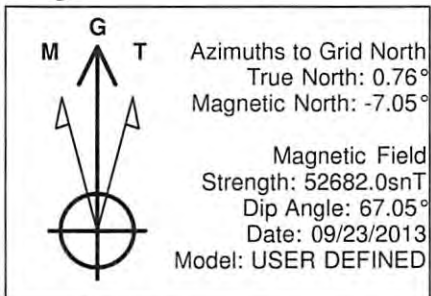


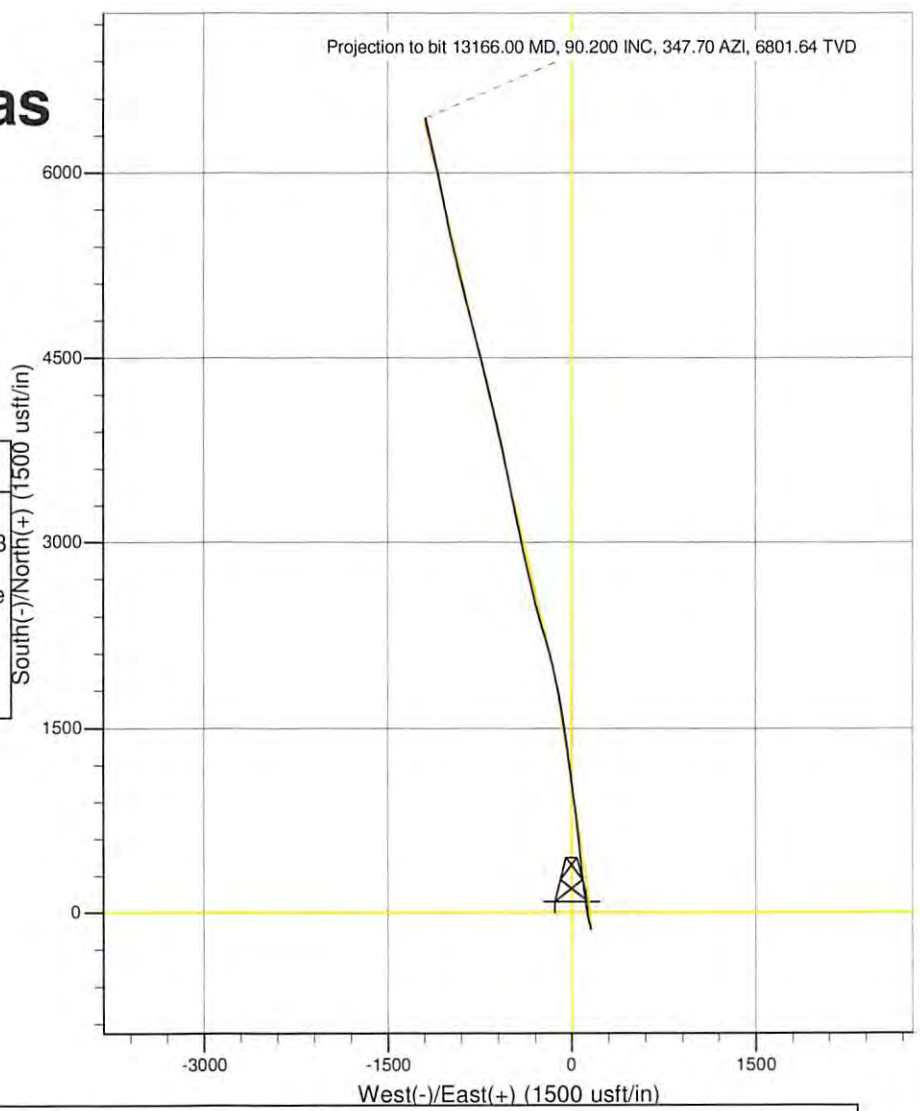
Jay Bee Oil & Gas



PROJECT DETAILS: Doddridge County, WV

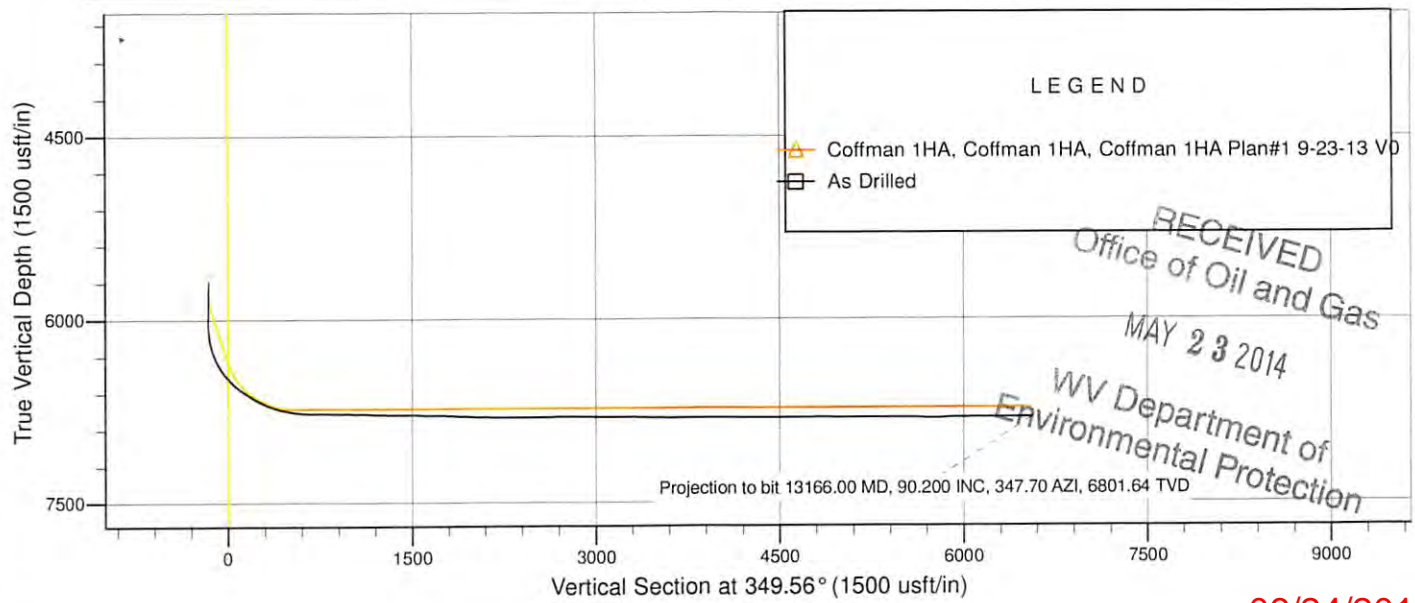
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: West Virginia Northern Zone

System Datum: Mean Sea Level



WELL DETAILS: Coffman 1HA

+N/-S	+E/-W	Northing	Ground Level: Easting	Latitude	Longitude
0.00	0.00	331017.8094	1632874.0146	39° 24' 9.828 N	80° 41' 16.008 W



LEGEND

- ▲ Coffman 1HA, Coffman 1HA, Coffman 1HA Plan#1 9-23-13 VD
- As Drilled

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 WV Department of
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Jay Bee Oil & Gas

Doddridge County, WV

Coffman Pad

Coffman 1HA

Coffman 1HA

Design: As Drilled

Standard Survey Report

29 October, 2013



Directional Drilling Contractors, LLC

An Archer Company

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WV Department of
Environmental Protection

06/24/2016

Directional Drilling Contractors

Survey Report



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

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

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

Well Coffman 1HA					
Well Position		Northing:	331,017.8094 usft	Latitude:	39° 24' 9.828 N
	+N/-S 0.00 usft	Easting:	1,632,874.0147 usft	Longitude:	80° 41' 16.008 W
	+E/-W 0.00 usft	Wellhead Elevation:	usft	Ground Level:	753.00 usft
Position Uncertainty	0.00 usft				

Wellbore Coffman 1HA					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	09/23/13	-7.81	67.05	52,682

Design As Drilled					
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	349.56	

Survey Program Date 10/29/13					
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
5,718.00	13,166.00	MWD (Coffman 1HA)	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	1.120	118.61	5,691.78	-131.79	153.82	-157.49	0.00	0.00	0.00
5,718.00	0.900	136.80	5,709.78	-131.98	154.07	-157.72	2.15	-1.22	101.06
5,763.00	0.700	139.60	5,754.77	-132.44	154.49	-158.25	0.45	-0.44	6.22
5,807.00	0.900	142.90	5,798.77	-132.92	154.87	-158.80	0.47	0.45	7.50
5,851.00	0.900	134.60	5,842.76	-133.44	155.33	-159.39	0.30	0.00	-18.86
5,896.00	0.800	148.10	5,887.76	-133.96	155.75	-159.97	0.50	-0.22	30.00
5,940.00	0.900	154.00	5,931.75	-134.53	156.06	-160.59	0.30	0.23	13.41
5,985.00	1.000	145.00	5,976.75	-135.17	156.44	-161.29	0.40	-0.22	-20.00
6,029.00	0.700	153.20	6,020.74	-135.72	156.78	-161.89	0.73	0.68	18.64
6,074.00	3.600	353.50	6,065.72	-134.56	156.75	-160.75	9.47	6.44	354.89



Directional Drilling Contractors

Survey Report



Company:	Jay Bee Oil & Gas	Local Co-ordinate Reference:	Well Coffman 1HA
Project:	Doddridge County, WV	TVD Reference:	WELL @ 753.00usft (Original Well Elev)
Site:	Coffman Pad	MD Reference:	WELL @ 753.00usft (Original Well Elev)
Well:	Coffman 1HA	North Reference:	Grid
Wellbore:	Coffman 1HA	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	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)
6,119.00	7.100	347.60	6,110.51	-130.44	155.99	-156.56	7.86	7.78	-13.11
6,163.00	10.200	344.20	6,154.01	-124.04	154.34	-149.96	7.14	7.05	-7.73
6,208.00	13.900	345.20	6,198.01	-114.97	151.88	-140.60	8.23	8.22	2.22
6,252.00	17.600	347.20	6,240.35	-103.37	149.05	-128.68	8.50	8.41	4.55
6,296.00	21.100	345.50	6,281.86	-89.21	145.59	-114.13	8.06	7.95	-3.86
6,341.00	24.800	346.60	6,323.29	-72.19	141.38	-96.62	8.28	8.22	2.44
6,385.00	28.700	348.20	6,362.57	-52.86	137.08	-76.83	9.01	8.86	3.64
6,429.00	32.800	348.70	6,400.38	-30.82	132.58	-54.34	9.34	9.32	1.14
6,474.00	36.600	350.00	6,437.37	-5.65	127.86	-28.73	8.60	8.44	2.89
6,518.00	40.600	351.20	6,471.75	21.43	123.39	-1.29	9.25	9.09	2.73
6,562.00	44.600	351.80	6,504.13	50.88	118.99	28.47	9.14	9.09	1.36
6,607.00	48.900	351.50	6,534.96	83.30	114.23	61.21	9.57	9.56	-0.67
6,651.00	53.000	351.90	6,562.67	117.11	109.30	95.35	9.34	9.32	0.91
6,696.00	55.600	353.60	6,588.93	153.35	104.70	131.83	6.54	5.78	3.78
6,740.00	58.000	354.40	6,613.02	189.97	100.86	168.54	5.66	5.45	1.82
6,785.00	58.300	353.30	6,636.77	227.97	96.76	206.65	2.18	0.67	-2.44
6,829.00	60.800	352.80	6,659.07	265.62	92.17	244.51	5.77	5.68	-1.14
6,832.99	61.140	352.88	6,661.00	269.08	91.74	247.99	8.70	8.52	2.01
6,874.00	64.600	353.70	6,679.70	305.32	87.48	284.41	8.62	8.44	2.00
6,918.00	67.400	353.60	6,697.60	345.27	83.03	324.50	6.37	6.36	-0.23
6,962.00	70.700	354.10	6,713.33	386.12	78.63	365.47	7.57	7.50	1.14
7,007.00	74.500	353.70	6,726.78	428.81	74.07	408.28	8.49	8.44	-0.89
7,051.00	77.500	354.10	6,737.42	471.25	69.53	450.84	6.87	6.82	0.91
7,095.00	80.000	355.10	6,746.01	514.21	65.47	493.83	6.10	5.68	2.27
7,140.00	80.500	354.50	6,753.63	558.38	61.45	537.99	1.72	1.11	-1.33
7,185.00	84.600	354.20	6,759.46	602.77	57.06	582.44	9.14	9.11	-0.67
7,230.00	87.900	353.50	6,762.40	647.41	52.25	627.22	7.50	7.33	-1.56
7,274.00	90.100	353.40	6,763.17	691.12	47.23	671.10	5.01	5.00	-0.23
7,318.00	90.200	353.50	6,763.06	734.83	42.21	715.00	0.32	0.23	0.23
7,362.00	89.500	353.00	6,763.17	778.52	37.04	758.91	1.96	-1.59	-1.14
7,407.00	89.700	353.00	6,763.49	823.19	31.56	803.83	0.44	0.44	0.00
7,451.00	88.900	352.80	6,764.02	866.84	26.12	847.75	1.87	-1.82	-0.45
7,496.00	89.200	353.00	6,764.77	911.49	20.56	892.67	0.80	0.67	0.44
7,540.00	89.500	353.20	6,765.27	955.17	15.27	936.58	0.82	0.68	0.45
7,585.00	88.300	352.90	6,766.13	999.83	9.83	981.49	2.75	-2.67	-0.67
7,629.00	88.500	352.70	6,767.36	1,043.47	4.32	1,025.40	0.64	0.45	-0.45
7,674.00	88.600	353.30	6,768.50	1,088.12	-1.17	1,070.30	1.35	0.22	1.33
7,718.00	88.600	353.70	6,769.58	1,131.82	-6.15	1,114.19	0.91	0.00	0.91
7,762.00	88.100	352.20	6,770.84	1,175.47	-11.54	1,158.09	3.59	-1.14	-3.41
7,807.00	88.100	352.30	6,772.33	1,220.03	-17.61	1,203.01	0.22	0.00	0.22
7,851.00	88.500	352.20	6,773.64	1,263.61	-23.54	1,246.95	0.94	0.91	-0.23
7,895.00	89.100	352.80	6,774.56	1,307.23	-29.28	1,290.88	1.93	1.36	1.36
7,931.00	89.500	353.04	6,775.00	1,342.95	-33.72	1,326.81	1.30	1.11	0.67
7,940.00	89.600	353.10	6,775.07	1,351.88	-34.80	1,335.80	1.30	1.11	0.67

Directional Drilling Contractors
Survey Report



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

Local Co-ordinate Reference: Well Coffman 1HA
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)
7,984.00	89.700	351.80	6,775.34	1,395.50	-40.59	1,379.74	2.96	0.23	-2.95
8,029.00	89.700	351.90	6,775.58	1,440.05	-46.97	1,424.70	0.22	0.00	0.22
8,073.00	88.900	350.80	6,776.11	1,483.54	-53.58	1,468.68	3.09	-1.82	-2.50
8,117.00	89.200	351.10	6,776.84	1,526.99	-60.50	1,512.66	0.96	0.68	0.68
8,161.00	88.200	350.80	6,777.84	1,570.43	-67.42	1,556.63	2.37	-2.27	-0.68
8,206.00	88.800	350.80	6,779.02	1,614.83	-74.61	1,601.61	1.33	1.33	0.00
8,250.00	88.600	349.70	6,780.02	1,658.19	-82.06	1,645.59	2.54	-0.45	-2.50
8,295.00	89.500	349.80	6,780.76	1,702.46	-90.07	1,690.58	2.01	2.00	0.22
8,339.00	89.500	349.90	6,781.15	1,745.77	-97.82	1,734.58	0.23	0.00	0.23
8,374.00	88.180	348.58	6,781.86	1,780.15	-104.36	1,769.57	5.33	-3.77	-3.77
8,384.00	87.800	348.20	6,782.21	1,789.94	-106.37	1,779.56	5.37	-3.80	-3.80
8,428.00	86.400	347.00	6,784.43	1,832.85	-115.80	1,823.48	4.19	-3.18	-2.73
8,473.00	86.500	347.30	6,787.22	1,876.64	-125.79	1,868.35	0.70	0.22	0.67
8,489.00	86.500	347.37	6,788.20	1,892.22	-129.29	1,884.31	0.44	0.00	0.44
8,517.00	86.500	347.50	6,789.91	1,919.50	-135.37	1,912.24	0.46	0.00	0.46
8,562.00	88.100	346.20	6,792.03	1,963.27	-145.60	1,957.14	4.58	3.56	-2.89
8,606.00	88.500	345.70	6,793.33	2,005.94	-156.28	2,001.03	1.45	0.91	-1.14
8,650.00	88.800	345.00	6,794.37	2,048.49	-167.40	2,044.90	1.73	0.68	-1.59
8,695.00	88.700	345.00	6,795.35	2,091.95	-179.04	2,089.75	0.22	-0.22	0.00
8,740.00	88.600	344.40	6,796.41	2,135.34	-190.92	2,134.57	1.35	-0.22	-1.33
8,784.00	89.500	343.60	6,797.14	2,177.63	-203.04	2,178.36	2.74	2.05	-1.82
8,828.00	89.200	343.50	6,797.64	2,219.83	-215.50	2,222.12	0.72	-0.68	-0.23
8,873.00	89.200	343.10	6,798.27	2,262.92	-228.43	2,266.84	0.89	0.00	-0.89
8,917.00	89.900	343.50	6,798.61	2,305.07	-241.07	2,310.58	1.83	1.59	0.91
8,962.00	90.000	342.80	6,798.65	2,348.13	-254.12	2,355.30	1.57	0.22	-1.56
9,006.00	89.800	345.60	6,798.73	2,390.47	-266.10	2,399.10	6.38	-0.45	6.36
9,050.00	90.100	345.20	6,798.77	2,433.05	-277.19	2,442.99	1.14	0.68	-0.91
9,095.00	90.200	345.00	6,798.65	2,476.53	-288.76	2,487.85	0.50	0.22	-0.44
9,139.00	90.100	346.40	6,798.53	2,519.17	-299.63	2,531.75	3.19	-0.23	3.18
9,184.00	90.600	346.80	6,798.26	2,562.94	-310.05	2,576.69	1.42	1.11	0.89
9,229.00	91.000	347.00	6,797.63	2,606.77	-320.25	2,621.63	0.99	0.89	0.44
9,273.00	91.200	346.90	6,796.79	2,649.62	-330.19	2,665.58	0.51	0.45	-0.23
9,318.00	90.000	346.40	6,796.31	2,693.40	-340.58	2,710.52	2.89	-2.67	-1.11
9,360.00	89.800	346.10	6,796.39	2,734.20	-350.56	2,752.45	0.86	-0.46	-0.71
9,404.00	89.700	347.30	6,796.58	2,777.02	-360.68	2,796.39	2.74	-0.23	2.73
9,449.00	89.800	347.60	6,796.78	2,820.94	-370.46	2,841.36	0.70	0.22	0.67
9,493.00	89.800	347.20	6,796.93	2,863.88	-380.06	2,885.33	0.91	0.00	-0.91
9,537.00	90.100	347.90	6,796.97	2,906.85	-389.54	2,929.30	1.73	0.68	1.59
9,582.00	90.200	347.60	6,796.85	2,950.82	-399.09	2,974.28	0.70	0.22	0.67
9,626.00	89.300	347.90	6,797.04	2,993.82	-408.43	3,018.26	2.16	-2.05	0.68
9,670.00	89.400	348.20	6,797.54	3,036.86	-417.54	3,062.24	0.72	0.23	0.68
9,715.00	89.500	348.50	6,797.97	3,080.94	-426.62	3,107.23	0.70	0.22	0.67
9,759.00	89.700	348.30	6,798.28	3,124.04	-435.47	3,151.22	0.64	0.45	-0.45

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Environmental Protection

Directional Drilling Contractors

Survey Report



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

Local Co-ordinate Reference: Well Coffman 1HA
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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,804.00	89.700	348.30	6,798.52	3,168.10	-444.60	3,196.21	0.00	0.00	0.00
9,848.00	89.700	348.30	6,798.75	3,211.19	-453.52	3,240.20	0.00	0.00	0.00
9,893.00	89.400	348.60	6,799.10	3,255.27	-462.53	3,285.19	0.94	-0.67	0.67
9,937.00	89.200	348.70	6,799.64	3,298.41	-471.19	3,329.18	0.51	-0.45	0.23
9,982.00	89.300	348.50	6,800.23	3,342.52	-480.08	3,374.17	0.50	0.22	-0.44
10,026.00	88.800	349.00	6,800.96	3,385.67	-488.66	3,418.16	1.61	-1.14	1.14
10,071.00	88.600	348.60	6,801.98	3,429.80	-497.40	3,463.14	0.99	-0.44	-0.89
10,115.00	88.800	348.20	6,802.97	3,472.89	-506.25	3,507.12	1.02	0.45	-0.91
10,159.00	88.800	348.70	6,803.90	3,515.99	-515.05	3,551.10	1.14	0.00	1.14
10,204.00	89.100	348.80	6,804.72	3,560.11	-523.83	3,596.09	0.70	0.67	0.22
10,249.00	89.000	348.60	6,805.47	3,604.24	-532.65	3,641.08	0.50	-0.22	-0.44
10,293.00	89.100	349.00	6,806.20	3,647.39	-541.19	3,685.07	0.94	0.23	0.91
10,337.00	89.600	349.30	6,806.70	3,690.60	-549.48	3,729.07	1.33	1.14	0.68
10,382.00	90.100	349.30	6,806.81	3,734.82	-557.83	3,774.06	1.11	1.11	0.00
10,426.00	89.500	346.50	6,806.97	3,777.84	-567.05	3,818.04	6.51	-1.36	-6.36
10,468.00	89.800	346.40	6,807.22	3,818.67	-576.89	3,859.98	0.75	0.71	-0.24
10,513.00	90.100	347.10	6,807.26	3,862.47	-587.21	3,904.92	1.69	0.67	1.56
10,557.00	90.200	347.20	6,807.15	3,905.37	-596.99	3,948.89	0.32	0.23	0.23
10,601.00	90.600	347.20	6,806.84	3,948.27	-606.74	3,992.85	0.91	0.91	0.00
10,646.00	91.000	347.10	6,806.21	3,992.14	-616.75	4,037.80	0.92	0.89	-0.22
10,690.00	90.000	346.80	6,805.83	4,035.00	-626.68	4,081.75	2.37	-2.27	-0.68
10,734.00	90.100	346.90	6,805.79	4,077.85	-636.69	4,125.71	0.32	0.23	0.23
10,779.00	89.000	345.80	6,806.14	4,121.58	-647.31	4,170.63	3.46	-2.44	-2.44
10,823.00	89.000	345.70	6,806.91	4,164.21	-658.14	4,214.53	0.23	0.00	-0.23
10,867.00	89.700	346.50	6,807.41	4,206.92	-668.71	4,258.45	2.42	1.59	1.82
10,911.00	90.200	346.80	6,807.45	4,249.73	-678.87	4,302.39	1.33	1.14	0.68
10,956.00	90.100	346.50	6,807.33	4,293.52	-689.26	4,347.33	0.70	-0.22	-0.67
11,000.00	90.600	347.10	6,807.06	4,336.35	-699.31	4,391.28	1.78	1.14	1.36
11,045.00	90.800	347.00	6,806.51	4,380.21	-709.39	4,436.23	0.50	0.44	-0.22
11,087.00	90.200	346.70	6,806.15	4,421.10	-718.94	4,478.18	1.60	-1.43	-0.71
11,131.00	90.200	346.50	6,805.99	4,463.90	-729.14	4,522.12	0.45	0.00	-0.45
11,174.00	90.100	345.70	6,805.88	4,505.65	-739.47	4,565.05	1.87	-0.23	-1.86
11,218.00	89.900	345.70	6,805.88	4,548.28	-750.34	4,608.95	0.45	-0.45	0.00
11,263.00	90.400	345.60	6,805.76	4,591.88	-761.49	4,653.84	1.13	1.11	-0.22
11,307.00	90.500	345.10	6,805.42	4,634.45	-772.62	4,697.72	1.16	0.23	-1.14
11,352.00	90.700	345.40	6,804.94	4,677.96	-784.08	4,742.59	0.80	0.44	0.67
11,397.00	91.200	345.50	6,804.20	4,721.51	-795.38	4,787.47	1.13	0.22	0.22
11,441.00	89.600	345.00	6,803.89	4,764.06	-806.58	4,831.34	3.81	-3.64	-1.14
11,485.00	89.800	345.00	6,804.12	4,806.56	-817.97	4,875.20	0.45	0.45	0.00
11,529.00	90.000	345.20	6,804.20	4,849.08	-829.28	4,919.07	0.64	0.45	0.45
11,574.00	89.100	345.70	6,804.55	4,892.63	-840.59	4,963.95	2.29	-2.00	1.11
11,618.00	89.100	345.60	6,805.24	4,935.26	-851.49	5,007.85	0.23	0.00	-0.23
11,661.00	89.400	345.70	6,805.81	4,976.91	-862.15	5,050.74	0.74	0.79	0.23

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 MAY 23 2014
 WV Department of
 Environmental Protection

Directional Drilling Contractors

Survey Report



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

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,706.00	89.800	346.20	6,806.12	5,020.56	-873.07	5,095.65	1.42	0.89	1.11
11,750.00	90.000	346.20	6,806.20	5,063.29	-883.57	5,139.58	0.45	0.45	0.00
11,794.00	90.200	346.10	6,806.12	5,106.01	-894.10	5,183.50	0.51	0.45	-0.23
11,839.00	89.800	346.90	6,806.12	5,149.77	-904.61	5,228.43	1.99	-0.89	1.78
11,883.00	89.600	346.50	6,806.35	5,192.59	-914.73	5,272.38	1.02	-0.45	-0.91
11,927.00	89.800	346.50	6,806.58	5,235.37	-925.00	5,316.31	0.45	0.45	0.00
11,972.00	90.500	345.90	6,806.46	5,279.07	-935.73	5,361.24	2.05	1.56	-1.33
12,016.00	90.400	345.90	6,806.12	5,321.75	-946.45	5,405.15	0.23	-0.23	0.00
12,060.00	90.500	345.70	6,805.77	5,364.40	-957.24	5,449.05	0.51	0.23	-0.45
12,103.00	90.000	346.90	6,805.58	5,406.18	-967.43	5,491.98	3.02	-1.16	2.79
12,145.00	90.400	347.00	6,805.44	5,447.09	-976.91	5,533.94	0.98	0.95	0.24
12,189.00	89.000	347.70	6,805.67	5,490.02	-986.55	5,577.90	3.56	-3.18	1.59
12,234.00	87.700	348.00	6,806.96	5,533.99	-996.01	5,622.86	2.96	-2.89	0.67
12,278.00	87.900	347.70	6,808.65	5,576.98	-1,005.27	5,666.81	0.82	0.45	-0.68
12,323.00	88.400	349.40	6,810.11	5,621.06	-1,014.20	5,711.78	3.94	1.11	3.78
12,367.00	90.100	349.50	6,810.68	5,664.31	-1,022.25	5,755.77	3.87	3.86	0.23
12,411.00	91.800	349.90	6,809.95	5,707.59	-1,030.12	5,799.76	3.97	3.86	0.91
12,456.00	92.200	349.70	6,808.38	5,751.85	-1,038.08	5,844.74	0.99	0.89	-0.44
12,498.00	91.700	349.00	6,806.95	5,793.10	-1,045.84	5,886.71	2.05	-1.19	-1.67
12,543.00	90.500	349.20	6,806.09	5,837.28	-1,054.35	5,931.70	2.70	-2.67	0.44
12,587.00	90.700	348.80	6,805.63	5,880.47	-1,062.74	5,975.70	1.02	0.45	-0.91
12,620.00	90.930	348.65	6,805.16	5,912.83	-1,069.19	6,008.69	0.83	0.70	-0.45
12,631.00	91.000	348.60	6,804.97	5,923.61	-1,071.36	6,019.69	0.78	0.64	-0.45
12,676.00	90.700	348.10	6,804.31	5,967.68	-1,080.45	6,064.67	1.30	-0.67	-1.11
12,720.00	90.100	347.30	6,804.00	6,010.67	-1,089.82	6,108.65	2.27	-1.36	-1.82
12,765.00	90.100	347.40	6,803.92	6,054.58	-1,099.68	6,153.61	0.22	0.00	0.22
12,810.00	90.300	347.10	6,803.76	6,098.47	-1,109.61	6,198.58	0.80	0.44	-0.67
12,854.00	90.300	347.10	6,803.53	6,141.36	-1,119.43	6,242.53	0.00	0.00	0.00
12,899.00	90.600	347.10	6,803.18	6,185.22	-1,129.48	6,287.49	0.67	0.67	0.00
12,943.00	91.100	346.90	6,802.53	6,228.09	-1,139.37	6,331.44	1.22	1.14	-0.45
12,987.00	90.100	347.10	6,802.07	6,270.96	-1,149.27	6,375.40	2.32	-2.27	0.45
13,032.00	90.000	347.10	6,802.03	6,314.82	-1,159.32	6,420.35	0.22	-0.22	0.00
13,076.00	90.200	347.70	6,801.95	6,357.76	-1,168.91	6,464.32	1.44	0.45	1.36
13,120.00	90.200	347.70	6,801.80	6,400.75	-1,178.29	6,508.30	0.00	0.00	0.00
13,166.00	90.200	347.70	6,801.64	6,445.69	-1,188.09	6,554.28	0.00	0.00	0.00

Projection to bit 13166.00 MD, 90.200 INC, 347.70 AZI, 6801.64 TVD

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
13,166.00	6,801.64	6,445.69	-1,188.09	Projection to bit 13166.00 MD, 90.200 INC, 347.70 AZI, 6801.64 TVD

Directional Drilling Contractors

Survey Report



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

Checked By: _____ Approved By: _____ Date: _____

Jay Bee Oil & Gas

Doddridge County, WV

Coffman Pad

Coffman 1HA

Coffman 1HA

Design: As Drilled

Survey Report - Geographic

29 October, 2013



Directional Drilling Contractors, LLC.

An Archer Company

06/24/2016

Directional Drilling Contractors
Survey Report - Geographic



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

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

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

Well	Coffman 1HA					
Well Position	+N/-S	0.00 usft	Northing:	331,017.8094 usft	Latitude:	39° 24' 9.828 N
	+E/-W	0.00 usft	Easting:	1,632,874.0147 usft	Longitude:	80° 41' 16.008 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	753.00 usft

Wellbore	Coffman 1HA				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	09/23/13	-7.81	67.05	52,682

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.00	0.00	0.00	349.56

Survey Program	Date	10/29/13			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
5,718.00	13,166.00	MWD (Coffman 1HA)	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
5,700.00	1.120	118.61	5,691.78	-131.79	153.82	330,886.0194	1,633,027.8346	39° 24' 8.545 N	80° 41' 14.026 W
5,718.00	0.900	136.80	5,709.78	-131.98	154.07	330,885.8321	1,633,028.0858	39° 24' 8.544 N	80° 41' 14.023 W
5,763.00	0.700	139.60	5,754.77	-132.44	154.49	330,885.3651	1,633,028.5059	39° 24' 8.539 N	80° 41' 14.018 W
5,807.00	0.900	142.90	5,798.77	-132.92	154.87	330,884.8848	1,633,028.8885	39° 24' 8.534 N	80° 41' 14.013 W
5,851.00	0.900	134.60	5,842.76	-133.44	155.33	330,884.3666	1,633,029.3430	39° 24' 8.529 N	80° 41' 14.007 W
5,896.00	0.800	148.10	5,887.76	-133.96	155.75	330,883.8517	1,633,029.7607	39° 24' 8.524 N	80° 41' 14.001 W
5,940.00	0.900	154.00	5,931.75	-134.53	156.06	330,883.2803	1,633,030.0745	39° 24' 8.519 N	80° 41' 13.997 W
5,985.00	1.000	145.00	5,976.75	-135.17	156.44	330,882.6410	1,633,030.4546	39° 24' 8.512 N	80° 41' 13.992 W
6,029.00	0.700	153.20	6,020.74	-135.72	156.78	330,882.0866	1,633,030.7960	39° 24' 8.507 N	80° 41' 13.988 W
6,074.00	3.600	353.50	6,065.72	-134.56	156.75	330,883.2455	1,633,030.7600	39° 24' 8.518 N	80° 41' 13.989 W
6,119.00	7.100	347.60	6,110.51	-130.44	155.99	330,887.3667	1,633,030.0027	39° 24' 8.559 N	80° 41' 13.999 W
6,163.00	10.200	344.20	6,154.01	-124.04	154.34	330,893.7727	1,633,028.3576	39° 24' 8.622 N	80° 41' 14.021 W

Directional Drilling Contractors

Survey Report - Geographic



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

Local Co-ordinate Reference: Well Coffman 1HA
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	
6,208.00	13.900	345.20	6,198.01	-114.97	151.88	330,902.8356	1,633,025.8911	39° 24' 8.711 N	80° 41' 14.054 W	
6,252.00	17.600	347.20	6,240.35	-103.37	149.05	330,914.4362	1,633,023.0663	39° 24' 8.826 N	80° 41' 14.092 W	
6,296.00	21.100	345.50	6,281.86	-89.21	145.59	330,928.5952	1,633,019.6085	39° 24' 8.965 N	80° 41' 14.138 W	
6,341.00	24.800	346.60	6,323.29	-72.19	141.38	330,945.6239	1,633,015.3917	39° 24' 9.133 N	80° 41' 14.195 W	
6,385.00	28.700	348.20	6,362.57	-52.86	137.08	330,964.9500	1,633,011.0910	39° 24' 9.323 N	80° 41' 14.253 W	
6,429.00	32.800	348.70	6,400.38	-30.82	132.58	330,986.9876	1,633,006.5934	39° 24' 9.541 N	80° 41' 14.314 W	
6,474.00	36.600	350.00	6,437.37	-5.65	127.86	331,012.1606	1,633,001.8738	39° 24' 9.789 N	80° 41' 14.378 W	
6,518.00	40.600	351.20	6,471.75	21.43	123.39	331,039.2382	1,632,997.4039	39° 24' 10.056 N	80° 41' 14.440 W	
6,562.00	44.600	351.80	6,504.13	50.88	118.99	331,068.6882	1,632,993.0085	39° 24' 10.346 N	80° 41' 14.501 W	
6,607.00	48.900	351.50	6,534.96	83.30	114.23	331,101.1093	1,632,988.2468	39° 24' 10.666 N	80° 41' 14.567 W	
6,651.00	53.000	351.90	6,562.67	117.11	109.30	331,134.9148	1,632,983.3187	39° 24' 11.000 N	80° 41' 14.635 W	
6,696.00	55.600	353.60	6,588.93	153.35	104.70	331,171.1622	1,632,978.7163	39° 24' 11.357 N	80° 41' 14.700 W	
6,740.00	58.000	354.40	6,613.02	189.97	100.86	331,207.7753	1,632,974.8717	39° 24' 11.718 N	80° 41' 14.755 W	
6,785.00	58.300	353.30	6,636.77	227.97	96.76	331,245.7788	1,632,970.7761	39° 24' 12.094 N	80° 41' 14.814 W	
6,829.00	60.800	352.80	6,659.07	265.62	92.17	331,283.4278	1,632,966.1846	39° 24' 12.465 N	80° 41' 14.879 W	
6,832.99	61.140	352.88	6,661.00	269.08	91.74	331,286.8893	1,632,965.7498	39° 24' 12.499 N	80° 41' 14.885 W	
6,874.00	64.600	353.70	6,679.70	305.32	87.48	331,323.1317	1,632,961.4899	39° 24' 12.857 N	80° 41' 14.945 W	
6,918.00	67.400	353.60	6,697.60	345.27	83.03	331,363.0770	1,632,957.0443	39° 24' 13.251 N	80° 41' 15.008 W	
6,962.00	70.700	354.10	6,713.33	386.12	78.63	331,403.9262	1,632,952.6447	39° 24' 13.654 N	80° 41' 15.071 W	
7,007.00	74.500	353.70	6,726.78	428.81	74.07	331,446.6158	1,632,948.0809	39° 24' 14.075 N	80° 41' 15.137 W	
7,051.00	77.500	354.10	6,737.42	471.25	69.53	331,489.0623	1,632,943.5457	39° 24' 14.494 N	80° 41' 15.202 W	
7,095.00	80.000	355.10	6,746.01	514.21	65.47	331,532.0215	1,632,939.4865	39° 24' 14.918 N	80° 41' 15.261 W	
7,140.00	80.500	354.50	6,753.63	558.38	61.45	331,576.1886	1,632,935.4668	39° 24' 15.354 N	80° 41' 15.319 W	
7,185.00	84.600	354.20	6,759.46	602.77	57.06	331,620.5824	1,632,931.0742	39° 24' 15.793 N	80° 41' 15.383 W	
7,230.00	87.900	353.50	6,762.40	647.41	52.25	331,665.2211	1,632,926.2638	39° 24' 16.233 N	80° 41' 15.451 W	
7,274.00	90.100	353.40	6,763.17	691.12	47.23	331,708.9245	1,632,921.2458	39° 24' 16.664 N	80° 41' 15.523 W	
7,318.00	90.200	353.50	6,763.06	734.83	42.21	331,752.6372	1,632,916.2267	39° 24' 17.096 N	80° 41' 15.594 W	
7,362.00	89.500	353.00	6,763.17	778.52	37.04	331,796.3316	1,632,911.0551	39° 24' 17.527 N	80° 41' 15.667 W	
7,407.00	89.700	353.00	6,763.49	823.19	31.56	331,840.9951	1,632,905.5712	39° 24' 17.968 N	80° 41' 15.745 W	
7,451.00	88.900	352.80	6,764.02	866.84	26.12	331,884.6541	1,632,900.1332	39° 24' 18.398 N	80° 41' 15.821 W	
7,496.00	89.200	353.00	6,764.77	911.49	20.56	331,929.3028	1,632,894.5719	39° 24' 18.839 N	80° 41' 15.900 W	
7,540.00	89.500	353.20	6,765.27	955.17	15.27	331,972.9812	1,632,889.2862	39° 24' 19.270 N	80° 41' 15.974 W	
7,585.00	88.300	352.90	6,766.13	999.83	9.83	332,017.6415	1,632,883.8422	39° 24' 19.710 N	80° 41' 16.051 W	
7,629.00	88.500	352.70	6,767.36	1,043.47	4.32	332,061.2775	1,632,878.3298	39° 24' 20.141 N	80° 41' 16.129 W	
7,674.00	88.600	353.30	6,768.50	1,088.12	-1.17	332,105.9275	1,632,872.8474	39° 24' 20.582 N	80° 41' 16.206 W	
7,718.00	88.600	353.70	6,769.58	1,131.82	-6.15	332,149.6316	1,632,867.8680	39° 24' 21.013 N	80° 41' 16.277 W	
7,762.00	88.100	352.20	6,770.84	1,175.47	-11.54	332,193.2794	1,632,862.4701	39° 24' 21.444 N	80° 41' 16.353 W	
7,807.00	88.100	352.30	6,772.33	1,220.03	-17.61	332,237.8439	1,632,856.4052	39° 24' 21.883 N	80° 41' 16.438 W	
7,851.00	88.500	352.20	6,773.64	1,263.61	-23.54	332,281.4227	1,632,850.4743	39° 24' 22.313 N	80° 41' 16.521 W	
7,895.00	89.100	352.80	6,774.56	1,307.23	-29.28	332,325.0363	1,632,844.7325	39° 24' 22.743 N	80° 41' 16.601 W	
7,931.00	89.500	353.04	6,775.00	1,342.95	-33.72	332,360.7590	1,632,840.2957	39° 24' 23.096 N	80° 41' 16.664 W	
7,940.00	89.600	353.10	6,775.07	1,351.88	-34.80	332,369.6930	1,632,839.2098	39° 24' 23.184 N	80° 41' 16.679 W	
7,984.00	89.700	351.80	6,775.34	1,395.50	-40.59	332,413.3098	1,632,833.4288	39° 24' 23.614 N	80° 41' 16.760 W	
8,029.00	89.700	351.90	6,775.58	1,440.05	-46.97	332,457.8547	1,632,827.0495	39° 24' 24.054 N	80° 41' 16.849 W	
8,073.00	88.900	350.80	6,776.11	1,483.54	-53.58	332,501.3499	1,632,820.4327	39° 24' 24.483 N	80° 41' 16.941 W	
8,117.00	89.200	351.10	6,776.84	1,526.99	-60.50	332,544.7961	1,632,813.5126	39° 24' 24.911 N	80° 41' 17.036 W	
8,161.00	88.200	350.80	6,777.84	1,570.43	-67.42	332,588.2366	1,632,806.5934	39° 24' 25.340 N	80° 41' 17.131 W	
8,206.00	88.800	350.80	6,779.02	1,614.83	-74.61	332,632.6423	1,632,799.4013	39° 24' 25.778 N	80° 41' 17.231 W	
8,250.00	88.600	349.70	6,780.02	1,658.19	-82.06	332,675.9949	1,632,791.9520	39° 24' 26.205 N	80° 41' 17.333 W	
8,295.00	89.500	349.80	6,780.76	1,702.46	-90.07	332,720.2702	1,632,783.9457	39° 24' 26.642 N	80° 41' 17.442 W	
8,339.00	89.500	349.90	6,781.15	1,745.77	-97.82	332,763.5800	1,632,776.1921	39° 24' 27.069 N	80° 41' 17.548 W	
8,374.00	88.180	348.58	6,781.86	1,780.15	-104.36	332,797.9560	1,632,769.6594	39° 24' 27.407 N	80° 41' 17.637 W	
8,384.00	87.800	348.20	6,782.21	1,789.94	-106.37	332,807.7454	1,632,767.6482	39° 24' 27.504 N	80° 41' 17.665 W	
8,428.00	86.400	347.00	6,784.43	1,832.85	-115.80	332,850.6621	1,632,758.2126	39° 24' 27.927 N	80° 41' 17.792 W	
8,473.00	86.500	347.30	6,787.22	1,876.64	-125.79	332,894.4509	1,632,748.2239	39° 24' 28.358 N	80° 41' 17.927 W	

Directional Drilling Contractors

Survey Report - Geographic



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

Local Co-ordinate Reference: Well Coffman 1HA
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
8,489.00	86.500	347.37	6,788.20	1,892.22	-129.29	332,910.0325	1,632,744.7224	39° 24' 28.512 N	80° 41' 17.974 W
8,517.00	86.500	347.50	6,789.91	1,919.50	-135.37	332,937.3109	1,632,738.6425	39° 24' 28.781 N	80° 41' 18.056 W
8,562.00	88.100	346.20	6,792.03	1,963.27	-145.60	332,981.0798	1,632,728.4165	39° 24' 29.212 N	80° 41' 18.194 W
8,606.00	88.500	345.70	6,793.33	2,005.94	-156.28	333,023.7445	1,632,717.7394	39° 24' 29.632 N	80° 41' 18.337 W
8,650.00	88.800	345.00	6,794.37	2,048.49	-167.40	333,066.3019	1,632,706.6144	39° 24' 30.051 N	80° 41' 18.486 W
8,695.00	88.700	345.00	6,795.35	2,091.95	-179.04	333,109.7582	1,632,694.9703	39° 24' 30.479 N	80° 41' 18.641 W
8,740.00	88.600	344.40	6,796.41	2,135.34	-190.92	333,153.1510	1,632,683.0994	39° 24' 30.907 N	80° 41' 18.800 W
8,784.00	89.500	343.60	6,797.14	2,177.63	-203.04	333,195.4399	1,632,670.9732	39° 24' 31.323 N	80° 41' 18.962 W
8,828.00	89.200	343.50	6,797.64	2,219.83	-215.50	333,237.6361	1,632,658.5141	39° 24' 31.738 N	80° 41' 19.127 W
8,873.00	89.200	343.10	6,798.27	2,262.92	-228.43	333,280.7339	1,632,645.5842	39° 24' 32.162 N	80° 41' 19.299 W
8,917.00	89.900	343.50	6,798.61	2,305.07	-241.07	333,322.8764	1,632,632.9408	39° 24' 32.577 N	80° 41' 19.468 W
8,962.00	90.000	342.80	6,798.65	2,348.13	-254.12	333,365.9441	1,632,619.8969	39° 24' 33.001 N	80° 41' 19.641 W
9,006.00	89.800	345.60	6,798.73	2,390.47	-266.10	333,408.2774	1,632,607.9178	39° 24' 33.418 N	80° 41' 19.801 W
9,050.00	90.100	345.20	6,798.77	2,433.05	-277.19	333,450.8565	1,632,596.8268	39° 24' 33.837 N	80° 41' 19.949 W
9,095.00	90.200	345.00	6,798.65	2,476.53	-288.76	333,494.3432	1,632,585.2558	39° 24' 34.266 N	80° 41' 20.104 W
9,139.00	90.100	346.40	6,798.53	2,519.17	-299.63	333,536.9787	1,632,574.3882	39° 24' 34.686 N	80° 41' 20.250 W
9,184.00	90.600	346.80	6,798.26	2,562.94	-310.05	333,580.7526	1,632,563.9598	39° 24' 35.117 N	80° 41' 20.390 W
9,229.00	91.000	347.00	6,797.63	2,606.77	-320.25	333,624.5771	1,632,553.7615	39° 24' 35.549 N	80° 41' 20.527 W
9,273.00	91.200	346.90	6,796.79	2,649.62	-330.19	333,667.4328	1,632,543.8281	39° 24' 35.971 N	80° 41' 20.661 W
9,318.00	90.000	346.40	6,796.31	2,693.40	-340.58	333,711.2135	1,632,533.4384	39° 24' 36.402 N	80° 41' 20.801 W
9,360.00	89.800	346.10	6,796.39	2,734.20	-350.56	333,752.0097	1,632,523.4556	39° 24' 36.804 N	80° 41' 20.935 W
9,404.00	89.700	347.30	6,796.58	2,777.02	-360.68	333,794.8284	1,632,513.3337	39° 24' 37.226 N	80° 41' 21.071 W
9,449.00	89.800	347.60	6,796.78	2,820.94	-370.46	333,838.7527	1,632,503.5557	39° 24' 37.659 N	80° 41' 21.203 W
9,493.00	89.800	347.20	6,796.93	2,863.88	-380.06	333,881.6927	1,632,493.9575	39° 24' 38.082 N	80° 41' 21.332 W
9,537.00	90.100	347.90	6,796.97	2,906.85	-389.54	333,924.6577	1,632,484.4717	39° 24' 38.505 N	80° 41' 21.461 W
9,582.00	90.200	347.60	6,796.85	2,950.82	-399.09	333,968.6329	1,632,474.9237	39° 24' 38.939 N	80° 41' 21.590 W
9,626.00	89.300	347.90	6,797.04	2,993.82	-408.43	334,011.6301	1,632,465.5881	39° 24' 39.362 N	80° 41' 21.716 W
9,670.00	89.400	348.20	6,797.54	3,036.86	-417.54	334,054.6738	1,632,456.4782	39° 24' 39.787 N	80° 41' 21.839 W
9,715.00	89.500	348.50	6,797.97	3,080.94	-426.62	334,098.7447	1,632,447.3916	39° 24' 40.221 N	80° 41' 21.962 W
9,759.00	89.700	348.30	6,798.28	3,124.04	-435.47	334,141.8449	1,632,438.5444	39° 24' 40.646 N	80° 41' 22.082 W
9,804.00	89.700	348.30	6,798.52	3,168.10	-444.60	334,185.9093	1,632,429.4191	39° 24' 41.080 N	80° 41' 22.206 W
9,848.00	89.700	348.30	6,798.75	3,211.19	-453.52	334,228.9945	1,632,420.4966	39° 24' 41.505 N	80° 41' 22.327 W
9,893.00	89.400	348.60	6,799.10	3,255.27	-462.53	334,273.0818	1,632,411.4868	39° 24' 41.939 N	80° 41' 22.449 W
9,937.00	89.200	348.70	6,799.64	3,298.41	-471.19	334,316.2181	1,632,402.8282	39° 24' 42.364 N	80° 41' 22.567 W
9,982.00	89.300	348.50	6,800.23	3,342.52	-480.08	334,360.3265	1,632,393.9344	39° 24' 42.799 N	80° 41' 22.688 W
10,026.00	88.800	349.00	6,800.96	3,385.67	-488.66	334,403.4748	1,632,385.3517	39° 24' 43.224 N	80° 41' 22.804 W
10,071.00	88.600	348.60	6,801.98	3,429.80	-497.40	334,447.6063	1,632,376.6134	39° 24' 43.660 N	80° 41' 22.923 W
10,115.00	88.800	348.20	6,802.97	3,472.89	-506.25	334,490.6965	1,632,367.7682	39° 24' 44.084 N	80° 41' 23.043 W
10,159.00	88.800	348.70	6,803.90	3,515.99	-515.05	334,533.7958	1,632,358.9604	39° 24' 44.509 N	80° 41' 23.162 W
10,204.00	89.100	348.80	6,804.72	3,560.11	-523.83	334,577.9237	1,632,350.1828	39° 24' 44.944 N	80° 41' 23.282 W
10,249.00	89.000	348.60	6,805.47	3,604.24	-532.65	334,622.0452	1,632,341.3665	39° 24' 45.379 N	80° 41' 23.401 W
10,293.00	89.100	349.00	6,806.20	3,647.39	-541.19	334,665.2012	1,632,332.8213	39° 24' 45.804 N	80° 41' 23.518 W
10,337.00	89.600	349.30	6,806.70	3,690.60	-549.48	334,708.4117	1,632,324.5394	39° 24' 46.230 N	80° 41' 23.630 W
10,382.00	90.100	349.30	6,806.81	3,734.82	-557.83	334,752.6290	1,632,316.1845	39° 24' 46.666 N	80° 41' 23.744 W
10,426.00	89.500	346.50	6,806.97	3,777.84	-567.05	334,795.6467	1,632,306.9623	39° 24' 47.090 N	80° 41' 23.869 W
10,468.00	89.800	346.40	6,807.22	3,818.67	-576.89	334,836.4768	1,632,297.1222	39° 24' 47.492 N	80° 41' 24.001 W
10,513.00	90.100	347.10	6,807.26	3,862.47	-587.21	334,880.2786	1,632,286.8082	39° 24' 47.924 N	80° 41' 24.140 W
10,557.00	90.200	347.20	6,807.15	3,905.37	-596.99	334,923.1765	1,632,277.0227	39° 24' 48.347 N	80° 41' 24.272 W
10,601.00	90.600	347.20	6,806.84	3,948.27	-606.74	334,966.0819	1,632,267.2748	39° 24' 48.769 N	80° 41' 24.404 W
10,646.00	91.000	347.10	6,806.21	3,992.14	-616.75	335,009.9505	1,632,257.2678	39° 24' 49.202 N	80° 41' 24.538 W
10,690.00	90.000	346.80	6,805.83	4,035.00	-626.68	335,052.8119	1,632,247.3331	39° 24' 49.624 N	80° 41' 24.672 W
10,734.00	90.100	346.90	6,805.79	4,077.85	-636.69	335,095.6581	1,632,237.3230	39° 24' 50.046 N	80° 41' 24.807 W
10,779.00	89.000	345.80	6,806.14	4,121.58	-647.31	335,139.3845	1,632,226.7042	39° 24' 50.477 N	80° 41' 24.950 W
10,823.00	89.000	345.70	6,806.91	4,164.21	-658.14	335,182.0241	1,632,215.8751	39° 24' 50.897 N	80° 41' 25.095 W
10,867.00	89.700	346.50	6,807.41	4,206.92	-668.71	335,224.7323	1,632,205.3059	39° 24' 51.317 N	80° 41' 25.237 W

Directional Drilling Contractors

Survey Report - Geographic



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

Local Co-ordinate Reference: Well Coffman 1HA
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
10,911.00	90.200	346.80	6,807.45	4,249.73	-678.87	335,267.5431	1,632,195.1464	39° 24' 51.739 N	80° 41' 25.373 W
10,956.00	90.100	346.50	6,807.33	4,293.52	-689.26	335,311.3269	1,632,184.7560	39° 24' 52.171 N	80° 41' 25.513 W
11,000.00	90.600	347.10	6,807.06	4,336.35	-699.31	335,354.1632	1,632,174.7088	39° 24' 52.593 N	80° 41' 25.648 W
11,045.00	90.800	347.00	6,806.51	4,380.21	-709.39	335,398.0154	1,632,164.6250	39° 24' 53.025 N	80° 41' 25.784 W
11,087.00	90.200	346.70	6,806.15	4,421.10	-718.94	335,438.9123	1,632,155.0704	39° 24' 53.428 N	80° 41' 25.913 W
11,131.00	90.200	346.50	6,805.99	4,463.90	-729.14	335,481.7141	1,632,144.8736	39° 24' 53.849 N	80° 41' 26.050 W
11,174.00	90.100	345.70	6,805.88	4,505.65	-739.47	335,523.4545	1,632,134.5439	39° 24' 54.260 N	80° 41' 26.189 W
11,218.00	89.900	345.70	6,805.88	4,548.28	-750.34	335,566.0911	1,632,123.6759	39° 24' 54.680 N	80° 41' 26.334 W
11,263.00	90.400	345.60	6,805.76	4,591.88	-761.49	335,609.6868	1,632,112.5230	39° 24' 55.110 N	80° 41' 26.484 W
11,307.00	90.500	345.10	6,805.42	4,634.45	-772.62	335,652.2549	1,632,101.3952	39° 24' 55.529 N	80° 41' 26.633 W
11,352.00	90.700	345.40	6,804.94	4,677.96	-784.08	335,695.7695	1,632,089.9387	39° 24' 55.958 N	80° 41' 26.786 W
11,397.00	91.200	345.50	6,804.20	4,721.51	-795.38	335,739.3202	1,632,078.6352	39° 24' 56.386 N	80° 41' 26.938 W
11,441.00	89.600	345.00	6,803.89	4,764.06	-806.58	335,781.8676	1,632,067.4334	39° 24' 56.806 N	80° 41' 27.087 W
11,485.00	89.800	345.00	6,804.12	4,806.56	-817.97	335,824.3678	1,632,056.0455	39° 24' 57.224 N	80° 41' 27.240 W
11,529.00	90.000	345.20	6,804.20	4,849.08	-829.28	335,866.8882	1,632,044.7317	39° 24' 57.643 N	80° 41' 27.391 W
11,574.00	89.100	345.70	6,804.55	4,892.63	-840.59	335,910.4431	1,632,033.4270	39° 24' 58.072 N	80° 41' 27.542 W
11,618.00	89.100	345.60	6,805.24	4,935.26	-851.49	335,953.0650	1,632,022.5232	39° 24' 58.492 N	80° 41' 27.689 W
11,661.00	89.400	345.70	6,805.81	4,976.91	-862.15	335,994.7198	1,632,011.8668	39° 24' 58.902 N	80° 41' 27.831 W
11,706.00	89.800	346.20	6,806.12	5,020.56	-873.07	336,038.3723	1,632,000.9426	39° 24' 59.332 N	80° 41' 27.978 W
11,750.00	90.000	346.20	6,806.20	5,063.29	-883.57	336,081.1021	1,631,990.4471	39° 24' 59.753 N	80° 41' 28.119 W
11,794.00	90.200	346.10	6,806.12	5,106.01	-894.10	336,123.8227	1,631,979.9144	39° 25' 0.174 N	80° 41' 28.260 W
11,839.00	89.800	346.90	6,806.12	5,149.77	-904.61	336,167.5789	1,631,969.4095	39° 25' 0.605 N	80° 41' 28.402 W
11,883.00	89.600	346.50	6,806.35	5,192.59	-914.73	336,210.3981	1,631,959.2874	39° 25' 1.027 N	80° 41' 28.538 W
11,927.00	89.800	346.50	6,806.58	5,235.37	-925.00	336,253.1818	1,631,949.0160	39° 25' 1.448 N	80° 41' 28.676 W
11,972.00	90.500	345.90	6,806.46	5,279.07	-935.73	336,296.8822	1,631,938.2821	39° 25' 1.878 N	80° 41' 28.820 W
12,016.00	90.400	345.90	6,806.12	5,321.75	-946.45	336,339.5553	1,631,927.5634	39° 25' 2.299 N	80° 41' 28.964 W
12,060.00	90.500	345.70	6,805.77	5,364.40	-957.24	336,382.2095	1,631,916.7702	39° 25' 2.719 N	80° 41' 29.109 W
12,103.00	90.000	346.90	6,805.58	5,406.18	-967.43	336,423.9848	1,631,906.5865	39° 25' 3.130 N	80° 41' 29.245 W
12,145.00	90.400	347.00	6,805.44	5,447.09	-976.91	336,464.8998	1,631,897.1029	39° 25' 3.534 N	80° 41' 29.373 W
12,189.00	89.000	347.70	6,805.67	5,490.02	-986.55	336,507.8298	1,631,887.4676	39° 25' 3.957 N	80° 41' 29.503 W
12,234.00	87.700	348.00	6,806.96	5,533.99	-996.01	336,551.8026	1,631,878.0005	39° 25' 4.390 N	80° 41' 29.631 W
12,278.00	87.900	347.70	6,808.65	5,576.98	-1,005.27	336,594.7852	1,631,868.7465	39° 25' 4.814 N	80° 41' 29.756 W
12,323.00	88.400	349.40	6,810.11	5,621.06	-1,014.20	336,638.8649	1,631,859.8186	39° 25' 5.248 N	80° 41' 29.878 W
12,367.00	90.100	349.50	6,810.68	5,664.31	-1,022.25	336,682.1158	1,631,851.7634	39° 25' 5.674 N	80° 41' 29.988 W
12,411.00	91.800	349.90	6,809.95	5,707.59	-1,030.12	336,725.3991	1,631,843.8975	39° 25' 6.101 N	80° 41' 30.095 W
12,456.00	92.200	349.70	6,808.38	5,751.85	-1,038.08	336,769.6608	1,631,835.9336	39° 25' 6.538 N	80° 41' 30.204 W
12,498.00	91.700	349.00	6,806.95	5,793.10	-1,045.84	336,810.9130	1,631,828.1761	39° 25' 6.944 N	80° 41' 30.310 W
12,543.00	90.500	349.20	6,806.09	5,837.28	-1,054.35	336,855.0922	1,631,819.6686	39° 25' 7.380 N	80° 41' 30.426 W
12,587.00	90.700	348.80	6,805.63	5,880.47	-1,062.74	336,898.2813	1,631,811.2734	39° 25' 7.805 N	80° 41' 30.540 W
12,620.00	90.930	348.65	6,805.16	5,912.83	-1,069.19	336,930.6411	1,631,804.8220	39° 25' 8.124 N	80° 41' 30.628 W
12,631.00	91.000	348.60	6,804.97	5,923.61	-1,071.36	336,941.4235	1,631,802.6528	39° 25' 8.231 N	80° 41' 30.657 W
12,676.00	90.700	348.10	6,804.31	5,967.68	-1,080.45	336,985.4915	1,631,793.5669	39° 25' 8.665 N	80° 41' 30.780 W
12,720.00	90.100	347.30	6,804.00	6,010.67	-1,089.82	337,028.4799	1,631,784.1938	39° 25' 9.089 N	80° 41' 30.907 W
12,765.00	90.100	347.40	6,803.92	6,054.58	-1,099.68	337,072.3875	1,631,774.3391	39° 25' 9.521 N	80° 41' 31.040 W
12,810.00	90.300	347.10	6,803.76	6,098.47	-1,109.61	337,116.2775	1,631,764.4078	39° 25' 9.954 N	80° 41' 31.174 W
12,854.00	90.300	347.10	6,803.53	6,141.36	-1,119.43	337,159.1664	1,631,754.5849	39° 25' 10.376 N	80° 41' 31.306 W
12,899.00	90.600	347.10	6,803.18	6,185.22	-1,129.48	337,203.0293	1,631,744.5390	39° 25' 10.809 N	80° 41' 31.442 W
12,943.00	91.100	346.90	6,802.53	6,228.09	-1,139.37	337,245.8967	1,631,734.6423	39° 25' 11.231 N	80° 41' 31.575 W
12,987.00	90.100	347.10	6,802.07	6,270.96	-1,149.27	337,288.7661	1,631,724.7451	39° 25' 11.653 N	80° 41' 31.709 W
13,032.00	90.000	347.10	6,802.03	6,314.82	-1,159.32	337,332.6303	1,631,714.6989	39° 25' 12.085 N	80° 41' 31.844 W
13,076.00	90.200	347.70	6,801.95	6,357.76	-1,168.91	337,375.5704	1,631,705.1006	39° 25' 12.509 N	80° 41' 31.974 W
13,120.00	90.200	347.70	6,801.80	6,400.75	-1,178.29	337,418.5601	1,631,695.7273	39° 25' 12.932 N	80° 41' 32.100 W
13,166.00	90.200	347.70	6,801.64	6,445.69	-1,188.09	337,463.5039	1,631,685.9280	39° 25' 13.375 N	80° 41' 32.233 W

Projection to bit 13166.00 MD, 90.200 INC, 347.70 AZI, 6801.64 TVD

Directional Drilling Contractors
Survey Report - Geographic



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

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
13,166.00	6,801.64	6,445.69	-1,188.09	Projection to bit 13166.00 MD, 90.200 INC, 347.70 AZI, 6801.64 TVD

Checked By: _____	Approved By: _____	Date: _____
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