



# Jay-Bee Oil & Gas

Pleasants County

P5 pad

P5S1

ST02

Design: ST02

## QES Survey Report

12 July, 2019



05/13/2022



Survey Report



<b>Company:</b>	Jay-Bee Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well P5S1
<b>Project:</b>	Pleasants County	<b>TVD Reference:</b>	WELL @ 888.7usft (Patterson #581)
<b>Site:</b>	P5 pad	<b>MD Reference:</b>	WELL @ 888.7usft (Patterson #581)
<b>Well:</b>	P5S1	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST02	<b>Database:</b>	EDM 5000.1 Single User Db

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

<b>Well</b>	P5S1					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	337,337.05 usft	<b>Latitude:</b>	39° 24' 55.663 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,523,539.39 usft	<b>Longitude:</b>	81° 4' 30.135 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	868.1 usft

<b>Wellbore</b>	ST02				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	7/1/2019	-8.43	66.54	51,792.33596743

<b>Design</b>	ST02				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	2,106.0
<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		326.98

<b>Survey Program</b>	<b>Date</b>	7/12/2019			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
50.0	334.0	GYRO (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro	
415.0	2,106.0	P5S1 Surveys (Wellbore #1)	OWSG MWD - Standard	OWSG MWD - Standard	
2,215.0	17,361.0	QES MWD Surveys (ST02)	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	0.27	120.34	50.0	-0.1	0.1	-0.1	0.54	0.54	0.00
81.0	0.98	153.16	81.0	-0.3	0.3	-0.4	2.47	2.29	105.87
100.0	0.72	141.06	100.0	-0.6	0.4	-0.7	1.66	-1.37	-63.68
150.0	0.71	174.46	150.0	-1.1	0.7	-1.3	0.82	-0.02	66.80
176.0	1.07	200.66	176.0	-1.5	0.6	-1.6	2.06	1.38	100.77
200.0	0.75	201.38	200.0	-1.9	0.5	-1.8	1.33	-1.33	3.00
250.0	1.15	218.45	250.0	-2.6	0.0	-2.2	0.97	0.80	34.14
270.0	1.43	219.01	270.0	-2.9	-0.3	-2.3	1.40	1.40	2.80



Survey Report



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<b>Site:</b>	P5 pad	<b>MD Reference:</b>	WELL @ 888.7usft (Patterson #581)
<b>Well:</b>	P5S1	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST02	<b>Database:</b>	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)	
300.0	1.13	213.26	300.0	-3.5	-0.7	-2.5	1.09	-1.00	-19.17	
334.0	1.38	219.07	334.0	-4.1	-1.1	-2.8	0.82	0.74	17.09	
415.0	1.68	351.71	414.9	-3.6	-1.9	-2.0	3.46	0.37	163.75	
510.0	3.52	8.20	509.8	0.6	-1.7	1.4	2.07	1.94	17.36	
604.0	3.69	18.98	603.7	6.3	-0.3	5.5	0.74	0.18	11.47	
699.0	4.65	19.73	698.4	12.9	2.0	9.7	1.01	1.01	0.79	
793.0	5.00	29.03	792.1	20.0	5.3	13.9	0.91	0.37	9.89	
888.0	4.71	25.40	886.7	27.2	9.0	17.9	0.44	-0.31	-3.82	
983.0	4.33	26.36	981.4	33.9	12.2	21.8	0.41	-0.40	1.01	
1,078.0	3.23	31.66	1,076.2	39.4	15.2	24.7	1.21	-1.16	5.58	
1,172.0	1.39	41.61	1,170.2	42.5	17.4	26.2	2.00	-1.96	10.59	
1,267.0	0.20	95.29	1,265.1	43.4	18.3	26.4	1.35	-1.25	56.51	
1,362.0	0.44	215.96	1,360.1	43.0	18.3	26.1	0.60	0.25	127.02	
1,457.0	0.97	261.46	1,455.1	42.6	17.3	26.3	0.77	0.56	47.89	
1,552.0	0.64	338.69	1,550.1	43.0	16.3	27.2	1.09	-0.35	81.29	
1,646.0	0.79	51.94	1,644.1	43.9	16.6	27.8	0.92	0.16	77.93	
1,741.0	0.93	68.81	1,739.1	44.6	17.8	27.7	0.30	0.15	17.76	
1,836.0	0.38	66.92	1,834.1	45.0	18.8	27.5	0.58	-0.58	-1.99	
1,931.0	0.45	67.70	1,929.1	45.2	19.5	27.3	0.07	0.07	0.82	
2,026.0	0.20	84.50	2,024.1	45.4	20.0	27.2	0.28	-0.26	17.68	
<b>ST02 Tie-in @ 2106.0' MD / 2104.1' TVD</b>										
2,106.0	0.14	56.69	2,104.1	45.5	20.2	27.1	0.13	-0.08	-34.76	
2,215.0	0.29	43.97	2,213.1	45.7	20.5	27.2	0.14	0.14	-11.67	
2,313.0	2.76	265.22	2,311.1	45.7	18.3	28.4	3.05	2.52	-141.58	
2,360.0	7.63	258.91	2,357.9	45.0	14.1	30.1	10.42	10.36	-13.43	
2,408.0	9.48	258.25	2,405.3	43.6	7.1	32.7	3.86	3.85	-1.38	
2,503.0	8.36	266.71	2,499.2	41.6	-7.4	38.9	1.81	-1.18	8.91	
2,598.0	9.15	273.63	2,593.1	41.7	-21.9	46.9	1.38	0.83	7.28	
2,692.0	9.74	276.99	2,685.8	43.1	-37.2	56.5	0.86	0.63	3.57	
2,786.0	8.74	278.66	2,778.6	45.2	-52.2	66.3	1.10	-1.06	1.78	
2,881.0	9.60	277.94	2,872.4	47.4	-67.1	76.3	0.91	0.91	-0.76	
2,976.0	9.60	277.62	2,966.0	49.5	-82.8	86.7	0.06	0.00	-0.34	
3,070.0	9.28	271.90	3,058.8	50.8	-98.2	96.1	1.05	-0.34	-6.09	
3,165.0	9.69	270.50	3,152.5	51.1	-113.8	104.9	0.50	0.43	-1.47	
3,260.0	11.25	260.35	3,245.9	49.6	-131.0	113.0	2.54	1.64	-10.68	
3,354.0	12.88	251.55	3,337.8	44.8	-149.9	119.3	2.61	1.73	-9.36	
3,448.0	14.50	252.02	3,429.1	37.8	-171.1	125.0	1.73	1.72	0.50	
3,543.0	15.28	254.30	3,520.9	30.8	-194.4	131.8	1.03	0.82	2.40	
3,637.0	15.91	254.09	3,611.5	23.9	-218.8	139.2	0.67	0.67	-0.22	
3,735.0	17.13	254.24	3,705.4	16.3	-245.6	147.5	1.25	1.24	0.15	
3,829.0	17.47	250.08	3,795.2	7.7	-272.2	154.8	1.36	0.36	-4.43	
3,924.0	15.58	244.82	3,886.3	-2.6	-297.1	159.8	2.54	-1.99	-5.54	
4,019.0	13.07	254.43	3,978.3	-10.9	-319.0	164.7	3.63	-2.64	10.12	



Survey Report



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<b>Site:</b>	P5 pad	<b>MD Reference:</b>	WELL @ 888.7usft (Patterson #581)
<b>Well:</b>	P5S1	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST02	<b>Database:</b>	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)
4,113.0	14.73	253.22	4,069.6	-17.2	-340.7	171.3	1.79	1.77	-1.29
4,208.0	16.55	252.68	4,161.0	-24.7	-365.2	178.3	1.92	1.92	-0.57
4,302.0	17.92	254.54	4,250.8	-32.5	-391.9	186.3	1.57	1.46	1.98
4,397.0	18.55	251.33	4,341.1	-41.3	-420.3	194.4	1.25	0.66	-3.38
4,491.0	19.08	246.06	4,430.0	-52.3	-448.5	200.6	1.89	0.56	-5.61
4,586.0	17.56	242.01	4,520.2	-65.3	-475.4	204.3	2.09	-1.60	-4.26
4,681.0	16.05	245.58	4,611.2	-77.5	-500.0	207.5	1.92	-1.59	3.76
4,775.0	15.99	251.86	4,701.5	-86.9	-524.1	212.8	1.84	-0.06	6.68
4,871.0	15.39	255.39	4,793.9	-94.2	-549.0	220.2	1.17	-0.63	3.68
4,968.0	16.03	261.34	4,887.3	-99.5	-574.7	229.8	1.79	0.66	6.13
5,062.0	14.60	279.94	4,978.0	-99.4	-599.2	243.2	5.42	-1.52	19.79
5,157.0	13.35	314.36	5,070.4	-89.6	-618.9	262.1	8.72	-1.32	36.23
5,252.0	17.23	334.86	5,162.1	-69.2	-632.7	286.8	6.95	4.08	21.58
5,347.0	25.42	344.89	5,250.5	-36.7	-644.0	320.2	9.41	8.62	10.56
5,398.0	29.43	341.69	5,295.8	-14.2	-650.8	342.7	8.37	7.86	-6.27
5,446.0	33.83	328.91	5,336.7	8.4	-661.5	367.5	16.66	9.17	-26.63
5,493.0	39.70	316.67	5,374.4	30.6	-678.5	395.4	19.92	12.49	-26.04
5,540.0	45.33	314.66	5,409.0	53.3	-700.8	426.5	12.32	11.98	-4.28
5,587.0	49.47	316.49	5,440.8	78.0	-724.9	460.5	9.26	8.81	3.89
5,635.0	53.21	317.41	5,470.8	105.4	-750.5	497.4	7.93	7.79	1.92
5,682.0	52.83	318.54	5,499.1	133.3	-775.7	534.4	2.08	-0.81	2.40
5,730.0	51.52	318.42	5,528.5	161.7	-800.8	571.9	2.74	-2.73	-0.25
5,845.0	55.00	315.30	5,597.3	228.9	-863.8	662.6	3.73	3.03	-2.71
5,892.0	55.10	314.20	5,624.2	256.0	-891.2	700.3	1.93	0.21	-2.34
5,940.0	57.30	313.80	5,650.9	283.7	-919.9	739.1	4.64	4.58	-0.83
5,987.0	61.00	312.90	5,675.0	311.4	-949.2	778.3	8.04	7.87	-1.91
6,034.0	64.60	312.80	5,696.5	339.8	-979.9	818.9	7.66	7.66	-0.21
6,081.0	67.30	312.40	5,715.6	368.8	-1,011.4	860.4	5.80	5.74	-0.85
6,128.0	70.00	312.80	5,732.8	398.5	-1,043.7	902.8	5.80	5.74	0.85
6,175.0	73.40	313.60	5,747.5	429.0	-1,076.2	946.2	7.41	7.23	1.70
6,223.0	76.40	314.30	5,760.0	461.2	-1,109.5	991.3	6.41	6.25	1.46
6,270.0	81.00	316.70	5,769.2	494.0	-1,141.8	1,036.5	10.99	9.79	5.11
6,318.0	84.60	318.50	5,775.2	529.2	-1,173.9	1,083.4	8.37	7.50	3.75
6,365.0	90.10	319.50	5,777.4	564.6	-1,204.7	1,129.9	11.89	11.70	2.13
6,413.0	90.90	319.10	5,777.0	601.0	-1,236.0	1,177.5	1.86	1.67	-0.83
6,507.0	91.40	321.80	5,775.1	673.5	-1,295.9	1,270.8	2.92	0.53	2.87
6,602.0	89.70	324.60	5,774.2	749.5	-1,352.8	1,365.6	3.45	-1.79	2.95
6,697.0	89.10	326.90	5,775.2	828.0	-1,406.2	1,460.6	2.50	-0.63	2.42
6,791.0	91.50	329.70	5,774.7	908.0	-1,455.6	1,554.5	3.92	2.55	2.98
6,886.0	92.30	330.10	5,771.5	990.1	-1,503.2	1,649.4	0.94	0.84	0.42
6,981.0	90.00	327.40	5,769.6	1,071.3	-1,552.5	1,744.3	3.73	-2.42	-2.84
7,075.0	89.10	326.50	5,770.4	1,150.1	-1,603.8	1,838.3	1.35	-0.96	-0.96
7,170.0	92.00	329.80	5,769.5	1,230.8	-1,653.9	1,933.2	4.62	3.05	3.47
7,265.0	91.60	329.30	5,766.5	1,312.6	-1,702.0	2,028.1	0.67	-0.42	-0.53



Survey Report



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<b>Well:</b>	P5S1	<b>North Reference:</b>	Grid
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<b>Design:</b>	ST02	<b>Database:</b>	EDM 5000.1 Single User Db

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7,359.0	91.00	328.60	5,764.3	1,393.2	-1,750.5	2,122.0	0.98	-0.64	-0.74
7,454.0	90.30	327.90	5,763.3	1,473.9	-1,800.4	2,217.0	1.04	-0.74	-0.74
7,549.0	91.80	330.10	5,761.5	1,555.3	-1,849.4	2,311.9	2.80	1.58	2.32
7,644.0	92.00	329.90	5,758.4	1,637.6	-1,896.8	2,406.7	0.30	0.21	-0.21
7,738.0	91.30	328.80	5,755.7	1,718.4	-1,944.7	2,500.6	1.39	-0.74	-1.17
7,833.0	90.80	330.90	5,753.9	1,800.5	-1,992.4	2,595.5	2.27	-0.53	2.21
7,928.0	90.30	330.30	5,753.0	1,883.3	-2,039.1	2,690.3	0.82	-0.53	-0.63
8,022.0	89.50	328.90	5,753.2	1,964.4	-2,086.6	2,784.2	1.72	-0.85	-1.49
8,116.0	89.90	332.40	5,753.7	2,046.3	-2,132.7	2,877.9	3.75	0.43	3.72
8,211.0	89.50	331.50	5,754.2	2,130.1	-2,177.4	2,972.6	1.04	-0.42	-0.95
8,307.0	90.10	331.70	5,754.5	2,214.6	-2,223.0	3,068.3	0.66	0.63	0.21
8,401.0	89.70	330.30	5,754.7	2,298.8	-2,268.6	3,162.0	1.55	-0.43	-1.49
8,496.0	90.90	332.50	5,754.2	2,380.2	-2,314.1	3,256.8	2.64	1.26	2.32
8,591.0	90.00	330.90	5,753.4	2,463.8	-2,359.1	3,351.4	1.93	-0.95	-1.68
8,685.0	89.70	331.80	5,753.7	2,546.3	-2,404.2	3,445.1	1.01	-0.32	0.96
8,780.0	90.80	331.70	5,753.3	2,630.0	-2,449.1	3,539.8	1.16	1.16	-0.11
8,875.0	90.60	330.40	5,752.1	2,713.1	-2,495.1	3,634.6	1.38	-0.21	-1.37
8,970.0	89.80	328.90	5,751.8	2,795.1	-2,543.1	3,729.5	1.79	-0.84	-1.58
9,065.0	89.60	331.10	5,752.3	2,877.4	-2,590.6	3,824.3	2.33	-0.21	2.32
9,160.0	90.80	330.90	5,751.9	2,960.4	-2,636.7	3,919.1	1.28	1.26	-0.21
9,255.0	90.00	330.20	5,751.3	3,043.2	-2,683.4	4,013.9	1.12	-0.84	-0.74
9,350.0	91.80	330.50	5,749.8	3,125.7	-2,730.4	4,108.7	1.92	1.89	0.32
9,444.0	90.90	329.10	5,747.6	3,206.9	-2,777.6	4,202.6	1.77	-0.96	-1.49
9,539.0	90.70	330.50	5,746.2	3,289.0	-2,825.4	4,297.4	1.49	-0.21	1.47
9,634.0	90.50	330.30	5,745.2	3,371.6	-2,872.3	4,392.3	0.30	-0.21	-0.21
9,729.0	89.90	329.50	5,744.9	3,453.8	-2,920.0	4,487.1	1.05	-0.63	-0.84
9,823.0	89.80	328.90	5,745.2	3,534.6	-2,968.1	4,581.1	0.65	-0.11	-0.64
9,918.0	93.50	334.50	5,742.4	3,618.1	-3,013.1	4,675.7	7.06	3.89	5.89
10,013.0	91.70	333.90	5,738.1	3,703.6	-3,054.4	4,769.8	2.00	-1.89	-0.63
10,108.0	89.80	334.60	5,736.9	3,789.1	-3,095.7	4,864.0	2.13	-2.00	0.74
10,203.0	89.00	334.10	5,737.9	3,874.7	-3,136.8	4,958.2	0.99	-0.84	-0.53
10,297.0	91.40	333.80	5,737.5	3,959.2	-3,178.1	5,051.5	2.57	2.55	-0.32
10,392.0	90.60	331.50	5,735.9	4,043.5	-3,221.7	5,146.1	2.56	-0.84	-2.42
10,487.0	90.90	331.10	5,734.6	4,126.9	-3,267.3	5,240.8	0.53	0.32	-0.42
10,582.0	89.90	330.50	5,734.0	4,209.8	-3,313.7	5,335.6	1.23	-1.05	-0.63
10,677.0	91.40	331.60	5,732.9	4,292.9	-3,359.7	5,430.3	1.96	1.58	1.16
10,771.0	90.50	329.60	5,731.3	4,374.8	-3,405.8	5,524.1	2.33	-0.96	-2.13
10,866.0	90.30	330.00	5,730.7	4,456.9	-3,453.6	5,619.0	0.47	-0.21	0.42
10,961.0	90.60	331.40	5,729.9	4,539.7	-3,500.1	5,713.8	1.51	0.32	1.47
11,056.0	90.20	329.70	5,729.3	4,622.5	-3,546.8	5,808.6	1.84	-0.42	-1.79
11,150.0	92.00	330.40	5,727.5	4,703.9	-3,593.7	5,902.4	2.05	1.91	0.74
11,245.0	92.10	330.70	5,724.1	4,786.6	-3,640.4	5,997.2	0.33	0.11	0.32
11,340.0	91.20	328.80	5,721.3	4,868.6	-3,688.2	6,092.0	2.21	-0.95	-2.00



Survey Report



<b>Company:</b>	Jay-Bee Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well P5S1
<b>Project:</b>	Pleasants County	<b>TVD Reference:</b>	WELL @ 888.7usft (Patterson #581)
<b>Site:</b>	P5 pad	<b>MD Reference:</b>	WELL @ 888.7usft (Patterson #581)
<b>Well:</b>	P5S1	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST02	<b>Database:</b>	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)	
11,435.0	91.20	329.10	5,719.3	4,949.9	-3,737.2	6,187.0	0.32	0.00	0.32	
11,530.0	90.20	327.90	5,718.2	5,030.9	-3,786.8	6,281.9	1.64	-1.05	-1.26	
11,624.0	88.90	326.60	5,718.9	5,110.0	-3,837.7	6,375.9	1.96	-1.38	-1.38	
11,719.0	89.40	325.70	5,720.3	5,188.9	-3,890.6	6,470.9	1.08	0.53	-0.95	
11,814.0	90.50	327.30	5,720.4	5,268.1	-3,943.0	6,565.9	2.04	1.16	1.68	
11,909.0	91.20	330.80	5,719.0	5,349.5	-3,991.9	6,660.8	3.76	0.74	3.68	
12,003.0	90.80	329.70	5,717.4	5,431.1	-4,038.5	6,754.6	1.25	-0.43	-1.17	
12,098.0	89.90	330.70	5,716.8	5,513.6	-4,085.7	6,849.5	1.42	-0.95	1.05	
12,193.0	90.50	333.00	5,716.4	5,597.3	-4,130.5	6,944.1	2.50	0.63	2.42	
12,288.0	89.70	331.60	5,716.3	5,681.4	-4,174.7	7,038.7	1.70	-0.84	-1.47	
12,382.0	89.10	332.70	5,717.3	5,764.6	-4,218.6	7,132.3	1.33	-0.64	1.17	
12,477.0	88.60	332.40	5,719.2	5,848.8	-4,262.4	7,226.8	0.61	-0.53	-0.32	
12,572.0	90.20	332.00	5,720.2	5,932.9	-4,306.7	7,321.4	1.74	1.68	-0.42	
12,667.0	89.40	331.70	5,720.5	6,016.6	-4,351.5	7,416.1	0.90	-0.84	-0.32	
12,761.0	91.60	331.00	5,719.7	6,099.1	-4,396.6	7,509.8	2.46	2.34	-0.74	
12,856.0	91.00	330.30	5,717.5	6,181.9	-4,443.1	7,604.6	0.97	-0.63	-0.74	
12,951.0	90.60	329.60	5,716.2	6,264.1	-4,490.7	7,699.5	0.85	-0.42	-0.74	
13,046.0	91.90	330.20	5,714.1	6,346.3	-4,538.3	7,794.3	1.51	1.37	0.63	
13,140.0	91.60	329.80	5,711.2	6,427.7	-4,585.3	7,888.1	0.53	-0.32	-0.43	
13,235.0	90.80	329.50	5,709.3	6,509.6	-4,633.3	7,983.0	0.90	-0.84	-0.32	
13,330.0	90.60	330.20	5,708.1	6,591.8	-4,681.0	8,077.9	0.77	-0.21	0.74	
13,425.0	90.10	330.90	5,707.5	6,674.5	-4,727.7	8,172.7	0.91	-0.53	0.74	
13,520.0	89.50	330.80	5,707.8	6,757.4	-4,774.0	8,267.5	0.64	-0.63	-0.11	
13,614.0	90.60	331.50	5,707.8	6,839.8	-4,819.3	8,361.2	1.39	1.17	0.74	
13,709.0	90.80	330.70	5,706.6	6,922.9	-4,865.2	8,456.0	0.87	0.21	-0.84	
13,804.0	91.10	330.10	5,705.0	7,005.5	-4,912.2	8,550.8	0.71	0.32	-0.63	
13,899.0	90.30	328.90	5,703.9	7,087.4	-4,960.4	8,645.7	1.52	-0.84	-1.26	
13,994.0	90.90	328.20	5,702.9	7,168.4	-5,009.9	8,740.6	0.97	0.63	-0.74	
14,088.0	90.90	330.20	5,701.4	7,249.1	-5,058.1	8,834.6	2.13	0.00	2.13	
14,183.0	91.00	329.60	5,699.8	7,331.3	-5,105.7	8,929.4	0.64	0.11	-0.63	
14,278.0	90.30	328.50	5,698.7	7,412.8	-5,154.5	9,024.3	1.37	-0.74	-1.16	
14,372.0	90.70	329.50	5,697.9	7,493.4	-5,203.0	9,118.3	1.15	0.43	1.06	
14,467.0	90.80	328.60	5,696.7	7,574.8	-5,251.8	9,213.2	0.95	0.11	-0.95	
14,562.0	90.70	330.70	5,695.4	7,656.8	-5,299.8	9,308.1	2.21	-0.11	2.21	
14,657.0	91.30	330.40	5,693.8	7,739.5	-5,346.5	9,402.9	0.71	0.63	-0.32	
14,751.0	90.70	329.70	5,692.1	7,820.9	-5,393.4	9,496.7	0.98	-0.64	-0.74	
14,846.0	89.70	328.90	5,691.8	7,902.6	-5,441.9	9,591.7	1.35	-1.05	-0.84	
14,941.0	91.10	332.00	5,691.1	7,985.2	-5,488.8	9,686.5	3.58	1.47	3.26	
15,036.0	90.50	330.50	5,689.8	8,068.5	-5,534.5	9,781.2	1.70	-0.63	-1.58	
15,130.0	90.60	332.50	5,688.9	8,151.1	-5,579.3	9,874.9	2.13	0.11	2.13	
15,225.0	90.00	332.40	5,688.4	8,235.4	-5,623.2	9,969.5	0.64	-0.63	-0.11	
15,320.0	89.50	331.80	5,688.8	8,319.3	-5,667.7	10,064.1	0.82	-0.53	-0.63	
15,415.0	91.60	333.10	5,687.9	8,403.5	-5,711.6	10,158.6	2.60	2.21	1.37	



Survey Report



<b>Company:</b>	Jay-Bee Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well P5S1
<b>Project:</b>	Pleasants County	<b>TVD Reference:</b>	WELL @ 888.7usft (Patterson #581)
<b>Site:</b>	P5 pad	<b>MD Reference:</b>	WELL @ 888.7usft (Patterson #581)
<b>Well:</b>	P5S1	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST02	<b>Database:</b>	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)	
15,510.0	91.60	332.10	5,685.3	8,487.8	-5,755.3	10,253.1	1.05	0.00	-1.05	
15,604.0	91.40	332.30	5,682.8	8,571.0	-5,799.2	10,346.7	0.30	-0.21	0.21	
15,699.0	91.10	332.40	5,680.7	8,655.1	-5,843.2	10,441.3	0.33	-0.32	0.11	
15,794.0	90.10	331.20	5,679.7	8,738.8	-5,888.1	10,535.9	1.64	-1.05	-1.26	
15,888.0	89.90	331.20	5,679.7	8,821.2	-5,933.4	10,629.7	0.21	-0.21	0.00	
15,983.0	89.30	330.30	5,680.4	8,904.1	-5,979.8	10,724.5	1.14	-0.63	-0.95	
16,078.0	91.60	330.40	5,679.7	8,986.6	-6,026.8	10,819.3	2.42	2.42	0.11	
16,173.0	91.40	330.30	5,677.2	9,069.1	-6,073.8	10,914.1	0.24	-0.21	-0.11	
16,268.0	89.70	326.60	5,676.3	9,150.1	-6,123.5	11,009.1	4.29	-1.79	-3.89	
16,363.0	90.10	329.20	5,676.4	9,230.6	-6,174.0	11,104.0	2.77	0.42	2.74	
16,457.0	90.20	328.80	5,676.2	9,311.1	-6,222.4	11,198.0	0.44	0.11	-0.43	
16,552.0	91.40	332.20	5,674.9	9,393.8	-6,269.2	11,292.8	3.79	1.26	3.58	
16,646.0	90.50	329.90	5,673.3	9,476.0	-6,314.6	11,386.5	2.63	-0.96	-2.45	
16,741.0	91.10	330.90	5,672.0	9,558.6	-6,361.6	11,481.3	1.23	0.63	1.05	
16,835.0	91.10	331.10	5,670.2	9,640.8	-6,407.1	11,575.1	0.21	0.00	0.21	
16,929.0	90.80	330.30	5,668.6	9,722.8	-6,453.1	11,668.9	0.91	-0.32	-0.85	
17,024.0	90.90	330.70	5,667.2	9,805.5	-6,499.9	11,763.7	0.43	0.11	0.42	
17,119.0	90.90	330.50	5,665.7	9,888.2	-6,546.5	11,858.5	0.21	0.00	-0.21	
17,213.0	90.00	330.60	5,665.0	9,970.1	-6,592.7	11,952.3	0.96	-0.96	0.11	
17,308.0	91.30	331.10	5,663.9	10,053.0	-6,639.0	12,047.1	1.47	1.37	0.53	
<b>ST02 TD @ 17361.0' MD / 5662.7' TVD</b>										
17,361.0	91.30	331.10	5,662.7	10,099.4	-6,664.6	12,099.9	0.00	0.00	0.00	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
2,106.0	2,104.1	45.5	20.2	ST02 Tie-in @ 2106.0' MD / 2104.1' TVD	
17,361.0	5,662.7	10,099.4	-6,664.6	ST02 TD @ 17361.0' MD / 5662.7' TVD	