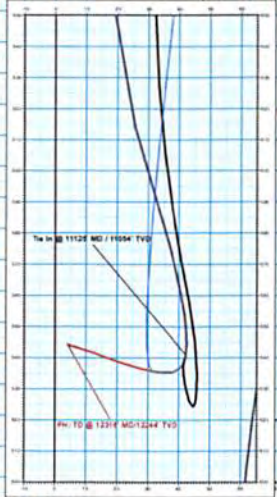
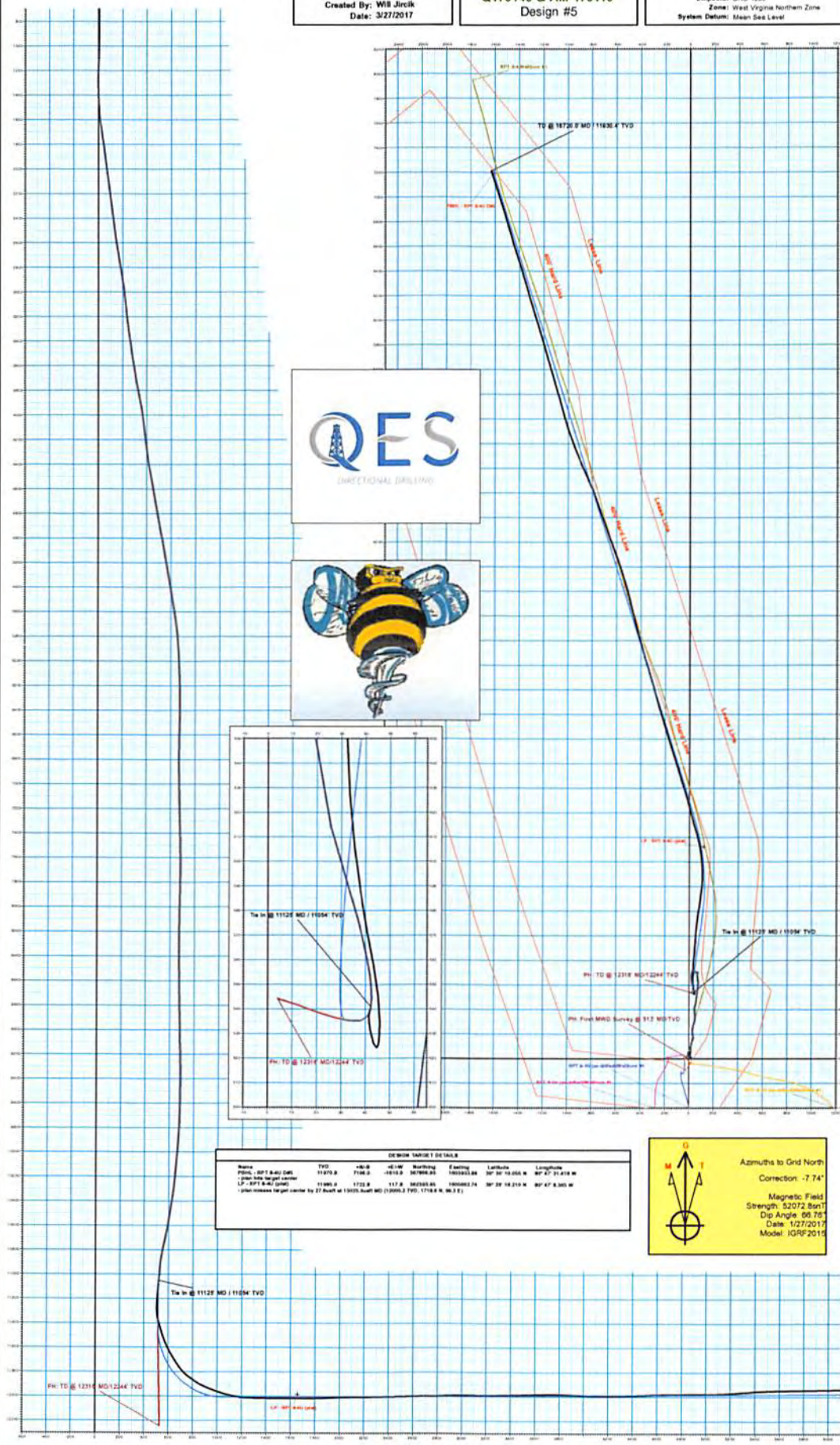


WELL DETAILS: RPT 8-4U			
Well No.	HEW	Northings	Eastings
100	2.0	38807.721	17002.23
Ground Level	1246.5	Latitude	Longitude
		38° 47' 3.051" N	80° 47' 3.051" W

Company Name: Jay-Bee Oil & Gas
 RPT 8-4U
 Tyler County
 Rig: Nomas #81
 Created By: WS Jircik
 Date: 3/27/2017

RPT 8-4U
 Tyler County
 Q170149 & AM-170119
 Design #5

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



DEVIATION TABLE			
Name	TVD	MD	Depth
Point - RPT 8-4U DMS	11975.0	7196.0	-1815.0
Point - RPT 8-4U DMS	11985.0	7206.0	-1825.0
Point - RPT 8-4U DMS	11995.0	7216.0	-1835.0
Point - RPT 8-4U DMS	12005.0	7226.0	-1845.0
Point - RPT 8-4U DMS	12015.0	7236.0	-1855.0
Point - RPT 8-4U DMS	12025.0	7246.0	-1865.0
Point - RPT 8-4U DMS	12035.0	7256.0	-1875.0
Point - RPT 8-4U DMS	12045.0	7266.0	-1885.0
Point - RPT 8-4U DMS	12055.0	7276.0	-1895.0
Point - RPT 8-4U DMS	12065.0	7286.0	-1905.0
Point - RPT 8-4U DMS	12075.0	7296.0	-1915.0
Point - RPT 8-4U DMS	12085.0	7306.0	-1925.0
Point - RPT 8-4U DMS	12095.0	7316.0	-1935.0
Point - RPT 8-4U DMS	12105.0	7326.0	-1945.0
Point - RPT 8-4U DMS	12115.0	7336.0	-1955.0
Point - RPT 8-4U DMS	12125.0	7346.0	-1965.0
Point - RPT 8-4U DMS	12135.0	7356.0	-1975.0
Point - RPT 8-4U DMS	12145.0	7366.0	-1985.0
Point - RPT 8-4U DMS	12155.0	7376.0	-1995.0
Point - RPT 8-4U DMS	12165.0	7386.0	-2005.0
Point - RPT 8-4U DMS	12175.0	7396.0	-2015.0
Point - RPT 8-4U DMS	12185.0	7406.0	-2025.0
Point - RPT 8-4U DMS	12195.0	7416.0	-2035.0
Point - RPT 8-4U DMS	12205.0	7426.0	-2045.0
Point - RPT 8-4U DMS	12215.0	7436.0	-2055.0
Point - RPT 8-4U DMS	12225.0	7446.0	-2065.0
Point - RPT 8-4U DMS	12235.0	7456.0	-2075.0
Point - RPT 8-4U DMS	12245.0	7466.0	-2085.0
Point - RPT 8-4U DMS	12255.0	7476.0	-2095.0
Point - RPT 8-4U DMS	12265.0	7486.0	-2105.0
Point - RPT 8-4U DMS	12275.0	7496.0	-2115.0
Point - RPT 8-4U DMS	12285.0	7506.0	-2125.0
Point - RPT 8-4U DMS	12295.0	7516.0	-2135.0
Point - RPT 8-4U DMS	12305.0	7526.0	-2145.0
Point - RPT 8-4U DMS	12315.0	7536.0	-2155.0
Point - RPT 8-4U DMS	12325.0	7546.0	-2165.0
Point - RPT 8-4U DMS	12335.0	7556.0	-2175.0
Point - RPT 8-4U DMS	12345.0	7566.0	-2185.0
Point - RPT 8-4U DMS	12355.0	7576.0	-2195.0
Point - RPT 8-4U DMS	12365.0	7586.0	-2205.0
Point - RPT 8-4U DMS	12375.0	7596.0	-2215.0
Point - RPT 8-4U DMS	12385.0	7606.0	-2225.0
Point - RPT 8-4U DMS	12395.0	7616.0	-2235.0
Point - RPT 8-4U DMS	12405.0	7626.0	-2245.0
Point - RPT 8-4U DMS	12415.0	7636.0	-2255.0
Point - RPT 8-4U DMS	12425.0	7646.0	-2265.0
Point - RPT 8-4U DMS	12435.0	7656.0	-2275.0
Point - RPT 8-4U DMS	12445.0	7666.0	-2285.0
Point - RPT 8-4U DMS	12455.0	7676.0	-2295.0
Point - RPT 8-4U DMS	12465.0	7686.0	-2305.0
Point - RPT 8-4U DMS	12475.0	7696.0	-2315.0
Point - RPT 8-4U DMS	12485.0	7706.0	-2325.0
Point - RPT 8-4U DMS	12495.0	7716.0	-2335.0
Point - RPT 8-4U DMS	12505.0	7726.0	-2345.0
Point - RPT 8-4U DMS	12515.0	7736.0	-2355.0
Point - RPT 8-4U DMS	12525.0	7746.0	-2365.0
Point - RPT 8-4U DMS	12535.0	7756.0	-2375.0
Point - RPT 8-4U DMS	12545.0	7766.0	-2385.0
Point - RPT 8-4U DMS	12555.0	7776.0	-2395.0
Point - RPT 8-4U DMS	12565.0	7786.0	-2405.0
Point - RPT 8-4U DMS	12575.0	7796.0	-2415.0
Point - RPT 8-4U DMS	12585.0	7806.0	-2425.0
Point - RPT 8-4U DMS	12595.0	7816.0	-2435.0
Point - RPT 8-4U DMS	12605.0	7826.0	-2445.0
Point - RPT 8-4U DMS	12615.0	7836.0	-2455.0
Point - RPT 8-4U DMS	12625.0	7846.0	-2465.0
Point - RPT 8-4U DMS	12635.0	7856.0	-2475.0
Point - RPT 8-4U DMS	12645.0	7866.0	-2485.0
Point - RPT 8-4U DMS	12655.0	7876.0	-2495.0
Point - RPT 8-4U DMS	12665.0	7886.0	-2505.0
Point - RPT 8-4U DMS	12675.0	7896.0	-2515.0
Point - RPT 8-4U DMS	12685.0	7906.0	-2525.0
Point - RPT 8-4U DMS	12695.0	7916.0	-2535.0
Point - RPT 8-4U DMS	12705.0	7926.0	-2545.0
Point - RPT 8-4U DMS	12715.0	7936.0	-2555.0
Point - RPT 8-4U DMS	12725.0	7946.0	-2565.0
Point - RPT 8-4U DMS	12735.0	7956.0	-2575.0
Point - RPT 8-4U DMS	12745.0	7966.0	-2585.0
Point - RPT 8-4U DMS	12755.0	7976.0	-2595.0
Point - RPT 8-4U DMS	12765.0	7986.0	-2605.0
Point - RPT 8-4U DMS	12775.0	7996.0	-2615.0
Point - RPT 8-4U DMS	12785.0	8006.0	-2625.0
Point - RPT 8-4U DMS	12795.0	8016.0	-2635.0
Point - RPT 8-4U DMS	12805.0	8026.0	-2645.0
Point - RPT 8-4U DMS	12815.0	8036.0	-2655.0
Point - RPT 8-4U DMS	12825.0	8046.0	-2665.0
Point - RPT 8-4U DMS	12835.0	8056.0	-2675.0
Point - RPT 8-4U DMS	12845.0	8066.0	-2685.0
Point - RPT 8-4U DMS	12855.0	8076.0	-2695.0
Point - RPT 8-4U DMS	12865.0	8086.0	-2705.0
Point - RPT 8-4U DMS	12875.0	8096.0	-2715.0
Point - RPT 8-4U DMS	12885.0	8106.0	-2725.0
Point - RPT 8-4U DMS	12895.0	8116.0	-2735.0
Point - RPT 8-4U DMS	12905.0	8126.0	-2745.0
Point - RPT 8-4U DMS	12915.0	8136.0	-2755.0
Point - RPT 8-4U DMS	12925.0	8146.0	-2765.0
Point - RPT 8-4U DMS	12935.0	8156.0	-2775.0
Point - RPT 8-4U DMS	12945.0	8166.0	-2785.0
Point - RPT 8-4U DMS	12955.0	8176.0	-2795.0
Point - RPT 8-4U DMS	12965.0	8186.0	-2805.0
Point - RPT 8-4U DMS	12975.0	8196.0	-2815.0
Point - RPT 8-4U DMS	12985.0	8206.0	-2825.0
Point - RPT 8-4U DMS	12995.0	8216.0	-2835.0
Point - RPT 8-4U DMS	13005.0	8226.0	-2845.0
Point - RPT 8-4U DMS	13015.0	8236.0	-2855.0
Point - RPT 8-4U DMS	13025.0	8246.0	-2865.0
Point - RPT 8-4U DMS	13035.0	8256.0	-2875.0
Point - RPT 8-4U DMS	13045.0	8266.0	-2885.0
Point - RPT 8-4U DMS	13055.0	8276.0	-2895.0
Point - RPT 8-4U DMS	13065.0	8286.0	-2905.0
Point - RPT 8-4U DMS	13075.0	8296.0	-2915.0
Point - RPT 8-4U DMS	13085.0	8306.0	-2925.0
Point - RPT 8-4U DMS	13095.0	8316.0	-2935.0
Point - RPT 8-4U DMS	13105.0	8326.0	-2945.0
Point - RPT 8-4U DMS	13115.0	8336.0	-2955.0
Point - RPT 8-4U DMS	13125.0	8346.0	-2965.0
Point - RPT 8-4U DMS	13135.0	8356.0	-2975.0
Point - RPT 8-4U DMS	13145.0	8366.0	-2985.0
Point - RPT 8-4U DMS	13155.0	8376.0	-2995.0
Point - RPT 8-4U DMS	13165.0	8386.0	-3005.0
Point - RPT 8-4U DMS	13175.0	8396.0	-3015.0
Point - RPT 8-4U DMS	13185.0	8406.0	-3025.0
Point - RPT 8-4U DMS	13195.0	8416.0	-3035.0
Point - RPT 8-4U DMS	13205.0	8426.0	-3045.0
Point - RPT 8-4U DMS	13215.0	8436.0	-3055.0
Point - RPT 8-4U DMS	13225.0	8446.0	-3065.0
Point - RPT 8-4U DMS	13235.0	8456.0	-3075.0
Point - RPT 8-4U DMS	13245.0	8466.0	-3085.0
Point - RPT 8-4U DMS	13255.0	8476.0	-3095.0
Point - RPT 8-4U DMS	13265.0	8486.0	-3105.0
Point - RPT 8-4U DMS	13275.0	8496.0	-3115.0
Point - RPT 8-4U DMS	13285.0	8506.0	-3125.0
Point - RPT 8-4U DMS	13295.0	8516.0	-3135.0
Point - RPT 8-4U DMS	13305.0	8526.0	-3145.0
Point - RPT 8-4U DMS	13315.0	8536.0	-3155.0
Point - RPT 8-4U DMS	13325.0	8546.0	-3165.0
Point - RPT 8-4U DMS	13335.0	8556.0	-3175.0
Point - RPT 8-4U DMS	13345.0	8566.0	-3185.0
Point - RPT 8-4U DMS	13355.0	8576.0	-3195.0
Point - RPT 8-4U DMS	13365.0	8586.0	-3205.0
Point - RPT 8-4U DMS	13375.0	8596.0	-3215.0
Point - RPT 8-4U DMS	13385.0	8606.0	-3225.0
Point - RPT 8-4U DMS	13395.0	8616.0	-3235.0
Point - RPT 8-4U DMS	13405.0	8626.0	-3245.0
Point - RPT 8-4U DMS	13415.0	8636.0	-3255.0
Point - RPT 8-4U DMS	13425.0	8646.0	-3265.0
Point - RPT 8-4U DMS	13435.0	8656.0	-3275.0
Point - RPT 8-4U DMS	13445.0	8666.0	-3285.0
Point - RPT 8-4U DMS	13455.0	8676.0	-3295.0
Point - RPT 8-4U DMS	13465.0	8686.0	-3305.0
Point - RPT 8-4U DMS	13475.0	8696.0	-3315.0
Point - RPT 8-4U DMS	13485.0	8706.0	-3325.0
Point - RPT 8-4U DMS	13495.0	8716.0	-3335.0
Point - RPT 8-4U DMS	13505.0	8726.0	-3345.0
Point - RPT 8-4U DMS	13515.0	8736.0	-3355.0
Point - RPT 8-4U DMS	13525.0	8746.0	-3365.0
Point - RPT 8-4U DMS	13535.0	8756.0	-3375.0
Point - RPT 8-4U DMS	13545.0	8766.0	-3385.0
Point - RPT 8-4U DMS	13555.0	8776.0	-3395.0
Point - RPT 8-4U DMS	13565.0	8786.0	-3405.0
Point - RPT 8-4U DMS	13575.0	8796.0	-3415.0
Point - RPT 8-4U DMS	13585.0	8806.0	-3425.0
Point - RPT 8-4U DMS	13595.0	8816.0	-3435.0
Point - RPT 8-4U DMS	13605.0	8826.0	-3445.0
Point - RPT 8-4U DMS	13615.0	8836.0	-3455.0
Point - RPT 8-4U DMS	13625.0	8846.0	-3465.0
Point - RPT 8-4U DMS	13635.0	8856.0	-3475.0
Point - RPT 8-4U DMS	13645.0	8866.0	-3485.0
Point - RPT 8-4U DMS	13655.0	8876.0	-3495.0
Point - RPT 8-4U DMS	13665.0	8886.0	-3505.0
Point - RPT 8-4U DMS	13675.0	8896.0	-3515.0
Point - RPT 8-4U DMS	13685.0	8906.0	-3525.0
Point - RPT 8-4U DMS	13695.0	8916.0	-3535.0
Point - RPT 8-4U DMS	13705.0	8926.0	-3545.0
Point - RPT 8-4U DMS	13715.0	8936.0	-3555.0
Point - RPT 8-4U DMS	13725.0	8946.0	-3565.0
Point - RPT 8-4U DMS	13735.0	8956.0	-3575.0
Point - RPT 8-4U DMS	13745.0	8966.0	-3585.0
Point - RPT 8-4U DMS	13755.0	8976.0	-3595.0
Point - RPT 8-4U DMS	13765.0	8986.0	-3605.0
Point - RPT 8-4U DMS	13775.0	8996.0	-3615.0
Point - RPT 8-4U DMS	13785.0	9006.0	-3625.0
Point - RPT 8-4U DMS	13795.0	9016.0	-3635.0
Point - RPT 8-4U DMS	13805.0	9026.0</	



Jay-Bee Oil & Gas

Tyler County
Jack Hair et al
RPT 8-4U

Pilot

Survey: MWD

QES Survey Report

27 March, 2017



Survey Report

05/03/2019



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Pilot	Survey Calculation Method:	Minimum Curvature
Design:	Pilot	Database:	EDM5002

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	Jack Hair et al				
Site Position:		Northing:	360,680.39 usft	Latitude:	39° 28' 59.261 N
From:	Lat/Long	Easting:	1,605,541.96 usft	Longitude:	80° 47' 9.593 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.82 °

Well	RPT 8-4U					
Well Position	+N/-S	0.0 usft	Northing:	360,670.87 usft	Latitude:	39° 28' 59.167 N
	+E/-W	0.0 usft	Easting:	1,605,544.93 usft	Longitude:	80° 47' 9.553 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	1,246.5 usft

Wellbore	Pilot				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/17/2017	-8.56	66.76	52,066

Design	Pilot				
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	0.44	

Survey Program	Date 3/16/2017				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
513.0	12,316.0	MWD (Pilot)	MWD default	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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
PH: First MWD Survey @ 513' MD/TVD										
513.0	0.82	0.00	513.0	3.7	0.0	3.7	0.16	0.16	0.00	
608.0	2.84	68.30	607.9	5.2	2.2	5.2	2.79	2.13	71.89	
703.0	2.65	58.17	702.8	7.2	6.2	7.3	0.55	-0.20	-10.66	
798.0	2.26	68.34	797.7	9.1	9.8	9.2	0.61	-0.41	10.71	
892.0	0.53	108.56	891.7	9.6	12.0	9.7	2.01	-1.84	42.79	
987.0	1.67	201.13	986.7	8.2	11.9	8.3	1.87	1.20	97.44	
1,081.0	2.32	187.53	1,080.6	5.0	11.2	5.1	0.85	0.69	-14.47	
1,176.0	2.19	176.73	1,175.6	1.3	11.0	1.4	0.47	-0.14	-11.37	
1,223.0	1.23	263.20	1,222.6	0.4	10.6	0.5	5.20	-2.04	183.98	



Survey Report

Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Pilot	Survey Calculation Method:	Minimum Curvature
Design:	Pilot	Database:	EDM5002

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,271.0	0.79	242.98	1,270.5	0.2	9.8	0.2	1.17	-0.92	-42.13
1,318.0	0.27	324.80	1,317.5	0.1	9.4	0.2	1.70	-1.11	174.09
1,366.0	1.06	349.18	1,365.5	0.6	9.3	0.7	1.71	1.65	50.79
1,413.0	2.12	15.09	1,412.5	1.9	9.4	2.0	2.67	2.26	55.13
1,461.0	3.69	24.61	1,460.5	4.2	10.3	4.2	3.41	3.27	19.83
1,508.0	4.89	15.61	1,507.3	7.5	11.4	7.6	2.92	2.55	-19.15
1,556.0	6.17	17.57	1,555.1	11.9	12.8	12.0	2.70	2.67	4.08
1,603.0	7.49	13.55	1,601.8	17.3	14.2	17.4	2.99	2.81	-8.55
1,650.0	8.65	7.43	1,648.3	23.8	15.4	23.9	3.07	2.47	-13.02
1,697.0	8.64	7.07	1,694.8	30.8	16.3	30.9	0.12	-0.02	-0.77
1,745.0	8.13	1.18	1,742.3	37.7	16.8	37.9	2.08	-1.06	-12.27
1,792.0	8.19	358.93	1,788.8	44.4	16.8	44.5	0.69	0.13	-4.79
1,840.0	8.11	359.89	1,836.3	51.2	16.8	51.3	0.33	-0.17	2.00
1,887.0	8.22	356.94	1,882.8	57.9	16.6	58.0	0.92	0.23	-6.28
1,935.0	8.13	357.20	1,930.3	64.7	16.2	64.8	0.20	-0.19	0.54
1,982.0	7.77	356.62	1,976.9	71.2	15.9	71.3	0.78	-0.77	-1.23
2,030.0	7.45	3.05	2,024.5	77.5	15.9	77.7	1.89	-0.67	13.40
2,077.0	7.46	6.49	2,071.1	83.6	16.4	83.7	0.95	0.02	7.32
2,125.0	7.79	7.45	2,118.6	89.9	17.1	90.1	0.74	0.69	2.00
2,219.0	8.46	13.64	2,211.7	103.0	19.6	103.1	1.17	0.71	6.59
2,508.0	7.86	11.95	2,497.8	143.0	28.7	143.2	0.22	-0.21	-0.58
2,603.0	9.23	7.05	2,591.7	156.9	31.0	157.1	1.63	1.44	-5.16
2,698.0	9.84	6.60	2,685.4	172.5	32.8	172.8	0.65	0.64	-0.47
2,792.0	10.33	359.56	2,777.9	188.9	33.7	189.2	1.41	0.52	-7.49
2,887.0	9.28	354.07	2,871.6	205.1	32.8	205.3	1.48	-1.11	-5.78
2,982.0	7.51	349.70	2,965.5	218.8	30.9	219.0	1.98	-1.86	-4.60
3,077.0	6.00	356.02	3,059.9	229.8	29.5	230.1	1.77	-1.59	6.65
3,172.0	6.76	7.65	3,154.3	240.3	29.9	240.6	1.57	0.80	12.24
3,266.0	7.91	12.70	3,247.5	252.1	32.0	252.4	1.40	1.22	5.37
3,361.0	8.79	16.58	3,341.5	265.5	35.6	265.7	1.10	0.93	4.08
3,456.0	9.43	16.22	3,435.3	279.9	39.8	280.2	0.68	0.67	-0.38
3,551.0	10.14	16.17	3,528.9	295.4	44.3	295.7	0.75	0.75	-0.05
3,649.0	9.98	13.32	3,625.4	312.0	48.7	312.3	0.53	-0.16	-2.91
3,743.0	9.91	3.17	3,718.0	328.0	51.0	328.3	1.66	-0.07	-10.80
3,838.0	11.53	353.28	3,811.4	345.6	50.3	345.9	2.57	1.71	-10.41
3,933.0	11.35	355.51	3,904.5	364.3	48.5	364.7	0.50	-0.19	2.35
4,027.0	9.38	356.97	3,996.9	381.2	47.4	381.5	2.11	-2.10	1.55
4,122.0	7.79	0.89	4,090.9	395.3	47.0	395.7	1.78	-1.67	4.13
4,217.0	7.38	3.69	4,185.0	407.9	47.5	408.2	0.58	-0.43	2.95
4,311.0	8.49	9.14	4,278.1	420.7	49.0	421.1	1.43	1.18	5.80
4,406.0	10.09	13.01	4,371.9	435.8	52.0	436.2	1.81	1.68	4.07
4,501.0	10.14	10.97	4,465.4	452.1	55.5	452.5	0.38	0.05	-2.15
4,596.0	10.85	6.54	4,558.8	469.2	58.1	469.6	1.13	0.75	-4.66



Survey Report

Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Pilot	Survey Calculation Method:	Minimum Curvature
Design:	Pilot	Database:	EDM5002

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)	
4,693.0	10.52	6.10	4,654.2	487.1	60.1	487.5	0.35	-0.34	-0.45	
4,788.0	10.57	5.87	4,747.5	504.4	61.9	504.8	0.07	0.05	-0.24	
4,883.0	10.02	7.04	4,841.0	521.2	63.8	521.7	0.62	-0.58	1.23	
4,978.0	11.33	7.90	4,934.4	538.7	66.1	539.2	1.39	1.38	0.91	
5,073.0	11.38	6.92	5,027.5	557.2	68.5	557.7	0.21	0.05	-1.03	
5,168.0	10.67	7.75	5,120.8	575.2	70.8	575.8	0.77	-0.75	0.87	
5,263.0	10.31	7.06	5,214.2	592.4	73.0	592.9	0.40	-0.38	-0.73	
5,358.0	10.49	3.07	5,307.6	609.5	74.6	610.0	0.78	0.19	-4.20	
5,453.0	9.40	357.62	5,401.2	625.8	74.7	626.4	1.51	-1.15	-5.74	
5,548.0	9.86	353.73	5,494.8	641.7	73.5	642.2	0.84	0.48	-4.09	
5,643.0	9.38	349.56	5,588.5	657.4	71.2	657.9	0.89	-0.51	-4.39	
5,737.0	7.33	353.94	5,681.5	670.9	69.2	671.4	2.28	-2.18	4.66	
5,832.0	6.79	355.65	5,775.8	682.5	68.1	683.0	0.61	-0.57	1.80	
5,927.0	4.90	355.35	5,870.3	692.2	67.3	692.6	1.99	-1.99	-0.32	
6,022.0	3.02	353.47	5,965.1	698.7	66.7	699.2	1.98	-1.98	-1.98	
6,117.0	1.50	358.90	6,060.0	702.4	66.4	702.9	1.61	-1.60	5.72	
6,211.0	0.48	20.02	6,154.0	704.0	66.5	704.5	1.13	-1.09	22.47	
6,306.0	0.60	324.20	6,249.0	704.8	66.4	705.3	0.54	0.13	-58.76	
6,401.0	0.49	123.07	6,344.0	705.0	66.4	705.5	1.13	-0.12	167.23	
6,496.0	0.98	108.98	6,439.0	704.5	67.5	705.0	0.55	0.52	-14.83	
6,686.0	2.27	118.81	6,628.9	702.1	72.4	702.7	0.69	0.68	5.17	
6,875.0	1.24	49.88	6,817.8	701.7	77.2	702.2	1.14	-0.54	-36.47	
7,065.0	0.82	297.12	7,007.8	703.6	77.6	704.2	0.91	-0.22	-59.35	
7,349.0	3.48	293.18	7,291.6	707.9	67.8	708.4	0.94	0.94	-1.39	
7,533.0	2.62	276.26	7,475.3	710.6	58.5	711.0	0.67	-0.47	-9.20	
7,722.0	2.56	256.59	7,664.1	710.1	50.1	710.4	0.47	-0.03	-10.41	
7,912.0	2.00	207.50	7,854.0	706.1	44.5	706.5	1.03	-0.29	-25.84	
8,102.0	1.25	182.60	8,043.9	701.1	42.8	701.4	0.53	-0.39	-13.11	
8,291.0	0.27	339.65	8,232.9	699.5	42.6	699.8	0.79	-0.52	83.10	
8,483.0	0.36	21.75	8,424.9	700.5	42.7	700.8	0.13	0.05	21.93	
8,672.0	0.68	20.84	8,613.9	702.1	43.3	702.4	0.17	0.17	-0.48	
8,862.0	1.15	359.44	8,803.9	705.0	43.7	705.3	0.30	0.25	-11.26	
9,051.0	1.05	297.82	8,992.8	707.7	42.1	708.0	0.60	-0.05	-32.60	
9,241.0	2.59	293.79	9,182.7	710.3	36.7	710.5	0.81	0.81	-2.12	
9,432.0	1.81	261.40	9,373.6	711.6	29.7	711.8	0.75	-0.41	-16.96	
9,609.0	1.32	219.65	9,550.5	709.6	25.7	709.8	0.68	-0.28	-23.59	
9,798.0	2.50	201.36	9,739.4	704.1	22.8	704.2	0.70	0.62	-9.68	
9,988.0	5.06	188.23	9,929.0	691.9	20.1	692.1	1.41	1.35	-6.91	
10,180.0	4.49	184.82	10,120.3	676.1	18.2	676.2	0.33	-0.30	-1.78	
10,369.0	7.12	177.45	10,308.3	657.0	18.1	657.1	1.44	1.39	-3.90	
10,653.0	10.48	165.09	10,589.0	614.4	25.5	614.6	1.35	1.18	-4.35	
10,792.0	13.10	162.70	10,725.0	587.2	33.5	587.4	1.92	1.88	-1.72	
10,840.0	13.00	163.70	10,771.8	576.8	36.6	577.0	0.51	-0.21	2.08	



Survey Report

05/03/2019



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Pilot	Survey Calculation Method:	Minimum Curvature
Design:	Pilot	Database:	EDM5002

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,887.0	10.20	167.30	10,817.8	567.6	39.0	567.9	6.15	-5.96	7.66
10,935.0	8.30	168.40	10,865.2	560.1	40.6	560.4	3.98	-3.96	2.29
10,982.0	6.90	172.30	10,911.8	554.0	41.7	554.3	3.17	-2.98	8.30
11,030.0	5.60	175.20	10,959.5	548.8	42.3	549.1	2.79	-2.71	6.04
11,077.0	4.70	180.20	11,006.3	544.6	42.5	544.9	2.14	-1.91	10.64
11,125.0	3.80	189.50	11,054.2	541.0	42.2	541.4	2.36	-1.88	19.38
11,172.0	2.80	204.40	11,101.1	538.5	41.5	538.8	2.79	-2.13	31.70
11,220.0	2.00	221.50	11,149.1	536.8	40.4	537.1	2.22	-1.67	35.63
11,315.0	1.80	265.50	11,244.0	535.4	37.8	535.7	1.51	-0.21	46.32
11,409.0	2.00	273.10	11,338.0	535.4	34.7	535.6	0.34	0.21	8.09
11,504.0	1.90	278.70	11,432.9	535.7	31.5	535.9	0.23	-0.11	5.89
11,599.0	2.00	285.70	11,527.9	536.4	28.4	536.6	0.27	0.11	7.37
11,694.0	1.80	284.70	11,622.8	537.2	25.3	537.4	0.21	-0.21	-1.05
11,788.0	2.00	289.20	11,716.8	538.1	22.4	538.3	0.27	0.21	4.79
11,883.0	2.10	288.00	11,811.7	539.2	19.1	539.4	0.11	0.11	-1.26
11,978.0	2.20	292.60	11,906.6	540.5	15.8	540.6	0.21	0.11	4.84
12,073.0	2.00	288.60	12,001.6	541.7	12.5	541.8	0.26	-0.21	-4.21
12,167.0	2.20	286.30	12,095.5	542.7	9.3	542.8	0.23	0.21	-2.45
12,262.0	2.00	287.90	12,190.4	543.7	5.9	543.8	0.22	-0.21	1.68
PH: TD @ 12316' MD/12244' TVD									
12,316.0	2.00	287.90	12,244.4	544.3	4.1	544.3	0.00	0.00	0.00

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
513.0	513.0	3.7	0.0	PH: First MWD Survey @ 513' MD/TVD
12,316.0	12,244.4	544.3	4.1	PH: TD @ 12316' MD/12244' TVD

Checked By: _____ Approved By: _____ Date: _____



Jay-Bee Oil & Gas

Tyler County
Jack Hair et al
RPT 8-4U

Wellbore #1

Design: Wellbore #1

QES Survey Report

01 March, 2017



Survey Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM5002

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	Jack Hair et al				
Site Position:		Northing:	360,680.39 usft	Latitude:	39° 28' 59.261 N
From:	Lat/Long	Easting:	1,605,541.96 usft	Longitude:	80° 47' 9.593 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.82 °

Well	RPT 8-4U					
Well Position	+N/-S	0.0 usft	Northing:	360,670.87 usft	Latitude:	39° 28' 59.167 N
	+E/-W	0.0 usft	Easting:	1,605,544.93 usft	Longitude:	80° 47' 9.553 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	1,246.5 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/27/2017	-8.56	66.76	52,073

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	11,125.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	347.38	

Survey Program	Date	3/1/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
513.0	11,125.0	MWD (Pilot)	MWD default	MWD - Standard
11,151.0	18,720.0	MWD Surveys (Wellbore #1)	MWD default	MWD - Standard

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
513.0	0.82	0.00	513.0	3.7	0.0	3.6	0.16	0.16	0.00
608.0	2.84	68.30	607.9	5.2	2.2	4.6	2.79	2.13	71.89
703.0	2.65	58.17	702.8	7.2	6.2	5.7	0.55	-0.20	-10.66
798.0	2.26	68.34	797.7	9.1	9.8	6.7	0.61	-0.41	10.71
892.0	0.53	108.56	891.7	9.6	12.0	6.8	2.01	-1.84	42.79
987.0	1.67	201.13	986.7	8.2	11.9	5.4	1.87	1.20	97.44
1,081.0	2.32	187.53	1,080.6	5.0	11.2	2.5	0.85	0.69	-14.47
1,176.0	2.19	176.73	1,175.6	1.3	11.0	-1.1	0.47	-0.14	-11.37
1,223.0	1.23	263.20	1,222.6	0.4	10.6	-1.9	5.20	-2.04	183.98



Survey Report



Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM5002

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,271.0	0.79	242.98	1,270.5	0.2	9.8	-2.0	1.17	-0.92	-42.13
1,318.0	0.27	324.80	1,317.5	0.1	9.4	-1.9	1.70	-1.11	174.09
1,366.0	1.06	349.18	1,365.5	0.6	9.3	-1.4	1.71	1.65	50.79
1,413.0	2.12	15.09	1,412.5	1.9	9.4	-0.2	2.67	2.26	55.13
1,461.0	3.69	24.61	1,460.5	4.2	10.3	1.8	3.41	3.27	19.83
1,508.0	4.89	15.61	1,507.3	7.5	11.4	4.8	2.92	2.55	-19.15
1,556.0	6.17	17.57	1,555.1	11.9	12.8	8.8	2.70	2.67	4.08
1,603.0	7.49	13.55	1,601.8	17.3	14.2	13.8	2.99	2.81	-8.55
1,650.0	8.65	7.43	1,648.3	23.8	15.4	19.8	3.07	2.47	-13.02
1,697.0	8.64	7.07	1,694.8	30.8	16.3	26.5	0.12	-0.02	-0.77
1,745.0	8.13	1.18	1,742.3	37.7	16.8	33.2	2.08	-1.06	-12.27
1,792.0	8.19	358.93	1,788.8	44.4	16.8	39.7	0.69	0.13	-4.79
1,840.0	8.11	359.89	1,836.3	51.2	16.8	46.3	0.33	-0.17	2.00
1,887.0	8.22	356.94	1,882.8	57.9	16.6	52.9	0.92	0.23	-6.28
1,935.0	8.13	357.20	1,930.3	64.7	16.2	59.6	0.20	-0.19	0.54
1,982.0	7.77	356.62	1,976.9	71.2	15.9	66.0	0.78	-0.77	-1.23
2,030.0	7.45	3.05	2,024.5	77.5	15.9	72.2	1.89	-0.67	13.40
2,077.0	7.46	6.49	2,071.1	83.6	16.4	78.0	0.95	0.02	7.32
2,125.0	7.79	7.45	2,118.6	89.9	17.1	84.0	0.74	0.69	2.00
2,219.0	8.46	13.64	2,211.7	103.0	19.6	96.2	1.17	0.71	6.59
2,508.0	7.86	11.95	2,497.8	143.0	28.7	133.2	0.22	-0.21	-0.58
2,603.0	9.23	7.05	2,591.7	156.9	31.0	146.3	1.63	1.44	-5.16
2,698.0	9.84	6.60	2,685.4	172.5	32.8	161.2	0.65	0.64	-0.47
2,792.0	10.33	359.56	2,777.9	188.9	33.7	177.0	1.41	0.52	-7.49
2,887.0	9.28	354.07	2,871.6	205.1	32.8	192.9	1.48	-1.11	-5.78
2,982.0	7.51	349.70	2,965.5	218.8	30.9	206.7	1.98	-1.86	-4.60
3,077.0	6.00	356.02	3,059.9	229.8	29.5	217.9	1.77	-1.59	6.65
3,172.0	6.76	7.65	3,154.3	240.3	29.9	228.0	1.57	0.80	12.24
3,266.0	7.91	12.70	3,247.5	252.1	32.0	239.0	1.40	1.22	5.37
3,361.0	8.79	16.58	3,341.5	265.5	35.6	251.3	1.10	0.93	4.08
3,456.0	9.43	16.22	3,435.3	279.9	39.8	264.4	0.68	0.67	-0.38
3,551.0	10.14	16.17	3,528.9	295.4	44.3	278.6	0.75	0.75	-0.05
3,649.0	9.98	13.32	3,625.4	312.0	48.7	293.8	0.53	-0.16	-2.91
3,743.0	9.91	3.17	3,718.0	328.0	51.0	308.9	1.86	-0.07	-10.80
3,838.0	11.53	353.28	3,811.4	345.6	50.3	326.2	2.57	1.71	-10.41
3,933.0	11.35	355.51	3,904.5	364.3	48.5	344.9	0.50	-0.19	2.35
4,027.0	9.38	356.97	3,996.9	381.2	47.4	361.6	2.11	-2.10	1.55
4,122.0	7.79	0.89	4,090.9	395.3	47.0	375.5	1.78	-1.67	4.13
4,217.0	7.38	3.69	4,185.0	407.9	47.5	387.6	0.58	-0.43	2.95
4,311.0	8.49	9.14	4,278.1	420.7	49.0	399.9	1.43	1.18	5.80
4,406.0	10.09	13.01	4,371.9	435.8	52.0	413.9	1.81	1.68	4.07
4,501.0	10.14	10.97	4,465.4	452.1	55.5	429.1	0.38	0.05	-2.15
4,596.0	10.85	6.54	4,558.8	469.2	58.1	445.2	1.13	0.75	-4.66



Survey Report

Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM5002

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)
4,693.0	10.52	6.10	4,654.2	487.1	60.1	462.2	0.35	-0.34	-0.45
4,788.0	10.57	5.87	4,747.5	504.4	61.9	478.6	0.07	0.05	-0.24
4,883.0	10.02	7.04	4,841.0	521.2	63.8	494.7	0.62	-0.58	1.23
4,978.0	11.33	7.90	4,934.4	538.7	66.1	511.2	1.39	1.38	0.91
5,073.0	11.38	6.92	5,027.5	557.2	68.5	528.8	0.21	0.05	-1.03
5,168.0	10.67	7.75	5,120.8	575.2	70.8	545.9	0.77	-0.75	0.87
5,263.0	10.31	7.06	5,214.2	592.4	73.0	562.1	0.40	-0.38	-0.73
5,358.0	10.49	3.07	5,307.6	609.5	74.6	578.4	0.78	0.19	-4.20
5,453.0	9.40	357.62	5,401.2	625.8	74.7	594.4	1.51	-1.15	-5.74
5,548.0	9.86	353.73	5,494.8	641.7	73.5	610.1	0.84	0.48	-4.09
5,643.0	9.38	349.56	5,588.5	657.4	71.2	625.9	0.89	-0.51	-4.39
5,737.0	7.33	353.94	5,681.5	670.9	69.2	639.6	2.28	-2.18	4.66
5,832.0	6.79	355.65	5,775.8	682.5	68.1	651.1	0.61	-0.57	1.80
5,927.0	4.90	355.35	5,870.3	692.2	67.3	660.7	1.99	-1.99	-0.32
6,022.0	3.02	353.47	5,965.1	698.7	66.7	667.2	1.98	-1.98	-1.98
6,117.0	1.50	358.90	6,060.0	702.4	66.4	670.9	1.61	-1.60	5.72
6,211.0	0.48	20.02	6,154.0	704.0	66.5	672.5	1.13	-1.09	22.47
6,306.0	0.60	324.20	6,249.0	704.8	66.4	673.3	0.54	0.13	-58.76
6,401.0	0.49	123.07	6,344.0	705.0	66.4	673.4	1.13	-0.12	167.23
6,496.0	0.98	108.98	6,439.0	704.5	67.5	672.7	0.55	0.52	-14.83
6,686.0	2.27	118.81	6,628.9	702.1	72.4	669.4	0.69	0.68	5.17
6,875.0	1.24	49.88	6,817.8	701.7	77.2	667.8	1.14	-0.54	-36.47
7,065.0	0.82	297.12	7,007.8	703.6	77.6	669.7	0.91	-0.22	-59.35
7,349.0	3.48	293.18	7,291.6	707.9	67.8	676.0	0.94	0.94	-1.39
7,533.0	2.62	276.26	7,475.3	710.6	58.5	680.6	0.67	-0.47	-9.20
7,722.0	2.56	256.59	7,664.1	710.1	50.1	682.0	0.47	-0.03	-10.41
7,912.0	2.00	207.50	7,854.0	706.1	44.5	679.4	1.03	-0.29	-25.84
8,102.0	1.25	182.60	8,043.9	701.1	42.8	674.8	0.53	-0.39	-13.11
8,291.0	0.27	339.65	8,232.9	699.5	42.6	673.3	0.79	-0.52	83.10
8,483.0	0.36	21.75	8,424.9	700.5	42.7	674.2	0.13	0.05	21.93
8,672.0	0.68	20.84	8,613.9	702.1	43.3	675.7	0.17	0.17	-0.48
8,862.0	1.15	359.44	8,803.9	705.0	43.7	678.5	0.30	0.25	-11.26
9,051.0	1.05	297.82	8,992.8	707.7	42.1	681.4	0.60	-0.05	-32.60
9,241.0	2.59	293.79	9,182.7	710.3	36.7	685.1	0.81	0.81	-2.12
9,432.0	1.81	261.40	9,373.6	711.6	29.7	687.9	0.75	-0.41	-16.96
9,609.0	1.32	219.65	9,550.5	709.6	25.7	686.8	0.68	-0.28	-23.59
9,798.0	2.50	201.36	9,739.4	704.1	22.8	682.1	0.70	0.62	-9.68
9,988.0	5.06	188.23	9,929.0	691.9	20.1	670.8	1.41	1.35	-6.91
10,180.0	4.49	184.82	10,120.3	676.1	18.2	655.7	0.33	-0.30	-1.78
10,369.0	7.12	177.45	10,308.3	657.0	18.1	637.1	1.44	1.39	-3.90
10,653.0	10.48	165.09	10,589.0	614.4	25.5	594.0	1.35	1.18	-4.35
10,792.0	13.10	162.70	10,725.0	587.2	33.5	565.7	1.92	1.88	-1.72
10,840.0	13.00	163.70	10,771.8	576.8	36.6	554.8	0.51	-0.21	2.08



Survey Report

Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM5002

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,887.0	10.20	167.30	10,817.8	567.6	39.0	545.4	6.15	-5.96	7.66	
10,935.0	8.30	168.40	10,865.2	560.1	40.6	537.7	3.98	-3.96	2.29	
10,982.0	6.90	172.30	10,911.8	554.0	41.7	531.5	3.17	-2.98	8.30	
11,030.0	5.60	175.20	10,959.5	548.8	42.3	526.3	2.79	-2.71	6.04	
11,077.0	4.70	180.20	11,006.3	544.6	42.5	522.1	2.14	-1.91	10.64	
Tie In @ 11125' MD / 11054' TVD										
11,125.0	3.80	189.50	11,054.2	541.0	42.2	518.8	2.36	-1.88	19.38	
11,151.0	3.30	197.10	11,080.1	539.5	41.8	517.3	2.64	-1.92	29.23	
11,183.0	4.00	186.90	11,112.1	537.5	41.4	515.5	2.98	2.19	-31.88	
11,214.0	6.20	172.80	11,143.0	534.8	41.5	512.8	8.12	7.10	-45.48	
11,246.0	6.80	169.30	11,174.7	531.2	42.1	509.2	2.25	1.88	-10.94	
11,293.0	5.50	162.70	11,221.5	526.3	43.3	504.1	3.14	-2.77	-14.04	
11,341.0	1.60	72.20	11,269.4	524.3	44.6	501.9	11.96	-8.13	-188.54	
11,388.0	7.10	6.30	11,316.3	527.4	45.5	504.7	14.06	11.70	-140.21	
11,435.0	11.50	359.60	11,362.6	535.0	45.8	512.0	9.63	9.36	-14.26	
11,482.0	14.10	354.00	11,408.5	545.4	45.2	522.3	6.12	5.53	-11.91	
11,530.0	16.20	349.00	11,454.8	557.7	43.3	534.8	5.15	4.38	-10.42	
11,577.0	18.40	349.20	11,499.7	571.5	40.7	548.8	4.68	4.68	0.43	
11,625.0	21.80	350.70	11,544.7	587.7	37.8	565.2	7.16	7.08	3.13	
11,672.0	25.10	353.50	11,587.8	606.2	35.3	583.9	7.41	7.02	5.96	
11,720.0	27.90	355.90	11,630.8	627.6	33.3	605.1	6.24	5.83	5.00	
11,767.0	30.90	358.80	11,671.7	650.6	32.3	627.8	7.06	6.38	6.17	
11,814.0	33.50	2.00	11,711.5	675.6	32.5	652.2	6.61	5.53	6.81	
11,909.0	42.10	3.30	11,786.5	733.7	35.2	708.3	9.09	9.05	1.37	
12,004.0	53.50	4.00	11,850.2	803.8	39.7	775.7	12.01	12.00	0.74	
12,098.0	61.80	5.30	11,900.5	882.9	46.2	851.5	8.91	8.83	1.38	
12,193.0	70.00	3.00	11,939.2	969.3	52.4	934.5	8.91	8.63	-2.42	
12,240.0	71.40	4.80	11,954.8	1,013.6	55.4	977.0	4.68	2.98	3.83	
12,288.0	72.40	5.80	11,969.7	1,059.0	59.7	1,020.4	2.87	2.08	2.08	
12,335.0	73.90	5.90	11,983.3	1,103.8	64.2	1,063.1	3.20	3.19	0.21	
12,383.0	77.00	7.00	11,995.4	1,149.9	69.5	1,107.0	6.83	6.46	2.29	
12,430.0	81.80	9.20	12,004.0	1,195.6	76.0	1,150.2	11.20	10.21	4.68	
12,478.0	85.30	10.20	12,009.4	1,242.6	84.0	1,194.3	7.58	7.29	2.08	
12,572.0	87.30	6.60	12,015.5	1,335.4	97.7	1,281.8	4.37	2.13	-3.83	
12,667.0	89.60	3.10	12,018.0	1,430.0	105.7	1,372.4	4.41	2.42	-3.68	
12,762.0	89.30	358.40	12,019.0	1,525.0	107.0	1,464.8	4.96	-0.32	-4.95	
12,857.0	91.10	354.40	12,018.6	1,619.8	101.0	1,558.6	4.62	1.89	-4.21	
12,951.0	89.70	350.10	12,018.0	1,712.9	88.3	1,652.2	4.81	-1.49	-4.57	
13,046.0	89.60	344.50	12,018.5	1,805.5	67.5	1,747.2	5.90	-0.11	-5.89	
13,140.0	92.00	344.40	12,017.2	1,896.1	42.3	1,841.0	2.56	2.55	-0.11	
13,235.0	92.70	344.40	12,013.3	1,987.5	16.7	1,935.8	0.74	0.74	0.00	
13,330.0	92.70	342.60	12,008.9	2,078.5	-10.2	2,030.5	1.89	0.00	-1.89	
13,425.0	90.10	343.40	12,006.5	2,169.3	-38.0	2,125.2	2.86	-2.74	0.84	
13,519.0	90.90	343.20	12,005.7	2,259.3	-65.0	2,218.9	0.88	0.85	-0.21	



Survey Report

Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM5002

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)	
13,614.0	91.00	342.90	12,004.1	2,350.2	-92.7	2,313.7	0.33	0.11	-0.32	
13,709.0	91.10	342.00	12,002.4	2,440.7	-121.3	2,408.3	0.95	0.11	-0.95	
13,804.0	91.80	342.10	12,000.0	2,531.1	-150.6	2,502.8	0.74	0.74	0.11	
13,899.0	91.30	343.10	11,997.4	2,621.7	-179.0	2,597.5	1.18	-0.53	1.05	
13,993.0	90.50	343.80	11,996.0	2,711.8	-205.8	2,691.2	1.13	-0.85	0.74	
14,088.0	90.80	343.10	11,994.9	2,802.9	-232.8	2,786.0	0.80	0.32	-0.74	
14,183.0	92.10	344.50	11,992.5	2,894.1	-259.3	2,880.8	2.01	1.37	1.47	
14,277.0	90.60	344.60	11,990.3	2,984.6	-284.3	2,974.6	1.60	-1.60	0.11	
14,372.0	89.60	343.40	11,990.1	3,075.9	-310.5	3,069.5	1.64	-1.05	-1.26	
14,467.0	89.30	342.60	11,991.0	3,166.8	-338.3	3,164.2	0.90	-0.32	-0.84	
14,561.0	89.70	342.90	11,991.8	3,256.6	-366.2	3,257.9	0.53	0.43	0.32	
14,656.0	92.80	345.10	11,989.8	3,347.8	-392.3	3,352.7	4.00	3.26	2.32	
14,751.0	90.40	344.00	11,987.1	3,439.4	-417.6	3,447.5	2.78	-2.53	-1.16	
14,846.0	91.40	345.30	11,985.6	3,531.0	-442.8	3,542.4	1.73	1.05	1.37	
14,941.0	91.30	346.60	11,983.4	3,623.1	-465.8	3,637.3	1.37	-0.11	1.37	
15,036.0	90.20	347.00	11,982.1	3,715.6	-487.5	3,732.3	1.23	-1.16	0.42	
15,131.0	88.00	343.10	11,983.6	3,807.3	-512.0	3,827.2	4.71	-2.32	-4.11	
15,225.0	87.40	343.90	11,987.4	3,897.4	-538.7	3,920.9	1.06	-0.64	0.85	
15,320.0	88.30	341.60	11,991.0	3,988.0	-566.9	4,015.5	2.60	0.95	-2.42	
15,414.0	88.60	340.20	11,993.5	4,076.8	-597.6	4,108.9	1.52	0.32	-1.49	
15,509.0	89.50	338.80	11,995.1	4,165.8	-630.9	4,203.0	1.75	0.95	-1.47	
15,604.0	91.70	340.40	11,994.1	4,254.8	-664.0	4,297.1	2.86	2.32	1.68	
15,699.0	92.60	340.20	11,990.5	4,344.2	-696.0	4,391.3	0.97	0.95	-0.21	
15,794.0	91.50	340.90	11,987.1	4,433.7	-727.6	4,485.6	1.37	-1.16	0.74	
15,888.0	92.40	340.60	11,983.9	4,522.4	-758.6	4,578.9	1.01	0.96	-0.32	
15,983.0	90.50	338.00	11,981.5	4,611.2	-792.1	4,672.9	3.39	-2.00	-2.74	
16,078.0	90.60	337.10	11,980.6	4,699.0	-828.4	4,766.5	0.95	0.11	-0.95	
16,172.0	89.80	334.30	11,980.3	4,784.7	-867.1	4,858.5	3.10	-0.85	-2.98	
16,267.0	91.20	336.40	11,979.4	4,871.0	-906.7	4,951.4	2.66	1.47	2.21	
16,361.0	89.30	338.50	11,979.0	4,957.8	-942.7	5,044.0	3.01	-2.02	2.23	
16,456.0	92.70	340.70	11,977.4	5,046.8	-975.9	5,138.1	4.26	3.58	2.32	
16,550.0	94.20	342.10	11,971.7	5,135.8	-1,005.8	5,231.4	2.18	1.60	1.49	
16,645.0	94.50	344.30	11,964.5	5,226.4	-1,033.2	5,325.9	2.33	0.32	2.32	
16,740.0	94.10	345.30	11,957.4	5,317.9	-1,058.0	5,420.5	1.13	-0.42	1.05	
16,835.0	92.00	342.50	11,952.3	5,409.0	-1,084.3	5,515.2	3.68	-2.21	-2.95	
16,930.0	90.60	344.80	11,950.2	5,500.1	-1,111.0	5,610.0	2.83	-1.47	2.42	
17,025.0	90.20	342.70	11,949.5	5,591.3	-1,137.6	5,704.8	2.25	-0.42	-2.21	
17,120.0	91.10	344.00	11,948.4	5,682.3	-1,164.8	5,799.5	1.66	0.95	1.37	
17,214.0	91.10	343.90	11,946.6	5,772.6	-1,190.8	5,893.3	0.11	0.00	-0.11	
17,309.0	91.60	343.80	11,944.4	5,863.9	-1,217.2	5,988.1	0.54	0.53	-0.11	
17,404.0	90.70	343.40	11,942.5	5,955.0	-1,244.0	6,082.9	1.04	-0.95	-0.42	
17,499.0	91.00	343.00	11,941.1	6,045.9	-1,271.5	6,177.7	0.53	0.32	-0.42	
17,593.0	91.60	342.40	11,938.9	6,135.6	-1,299.4	6,271.3	0.90	0.64	-0.64	



Survey Report

Company:	Jay-Bee Oil & Gas	Local Co-ordinate Reference:	Well RPT 8-4U
Project:	Tyler County	TVD Reference:	well @ 1267.1usft (Nomac #81)
Site:	Jack Hair et al	MD Reference:	well @ 1267.1usft (Nomac #81)
Well:	RPT 8-4U	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM5002

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)	
17,688.0	89.50	344.20	11,938.0	6,226.6	-1,326.7	6,366.1	2.91	-2.21	1.89	
17,783.0	89.80	343.90	11,938.6	6,318.0	-1,352.8	6,460.9	0.45	0.32	-0.32	
17,878.0	90.00	342.70	11,938.8	6,408.9	-1,380.1	6,555.7	1.28	0.21	-1.26	
17,972.0	90.60	342.50	11,938.3	6,498.6	-1,408.3	6,649.3	0.67	0.64	-0.21	
18,067.0	89.70	342.00	11,938.0	6,589.1	-1,437.2	6,743.9	1.08	-0.95	-0.53	
18,162.0	90.50	344.20	11,937.9	6,680.0	-1,464.8	6,838.7	2.46	0.84	2.32	
18,256.0	90.70	343.60	11,936.9	6,770.3	-1,490.9	6,932.5	0.67	0.21	-0.64	
18,351.0	90.50	342.70	11,935.9	6,861.2	-1,518.4	7,027.2	0.97	-0.21	-0.95	
18,446.0	90.90	342.60	11,934.7	6,951.9	-1,546.8	7,121.9	0.43	0.42	-0.11	
18,540.0	90.70	341.40	11,933.4	7,041.3	-1,575.8	7,215.5	1.29	-0.21	-1.28	
18,635.0	91.00	342.50	11,932.0	7,131.6	-1,605.2	7,310.0	1.20	0.32	1.16	
18,669.0	91.10	342.70	11,931.4	7,164.0	-1,615.4	7,343.9	0.66	0.29	0.59	
TD @ 18720.0' MD / 11930.4' TVD										
18,720.0	91.10	342.70	11,930.4	7,212.7	-1,630.6	7,394.7	0.00	0.00	0.00	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
11,125.0	11,054.2	541.0	42.2	Tie In @ 11125' MD / 11054' TVD	
18,720.0	11,930.4	7,212.7	-1,630.6	TD @ 18720.0' MD / 11930.4' TVD	

Checked By: _____ Approved By: _____ Date: _____