

Company Name: Jay-Bee Oil & Gas
 Dopey 5
 Tyler County
 Rig: Nomac #81
 Created By: WJB Jrcik
 Date: 1/14/2018

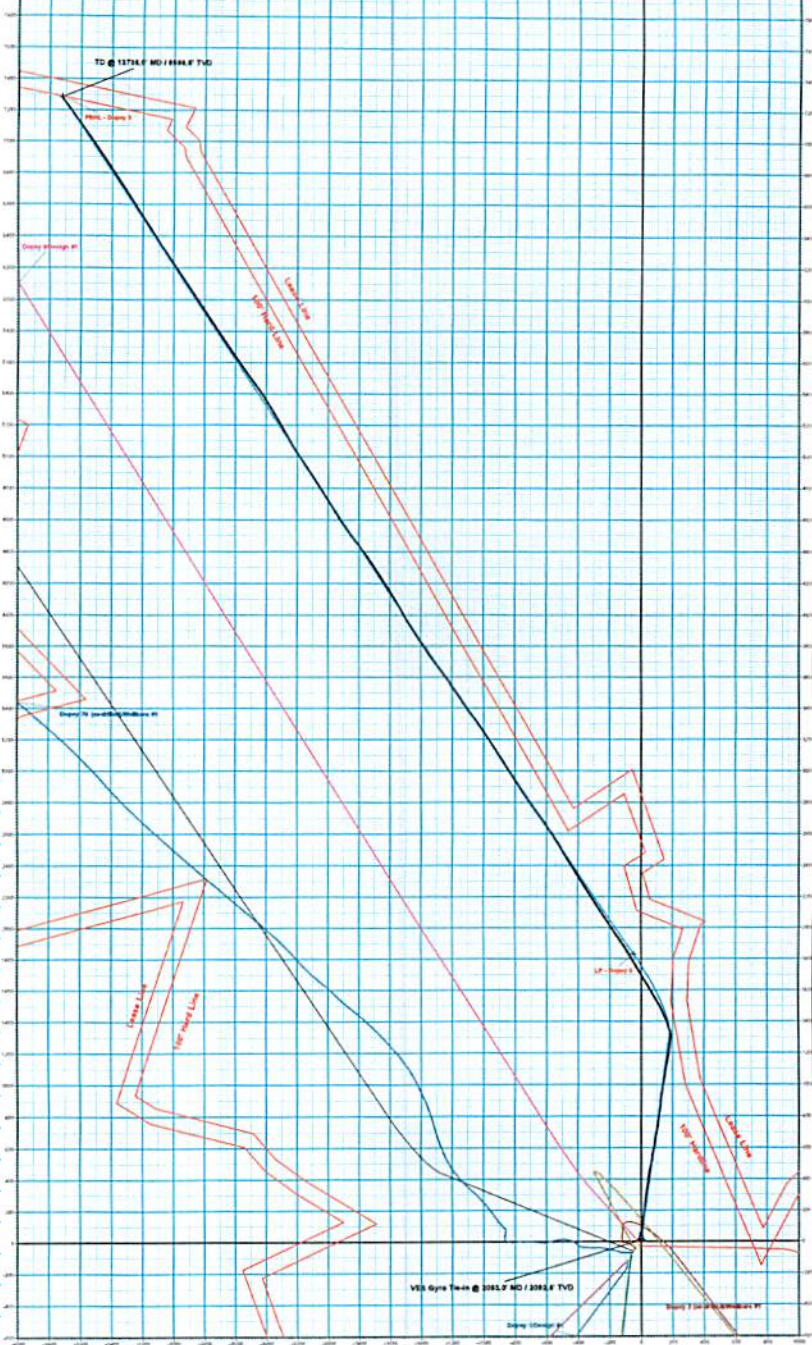
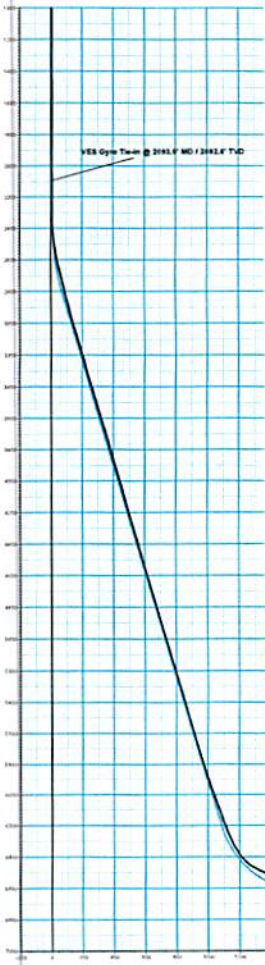
Dopey 5
 Tyler County
 Q180002 & AM-180002
 Design #1

PROJECT DETAILS: Tyler County
 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: Section 1
 Well # 8.8
 Section 1
 Section Level: 916.7
 Section Ending: 98972.84
 Latitude: 39° 29' 16.00" N
 Longitude: 81° 47' 25.00" W



Azimuth to Grid North: True North: 0.81°
 Magnetic North: -7.75°
 Magnetic Field Strength: 51943.3enT
 Dip Angle: 66.65°
 Date: 1/2/2018
 Model: IGRF2015



SECTION DETAILS

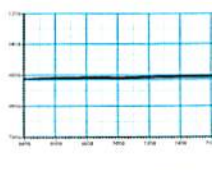
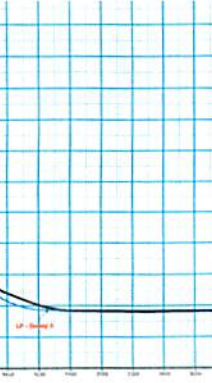
Sec	MD	Inc	Asl	TVD	+N-S	+E-W	Dip	TFace	VFace	Target	
1	5.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		Build # / 100'
2	805.0	0.00	0.00	805.0	0.0	0.0	0.00	0.00	0.0		EOB @ 5' Inc. / 15' Azm / Drop # / 100'
3	825.0	0.00	18.00	824.8	0.3	1.4	4.80	18.00	4.0		EOB @ Vertical
4	785.0	0.00	0.00	784.7	15.3	2.9	4.80	180.00	0.1		Build # / 100'
5	2344.0	0.00	0.00	2343.7	15.3	2.8	0.00	0.00	0.1		EOB @ 30' Inc. / 7.73' Azm
6	2844.1	30.00	7.73	2832.7	96.3	14.4	4.00	7.73	79.1		Build # / 100'
7	8462.8	30.00	7.73	8376.3	174.1	179.9	0.00	0.00	1995.0		EOB @ 30' Inc. / 326.11° Azm
8	7194.9	90.00	326.11	6930.0	1831.6	-65.5	10.00	-14.80	1892.0	LP - Dopey 5	EOB @ 30' Inc. / 326.11° Azm
9	13772.8	90.00	326.11	6330.0	7285.6	-4725.6	0.00	0.00	8182.0	PHN - Dopey 5	TO @ 12777' MD / 6830° TVD

ANNOTATIONS

MD	Inc	Asl	TVD	+N-S	+E-W	VFace	Departure	Annotation
2183.0	0.75	348.81	3393.6	0.2	-4.1	8.3	34.6	VES Gyro Tie-in @ 3393.6 MD / 3182.6° TVD
13736.0	90.00	325.20	6994.8	7361.9	-3726.5	8180.9	8491.2	TO @ 13736.0 MD / 6830° TVD

SECTION VERIFY DETAILS

Name	TVD	MD	+N-S	+E-W	Sectioning	Ending	Latitude	Longitude
LP - Dopey 5	8930.0	1831.6	-65.5	10.00	889126.47	98972.84	39° 29' 16.00" N	81° 47' 25.00" W
PHN - Dopey 5	8800.0	7285.6	-4725.6	0.00	881068.89	98972.84	39° 29' 16.00" N	81° 47' 25.00" W



RECEIVED
 Office of Oil and Gas
 MAY 7 2019
 WV Department of
 Environmental Protection



Jay-Bee Oil & Gas

Tyler County
Dopey Pad
Dopey 5
Wellbore #1

Design: Wellbore #1

QES Survey Certification Report

14 January, 2018

RECEIVED
Office of Oil and Gas

MAY 7 2019

WV Department of
Environmental Protection



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-180002	4/23/2018

Lease	Well Name	County & State
N/A	Dopey 5	Tyler County, West Virginia

API No.	Survey Depth Range	Survey Type
47-073-02466	2093 feet to 13736 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 13:05:26 -05'00'

Christopher Hughes
MWD Compliance Manager
Quintana Energy Services

RECEIVED
Office of Oil and Gas

MAY 7 2019

WV Department of
Environmental Protection



QES Survey Certification Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well Dopey 5
Project:	Tyler County	TVD Reference:	well @ 931.3usft (Nomac #81)
Site:	Dopey Pad	MD Reference:	well @ 931.3usft (Nomac #81)
Well:	Dopey 5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Tyler County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
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 5					
Well Position	+N/-S	0.0 usft	Northing:	344,311.37 usft	Latitude:	39° 26' 18.000 N
	+E/-W	0.0 usft	Easting:	1,609,175.94 usft	Longitude:	80° 46' 20.290 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	1/2/2018	-8.59	66.65	51,943.30443027

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	332.93

Survey Program	Date	1/14/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	2,093.0	VES GYRO Surveys (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro	
2,128.0	13,736.0	QES MWD Surveys (Gyro Tie-in) (Wellbor	MWD default	MWD - Standard	

RECEIVED
Office of Oil and Gas
MAY 7 2019
WV Department of
Environmental Protection

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
	2,093.0	0.72	349.51	2,092.6	9.2	4.2	10.1	24.30
	VES Gyro Tie-in @ 2093.0' MD / 2092.6' TVD							
	2,128.0	0.55	295.50	2,127.6	9.5	4.0	10.3	22.67
	2,223.0	0.52	246.53	2,222.6	9.5	3.2	10.0	18.36
	2,318.0	0.29	2.32	2,317.6	9.6	2.8	10.0	16.13
	2,365.0	3.34	4.13	2,364.6	11.1	2.9	11.4	14.56
	2,413.0	5.96	6.97	2,412.4	14.9	3.3	15.3	12.38
	2,460.0	8.65	6.24	2,459.0	20.9	4.0	21.3	10.74
	2,508.0	10.54	4.43	2,506.3	28.8	4.7	29.2	9.24
	2,603.0	13.91	4.14	2,599.2	48.9	6.2	49.3	7.21
	2,700.0	15.83	0.04	2,692.9	73.8	7.0	74.1	5.45



QES Survey Certification Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well Dopey 5
Project:	Tyler County	TVD Reference:	well @ 931.3usft (Nomac #81)
Site:	Dopey Pad	MD Reference:	well @ 931.3usft (Nomac #81)
Well:	Dopey 5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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 (°)
2,794.0	16.15	2.89	2,783.3	99.6	7.7	99.9	4.42
2,889.0	17.64	11.01	2,874.2	127.0	11.1	127.5	5.01
2,984.0	18.62	10.16	2,964.5	156.0	16.5	156.9	6.05
3,079.0	20.34	7.66	3,054.0	187.3	21.4	188.5	6.52
3,173.0	20.30	5.86	3,142.2	219.7	25.3	221.2	6.56
3,268.0	19.46	6.60	3,231.5	251.9	28.8	253.5	6.52
3,363.0	19.14	6.05	3,321.2	283.1	32.2	284.9	6.50
3,457.0	20.51	6.01	3,409.6	314.8	35.6	316.8	6.45
3,553.0	19.74	8.08	3,499.7	347.5	39.6	349.8	6.50
3,648.0	20.39	8.56	3,589.0	379.8	44.3	382.4	6.66
3,742.0	21.08	7.14	3,676.9	412.8	48.9	415.6	6.75
3,837.0	19.32	11.86	3,766.1	445.1	54.2	448.4	6.95
3,932.0	20.48	11.91	3,855.4	476.7	60.9	480.6	7.28
4,027.0	21.00	9.63	3,944.2	509.8	67.2	514.2	7.51
4,122.0	18.94	4.07	4,033.5	541.9	71.1	546.6	7.47
4,217.0	19.71	13.90	4,123.2	572.9	76.1	577.9	7.56
4,311.0	20.49	9.62	4,211.5	604.5	82.6	610.1	7.78
4,406.0	19.85	5.85	4,300.6	636.9	87.0	642.9	7.78
4,501.0	19.46	10.47	4,390.1	668.5	91.6	674.8	7.80
4,596.0	18.46	12.53	4,480.0	698.8	97.7	705.6	7.96
4,691.0	21.56	7.22	4,569.2	730.8	103.1	738.0	8.03
4,785.0	19.88	8.50	4,657.1	763.7	107.7	771.3	8.03
4,880.0	20.19	8.29	4,746.4	795.9	112.4	803.8	8.04
4,978.0	18.91	8.25	4,838.7	828.4	117.2	836.6	8.05
5,073.0	19.84	3.99	4,928.4	859.7	120.5	868.1	7.98
5,168.0	19.68	7.04	5,017.8	891.7	123.6	900.2	7.89
5,263.0	20.03	7.23	5,107.1	923.7	127.6	932.5	7.86
5,358.0	19.91	8.69	5,196.4	955.8	132.1	964.9	7.87
5,453.0	20.71	7.78	5,285.5	988.4	136.8	997.9	7.88
5,548.0	19.89	11.95	5,374.6	1,020.9	142.4	1,030.8	7.94
5,643.0	20.86	9.24	5,463.7	1,053.4	148.5	1,063.8	8.02
5,738.0	20.23	10.36	5,552.6	1,086.3	154.1	1,097.1	8.08
5,833.0	20.59	12.56	5,641.7	1,118.7	160.7	1,130.2	8.18
5,928.0	21.43	10.58	5,730.3	1,152.1	167.5	1,164.2	8.27
6,022.0	21.14	10.87	5,817.9	1,185.6	173.9	1,198.3	8.34
6,118.0	22.22	8.44	5,907.1	1,220.6	179.8	1,238.8	8.38
6,198.0	22.80	5.70	5,981.0	1,251.0	183.6	1,264.4	8.35
6,293.0	22.60	2.80	6,068.7	1,287.5	186.3	1,300.9	8.23
6,340.0	20.50	358.60	6,112.4	1,304.8	186.5	1,318.0	8.14
6,388.0	19.60	350.90	6,157.5	1,321.1	185.1	1,334.0	7.97
6,435.0	21.30	346.20	6,201.5	1,337.2	181.8	1,349.5	7.74
6,483.0	22.90	342.40	6,246.0	1,354.6	176.9	1,366.1	7.44
6,530.0	25.50	341.00	6,288.9	1,372.9	170.8	1,383.4	7.09
6,579.0	28.00	339.90	6,332.6	1,393.6	163.4	1,403.2	6.69

RECEIVED
Office of Oil and Gas
MAY 7 2019
Department of Environmental Protection



QES Survey Certification Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well Dopey 5
Project:	Tyler County	TVD Reference:	well @ 931.3usft (Nomac #81)
Site:	Dopey Pad	MD Reference:	well @ 931.3usft (Nomac #81)
Well:	Dopey 5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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 (°)
6,626.0	32.40	337.80	6,373.2	1,415.7	154.9	1,424.1	6.24
6,674.0	40.40	335.20	6,411.9	1,441.7	143.5	1,448.9	5.68
6,714.0	50.10	334.00	6,440.0	1,467.3	131.3	1,473.2	5.11
6,762.0	60.20	331.60	6,467.4	1,502.3	113.3	1,506.6	4.31
6,809.0	64.50	330.30	6,489.2	1,538.7	93.0	1,541.5	3.46
6,857.0	66.70	330.30	6,509.0	1,576.7	71.4	1,578.3	2.59
6,904.0	67.80	329.80	6,527.2	1,614.2	49.7	1,615.0	1.76
6,952.0	68.40	329.70	6,545.1	1,652.7	27.3	1,652.9	0.95
6,999.0	68.60	329.40	6,562.3	1,690.4	5.1	1,690.4	0.17
7,047.0	69.30	329.50	6,579.6	1,729.0	-17.6	1,729.1	359.42
7,094.0	71.90	329.90	6,595.2	1,767.2	-40.0	1,767.7	358.70
7,142.0	75.40	329.80	6,608.7	1,807.1	-63.1	1,808.2	358.00
7,189.0	78.50	328.80	6,619.3	1,846.4	-86.5	1,848.4	357.32
7,237.0	81.40	327.30	6,627.7	1,886.5	-111.5	1,889.8	356.62
7,284.0	86.30	326.60	6,632.7	1,925.7	-137.0	1,930.5	355.93
7,332.0	89.40	325.90	6,634.5	1,965.5	-163.6	1,972.3	355.24
7,427.0	89.10	327.70	6,635.7	2,045.0	-215.6	2,056.4	353.98
7,522.0	89.30	327.60	6,637.1	2,125.3	-266.5	2,141.9	352.85
7,616.0	89.20	327.90	6,638.3	2,204.8	-316.6	2,227.4	351.83
7,711.0	89.20	327.60	6,639.6	2,285.1	-367.3	2,314.4	350.87
7,806.0	88.90	327.60	6,641.2	2,365.3	-418.2	2,402.0	349.97
7,900.0	91.40	328.30	6,641.0	2,445.0	-468.1	2,489.4	349.16
7,995.0	91.80	328.80	6,638.3	2,526.0	-517.6	2,578.5	348.42
8,089.0	89.90	325.10	6,636.9	2,604.7	-568.9	2,666.1	347.68
8,184.0	91.40	325.20	6,635.8	2,682.7	-623.2	2,754.1	346.92
8,279.0	91.30	325.40	6,633.6	2,760.8	-677.2	2,842.6	346.22
8,374.0	88.70	325.90	6,633.6	2,839.2	-730.8	2,931.8	345.57
8,469.0	89.30	326.90	6,635.2	2,918.3	-783.4	3,021.6	344.97
8,563.0	88.10	326.60	6,637.4	2,996.9	-834.9	3,111.0	344.43
8,658.0	89.70	327.00	6,639.2	3,076.4	-886.9	3,201.7	343.92
8,753.0	89.50	327.30	6,639.9	3,156.2	-938.5	3,292.8	343.44
8,848.0	89.90	327.60	6,640.4	3,236.3	-989.6	3,384.2	343.00
8,942.0	88.60	324.40	6,641.6	3,314.2	-1,042.1	3,474.2	342.54
9,037.0	89.70	324.40	6,643.0	3,391.4	-1,097.4	3,564.6	342.07
9,131.0	92.00	326.40	6,641.6	3,468.8	-1,150.8	3,654.7	341.65
9,226.0	91.20	326.60	6,639.0	3,548.0	-1,203.2	3,746.4	341.27
9,321.0	89.80	324.60	6,638.1	3,626.3	-1,256.9	3,838.0	340.88
9,415.0	89.40	322.60	6,638.8	3,702.0	-1,312.6	3,927.8	340.48
9,510.0	91.70	326.80	6,637.9	3,779.5	-1,367.5	4,019.3	340.11
9,605.0	91.70	326.40	6,635.1	3,858.8	-1,419.8	4,111.7	339.80
9,700.0	91.20	327.80	6,632.7	3,938.5	-1,471.4	4,204.4	339.52
9,794.0	90.90	329.30	6,630.9	4,018.7	-1,520.4	4,296.7	339.28
9,889.0	90.50	329.10	6,629.8	4,100.3	-1,569.0	4,390.2	339.06
9,984.0	89.10	326.50	6,630.1	4,180.7	-1,619.7	4,483.4	338.82
10,079.0	88.90	326.70	6,631.8	4,260.0	-1,672.0	4,576.3	338.57

RECEIVED
Office of Oil & Gas



QES Survey Certification Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well Dopey 5
Project:	Tyler County	TVD Reference:	well @ 931.3usft (Nomac #81)
Site:	Dopey Pad	MD Reference:	well @ 931.3usft (Nomac #81)
Well:	Dopey 5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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 (°)
	10,174.0	88.70	324.10	6,633.7	4,338.1	-1,725.9	4,668.8	338.31
	10,269.0	90.50	323.00	6,634.4	4,414.5	-1,782.3	4,760.8	338.01
	10,364.0	90.50	322.00	6,633.6	4,489.9	-1,840.1	4,852.4	337.71
	10,458.0	91.80	324.80	6,631.7	4,565.3	-1,896.2	4,943.5	337.44
	10,553.0	91.30	327.60	6,629.1	4,644.3	-1,949.0	5,036.6	337.23
	10,648.0	89.20	326.60	6,628.7	4,724.0	-2,000.6	5,130.2	337.05
	10,742.0	89.10	326.80	6,630.1	4,802.6	-2,052.2	5,222.7	336.86
	10,836.0	89.00	326.50	6,631.7	4,881.1	-2,103.9	5,315.2	336.68
	10,931.0	89.30	325.90	6,633.1	4,960.0	-2,156.7	5,408.6	336.50
	11,026.0	89.80	326.90	6,633.8	5,039.1	-2,209.3	5,502.2	336.33
	11,121.0	90.80	329.50	6,633.3	5,119.9	-2,259.3	5,596.2	336.19
	11,216.0	91.80	331.20	6,631.2	5,202.4	-2,306.3	5,690.7	336.09
	11,311.0	89.40	328.00	6,630.2	5,284.3	-2,354.4	5,785.1	335.99
	11,406.0	90.10	327.00	6,630.6	5,364.4	-2,405.4	5,879.1	335.85
	11,501.0	90.00	323.60	6,630.5	5,442.5	-2,459.5	5,972.5	335.68
	11,596.0	90.00	324.50	6,630.5	5,519.4	-2,515.3	6,065.5	335.50
	11,691.0	90.50	324.40	6,630.1	5,596.7	-2,570.5	6,158.8	335.33
	11,786.0	90.60	324.70	6,629.2	5,674.1	-2,625.6	6,252.1	335.17
	11,880.0	91.60	326.10	6,627.4	5,751.5	-2,679.0	6,344.8	335.02
	11,975.0	91.60	325.70	6,624.7	5,830.1	-2,732.2	6,438.6	334.89
	12,070.0	91.40	325.00	6,622.2	5,908.2	-2,786.2	6,532.2	334.75
	12,165.0	91.10	326.20	6,620.2	5,986.6	-2,839.9	6,626.0	334.62
	12,260.0	90.60	326.10	6,618.8	6,065.5	-2,892.8	6,720.0	334.50
	12,354.0	90.50	325.30	6,617.8	6,143.1	-2,945.7	6,812.9	334.38
	12,449.0	89.90	325.10	6,617.5	6,221.1	-3,000.0	6,906.7	334.26
	12,544.0	89.20	324.70	6,618.3	6,298.9	-3,054.6	7,000.4	334.13
	12,639.0	91.50	326.90	6,617.7	6,377.4	-3,108.0	7,094.4	334.02
	12,734.0	91.30	327.20	6,615.4	6,457.1	-3,159.6	7,188.7	333.93
	12,829.0	90.40	326.40	6,614.0	6,536.6	-3,211.6	7,283.0	333.83
	12,924.0	90.80	326.80	6,613.0	6,615.9	-3,263.9	7,377.2	333.74
	13,019.0	90.40	326.40	6,612.0	6,695.2	-3,316.2	7,471.5	333.65
	13,114.0	90.00	326.30	6,611.6	6,774.3	-3,368.9	7,565.7	333.56
	13,208.0	91.10	326.70	6,610.7	6,852.7	-3,420.7	7,659.0	333.47
	13,303.0	91.40	325.00	6,608.7	6,931.3	-3,474.1	7,753.2	333.38
	13,399.0	91.60	325.10	6,606.1	7,009.9	-3,529.0	7,848.1	333.28
	13,493.0	91.30	324.30	6,603.8	7,086.6	-3,583.3	7,941.1	333.18
	13,588.0	90.90	324.40	6,601.9	7,163.8	-3,638.7	8,034.9	333.07
	13,683.0	90.90	323.20	6,600.4	7,240.5	-3,694.8	8,128.7	332.96
	13,736.0	90.90	323.20	6,599.6	7,282.9	-3,726.5	8,180.9	332.90

TD @ 13736.0' MD / 6599.6' TVD

RECEIVED
Office of Oil and Gas

MAY 7 2019

WV Department of
Environmental Protection



QES Survey Certification Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well Dopey 5
Project:	Tyler County	TVD Reference:	well @ 931.3usft (Nomac #81)
Site:	Dopey Pad	MD Reference:	well @ 931.3usft (Nomac #81)
Well:	Dopey 5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,093.0	2,092.6	9.2	4.2	VES Gyro Tie-in @ 2093.0' MD / 2092.6' TVD
13,736.0	6,599.6	7,282.9	-3,726.5	TD @ 13736.0' MD / 6599.6' TVD

Checked By: _____ Approved By: _____ Date: _____

RECEIVED
Office of Oil and Gas

MAY 7 2019

WV Department of
Environmental Protection