

Quintana Energy Services

11390 FM 830
Willis, TX 77318
Phone: (936) 856-4332
Fax: (936) 856-8678



Survey Certification Sheet

Company	Job Number	Date
Jay- Bee Oil& Gas	AM-180075	4/23/2018

Lease	Well Name	County & State
N/A	Dopey #6	Tyler County, West Virginia

API No.	Survey Depth Range	Survey Type
47-095-02240	368 feet to 14920 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
Click here to enter text.	Steve Spicer

Certification Statement

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Quintana Energy Services (QES). This report represents a true and correct directional survey of this well based on the original data obtained at the well site. Wellbore coordinates are calculated using minimum curvature.

Christopher Hughes

Digitally signed by Christopher Hughes
DN: cn=Christopher Hughes, o=QES,
ou=compliance, email=chrish@qeslp.com, c=US
Date: 2018.04.24 13:17:30 -05'00'

Christopher Hughes
MWD Compliance Manager
Quintana Energy Services

RECEIVED
Office of Oil and Gas

JUN 03 2019

WV Department of
Environmental Protection



QES Survey Certification Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well Dopey 6
Project:	Tyler County	TVD Reference:	well @ 931.3usft (Normac #81)
Site:	Dopey Pad	MD Reference:	well @ 931.3usft (Normac #81)
Well:	Dopey 6	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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

Site	Dopey Pad				
Site Position:		Northing:	344,194.77 usft	Latitude:	39° 26' 16.836 N
From:	Lat/Long	Easting:	1,609,090.36 usft	Longitude:	80° 46' 21.360 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	-0.81 °

Well	Dopey 6				
Well Position	+N/-S	0.0 usft	344,303.30 usft	Latitude:	39° 26' 17.920 N
	+E/-W	0.0 usft	1,609,170.03 usft	Longitude:	80° 46' 20.364 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	910.7 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/14/2018	-8.59	66.64	51,939.48971022

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.0	0.0	0.0	326.99

Survey Program	From (usft)	To (usft)	Survey (Wellbore)	Date	1/27/2018
	50.0	368.0	Gyro (Wellbore #1)		
	420.0	14,920.0	QES MWD Surveys (Wellbore #1)		

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
	368.0		143.15	368.0	-0.1	4.6	4.6	91.12
	Gyro Tie-In @ 368.0' MD / 368.0' TVD							
	420.0	1.09	163.23	419.9	-0.8	4.9	5.0 RECEIVED	99.44
	467.0	0.76	174.66	466.9	-1.6	5.1	Office of Oil and Gas	97.01
	514.0	0.64	288.02	513.9	-1.8	4.9	5.2	110.15
	561.0	1.84	312.45	560.9	-1.2	4.1	4.2	106.41
	609.0	3.40	322.40	608.9	0.4	2.6	2.6	80.30
	656.0	4.96	327.67	655.7	3.3	0.7	0.7	12.00
	704.0	5.42	322.06	703.6	6.8	-1.8	Environmental Protection	1.13
	751.0	5.41	332.06	750.3	10.5	-4.2	11.3	338.18
	799.0	5.40	328.56	798.1	14.4	-6.4	15.8	335.94



QES Survey Certification Report



Company: Jay-Bee Oil & Gas
Project: Tyler County
Site: Dopey Pad
Well: Dopey 6
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference:
TVD Reference: well @ 931.3usft (Nomac #81)
MD Reference: well @ 931.3usft (Nomac #81)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Well Dopey 6
 well @ 931.3usft (Nomac #81)
 well @ 931.3usft (Nomac #81)
 Grid
 Minimum Curvature
 EDM 5000.1 Single User Db

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
	846.0	5.65	315.94	844.9	18.0	-9.2	20.2	332.89
	893.0	5.40	319.21	891.7	21.3	-12.3	24.6	330.10
	940.0	5.36	321.06	938.5	24.7	-15.1	29.0	328.59
	988.0	5.06	321.22	986.3	28.1	-17.8	33.3	327.62
	1,083.0	5.33	325.05	1,080.9	35.0	-23.0	41.9	326.71
	1,177.0	5.96	322.70	1,174.4	42.5	-28.4	51.1	326.18
	1,272.0	5.93	319.52	1,268.9	50.1	-34.6	60.9	325.37
	1,367.0	3.89	315.21	1,363.6	56.1	-40.1	69.0	324.48
	1,462.0	1.50	302.22	1,458.5	59.1	-43.4	73.3	323.71
	1,557.0	0.42	237.69	1,553.5	59.6	-44.7	74.5	323.09
	1,651.0	0.51	156.17	1,647.5	59.0	-44.9	74.1	322.75
	1,746.0	0.76	133.80	1,742.4	58.2	-44.2	73.1	322.75
	1,841.0	0.66	325.30	1,837.4	58.2	-44.1	73.0	322.84
	1,936.0	0.70	336.05	1,932.4	59.2	-44.6	74.1	322.97
	2,031.0	0.90	10.21	2,027.4	60.4	-44.7	75.2	323.48
	2,127.0	0.89	41.39	2,123.4	61.7	-44.1	75.9	324.45
	2,225.0	1.45	199.10	2,221.4	61.1	-44.0	75.3	324.24
	2,320.0	0.39	138.28	2,316.4	59.7	-44.2	74.3	323.51
	2,414.0	0.29	85.19	2,410.4	59.5	-43.7	73.9	323.69
	2,509.0	0.84	66.51	2,505.4	59.8	-42.9	73.6	324.38
	2,604.0	0.81	61.03	2,600.4	60.4	-41.6	73.4	325.43
	2,699.0	0.24	157.62	2,695.4	60.6	-41.0	73.1	325.92
	2,793.0	0.18	195.32	2,789.4	60.2	-40.9	72.8	325.80
	2,888.0	0.23	199.32	2,884.4	59.9	-41.0	72.6	325.59
	2,983.0	0.42	222.56	2,979.4	59.5	-41.3	72.4	325.20
	3,077.0	0.36	260.61	3,073.4	59.2	-41.9	72.5	324.73
	3,171.0	0.37	280.75	3,167.4	59.2	-42.5	72.8	324.35
	3,266.0	0.45	290.13	3,262.4	59.4	-43.1	73.4	324.02
	3,361.0	0.74	260.21	3,357.4	59.4	-44.1	74.0	323.43
	3,456.0	0.98	0.39	3,452.4	60.1	-44.7	74.9	323.39
	3,551.0	0.97	1.70	3,547.3	61.7	-44.6	76.2	324.13
	3,646.0	0.45	302.80	3,642.3	62.7	-44.9	77.2	324.39
	3,740.0	0.36	264.41	3,736.3	62.9	-45.5	77.6	324.11
	3,835.0	1.06	96.46	3,831.3	62.8	-44.9	77.2	324.40
	3,929.0	1.19	86.10	3,925.3	62.7	-43.1	76.1	325.51
	4,023.0	0.28	356.42	4,019.3	63.0	-42.2	76.1	326.23
	4,118.0	0.68	9.25	4,114.3	63.8	-42.1	76.1	326.61
	4,212.0	0.79	18.33	4,208.3	65.0	-41.8	77.3	327.26
	4,310.0	0.19	314.93	4,306.3	65.7	-41.7	77.3	327.63
	4,405.0	0.29	6.68	4,401.3	66.1	-41.8	78.2	327.71
	4,499.0	0.22	16.17	4,495.3	66.5	-41.7	78.2	327.92
	4,593.0	0.55	52.36	4,589.3	67.0	-41.3	78.2	328.34
	4,688.0	0.71	38.05	4,684.3	67.7	-40.6	78.9	329.07
	4,783.0	0.87	23.55	4,779.3	68.8	-39.9	79.6	329.89

RECEIVED
 Office of Oil and Gas
 JUN 08 2019
 WV Department of Environmental Protection



QES Survey Certification Report



Company: Jay-Bee Oil & Gas
Project: Tyler County
Site: Dopey Pad
Well: Dopey 6
Wellbore #1: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dopey 6
TVD Reference: well @ 931.3usft (Nomac #81)
MD Reference: well @ 931.3usft (Nomac #81)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
4,878.0	4.38	331.10	4,874.2	72.7	-41.4	83.6	330.34
4,973.0	8.12	326.35	4,968.6	81.4	-46.8	93.9	330.09
5,067.0	10.18	324.25	5,061.4	93.7	-55.4	108.8	329.41
5,162.0	11.89	325.93	5,154.6	108.6	-65.8	127.0	328.81
5,257.0	14.48	321.92	5,247.1	126.1	-78.6	148.6	328.07
5,352.0	16.83	318.40	5,338.6	145.7	-95.0	174.0	326.89
5,446.0	17.05	314.22	5,428.5	165.5	-113.9	200.9	325.45
5,541.0	18.04	312.57	5,519.1	185.2	-134.8	229.0	323.95
5,636.0	19.97	311.02	5,608.9	205.8	-157.8	259.3	322.51
5,731.0	20.39	314.26	5,698.1	228.0	-181.9	291.7	321.41
5,826.0	19.64	312.31	5,787.3	250.3	-205.6	323.9	320.60
5,920.0	21.51	316.62	5,875.3	273.4	-228.1	356.7	320.04
6,015.0	22.34	314.28	5,963.5	298.7	-254.0	392.1	319.62
6,103.0	23.00	315.30	6,044.7	322.6	-278.1	425.9	319.24
6,150.0	23.00	313.70	6,087.9	335.5	-291.2	444.2	319.04
6,197.0	26.30	315.10	6,130.7	349.2	-305.2	463.7	318.85
6,244.0	32.60	313.50	6,171.6	365.3	-321.7	486.8	318.63
6,292.0	33.90	312.80	6,211.7	383.3	-340.9	513.0	318.35
6,339.0	35.40	315.10	6,250.4	401.8	-360.1	539.6	318.13
6,387.0	37.50	322.40	6,289.0	423.3	-378.9	568.1	318.17
6,434.0	41.00	324.40	6,325.4	447.1	-396.6	597.7	318.43
6,482.0	43.00	323.00	6,361.1	473.0	-415.6	629.7	318.70
6,529.0	46.50	321.70	6,394.4	499.2	-435.8	662.7	318.88
6,576.0	48.60	324.40	6,426.2	526.9	-456.7	697.3	319.09
6,623.0	50.10	325.00	6,456.8	556.0	-477.3	732.8	319.36
6,671.0	52.40	323.60	6,486.8	586.4	-499.1	770.1	319.60
6,718.0	56.00	322.60	6,514.3	616.9	-522.0	808.1	319.76
6,766.0	59.10	322.90	6,540.1	649.1	-546.5	848.6	319.91
6,813.0	62.00	325.40	6,563.2	682.3	-570.5	889.4	320.10
6,861.0	64.70	325.10	6,584.7	717.6	-594.9	932.1	320.34
6,908.0	69.50	325.90	6,603.0	753.2	-619.4	975.2	320.57
6,956.0	76.20	327.60	6,617.1	791.6	-644.5	1,020.8	320.85
7,003.0	81.20	328.50	6,626.3	830.7	-668.9	1,066.5	321.16
7,050.0	84.00	329.20	6,632.4	870.5	-693.0	1,112.7	321.48
7,097.0	85.10	329.40	6,636.8	910.8	-716.9	1,159.1	321.79
7,145.0	85.20	329.70	6,640.9	952.0	-741.2	1,206.5	322.10
7,239.0	88.00	326.80	6,646.5	1,031.8	-790.5	1,294.5	322.54
7,334.0	88.40	325.70	6,649.5	1,110.7	-843.3	1,384.5	322.79
7,429.0	89.30	325.60	6,651.4	1,189.1	-896.9	1,489.4	322.98
7,523.0	91.90	327.60	6,650.4	1,267.6	-948.6	1,598.9	323.19
7,618.0	91.30	327.90	6,647.7	1,347.9	-999.3	1,677.9	323.45
7,713.0	92.10	327.30	6,644.9	1,428.1	-1,050.2	1,777.7	323.67
7,807.0	90.20	328.30	6,643.0	1,507.6	-1,100.2	1,877.7	323.98
7,902.0	90.60	328.90	6,642.4	1,588.7	-1,149.7	1,981.1	324.11



QES Survey Certification Report



Company:

Jay-Bee Oil & Gas
Tyler County
Dopey Pad
Dopey 6
Wellbore #1
Wellbore #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Dopey 6

well @ 931.3usft (Normac #81)
well @ 931.3usft (Normac #81)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
7,997.0	90.60	331.70	6,641.4	1,671.2	-1,196.8	2,055.5	324.39
8,092.0	89.10	328.20	6,641.6	1,753.4	-1,244.4	2,150.1	324.64
8,187.0	89.80	329.90	6,642.5	1,834.9	-1,293.2	2,244.8	324.82
8,282.0	89.30	329.50	6,643.3	1,916.9	-1,341.1	2,339.5	325.02
8,377.0	89.80	330.20	6,644.0	1,999.1	-1,388.9	2,434.2	325.21
8,472.0	89.70	325.70	6,644.4	2,079.6	-1,439.2	2,529.0	325.31
8,567.0	90.90	327.80	6,643.9	2,159.0	-1,491.3	2,624.0	325.37
8,662.0	89.90	329.50	6,643.3	2,240.1	-1,540.8	2,718.8	325.48
8,756.0	89.60	325.60	6,643.7	2,319.4	-1,591.2	2,812.8	325.55
8,851.0	90.30	325.90	6,643.8	2,398.0	-1,644.6	2,907.8	325.56
8,946.0	90.90	326.40	6,642.8	2,476.8	-1,697.6	3,002.7	325.57
9,040.0	90.90	324.40	6,641.3	2,554.2	-1,750.9	3,096.7	325.57
9,135.0	91.00	327.70	6,639.7	2,633.0	-1,804.0	3,191.7	325.58
9,229.0	90.00	326.10	6,638.9	2,711.7	-1,855.3	3,285.7	325.62
9,324.0	89.90	329.20	6,639.0	2,792.0	-1,906.1	3,380.6	325.68
9,419.0	89.90	326.70	6,639.1	2,872.5	-1,956.5	3,475.5	325.74
9,514.0	90.20	329.50	6,639.1	2,953.1	-2,006.7	3,570.4	325.80
9,609.0	90.70	328.20	6,638.3	3,034.4	-2,055.9	3,665.3	325.88
9,703.0	90.20	328.50	6,637.6	3,114.4	-2,105.2	3,759.2	325.94
9,798.0	89.70	330.20	6,637.7	3,196.2	-2,153.6	3,854.0	326.03
9,893.0	89.80	327.20	6,638.1	3,277.3	-2,203.0	3,948.9	326.09
9,987.0	90.70	329.50	6,637.7	3,357.3	-2,252.3	4,042.8	326.14
10,028.0	90.20	331.80	6,637.3	3,393.1	-2,272.4	4,083.7	326.19
10,177.0	90.50	331.00	6,636.4	3,523.9	-2,343.7	4,232.1	326.37
10,271.0	89.10	328.50	6,636.8	3,605.1	-2,391.1	4,325.9	326.45
10,366.0	89.10	328.40	6,638.3	3,686.0	-2,440.8	4,420.9	326.49
10,460.0	90.10	328.10	6,638.9	3,766.0	-2,490.2	4,514.8	326.53
10,555.0	91.00	328.10	6,638.0	3,846.6	-2,540.4	4,609.8	326.56
10,650.0	89.30	326.20	6,637.8	3,926.4	-2,591.9	4,704.8	326.57
10,745.0	90.20	326.40	6,638.2	4,005.5	-2,644.7	4,799.8	326.56
10,840.0	90.00	326.80	6,638.0	4,084.8	-2,697.0	4,894.8	326.57
10,934.0	91.10	326.60	6,637.1	4,163.3	-2,748.6	4,988.8	326.57
11,029.0	89.00	327.10	6,637.0	4,242.9	-2,800.5	5,083.8	326.57
11,124.0	89.50	327.10	6,638.3	4,322.6	-2,852.1	5,178.7	326.58
11,219.0	89.50	325.40	6,639.1	4,401.6	-2,904.9	5,273.7	326.58
11,314.0	89.80	323.70	6,639.7	4,479.0	-2,960.0	5,368.7	326.54
11,409.0	91.10	328.80	6,638.9	4,557.9	-3,012.7	5,463.6	326.54
11,504.0	90.30	331.70	6,637.8	4,640.4	-3,059.9	5,558.6	326.60
11,598.0	91.30	332.40	6,636.4	4,723.4	-3,103.9	5,653.6	326.69
11,693.0	90.90	330.30	6,634.6	4,806.8	-3,149.5	5,748.7	326.77
11,788.0	88.20	326.40	6,635.4	4,887.6	-3,199.3	5,843.7	326.79
11,882.0	89.80	330.30	6,637.0	4,967.6	-3,248.6	5,938.5	326.82
11,976.0	89.20	324.10	6,637.8	5,046.6	-3,299.5	6,033.5	326.82
12,071.0	89.80	323.70	6,638.7	5,123.3	-3,355.5	6,128.5	326.78

RECEIVED
Office of Oil and Gas
JAN 03 2019
Department of Environmental Protection



QES Survey Certification Report



Company: Jay-Bee Oil & Gas
Project: Tyler County
Site: Dopey Pad
Well: Dopey 6
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference:
TVD Reference: Well Dopey 6
MD Reference: well @ 931.3usft (Nomac #81)
North Reference: well @ 931.3usft (Nomac #81)
Survey Calculation Method: Grid
Database: Minimum Curvature
 EDM 5000.1 Single User Db

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	Closure Distance (usft)	Closure Azimuth (°)
12,166.0	91.90	331.00	6,637.3	5,203.3	-3,406.7	6,219.3	326.79
12,261.0	89.80	328.50	6,635.8	5,285.3	-3,454.5	6,314.1	326.83
12,356.0	90.10	328.60	6,635.9	5,366.3	-3,504.1	6,409.1	326.86
12,451.0	91.60	331.00	6,634.5	5,448.4	-3,551.9	6,503.9	326.90
12,546.0	90.70	329.50	6,632.6	5,530.9	-3,599.0	6,598.7	326.95
12,641.0	90.20	326.50	6,631.9	5,611.4	-3,649.3	6,693.7	326.96
12,736.0	91.30	326.30	6,630.6	5,690.6	-3,701.9	6,788.7	326.95
12,831.0	92.00	325.20	6,627.9	5,769.1	-3,755.3	6,883.6	326.94
12,925.0	91.30	325.10	6,625.2	5,846.2	-3,809.0	6,977.6	326.91
13,020.0	92.50	324.40	6,622.0	5,923.7	-3,863.8	7,072.4	326.89
13,115.0	92.00	328.70	6,618.3	6,002.9	-3,916.1	7,167.3	326.88
13,210.0	89.90	330.10	6,616.7	6,084.6	-3,964.5	7,262.2	326.91
13,304.0	90.00	327.40	6,616.8	6,165.0	-4,013.2	7,356.2	326.94
13,399.0	91.00	328.40	6,616.0	6,245.5	-4,063.7	7,451.2	326.95
13,494.0	90.10	327.50	6,615.1	6,326.0	-4,114.1	7,546.1	326.96
13,589.0	90.40	328.20	6,614.6	6,406.4	-4,164.7	7,641.1	326.97
13,684.0	90.10	327.30	6,614.2	6,486.8	-4,215.4	7,736.1	326.98
13,779.0	89.80	324.70	6,614.3	6,565.5	-4,268.5	7,831.1	326.97
13,874.0	89.00	324.20	6,615.3	6,642.8	-4,323.7	7,926.0	326.94
13,969.0	88.80	321.50	6,617.1	6,718.5	-4,381.1	8,020.7	326.89
14,064.0	88.20	326.00	6,619.6	6,795.1	-4,437.2	8,115.5	326.86
14,159.0	89.90	328.80	6,621.2	6,875.1	-4,488.4	8,210.5	326.86
14,253.0	89.30	326.60	6,621.9	6,954.5	-4,538.6	8,304.5	326.87
14,348.0	90.80	326.90	6,621.8	7,034.0	-4,590.7	8,399.5	326.87
14,443.0	91.40	326.70	6,619.9	7,113.4	-4,642.7	8,494.5	326.87
14,538.0	91.60	327.30	6,617.5	7,193.1	-4,694.4	8,589.4	326.87
14,633.0	92.10	327.10	6,614.4	7,272.9	-4,745.9	8,684.4	326.87
14,728.0	90.20	326.00	6,612.5	7,352.1	-4,798.2	8,779.3	326.87
14,823.0	90.90	326.40	6,611.6	7,431.1	-4,851.1	8,874.3	326.86
14,868.0	91.30	327.20	6,610.7	7,468.7	-4,875.7	8,919.3	326.86
14,920.0	91.30	327.20	6,609.5	7,512.4	-4,903.9	8,971.3	326.86
TD @ 14920.0' MD / 6609.5' TVD							

Design Annotations	Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
	368.0	368.0	-0.1	4.6	Gyro Tie-In @ 368.0' MD / 368.0' TVD
	14,920.0	6,609.5	7,512.4	-4,903.9	TD @ 14920.0' MD / 6609.5' TVD
RECEIVED					
Office of Oil and Gas					

JUN 03 2019

WV Department of Environmental Protection