



## **QEP Energy**

**Martin County, Tx  
University  
7-1726 S 11SS**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**12 August, 2016**



<b>Company:</b>	QEP Energy	<b>Local Co-ordinate Reference:</b>	Well 7-1726 S 11SS
<b>Project:</b>	Martin County, Tx	<b>TVD Reference:</b>	RKB @ 2954.00ft (Unit 401)
<b>Site:</b>	University	<b>MD Reference:</b>	RKB @ 2954.00ft (Unit 401)
<b>Well:</b>	7-1726 S 11SS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	PROD R5000 LDAP

<b>Project</b>	Martin County, Tx		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Texas North Central 4202		

<b>Site</b>	University		
<b>Site Position:</b>		<b>Northing:</b>	297,700.34 ft
<b>From:</b>	Map	<b>Easting:</b>	557,262.29 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	32° 23' 48.105 N
		<b>Longitude:</b>	102° 10' 32.603 W
		<b>Grid Convergence:</b>	-2.55 °

<b>Well</b>	7-1726 S 11SS		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 302,293.60 ft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 547,760.95 ft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
		<b>Latitude:</b>	32° 24' 29.316 N
		<b>Longitude:</b>	102° 12' 25.708 W
		<b>Ground Level:</b>	2,933.00 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	6/27/2016	6.42	60.46	48,290

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	165.26	

<b>Survey Program</b>	<b>Date</b>	8/12/2016			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
78.80	8,914.00	GyroData Gyro's (Wellbore #1)	Good_gyro	Good Gyro	
8,998.00	17,202.00	Crescent MWD Surveys (Wellbore #1)	MWD+IGRF	OWSG MWD + IGRF or WMM	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
78.80	0.30	222.29	78.80	-0.15	-0.14	0.11	0.38	0.38	0.00	
109.56	0.29	224.44	109.56	-0.27	-0.25	0.20	0.05	-0.03	6.99	
202.66	0.50	218.75	202.66	-0.75	-0.67	0.56	0.23	0.23	-6.11	
296.01	0.54	218.75	296.00	-1.41	-1.20	1.06	0.04	0.04	0.00	
387.15	0.65	224.51	387.14	-2.12	-1.83	1.58	0.14	0.12	6.32	
484.06	0.62	232.24	484.04	-2.83	-2.63	2.07	0.09	-0.03	7.98	
578.84	0.26	316.99	578.82	-2.99	-3.18	2.08	0.69	-0.38	89.42	
673.53	0.76	18.06	673.51	-2.23	-3.13	1.36	0.71	0.53	64.49	
768.79	1.42	33.99	768.75	-0.65	-2.28	0.05	0.76	0.69	16.72	

<b>Company:</b>	QEP Energy	<b>Local Co-ordinate Reference:</b>	Well 7-1726 S 11SS
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<b>Site:</b>	University	<b>MD Reference:</b>	RKB @ 2954.00ft (Unit 401)
<b>Well:</b>	7-1726 S 11SS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	PROD R5000 LDAP

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
863.28	2.46	39.56	863.18	1.88	-0.33	-1.90	1.12	1.10	5.89
958.26	3.25	36.67	958.04	5.61	2.58	-4.77	0.85	0.83	-3.04
1,052.92	3.36	38.09	1,052.55	9.95	5.89	-8.12	0.14	0.12	1.50
1,147.87	3.45	37.71	1,147.33	14.40	9.35	-11.54	0.10	0.09	-0.40
1,242.81	3.51	37.47	1,242.09	18.96	12.87	-15.07	0.07	0.06	-0.25
1,338.05	3.52	37.46	1,337.16	23.60	16.42	-18.64	0.01	0.01	-0.01
1,432.86	3.66	38.19	1,431.78	28.29	20.06	-22.25	0.16	0.15	0.77
1,527.41	4.16	37.72	1,526.11	33.37	24.03	-26.16	0.53	0.53	-0.50
1,622.49	5.11	34.48	1,620.88	39.59	28.53	-31.03	1.04	1.00	-3.41
1,717.17	6.11	33.10	1,715.10	47.29	33.67	-37.16	1.07	1.06	-1.46
1,812.28	6.57	33.31	1,809.63	56.07	39.42	-44.20	0.48	0.48	0.22
1,906.16	6.35	34.22	1,902.91	64.86	45.29	-51.20	0.26	-0.23	0.97
2,000.85	6.54	34.27	1,997.01	73.64	51.27	-58.17	0.20	0.20	0.05
2,094.95	7.08	33.80	2,090.44	82.89	57.52	-65.53	0.58	0.57	-0.50
2,190.30	7.37	35.21	2,185.03	92.77	64.31	-73.35	0.36	0.30	1.48
2,285.46	7.95	37.08	2,279.35	103.01	71.80	-81.35	0.66	0.61	1.97
2,380.52	8.22	37.56	2,373.46	113.64	79.91	-89.57	0.29	0.28	0.50
2,475.07	8.39	37.22	2,467.02	124.49	88.20	-97.95	0.19	0.18	-0.36
2,570.09	8.54	38.68	2,561.00	135.52	96.80	-106.43	0.28	0.16	1.54
2,664.62	8.43	39.15	2,654.50	146.37	105.56	-114.69	0.14	-0.12	0.50
2,758.96	7.72	36.53	2,747.90	156.82	113.70	-122.73	0.85	-0.75	-2.78
2,854.20	7.66	38.54	2,842.29	166.93	121.46	-130.53	0.29	-0.06	2.11
2,948.22	7.73	38.80	2,935.46	176.76	129.33	-138.04	0.08	0.07	0.28
3,043.22	7.73	39.40	3,029.60	186.67	137.39	-145.58	0.08	0.00	0.63
3,138.07	7.22	34.19	3,123.64	196.53	144.79	-153.23	0.89	-0.54	-5.49
3,232.66	6.94	33.45	3,217.51	206.22	151.28	-160.94	0.31	-0.30	-0.78
3,327.54	6.85	36.60	3,311.70	215.54	157.81	-168.30	0.41	-0.09	3.32
3,421.51	6.91	38.75	3,405.00	224.45	164.69	-175.16	0.28	0.06	2.29
3,516.03	7.11	37.89	3,498.81	233.50	171.84	-182.10	0.24	0.21	-0.91
3,610.75	7.18	40.18	3,592.80	242.65	179.26	-189.06	0.31	0.07	2.42
3,705.13	7.08	36.98	3,686.45	251.80	186.56	-196.05	0.43	-0.11	-3.39
3,799.77	6.37	39.15	3,780.44	260.53	193.39	-202.76	0.80	-0.75	2.29
3,894.07	5.75	37.84	3,874.21	268.32	199.59	-208.71	0.67	-0.66	-1.39
3,989.11	5.00	37.06	3,968.83	275.39	205.00	-214.16	0.79	-0.79	-0.82
4,084.11	4.23	24.97	4,063.52	281.87	208.98	-219.42	1.30	-0.81	-12.73
4,178.11	3.05	21.55	4,157.33	287.34	211.36	-224.10	1.28	-1.26	-3.64
4,272.78	2.25	19.69	4,251.90	291.43	212.91	-227.67	0.85	-0.85	-1.96
4,367.60	1.31	25.32	4,346.67	294.16	214.00	-230.03	1.01	-0.99	5.94
4,462.35	0.46	66.47	4,441.41	295.29	214.81	-230.92	1.07	-0.90	43.43
4,556.60	0.46	61.79	4,535.66	295.62	215.49	-231.06	0.04	0.00	-4.97
4,651.56	0.63	67.67	4,630.61	296.00	216.31	-231.22	0.19	0.18	6.19
4,746.28	0.70	73.38	4,725.33	296.36	217.35	-231.31	0.10	0.07	6.03
4,841.44	0.78	69.60	4,820.48	296.76	218.51	-231.39	0.10	0.08	-3.97

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<b>Well:</b>	7-1726 S 11SS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	PROD R5000 LDAP

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,935.60	0.79	72.63	4,914.63	297.17	219.73	-231.49	0.05	0.01	3.22	
5,030.68	0.82	69.95	5,009.70	297.60	221.00	-231.58	0.05	0.03	-2.82	
5,125.42	0.89	62.10	5,104.43	298.18	222.29	-231.81	0.14	0.07	-8.29	
5,220.15	1.01	60.30	5,199.15	298.94	223.66	-232.19	0.13	0.13	-1.90	
5,314.96	1.10	61.34	5,293.94	299.79	225.19	-232.63	0.10	0.09	1.10	
5,409.13	1.25	60.63	5,388.09	300.72	226.87	-233.10	0.16	0.16	-0.75	
5,504.06	1.39	58.43	5,483.00	301.83	228.76	-233.70	0.16	0.15	-2.32	
5,598.71	1.28	64.28	5,577.62	302.89	230.69	-234.23	0.18	-0.12	6.18	
5,693.09	0.77	100.51	5,671.99	303.24	232.26	-234.16	0.85	-0.54	38.39	
5,787.50	0.69	112.72	5,766.39	302.90	233.41	-233.55	0.18	-0.08	12.93	
5,882.48	0.52	198.20	5,861.37	302.27	233.80	-232.84	0.87	-0.18	90.00	
5,977.10	0.60	199.08	5,955.98	301.39	233.51	-232.06	0.09	0.08	0.93	
6,071.20	0.63	197.24	6,050.08	300.43	233.19	-231.22	0.04	0.03	-1.96	
6,165.90	0.64	192.20	6,144.77	299.42	232.93	-230.30	0.06	0.01	-5.32	
6,260.41	0.64	170.88	6,239.27	298.38	232.90	-229.31	0.25	0.00	-22.56	
6,355.68	0.62	166.63	6,334.54	297.36	233.10	-228.26	0.05	-0.02	-4.46	
6,450.40	0.54	159.54	6,429.25	296.44	233.38	-227.31	0.11	-0.08	-7.49	
6,544.93	0.35	191.52	6,523.78	295.74	233.47	-226.60	0.32	-0.20	33.83	
6,639.88	0.31	199.57	6,618.73	295.21	233.33	-226.13	0.06	-0.04	8.48	
6,734.28	0.28	211.17	6,713.13	294.78	233.12	-225.76	0.07	-0.03	12.29	
6,828.81	0.27	260.69	6,807.66	294.54	232.79	-225.62	0.24	-0.01	52.39	
6,923.63	0.24	272.97	6,902.48	294.52	232.37	-225.70	0.07	-0.03	12.95	
7,018.52	0.11	54.43	6,997.37	294.58	232.24	-225.79	0.35	-0.14	149.08	
7,113.34	0.15	67.41	7,092.19	294.68	232.43	-225.84	0.05	0.04	13.69	
7,208.65	0.17	41.66	7,187.50	294.83	232.64	-225.94	0.08	0.02	-27.02	
7,303.61	0.22	339.82	7,282.45	295.11	232.67	-226.20	0.22	0.05	-65.12	
7,398.64	0.25	28.40	7,377.48	295.46	232.71	-226.53	0.21	0.03	51.12	
7,493.81	0.45	81.35	7,472.65	295.70	233.17	-226.64	0.38	0.21	55.64	
7,588.80	0.56	98.11	7,567.64	295.69	234.00	-226.42	0.19	0.12	17.64	
7,683.09	0.81	104.82	7,661.92	295.46	235.10	-225.92	0.28	0.27	7.12	
7,778.20	1.13	100.56	7,757.02	295.11	236.68	-225.18	0.34	0.34	-4.48	
7,873.32	1.23	106.06	7,852.12	294.66	238.58	-224.26	0.16	0.11	5.78	
7,968.24	1.80	105.59	7,947.00	293.98	240.99	-222.99	0.60	0.60	-0.50	
8,063.27	1.79	105.64	8,041.99	293.18	243.86	-221.48	0.01	-0.01	0.05	
8,157.68	0.92	105.44	8,136.37	292.58	246.01	-220.35	0.92	-0.92	-0.21	
8,251.88	0.86	63.99	8,230.56	292.68	247.38	-220.11	0.67	-0.06	-44.00	
8,346.04	0.81	53.75	8,324.71	293.39	248.55	-220.49	0.17	-0.05	-10.88	
8,441.48	0.74	10.04	8,420.14	294.39	249.20	-221.30	0.61	-0.07	-45.80	
8,536.13	0.72	350.69	8,514.78	295.58	249.21	-222.45	0.26	-0.02	-20.44	
8,630.73	0.57	349.21	8,609.38	296.63	249.02	-223.51	0.16	-0.16	-1.56	
8,724.98	0.45	357.64	8,703.62	297.46	248.92	-224.34	0.15	-0.13	8.94	
8,819.55	0.38	4.23	8,798.19	298.15	248.93	-225.00	0.09	-0.07	6.97	
8,914.00	0.39	2.21	8,892.64	298.78	248.96	-225.60	0.02	0.01	-2.14	

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<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
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Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,005.00	1.76	182.11	8,983.63	297.69	248.93	-224.56	2.36	1.51	197.69	
9,036.00	5.57	181.78	9,014.56	295.71	248.86	-222.66	12.29	12.29	-1.06	
9,067.00	9.77	181.50	9,045.28	291.58	248.75	-218.69	13.55	13.55	-0.90	
9,099.00	13.83	180.78	9,076.59	285.04	248.62	-212.40	12.70	12.69	-2.25	
9,131.00	16.88	178.30	9,107.45	276.57	248.71	-204.18	9.75	9.53	-7.75	
9,162.00	19.28	173.50	9,136.92	266.98	249.42	-194.73	9.11	7.74	-15.48	
9,193.00	21.88	168.05	9,165.94	256.24	251.20	-183.90	10.41	8.39	-17.58	
9,225.00	24.91	163.08	9,195.31	243.96	254.39	-171.20	11.29	9.47	-15.53	
9,256.00	26.41	162.33	9,223.25	231.14	258.39	-157.79	4.95	4.84	-2.42	
9,287.00	26.11	167.79	9,251.05	217.90	261.92	-144.09	7.85	-0.97	17.61	
9,319.00	26.83	172.15	9,279.70	203.86	264.40	-129.88	6.47	2.25	13.63	
9,351.00	29.32	172.19	9,307.93	188.95	266.45	-114.93	7.78	7.78	0.13	
9,383.00	32.80	169.39	9,335.34	172.66	269.11	-98.51	11.77	10.88	-8.75	
9,414.00	34.89	168.34	9,361.09	155.72	272.45	-81.28	7.00	6.74	-3.39	
9,446.00	35.14	173.02	9,387.30	137.61	275.42	-63.01	8.43	0.78	14.63	
9,478.00	36.18	176.29	9,413.30	119.04	277.15	-44.61	6.79	3.25	10.22	
9,509.00	39.52	174.80	9,437.78	100.09	278.64	-25.90	11.17	10.77	-4.81	
9,541.00	42.98	173.75	9,461.83	79.10	280.75	-5.06	11.03	10.81	-3.28	
9,572.00	47.51	171.47	9,483.66	57.28	283.59	16.76	15.52	14.61	-7.35	
9,604.00	53.24	169.52	9,504.06	32.98	287.68	41.30	18.51	17.91	-6.09	
9,636.00	59.16	167.62	9,521.85	6.93	292.96	67.83	19.15	18.50	-5.94	
9,668.00	64.85	165.59	9,536.87	-20.54	299.52	96.07	18.64	17.78	-6.34	
9,699.00	70.55	164.73	9,548.63	-48.25	306.86	124.74	18.57	18.39	-2.77	
9,731.00	77.20	164.73	9,557.51	-77.89	314.96	155.46	20.78	20.78	0.00	
9,765.00	83.51	164.45	9,563.20	-110.19	323.86	188.96	18.58	18.56	-0.82	
9,797.00	87.67	164.14	9,565.66	-140.89	332.49	220.85	13.04	13.00	-0.97	
9,828.00	87.78	163.79	9,566.89	-170.66	341.05	251.82	1.18	0.35	-1.13	
9,860.00	88.88	164.51	9,567.83	-201.43	349.79	283.80	4.11	3.44	2.25	
9,923.00	91.31	165.58	9,567.72	-262.29	366.04	346.79	4.21	3.86	1.70	
9,954.00	92.10	166.22	9,566.80	-292.35	373.59	377.78	3.28	2.55	2.06	
9,986.00	92.35	166.03	9,565.56	-323.39	381.26	409.75	0.98	0.78	-0.59	
10,018.00	92.52	166.71	9,564.20	-354.46	388.79	441.72	2.19	0.53	2.13	
10,081.00	91.15	166.78	9,562.18	-415.75	403.23	504.66	2.18	-2.17	0.11	
10,113.00	90.00	166.80	9,561.86	-446.90	410.54	536.65	3.59	-3.59	0.06	
10,145.00	89.98	166.51	9,561.86	-478.03	417.93	568.64	0.91	-0.06	-0.91	
10,208.00	90.18	166.62	9,561.78	-539.31	432.57	631.62	0.36	0.32	0.17	
10,302.00	91.16	166.87	9,560.68	-630.80	454.12	725.58	1.08	1.04	0.27	
10,397.00	91.83	166.95	9,558.20	-723.30	475.62	820.51	0.71	0.71	0.08	
10,492.00	92.73	166.98	9,554.42	-815.78	497.03	915.39	0.95	0.95	0.03	
10,586.00	91.94	167.97	9,550.59	-907.46	517.40	1,009.24	1.35	-0.84	1.05	
10,681.00	92.03	167.82	9,547.30	-1,000.29	537.31	1,104.08	0.18	0.09	-0.16	
10,775.00	91.38	167.45	9,544.50	-1,092.07	557.43	1,197.96	0.80	-0.69	-0.39	
10,870.00	91.78	167.00	9,541.88	-1,184.68	578.43	1,292.87	0.63	0.42	-0.47	
10,964.00	91.74	167.66	9,538.99	-1,276.35	599.04	1,386.76	0.70	-0.04	0.70	

<b>Company:</b>	QEP Energy	<b>Local Co-ordinate Reference:</b>	Well 7-1726 S 11SS
<b>Project:</b>	Martin County, Tx	<b>TVD Reference:</b>	RKB @ 2954.00ft (Unit 401)
<b>Site:</b>	University	<b>MD Reference:</b>	RKB @ 2954.00ft (Unit 401)
<b>Well:</b>	7-1726 S 11SS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	PROD R5000 LDAP

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,059.00	90.91	168.32	9,536.80	-1,369.25	618.80	1,481.63	1.12	-0.87	0.69
11,154.00	91.41	167.84	9,534.87	-1,462.18	638.42	1,576.49	0.73	0.53	-0.51
11,249.00	91.13	166.52	9,532.77	-1,554.78	659.49	1,671.41	1.42	-0.29	-1.39
11,344.00	91.50	165.43	9,530.59	-1,646.93	682.51	1,766.38	1.21	0.39	-1.15
11,438.00	91.13	166.46	9,528.43	-1,738.09	705.33	1,860.35	1.16	-0.39	1.10
11,533.00	91.33	168.18	9,526.39	-1,830.75	726.18	1,955.26	1.82	0.21	1.81
11,628.00	92.28	167.60	9,523.40	-1,923.58	746.10	2,050.11	1.17	1.00	-0.61
11,723.00	90.71	167.27	9,520.92	-2,016.27	766.76	2,145.01	1.69	-1.65	-0.35
11,817.00	90.77	166.19	9,519.71	-2,107.75	788.33	2,238.97	1.15	0.06	-1.15
11,913.00	91.92	166.97	9,517.45	-2,201.11	810.61	2,334.91	1.45	1.20	0.81
12,007.00	91.38	168.85	9,514.75	-2,292.98	830.28	2,428.77	2.08	-0.57	2.00
12,102.00	89.82	170.19	9,513.75	-2,386.38	847.56	2,523.50	2.16	-1.64	1.41
12,197.00	90.29	169.43	9,513.66	-2,479.88	864.37	2,618.20	0.94	0.49	-0.80
12,292.00	90.52	168.07	9,512.99	-2,573.05	882.90	2,713.01	1.45	0.24	-1.43
12,386.00	90.04	170.16	9,512.53	-2,665.36	900.65	2,806.80	2.28	-0.51	2.22
12,481.00	90.66	169.25	9,511.95	-2,758.82	917.63	2,901.51	1.16	0.65	-0.96
12,576.00	89.12	169.64	9,512.13	-2,852.21	935.03	2,996.25	1.67	-1.62	0.41
12,671.00	89.60	169.03	9,513.19	-2,945.57	952.61	3,091.00	0.82	0.51	-0.64
12,766.00	90.35	168.56	9,513.23	-3,038.75	971.07	3,185.82	0.93	0.79	-0.49
12,861.00	90.83	167.97	9,512.26	-3,131.76	990.39	3,280.69	0.80	0.51	-0.62
12,956.00	90.83	166.51	9,510.88	-3,224.40	1,011.37	3,375.62	1.54	0.00	-1.54
13,050.00	90.60	168.91	9,509.71	-3,316.24	1,031.38	3,469.52	2.56	-0.24	2.55
13,145.00	91.50	169.28	9,507.97	-3,409.50	1,049.34	3,564.29	1.02	0.95	0.39
13,240.00	90.89	168.72	9,505.99	-3,502.74	1,067.47	3,659.06	0.87	-0.64	-0.59
13,335.00	89.82	169.45	9,505.40	-3,596.01	1,085.45	3,753.85	1.36	-1.13	0.77
13,430.00	90.80	169.36	9,504.88	-3,689.39	1,102.92	3,848.60	1.04	1.03	-0.09
13,526.00	91.56	169.20	9,502.91	-3,783.70	1,120.77	3,944.34	0.81	0.79	-0.17
13,622.00	89.99	168.17	9,501.61	-3,877.82	1,139.61	4,040.15	1.96	-1.64	-1.07
13,716.00	91.63	168.75	9,500.28	-3,969.90	1,158.41	4,133.99	1.85	1.74	0.62
13,811.00	89.66	167.51	9,499.21	-4,062.86	1,177.95	4,228.86	2.45	-2.07	-1.31
13,906.00	90.05	167.21	9,499.45	-4,155.56	1,198.74	4,323.80	0.52	0.41	-0.32
14,000.00	91.42	167.96	9,498.24	-4,247.35	1,218.94	4,417.71	1.66	1.46	0.80
14,096.00	88.87	166.86	9,498.00	-4,341.03	1,239.87	4,513.63	2.89	-2.66	-1.15
14,191.00	88.73	165.95	9,499.99	-4,433.35	1,262.19	4,608.59	0.97	-0.15	-0.96
14,286.00	89.01	166.03	9,501.86	-4,525.50	1,285.19	4,703.57	0.31	0.29	0.08
14,381.00	88.62	165.61	9,503.83	-4,617.59	1,308.45	4,798.54	0.60	-0.41	-0.44
14,475.00	89.91	165.56	9,505.03	-4,708.62	1,331.85	4,892.53	1.37	1.37	-0.05
14,570.00	90.62	166.13	9,504.59	-4,800.73	1,355.08	4,987.52	0.96	0.75	0.60
14,665.00	90.44	166.23	9,503.72	-4,892.98	1,377.77	5,082.51	0.22	-0.19	0.11
14,760.00	91.20	165.54	9,502.36	-4,985.10	1,400.94	5,177.49	1.08	0.80	-0.73
14,791.00	91.43	165.22	9,501.64	-5,015.09	1,408.76	5,208.48	1.27	0.74	-1.03
14,823.00	90.59	166.43	9,501.08	-5,046.11	1,416.60	5,240.47	4.60	-2.63	3.78
14,855.00	89.66	167.06	9,501.01	-5,077.26	1,423.93	5,272.46	3.51	-2.91	1.97

<b>Company:</b>	QEP Energy	<b>Local Co-ordinate Reference:</b>	Well 7-1726 S 11SS
<b>Project:</b>	Martin County, Tx	<b>TVD Reference:</b>	RKB @ 2954.00ft (Unit 401)
<b>Site:</b>	University	<b>MD Reference:</b>	RKB @ 2954.00ft (Unit 401)
<b>Well:</b>	7-1726 S 11SS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	PROD R5000 LDAP

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,886.00	89.16	167.03	9,501.33	-5,107.47	1,430.88	5,303.45	1.62	-1.61	-0.10
14,950.00	88.09	165.91	9,502.87	-5,169.67	1,445.85	5,367.41	2.42	-1.67	-1.75
15,044.00	88.68	167.42	9,505.52	-5,261.10	1,467.52	5,461.34	1.72	0.63	1.61
15,139.00	89.59	167.83	9,506.95	-5,353.88	1,487.88	5,556.25	1.05	0.96	0.43
15,234.00	90.43	168.63	9,506.93	-5,446.88	1,507.26	5,651.12	1.22	0.88	0.84
15,329.00	90.94	168.19	9,505.80	-5,539.93	1,526.34	5,745.97	0.71	0.54	-0.46
15,424.00	90.38	166.59	9,504.70	-5,632.63	1,547.08	5,840.89	1.78	-0.59	-1.68
15,519.00	88.76	166.62	9,505.42	-5,725.04	1,569.09	5,935.86	1.71	-1.71	0.03
15,615.00	89.68	168.58	9,506.72	-5,818.79	1,589.70	6,031.77	2.26	0.96	2.04
15,709.00	90.91	168.54	9,506.24	-5,910.92	1,608.34	6,125.61	1.31	1.31	-0.04
15,804.00	91.14	168.42	9,504.54	-6,003.99	1,627.31	6,220.44	0.27	0.24	-0.13
15,898.00	89.60	168.61	9,503.93	-6,096.10	1,646.03	6,314.29	1.65	-1.64	0.20
15,992.00	88.48	168.61	9,505.51	-6,188.24	1,664.59	6,408.11	1.19	-1.19	0.00
16,087.00	88.79	168.08	9,507.77	-6,281.25	1,683.77	6,502.95	0.65	0.33	-0.56
16,182.00	87.89	168.49	9,510.52	-6,374.23	1,703.05	6,597.77	1.04	-0.95	0.43
16,277.00	89.21	169.11	9,512.93	-6,467.39	1,721.50	6,692.56	1.54	1.39	0.65
16,373.00	88.31	169.24	9,515.00	-6,561.66	1,739.53	6,788.31	0.95	-0.94	0.14
16,468.00	88.54	167.31	9,517.62	-6,654.64	1,758.82	6,883.14	2.05	0.24	-2.03
16,563.00	88.62	166.70	9,519.97	-6,747.18	1,780.18	6,978.07	0.65	0.08	-0.64
16,658.00	89.94	167.15	9,521.16	-6,839.70	1,801.67	7,073.02	1.47	1.39	0.47
16,753.00	89.49	167.02	9,521.64	-6,932.30	1,822.90	7,167.97	0.49	-0.47	-0.14
16,847.00	90.08	167.25	9,521.99	-7,023.94	1,843.83	7,261.91	0.67	0.63	0.24
16,941.00	90.97	167.14	9,521.13	-7,115.60	1,864.66	7,355.86	0.95	0.95	-0.12
17,036.00	91.70	167.17	9,518.91	-7,208.19	1,885.78	7,450.78	0.77	0.77	0.03
17,131.00	92.60	167.31	9,515.35	-7,300.78	1,906.74	7,545.65	0.96	0.95	0.15
17,141.00	92.82	167.26	9,514.88	-7,310.52	1,908.94	7,555.64	2.26	2.20	-0.50
Current MWD Survey : 17141' MD : 92.82° Inc. : 167.26° Azm.									
17,202.00	92.82	167.26	9,511.88	-7,369.95	1,922.38	7,616.52	0.00	0.00	0.00
Projection To TD: 17202' MD / 9512' TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL(U. 7-1726 S 11SS	0.00	360.00	9,518.00	-7,374.01	1,940.70	294,919.59	549,701.65	32° 23' 17.277 N	102° 11' 59.246 W
- actual wellpath misses target center by 19.74ft at 17202.00ft MD (9511.88 TVD, -7369.95 N, 1922.38 E)									
- Point									

<b>Company:</b>	QEP Energy	<b>Local Co-ordinate Reference:</b>	Well 7-1726 S 11SS
<b>Project:</b>	Martin County, Tx	<b>TVD Reference:</b>	RKB @ 2954.00ft (Unit 401)
<b>Site:</b>	University	<b>MD Reference:</b>	RKB @ 2954.00ft (Unit 401)
<b>Well:</b>	7-1726 S 11SS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	PROD R5000 LDAP

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
17,141.00	9,514.88	-7,310.52	1,908.94	Current MWD Survey : 17141' MD : 92.82° Inc. : 167.26° Azm.	
17,202.00	9,511.88	-7,369.95	1,922.38	Projection To TD: 17202' MD / 9512' TVD	

Checked By: _____	Approved By: _____	Date: _____
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