88.3	-3.1	-76.2	1.83	1.76	18.53	
2,505.0	0.74	221.13	2,500.4	-90.1	-5.2	-76.9	1.98	-1.97	-8.61	
2,600.0	1.02	39.53	2,595.4	-90.0	-5.0	-76.8	1.85	0.29	187.79	
2,695.0	1.16	25.67	2,690.4	-88.4	-4.1	-75.9	0.31	0.15	-14.59	
2,790.0	0.12	67.21	2,785.3	-87.5	-3.6	-75.3	1.13	-1.09	43.73	
2,884.0	0.61	213.55	2,879.3	-87.9	-3.8	-75.6	0.76	0.52	155.68	
2,978.0	0.32	272.49	2,973.3	-88.3	-4.3	-75.7	0.56	-0.31	62.70	
3,073.0	0.56	16.25	3,068.3	-87.9	-4.4	-75.2	0.75	0.25	109.22	
3,168.0	0.52	19.18	3,163.3	-87.0	-4.2	-74.6	0.05	-0.04	3.08	
3,265.0	0.53	19.98	3,260.3	-86.2	-3.9	-74.0	0.01	0.01	0.82	
3,360.0	0.27	196.67	3,355.3	-86.0	-3.8	-73.9	0.84	-0.27	185.99	
3,455.0	0.58	192.31	3,450.3	-86.6	-3.9	-74.4	0.33	0.33	-4.59	
3,549.0	0.39	187.41	3,544.3	-87.4	-4.1	-75.0	0.21	-0.20	-5.21	
3,644.0	0.00	300.07	3,639.3	-87.8	-4.1	-75.3	0.41	-0.41	0.00	
3,738.0	0.29	11.59	3,733.3	-87.5	-4.1	-75.1	0.31	0.31	0.00	
3,832.0	0.08	45.38	3,827.3	-87.2	-4.0	-74.9	0.24	-0.22	35.95	
3,927.0	0.13	226.02	3,922.3	-87.3	-4.0	-74.9	0.22	0.05	-188.80	
4,021.0	0.26	219.68	4,016.3	-87.5	-4.2	-75.0	0.14	0.14	-6.74	



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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)	
4,116.0	0.66	230.11	4,111.3	-88.0	-4.8	-75.2	0.43	0.42	10.98	
4,211.0	0.89	232.11	4,206.3	-88.8	-5.8	-75.4	0.24	0.24	2.11	
4,305.0	1.55	236.21	4,300.3	-90.0	-7.4	-75.7	0.71	0.70	4.36	
4,400.0	1.69	239.37	4,395.2	-91.4	-9.7	-75.8	0.17	0.15	3.33	
4,494.0	1.83	242.10	4,489.2	-92.8	-12.2	-75.9	0.17	0.15	2.90	
4,592.0	0.82	238.99	4,587.2	-93.9	-14.2	-75.9	1.03	-1.03	-3.17	
4,686.0	1.36	86.08	4,681.2	-94.2	-13.7	-76.4	2.26	0.57	-162.67	
4,781.0	1.63	83.33	4,776.1	-93.9	-11.2	-77.4	0.29	0.28	-2.89	
4,876.0	1.08	82.33	4,871.1	-93.7	-9.0	-78.2	0.58	-0.58	-1.05	
4,970.0	0.97	122.47	4,965.1	-94.0	-7.4	-79.2	0.76	-0.12	42.70	
5,065.0	0.76	160.37	5,060.1	-95.0	-6.5	-80.5	0.63	-0.22	39.89	
5,160.0	0.26	121.73	5,155.1	-95.7	-6.1	-81.3	0.61	-0.53	-40.67	
5,254.0	0.61	49.37	5,249.1	-95.5	-5.6	-81.4	0.62	0.37	-76.98	
5,349.0	0.88	71.94	5,344.1	-94.9	-4.5	-81.4	0.41	0.28	23.76	
5,444.0	0.54	33.24	5,439.1	-94.3	-3.5	-81.3	0.60	-0.36	-40.74	
5,539.0	0.81	331.67	5,534.1	-93.4	-3.6	-80.5	0.77	0.28	-64.81	
5,633.0	0.46	228.99	5,628.1	-93.0	-4.2	-79.9	1.08	-0.37	-109.23	
5,728.0	1.46	196.20	5,723.0	-94.5	-4.8	-80.8	1.16	1.05	-34.52	
5,823.0	0.32	322.12	5,818.0	-95.4	-5.3	-81.4	1.76	-1.20	132.55	
5,918.0	1.83	356.02	5,913.0	-93.7	-5.6	-79.8	1.66	1.59	35.68	
6,012.0	2.14	349.81	6,007.0	-90.5	-6.0	-76.7	0.40	0.33	-6.61	
6,110.0	2.14	339.48	6,104.9	-86.9	-7.0	-73.2	0.39	0.00	-10.54	
6,204.0	1.78	342.45	6,198.8	-83.9	-8.1	-70.0	0.40	-0.38	3.16	
6,299.0	1.18	350.23	6,293.8	-81.5	-8.7	-67.6	0.66	-0.63	8.19	
6,394.0	0.50	348.45	6,388.8	-80.2	-8.9	-66.3	0.72	-0.72	-1.87	
6,488.0	0.13	232.27	6,482.8	-79.8	-9.1	-65.9	0.61	-0.39	-123.60	
6,582.0	0.33	327.87	6,576.8	-79.7	-9.3	-65.7	0.39	0.21	101.70	
6,677.0	0.49	299.87	6,671.8	-79.2	-9.8	-65.1	0.27	0.17	-29.47	
6,772.0	0.93	302.37	6,766.8	-78.6	-10.8	-64.1	0.46	0.46	2.63	
6,867.0	0.32	290.45	6,861.8	-78.1	-11.7	-63.2	0.65	-0.64	-12.55	
6,961.0	0.13	301.94	6,955.8	-78.0	-12.0	-62.9	0.21	-0.20	12.22	
7,056.0	0.14	322.46	7,050.8	-77.8	-12.2	-62.7	0.05	0.01	21.60	
7,154.0	0.36	314.54	7,148.8	-77.5	-12.5	-62.3	0.23	0.22	-8.08	
7,248.0	0.23	284.29	7,242.8	-77.3	-12.9	-61.9	0.21	-0.14	-32.18	
7,343.0	0.33	288.20	7,337.8	-77.1	-13.3	-61.5	0.11	0.11	4.12	
7,438.0	0.60	250.33	7,432.8	-77.2	-14.1	-61.3	0.42	0.28	-39.86	
7,526.0	0.92	241.12	7,520.8	-77.7	-15.1	-61.2	0.39	0.36	-10.47	
7,620.0	1.10	252.73	7,614.7	-78.3	-16.6	-61.0	0.29	0.19	12.35	
7,715.0	0.99	277.35	7,709.7	-78.5	-18.3	-60.4	0.48	-0.12	25.92	
7,809.0	0.65	323.61	7,803.7	-78.0	-19.4	-59.4	0.76	-0.36	49.21	
7,904.0	0.60	42.31	7,898.7	-77.2	-19.4	-58.7	0.84	-0.05	82.84	
7,999.0	0.80	42.56	7,993.7	-76.3	-18.6	-58.3	0.21	0.21	0.26	
8,093.0	0.12	102.61	8,087.7	-75.8	-18.1	-58.1	0.80	-0.72	63.88	



Survey Report



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8,188.0	0.81	232.78	8,182.7	-76.3	-18.5	-58.3	0.94	0.73	137.02	
8,282.0	1.36	230.48	8,276.7	-77.4	-19.9	-58.6	0.59	0.59	-2.45	
8,377.0	2.43	198.01	8,371.6	-80.0	-21.4	-60.2	1.55	1.13	-34.18	
8,472.0	5.19	172.47	8,466.4	-86.2	-21.5	-65.7	3.34	2.91	-26.88	
8,567.0	8.47	164.49	8,560.7	-97.2	-19.1	-76.5	3.59	3.45	-8.40	
8,662.0	10.74	161.38	8,654.4	-112.3	-14.4	-92.0	2.45	2.39	-3.27	
8,756.0	11.32	164.11	8,746.7	-129.5	-9.0	-109.7	0.83	0.62	2.90	
8,854.0	11.46	171.70	8,842.7	-148.4	-5.0	-128.2	1.54	0.14	7.74	
8,949.0	11.87	176.20	8,935.8	-167.5	-3.0	-146.0	1.05	0.43	4.74	
9,044.0	11.19	173.00	9,028.9	-186.4	-1.2	-163.4	0.98	-0.72	-3.37	
9,139.0	10.11	180.93	9,122.2	-203.9	-0.2	-179.3	1.91	-1.14	8.35	
9,250.0	10.40	183.10	9,231.5	-223.6	-0.9	-196.3	0.44	0.26	1.95	
9,345.0	7.60	185.60	9,325.3	-238.4	-2.0	-208.9	2.98	-2.95	2.63	
9,440.0	5.45	193.49	9,419.7	-249.1	-3.7	-217.5	2.45	-2.26	8.31	
9,487.0	5.10	197.09	9,466.5	-253.2	-4.8	-220.6	1.02	-0.74	7.66	
9,535.0	7.50	211.30	9,514.2	-257.9	-7.1	-223.7	5.93	5.00	29.60	
9,582.0	9.20	224.00	9,560.7	-263.3	-11.3	-226.3	5.32	3.62	27.02	
9,629.0	10.80	235.20	9,607.0	-268.5	-17.5	-228.0	5.34	3.40	23.83	
9,676.0	12.70	245.90	9,653.0	-273.1	-25.8	-228.1	6.13	4.04	22.77	
9,724.0	15.50	265.10	9,699.6	-275.8	-37.0	-225.1	11.28	5.83	40.00	
9,771.0	19.30	284.50	9,744.4	-274.4	-50.8	-217.4	14.65	8.09	41.28	
9,819.0	23.60	300.90	9,789.1	-267.5	-66.8	-203.7	15.30	8.96	34.17	
9,866.0	28.80	314.50	9,831.3	-254.7	-82.9	-184.8	16.84	11.06	28.94	
9,914.0	32.90	325.40	9,872.6	-235.8	-98.6	-160.7	14.41	8.54	22.71	
9,961.0	37.70	328.30	9,910.9	-213.1	-113.4	-133.7	10.81	10.21	6.17	
10,009.0	42.60	330.60	9,947.6	-186.4	-129.1	-102.8	10.66	10.21	4.79	
10,056.0	47.70	332.30	9,980.7	-157.2	-145.0	-69.4	11.15	10.85	3.62	
10,104.0	53.80	334.30	10,011.1	-124.0	-161.7	-32.3	13.11	12.71	4.17	
10,151.0	60.10	335.10	10,036.7	-88.4	-178.5	7.0	13.48	13.40	1.70	
10,198.0	67.30	335.50	10,057.5	-50.1	-196.1	49.0	15.34	15.32	0.85	
10,245.0	69.50	335.60	10,074.8	-10.3	-214.2	92.6	4.69	4.68	0.21	
10,293.0	70.10	336.10	10,091.4	30.8	-232.6	137.6	1.59	1.25	1.04	
10,340.0	71.50	335.30	10,106.9	71.2	-250.9	181.8	3.38	2.98	-1.70	
10,388.0	73.40	335.00	10,121.3	112.8	-270.1	227.5	4.00	3.96	-0.63	
10,435.0	74.20	334.20	10,134.4	153.5	-289.5	272.6	2.36	1.70	-1.70	
10,483.0	79.50	332.60	10,145.4	195.3	-310.4	319.3	11.51	11.04	-3.33	
10,530.0	80.20	332.40	10,153.6	236.3	-331.8	365.5	1.55	1.49	-0.43	
10,577.0	80.50	332.20	10,161.5	277.4	-353.3	411.9	0.76	0.64	-0.43	
10,624.0	80.70	332.80	10,169.2	318.5	-374.7	458.2	1.33	0.43	1.28	
10,672.0	81.50	332.50	10,176.6	360.6	-396.5	505.6	1.78	1.67	-0.63	
10,720.0	84.90	331.90	10,182.3	402.8	-418.7	553.3	7.19	7.08	-1.25	
10,767.0	89.40	330.60	10,184.6	443.9	-441.3	600.2	9.96	9.57	-2.77	
10,862.0	91.90	331.10	10,183.6	526.9	-487.6	695.2	2.68	2.63	0.53	
10,957.0	91.50	331.40	10,180.7	610.1	-533.2	790.2	0.53	-0.42	0.32	



Survey Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well P5N2U - Slot P5N2U
Project:	Pleasants County	TVD Reference:	WELL @ 888.7usft (Patterson #581)
Site:	P5 pad	MD Reference:	WELL @ 888.7usft (Patterson #581)
Well:	P5N2U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)	
11,052.0	90.90	331.70	10,178.8	693.6	-578.5	885.1	0.71	-0.63	0.32	
11,146.0	90.30	331.70	10,177.8	776.4	-623.0	979.1	0.64	-0.64	0.00	
11,241.0	93.30	333.30	10,174.8	860.6	-666.9	1,074.1	3.58	3.16	1.68	
11,336.0	91.10	332.20	10,171.1	945.0	-710.3	1,169.0	2.59	-2.32	-1.16	
11,431.0	91.10	334.30	10,169.3	1,029.8	-753.1	1,263.9	2.21	0.00	2.21	
11,526.0	90.50	333.70	10,168.0	1,115.2	-794.7	1,358.8	0.89	-0.63	-0.63	
11,620.0	92.00	333.50	10,165.9	1,199.4	-836.5	1,452.7	1.61	1.60	-0.21	
11,715.0	91.20	331.80	10,163.3	1,283.7	-880.2	1,547.7	1.98	-0.84	-1.79	
11,810.0	91.10	332.20	10,161.4	1,367.6	-924.7	1,642.7	0.43	-0.11	0.42	
11,905.0	91.90	333.00	10,158.9	1,451.9	-968.4	1,737.6	1.19	0.84	0.84	
11,999.0	89.00	331.00	10,158.2	1,534.9	-1,012.6	1,831.6	3.75	-3.09	-2.13	
12,094.0	88.50	331.70	10,160.2	1,618.2	-1,058.1	1,926.6	0.91	-0.53	0.74	
12,189.0	90.30	328.70	10,161.2	1,700.6	-1,105.3	2,021.5	3.68	1.89	-3.16	
12,284.0	91.20	327.80	10,160.0	1,781.4	-1,155.3	2,116.3	1.34	0.95	-0.95	
12,378.0	92.00	327.70	10,157.4	1,860.9	-1,205.4	2,210.1	0.86	0.85	-0.11	
12,473.0	91.70	328.20	10,154.3	1,941.3	-1,255.8	2,304.8	0.61	-0.32	0.53	
12,568.0	90.90	329.00	10,152.1	2,022.4	-1,305.3	2,399.7	1.19	-0.84	0.84	
12,663.0	91.20	331.90	10,150.4	2,105.0	-1,352.1	2,494.6	3.07	0.32	3.05	
12,758.0	90.90	332.90	10,148.6	2,189.2	-1,396.1	2,589.6	1.10	-0.32	1.05	
12,852.0	90.70	334.20	10,147.3	2,273.4	-1,438.0	2,683.5	1.40	-0.21	1.38	
12,947.0	91.20	334.20	10,145.8	2,358.9	-1,479.4	2,778.4	0.53	0.53	0.00	
13,042.0	91.40	334.80	10,143.6	2,444.6	-1,520.2	2,873.3	0.67	0.21	0.63	
13,136.0	91.00	333.20	10,141.6	2,529.1	-1,561.4	2,967.2	1.75	-0.43	-1.70	
13,231.0	91.10	334.00	10,139.9	2,614.1	-1,603.7	3,062.1	0.85	0.11	0.84	
13,326.0	91.10	332.30	10,138.1	2,698.9	-1,646.6	3,157.1	1.79	0.00	-1.79	
13,421.0	91.40	332.60	10,136.0	2,783.1	-1,690.5	3,252.0	0.45	0.32	0.32	
13,516.0	91.00	333.10	10,134.0	2,867.6	-1,733.8	3,347.0	0.67	-0.42	0.53	
13,610.0	90.90	333.00	10,132.4	2,951.4	-1,776.4	3,440.9	0.15	-0.11	-0.11	
13,705.0	90.90	330.50	10,131.0	3,035.0	-1,821.4	3,535.9	2.63	0.00	-2.63	
13,800.0	90.70	330.50	10,129.6	3,117.7	-1,868.2	3,630.9	0.21	-0.21	0.00	
13,895.0	90.90	331.40	10,128.3	3,200.8	-1,914.3	3,725.9	0.97	0.21	0.95	
13,990.0	90.40	330.80	10,127.2	3,283.9	-1,960.2	3,820.9	0.82	-0.53	-0.63	
14,084.0	92.10	331.80	10,125.2	3,366.4	-2,005.3	3,914.8	2.10	1.81	1.06	
14,179.0	91.40	330.90	10,122.3	3,449.7	-2,050.9	4,009.8	1.20	-0.74	-0.95	
14,274.0	90.00	330.70	10,121.1	3,532.6	-2,097.2	4,104.8	1.49	-1.47	-0.21	
14,369.0	89.50	330.60	10,121.5	3,615.4	-2,143.8	4,199.8	0.54	-0.53	-0.11	
14,463.0	90.50	330.20	10,121.5	3,697.1	-2,190.2	4,293.7	1.15	1.06	-0.43	
14,558.0	91.70	329.20	10,119.7	3,779.1	-2,238.1	4,388.7	1.64	1.26	-1.05	
14,653.0	90.50	328.60	10,117.9	3,860.5	-2,287.2	4,483.5	1.41	-1.26	-0.63	
14,747.0	90.40	329.50	10,117.1	3,941.1	-2,335.5	4,577.4	0.96	-0.11	0.96	
14,843.0	91.00	331.20	10,116.0	4,024.5	-2,383.0	4,673.4	1.88	0.63	1.77	
14,937.0	90.00	329.60	10,115.1	4,106.2	-2,429.4	4,767.4	2.01	-1.06	-1.70	
15,032.0	91.70	332.50	10,113.7	4,189.3	-2,475.4	4,862.3	3.54	1.79	3.05	



Survey Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well P5N2U - Slot P5N2U
Project:	Pleasants County	TVD Reference:	WELL @ 888.7usft (Patterson #581)
Site:	P5 pad	MD Reference:	WELL @ 888.7usft (Patterson #581)
Well:	P5N2U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
15,126.0	90.50	330.90	10,111.9	4,272.1	-2,519.9	4,956.3	2.13	-1.28	-1.70
15,221.0	90.40	332.10	10,111.2	4,355.6	-2,565.3	5,051.3	1.27	-0.11	1.26
15,316.0	90.40	331.00	10,110.5	4,439.1	-2,610.5	5,146.3	1.16	0.00	-1.16
15,411.0	91.00	332.40	10,109.4	4,522.7	-2,655.6	5,241.3	1.60	0.63	1.47
15,506.0	91.40	336.20	10,107.4	4,608.3	-2,696.7	5,336.2	4.02	0.42	4.00
15,601.0	91.00	336.40	10,105.4	4,695.3	-2,734.9	5,430.8	0.47	-0.42	0.21
15,695.0	90.80	336.70	10,103.9	4,781.5	-2,772.3	5,524.5	0.38	-0.21	0.32
15,790.0	91.20	336.60	10,102.3	4,868.7	-2,810.0	5,619.1	0.43	0.42	-0.11
15,884.0	90.90	335.30	10,100.5	4,954.5	-2,848.3	5,712.8	1.42	-0.32	-1.38
15,979.0	91.80	335.30	10,098.3	5,040.8	-2,888.0	5,807.6	0.95	0.95	0.00
16,074.0	91.70	332.10	10,095.4	5,125.9	-2,930.0	5,902.5	3.37	-0.11	-3.37
16,169.0	91.80	331.30	10,092.5	5,209.5	-2,975.0	5,997.4	0.85	0.11	-0.84
16,263.0	91.80	332.40	10,089.5	5,292.4	-3,019.4	6,091.4	1.17	0.00	1.17
16,359.0	92.40	331.40	10,086.0	5,377.0	-3,064.6	6,187.3	1.21	0.63	-1.04
16,453.0	90.30	328.60	10,083.8	5,458.4	-3,111.5	6,281.2	3.72	-2.23	-2.98
16,548.0	90.20	329.50	10,083.4	5,539.8	-3,160.4	6,376.1	0.95	-0.11	0.95
16,642.0	90.60	329.70	10,082.7	5,620.9	-3,208.0	6,470.1	0.48	0.43	0.21
16,737.0	90.60	330.40	10,081.7	5,703.2	-3,255.4	6,565.0	0.74	0.00	0.74
16,832.0	91.50	329.00	10,080.0	5,785.2	-3,303.3	6,660.0	1.75	0.95	-1.47
16,925.0	91.80	326.30	10,077.3	5,863.7	-3,353.0	6,752.7	2.92	0.32	-2.90
17,020.0	92.00	328.80	10,074.2	5,943.9	-3,404.0	6,847.4	2.64	0.21	2.63
17,115.0	91.30	330.50	10,071.4	6,025.8	-3,452.0	6,942.3	1.93	-0.74	1.79
17,209.0	94.20	330.70	10,066.9	6,107.6	-3,498.0	7,036.1	3.09	3.09	0.21
17,304.0	93.90	330.20	10,060.2	6,190.0	-3,544.8	7,130.9	0.61	-0.32	-0.53
17,399.0	93.60	330.90	10,054.0	6,272.6	-3,591.4	7,225.7	0.80	-0.32	0.74
17,493.0	90.70	330.70	10,050.5	6,354.6	-3,637.2	7,319.6	3.09	-3.09	-0.21
17,588.0	90.40	332.40	10,049.6	6,438.1	-3,682.5	7,414.6	1.82	-0.32	1.79
17,683.0	93.60	333.40	10,046.2	6,522.6	-3,725.7	7,509.5	3.53	3.37	1.05
17,777.0	93.50	333.00	10,040.4	6,606.3	-3,768.0	7,603.3	0.44	-0.11	-0.43
17,872.0	93.50	333.80	10,034.6	6,691.1	-3,810.5	7,698.0	0.84	0.00	0.84
17,967.0	92.80	333.80	10,029.4	6,776.2	-3,852.3	7,792.8	0.74	-0.74	0.00
18,061.0	93.00	334.70	10,024.6	6,860.8	-3,893.1	7,886.6	0.98	0.21	0.96
18,156.0	92.70	331.00	10,019.9	6,945.2	-3,936.4	7,981.4	3.90	-0.32	-3.89
18,251.0	92.80	332.00	10,015.4	7,028.6	-3,981.7	8,076.3	1.06	0.11	1.05
18,345.0	91.70	330.50	10,011.7	7,110.9	-4,026.9	8,170.3	1.98	-1.17	-1.60
18,440.0	91.30	332.90	10,009.2	7,194.5	-4,071.9	8,265.2	2.56	-0.42	2.53
18,535.0	92.00	331.30	10,006.5	7,278.5	-4,116.3	8,360.2	1.84	0.74	-1.68
18,629.0	91.70	331.20	10,003.4	7,360.8	-4,161.5	8,454.1	0.34	-0.32	-0.11
18,724.0	91.50	331.70	10,000.8	7,444.2	-4,206.9	8,549.1	0.57	-0.21	0.53
18,818.0	91.20	330.50	9,998.6	7,526.5	-4,252.3	8,643.1	1.32	-0.32	-1.28
18,913.0	91.30	331.30	9,996.5	7,609.5	-4,298.5	8,738.0	0.85	0.11	0.84
19,008.0	91.90	331.90	9,993.8	7,693.0	-4,343.7	8,833.0	0.89	0.63	0.63
19,102.0	91.90	331.50	9,990.7	7,775.8	-4,388.2	8,926.9	0.43	0.00	-0.43



Survey Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well P5N2U - Slot P5N2U
Project:	Pleasants County	TVD Reference:	WELL @ 888.7usft (Patterson #581)
Site:	P5 pad	MD Reference:	WELL @ 888.7usft (Patterson #581)
Well:	P5N2U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)	
19,197.0	91.80	330.80	9,987.6	7,858.9	-4,434.0	9,021.9	0.74	-0.11	-0.74	
19,292.0	91.80	331.40	9,984.7	7,942.0	-4,479.9	9,116.8	0.63	0.00	0.63	
19,386.0	91.00	330.80	9,982.4	8,024.3	-4,525.3	9,210.8	1.06	-0.85	-0.64	
19,481.0	90.80	331.20	9,980.9	8,107.4	-4,571.4	9,305.8	0.47	-0.21	0.42	
19,576.0	90.80	330.10	9,979.5	8,190.2	-4,617.9	9,400.7	1.16	0.00	-1.16	
19,671.0	90.50	330.90	9,978.5	8,272.9	-4,664.7	9,495.7	0.90	-0.32	0.84	
19,766.0	90.60	331.70	9,977.6	8,356.2	-4,710.3	9,590.7	0.85	0.11	0.84	
19,860.0	90.20	331.00	9,976.9	8,438.7	-4,755.4	9,684.7	0.86	-0.43	-0.74	
19,955.0	90.40	331.00	9,976.4	8,521.8	-4,801.5	9,779.7	0.21	0.21	0.00	
20,050.0	90.50	331.00	9,975.7	8,604.9	-4,847.5	9,874.7	0.11	0.11	0.00	
20,144.0	90.60	331.60	9,974.8	8,687.3	-4,892.7	9,968.7	0.65	0.11	0.64	
20,239.0	90.30	332.30	9,974.0	8,771.1	-4,937.3	10,063.7	0.80	-0.32	0.74	
20,334.0	90.30	332.90	9,973.5	8,855.5	-4,981.0	10,158.7	0.63	0.00	0.63	
20,429.0	89.80	332.50	9,973.4	8,939.9	-5,024.6	10,253.7	0.67	-0.53	-0.42	
20,524.0	89.90	333.30	9,973.7	9,024.5	-5,067.9	10,348.6	0.85	0.11	0.84	
20,618.0	90.30	333.50	9,973.5	9,108.5	-5,110.0	10,442.6	0.48	0.43	0.21	
20,713.0	89.90	333.60	9,973.3	9,193.6	-5,152.3	10,537.5	0.43	-0.42	0.11	
20,808.0	90.10	333.20	9,973.3	9,278.5	-5,194.8	10,632.5	0.47	0.21	-0.42	
20,903.0	91.90	335.50	9,971.7	9,364.1	-5,235.9	10,727.4	3.07	1.89	2.42	
20,999.0	92.80	336.80	9,967.7	9,451.9	-5,274.7	10,823.0	1.65	0.94	1.35	
21,094.0	91.00	333.90	9,964.6	9,538.1	-5,314.3	10,917.7	3.59	-1.89	-3.05	
21,188.0	90.70	334.60	9,963.2	9,622.8	-5,355.2	11,011.6	0.81	-0.32	0.74	
21,283.0	93.20	338.10	9,960.0	9,709.7	-5,393.2	11,106.2	4.53	2.63	3.68	
21,377.0	92.70	338.20	9,955.1	9,796.9	-5,428.2	11,199.5	0.54	-0.53	0.11	
21,472.0	90.60	334.30	9,952.4	9,883.8	-5,466.4	11,294.1	4.66	-2.21	-4.11	
21,567.0	91.20	336.00	9,950.9	9,970.0	-5,506.3	11,388.9	1.90	0.63	1.79	
21,662.0	93.20	337.50	9,947.3	10,057.2	-5,543.8	11,483.5	2.63	2.11	1.58	
21,757.0	92.60	338.20	9,942.5	10,145.1	-5,579.6	11,577.8	0.97	-0.63	0.74	
21,852.0	90.90	334.80	9,939.5	10,232.1	-5,617.4	11,672.4	4.00	-1.79	-3.58	
21,947.0	91.60	334.70	9,937.5	10,318.0	-5,657.9	11,767.2	0.74	0.74	-0.11	
22,041.0	92.30	335.80	9,934.3	10,403.3	-5,697.3	11,861.0	1.39	0.74	1.17	
22,136.0	92.40	336.40	9,930.4	10,490.1	-5,735.7	11,955.6	0.64	0.11	0.63	
22,231.0	91.70	336.70	9,927.0	10,577.2	-5,773.5	12,050.2	0.80	-0.74	0.32	
22,325.0	90.80	336.40	9,924.9	10,663.4	-5,810.9	12,143.8	1.01	-0.96	-0.32	
22,420.0	91.30	338.90	9,923.2	10,751.3	-5,847.0	12,238.3	2.68	0.53	2.63	
22,515.0	91.70	341.10	9,920.7	10,840.5	-5,879.5	12,332.3	2.35	0.42	2.32	
22,611.0	91.70	343.20	9,917.9	10,931.8	-5,908.9	12,426.6	2.19	0.00	2.19	
22,705.0	91.20	343.20	9,915.5	11,021.8	-5,936.1	12,518.7	0.53	-0.53	0.00	
22,800.0	90.50	343.40	9,914.1	11,112.8	-5,963.4	12,611.7	0.77	-0.74	0.21	
22,895.0	90.50	344.30	9,913.2	11,204.0	-5,989.8	12,704.5	0.95	0.00	0.95	
22,990.0	91.00	345.10	9,912.0	11,295.7	-6,014.9	12,797.1	0.99	0.53	0.84	
23,085.0	91.50	345.40	9,909.9	11,387.5	-6,039.0	12,889.4	0.61	0.53	0.32	
23,117.0	91.60	346.20	9,909.1	11,418.5	-6,046.9	12,920.4	2.52	0.31	2.50	

TD @ 23168.0' MD / 9907.6' TVD



Survey Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well P5N2U - Slot P5N2U
Project:	Pleasants County	TVD Reference:	WELL @ 888.7usft (Patterson #581)
Site:	P5 pad	MD Reference:	WELL @ 888.7usft (Patterson #581)
Well:	P5N2U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)	
23,168.0	91.60	346.20	9,907.6	11,468.0	-6,059.1	12,969.8	0.00	0.00	0.00	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
270.0	270.0	-0.5	-1.4	Gyro Tie-in @ 270.0' MD / 270.0' TVD	
23,168.0	9,907.6	11,468.0	-6,059.1	TD @ 23168.0' MD / 9907.6' TVD	

Checked By: _____ Approved By: _____ Date: _____