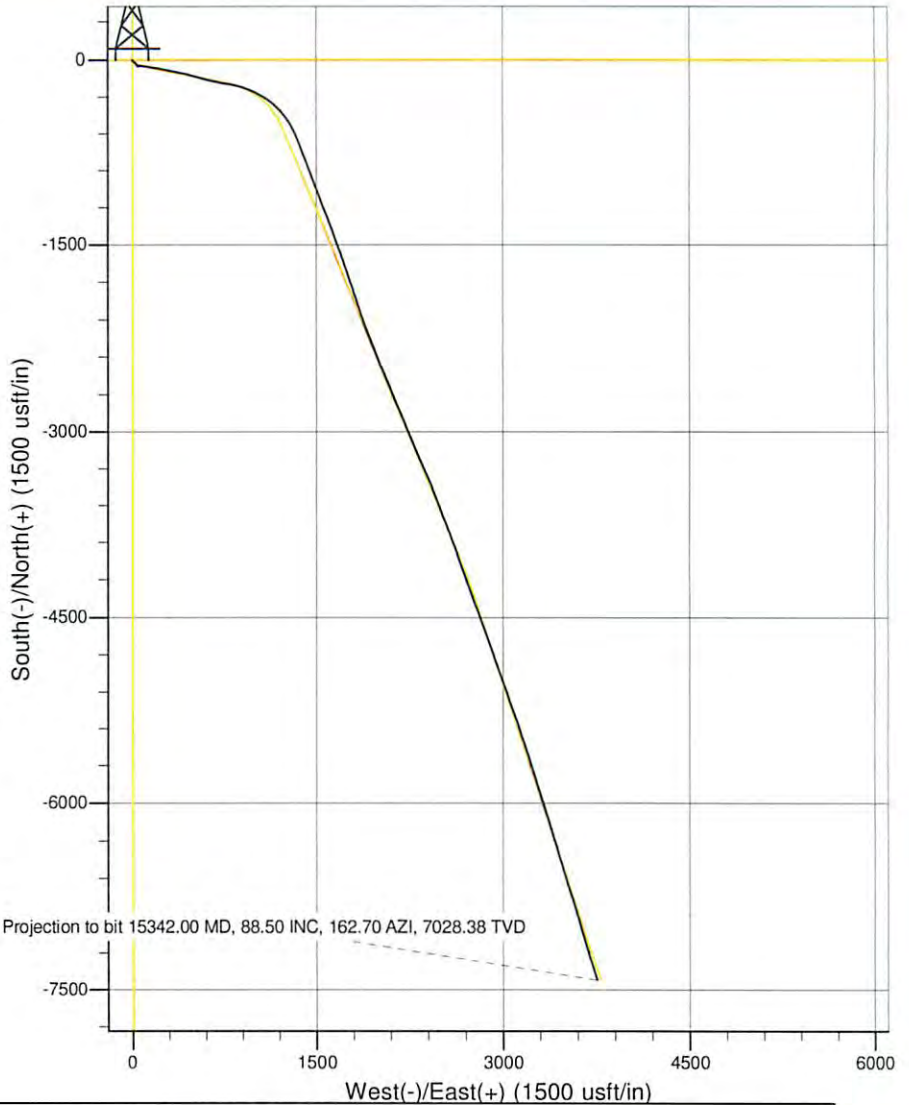
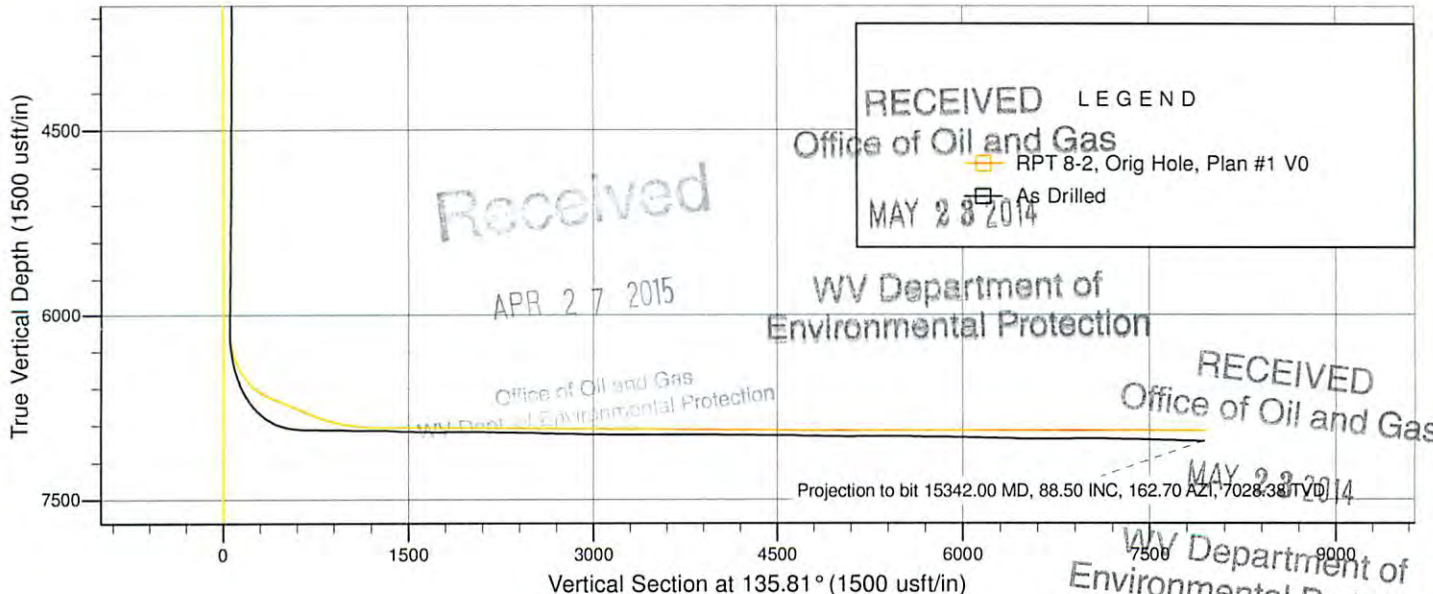


**PROJECT DETAILS: Tyler County, WV**  
 Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: West Virginia Northern Zone  
 System Datum: Mean Sea Level



**WELL DETAILS: RPT 8-2**

+N/-S	+E/-W	Northing	Ground Level: Easting	1244.00 Latitude	Longitude
0.00	0.00	360670.9848	1605472.7020	39° 28' 59.158 N	80° 47' 10.474 W



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 Office of Oil and Gas  
 MAY 23 2014  
 RPT 8-2, Orig Hole, Plan #1 V0  
 As Drilled

Received

APR 27 2015

WV Department of  
 Environmental Protection

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 WV Department of Environmental Protection

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 MAY 23 2014

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 06/12/2015

# Jay Bee Oil & Gas

Tyler County, WV

RPT 8 Pad

RPT 8-2

Orig Hole

Design: As Drilled

## Standard Survey Report

24 July, 2013

Received

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Office of Oil and Gas  
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**DDC**

**Directional Drilling Contractors, LLC**

An Archer Company

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MAY 23 2014

WV Department of  
Environmental Protection

06/12/2015

# Directional Drilling Contractors

## Survey Report



<b>Company:</b> Jay Bee Oil & Gas	<b>Local Co-ordinate Reference:</b> Well RPT 8-2	
<b>Project:</b> Tyler County, WV	<b>TVD Reference:</b> RKB=16' @ 1260.00usft	
<b>Site:</b> RPT 8 Pad	<b>MD Reference:</b> RKB=16' @ 1260.00usft	
<b>Well:</b> RPT 8-2	<b>North Reference:</b> Grid	
<b>Wellbore:</b> Orig Hole	<b>Survey Calculation Method:</b> Minimum Curvature	
<b>Design:</b> As Drilled	<b>Database:</b> EDM 5000.1 Single User Db	

<b>Project</b> Tyler County, WV	
<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> RPT 8 Pad		
<b>Site Position:</b>	<b>Northing:</b> 360,699.2955 usft	<b>Latitude:</b> 39° 28' 59.436 N
<b>From:</b> Lat/Long	<b>Easting:</b> 1,605,463.2041 usft	<b>Longitude:</b> 80° 47' 10.601 W
<b>Position Uncertainty:</b> 0.00 usft	<b>Slot Radius:</b> 13-3/16 "	<b>Grid Convergence:</b> -0.82 °

<b>Well</b> RPT 8-2		
<b>Well Position</b>	<b>Northing:</b> 360,670.9848 usft	<b>Latitude:</b> 39° 28' 59.158 N
<b>+N/-S</b> 0.00 usft	<b>Easting:</b> 1,605,472.7020 usft	<b>Longitude:</b> 80° 47' 10.474 W
<b>+E/-W</b> 0.00 usft	<b>Wellhead Elevation:</b> usft	<b>Ground Level:</b> 1,244.00 usft
<b>Position Uncertainty</b> 0.00 usft		

<b>Wellbore</b> Orig Hole					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	User Defined	07/05/13	-7.58	67.13	52,620

<b>Design</b> As Drilled				
<b>Audit Notes:</b>				
<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 0.00		
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	135.81

<b>Survey Program</b>		<b>Date</b> 07/24/13
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>
100.00	6,050.00	GYRO (Orig Hole)
6,068.00	15,342.00	MWD (Orig Hole)
		<b>Tool Name</b>
		NS-GYRO-MS
		MWD
		<b>Description</b>
		North sensing gyrocompassing m/s
		MWD - Standard

<b>Survey</b>									
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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.29	26.49	100.00	0.23	0.11	-0.08	0.29	0.29	0.00
200.00	0.73	296.81	200.00	0.74	-0.34	-0.77	0.78	0.44	89.68
300.00	0.62	286.96	299.99	1.19	-1.43	-1.85	0.16	-0.11	-9.85
400.00	0.35	239.40	399.99	1.19	-2.21	-2.39	0.46	-0.27	47.56
500.00	0.42	122.31	499.99	0.84	-2.16	-2.11	0.66	0.07	-117.09
600.00	1.91	121.67	599.96	-0.23	-0.43	-0.13	1.49	1.49	0.64
700.00	2.16	127.20	699.90	-2.25	2.49	3.34	0.32	0.25	5.53
800.00	2.01	129.78	799.83	-4.51	5.33	6.95	0.18	-0.15	12.58
900.00	2.14	130.47	899.77	-6.84	8.10	10.55	0.13	0.13	0.69

# Directional Drilling Contractors

## Survey Report



**Company:** Jay Bee Oil & Gas  
**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
**MD Reference:** RKB=16' @ 1260.00usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**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)
1,000.00	2.14	129.54	999.70	-9.24	10.96	14.27	0.03	0.00	-0.93
1,100.00	2.10	133.72	1,099.63	-11.70	13.73	17.96	0.16	-0.04	4.18
1,200.00	2.45	132.51	1,199.55	-14.41	16.63	21.92	0.35	0.35	-1.21
1,300.00	2.58	128.71	1,299.45	-17.26	19.96	26.29	0.21	0.13	-3.80
1,400.00	2.33	129.79	1,399.36	-19.97	23.28	30.54	0.25	-0.25	1.08
1,500.00	1.99	137.52	1,499.29	-22.55	26.01	34.30	0.45	-0.34	7.73
1,600.00	2.09	134.58	1,599.23	-25.11	28.48	37.86	0.14	0.10	-2.94
1,700.00	2.35	134.65	1,699.15	-27.83	31.24	41.73	0.26	0.26	0.07
1,800.00	2.42	121.54	1,799.07	-30.38	34.50	45.83	0.55	0.07	-13.11
1,900.00	2.30	126.37	1,898.98	-32.67	37.91	49.85	0.23	-0.12	4.83
2,000.00	1.98	127.31	1,998.91	-34.91	40.90	53.54	0.32	-0.32	0.94
2,100.00	1.54	138.82	2,098.86	-36.97	43.16	56.59	0.56	-0.44	11.51
2,200.00	1.95	138.95	2,198.82	-39.26	45.16	59.63	0.41	0.41	0.13
2,300.00	2.39	128.35	2,298.75	-41.84	47.92	63.40	0.59	0.44	-10.60
2,400.00	2.38	129.58	2,398.66	-44.46	51.15	67.53	0.05	-0.01	1.23
2,500.00	1.26	142.32	2,498.61	-46.65	53.42	70.69	1.18	-1.12	12.74
2,600.00	0.79	152.24	2,598.59	-48.13	54.42	72.44	0.50	-0.47	9.92
2,700.00	0.17	188.78	2,698.59	-48.89	54.72	73.19	0.66	-0.62	36.54
2,800.00	0.71	188.78	2,798.58	-49.64	54.60	73.65	0.54	0.54	0.00
2,900.00	0.24	59.59	2,898.58	-50.15	54.68	74.08	0.88	-0.47	-129.19
3,000.00	0.36	254.85	2,998.58	-50.13	54.56	73.97	0.59	0.12	-164.74
3,100.00	0.50	148.37	3,098.58	-50.58	54.49	74.25	0.69	0.14	-106.48
3,200.00	0.36	300.86	3,198.58	-50.79	54.45	74.37	0.84	-0.14	152.49
3,300.00	0.75	247.31	3,298.57	-50.88	53.57	73.83	0.61	0.39	-53.55
3,400.00	0.62	299.27	3,398.57	-50.87	52.50	73.07	0.61	-0.13	51.96
3,500.00	0.65	240.99	3,498.56	-50.88	51.53	72.40	0.62	0.03	-58.28
3,600.00	0.11	44.40	3,598.56	-51.09	51.10	72.25	0.76	-0.54	163.41
3,700.00	0.62	295.45	3,698.56	-50.79	50.68	71.74	0.66	0.51	-108.95
3,800.00	0.71	263.37	3,798.55	-50.63	49.57	70.86	0.38	0.09	-32.08
3,900.00	0.44	310.33	3,898.55	-50.45	48.67	70.10	0.52	-0.27	46.96
4,000.00	0.76	276.03	3,998.54	-50.13	47.71	69.20	0.47	0.32	-34.30
4,100.00	0.32	335.59	4,098.54	-49.81	46.94	68.43	0.66	-0.44	59.56
4,200.00	0.69	288.50	4,198.54	-49.36	46.25	67.63	0.53	0.37	-47.09
4,300.00	0.14	70.92	4,298.53	-49.13	45.80	67.15	0.81	-0.55	142.42
4,400.00	0.31	328.23	4,398.53	-48.86	45.77	66.94	0.37	0.17	-102.69
4,500.00	0.57	256.05	4,498.53	-48.75	45.14	66.42	0.56	0.26	-72.18
4,600.00	0.38	36.52	4,598.53	-48.60	44.86	66.12	0.90	0.19	140.47
4,700.00	0.64	305.48	4,698.53	-48.01	44.60	65.52	0.75	0.26	81.04
4,800.00	0.41	250.11	4,798.52	-47.81	43.81	64.82	0.53	-0.23	55.37
4,900.00	0.48	44.26	4,898.52	-47.63	43.77	64.66	0.87	0.07	154.15
5,000.00	0.35	270.29	4,998.52	-47.33	43.75	64.44	0.77	-0.13	133.97
5,100.00	0.89	325.58	5,098.51	-46.69	43.01	63.46	0.75	0.54	55.29
5,200.00	0.41	0.43	5,198.51	-45.69	42.57	62.44	0.60	-0.48	34.85

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 MAY 23 2015  
 WV Department of Environmental Protection

# Directional Drilling Contractors

## Survey Report



**Company:** Jay Bee Oil & Gas  
**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
**MD Reference:** RKB=16' @ 1260.00usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**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)
5,300.00	0.88	298.91	5,298.50	-44.96	41.90	61.45	0.77	0.47	-61.52
5,400.00	0.97	320.37	5,398.49	-43.94	40.69	59.87	0.36	0.09	21.46
5,500.00	0.74	22.14	5,498.48	-42.69	40.39	58.77	0.90	-0.23	61.77
5,600.00	0.31	281.37	5,598.48	-42.04	40.37	58.28	0.85	-0.43	-100.77
5,700.00	0.97	330.23	5,698.47	-41.25	39.69	57.24	0.80	0.66	48.86
5,800.00	0.98	341.93	5,798.46	-39.70	39.00	55.65	0.20	0.01	11.70
5,900.00	0.19	4.99	5,898.45	-38.72	38.75	54.78	0.81	-0.79	23.06
6,000.00	0.79	305.62	5,998.45	-38.16	38.20	53.99	0.71	0.60	-59.37
6,050.00	0.87	319.12	6,048.44	-37.67	37.68	53.27	0.42	0.16	27.00
6,068.00	0.70	302.40	6,066.44	-37.51	37.49	53.03	1.58	-0.94	-92.89
6,112.00	0.40	274.10	6,110.44	-37.35	37.11	52.65	0.90	-0.68	-64.32
6,157.00	0.40	99.70	6,155.44	-37.37	37.11	52.66	1.78	0.00	-387.56
6,201.00	1.90	115.40	6,199.43	-37.70	37.92	53.47	3.45	3.41	35.68
6,245.00	5.40	107.80	6,243.33	-38.65	40.55	55.98	8.01	7.95	-17.27
6,290.00	8.40	105.00	6,288.00	-40.15	45.75	60.67	6.71	6.67	-6.22
6,334.00	11.40	99.40	6,331.34	-41.69	53.14	66.94	7.15	6.82	-12.73
6,379.00	14.90	96.20	6,375.16	-43.04	63.28	74.97	7.94	7.78	-7.11
6,424.00	17.80	97.00	6,418.33	-44.51	75.87	84.79	6.46	6.44	1.78
6,469.00	21.20	96.20	6,460.74	-46.22	90.79	96.42	7.58	7.56	-1.78
6,513.00	23.40	95.50	6,501.45	-47.92	107.39	109.22	5.04	5.00	-1.59
6,558.00	24.90	98.80	6,542.51	-50.23	125.65	123.60	4.48	3.33	7.33
6,602.00	28.50	99.30	6,581.81	-53.34	145.17	139.43	8.20	8.18	1.14
6,647.00	32.00	100.10	6,620.68	-57.17	167.51	157.75	7.83	7.78	1.78
6,691.00	35.90	100.40	6,657.17	-61.54	191.69	177.74	8.87	8.86	0.68
6,736.00	39.50	100.60	6,692.77	-66.56	218.74	200.19	8.00	8.00	0.44
6,780.00	43.10	100.80	6,725.82	-71.95	247.27	223.94	8.19	8.18	0.45
6,825.00	46.80	100.90	6,757.67	-77.94	278.49	249.99	8.22	8.22	0.22
6,869.00	50.90	100.90	6,786.61	-84.20	311.02	277.15	9.32	9.32	0.00
6,914.00	55.30	101.70	6,813.62	-91.26	346.29	306.80	9.88	9.78	1.78
6,958.00	58.80	102.70	6,837.55	-99.06	382.37	337.55	8.18	7.95	2.27
7,003.00	63.00	103.20	6,859.43	-107.88	420.68	370.57	9.38	9.33	1.11
7,047.00	66.00	105.10	6,878.38	-117.59	459.18	404.37	7.85	6.82	4.32
7,092.00	70.50	105.70	6,895.05	-128.69	499.47	440.41	10.08	10.00	1.33
7,136.00	75.10	105.70	6,908.05	-140.06	539.92	476.76	10.45	10.45	0.00
7,181.00	79.30	104.90	6,918.02	-151.64	582.24	514.55	9.49	9.33	-1.78
7,225.00	81.50	103.90	6,925.36	-162.42	624.26	551.58	5.48	5.00	-2.27
7,270.00	85.10	101.80	6,930.61	-172.36	667.82	589.06	9.25	8.00	-4.67
7,314.00	88.70	99.90	6,932.99	-180.63	710.96	625.06	9.25	8.18	-4.32
7,359.00	88.60	99.80	6,934.05	-188.32	755.29	661.47	0.31	-0.22	-0.22
7,403.00	88.60	99.10	6,935.12	-195.54	798.68	696.89	1.59	0.00	-1.59
7,448.00	89.30	102.70	6,935.95	-204.05	842.85	733.78	8.15	1.56	8.00
7,492.00	89.60	105.80	6,936.37	-214.88	885.49	771.27	7.08	0.68	7.05
7,537.00	89.30	110.10	6,936.80	-228.74	928.29	811.04	9.58	-0.67	9.56

Received  
 APR 27 2015

# Directional Drilling Contractors

## Survey Report



**Company:** Jay Bee Oil & Gas  
**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
**MD Reference:** RKB=16' @ 1260.00usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**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)
7,582.00	89.30	112.90	6,937.35	-245.23	970.15	852.04	6.22	0.00	6.22
7,626.00	89.30	117.60	6,937.89	-264.00	1,009.93	893.22	10.68	0.00	10.68
7,671.00	88.60	119.80	6,938.72	-285.60	1,049.39	936.22	5.13	-1.56	4.89
7,715.00	89.40	123.60	6,939.48	-308.71	1,086.82	978.88	8.82	1.82	8.64
7,760.00	89.00	126.50	6,940.11	-334.55	1,123.65	1,023.08	6.50	-0.89	6.44
7,804.00	88.60	130.90	6,941.03	-362.05	1,157.97	1,066.72	10.04	-0.91	10.00
7,846.00	88.90	135.30	6,941.95	-390.73	1,188.62	1,108.65	10.50	0.71	10.48
7,891.00	89.20	139.00	6,942.70	-423.71	1,219.22	1,153.62	8.25	0.67	8.22
7,935.00	90.30	142.70	6,942.89	-457.83	1,246.99	1,197.45	8.77	2.50	8.41
7,980.00	90.30	146.60	6,942.65	-494.52	1,273.02	1,241.90	8.67	0.00	8.67
8,024.00	89.50	150.70	6,942.73	-532.09	1,295.91	1,284.79	9.49	-1.82	9.32
8,068.00	88.40	154.40	6,943.54	-571.12	1,316.18	1,326.91	8.77	-2.50	8.41
8,113.00	87.30	157.60	6,945.23	-612.20	1,334.47	1,369.11	7.51	-2.44	7.11
8,157.00	87.60	159.20	6,947.18	-653.07	1,350.65	1,409.70	3.70	0.68	3.64
8,201.00	88.40	159.80	6,948.72	-694.25	1,366.05	1,449.97	2.27	1.82	1.36
8,246.00	88.40	159.40	6,949.98	-736.42	1,381.73	1,491.13	0.89	0.00	-0.89
8,290.00	88.30	159.10	6,951.24	-777.54	1,397.31	1,531.48	0.72	-0.23	-0.68
8,334.00	88.90	159.40	6,952.32	-818.68	1,412.90	1,571.84	1.52	1.36	0.68
8,379.00	88.50	159.10	6,953.34	-860.75	1,428.84	1,613.11	1.11	-0.89	-0.67
8,424.00	89.10	159.10	6,954.28	-902.78	1,444.89	1,654.44	1.33	1.33	0.00
8,469.00	89.30	159.10	6,954.91	-944.81	1,460.94	1,695.77	0.44	0.44	0.00
8,513.00	90.30	160.40	6,955.06	-986.09	1,476.17	1,735.98	3.73	2.27	2.95
8,558.00	90.60	159.50	6,954.71	-1,028.36	1,491.59	1,777.05	2.11	0.67	-2.00
8,602.00	90.60	159.40	6,954.25	-1,069.56	1,507.04	1,817.35	0.23	0.00	-0.23
8,646.00	90.50	159.40	6,953.83	-1,110.75	1,522.52	1,857.68	0.23	-0.23	0.00
8,691.00	90.40	159.30	6,953.47	-1,152.85	1,538.39	1,898.93	0.31	-0.22	-0.22
8,735.00	89.80	158.80	6,953.40	-1,193.94	1,554.12	1,939.36	1.78	-1.36	-1.14
8,780.00	89.60	158.30	6,953.63	-1,235.83	1,570.57	1,980.86	1.20	-0.44	-1.11
8,824.00	89.60	158.30	6,953.94	-1,276.71	1,586.84	2,021.52	0.00	0.00	0.00
8,869.00	89.60	158.70	6,954.25	-1,318.57	1,603.33	2,063.04	0.89	0.00	0.89
8,914.00	89.80	158.10	6,954.49	-1,360.41	1,619.90	2,104.58	1.41	0.44	-1.33
8,958.00	89.10	159.90	6,954.91	-1,401.49	1,635.67	2,145.03	4.39	-1.59	4.80
9,003.00	89.20	159.70	6,955.58	-1,443.72	1,651.20	2,185.13	0.50	0.22	-0.44
9,047.00	89.30	159.50	6,956.15	-1,484.95	1,666.54	2,226.39	0.51	0.23	-0.45
9,092.00	89.20	159.40	6,956.74	-1,527.08	1,682.33	2,267.61	0.31	-0.22	-0.22
9,136.00	89.00	160.10	6,957.43	-1,568.36	1,697.56	2,307.83	1.65	-0.45	1.59
9,166.00	88.60	160.80	6,958.06	-1,596.62	1,707.60	2,335.09	2.69	-1.33	2.33
9,196.00	88.50	161.40	6,958.82	-1,625.00	1,717.31	2,362.20	2.03	0.33	2.00
9,227.00	88.70	160.90	6,959.58	-1,654.33	1,727.33	2,390.27	1.74	0.65	0.61
9,257.00	88.80	161.10	6,960.23	-1,682.68	1,737.09	2,417.36	0.75	0.33	0.67
9,288.00	89.00	161.30	6,960.83	-1,712.03	1,747.08	2,445.36	0.91	0.65	0.65
9,318.00	89.00	161.50	6,961.35	-1,740.45	1,756.65	2,472.41	0.67	0.00	0.67
9,349.00	88.80	161.80	6,961.95	-1,769.87	1,766.40	2,500.31	1.16	-0.65	0.97
9,380.00	88.60	162.00	6,962.65	-1,799.33	1,776.03	2,528.14	0.91	-0.65	0.65

# Directional Drilling Contractors

## Survey Report



**Company:** Jay Bee Oil & Gas  
**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
**MD Reference:** RKB=16' @ 1260.00usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Received

APR 27 2015

**Survey**

Office of Oil and Gas  
WV Dept. of Environmental Protection

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)
9,411.00	88.50	161.10	6,963.44	-1,828.73	1,785.84	2,556.06	2.92	-0.32	-2.90
9,441.00	88.50	161.10	6,964.22	-1,857.10	1,795.55	2,583.17	0.00	0.00	0.00
9,471.00	88.60	160.90	6,964.98	-1,885.46	1,805.32	2,610.31	0.75	0.33	-0.67
9,502.00	88.90	160.80	6,965.66	-1,914.73	1,815.48	2,638.39	1.02	0.97	-0.32
9,532.00	89.00	161.60	6,966.21	-1,943.13	1,825.15	2,665.49	2.69	0.33	2.67
9,563.00	89.30	161.30	6,966.67	-1,972.51	1,835.01	2,693.44	1.37	0.97	-0.97
9,593.00	88.90	161.70	6,967.14	-2,000.96	1,844.53	2,720.47	1.89	-1.33	1.33
9,623.00	89.00	161.60	6,967.69	-2,029.43	1,853.97	2,747.47	0.47	0.33	-0.33
9,654.00	89.40	160.70	6,968.12	-2,058.76	1,863.99	2,775.48	3.18	1.29	-2.90
9,685.00	89.30	159.60	6,968.47	-2,087.92	1,874.51	2,803.72	3.56	-0.32	-3.55
9,714.00	89.00	158.90	6,968.90	-2,115.04	1,884.79	2,830.33	2.63	-1.03	-2.41
9,745.00	88.50	158.60	6,969.58	-2,143.92	1,896.02	2,858.87	1.88	-1.61	-0.97
9,775.00	88.30	158.10	6,970.42	-2,171.79	1,907.08	2,886.57	1.79	-0.67	-1.67
9,806.00	88.50	158.60	6,971.28	-2,200.60	1,918.51	2,915.19	1.74	0.65	1.61
9,836.00	89.10	158.90	6,971.91	-2,228.55	1,929.39	2,942.81	2.24	2.00	1.00
9,867.00	88.90	158.80	6,972.45	-2,257.46	1,940.57	2,971.33	0.72	-0.65	-0.32
9,898.00	88.90	157.90	6,973.05	-2,286.26	1,952.00	2,999.96	2.90	0.00	-2.90
9,928.00	89.50	158.60	6,973.46	-2,314.13	1,963.12	3,027.69	3.07	2.00	2.33
9,958.00	89.70	158.50	6,973.67	-2,342.05	1,974.09	3,055.36	0.75	0.67	-0.33
9,988.00	89.50	158.50	6,973.88	-2,369.96	1,985.08	3,083.03	0.67	-0.67	0.00
10,019.00	89.20	158.30	6,974.23	-2,398.78	1,996.50	3,111.65	1.16	-0.97	-0.65
10,049.00	89.30	157.30	6,974.63	-2,426.55	2,007.83	3,139.47	3.35	0.33	-3.33
10,080.00	89.30	157.70	6,975.01	-2,455.19	2,019.69	3,168.27	1.29	0.00	1.29
10,110.00	89.50	157.20	6,975.32	-2,482.90	2,031.20	3,196.16	1.79	0.67	-1.67
10,141.00	89.50	157.20	6,975.59	-2,511.47	2,043.21	3,225.02	0.00	0.00	0.00
10,172.00	89.50	156.70	6,975.86	-2,540.00	2,055.35	3,253.94	1.61	0.00	-1.61
10,202.00	89.30	157.40	6,976.18	-2,567.62	2,067.04	3,281.90	2.43	-0.67	2.33
10,232.00	89.80	157.10	6,976.41	-2,595.29	2,078.64	3,309.82	1.94	1.67	-1.00
10,262.00	89.90	158.60	6,976.49	-2,623.07	2,089.95	3,337.63	5.01	0.33	5.00
10,293.00	90.20	158.10	6,976.46	-2,651.88	2,101.39	3,366.26	1.88	0.97	-1.61
10,324.00	90.10	158.10	6,976.38	-2,680.65	2,112.95	3,394.94	0.32	-0.32	0.00
10,354.00	90.00	158.70	6,976.36	-2,708.54	2,124.00	3,422.64	2.03	-0.33	2.00
10,385.00	90.00	158.10	6,976.36	-2,737.36	2,135.41	3,451.27	1.94	0.00	-1.94
10,415.00	89.80	158.00	6,976.41	-2,765.19	2,146.62	3,479.03	0.75	-0.67	-0.33
10,445.00	89.60	157.50	6,976.56	-2,792.95	2,157.98	3,506.86	1.80	-0.67	-1.67
10,490.00	89.60	157.20	6,976.88	-2,834.48	2,175.31	3,548.72	0.67	0.00	-0.67
10,534.00	90.60	158.70	6,976.80	-2,875.26	2,191.83	3,589.47	4.10	2.27	3.41
10,578.00	90.50	157.90	6,976.38	-2,916.14	2,208.10	3,630.13	1.83	-0.23	-1.82
10,623.00	90.70	158.10	6,975.91	-2,957.86	2,224.95	3,671.79	0.63	0.44	0.44
10,667.00	90.30	157.70	6,975.52	-2,998.63	2,241.51	3,712.56	1.29	-0.91	-0.91
10,712.00	90.00	157.90	6,975.41	-3,040.29	2,258.51	3,754.29	0.80	-0.67	0.44
10,756.00	89.90	157.70	6,975.45	-3,081.03	2,275.13	3,795.09	0.51	-0.23	-0.45
10,798.00	89.70	157.50	6,975.59	-3,119.86	2,291.14	3,834.09	0.67	-0.48	-0.48

# Directional Drilling Contractors

## Survey Report



Received

APR 27 2015

**Company:** Jay Bee Oil & Gas  
**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
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**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Office of Oil and Gas  
 WV Dept. of Environmental Protection

**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)
10,842.00	89.60	157.00	6,975.86	-3,160.44	2,308.15	3,875.04	1.16	-0.23	-1.14
10,887.00	89.60	157.70	6,976.17	-3,201.97	2,325.48	3,916.90	1.56	0.00	1.56
10,931.00	89.70	155.90	6,976.44	-3,242.40	2,342.82	3,957.98	4.10	0.23	-4.09
10,976.00	89.60	155.20	6,976.72	-3,283.37	2,361.44	4,000.33	1.57	-0.22	-1.56
11,020.00	89.30	157.30	6,977.14	-3,323.64	2,379.16	4,041.56	4.82	-0.68	4.77
11,065.00	89.50	156.80	6,977.61	-3,365.07	2,396.71	4,083.50	1.20	0.44	-1.11
11,110.00	89.80	157.70	6,977.89	-3,406.57	2,414.11	4,125.39	2.11	0.67	2.00
11,154.00	89.90	159.40	6,978.00	-3,447.52	2,430.20	4,165.97	3.87	0.23	3.86
11,198.00	89.90	158.70	6,978.08	-3,488.61	2,445.93	4,206.40	1.59	0.00	-1.59
11,243.00	89.90	158.60	6,978.16	-3,530.52	2,462.31	4,247.87	0.22	0.00	-0.22
11,287.00	90.00	158.80	6,978.20	-3,571.52	2,478.29	4,288.41	0.51	0.23	0.45
11,332.00	88.90	159.70	6,978.63	-3,613.60	2,494.24	4,329.69	3.16	-2.44	2.00
11,377.00	88.90	159.50	6,979.49	-3,655.77	2,509.92	4,370.86	0.44	0.00	-0.44
11,421.00	88.80	159.40	6,980.37	-3,696.96	2,525.36	4,411.16	0.32	-0.23	-0.23
11,465.00	89.20	159.00	6,981.14	-3,738.08	2,540.98	4,451.54	1.29	0.91	-0.91
11,509.00	89.30	159.40	6,981.72	-3,779.21	2,556.61	4,491.92	0.94	0.23	0.91
11,554.00	89.00	160.40	6,982.39	-3,821.47	2,572.07	4,533.00	2.32	-0.67	2.22
11,598.00	89.00	160.40	6,983.15	-3,862.91	2,586.83	4,573.00	0.00	0.00	0.00
11,642.00	89.50	160.00	6,983.73	-3,904.31	2,601.73	4,613.07	1.46	1.14	-0.91
11,687.00	89.40	160.10	6,984.16	-3,946.60	2,617.08	4,654.11	0.31	-0.22	0.22
11,732.00	88.30	160.60	6,985.07	-3,988.97	2,632.21	4,695.03	2.69	-2.44	1.11
11,776.00	88.80	161.90	6,986.18	-4,030.63	2,646.35	4,734.75	3.16	1.14	2.95
11,821.00	88.50	160.50	6,987.24	-4,073.21	2,660.85	4,775.40	3.18	-0.67	-3.11
11,865.00	89.00	160.10	6,988.20	-4,114.63	2,675.68	4,815.43	1.46	1.14	-0.91
11,910.00	89.10	160.50	6,988.94	-4,156.99	2,690.84	4,856.38	0.92	0.22	0.89
11,954.00	89.30	160.20	6,989.56	-4,198.42	2,705.64	4,896.40	0.82	0.45	-0.68
11,998.00	89.20	160.00	6,990.14	-4,239.79	2,720.61	4,936.50	0.51	-0.23	-0.45
12,043.00	89.10	159.30	6,990.80	-4,281.98	2,736.26	4,977.66	1.57	-0.22	-1.56
12,088.00	89.00	159.30	6,991.55	-4,324.06	2,752.17	5,018.92	0.22	-0.22	0.00
12,132.00	89.30	159.20	6,992.20	-4,365.21	2,767.75	5,059.29	0.72	0.68	-0.23
12,177.00	90.40	159.90	6,992.32	-4,407.37	2,783.47	5,100.48	2.90	2.44	1.56
12,221.00	90.50	160.10	6,991.97	-4,448.71	2,798.52	5,140.62	0.51	0.23	0.45
12,265.00	90.50	159.90	6,991.59	-4,490.06	2,813.57	5,180.75	0.45	0.00	-0.45
12,310.00	90.40	160.00	6,991.24	-4,532.33	2,829.00	5,221.82	0.31	-0.22	0.22
12,354.00	90.60	160.20	6,990.85	-4,573.70	2,843.97	5,261.92	0.64	0.45	0.45
12,399.00	91.10	159.90	6,990.18	-4,616.00	2,859.33	5,302.95	1.30	1.11	-0.67
12,443.00	89.80	160.70	6,989.84	-4,657.42	2,874.16	5,342.99	3.47	-2.95	1.82
12,488.00	89.90	160.30	6,989.96	-4,699.84	2,889.18	5,383.88	0.92	0.22	-0.89
12,532.00	90.20	160.20	6,989.92	-4,741.25	2,904.05	5,423.94	0.72	0.68	-0.23
12,575.00	90.30	160.20	6,989.73	-4,781.71	2,918.61	5,463.10	0.23	0.23	0.00
12,619.00	89.30	160.80	6,989.88	-4,823.18	2,933.30	5,503.08	2.65	-2.27	1.36
12,663.00	88.60	161.30	6,990.69	-4,864.79	2,947.59	5,542.87	1.95	-1.59	1.14
12,708.00	88.80	161.50	6,991.71	-4,907.43	2,961.94	5,583.45	0.63	0.44	0.44



# Directional Drilling Contractors

## Survey Report



Received

APR 27 2015

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Office of Oil and Gas WV Dept. of Environmental Protection									
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12,753.00	89.20	161.20	6,992.50	-4,950.06	2,976.32	5,624.05	1.11	0.89	-0.67
12,797.00	89.10	160.50	6,993.15	-4,991.62	2,990.76	5,663.91	1.61	-0.23	-1.59
12,842.00	89.10	160.20	6,993.86	-5,033.99	3,005.89	5,704.84	0.67	0.00	-0.67
12,886.00	89.20	160.30	6,994.51	-5,075.40	3,020.75	5,744.89	0.32	0.23	0.23
12,931.00	89.30	160.60	6,995.10	-5,117.80	3,035.81	5,785.79	0.70	0.22	0.67
12,975.00	89.30	161.10	6,995.64	-5,159.36	3,050.24	5,825.65	1.14	0.00	1.14
13,020.00	89.80	161.20	6,995.99	-5,201.95	3,064.78	5,866.32	1.13	1.11	0.22
13,064.00	89.20	160.60	6,996.37	-5,243.52	3,079.18	5,906.17	1.93	-1.36	-1.36
13,109.00	89.30	160.20	6,996.96	-5,285.91	3,094.27	5,947.09	0.92	0.22	-0.89
13,153.00	88.70	161.20	6,997.73	-5,327.43	3,108.81	5,987.00	2.65	-1.36	2.27
13,197.00	88.80	161.60	6,998.69	-5,369.13	3,122.84	6,026.67	0.94	0.23	0.91
13,239.00	88.90	161.60	6,999.53	-5,408.97	3,136.10	6,064.48	0.24	0.24	0.00
13,284.00	89.30	160.80	7,000.24	-5,451.56	3,150.60	6,105.13	1.99	0.89	-1.78
13,328.00	89.00	161.20	7,000.89	-5,493.16	3,164.92	6,144.94	1.14	-0.68	0.91
13,373.00	88.50	162.30	7,001.87	-5,535.89	3,179.01	6,185.40	2.68	-1.11	2.44
13,417.00	88.80	162.30	7,002.91	-5,577.79	3,192.38	6,224.77	0.68	0.68	0.00
13,462.00	88.90	162.50	7,003.81	-5,620.68	3,205.99	6,265.00	0.50	0.22	0.44
13,506.00	89.10	162.10	7,004.58	-5,662.59	3,219.36	6,304.38	1.02	0.45	-0.91
13,550.00	89.10	162.40	7,005.27	-5,704.49	3,232.78	6,343.77	0.68	0.00	0.68
13,595.00	88.00	163.00	7,006.41	-5,747.44	3,246.15	6,383.90	2.78	-2.44	1.33
13,639.00	88.20	163.30	7,007.87	-5,789.53	3,258.90	6,422.96	0.82	0.45	0.68
13,684.00	88.20	162.90	7,009.28	-5,832.56	3,271.98	6,462.93	0.89	0.00	-0.89
13,728.00	89.10	162.60	7,010.32	-5,874.57	3,285.02	6,502.15	2.16	2.05	-0.68
13,772.00	89.60	162.10	7,010.82	-5,916.50	3,298.36	6,541.51	1.61	1.14	-1.14
13,817.00	90.40	162.40	7,010.82	-5,959.35	3,312.08	6,581.80	1.90	1.78	0.67
13,861.00	90.70	162.50	7,010.40	-6,001.30	3,325.35	6,621.13	0.72	0.68	0.23
13,906.00	90.20	162.70	7,010.04	-6,044.24	3,338.80	6,661.30	1.20	-1.11	0.44
13,950.00	90.30	162.50	7,009.85	-6,086.23	3,351.96	6,700.58	0.51	0.23	-0.45
13,995.00	90.60	162.30	7,009.50	-6,129.12	3,365.57	6,740.82	0.80	0.67	-0.44
14,040.00	90.10	163.20	7,009.22	-6,172.10	3,378.91	6,780.94	2.29	-1.11	2.00
14,084.00	90.40	163.20	7,009.03	-6,214.22	3,391.63	6,820.00	0.68	0.68	0.00
14,129.00	90.60	163.00	7,008.64	-6,257.27	3,404.71	6,860.00	0.63	0.44	-0.44
14,173.00	90.10	163.50	7,008.37	-6,299.40	3,417.39	6,899.05	1.61	-1.14	1.14
14,218.00	90.00	163.50	7,008.33	-6,342.55	3,430.17	6,938.89	0.22	-0.22	0.00
14,262.00	90.10	163.50	7,008.29	-6,384.74	3,442.67	6,977.86	0.23	0.23	0.00
14,307.00	90.20	163.60	7,008.18	-6,427.90	3,455.41	7,017.68	0.31	0.22	0.22
14,352.00	90.20	163.90	7,008.02	-6,471.10	3,468.00	7,057.44	0.67	0.00	0.67
14,396.00	90.10	164.50	7,007.90	-6,513.44	3,479.98	7,096.15	1.38	-0.23	1.36
14,441.00	89.90	163.70	7,007.90	-6,556.71	3,492.31	7,135.78	1.83	-0.44	-1.78
14,485.00	88.50	162.70	7,008.52	-6,598.83	3,505.03	7,174.84	3.91	-3.18	-2.27
14,529.00	88.70	162.30	7,009.59	-6,640.78	3,518.25	7,214.14	1.02	0.45	-0.91
14,573.00	88.40	162.40	7,010.71	-6,682.70	3,531.59	7,253.49	0.72	-0.68	0.23
14,618.00	88.80	162.50	7,011.80	-6,725.59	3,545.15	7,293.70	0.92	0.89	0.22
14,662.00	88.80	162.50	7,012.73	-6,767.54	3,558.38	7,333.01	0.00	0.00	0.00

**Directional Drilling Contractors**  
Survey Report



<b>Company:</b> Jay Bee Oil & Gas	<b>Local Co-ordinate Reference:</b> Well RPT 8-2
<b>Project:</b> Tyler County, WV	<b>TVD Reference:</b> RKB=16' @ 1260.00usft
<b>Site:</b> RPT 8 Pad	<b>MD Reference:</b> RKB=16' @ 1260.00usft
<b>Well:</b> RPT 8-2	<b>North Reference:</b> Grid
<b>Wellbore:</b> Orig Hole	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled	<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)
14,707.00	89.10	163.00	7,013.55	-6,810.51	3,571.72	7,373.12	1.30	0.67	1.11
14,751.00	89.40	162.90	7,014.13	-6,852.57	3,584.62	7,412.27	0.72	0.68	-0.23
14,796.00	89.50	163.50	7,014.56	-6,895.65	3,597.63	7,452.23	1.35	0.22	1.33
14,840.00	88.00	163.80	7,015.52	-6,937.86	3,610.01	7,491.12	3.48	-3.41	0.68
14,882.00	88.40	163.40	7,016.84	-6,978.13	3,621.87	7,528.26	1.35	0.95	-0.95
14,927.00	88.20	163.60	7,018.17	-7,021.26	3,634.64	7,568.09	0.63	-0.44	0.44
14,971.00	88.40	163.30	7,019.48	-7,063.42	3,647.17	7,607.06	0.82	0.45	-0.68
15,016.00	88.50	163.40	7,020.70	-7,106.52	3,660.06	7,646.94	0.31	0.22	0.22
15,060.00	88.20	163.50	7,021.96	-7,148.68	3,672.59	7,685.91	0.72	-0.68	0.23
15,105.00	88.40	163.90	7,023.30	-7,191.85	3,685.21	7,725.66	0.99	0.44	0.89
15,149.00	88.80	163.70	7,024.37	-7,234.09	3,697.48	7,764.51	1.02	0.91	-0.45
15,194.00	89.40	162.40	7,025.08	-7,277.13	3,710.60	7,804.51	3.18	1.33	-2.89
15,238.00	88.80	162.90	7,025.77	-7,319.12	3,723.72	7,843.77	1.77	-1.36	1.14
15,282.00	88.50	162.70	7,026.81	-7,361.14	3,736.73	7,882.97	0.82	-0.68	-0.45
15,342.00	88.50	162.70	7,028.38	-7,418.41	3,754.56	7,936.46	0.00	0.00	0.00

Projection to bit 15342.00 MD, 88.50 INC, 162.70 AZI, 7028.38 TVD

**Design Annotations**

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
15,342.00	7,028.38	-7,418.41	3,754.56	Projection to bit 15342.00 MD, 88.50 INC, 162.70 AZI, 7028.38 TVD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

Received  
APR 27 2015  
Office of Oil and Gas  
WV Dept. of Environmental Protection

# Jay Bee Oil & Gas

Tyler County, WV

RPT 8 Pad

RPT 8-2

Orig Hole

Design: As Drilled

## Survey Report - Geographic

24 July, 2013

Received

APR 27 2015

Office of Oil and Gas  
WV Dept. of Environmental Protection



**Directional Drilling Contractors, LLC.**

**An Archer Company**

06/12/2015

**Directional Drilling Contractors**  
Survey Report - Geographic



<b>Company:</b> Jay Bee Oil & Gas	<b>Local Co-ordinate Reference:</b> Well RPT 8-2
<b>Project:</b> Tyler County, WV	<b>TVD Reference:</b> RKB=16' @ 1260.00usft
<b>Site:</b> RPT 8 Pad	<b>MD Reference:</b> RKB=16' @ 1260.00usft
<b>Well:</b> RPT 8-2	<b>North Reference:</b> Grid
<b>Wellbore:</b> Orig Hole	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled	<b>Database:</b> EDM 5000.1 Single User Db

<b>Project</b> Tyler County, WV	
<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> RPT 8 Pad		
<b>Site Position:</b>	<b>Northing:</b> 360,699.2955 usft	<b>Latitude:</b> 39° 28' 59.436 N
<b>From:</b> Lat/Long	<b>Easting:</b> 1,605,463.2041 usft	<b>Longitude:</b> 80° 47' 10.601 W
<b>Position Uncertainty:</b> 0.00 usft	<b>Slot Radius:</b> 13-3/16 "	<b>Grid Convergence:</b> -0.82 °

<b>Well</b> RPT 8-2		
<b>Well Position</b> +N/-S 0.00 usft	<b>Northing:</b> 360,670.9848 usft	<b>Latitude:</b> 39° 28' 59.158 N
+E/-W 0.00 usft	<b>Easting:</b> 1,605,472.7020 usft	<b>Longitude:</b> 80° 47' 10.474 W
<b>Position Uncertainty</b> 0.00 usft	<b>Wellhead Elevation:</b> usft	<b>Ground Level:</b> 1,244.00 usft

<b>Wellbore</b> Orig Hole					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	User Defined	07/05/13	-7.58	67.13	52,620

<b>Design</b> As Drilled				
<b>Audit Notes:</b>				
<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 0.00		
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	135.81

<b>Survey Program</b>	<b>Date</b> 07/24/13			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
100.00	6,050.00	GYRO (Orig Hole)	NS-GYRO-MS	North sensing gyrocompassing m/sf
6,068.00	15,342.00	MWD (Orig Hole)	MWD	MWD - Standard

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	360,670.9848	1,605,472.7020	39° 28' 59.158 N	80° 47' 10.474 W
100.00	0.29	26.49	100.00	0.23	0.11	360,671.2113	1,605,472.8148	39° 28' 59.160 N	80° 47' 10.473 W
200.00	0.73	296.81	200.00	0.74	-0.34	360,671.7251	1,605,472.3592	39° 28' 59.165 N	80° 47' 10.479 W
300.00	0.62	286.96	299.99	1.19	-1.43	360,672.1703	1,605,471.2731	39° 28' 59.169 N	80° 47' 10.493 W
400.00	0.35	239.40	399.99	1.19	-2.21	360,672.1726	1,605,470.4927	39° 28' 59.169 N	80° 47' 10.503 W
500.00	0.42	122.31	499.99	0.84	-2.16	360,671.8213	1,605,470.5396	39° 28' 59.166 N	80° 47' 10.502 W
600.00	1.91	121.67	599.96	-0.23	-0.43	360,670.7503	1,605,472.2677	39° 28' 59.156 N	80° 47' 10.480 W
700.00	2.16	127.20	699.90	-2.25	2.49	360,668.7360	1,605,475.1871	39° 28' 59.136 N	80° 47' 10.442 W
800.00	2.01	129.78	799.83	-4.51	5.33	360,666.4746	1,605,478.0359	39° 28' 59.114 N	80° 47' 10.406 W
900.00	2.14	130.47	899.77	-6.84	8.10	360,664.1406	1,605,480.8040	39° 28' 59.091 N	80° 47' 10.370 W
1,000.00	2.14	129.54	999.70	-9.24	10.96	360,661.7402	1,605,483.6642	39° 28' 59.068 N	80° 47' 10.333 W

# Directional Drilling Contractors

## Survey Report - Geographic



**Company:** Jay Bee Oil & Gas  
**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
**MD Reference:** RKB=16' @ 1260.00usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Received

APR 27 2015

### Survey

Office of Oil and Gas  
WV Dept. of Environmental Protection

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,100.00	2.10	133.72	1,099.63	-11.70	13.73	360,659.2853	1,605,486.4283	39° 28' 59.044 N	80° 47' 10.297 W
1,200.00	2.45	132.51	1,199.55	-14.41	16.63	360,656.5748	1,605,489.3280	39° 28' 59.018 N	80° 47' 10.260 W
1,300.00	2.58	128.71	1,299.45	-17.26	19.96	360,653.7229	1,605,492.6599	39° 28' 58.990 N	80° 47' 10.217 W
1,400.00	2.33	129.79	1,399.36	-19.97	23.28	360,651.0145	1,605,495.9781	39° 28' 58.964 N	80° 47' 10.174 W
1,500.00	1.99	137.52	1,499.29	-22.55	26.01	360,648.4331	1,605,498.7127	39° 28' 58.939 N	80° 47' 10.139 W
1,600.00	2.09	134.58	1,599.23	-25.11	28.48	360,645.8726	1,605,501.1840	39° 28' 58.914 N	80° 47' 10.107 W
1,700.00	2.35	134.65	1,699.15	-27.83	31.24	360,643.1519	1,605,503.9413	39° 28' 58.887 N	80° 47' 10.071 W
1,800.00	2.42	121.54	1,799.07	-30.38	34.50	360,640.6067	1,605,507.1992	39° 28' 58.863 N	80° 47' 10.029 W
1,900.00	2.30	126.37	1,898.98	-32.67	37.91	360,638.3124	1,605,510.6143	39° 28' 58.840 N	80° 47' 9.985 W
2,000.00	1.98	127.31	1,998.91	-34.91	40.90	360,636.0754	1,605,513.6040	39° 28' 58.819 N	80° 47' 9.946 W
2,100.00	1.54	138.82	2,098.86	-36.97	43.16	360,634.0170	1,605,515.8628	39° 28' 58.799 N	80° 47' 9.917 W
2,200.00	1.95	138.95	2,198.82	-39.26	45.16	360,631.7225	1,605,517.8649	39° 28' 58.776 N	80° 47' 9.891 W
2,300.00	2.39	128.35	2,298.75	-41.84	47.92	360,629.1457	1,605,520.6174	39° 28' 58.751 N	80° 47' 9.856 W
2,400.00	2.38	129.58	2,398.66	-44.46	51.15	360,626.5291	1,605,523.8529	39° 28' 58.726 N	80° 47' 9.814 W
2,500.00	1.26	142.32	2,498.61	-46.65	53.42	360,624.3359	1,605,526.1254	39° 28' 58.704 N	80° 47' 9.785 W
2,600.00	0.79	152.24	2,598.59	-48.13	54.42	360,622.8557	1,605,527.1185	39° 28' 58.690 N	80° 47' 9.772 W
2,700.00	0.17	188.78	2,698.59	-48.89	54.72	360,622.0990	1,605,527.4170	39° 28' 58.683 N	80° 47' 9.768 W
2,800.00	0.71	188.78	2,798.58	-49.64	54.60	360,621.3401	1,605,527.2998	39° 28' 58.675 N	80° 47' 9.769 W
2,900.00	0.24	59.59	2,898.58	-50.15	54.68	360,620.8338	1,605,527.3858	39° 28' 58.670 N	80° 47' 9.768 W
3,000.00	0.36	254.85	2,998.58	-50.13	54.56	360,620.8577	1,605,527.2632	39° 28' 58.670 N	80° 47' 9.769 W
3,100.00	0.50	148.37	3,098.58	-50.58	54.49	360,620.4040	1,605,527.1888	39° 28' 58.666 N	80° 47' 9.770 W
3,200.00	0.36	300.86	3,198.58	-50.79	54.45	360,620.1937	1,605,527.1479	39° 28' 58.664 N	80° 47' 9.771 W
3,300.00	0.75	247.31	3,298.57	-50.88	53.57	360,620.1024	1,605,526.2744	39° 28' 58.663 N	80° 47' 9.782 W
3,400.00	0.62	299.27	3,398.57	-50.87	52.50	360,620.1144	1,605,525.1986	39° 28' 58.663 N	80° 47' 9.796 W
3,500.00	0.65	240.99	3,498.56	-50.88	51.53	360,620.1039	1,605,524.2306	39° 28' 58.662 N	80° 47' 9.808 W
3,600.00	0.11	44.40	3,598.56	-51.09	51.10	360,619.8974	1,605,523.8017	39° 28' 58.660 N	80° 47' 9.813 W
3,700.00	0.62	295.45	3,698.56	-50.79	50.68	360,620.1985	1,605,523.3803	39° 28' 58.663 N	80° 47' 9.819 W
3,800.00	0.71	263.37	3,798.55	-50.63	49.57	360,620.3594	1,605,522.2763	39° 28' 58.665 N	80° 47' 9.833 W
3,900.00	0.44	310.33	3,898.55	-50.45	48.67	360,620.5364	1,605,521.3682	39° 28' 58.666 N	80° 47' 9.845 W
4,000.00	0.76	276.03	3,998.54	-50.13	47.71	360,620.8546	1,605,520.4159	39° 28' 58.669 N	80° 47' 9.857 W
4,100.00	0.32	335.59	4,098.54	-49.81	46.94	360,621.1785	1,605,519.6410	39° 28' 58.672 N	80° 47' 9.867 W
4,200.00	0.69	288.50	4,198.54	-49.36	46.25	360,621.6239	1,605,518.9546	39° 28' 58.677 N	80° 47' 9.876 W
4,300.00	0.14	70.92	4,298.53	-49.13	45.80	360,621.8549	1,605,518.4990	39° 28' 58.679 N	80° 47' 9.881 W
4,400.00	0.31	328.23	4,398.53	-48.86	45.77	360,622.1248	1,605,518.4720	39° 28' 58.682 N	80° 47' 9.882 W
4,500.00	0.57	256.05	4,498.53	-48.75	45.14	360,622.2349	1,605,517.8469	39° 28' 58.683 N	80° 47' 9.890 W
4,600.00	0.38	36.52	4,598.53	-48.60	44.86	360,622.3815	1,605,517.5615	39° 28' 58.684 N	80° 47' 9.893 W
4,700.00	0.64	305.48	4,698.53	-48.01	44.60	360,622.9721	1,605,517.3040	39° 28' 58.690 N	80° 47' 9.897 W
4,800.00	0.41	250.11	4,798.52	-47.81	43.81	360,623.1746	1,605,516.5128	39° 28' 58.692 N	80° 47' 9.907 W
4,900.00	0.48	44.26	4,898.52	-47.63	43.77	360,623.3528	1,605,516.4687	39° 28' 58.693 N	80° 47' 9.908 W
5,000.00	0.35	270.29	4,998.52	-47.33	43.75	360,623.6544	1,605,516.4556	39° 28' 58.696 N	80° 47' 9.908 W
5,100.00	0.89	325.58	5,098.51	-46.69	43.01	360,624.2966	1,605,515.7111	39° 28' 58.703 N	80° 47' 9.917 W
5,200.00	0.41	0.43	5,198.51	-45.69	42.57	360,625.2950	1,605,515.2748	39° 28' 58.712 N	80° 47' 9.923 W
5,300.00	0.88	298.91	5,298.50	-44.96	41.90	360,626.0241	1,605,514.6053	39° 28' 58.720 N	80° 47' 9.932 W
5,400.00	0.97	320.37	5,398.49	-43.94	40.69	360,627.0472	1,605,513.9932	39° 28' 58.729 N	80° 47' 9.947 W
5,500.00	0.74	22.14	5,498.48	-42.69	40.39	360,628.2973	1,605,513.0986	39° 28' 58.742 N	80° 47' 9.951 W
5,600.00	0.31	281.37	5,598.48	-42.04	40.37	360,628.9488	1,605,513.0748	39° 28' 58.748 N	80° 47' 9.952 W
5,700.00	0.97	330.23	5,698.47	-41.25	39.69	360,629.7369	1,605,512.3893	39° 28' 58.756 N	80° 47' 9.961 W
5,800.00	0.98	341.93	5,798.46	-39.70	39.00	360,631.2846	1,605,511.9377	39° 28' 58.771 N	80° 47' 9.970 W
5,900.00	0.19	4.99	5,898.45	-38.72	38.75	360,632.2628	1,605,511.4529	39° 28' 58.781 N	80° 47' 9.973 W
6,000.00	0.79	305.62	5,998.45	-38.16	38.20	360,632.8295	1,605,510.9069	39° 28' 58.786 N	80° 47' 9.980 W
6,050.00	0.87	319.12	6,048.44	-37.67	37.68	360,633.3172	1,605,510.3783	39° 28' 58.791 N	80° 47' 9.987 W
6,068.00	0.70	302.40	6,066.44	-37.51	37.49	360,633.4795	1,605,510.1960	39° 28' 58.793 N	80° 47' 9.989 W
6,112.00	0.40	274.10	6,110.44	-37.35	37.11	360,633.6345	1,605,509.8459	39° 28' 58.794 N	80° 47' 9.994 W
6,157.00	0.40	99.70	6,155.44	-37.37	37.11	360,633.6192	1,605,509.8140	39° 28' 58.794 N	80° 47' 9.994 W
6,201.00	1.90	115.40	6,199.43	-37.70	37.92	360,633.2805	1,605,510.6244	39° 28' 58.791 N	80° 47' 9.984 W

# Directional Drilling Contractors

## Survey Report - Geographic



**Company:** Jay Bee Oil & Gas  
**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
**MD Reference:** RKB=16' @ 1260.00usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

APR 27 2015

Office of Oil and Gas  
WV Dept. of Environmental Protection

### Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,245.00	5.40	107.80	6,243.33	-38.65	40.55	360,632.3344	1,605,513.2554	39° 28' 58.782 N	80° 47' 9.950 W
6,290.00	8.40	105.00	6,288.00	-40.15	45.75	360,630.8360	1,605,518.4475	39° 28' 58.768 N	80° 47' 9.884 W
6,334.00	11.40	99.40	6,331.34	-41.69	53.14	360,629.2936	1,605,525.8438	39° 28' 58.753 N	80° 47' 9.789 W
6,379.00	14.90	96.20	6,375.16	-43.04	63.28	360,627.9420	1,605,535.9863	39° 28' 58.742 N	80° 47' 9.659 W
6,424.00	17.80	97.00	6,418.33	-44.51	75.87	360,626.4786	1,605,548.5675	39° 28' 58.729 N	80° 47' 9.499 W
6,469.00	21.20	96.20	6,460.74	-46.22	90.79	360,624.7611	1,605,563.4878	39° 28' 58.714 N	80° 47' 9.308 W
6,513.00	23.40	95.50	6,501.45	-47.92	107.39	360,623.0643	1,605,580.0961	39° 28' 58.700 N	80° 47' 9.096 W
6,558.00	24.90	98.80	6,542.51	-50.23	125.65	360,620.7583	1,605,598.3544	39° 28' 58.679 N	80° 47' 8.863 W
6,602.00	28.50	99.30	6,581.81	-53.34	145.17	360,617.6438	1,605,617.8742	39° 28' 58.651 N	80° 47' 8.613 W
6,647.00	32.00	100.10	6,620.68	-57.17	167.51	360,613.8166	1,605,640.2146	39° 28' 58.617 N	80° 47' 8.328 W
6,691.00	35.90	100.40	6,657.17	-61.54	191.69	360,609.4418	1,605,664.3897	39° 28' 58.577 N	80° 47' 8.018 W
6,736.00	39.50	100.60	6,692.77	-66.56	218.74	360,604.4258	1,605,691.4428	39° 28' 58.531 N	80° 47' 7.673 W
6,780.00	43.10	100.80	6,725.82	-71.95	247.27	360,599.0331	1,605,719.9729	39° 28' 58.482 N	80° 47' 7.308 W
6,825.00	46.80	100.90	6,757.67	-77.94	278.49	360,593.0488	1,605,751.1910	39° 28' 58.427 N	80° 47' 6.908 W
6,869.00	50.90	100.90	6,786.61	-84.20	311.02	360,586.7851	1,605,783.7178	39° 28' 58.370 N	80° 47' 6.493 W
6,914.00	55.30	101.70	6,813.62	-91.26	346.29	360,579.7286	1,605,818.9955	39° 28' 58.305 N	80° 47' 6.041 W
6,958.00	58.80	102.70	6,837.55	-99.06	382.37	360,571.9211	1,605,855.0763	39° 28' 58.233 N	80° 47' 5.580 W
7,003.00	63.00	103.20	6,859.43	-107.88	420.68	360,563.1081	1,605,893.3865	39° 28' 58.151 N	80° 47' 5.090 W
7,047.00	66.00	105.10	6,878.38	-117.59	459.18	360,553.3934	1,605,931.8865	39° 28' 58.061 N	80° 47' 4.597 W
7,092.00	70.50	105.70	6,895.05	-128.69	499.47	360,542.2937	1,605,972.1707	39° 28' 57.957 N	80° 47' 4.081 W
7,136.00	75.10	105.70	6,908.05	-140.06	539.92	360,530.9228	1,606,012.6239	39° 28' 57.850 N	80° 47' 3.563 W
7,181.00	79.30	104.90	6,918.02	-151.64	582.24	360,519.3487	1,606,054.9412	39° 28' 57.742 N	80° 47' 3.021 W
7,225.00	81.50	103.90	6,925.36	-162.42	624.26	360,508.5616	1,606,096.9592	39° 28' 57.641 N	80° 47' 2.483 W
7,270.00	85.10	101.80	6,930.61	-172.36	667.82	360,498.6271	1,606,140.5236	39° 28' 57.549 N	80° 47' 1.926 W
7,314.00	88.70	99.90	6,932.99	-180.63	710.96	360,490.3597	1,606,183.6649	39° 28' 57.473 N	80° 47' 1.374 W
7,359.00	88.60	99.80	6,934.05	-188.32	755.29	360,482.6638	1,606,227.9893	39° 28' 57.404 N	80° 47' 0.808 W
7,403.00	88.60	99.10	6,935.12	-195.54	798.68	360,475.4417	1,606,271.3789	39° 28' 57.338 N	80° 47' 0.253 W
7,448.00	89.30	102.70	6,935.95	-204.05	842.85	360,466.9352	1,606,315.5521	39° 28' 57.260 N	80° 46' 59.688 W
7,492.00	89.60	105.80	6,936.37	-214.88	885.49	360,456.1062	1,606,358.1910	39° 28' 57.159 N	80° 46' 59.142 W
7,537.00	89.30	110.10	6,936.80	-228.74	928.29	360,442.2418	1,606,400.9886	39° 28' 57.029 N	80° 46' 58.594 W
7,582.00	89.30	112.90	6,937.35	-245.23	970.15	360,425.7521	1,606,442.8501	39° 28' 56.871 N	80° 46' 58.057 W
7,626.00	89.30	117.60	6,937.89	-264.00	1,009.93	360,406.9897	1,606,482.6320	39° 28' 56.692 N	80° 46' 57.546 W
7,671.00	88.60	119.80	6,938.72	-285.60	1,049.39	360,385.3848	1,606,522.0943	39° 28' 56.484 N	80° 46' 57.039 W
7,715.00	89.40	123.60	6,939.48	-308.71	1,086.82	360,362.2719	1,606,559.5171	39° 28' 56.261 N	80° 46' 56.558 W
7,760.00	89.00	126.50	6,940.11	-334.55	1,123.65	360,336.4342	1,606,596.3488	39° 28' 56.010 N	80° 46' 56.083 W
7,804.00	88.60	130.90	6,941.03	-362.05	1,157.97	360,308.9364	1,606,630.6718	39° 28' 55.743 N	80° 46' 55.640 W
7,846.00	88.90	135.30	6,941.95	-390.73	1,188.62	360,280.2528	1,606,661.3237	39° 28' 55.464 N	80° 46' 55.244 W
7,891.00	89.20	139.00	6,942.70	-423.71	1,219.22	360,247.2719	1,606,691.9177	39° 28' 55.143 N	80° 46' 54.848 W
7,935.00	90.30	142.70	6,942.89	-457.83	1,246.99	360,213.1568	1,606,719.6917	39° 28' 54.809 N	80° 46' 54.488 W
7,980.00	90.30	146.60	6,942.65	-494.52	1,273.02	360,176.4609	1,606,745.7219	39° 28' 54.450 N	80° 46' 54.149 W
8,024.00	89.50	150.70	6,942.73	-532.09	1,295.91	360,138.8931	1,606,768.6085	39° 28' 54.082 N	80° 46' 53.850 W
8,068.00	88.40	154.40	6,943.54	-571.12	1,316.18	360,099.8609	1,606,788.8843	39° 28' 53.700 N	80° 46' 53.585 W
8,113.00	87.30	157.60	6,945.23	-612.20	1,334.47	360,058.7865	1,606,807.1723	39° 28' 53.296 N	80° 46' 53.344 W
8,157.00	87.60	159.20	6,947.18	-653.07	1,350.65	360,017.9182	1,606,823.3532	39° 28' 52.895 N	80° 46' 53.130 W
8,201.00	88.40	159.80	6,948.72	-694.25	1,366.05	359,976.7302	1,606,838.7527	39° 28' 52.490 N	80° 46' 52.926 W
8,246.00	88.40	159.40	6,949.98	-736.42	1,381.73	359,934.5691	1,606,854.4322	39° 28' 52.075 N	80° 46' 52.719 W
8,290.00	88.30	159.10	6,951.24	-777.54	1,397.31	359,893.4402	1,606,870.0146	39° 28' 51.671 N	80° 46' 52.512 W
8,334.00	88.90	159.40	6,952.32	-818.68	1,412.90	359,852.3068	1,606,885.5986	39° 28' 51.267 N	80° 46' 52.306 W
8,379.00	88.50	159.10	6,953.34	-860.75	1,428.84	359,810.2367	1,606,901.5376	39° 28' 50.853 N	80° 46' 52.095 W
8,424.00	89.10	159.10	6,954.28	-902.78	1,444.89	359,768.2069	1,606,917.5872	39° 28' 50.440 N	80° 46' 51.883 W
8,469.00	89.30	159.10	6,954.91	-944.81	1,460.94	359,726.1718	1,606,933.6388	39° 28' 50.027 N	80° 46' 51.671 W
8,513.00	90.30	160.40	6,955.06	-986.09	1,476.17	359,684.8930	1,606,948.8673	39° 28' 49.621 N	80° 46' 51.469 W
8,558.00	90.60	159.50	6,954.71	-1,028.36	1,491.59	359,642.6221	1,606,964.2945	39° 28' 49.205 N	80° 46' 51.264 W
8,602.00	90.60	159.40	6,954.25	-1,069.56	1,507.04	359,601.4243	1,606,979.7387	39° 28' 48.801 N	80° 46' 51.060 W
8,646.00	90.50	159.40	6,953.83	-1,110.75	1,522.52	359,560.2395	1,606,995.2190	39° 28' 48.396 N	80° 46' 50.855 W

# Directional Drilling Contractors

## Survey Report - Geographic



Received

APR 27 2015

**Company:** Jay Bee Oil & Gas  
**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
**MD Reference:** RKB=16' @ 1260.00usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Office of Oil and Gas  
 WV Dept. of Environmental Protection

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,691.00	90.40	159.30	6,953.47	-1,152.85	1,538.39	359,518.1320	1,607,011.0882	39° 28' 47.982 N	80° 46' 50.645 W
8,735.00	89.80	158.80	6,953.40	-1,193.94	1,554.12	359,477.0411	1,607,026.8204	39° 28' 47.578 N	80° 46' 50.437 W
8,780.00	89.60	158.30	6,953.63	-1,235.83	1,570.57	359,435.1587	1,607,043.2761	39° 28' 47.166 N	80° 46' 50.219 W
8,824.00	89.60	158.30	6,953.94	-1,276.71	1,586.84	359,394.2778	1,607,059.5445	39° 28' 46.765 N	80° 46' 50.005 W
8,869.00	89.60	158.70	6,954.25	-1,318.57	1,603.33	359,352.4101	1,607,076.0367	39° 28' 46.353 N	80° 46' 49.787 W
8,914.00	89.80	158.10	6,954.49	-1,360.41	1,619.90	359,310.5710	1,607,092.6020	39° 28' 45.942 N	80° 46' 49.568 W
8,958.00	89.10	159.90	6,954.91	-1,401.49	1,635.67	359,269.4973	1,607,108.3687	39° 28' 45.538 N	80° 46' 49.359 W
9,003.00	89.20	159.70	6,955.58	-1,443.72	1,651.20	359,227.2698	1,607,123.9054	39° 28' 45.123 N	80° 46' 49.153 W
9,047.00	89.30	159.50	6,956.15	-1,484.95	1,666.54	359,186.0329	1,607,139.2413	39° 28' 44.718 N	80° 46' 48.950 W
9,092.00	89.20	159.40	6,956.74	-1,527.08	1,682.33	359,143.9001	1,607,155.0360	39° 28' 44.304 N	80° 46' 48.741 W
9,136.00	89.00	160.10	6,957.43	-1,568.36	1,697.56	359,102.6250	1,607,170.2632	39° 28' 43.898 N	80° 46' 48.540 W
9,166.00	88.60	160.80	6,958.06	-1,596.62	1,707.60	359,074.3610	1,607,180.2998	39° 28' 43.620 N	80° 46' 48.406 W
9,196.00	88.50	161.40	6,958.82	-1,625.00	1,717.31	359,045.9876	1,607,190.0142	39° 28' 43.341 N	80° 46' 48.277 W
9,227.00	88.70	160.90	6,959.58	-1,654.33	1,727.33	359,016.6591	1,607,200.0270	39° 28' 43.052 N	80° 46' 48.144 W
9,257.00	88.80	161.10	6,960.23	-1,682.68	1,737.09	358,988.3003	1,607,209.7917	39° 28' 42.774 N	80° 46' 48.015 W
9,288.00	89.00	161.30	6,960.83	-1,712.03	1,747.08	358,958.9596	1,607,219.7801	39° 28' 42.485 N	80° 46' 47.882 W
9,318.00	89.00	161.50	6,961.35	-1,740.45	1,756.65	358,930.5309	1,607,229.3474	39° 28' 42.205 N	80° 46' 47.755 W
9,349.00	88.80	161.80	6,961.95	-1,769.87	1,766.40	358,901.1127	1,607,239.1050	39° 28' 41.916 N	80° 46' 47.625 W
9,380.00	88.60	162.00	6,962.65	-1,799.33	1,776.03	358,871.6543	1,607,248.7335	39° 28' 41.626 N	80° 46' 47.497 W
9,411.00	88.50	161.10	6,963.44	-1,828.73	1,785.84	358,842.2574	1,607,258.5411	39° 28' 41.337 N	80° 46' 47.367 W
9,441.00	88.50	161.10	6,964.22	-1,857.10	1,795.55	358,813.8846	1,607,268.2553	39° 28' 41.058 N	80° 46' 47.237 W
9,471.00	88.60	160.90	6,964.98	-1,885.46	1,805.32	358,785.5281	1,607,278.0192	39° 28' 40.779 N	80° 46' 47.108 W
9,502.00	88.90	160.80	6,965.66	-1,914.73	1,815.48	358,756.2506	1,607,288.1860	39° 28' 40.491 N	80° 46' 46.973 W
9,532.00	89.00	161.60	6,966.21	-1,943.13	1,825.15	358,727.8561	1,607,297.8523	39° 28' 40.212 N	80° 46' 46.844 W
9,563.00	89.30	161.30	6,966.67	-1,972.51	1,835.01	358,698.4700	1,607,307.7133	39° 28' 39.923 N	80° 46' 46.713 W
9,593.00	88.90	161.70	6,967.14	-2,000.96	1,844.53	358,670.0239	1,607,317.2312	39° 28' 39.643 N	80° 46' 46.587 W
9,623.00	89.00	161.60	6,967.69	-2,029.43	1,853.97	358,641.5541	1,607,326.6743	39° 28' 39.363 N	80° 46' 46.461 W
9,654.00	89.40	160.70	6,968.12	-2,058.76	1,863.99	358,612.2200	1,607,336.6890	39° 28' 39.075 N	80° 46' 46.328 W
9,685.00	89.30	159.60	6,968.47	-2,087.92	1,874.51	358,583.0642	1,607,347.2145	39° 28' 38.788 N	80° 46' 46.189 W
9,714.00	89.00	158.90	6,968.90	-2,115.04	1,884.79	358,555.9484	1,607,357.4877	39° 28' 38.522 N	80° 46' 46.053 W
9,745.00	88.50	158.60	6,969.58	-2,143.92	1,896.02	358,527.0632	1,607,368.7206	39° 28' 38.238 N	80° 46' 45.904 W
9,775.00	88.30	158.10	6,970.42	-2,171.79	1,907.08	358,499.1905	1,607,379.7843	39° 28' 37.964 N	80° 46' 45.758 W
9,806.00	88.50	158.60	6,971.28	-2,200.60	1,918.51	358,470.3887	1,607,391.2168	39° 28' 37.681 N	80° 46' 45.607 W
9,836.00	89.10	158.90	6,971.91	-2,228.55	1,929.39	358,442.4348	1,607,402.0875	39° 28' 37.406 N	80° 46' 45.463 W
9,867.00	88.90	158.80	6,972.45	-2,257.46	1,940.57	358,413.5274	1,607,413.2709	39° 28' 37.122 N	80° 46' 45.315 W
9,898.00	88.90	157.90	6,973.05	-2,286.26	1,952.00	358,384.7199	1,607,424.7057	39° 28' 36.839 N	80° 46' 45.164 W
9,928.00	89.50	158.60	6,973.46	-2,314.13	1,963.12	358,356.8586	1,607,435.8212	39° 28' 36.565 N	80° 46' 45.018 W
9,958.00	89.70	158.50	6,973.67	-2,342.05	1,974.09	358,328.9372	1,607,446.7916	39° 28' 36.291 N	80° 46' 44.873 W
9,988.00	89.50	158.50	6,973.88	-2,369.96	1,985.08	358,301.0254	1,607,457.7864	39° 28' 36.016 N	80° 46' 44.727 W
10,019.00	89.20	158.30	6,974.23	-2,398.78	1,996.50	358,272.2042	1,607,469.1975	39° 28' 35.733 N	80° 46' 44.577 W
10,049.00	89.30	157.30	6,974.63	-2,426.55	2,007.83	358,244.4308	1,607,480.5316	39° 28' 35.460 N	80° 46' 44.427 W
10,080.00	89.30	157.70	6,975.01	-2,455.19	2,019.69	358,215.7929	1,607,492.3939	39° 28' 35.179 N	80° 46' 44.271 W
10,110.00	89.50	157.20	6,975.32	-2,482.90	2,031.20	358,188.0881	1,607,503.8979	39° 28' 34.907 N	80° 46' 44.119 W
10,141.00	89.50	157.20	6,975.59	-2,511.47	2,043.21	358,159.5115	1,607,515.9104	39° 28' 34.626 N	80° 46' 43.960 W
10,172.00	89.50	156.70	6,975.86	-2,540.00	2,055.35	358,130.9876	1,607,528.0475	39° 28' 34.346 N	80° 46' 43.801 W
10,202.00	89.30	157.40	6,976.18	-2,567.82	2,067.04	358,103.3639	1,607,539.7446	39° 28' 34.074 N	80° 46' 43.646 W
10,232.00	89.80	157.10	6,976.41	-2,595.29	2,078.64	358,075.6988	1,607,551.3455	39° 28' 33.803 N	80° 46' 43.493 W
10,262.00	89.90	158.60	6,976.49	-2,623.07	2,089.95	358,047.9137	1,607,562.6561	39° 28' 33.530 N	80° 46' 43.344 W
10,293.00	90.20	158.10	6,976.46	-2,651.88	2,101.39	358,019.1008	1,607,574.0931	39° 28' 33.246 N	80° 46' 43.193 W
10,324.00	90.10	158.10	6,976.38	-2,680.65	2,112.95	357,990.3380	1,607,585.6557	39° 28' 32.964 N	80° 46' 43.040 W
10,354.00	90.00	158.70	6,976.36	-2,708.54	2,124.00	357,962.4448	1,607,596.6993	39° 28' 32.690 N	80° 46' 42.894 W
10,385.00	90.00	158.10	6,976.36	-2,737.36	2,135.41	357,933.6219	1,607,608.1111	39° 28' 32.406 N	80° 46' 42.744 W
10,415.00	89.80	158.00	6,976.41	-2,765.19	2,146.62	357,905.7966	1,607,619.3250	39° 28' 32.133 N	80° 46' 42.596 W
10,445.00	89.60	157.50	6,976.56	-2,792.95	2,157.98	357,878.0309	1,607,630.6843	39° 28' 31.860 N	80° 46' 42.446 W
10,490.00	89.60	157.20	6,976.88	-2,834.48	2,175.31	357,836.5026	1,607,648.0134	39° 28' 31.452 N	80° 46' 42.217 W

# Directional Drilling Contractors

## Survey Report - Geographic



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APR 27 2015

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**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
**MD Reference:** RKB=16' @ 1260.00usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Office of Oil and Gas  
 WV Dept. of Environmental Protection

### Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,534.00	90.60	158.70	6,976.80	-2,875.26	2,191.83	357,795.7226	1,607,664.5310	39° 28' 31.052 N	80° 46' 41.999 W
10,578.00	90.50	157.90	6,976.38	-2,916.14	2,208.10	357,754.8430	1,607,680.7990	39° 28' 30.650 N	80° 46' 41.784 W
10,623.00	90.70	158.10	6,975.91	-2,957.86	2,224.95	357,713.1221	1,607,697.6553	39° 28' 30.240 N	80° 46' 41.562 W
10,667.00	90.30	157.70	6,975.52	-2,998.63	2,241.51	357,672.3565	1,607,714.2085	39° 28' 29.839 N	80° 46' 41.343 W
10,712.00	90.00	157.90	6,975.41	-3,040.29	2,258.51	357,630.6926	1,607,731.2112	39° 28' 29.430 N	80° 46' 41.119 W
10,756.00	89.90	157.70	6,975.45	-3,081.03	2,275.13	357,589.9543	1,607,747.8362	39° 28' 29.030 N	80° 46' 40.900 W
10,798.00	89.70	157.50	6,975.59	-3,119.86	2,291.14	357,551.1236	1,607,763.8411	39° 28' 28.648 N	80° 46' 40.688 W
10,842.00	89.60	157.00	6,975.86	-3,160.44	2,308.15	357,510.5477	1,607,780.8560	39° 28' 28.250 N	80° 46' 40.464 W
10,887.00	89.60	157.70	6,976.17	-3,201.97	2,325.48	357,469.0196	1,607,798.1850	39° 28' 27.842 N	80° 46' 40.236 W
10,931.00	89.70	155.90	6,976.44	-3,242.40	2,342.82	357,428.5801	1,607,815.5174	39° 28' 27.444 N	80° 46' 40.007 W
10,976.00	89.60	155.20	6,976.72	-3,283.37	2,361.44	357,387.6166	1,607,834.1424	39° 28' 27.042 N	80° 46' 39.762 W
11,020.00	89.30	157.30	6,977.14	-3,323.64	2,379.16	357,347.3470	1,607,851.8614	39° 28' 26.647 N	80° 46' 39.529 W
11,065.00	89.50	156.80	6,977.61	-3,365.07	2,396.71	357,305.9114	1,607,869.4071	39° 28' 26.240 N	80° 46' 39.298 W
11,110.00	89.80	157.70	6,977.89	-3,406.57	2,414.11	357,264.4136	1,607,886.8086	39° 28' 25.832 N	80° 46' 39.068 W
11,154.00	89.90	159.40	6,978.00	-3,447.52	2,430.20	357,223.4628	1,607,902.8983	39° 28' 25.430 N	80° 46' 38.856 W
11,198.00	89.90	158.70	6,978.08	-3,488.61	2,445.93	357,182.3719	1,607,918.6305	39° 28' 25.026 N	80° 46' 38.648 W
11,243.00	89.90	158.60	6,978.16	-3,530.52	2,462.31	357,140.4601	1,607,935.0134	39° 28' 24.614 N	80° 46' 38.431 W
11,287.00	90.00	158.80	6,978.20	-3,571.52	2,478.29	357,099.4657	1,607,950.9964	39° 28' 24.211 N	80° 46' 38.220 W
11,332.00	88.90	159.70	6,978.63	-3,613.60	2,494.24	357,057.3877	1,607,966.9384	39° 28' 23.797 N	80° 46' 38.009 W
11,377.00	88.90	159.50	6,979.49	-3,655.77	2,509.92	357,015.2178	1,607,982.6212	39° 28' 23.383 N	80° 46' 37.801 W
11,421.00	88.80	159.40	6,980.37	-3,696.96	2,525.36	356,974.0260	1,607,998.0632	39° 28' 22.978 N	80° 46' 37.597 W
11,465.00	89.20	159.00	6,981.14	-3,738.08	2,540.98	356,932.9001	1,608,013.6855	39° 28' 22.574 N	80° 46' 37.390 W
11,509.00	89.30	159.40	6,981.72	-3,779.21	2,556.61	356,891.7714	1,608,029.3088	39° 28' 22.169 N	80° 46' 37.184 W
11,554.00	89.00	160.40	6,982.39	-3,821.47	2,572.07	356,849.5174	1,608,044.7716	39° 28' 21.754 N	80° 46' 36.979 W
11,598.00	89.00	160.40	6,983.15	-3,862.91	2,586.83	356,808.0731	1,608,059.5292	39° 28' 21.346 N	80° 46' 36.783 W
11,642.00	89.50	160.00	6,983.73	-3,904.31	2,601.73	356,766.6781	1,608,074.4323	39° 28' 20.939 N	80° 46' 36.586 W
11,687.00	89.40	160.10	6,984.16	-3,946.60	2,617.08	356,724.3805	1,608,089.7856	39° 28' 20.523 N	80° 46' 36.382 W
11,732.00	88.30	160.60	6,985.07	-3,988.97	2,632.21	356,682.0105	1,608,104.9146	39° 28' 20.107 N	80° 46' 36.182 W
11,776.00	88.80	161.90	6,986.18	-4,030.63	2,646.35	356,640.3599	1,608,119.0530	39° 28' 19.697 N	80° 46' 35.994 W
11,821.00	88.50	160.50	6,987.24	-4,073.21	2,660.85	356,597.7736	1,608,133.5506	39° 28' 19.278 N	80° 46' 35.801 W
11,865.00	89.00	160.10	6,988.20	-4,114.63	2,675.68	356,556.3590	1,608,148.3792	39° 28' 18.871 N	80° 46' 35.605 W
11,910.00	89.10	160.50	6,988.94	-4,156.99	2,690.84	356,513.9987	1,608,163.5463	39° 28' 18.455 N	80° 46' 35.404 W
11,954.00	89.30	160.20	6,989.56	-4,198.42	2,705.64	356,472.5652	1,608,178.3409	39° 28' 18.047 N	80° 46' 35.207 W
11,998.00	89.20	160.00	6,990.14	-4,239.79	2,720.61	356,431.1961	1,608,193.3163	39° 28' 17.641 N	80° 46' 35.009 W
12,043.00	89.10	159.30	6,990.80	-4,281.98	2,736.26	356,389.0096	1,608,208.9634	39° 28' 17.226 N	80° 46' 34.802 W
12,088.00	89.00	159.30	6,991.55	-4,324.06	2,752.17	356,346.9204	1,608,224.8676	39° 28' 16.812 N	80° 46' 34.591 W
12,132.00	89.30	159.20	6,992.20	-4,365.21	2,767.75	356,305.7791	1,608,240.4547	39° 28' 16.408 N	80° 46' 34.385 W
12,177.00	90.40	159.90	6,992.32	-4,407.37	2,783.47	356,263.6161	1,608,256.1768	39° 28' 15.993 N	80° 46' 34.177 W
12,221.00	90.50	160.10	6,991.97	-4,448.71	2,798.52	356,222.2709	1,608,271.2252	39° 28' 15.587 N	80° 46' 33.978 W
12,265.00	90.50	159.90	6,991.59	-4,490.06	2,813.57	356,180.9261	1,608,286.2735	39° 28' 15.180 N	80° 46' 33.778 W
12,310.00	90.40	160.00	6,991.24	-4,532.33	2,829.00	356,138.6547	1,608,301.7008	39° 28' 14.765 N	80° 46' 33.574 W
12,354.00	90.60	160.20	6,990.85	-4,573.70	2,843.97	356,097.2836	1,608,316.6770	39° 28' 14.358 N	80° 46' 33.375 W
12,399.00	91.10	159.90	6,990.18	-4,616.00	2,859.33	356,054.9888	1,608,332.0292	39° 28' 13.942 N	80° 46' 33.172 W
12,443.00	89.80	160.70	6,989.84	-4,657.42	2,874.16	356,013.5666	1,608,346.8605	39° 28' 13.535 N	80° 46' 32.975 W
12,488.00	89.90	160.30	6,989.96	-4,699.84	2,889.18	355,971.1480	1,608,361.6817	39° 28' 13.118 N	80° 46' 32.776 W
12,532.00	90.20	160.20	6,989.92	-4,741.25	2,904.05	355,929.7363	1,608,376.7500	39° 28' 12.710 N	80° 46' 32.579 W
12,575.00	90.30	160.20	6,989.73	-4,781.71	2,918.61	355,889.2788	1,608,391.3166	39° 28' 12.313 N	80° 46' 32.386 W
12,619.00	89.30	160.80	6,989.88	-4,823.18	2,933.30	355,847.8036	1,608,406.0026	39° 28' 11.905 N	80° 46' 32.191 W
12,663.00	88.60	161.30	6,990.69	-4,864.79	2,947.59	355,806.1957	1,608,420.2889	39° 28' 11.496 N	80° 46' 32.002 W
12,708.00	88.80	161.50	6,991.71	-4,907.43	2,961.94	355,763.5571	1,608,434.8384	39° 28' 11.076 N	80° 46' 31.811 W
12,753.00	89.20	161.20	6,992.50	-4,950.06	2,976.32	355,720.9267	1,608,449.0265	39° 28' 10.657 N	80° 46' 31.620 W
12,797.00	89.10	160.50	6,993.15	-4,991.62	2,990.76	355,679.3664	1,608,463.4567	39° 28' 10.248 N	80° 46' 31.428 W
12,842.00	89.10	160.20	6,993.86	-5,033.99	3,005.89	355,636.9922	1,608,478.5892	39° 28' 9.839 N	80° 46' 31.228 W
12,886.00	89.20	160.30	6,994.51	-5,075.40	3,020.75	355,595.5851	1,608,493.4559	39° 28' 9.424 N	80° 46' 31.030 W
12,931.00	89.30	160.60	6,995.10	-5,117.80	3,035.81	355,553.1830	1,608,508.5129	39° 28' 9.008 N	80° 46' 30.831 W



# Directional Drilling Contractors

## Survey Report - Geographic



Received

APR 27 2015

**Company:** Jay Bee Oil & Gas  
**Project:** Tyler County, WV  
**Site:** RPT 8 Pad  
**Well:** RPT 8-2  
**Wellbore:** Orig Hole  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well RPT 8-2  
**TVD Reference:** RKB=16' @ 1260.00usft  
**MD Reference:** RKB=16' @ 1260.00usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Office of Oil and Gas  
 WV Dept. of Environmental Protection

**Survey**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,975.00	89.30	161.10	6,995.64	-5,159.36	3,050.24	355,511.6211	1,608,522.9456	39° 28' 8.599 N	80° 46' 30.639 W
13,020.00	89.80	161.20	6,995.99	-5,201.95	3,064.78	355,469.0360	1,608,537.4842	39° 28' 8.180 N	80° 46' 30.446 W
13,064.00	89.20	160.60	6,996.37	-5,243.52	3,079.18	355,427.4602	1,608,551.8811	39° 28' 7.771 N	80° 46' 30.255 W
13,109.00	89.30	160.20	6,996.96	-5,285.91	3,094.27	355,385.0713	1,608,566.9751	39° 28' 7.354 N	80° 46' 30.055 W
13,153.00	88.70	161.20	6,997.73	-5,327.43	3,108.81	355,343.5511	1,608,581.5153	39° 28' 6.946 N	80° 46' 29.862 W
13,197.00	88.80	161.60	6,998.69	-5,369.13	3,122.84	355,301.8593	1,608,595.5462	39° 28' 6.536 N	80° 46' 29.676 W
13,239.00	88.90	161.60	6,999.53	-5,408.97	3,136.10	355,262.0146	1,608,608.8008	39° 28' 6.144 N	80° 46' 29.499 W
13,284.00	89.30	160.80	7,000.24	-5,451.56	3,150.60	355,219.4211	1,608,623.3008	39° 28' 5.725 N	80° 46' 29.307 W
13,328.00	89.00	161.20	7,000.89	-5,493.16	3,164.92	355,177.8229	1,608,637.6242	39° 28' 5.316 N	80° 46' 29.117 W
13,373.00	88.50	162.30	7,001.87	-5,535.89	3,179.01	355,135.0975	1,608,651.7130	39° 28' 4.896 N	80° 46' 28.929 W
13,417.00	88.80	162.30	7,002.91	-5,577.79	3,192.38	355,093.1920	1,608,665.0867	39° 28' 4.484 N	80° 46' 28.751 W
13,462.00	88.90	162.50	7,003.81	-5,620.68	3,205.99	355,050.3071	1,608,678.6906	39° 28' 4.062 N	80° 46' 28.570 W
13,506.00	89.10	162.10	7,004.58	-5,662.59	3,219.36	355,008.3965	1,608,692.0660	39° 28' 3.649 N	80° 46' 28.392 W
13,550.00	89.10	162.40	7,005.27	-5,704.49	3,232.78	354,966.4963	1,608,705.4783	39° 28' 3.237 N	80° 46' 28.213 W
13,595.00	88.00	163.00	7,006.41	-5,747.44	3,246.15	354,923.5467	1,608,718.8557	39° 28' 2.814 N	80° 46' 28.035 W
13,639.00	88.20	163.30	7,007.87	-5,789.53	3,258.90	354,881.4590	1,608,731.6028	39° 28' 2.400 N	80° 46' 27.865 W
13,684.00	88.20	162.90	7,009.28	-5,832.56	3,271.98	354,838.4237	1,608,744.6779	39° 28' 1.977 N	80° 46' 27.690 W
13,728.00	89.10	162.60	7,010.32	-5,874.57	3,285.02	354,796.4150	1,608,757.7220	39° 28' 1.564 N	80° 46' 27.516 W
13,772.00	89.60	162.10	7,010.82	-5,916.50	3,298.36	354,754.4892	1,608,771.0620	39° 28' 1.151 N	80° 46' 27.339 W
13,817.00	90.40	162.40	7,010.82	-5,959.35	3,312.08	354,711.6318	1,608,784.7807	39° 28' 0.729 N	80° 46' 27.156 W
13,861.00	90.70	162.50	7,010.40	-6,001.30	3,325.35	354,669.6818	1,608,798.0478	39° 28' 0.317 N	80° 46' 26.979 W
13,906.00	90.20	162.70	7,010.04	-6,044.24	3,338.80	354,626.7424	1,608,811.5041	39° 27' 59.894 N	80° 46' 26.800 W
13,950.00	90.30	162.50	7,009.85	-6,086.23	3,351.96	354,584.7563	1,608,824.6618	39° 27' 59.481 N	80° 46' 26.624 W
13,995.00	90.60	162.30	7,009.50	-6,129.12	3,365.57	354,541.8641	1,608,838.2680	39° 27' 59.059 N	80° 46' 26.443 W
14,040.00	90.10	163.20	7,009.22	-6,172.10	3,378.91	354,498.8896	1,608,851.6119	39° 27' 58.636 N	80° 46' 26.265 W
14,084.00	90.40	163.20	7,009.03	-6,214.22	3,391.63	354,456.7680	1,608,864.3292	39° 27' 58.222 N	80° 46' 26.096 W
14,129.00	90.60	163.00	7,008.64	-6,257.27	3,404.71	354,413.7130	1,608,877.4103	39° 27' 57.798 N	80° 46' 25.921 W
14,173.00	90.10	163.50	7,008.37	-6,299.40	3,417.39	354,371.5809	1,608,890.0906	39° 27' 57.384 N	80° 46' 25.752 W
14,218.00	90.00	163.50	7,008.33	-6,342.55	3,430.17	354,328.4341	1,608,902.8713	39° 27' 56.959 N	80° 46' 25.581 W
14,262.00	90.10	163.50	7,008.29	-6,384.74	3,442.67	354,286.2460	1,608,915.3680	39° 27' 56.544 N	80° 46' 25.414 W
14,307.00	90.20	163.60	7,008.18	-6,427.90	3,455.41	354,243.0883	1,608,928.1109	39° 27' 56.119 N	80° 46' 25.244 W
14,352.00	90.20	163.90	7,008.02	-6,471.10	3,468.00	354,199.8863	1,608,940.7032	39° 27' 55.694 N	80° 46' 25.075 W
14,396.00	90.10	164.50	7,007.90	-6,513.44	3,479.98	354,157.5491	1,608,952.6834	39° 27' 55.277 N	80° 46' 24.915 W
14,441.00	89.90	163.70	7,007.90	-6,556.71	3,492.31	354,114.2711	1,608,965.0114	39° 27' 54.851 N	80° 46' 24.750 W
14,485.00	88.50	162.70	7,008.52	-6,598.83	3,505.03	354,072.1547	1,608,977.7271	39° 27' 54.437 N	80° 46' 24.580 W
14,529.00	88.70	162.30	7,009.59	-6,640.78	3,518.25	354,030.2038	1,608,990.9541	39° 27' 54.024 N	80° 46' 24.404 W
14,573.00	88.40	162.40	7,010.71	-6,682.70	3,531.59	353,988.2885	1,609,004.2907	39° 27' 53.612 N	80° 46' 24.226 W
14,618.00	88.80	162.50	7,011.80	-6,725.59	3,545.15	353,945.3960	1,609,017.8559	39° 27' 53.190 N	80° 46' 24.046 W
14,662.00	88.80	162.50	7,012.73	-6,767.54	3,558.38	353,903.4416	1,609,031.0840	39° 27' 52.777 N	80° 46' 23.869 W
14,707.00	89.10	163.00	7,013.55	-6,810.51	3,571.72	353,860.4731	1,609,044.4261	39° 27' 52.354 N	80° 46' 23.691 W
14,751.00	89.40	162.90	7,014.13	-6,852.57	3,584.62	353,818.4106	1,609,057.3260	39° 27' 51.940 N	80° 46' 23.519 W
14,796.00	89.50	163.50	7,014.56	-6,895.65	3,597.63	353,775.3334	1,609,070.3318	39° 27' 51.516 N	80° 46' 23.346 W
14,840.00	88.00	163.80	7,015.52	-6,937.86	3,610.01	353,733.1241	1,609,082.7147	39° 27' 51.101 N	80° 46' 23.180 W
14,882.00	88.40	163.40	7,016.84	-6,978.13	3,621.87	353,692.8529	1,609,094.5671	39° 27' 50.704 N	80° 46' 23.022 W
14,927.00	88.20	163.60	7,018.17	-7,021.26	3,634.64	353,649.7251	1,609,107.3422	39° 27' 50.280 N	80° 46' 22.851 W
14,971.00	88.40	163.30	7,019.48	-7,063.42	3,647.17	353,607.5666	1,609,119.8702	39° 27' 49.865 N	80° 46' 22.684 W
15,016.00	88.50	163.40	7,020.70	-7,106.52	3,660.06	353,564.4691	1,609,132.7589	39° 27' 49.441 N	80° 46' 22.512 W
15,060.00	88.20	163.50	7,021.96	-7,148.68	3,672.59	353,522.3095	1,609,145.2872	39° 27' 49.026 N	80° 46' 22.344 W
15,105.00	88.40	163.90	7,023.30	-7,191.85	3,685.21	353,479.1374	1,609,157.9116	39° 27' 48.601 N	80° 46' 22.176 W
15,149.00	88.80	163.70	7,024.37	-7,234.09	3,697.48	353,436.8972	1,609,170.1835	39° 27' 48.185 N	80° 46' 22.012 W
15,194.00	89.40	162.40	7,025.08	-7,277.13	3,710.60	353,393.8584	1,609,183.3008	39° 27' 47.762 N	80° 46' 21.837 W
15,238.00	88.80	162.90	7,025.77	-7,319.12	3,723.72	353,352.8659	1,609,196.4202	39° 27' 47.349 N	80° 46' 21.662 W
15,282.00	88.50	162.70	7,026.81	-7,361.14	3,736.73	353,309.8454	1,609,209.4278	39° 27' 46.935 N	80° 46' 21.488 W
15,342.00	88.50	162.70	7,028.38	-7,418.41	3,754.56	353,252.5794	1,609,227.2641	39° 27' 46.372 N	80° 46' 21.250 W

Projection to bit 15342.00 MD, 88.50 INC, 162.70 AZI, 7028.38 TVD

**Directional Drilling Contractors**  
Survey Report - Geographic



<b>Company:</b>	Jay Bee Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well RPT 8-2
<b>Project:</b>	Tyler County, WV	<b>TVD Reference:</b>	RKB=16' @ 1260.00usft
<b>Site:</b>	RPT 8 Pad	<b>MD Reference:</b>	RKB=16' @ 1260.00usft
<b>Well:</b>	RPT 8-2	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Orig Hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
15,342.00	7,028.38	-7,418.41	3,754.56	Projection to bit 15342.00 MD, 88.50 INC, 162.70 AZI, 7028.38 TVD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

Received

APR 27 2015

Office of Oil and Gas  
WV Dept. of Environmental Protection