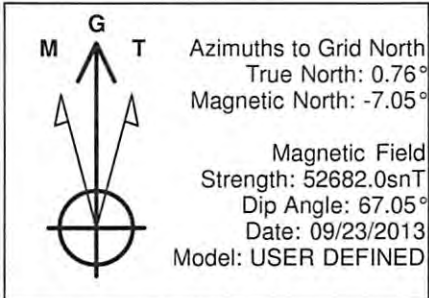


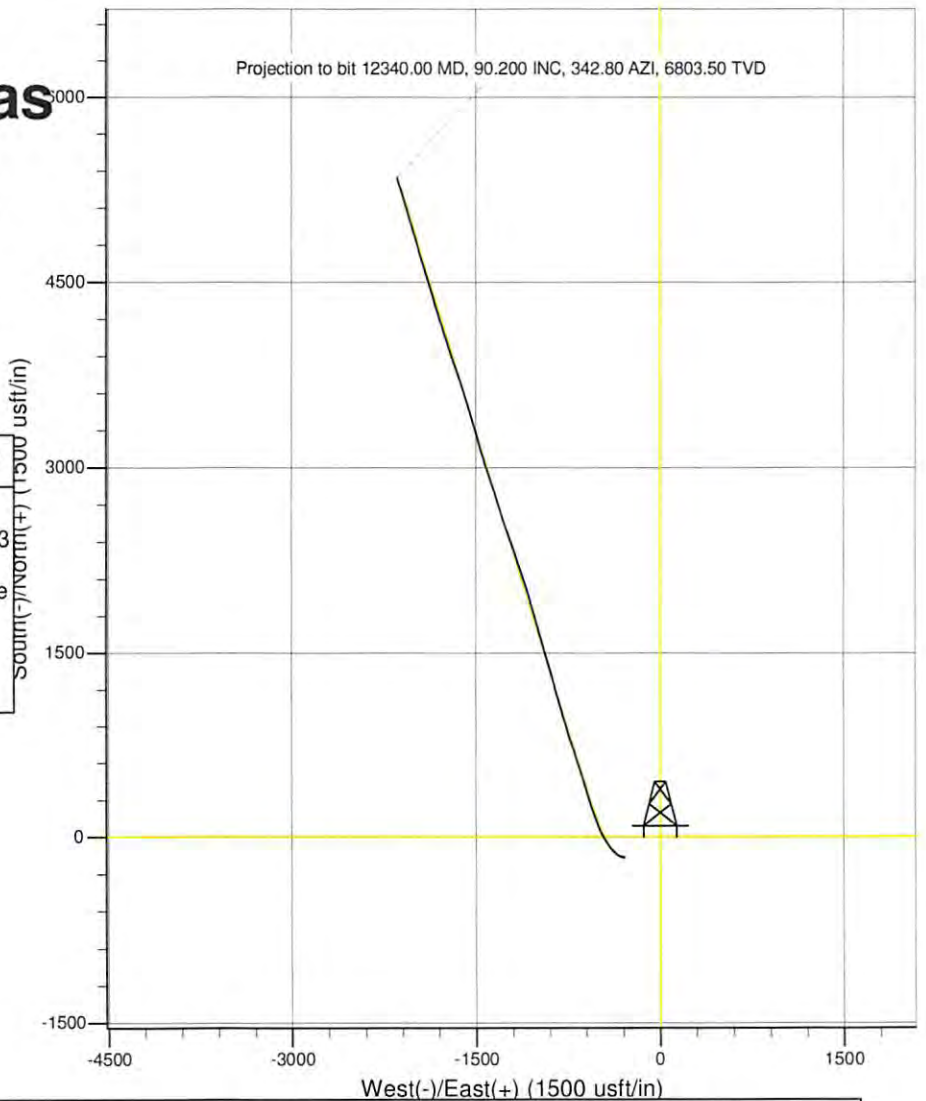
# Jay Bee Oil & Gas



PROJECT DETAILS: Doddridge County, WV

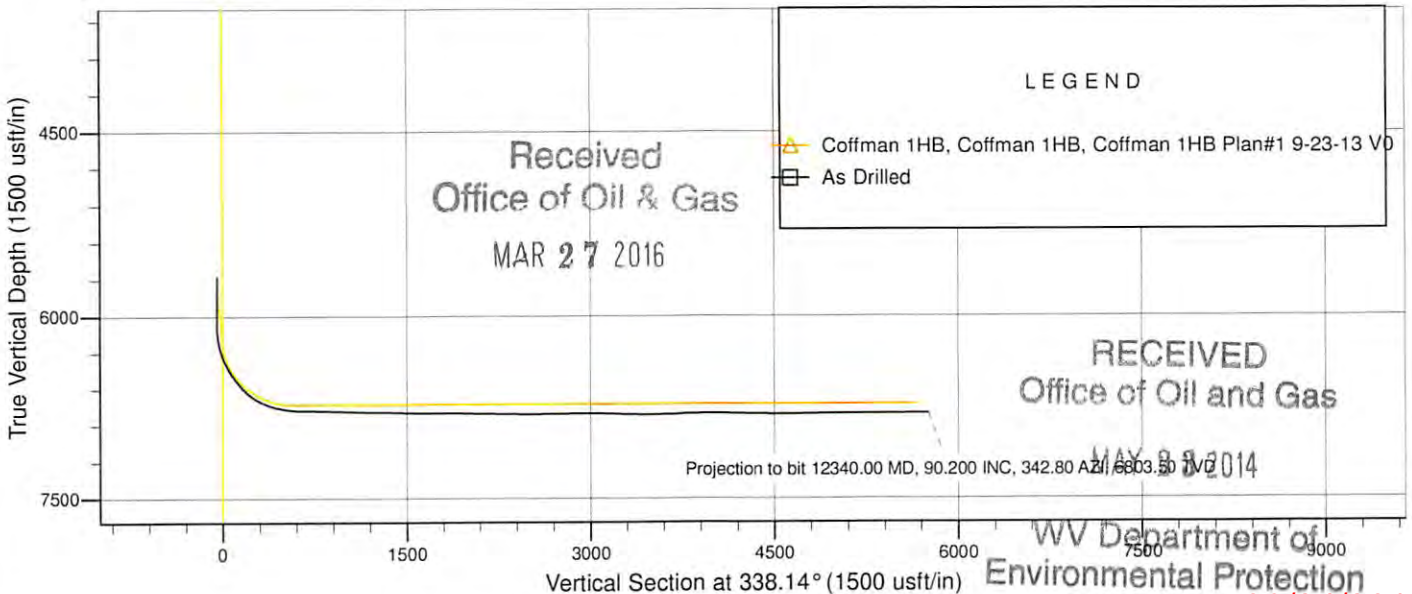
Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: West Virginia Northern Zone

System Datum: Mean Sea Level



## WELL DETAILS: Coffman 1HB

+N/-S	+E/-W	Northing	Ground Level: Easting	Latitude	Longitude
0.00	0.00	330988.8230	1632862.3274	39° 24' 9.540 N	80° 41' 16.152 W



**LEGEND**

- ▲ Coffman 1HB, Coffman 1HB, Coffman 1HB Plan#1 9-23-13 V0
- As Drilled

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06/24/2016

# Jay Bee Oil & Gas

Doddridge County, WV

Coffman Pad

Coffman 1HB

Coffman 1HB

Design: As Drilled

## Standard Survey Report

04 November, 2013

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Directional Drilling Contractors, LLC.

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# Directional Drilling Contractors

## Survey Report



<b>Company:</b> Jay Bee Oil & Gas	<b>Local Co-ordinate Reference:</b> Well Coffman 1HB	
<b>Project:</b> Doddridge County, WV	<b>TVD Reference:</b> WELL @ 753.00usft (Original Well Elev)	
<b>Site:</b> Coffman Pad	<b>MD Reference:</b> WELL @ 753.00usft (Original Well Elev)	
<b>Well:</b> Coffman 1HB	<b>North Reference:</b> Grid	
<b>Wellbore:</b> Coffman 1HB	<b>Survey Calculation Method:</b> Minimum Curvature	
<b>Design:</b> As Drilled	<b>Database:</b> EDM 5000.1 Single User Db	

<b>Project</b>	Doddridge 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>	Coffman Pad				
<b>Site Position:</b>		<b>Northing:</b>	331,017.8182 usft	<b>Latitude:</b>	39° 24' 9.828 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,632,874.0148 usft	<b>Longitude:</b>	80° 41' 16.008 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.76 °

<b>Well</b>	Coffman 1HB					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	330,988.8230 usft	<b>Latitude:</b>	39° 24' 9.540 N
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	1,632,862.3275 usft	<b>Longitude:</b>	80° 41' 16.152 W
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	753.00 usft

<b>Wellbore</b>	Coffman 1HB				
<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	09/23/13	-7.81	67.05	52,682

<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	338.14	

<b>Survey Program</b>	<b>Date</b>	11/04/13		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
5,729.00	12,340.00	MWD (Coffman 1HB)	MWD	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)
5,700.00	1.190	202.21	5,676.08	-162.05	-291.14	-41.97	0.00	0.00	0.00
5,729.00	0.600	218.40	5,705.08	-162.45	-291.35	-42.26	2.19	-2.03	55.83
5,773.00	0.600	188.80	5,749.07	-162.86	-291.53	-42.58	0.70	0.00	-67.27
5,817.00	0.700	210.10	5,793.07	-163.32	-291.70	-42.94	0.59	0.23	48.41
5,862.00	0.300	183.40	5,838.07	-163.67	-291.84	-43.22	1.01	0.89	59.33
5,907.00	0.500	162.30	5,883.07	-163.98	-291.79	-43.52	0.54	0.44	-46.89
5,951.00	0.500	204.70	5,927.07	-164.33	-291.81	-43.84	0.82	0.00	96.36
5,993.00	0.800	207.00	5,969.06	-164.76	-292.02	-44.16	0.72	0.77	5.48
6,038.00	0.900	189.60	6,014.06	-165.39	-292.22	-44.67	0.61	0.22	-38.67
6,083.00	2.900	261.00	6,059.04	-165.92	-293.41	-44.72	6.11	4.44	158.67



# Directional Drilling Contractors

## Survey Report



<b>Company:</b>	Jay Bee Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Coffman 1HB
<b>Project:</b>	Doddridge County, WV	<b>TVD Reference:</b>	WELL @ 753.00usft (Original Well Elev)
<b>Site:</b>	Coffman Pad	<b>MD Reference:</b>	WELL @ 753.00usft (Original Well Elev)
<b>Well:</b>	Coffman 1HB	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Coffman 1HB	<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)
6,127.00	7.200	272.70	6,102.86	-165.96	-297.26	-43.32	10.00	9.77	26.59
6,172.00	10.500	280.80	6,147.32	-165.06	-304.11	-39.94	7.82	7.33	18.00
6,216.00	13.500	284.80	6,190.35	-163.00	-313.01	-34.70	7.07	6.82	9.09
6,261.00	15.500	296.70	6,233.92	-158.95	-323.47	-27.06	7.95	4.44	26.44
6,305.00	19.600	304.40	6,275.87	-152.14	-334.81	-16.51	10.69	9.32	17.50
6,350.00	22.000	307.90	6,317.94	-142.69	-347.70	-2.95	6.00	5.33	7.78
6,394.00	24.800	313.20	6,358.32	-131.31	-360.93	12.55	7.96	6.36	12.05
6,439.00	28.100	315.40	6,398.61	-117.30	-375.26	30.88	7.65	7.33	4.89
6,483.00	30.800	316.70	6,436.92	-101.72	-390.26	50.93	6.31	6.14	2.95
6,528.00	34.400	320.00	6,474.82	-83.59	-406.34	73.75	8.92	8.00	7.33
6,572.00	37.800	325.40	6,510.38	-62.96	-421.99	98.72	10.58	7.73	12.27
6,617.00	37.700	325.80	6,545.96	-40.23	-437.56	125.62	0.59	-0.22	0.89
6,661.00	41.500	328.90	6,579.86	-16.61	-452.66	153.16	9.73	8.64	7.05
6,706.00	45.700	331.00	6,612.44	10.26	-468.17	183.87	9.87	9.33	4.67
6,750.00	50.100	335.20	6,641.94	39.37	-482.90	216.37	12.25	10.00	9.55
6,795.00	54.500	338.90	6,669.46	72.15	-496.74	251.95	11.74	9.78	8.22
6,839.00	60.100	339.30	6,693.22	106.73	-509.94	288.96	12.75	12.73	0.91
6,883.00	66.400	339.90	6,713.02	143.54	-523.62	328.22	14.37	14.32	1.36
6,928.00	69.800	340.00	6,729.80	182.76	-537.94	369.94	7.56	7.56	0.22
6,972.00	73.300	341.10	6,743.72	222.11	-551.83	411.64	8.30	7.95	2.50
7,016.00	78.200	342.80	6,754.55	262.64	-565.03	454.17	11.75	11.14	3.86
7,061.00	80.100	343.50	6,763.02	304.94	-577.84	498.20	4.49	4.22	1.56
7,106.00	83.400	343.30	6,769.48	347.61	-590.56	542.54	7.35	7.33	-0.44
7,120.00	83.970	343.20	6,771.02	360.94	-594.57	556.40	4.13	4.07	-0.71
7,150.00	85.200	343.00	6,773.85	389.51	-603.25	586.15	4.15	4.10	-0.67
7,195.00	88.600	343.00	6,776.28	432.48	-616.39	630.92	7.56	7.56	0.00
7,239.00	89.500	342.80	6,777.01	474.53	-629.32	674.76	2.10	2.05	-0.45
7,284.00	89.500	342.40	6,777.40	517.47	-642.78	719.62	0.89	0.00	-0.89
7,328.00	89.400	342.70	6,777.82	559.44	-655.97	763.49	0.72	-0.23	0.68
7,372.00	89.500	342.60	6,778.25	601.44	-669.10	807.35	0.32	0.23	-0.23
7,417.00	89.000	342.00	6,778.84	644.30	-682.78	852.22	1.74	-1.11	-1.33
7,462.00	88.000	340.90	6,780.01	686.95	-697.09	897.13	3.30	-2.22	-2.44
7,506.00	88.000	340.80	6,781.55	728.49	-711.51	941.06	0.23	0.00	-0.23
7,551.00	87.900	340.80	6,783.16	770.96	-726.30	985.98	0.22	-0.22	0.00
7,595.00	89.200	344.00	6,784.27	812.88	-739.60	1,029.84	7.85	2.95	7.27
7,640.00	88.900	343.70	6,785.02	856.10	-752.11	1,074.61	0.94	-0.67	-0.67
7,684.00	89.100	343.60	6,785.79	898.31	-764.50	1,118.40	0.51	0.45	-0.23
7,726.00	88.900	343.90	6,786.52	938.63	-776.25	1,160.19	0.86	-0.48	0.00
7,771.00	88.700	344.00	6,787.46	981.86	-788.69	1,204.95	0.50	-0.44	0.22
7,815.00	88.700	344.50	6,788.46	1,024.20	-800.63	1,248.69	1.14	0.00	0.00
7,860.00	88.500	344.10	6,789.56	1,067.51	-812.80	1,293.41	0.99	-0.44	0.89
7,904.00	88.600	344.20	6,790.67	1,109.82	-824.81	1,337.16	0.32	0.23	0.29
7,948.00	88.700	344.20	6,791.71	1,152.15	-836.79	1,380.90	0.23	0.23	0.00
7,993.00	88.600	344.20	6,792.77	1,195.43	-849.04	1,425.63	0.22	0.22	0.00

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COMPASS 5000.1 9/16/13



# Directional Drilling Contractors

## Survey Report



**Company:** Jay Bee Oil & Gas  
**Project:** Doddridge County, WV  
**Site:** Coffman Pad  
**Well:** Coffman 1HB  
**Wellbore:** Coffman 1HB  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Coffman 1HB  
**TVD Reference:** WELL @ 753.00usft (Original Well Elev)  
**MD Reference:** WELL @ 753.00usft (Original Well Elev)  
**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)
8,037.00	88.700	344.00	6,793.81	1,237.74	-861.09	1,469.38	0.51	0.23	-0.45
8,082.00	88.500	343.90	6,794.91	1,280.97	-873.53	1,514.14	0.50	-0.44	-0.22
8,126.00	88.500	343.90	6,796.06	1,323.23	-885.73	1,557.90	0.00	0.00	0.00
8,168.00	88.400	344.00	6,797.19	1,363.58	-897.33	1,599.67	0.34	-0.24	0.24
8,213.00	88.500	343.30	6,798.41	1,406.74	-910.00	1,644.44	1.57	0.22	-1.56
8,258.00	89.900	343.10	6,799.04	1,449.82	-923.00	1,689.26	3.14	3.11	-0.44
8,302.00	90.200	343.90	6,799.00	1,492.01	-935.50	1,733.07	1.94	0.68	1.82
8,347.00	90.000	344.20	6,798.92	1,535.27	-947.86	1,777.83	0.80	-0.44	0.67
8,392.00	90.100	344.20	6,798.88	1,578.57	-960.12	1,822.58	0.22	0.22	0.00
8,434.00	90.300	344.20	6,798.74	1,618.99	-971.55	1,864.34	0.48	0.48	0.00
8,478.00	89.200	343.70	6,798.93	1,661.27	-983.72	1,908.12	2.75	-2.50	-1.14
8,523.00	89.200	343.70	6,799.56	1,704.46	-996.35	1,952.90	0.00	0.00	0.00
8,568.00	89.300	344.10	6,800.15	1,747.69	-1,008.82	1,997.67	0.92	0.22	0.89
8,612.00	89.200	344.20	6,800.72	1,790.01	-1,020.84	2,041.42	0.32	-0.23	0.23
8,657.00	88.700	343.80	6,801.55	1,833.26	-1,033.24	2,086.18	1.42	-1.11	-0.89
8,701.00	89.100	343.80	6,802.39	1,875.51	-1,045.52	2,129.96	0.91	0.91	0.00
8,746.00	89.000	343.60	6,803.14	1,918.69	-1,058.14	2,174.74	0.50	-0.22	-0.44
8,790.00	88.800	343.20	6,803.98	1,960.85	-1,070.71	2,218.54	1.02	-0.45	-0.91
8,835.00	88.700	343.80	6,804.96	2,003.99	-1,083.49	2,263.34	1.35	-0.22	1.33
8,879.00	88.400	343.30	6,806.08	2,046.17	-1,095.95	2,307.13	1.32	-0.68	-1.14
8,924.00	89.400	340.60	6,806.94	2,088.94	-1,109.88	2,352.01	6.40	2.22	-6.00
8,968.00	89.500	341.00	6,807.36	2,130.49	-1,124.35	2,395.96	0.94	0.23	0.91
9,013.00	89.800	341.30	6,807.64	2,173.08	-1,138.89	2,440.90	0.94	0.67	0.67
9,057.00	89.700	341.50	6,807.83	2,214.78	-1,152.93	2,484.83	0.51	-0.23	0.45
9,102.00	89.900	342.00	6,807.99	2,257.52	-1,167.02	2,529.74	1.20	0.44	1.11
9,146.00	90.600	340.70	6,807.80	2,299.21	-1,181.09	2,573.67	3.36	1.59	-2.95
9,191.00	90.900	340.60	6,807.21	2,341.66	-1,196.00	2,618.62	0.70	0.67	-0.22
9,235.00	90.900	340.70	6,806.51	2,383.17	-1,210.58	2,662.57	0.23	0.00	0.23
9,280.00	90.800	340.60	6,805.85	2,425.62	-1,225.48	2,707.52	0.31	-0.22	0.22
9,324.00	90.900	340.50	6,805.19	2,467.11	-1,240.13	2,751.48	0.32	0.23	-0.23
9,368.00	90.900	341.20	6,804.50	2,508.67	-1,254.57	2,795.43	1.59	0.00	1.59
9,412.00	91.100	340.70	6,803.74	2,550.25	-1,268.92	2,839.37	1.22	0.45	0.14
9,457.00	91.100	341.00	6,802.87	2,592.75	-1,283.66	2,884.31	0.67	0.00	0.67
9,502.00	90.000	342.70	6,802.44	2,635.51	-1,297.70	2,929.21	4.50	-2.44	3.78
9,546.00	89.800	342.50	6,802.52	2,677.50	-1,310.86	2,973.07	0.64	-0.45	-0.45
9,591.00	89.300	341.90	6,802.87	2,720.34	-1,324.61	3,017.96	1.74	-1.11	-1.33
9,635.00	89.100	341.90	6,803.48	2,762.16	-1,338.28	3,061.86	0.45	-0.45	0.00
9,680.00	88.700	341.60	6,804.35	2,804.89	-1,352.37	3,106.76	1.11	-0.89	-0.67
9,725.00	88.600	341.50	6,805.41	2,847.56	-1,366.61	3,151.67	0.31	-0.22	0.22
9,769.00	88.500	341.70	6,806.52	2,889.30	-1,380.49	3,195.58	0.51	-0.23	0.45
9,813.00	88.400	341.30	6,807.71	2,931.01	-1,394.45	3,239.48	0.94	0.23	0.94
9,858.00	88.300	341.80	6,809.01	2,973.68	-1,408.69	3,284.38	1.13	-0.22	1.11
9,902.00	88.100	341.10	6,810.39	3,015.37	-1,422.68	3,328.29	1.65	-0.45	0.45

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# Directional Drilling Contractors

## Survey Report



<b>Company:</b>	Jay Bee Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Coffman 1HB
<b>Project:</b>	Doddridge County, WV	<b>TVD Reference:</b>	WELL @ 753.00usft (Original Well Elev)
<b>Site:</b>	Coffman Pad	<b>MD Reference:</b>	WELL @ 753.00usft (Original Well Elev)
<b>Well:</b>	Coffman 1HB	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Coffman 1HB	<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)
9,946.00	88.700	342.40	6,811.62	3,057.14	-1,436.45	3,372.18	3.25	1.36	2.95
9,991.00	88.700	342.80	6,812.64	3,100.07	-1,449.90	3,417.04	0.89	0.00	0.89
10,035.00	89.500	343.50	6,813.33	3,142.18	-1,462.65	3,460.86	2.42	1.82	1.59
10,080.00	90.800	344.70	6,813.21	3,185.45	-1,474.98	3,505.62	3.93	2.89	2.67
10,124.00	91.300	345.00	6,812.41	3,227.92	-1,486.48	3,549.31	1.33	1.14	0.68
10,169.00	91.600	345.00	6,811.27	3,271.37	-1,498.12	3,593.97	0.67	0.67	0.00
10,213.00	91.000	342.70	6,810.27	3,313.62	-1,510.36	3,637.74	5.40	-1.36	-5.23
10,257.00	91.300	343.00	6,809.39	3,355.65	-1,523.33	3,681.58	0.96	0.68	0.68
10,302.00	91.300	343.50	6,808.37	3,398.73	-1,536.30	3,726.39	1.11	0.00	1.11
10,346.00	91.500	344.20	6,807.29	3,440.98	-1,548.53	3,770.16	1.65	0.45	1.59
10,388.00	91.900	344.30	6,806.04	3,481.39	-1,559.93	3,811.90	0.98	0.95	0.24
10,433.00	90.900	342.20	6,804.94	3,524.46	-1,572.89	3,856.70	5.17	-2.22	-4.67
10,477.00	90.900	342.70	6,804.25	3,566.41	-1,586.16	3,900.57	1.14	0.00	1.14
10,521.00	89.900	342.10	6,803.95	3,608.35	-1,599.46	3,944.45	2.65	-2.27	-1.36
10,566.00	90.000	341.90	6,803.99	3,651.15	-1,613.37	3,989.35	0.50	0.22	-0.44
10,610.00	89.800	341.90	6,804.06	3,692.97	-1,627.04	4,033.25	0.45	-0.45	0.00
10,655.00	89.800	341.70	6,804.22	3,735.72	-1,641.09	4,078.16	0.44	0.00	-0.44
10,699.00	89.700	340.90	6,804.41	3,777.40	-1,655.20	4,122.09	1.83	-0.23	-1.82
10,743.00	88.400	339.90	6,805.14	3,818.84	-1,669.95	4,166.05	3.73	-2.95	-2.27
10,788.00	88.700	340.90	6,806.28	3,861.22	-1,685.04	4,211.00	2.32	0.67	2.22
10,832.00	88.600	340.70	6,807.32	3,902.76	-1,699.51	4,254.94	0.51	-0.23	-0.45
10,877.00	89.800	341.50	6,807.94	3,945.33	-1,714.08	4,299.87	3.20	2.67	1.78
10,921.00	89.700	341.40	6,808.14	3,987.04	-1,728.08	4,343.80	0.32	-0.23	-0.23
10,966.00	89.500	342.90	6,808.45	4,029.87	-1,741.88	4,388.69	3.36	-0.44	3.33
11,010.00	89.600	342.80	6,808.80	4,071.91	-1,754.85	4,432.54	0.32	0.23	-0.23
11,054.00	89.700	342.60	6,809.07	4,113.92	-1,767.93	4,476.40	0.51	0.23	-0.45
11,099.00	89.300	341.90	6,809.46	4,156.78	-1,781.65	4,521.28	1.79	-0.89	-1.56
11,144.00	89.400	342.40	6,809.97	4,199.61	-1,795.44	4,566.17	1.13	0.22	1.11
11,189.00	89.500	342.50	6,810.40	4,242.51	-1,809.01	4,611.04	0.31	0.22	0.22
11,230.00	90.900	343.10	6,810.26	4,281.68	-1,821.14	4,651.90	3.71	3.41	1.46
11,275.00	91.200	342.90	6,809.43	4,324.70	-1,834.29	4,696.73	0.80	0.67	-0.44
11,319.00	91.500	342.90	6,808.40	4,366.75	-1,847.23	4,740.56	0.68	0.68	0.00
11,362.00	90.000	343.60	6,807.83	4,407.92	-1,859.62	4,783.39	3.85	-3.49	1.63
11,404.00	90.400	343.90	6,807.69	4,448.24	-1,871.37	4,825.19	1.19	0.95	0.71
11,448.00	90.600	343.50	6,807.30	4,490.47	-1,883.72	4,868.98	1.02	0.45	-0.91
11,493.00	89.900	343.00	6,807.11	4,533.56	-1,896.69	4,913.80	1.91	-1.56	-1.11
11,537.00	89.900	343.00	6,807.18	4,575.64	-1,909.55	4,957.64	0.00	0.00	0.00
11,581.00	90.000	343.10	6,807.22	4,617.73	-1,922.38	5,001.48	0.32	0.23	0.23
11,626.00	90.100	342.80	6,807.18	4,660.75	-1,935.57	5,046.32	0.70	0.23	0.23
11,670.00	90.200	342.90	6,807.07	4,702.79	-1,948.55	5,090.17	0.32	0.23	0.23
11,715.00	90.200	342.70	6,806.91	4,745.78	-1,961.85	5,135.02	0.44	0.00	-0.44
11,759.00	89.900	342.20	6,806.87	4,787.73	-1,975.12	5,178.90	1.33	-0.68	-1.11
11,804.00	89.800	342.40	6,806.99	4,830.60	-1,988.80	5,223.78	0.50	-0.22	0.44

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# Directional Drilling Contractors

## Survey Report



<b>Company:</b> Jay Bee Oil & Gas	<b>Local Co-ordinate Reference:</b> Well Coffman 1HB	
<b>Project:</b> Doddridge County, WV	<b>TVD Reference:</b> WELL @ 753.00usft (Original Well Elev)	
<b>Site:</b> Coffman Pad	<b>MD Reference:</b> WELL @ 753.00usft (Original Well Elev)	
<b>Well:</b> Coffman 1HB	<b>North Reference:</b> Grid	
<b>Wellbore:</b> Coffman 1HB	<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)
11,848.00	90.000	343.10	6,807.07	4,872.62	-2,001.85	5,267.63	1.65	0.45	1.59
11,893.00	90.200	343.20	6,806.99	4,915.69	-2,014.89	5,312.46	0.50	0.44	0.22
11,935.00	90.700	343.20	6,806.66	4,955.89	-2,027.03	5,354.30	1.19	1.19	0.00
11,979.00	90.600	343.40	6,806.16	4,998.04	-2,039.68	5,398.11	0.51	-0.23	0.45
12,024.00	90.600	343.60	6,805.69	5,041.18	-2,052.46	5,442.91	0.44	0.00	0.44
12,068.00	90.800	343.70	6,805.15	5,083.40	-2,064.84	5,486.71	0.51	0.45	0.23
12,113.00	90.400	343.30	6,804.68	5,126.54	-2,077.62	5,531.51	1.26	-0.89	-0.89
12,158.00	90.700	343.30	6,804.25	5,169.64	-2,090.55	5,576.32	0.67	0.67	0.00
12,202.00	90.200	342.90	6,803.90	5,211.74	-2,103.34	5,620.16	1.46	-1.14	-0.91
12,246.00	90.100	342.70	6,803.79	5,253.77	-2,116.35	5,664.01	0.51	-0.23	-0.45
12,291.00	90.200	342.80	6,803.67	5,296.75	-2,129.70	5,708.86	0.31	0.22	0.22
12,340.00	90.200	342.80	6,803.50	5,343.56	-2,144.19	5,757.70	0.00	0.00	0.00

Projection to bit 12340.00 MD, 90.200 INC, 342.80 AZI, 6803.50 TVD

### Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,340.00	6,803.50	5,343.56	-2,144.19	Projection to bit 12340.00 MD, 90.200 INC, 342.80 AZI, 6803.50 TVD

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

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# Jay Bee Oil & Gas

Doddridge County, WV

Coffman Pad

Coffman 1HB

Coffman 1HB

Design: As Drilled

## Survey Report - Geographic

04 November, 2013



**Directional Drilling Contractors, LLC**

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# Directional Drilling Contractors

## Survey Report - Geographic



<b>Company:</b> Jay Bee Oil & Gas	<b>Local Co-ordinate Reference:</b> Well Coffman 1HB	
<b>Project:</b> Doddridge County, WV	<b>TVD Reference:</b> WELL @ 753.00usft (Original Well Elev)	
<b>Site:</b> Coffman Pad	<b>MD Reference:</b> WELL @ 753.00usft (Original Well Elev)	
<b>Well:</b> Coffman 1HB	<b>North Reference:</b> Grid	
<b>Wellbore:</b> Coffman 1HB	<b>Survey Calculation Method:</b> Minimum Curvature	
<b>Design:</b> As Drilled	<b>Database:</b> EDM 5000.1 Single User Db	

<b>Project</b>	Doddridge 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> Coffman Pad			
<b>Site Position:</b>		<b>Northing:</b>	331,017.8182 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,632,874.0148 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	39° 24' 9.828 N
		<b>Longitude:</b>	80° 41' 16.008 W
		<b>Grid Convergence:</b>	-0.76 °

<b>Well</b> Coffman 1HB			
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b> 330,988.8230 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b> 1,632,862.3275 usft
<b>Position Uncertainty</b>	0.00 usft	<b>Wellhead Elevation:</b>	usft
		<b>Latitude:</b>	39° 24' 9.540 N
		<b>Longitude:</b>	80° 41' 16.152 W
		<b>Ground Level:</b>	753.00 usft

<b>Wellbore</b> Coffman 1HB					
<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	09/23/13	-7.81	67.05	52,682

<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	338.14	

<b>Survey Program</b>		<b>Date</b>	11/04/13
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>
5,729.00	12,340.00	MWD (Coffman 1HB)	MWD
			<b>Description</b>
			MWD - Standard

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<b>Survey</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,700.00	1.190	202.21	5,676.08	-162.05	-291.14	330,826.7730	1,632,571.1874	39° 24' 7.900 N	80° 41' 19.833 W	
5,729.00	0.600	218.40	5,705.08	-162.45	-291.35	330,826.3752	1,632,570.9793	39° 24' 7.896 N	80° 41' 19.836 W	
5,773.00	0.600	188.80	5,749.07	-162.86	-291.53	330,825.9670	1,632,570.8010	39° 24' 7.892 N	80° 41' 19.838 W	
5,817.00	0.700	210.10	5,793.07	-163.32	-291.70	330,825.5068	1,632,570.6309	39° 24' 7.888 N	80° 41' 19.840 W	
5,862.00	0.300	183.40	5,838.07	-163.67	-291.84	330,825.1513	1,632,570.4861	39° 24' 7.884 N	80° 41' 19.842 W	
5,907.00	0.500	162.30	5,883.07	-163.98	-291.79	330,824.8467	1,632,570.5388	39° 24' 7.881 N	80° 41' 19.844 W	
5,951.00	0.500	204.70	5,927.07	-164.33	-291.81	330,824.4894	1,632,570.5169	39° 24' 7.878 N	80° 41' 19.842 W	
5,993.00	0.800	207.00	5,969.06	-164.76	-292.02	330,824.0616	1,632,570.3072	39° 24' 7.873 N	80° 41' 19.844 W	
6,038.00	0.900	189.60	6,014.06	-165.39	-292.22	330,823.4333	1,632,570.1057	39° 24' 7.867 N	80° 41' 19.847 W	
6,083.00	2.900	261.00	6,059.04	-165.92	-293.41	330,822.9066	1,632,568.9222	39° 24' 7.862 N	80° 41' 19.862 W	
6,127.00	7.200	272.70	6,102.86	-165.96	-297.26	330,822.8624	1,632,565.0667	39° 24' 7.861 N	80° 41' 19.911 W	
6,172.00	10.500	280.80	6,147.32	-165.06	-304.11	330,823.7638	1,632,558.2200	39° 24' 7.859 N	80° 41' 19.998 W	

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# Directional Drilling Contractors

## Survey Report - Geographic



**Company:** Jay Bee Oil & Gas  
**Project:** Doddridge County, WV  
**Site:** Coffman Pad  
**Well:** Coffman 1HB  
**Wellbore:** Coffman 1HB  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Coffman 1HB  
**TVD Reference:** WELL @ 753.00usft (Original Well Elev)  
**MD Reference:** WELL @ 753.00usft (Original Well Elev)  
**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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,216.00	13.500	284.80	6,190.35	-163.00	-313.01	330,825.8275	1,632,549.3142	39° 24' 7.888 N	80° 41' 20.112 W
6,261.00	15.500	296.70	6,233.92	-158.95	-323.47	330,829.8722	1,632,538.8608	39° 24' 7.927 N	80° 41' 20.246 W
6,305.00	19.600	304.40	6,275.87	-152.14	-334.81	330,836.6871	1,632,527.5128	39° 24' 7.993 N	80° 41' 20.392 W
6,350.00	22.000	307.90	6,317.94	-142.69	-347.70	330,846.1306	1,632,514.6319	39° 24' 8.084 N	80° 41' 20.557 W
6,394.00	24.800	313.20	6,358.32	-131.31	-360.93	330,857.5137	1,632,501.3977	39° 24' 8.195 N	80° 41' 20.728 W
6,439.00	28.100	315.40	6,398.61	-117.30	-375.26	330,871.5243	1,632,487.0724	39° 24' 8.332 N	80° 41' 20.913 W
6,483.00	30.800	316.70	6,436.92	-101.72	-390.26	330,887.1039	1,632,472.0679	39° 24' 8.484 N	80° 41' 21.106 W
6,528.00	34.400	320.00	6,474.82	-83.59	-406.34	330,905.2337	1,632,455.9891	39° 24' 8.661 N	80° 41' 21.314 W
6,572.00	37.800	325.40	6,510.38	-62.96	-421.99	330,925.8656	1,632,440.3343	39° 24' 8.862 N	80° 41' 21.517 W
6,617.00	37.700	325.80	6,545.96	-40.23	-437.56	330,948.5971	1,632,424.7696	39° 24' 9.085 N	80° 41' 21.719 W
6,661.00	41.500	328.90	6,579.86	-16.61	-452.66	330,972.2177	1,632,409.6706	39° 24' 9.317 N	80° 41' 21.916 W
6,706.00	45.700	331.00	6,612.44	10.26	-468.17	330,999.0812	1,632,394.1550	39° 24' 9.580 N	80° 41' 22.118 W
6,750.00	50.100	335.20	6,641.94	39.37	-482.90	331,028.1949	1,632,379.4313	39° 24' 9.866 N	80° 41' 22.310 W
6,795.00	54.500	338.90	6,669.46	72.15	-496.74	331,060.9770	1,632,365.5870	39° 24' 10.188 N	80° 41' 22.492 W
6,839.00	60.100	339.30	6,693.22	106.73	-509.94	331,095.5549	1,632,352.3873	39° 24' 10.528 N	80° 41' 22.666 W
6,883.00	66.400	339.90	6,713.02	143.54	-523.62	331,132.3649	1,632,338.7039	39° 24' 10.890 N	80° 41' 22.847 W
6,928.00	69.800	340.00	6,729.80	182.76	-537.94	331,171.5814	1,632,324.3919	39° 24' 11.276 N	80° 41' 23.036 W
6,972.00	73.300	341.10	6,743.72	222.11	-551.83	331,210.9324	1,632,310.4999	39° 24' 11.663 N	80° 41' 23.219 W
7,016.00	78.200	342.80	6,754.55	262.64	-565.03	331,251.4679	1,632,297.2973	39° 24' 12.062 N	80° 41' 23.394 W
7,061.00	80.100	343.50	6,763.02	304.94	-577.84	331,293.7641	1,632,284.4879	39° 24' 12.478 N	80° 41' 23.564 W
7,106.00	83.400	343.30	6,769.48	347.61	-590.56	331,336.4363	1,632,271.7664	39° 24' 12.898 N	80° 41' 23.734 W
7,120.00	83.970	343.20	6,771.02	360.94	-594.57	331,349.7609	1,632,267.7562	39° 24' 13.029 N	80° 41' 23.787 W
7,150.00	85.200	343.00	6,773.85	389.51	-603.25	331,378.3366	1,632,259.0742	39° 24' 13.311 N	80° 41' 23.903 W
7,195.00	88.600	343.00	6,776.28	432.48	-616.39	331,421.3011	1,632,245.9386	39° 24' 13.733 N	80° 41' 24.077 W
7,239.00	89.500	342.80	6,777.01	474.53	-629.32	331,463.3497	1,632,233.0028	39° 24' 14.147 N	80° 41' 24.249 W
7,284.00	89.500	342.40	6,777.40	517.47	-642.78	331,506.2888	1,632,219.5465	39° 24' 14.570 N	80° 41' 24.428 W
7,328.00	89.400	342.70	6,777.82	559.44	-655.97	331,548.2619	1,632,206.3526	39° 24' 14.983 N	80° 41' 24.603 W
7,372.00	89.500	342.60	6,778.25	601.44	-669.10	331,590.2580	1,632,193.2321	39° 24' 15.396 N	80° 41' 24.777 W
7,417.00	89.000	342.00	6,778.84	644.30	-682.78	331,633.1238	1,632,179.5519	39° 24' 15.818 N	80° 41' 24.959 W
7,462.00	88.000	340.90	6,780.01	686.95	-697.09	331,675.7701	1,632,165.2414	39° 24' 16.238 N	80° 41' 25.148 W
7,506.00	88.000	340.80	6,781.55	728.49	-711.51	331,717.3099	1,632,150.8163	39° 24' 16.646 N	80° 41' 25.339 W
7,551.00	87.900	340.80	6,783.16	770.96	-726.30	331,759.7797	1,632,136.0268	39° 24' 17.064 N	80° 41' 25.534 W
7,595.00	89.200	344.00	6,784.27	812.88	-739.60	331,801.7004	1,632,122.7291	39° 24' 17.477 N	80° 41' 25.711 W
7,640.00	88.900	343.70	6,785.02	856.10	-752.11	331,844.9185	1,632,110.2140	39° 24' 17.902 N	80° 41' 25.878 W
7,684.00	89.100	343.60	6,785.79	898.31	-764.50	331,887.1327	1,632,097.8297	39° 24' 18.318 N	80° 41' 26.043 W
7,726.00	88.900	343.90	6,786.52	938.63	-776.25	331,927.4485	1,632,086.0787	39° 24' 18.715 N	80° 41' 26.199 W
7,771.00	88.700	344.00	6,787.46	981.86	-788.69	331,970.6850	1,632,073.6400	39° 24' 19.140 N	80° 41' 26.365 W
7,815.00	88.700	344.50	6,788.46	1,024.20	-800.63	332,013.0220	1,632,061.6997	39° 24' 19.557 N	80° 41' 26.524 W
7,860.00	88.500	344.10	6,789.56	1,067.51	-812.80	332,056.3301	1,632,049.5264	39° 24' 19.984 N	80° 41' 26.686 W
7,904.00	88.600	344.20	6,790.67	1,109.82	-824.81	332,098.6436	1,632,037.5129	39° 24' 20.400 N	80° 41' 26.847 W
7,948.00	88.700	344.20	6,791.71	1,152.15	-836.79	332,140.9695	1,632,025.5359	39° 24' 20.817 N	80° 41' 27.006 W
7,993.00	88.600	344.20	6,792.77	1,195.43	-849.04	332,184.2572	1,632,013.2867	39° 24' 21.243 N	80° 41' 27.170 W
8,037.00	88.700	344.00	6,793.81	1,237.74	-861.09	332,226.5621	1,632,001.2359	39° 24' 21.660 N	80° 41' 27.330 W
8,082.00	88.500	343.90	6,794.91	1,280.97	-873.53	332,269.7951	1,631,988.7982	39° 24' 22.085 N	80° 41' 27.496 W
8,126.00	88.500	343.90	6,796.06	1,323.23	-885.73	332,312.0549	1,631,976.6005	39° 24' 22.501 N	80° 41' 27.659 W
8,168.00	88.400	344.00	6,797.19	1,363.58	-897.33	332,352.4030	1,631,964.9928	39° 24' 22.899 N	80° 41' 27.813 W
8,213.00	88.500	343.30	6,798.41	1,406.74	-910.00	332,395.5671	1,631,952.3298	39° 24' 23.324 N	80° 41' 27.982 W
8,258.00	89.900	343.10	6,799.04	1,449.82	-923.00	332,438.6412	1,631,939.3249	39° 24' 23.748 N	80° 41' 28.155 W
8,302.00	90.200	343.90	6,799.00	1,492.01	-935.50	332,480.8288	1,631,926.8284	39° 24' 24.163 N	80° 41' 28.321 W
8,347.00	90.000	344.20	6,798.92	1,535.27	-947.86	332,524.0963	1,631,914.4625	39° 24' 24.589 N	80° 41' 28.486 W
8,392.00	90.100	344.20	6,798.88	1,578.57	-960.12	332,567.3961	1,631,902.2099	39° 24' 25.015 N	80° 41' 28.650 W
8,434.00	90.300	344.20	6,798.74	1,618.99	-971.55	332,607.8090	1,631,890.7742	39° 24' 25.413 N	80° 41' 28.802 W
8,478.00	89.200	343.70	6,798.93	1,661.27	-983.72	332,650.0927	1,631,878.6096	39° 24' 25.829 N	80° 41' 28.964 W
8,523.00	89.200	343.70	6,799.56	1,704.46	-996.35	332,693.2797	1,631,865.9808	39° 24' 26.255 N	80° 41' 29.132 W
8,568.00	89.300	344.10	6,800.15	1,747.69	-1,008.82	332,736.5110	1,631,853.5028	39° 24' 26.680 N	80° 41' 29.299 W



# Directional Drilling Contractors

## Survey Report - Geographic



**Company:** Jay Bee Oil & Gas  
**Project:** Doddridge County, WV  
**Site:** Coffman Pad  
**Well:** Coffman 1HB  
**Wellbore:** Coffman 1HB  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Coffman 1HB  
**TVD Reference:** WELL @ 753.00usft (Original Well Elev)  
**MD Reference:** WELL @ 753.00usft (Original Well Elev)  
**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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,612.00	89.200	344.20	6,800.72	1,790.01	-1,020.84	332,778.8345	1,631,841.4865	39° 24' 27.097 N	80° 41' 29.459 W
8,657.00	88.700	343.80	6,801.55	1,833.26	-1,033.24	332,822.0838	1,631,829.0850	39° 24' 27.523 N	80° 41' 29.624 W
8,701.00	89.100	343.80	6,802.39	1,875.51	-1,045.52	332,864.3288	1,631,816.8117	39° 24' 27.939 N	80° 41' 29.788 W
8,746.00	89.000	343.60	6,803.14	1,918.69	-1,058.14	332,907.5141	1,631,804.1834	39° 24' 28.364 N	80° 41' 29.956 W
8,790.00	88.800	343.20	6,803.98	1,960.85	-1,070.71	332,949.6724	1,631,791.6155	39° 24' 28.779 N	80° 41' 30.123 W
8,835.00	88.700	343.80	6,804.96	2,003.99	-1,083.49	332,992.8088	1,631,778.8379	39° 24' 29.203 N	80° 41' 30.293 W
8,879.00	88.400	343.30	6,806.08	2,046.17	-1,095.95	333,034.9941	1,631,766.3821	39° 24' 29.619 N	80° 41' 30.459 W
8,924.00	89.400	340.60	6,806.94	2,088.94	-1,109.88	333,077.7671	1,631,752.4429	39° 24' 30.040 N	80° 41' 30.644 W
8,968.00	89.500	341.00	6,807.36	2,130.49	-1,124.35	333,119.3176	1,631,737.9734	39° 24' 30.448 N	80° 41' 30.835 W
9,013.00	89.800	341.30	6,807.64	2,173.08	-1,138.89	333,161.9033	1,631,723.4346	39° 24' 30.867 N	80° 41' 31.028 W
9,057.00	89.700	341.50	6,807.83	2,214.78	-1,152.93	333,203.6047	1,631,709.4005	39° 24' 31.278 N	80° 41' 31.213 W
9,102.00	89.900	342.00	6,807.99	2,257.52	-1,167.02	333,246.3407	1,631,695.3083	39° 24' 31.698 N	80° 41' 31.400 W
9,146.00	90.600	340.70	6,807.80	2,299.21	-1,181.09	333,288.0287	1,631,681.2382	39° 24' 32.108 N	80° 41' 31.586 W
9,191.00	90.900	340.60	6,807.21	2,341.66	-1,196.00	333,330.4831	1,631,666.3293	39° 24' 32.526 N	80° 41' 31.784 W
9,235.00	90.900	340.70	6,806.51	2,383.17	-1,210.58	333,371.9925	1,631,651.7523	39° 24' 32.934 N	80° 41' 31.976 W
9,280.00	90.800	340.60	6,805.85	2,425.62	-1,225.48	333,414.4458	1,631,636.8437	39° 24' 33.352 N	80° 41' 32.173 W
9,324.00	90.900	340.50	6,805.19	2,467.11	-1,240.13	333,455.9303	1,631,622.1940	39° 24' 33.760 N	80° 41' 32.367 W
9,368.00	90.900	341.20	6,804.50	2,508.67	-1,254.57	333,497.4901	1,631,607.7620	39° 24' 34.169 N	80° 41' 32.558 W
9,412.00	91.100	340.70	6,803.74	2,550.25	-1,268.92	333,539.0739	1,631,593.4030	39° 24' 34.578 N	80° 41' 32.748 W
9,457.00	91.100	341.00	6,802.87	2,592.75	-1,283.68	333,581.5758	1,631,578.6438	39° 24' 34.996 N	80° 41' 32.943 W
9,502.00	90.000	342.70	6,802.44	2,635.51	-1,297.70	333,624.3327	1,631,564.6275	39° 24' 35.417 N	80° 41' 33.129 W
9,546.00	89.800	342.50	6,802.52	2,677.50	-1,310.86	333,666.3191	1,631,551.4697	39° 24' 35.830 N	80° 41' 33.304 W
9,591.00	89.300	341.90	6,802.87	2,720.34	-1,324.61	333,709.1633	1,631,537.7140	39° 24' 36.252 N	80° 41' 33.486 W
9,635.00	89.100	341.90	6,803.48	2,762.16	-1,338.28	333,750.9819	1,631,524.0455	39° 24' 36.663 N	80° 41' 33.667 W
9,680.00	88.700	341.60	6,804.35	2,804.89	-1,352.37	333,793.7104	1,631,509.9558	39° 24' 37.083 N	80° 41' 33.854 W
9,725.00	88.600	341.50	6,805.41	2,847.56	-1,366.61	333,836.3855	1,631,495.7183	39° 24' 37.503 N	80° 41' 34.043 W
9,769.00	88.500	341.70	6,806.52	2,889.30	-1,380.49	333,878.1227	1,631,481.8342	39° 24' 37.914 N	80° 41' 34.227 W
9,813.00	88.400	341.30	6,807.71	2,931.01	-1,394.45	333,919.8335	1,631,467.8779	39° 24' 38.324 N	80° 41' 34.412 W
9,858.00	88.300	341.80	6,809.01	2,973.68	-1,408.69	333,962.5027	1,631,453.6424	39° 24' 38.744 N	80° 41' 34.600 W
9,902.00	88.100	341.10	6,810.39	3,015.37	-1,422.68	334,004.1959	1,631,439.6516	39° 24' 39.154 N	80° 41' 34.785 W
9,946.00	88.700	342.40	6,811.62	3,057.14	-1,436.45	334,045.9653	1,631,425.8782	39° 24' 39.565 N	80° 41' 34.968 W
9,991.00	88.700	342.80	6,812.64	3,100.07	-1,449.90	334,088.8950	1,631,412.4249	39° 24' 39.988 N	80° 41' 35.147 W
10,035.00	89.500	343.50	6,813.33	3,142.18	-1,462.65	334,131.0001	1,631,399.6725	39° 24' 40.402 N	80° 41' 35.316 W
10,080.00	90.800	344.70	6,813.21	3,185.45	-1,474.98	334,174.2766	1,631,387.3449	39° 24' 40.829 N	80° 41' 35.481 W
10,124.00	91.300	345.00	6,812.41	3,227.92	-1,486.48	334,216.7401	1,631,375.8476	39° 24' 41.247 N	80° 41' 35.634 W
10,169.00	91.600	345.00	6,811.27	3,271.37	-1,498.12	334,260.1928	1,631,364.2044	39° 24' 41.675 N	80° 41' 35.790 W
10,213.00	91.000	342.70	6,810.27	3,313.62	-1,510.36	334,302.4424	1,631,351.9696	39° 24' 42.091 N	80° 41' 35.953 W
10,257.00	91.300	343.00	6,809.39	3,355.65	-1,523.33	334,344.4775	1,631,338.9978	39° 24' 42.504 N	80° 41' 36.125 W
10,302.00	91.300	343.50	6,808.37	3,398.73	-1,536.30	334,387.5570	1,631,326.0324	39° 24' 42.928 N	80° 41' 36.298 W
10,346.00	91.500	344.20	6,807.29	3,440.98	-1,548.53	334,429.8077	1,631,313.7974	39° 24' 43.344 N	80° 41' 36.461 W
10,388.00	91.900	344.30	6,806.04	3,481.39	-1,559.93	334,470.2129	1,631,302.4019	39° 24' 43.742 N	80° 41' 36.613 W
10,433.00	90.900	342.20	6,804.94	3,524.46	-1,572.89	334,513.2876	1,631,289.4377	39° 24' 44.166 N	80° 41' 36.785 W
10,477.00	90.900	342.70	6,804.25	3,566.41	-1,586.16	334,555.2343	1,631,276.1717	39° 24' 44.579 N	80° 41' 36.962 W
10,521.00	89.900	342.10	6,803.95	3,608.35	-1,599.46	334,597.1730	1,631,262.8679	39° 24' 44.992 N	80° 41' 37.138 W
10,566.00	90.000	341.90	6,803.99	3,651.15	-1,613.37	334,639.9705	1,631,248.9622	39° 24' 45.413 N	80° 41' 37.323 W
10,610.00	89.800	341.90	6,804.06	3,692.97	-1,627.04	334,681.7931	1,631,235.2924	39° 24' 45.824 N	80° 41' 37.504 W
10,655.00	89.800	341.70	6,804.22	3,735.72	-1,641.09	334,724.5415	1,631,221.2375	39° 24' 46.245 N	80° 41' 37.690 W
10,699.00	89.700	340.90	6,804.41	3,777.40	-1,655.20	334,766.2180	1,631,207.1307	39° 24' 46.655 N	80° 41' 37.877 W
10,743.00	88.400	339.90	6,805.14	3,818.84	-1,669.95	334,807.6615	1,631,192.3735	39° 24' 47.063 N	80° 41' 38.072 W
10,788.00	88.700	340.90	6,806.28	3,861.22	-1,685.04	334,850.0399	1,631,177.2832	39° 24' 47.479 N	80° 41' 38.271 W
10,832.00	88.600	340.70	6,807.32	3,902.76	-1,699.51	334,891.5809	1,631,162.8171	39° 24' 47.888 N	80° 41' 38.463 W
10,877.00	89.800	341.50	6,807.94	3,945.33	-1,714.08	334,934.1495	1,631,148.2427	39° 24' 48.307 N	80° 41' 38.656 W
10,921.00	89.700	341.40	6,808.14	3,987.04	-1,728.08	334,975.8631	1,631,134.2450	39° 24' 48.717 N	80° 41' 38.841 W
10,966.00	89.500	342.90	6,808.45	4,029.87	-1,741.88	335,018.6947	1,631,120.4521	39° 24' 49.139 N	80° 41' 39.024 W
11,010.00	89.600	342.80	6,808.80	4,071.91	-1,754.85	335,060.7369	1,631,107.4780	39° 24' 49.553 N	80° 41' 39.196 W



# Directional Drilling Contractors

## Survey Report - Geographic



**Company:** Jay Bee Oil & Gas  
**Project:** Doddridge County, WV  
**Site:** Coffman Pad  
**Well:** Coffman 1HB  
**Wellbore:** Coffman 1HB  
**Design:** As Drilled

**Local Co-ordinate Reference:** Well Coffman 1HB  
**TVD Reference:** WELL @ 753.00usft (Original Well Elev)  
**MD Reference:** WELL @ 753.00usft (Original Well Elev)  
**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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,054.00	89.700	342.60	6,809.07	4,113.92	-1,767.93	335,102.7456	1,631,094.3937	39° 24' 49.966 N	80° 41' 39.370 W
11,099.00	89.300	341.90	6,809.46	4,156.78	-1,781.65	335,145.6014	1,631,080.6755	39° 24' 50.388 N	80° 41' 39.552 W
11,144.00	89.400	342.40	6,809.97	4,199.61	-1,795.44	335,188.4323	1,631,066.8828	39° 24' 50.809 N	80° 41' 39.735 W
11,189.00	89.500	342.50	6,810.40	4,242.51	-1,809.01	335,231.3358	1,631,053.3142	39° 24' 51.232 N	80° 41' 39.915 W
11,230.00	90.900	343.10	6,810.26	4,281.68	-1,821.14	335,270.5008	1,631,041.1906	39° 24' 51.617 N	80° 41' 40.077 W
11,275.00	91.200	342.90	6,809.43	4,324.70	-1,834.29	335,313.5272	1,631,028.0361	39° 24' 52.041 N	80° 41' 40.251 W
11,319.00	91.500	342.90	6,808.40	4,366.75	-1,847.23	335,355.5704	1,631,015.1019	39° 24' 52.454 N	80° 41' 40.423 W
11,362.00	90.000	343.60	6,807.83	4,407.92	-1,859.62	335,396.7410	1,631,002.7110	39° 24' 52.860 N	80° 41' 40.588 W
11,404.00	90.400	343.90	6,807.69	4,448.24	-1,871.37	335,437.0627	1,630,990.9583	39° 24' 53.257 N	80° 41' 40.745 W
11,448.00	90.600	343.50	6,807.30	4,490.47	-1,883.72	335,479.2925	1,630,978.6095	39° 24' 53.672 N	80° 41' 40.909 W
11,493.00	89.900	343.00	6,807.11	4,533.56	-1,896.69	335,522.3824	1,630,965.6409	39° 24' 54.096 N	80° 41' 41.082 W
11,537.00	89.900	343.00	6,807.18	4,575.64	-1,909.55	335,564.4597	1,630,952.7765	39° 24' 54.511 N	80° 41' 41.253 W
11,581.00	90.000	343.10	6,807.22	4,617.73	-1,922.38	335,606.5483	1,630,939.9489	39° 24' 54.925 N	80° 41' 41.423 W
11,626.00	90.100	342.80	6,807.18	4,660.75	-1,935.57	335,649.5704	1,630,926.7547	39° 24' 55.348 N	80° 41' 41.599 W
11,670.00	90.200	342.90	6,807.07	4,702.79	-1,948.55	335,691.6139	1,630,913.7802	39° 24' 55.762 N	80° 41' 41.771 W
11,715.00	90.200	342.70	6,806.91	4,745.78	-1,961.85	335,734.6011	1,630,900.4735	39° 24' 56.185 N	80° 41' 41.948 W
11,759.00	89.900	342.20	6,806.87	4,787.73	-1,975.12	335,776.5529	1,630,887.2059	39° 24' 56.598 N	80° 41' 42.124 W
11,804.00	89.800	342.40	6,806.99	4,830.60	-1,988.80	335,819.4225	1,630,873.5244	39° 24' 57.020 N	80° 41' 42.306 W
11,848.00	90.000	343.10	6,807.07	4,872.62	-2,001.85	335,861.4430	1,630,860.4767	39° 24' 57.434 N	80° 41' 42.479 W
11,893.00	90.200	343.20	6,806.99	4,915.69	-2,014.89	335,904.5109	1,630,847.4327	39° 24' 57.857 N	80° 41' 42.653 W
11,935.00	90.700	343.20	6,806.66	4,955.89	-2,027.03	335,944.7170	1,630,835.2938	39° 24' 58.253 N	80° 41' 42.814 W
11,979.00	90.600	343.40	6,806.16	4,998.04	-2,039.68	335,986.8585	1,630,822.6507	39° 24' 58.668 N	80° 41' 42.982 W
12,024.00	90.600	343.60	6,805.69	5,041.18	-2,052.46	336,030.0030	1,630,809.8708	39° 24' 59.093 N	80° 41' 43.153 W
12,068.00	90.800	343.70	6,805.15	5,083.40	-2,064.84	336,072.2204	1,630,797.4855	39° 24' 59.508 N	80° 41' 43.317 W
12,113.00	90.400	343.30	6,804.68	5,126.54	-2,077.62	336,115.3648	1,630,784.7056	39° 24' 59.933 N	80° 41' 43.488 W
12,158.00	90.700	343.30	6,804.25	5,169.64	-2,090.55	336,158.4647	1,630,771.7749	39° 25' 0.357 N	80° 41' 43.660 W
12,202.00	90.200	342.90	6,803.90	5,211.74	-2,103.34	336,200.5630	1,630,758.9845	39° 25' 0.772 N	80° 41' 43.830 W
12,246.00	90.100	342.70	6,803.79	5,253.77	-2,116.35	336,242.5951	1,630,745.9734	39° 25' 1.185 N	80° 41' 44.003 W
12,291.00	90.200	342.80	6,803.67	5,296.75	-2,129.70	336,285.5708	1,630,732.6291	39° 25' 1.608 N	80° 41' 44.180 W
12,340.00	90.200	342.80	6,803.50	5,343.56	-2,144.19	336,332.3792	1,630,718.1395	39° 25' 2.069 N	80° 41' 44.373 W

Projection to bit 12340.00 MD, 90.200 INC, 342.80 AZI, 6803.50 TVD

### Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,340.00	6,803.50	5,343.56	-2,144.19	Projection to bit 12340.00 MD, 90.200 INC, 342.80 AZI, 6803.50 TVD

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

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