



# Scientific Drilling

## Survey Report



<b>Company:</b>	Newfield Explor. Mid Continent, Inc.	<b>Local Co-ordinate Reference:</b>	Well Mark 1H-27X
<b>Project:</b>	Stephens County, Oklahoma	<b>TVD Reference:</b>	Cactus 165 1188 GL + 28 KB @ 1216.00ft
<b>Site:</b>	Section34/27/23/14-2N-4W	<b>MD Reference:</b>	Cactus 165 1188 GL + 28 KB @ 1216.00ft
<b>Well:</b>	Mark 1H-27X	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1 Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1 As Drilled	<b>Database:</b>	Oklahoma District

<b>Project</b>	Stephens County, Oklahoma, Stephens County, Oklahoma		
<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>	Oklahoma South 3502		

<b>Site</b>	Section34/27/23/14-2N-4W, SHL Boles #6H-14X				
<b>Site Position:</b>	<b>Northing:</b>	469,325.00 usft	<b>Latitude:</b>	34.622344°N	
<b>From:</b>	<b>Easting:</b>	2,120,827.00 usft	<b>Longitude:</b>	97.598392°W	
<b>Position Uncertainty:</b>	2.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.23 °

<b>Well</b>	Mark 1H-27X, Black Marker					
<b>Well Position</b>	<b>+N-S</b>	0.00 ft	<b>Northing:</b>	469,233.00 usft	<b>Latitude:</b>	34.622091°N
	<b>+E-W</b>	0.00 ft	<b>Easting:</b>	2,120,885.00 usft	<b>Longitude:</b>	97.598200°W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	1,216.00 ft	<b>Ground Level:</b>	1,188.00 ft

<b>Wellbore</b>	ST1 Wellpath				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	BGGM2016	11/29/2016	(°)	(°)	(nT)
			4.02	62.97	50,085

<b>Design</b>	ST1 As Drilled				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	17,425.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N-S</b>	<b>+E-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	180.00	

<b>Survey Program</b>	<b>Date</b>	12/8/2016			
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
(ft)	(ft)				
239.00	730.00	Survey #1 Gyrodata (Original Wellpath)	MWD-POOR	MWD-POOR	
730.00	17,425.00	Survey #2 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1	
17,477.00	19,122.00	MWD ST1 Surveys (ST1 Wellpath)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N-S</b>	<b>+E-W</b>	<b>Vertical Section</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Turn Rate</b>	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
239.00	0.47	96.40	239.00	-0.11	0.97	0.11	0.20	0.20	0.00	0.00
495.00	0.64	87.65	494.99	-0.17	3.45	0.17	0.07	0.07	-3.42	-3.42
730.00	0.52	84.94	729.97	-0.02	5.82	0.02	0.05	-0.05	-1.15	-1.15
974.00	0.62	26.88	973.96	1.26	7.52	-1.26	0.23	0.04	-23.80	-23.80
1,158.00	0.79	44.72	1,157.95	3.04	8.86	-3.04	0.15	0.09	9.70	9.70
1,341.00	0.53	46.83	1,340.94	4.52	10.37	-4.52	0.14	-0.14	1.15	1.15
1,532.00	0.53	113.01	1,531.93	4.78	11.82	-4.78	0.30	0.00	34.65	34.65
1,722.00	0.35	255.83	1,721.93	4.29	12.07	-4.29	0.44	-0.09	75.17	75.17



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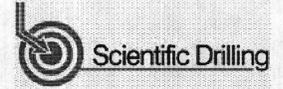


<b>Company:</b>	Newfield Explor. Mid Continent, Inc.	<b>Local Co-ordinate Reference:</b>	Well Mark 1H-27X
<b>Project:</b>	Stephens County, Oklahoma	<b>TVD Reference:</b>	Cactus 165 1188 GL + 28 KB @ 1216.00ft
<b>Site:</b>	Section34/27/23/14-2N-4W	<b>MD Reference:</b>	Cactus 165 1188 GL + 28 KB @ 1216.00ft
<b>Well:</b>	Mark 1H-27X	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1 Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1 As Drilled	<b>Database:</b>	Oklahoma District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,913.00	1.85	281.58	1,912.89	4.77	8.48	-4.77	0.81	0.79	13.48	
2,103.00	3.78	282.99	2,102.65	6.79	-0.62	-6.79	1.02	1.02	0.74	
2,293.00	4.92	288.62	2,292.10	10.80	-14.45	-10.80	0.64	0.60	2.96	
2,485.00	6.24	289.23	2,483.19	16.87	-32.10	-16.87	0.69	0.69	0.32	
2,675.00	7.74	284.22	2,671.77	23.41	-54.26	-23.41	0.85	0.79	-2.64	
2,866.00	8.35	283.78	2,860.89	29.88	-80.19	-29.88	0.32	0.32	-0.23	
3,057.00	8.35	283.43	3,049.86	36.40	-107.15	-36.40	0.03	0.00	-0.18	
3,248.00	8.44	285.54	3,238.82	43.38	-134.15	-43.38	0.17	0.05	1.10	
3,439.00	8.71	287.74	3,427.68	51.54	-161.43	-51.54	0.22	0.14	1.15	
3,630.00	8.18	286.77	3,616.61	59.87	-188.21	-59.87	0.29	-0.28	-0.51	
3,820.00	8.00	287.12	3,804.72	67.66	-213.79	-67.66	0.10	-0.09	0.18	
4,011.00	7.91	285.63	3,993.88	75.11	-239.15	-75.11	0.12	-0.05	-0.78	
4,202.00	7.56	289.06	4,183.15	82.76	-263.68	-82.76	0.30	-0.18	1.80	
4,393.00	8.18	286.59	4,372.35	90.74	-288.58	-90.74	0.37	0.32	-1.29	
4,584.00	7.91	292.31	4,561.47	99.61	-313.76	-99.61	0.44	-0.14	2.99	
4,774.00	7.65	290.64	4,749.72	109.03	-337.69	-109.03	0.18	-0.14	-0.88	
4,965.00	7.91	293.54	4,938.96	118.76	-361.63	-118.76	0.25	0.14	1.52	
5,156.00	7.48	287.87	5,128.25	127.82	-385.52	-127.82	0.46	-0.23	-2.97	
5,347.00	7.47	274.99	5,317.64	132.72	-409.72	-132.72	0.88	-0.01	-6.74	
5,539.00	6.24	277.89	5,508.26	135.24	-432.49	-135.24	0.67	-0.64	1.51	
5,730.00	4.48	272.00	5,698.42	136.92	-450.23	-136.92	0.96	-0.92	-3.08	
5,921.00	3.08	260.93	5,889.00	136.37	-462.75	-136.37	0.82	-0.73	-5.80	
6,112.00	2.73	245.46	6,079.76	133.67	-471.96	-133.67	0.45	-0.18	-8.10	
6,303.00	2.46	213.82	6,270.57	128.38	-478.37	-128.38	0.75	-0.14	-16.57	
6,494.00	3.08	188.95	6,461.36	119.90	-481.45	-119.90	0.70	0.32	-13.02	
6,685.00	2.81	169.00	6,652.11	110.24	-481.36	-110.24	0.55	-0.14	-10.45	
6,876.00	1.58	129.53	6,842.97	103.97	-478.43	-103.97	0.98	-0.64	-20.66	
7,067.00	1.23	91.04	7,033.92	102.25	-474.35	-102.25	0.51	-0.18	-20.15	
7,258.00	1.14	74.60	7,224.88	102.72	-470.47	-102.72	0.18	-0.05	-8.61	
7,449.00	1.23	60.54	7,415.84	104.23	-466.86	-104.23	0.16	0.05	-7.36	
7,640.00	1.14	56.41	7,606.80	106.29	-463.49	-106.29	0.06	-0.05	-2.16	
7,831.00	1.49	59.22	7,797.75	108.62	-459.77	-108.62	0.19	0.18	1.47	
8,021.00	1.41	68.19	7,987.69	110.75	-455.48	-110.75	0.13	-0.04	4.72	
8,212.00	1.85	63.09	8,178.61	113.02	-450.55	-113.02	0.24	0.23	-2.67	
8,403.00	2.29	60.45	8,369.49	116.29	-444.48	-116.29	0.24	0.23	-1.38	
8,498.00	2.81	43.93	8,464.39	118.91	-441.21	-118.91	0.94	0.55	-17.39	
8,593.00	2.99	44.54	8,559.27	122.35	-437.86	-122.35	0.19	0.19	0.64	
8,689.00	2.90	35.75	8,655.14	126.11	-434.68	-126.11	0.48	-0.09	-9.16	
8,784.00	2.81	35.40	8,750.03	129.95	-431.93	-129.95	0.10	-0.09	-0.37	
8,880.00	3.17	25.56	8,845.90	134.27	-429.42	-134.27	0.65	0.38	-10.25	
8,975.00	2.99	29.25	8,940.76	138.80	-427.08	-138.80	0.28	-0.19	3.88	
9,071.00	3.17	27.14	9,036.62	143.34	-424.65	-143.34	0.22	0.19	-2.20	
9,166.00	2.73	22.66	9,131.49	147.77	-422.58	-147.77	0.52	-0.46	-4.72	



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<b>Site:</b>	Section34/27/23/14-2N-4W	<b>MD Reference:</b>	Cactus 165 1188 GL + 28 KB @ 1216.00ft
<b>Well:</b>	Mark 1H-27X	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1 Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1 As Drilled	<b>Database:</b>	Oklahoma District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,262.00	3.08	29.16	9,227.37	152.13	-420.44	-152.13	0.50	0.36	6.77	
9,358.00	2.99	26.35	9,323.24	156.63	-418.07	-156.63	0.18	-0.09	-2.93	
9,453.00	3.08	17.03	9,418.10	161.29	-416.22	-161.29	0.53	0.09	-9.81	
9,549.00	2.81	15.54	9,513.98	166.02	-414.84	-166.02	0.29	-0.28	-1.55	
9,644.00	3.08	16.42	9,608.85	170.71	-413.49	-170.71	0.29	0.28	0.93	
9,740.00	3.17	19.41	9,704.71	175.69	-411.88	-175.69	0.19	0.09	3.11	
9,836.00	3.43	19.93	9,800.55	180.89	-410.02	-180.89	0.27	0.27	0.54	
9,931.00	3.43	18.26	9,895.38	186.26	-408.16	-186.26	0.11	0.00	-1.76	
10,027.00	3.69	21.60	9,991.19	191.86	-406.12	-191.86	0.35	0.27	3.48	
10,122.00	3.87	21.34	10,085.99	197.69	-403.83	-197.69	0.19	0.19	-0.27	
10,218.00	3.96	20.11	10,181.76	203.82	-401.51	-203.82	0.13	0.09	-1.28	
10,312.00	3.96	20.37	10,275.54	209.91	-399.27	-209.91	0.02	0.00	0.28	
10,408.00	2.99	19.58	10,371.36	215.38	-397.27	-215.38	1.01	-1.01	-0.82	
10,503.00	3.25	23.63	10,466.22	220.18	-395.36	-220.18	0.36	0.27	4.26	
10,599.00	3.78	24.77	10,562.04	225.55	-392.95	-225.55	0.56	0.55	1.19	
10,694.00	3.43	23.19	10,656.85	231.00	-390.52	-231.00	0.38	-0.37	-1.66	
10,789.00	3.34	19.32	10,751.69	236.23	-388.48	-236.23	0.26	-0.09	-4.07	
10,884.00	2.99	20.73	10,846.54	241.16	-386.69	-241.16	0.38	-0.37	1.48	
10,980.00	2.37	28.37	10,942.44	245.24	-384.86	-245.24	0.74	-0.65	7.96	
11,075.00	2.37	34.26	11,037.35	248.60	-382.82	-248.60	0.26	0.00	6.20	
11,171.00	2.46	29.95	11,133.27	252.02	-380.67	-252.02	0.21	0.09	-4.49	
11,267.00	3.08	20.29	11,229.16	256.23	-378.75	-256.23	0.81	0.65	-10.06	
11,362.00	3.34	20.02	11,324.01	261.22	-376.92	-261.22	0.27	0.27	-0.28	
11,458.00	3.25	23.54	11,419.85	266.34	-374.88	-266.34	0.23	-0.09	3.67	
11,554.00	3.69	33.82	11,515.67	271.40	-372.07	-271.40	0.79	0.46	10.71	
11,649.00	3.17	44.81	11,610.50	275.81	-368.52	-275.81	0.88	-0.55	11.57	
11,745.00	3.87	51.84	11,706.32	279.69	-364.10	-279.69	0.86	0.73	7.32	
11,840.00	3.78	54.30	11,801.11	283.50	-359.03	-283.50	0.20	-0.09	2.59	
11,936.00	2.99	46.65	11,896.94	287.07	-354.64	-287.07	0.95	-0.82	-7.97	
12,031.00	2.99	53.16	11,991.81	290.25	-350.86	-290.25	0.36	0.00	6.85	
12,127.00	3.61	57.46	12,087.66	293.38	-346.31	-293.38	0.69	0.65	4.48	
12,222.00	4.48	59.66	12,182.42	296.86	-340.58	-296.86	0.93	0.92	2.32	
12,318.00	5.45	62.47	12,278.06	300.86	-333.31	-300.86	1.04	1.01	2.93	
12,405.00	6.07	61.15	12,364.62	304.99	-325.61	-304.99	0.73	0.71	-1.52	
12,502.00	6.51	53.95	12,461.03	310.70	-316.67	-310.70	0.93	0.45	-7.42	
12,597.00	3.43	52.89	12,555.67	315.59	-310.05	-315.59	3.24	-3.24	-1.12	
12,692.00	1.93	126.55	12,650.58	316.35	-306.50	-316.35	3.61	-1.58	77.54	
12,788.00	2.90	162.40	12,746.50	313.07	-304.47	-313.07	1.82	1.01	37.34	
12,883.00	3.08	179.98	12,841.37	308.23	-303.74	-308.23	0.98	0.19	18.51	
12,979.00	4.13	182.97	12,937.18	302.20	-303.92	-302.20	1.11	1.09	3.11	
13,027.00	10.73	184.47	12,984.75	296.01	-304.36	-296.01	13.75	13.75	3.13	
13,075.00	17.67	183.50	13,031.26	284.27	-305.15	-284.27	14.47	14.46	-2.02	
13,122.00	25.15	182.97	13,074.98	267.15	-306.10	-267.15	15.92	15.91	-1.13	



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<b>Site:</b>	Section34/27/23/14-2N-4W	<b>MD Reference:</b>	Cactus 165 1188 GL + 28 KB @ 1216.00ft
<b>Well:</b>	Mark 1H-27X	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1 Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1 As Drilled	<b>Database:</b>	Oklahoma District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,170.00	33.33	185.43	13,116.83	243.80	-307.88	-243.80	17.22	17.04	5.13
13,218.00	41.06	185.43	13,155.04	214.93	-310.63	-214.93	16.10	16.10	0.00
13,266.00	49.24	181.74	13,188.87	181.00	-312.67	-181.00	17.89	17.04	-7.69
13,314.00	57.86	181.39	13,217.36	142.45	-313.72	-142.45	17.97	17.96	-0.73
13,361.00	64.10	179.90	13,240.15	101.37	-314.17	-101.37	13.56	13.28	-3.17
13,409.00	70.35	178.84	13,258.72	57.14	-313.67	-57.14	13.18	13.02	-2.21
13,456.00	78.00	179.98	13,271.53	11.96	-313.22	-11.96	16.44	16.28	2.43
13,551.00	87.76	182.71	13,283.29	-82.16	-315.45	82.16	10.66	10.27	2.87
13,647.00	88.02	182.27	13,286.83	-178.01	-319.62	178.01	0.53	0.27	-0.46
13,677.00	88.40	181.82	13,287.77	-207.97	-320.69	207.97	1.96	1.27	-1.50
13,773.00	87.90	182.36	13,290.87	-303.86	-324.19	303.86	0.77	-0.52	0.56
13,868.00	86.24	182.62	13,295.72	-398.64	-328.31	398.64	1.77	-1.75	0.27
13,964.00	86.48	182.94	13,301.82	-494.33	-332.95	494.33	0.42	0.25	0.33
14,059.00	86.67	182.99	13,307.49	-589.04	-337.86	589.04	0.21	0.20	0.05
14,155.00	85.12	183.64	13,314.36	-684.63	-343.40	684.63	1.75	-1.61	0.68
14,250.00	86.11	183.03	13,321.63	-779.19	-348.91	779.19	1.22	1.04	-0.64
14,346.00	86.30	183.61	13,327.98	-874.81	-354.45	874.81	0.63	0.20	0.60
14,442.00	85.99	183.85	13,334.43	-970.39	-360.68	970.39	0.41	-0.32	0.25
14,537.00	87.29	182.33	13,340.00	-1,065.09	-365.80	1,065.09	2.10	1.37	-1.60
14,633.00	87.41	181.08	13,344.44	-1,160.94	-368.65	1,160.94	1.31	0.13	-1.30
14,728.00	87.16	181.57	13,348.94	-1,255.81	-370.84	1,255.81	0.58	-0.26	0.52
14,824.00	86.42	180.34	13,354.32	-1,351.64	-372.44	1,351.64	1.49	-0.77	-1.28
14,920.00	86.92	181.47	13,359.89	-1,447.47	-373.95	1,447.47	1.29	0.52	1.18
15,015.00	86.92	182.16	13,365.00	-1,542.28	-376.96	1,542.28	0.73	0.00	0.73
15,111.00	85.37	180.13	13,371.45	-1,638.04	-378.87	1,638.04	2.66	-1.61	-2.11
15,206.00	85.31	180.32	13,379.17	-1,732.72	-379.25	1,732.72	0.21	-0.06	0.20
15,302.00	86.61	179.10	13,385.93	-1,828.48	-378.76	1,828.48	1.85	1.35	-1.27
15,397.00	87.04	179.52	13,391.20	-1,923.33	-377.62	1,923.33	0.63	0.45	0.44
15,493.00	87.29	179.97	13,395.94	-2,019.21	-377.19	2,019.21	0.54	0.26	0.47
15,589.00	87.47	180.61	13,400.33	-2,115.10	-377.68	2,115.10	0.69	0.19	0.67
15,684.00	87.22	181.07	13,404.73	-2,209.99	-379.07	2,209.99	0.55	-0.26	0.48
15,779.00	87.10	182.19	13,409.44	-2,304.84	-381.77	2,304.84	1.18	-0.13	1.18
15,875.00	87.04	182.29	13,414.35	-2,400.64	-385.51	2,400.64	0.12	-0.06	0.10
15,969.00	86.56	182.44	13,419.60	-2,494.41	-389.39	2,494.41	0.53	-0.51	0.16
16,065.00	86.48	183.09	13,425.42	-2,590.12	-394.01	2,590.12	0.68	-0.08	0.68
16,090.00	86.42	183.01	13,426.97	-2,615.04	-395.34	2,615.04	0.40	-0.24	-0.32
16,185.00	86.30	180.37	13,433.00	-2,709.80	-398.13	2,709.80	2.78	-0.13	-2.78
16,280.00	87.60	179.05	13,438.06	-2,804.66	-397.65	2,804.66	1.95	1.37	-1.39
16,376.00	88.64	178.65	13,441.21	-2,900.58	-395.73	2,900.58	1.16	1.08	-0.42
16,471.00	87.53	177.51	13,444.38	-2,995.47	-392.55	2,995.47	1.67	-1.17	-1.20
16,566.00	87.78	175.04	13,448.27	-3,090.19	-386.38	3,090.19	2.61	0.26	-2.60
16,662.00	89.08	174.14	13,450.90	-3,185.72	-377.33	3,185.72	1.65	1.35	-0.94
16,757.00	89.69	175.78	13,451.92	-3,280.34	-368.99	3,280.34	1.84	0.64	1.73
16,853.00	90.19	179.83	13,452.02	-3,376.25	-365.31	3,376.25	4.25	0.52	4.22



# Scientific Drilling

## Survey Report



<b>Company:</b>	Newfield Explor. Mid Continent, Inc.	<b>Local Co-ordinate Reference:</b>	Well Mark 1H-27X
<b>Project:</b>	Stephens County, Oklahoma	<b>TVD Reference:</b>	Cactus 165 1188 GL + 28 KB @ 1216.00ft
<b>Site:</b>	Section34/27/23/14-2N-4W	<b>MD Reference:</b>	Cactus 165 1188 GL + 28 KB @ 1216.00ft
<b>Well:</b>	Mark 1H-27X	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1 Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1 As Drilled	<b>Database:</b>	Oklahoma District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,948.00	90.68	180.57	13,451.30	-3,471.25	-365.64	3,471.25	0.93	0.52	0.78
17,044.00	89.75	180.22	13,450.94	-3,567.24	-366.30	3,567.24	1.04	-0.97	-0.36
17,139.00	89.88	180.61	13,451.24	-3,662.24	-366.99	3,662.24	0.43	0.14	0.41
17,235.00	89.82	180.15	13,451.50	-3,758.24	-367.63	3,758.24	0.48	-0.06	-0.48
17,330.00	90.56	180.56	13,451.18	-3,853.24	-368.22	3,853.24	0.89	0.78	0.43
17,425.00	91.11	180.48	13,449.80	-3,948.22	-369.08	3,948.22	0.59	0.58	-0.08
17,477.00	88.15	180.34	13,450.13	-4,000.21	-369.45	4,000.21	5.70	-5.69	-0.27
17,520.00	85.37	179.65	13,452.56	-4,043.14	-369.45	4,043.14	6.66	-6.47	-1.60
17,616.00	84.50	179.30	13,461.04	-4,138.76	-368.57	4,138.76	0.98	-0.91	-0.36
17,711.00	86.36	179.24	13,468.61	-4,233.45	-367.37	4,233.45	1.96	1.96	-0.06
17,807.00	87.18	180.33	13,474.02	-4,329.29	-367.01	4,329.29	1.42	0.85	1.14
17,902.00	87.90	180.23	13,478.09	-4,424.20	-367.47	4,424.20	0.77	0.76	-0.11
17,997.00	88.77	180.77	13,480.85	-4,519.16	-368.30	4,519.16	1.08	0.92	0.57
18,093.00	89.38	181.03	13,482.40	-4,615.13	-369.81	4,615.13	0.69	0.64	0.27
18,188.00	88.21	180.83	13,484.40	-4,710.10	-371.35	4,710.10	1.25	-1.23	-0.21
18,283.00	86.12	179.93	13,489.10	-4,804.97	-371.98	4,804.97	2.39	-2.20	-0.95
18,343.00	85.93	179.95	13,493.26	-4,864.83	-371.92	4,864.83	0.32	-0.32	0.03
18,360.00	85.45	179.64	13,494.54	-4,881.78	-371.86	4,881.78	3.35	-2.83	-1.80
<b>0'FNL &amp; 523.30'FEL - From Sec 27 into Sec 34</b>									
18,378.00	84.94	179.32	13,496.05	-4,899.71	-371.69	4,899.71	3.35	-2.83	-1.80
18,474.00	86.03	178.74	13,503.60	-4,995.40	-370.07	4,995.40	1.29	1.14	-0.60
18,569.00	86.48	179.57	13,509.81	-5,090.19	-368.68	5,090.19	0.99	0.47	0.87
18,665.00	86.61	180.55	13,515.59	-5,186.01	-368.78	5,186.01	1.03	0.14	1.02
18,760.00	86.61	181.53	13,521.21	-5,280.83	-370.50	5,280.83	1.03	0.00	1.03
18,856.00	86.73	183.38	13,526.79	-5,376.57	-374.60	5,376.57	1.93	0.13	1.93
18,951.00	88.03	184.10	13,531.13	-5,471.27	-380.79	5,471.27	1.56	1.37	0.76
19,047.00	89.56	183.15	13,533.15	-5,567.05	-386.86	5,567.05	1.88	1.59	-0.99
<b>Last MWD SVY</b>									
19,122.00	89.56	183.15	13,533.72	-5,641.94	-390.98	5,641.94	0.00	0.00	0.00
<b>Actual BHL 19122'MD - 742.46'FNL &amp; 540.95'FEL of Sec 34</b>									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
18,360.00	13,494.54	-4,881.78	-371.86	0'FNL & 523.30'FEL
18,360.00	13,494.54	-4,881.78	-371.86	From Sec 27 into Sec 34
19,047.00	13,533.15	-5,567.05	-386.86	Last MWD SVY
19,122.00	13,533.72	-5,641.94	-390.98	Actual BHL 19122'MD
19,122.00	13,533.72	-5,641.94	-390.98	742.46'FNL & 540.95'FEL of Sec 34

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

**SUMMARY OF BOTTOM HOLE LOCATIONS  
NEWFIELD EXPLORATION MID-CONTINENT, INC.**

Mark 1H-27X  
27&34-2N-4W  
Stephens Co.

CD# 2016-4038-T (Multi Unit Hz) Int. Order 659664  
CD 2016-4039-T (Loc. Exc.- sec. 27&34) Int. Order 658392

	MD	TVD	Location
Surface Location			386' FNL & 162' FEL of sec. 27-2N-4W
Springer	11,532'	11,494'	121' FNL & 534' FEL of sect. 27-2N-4W
First Perforation	13,342'	13,231'	273' FNL & 476' FEL of sect. 27-2N-4W
South line of sec. 27 / North line of sec. 34	18,369'	13,495'	0' FSL & 543' FEL of sect. 27-2N-4W
Last Perforation	18,978'	13,532'	607' FNL & 555' FEL of sect. 34-2N-4W
Terminus (BHL)	19,122'	13,534'	751' FNL & 564' FEL of sect. 34-2N-4W

X/Y COORDINATES  
X:2120513 Y:464343

X/Y COORDINATES  
X:2120492 Y:463592

Perforations in sections 27&34 are in the Springer only.

The completion interval (CI) is from first perforation 13,342' to last perforation 18,978' MD.

<u>Formation tops and entry points</u>	<u>MD</u>	<u>Length of CI in each unit (% of total)</u>
Springer	11,532	
First Perforation	13,342	
South line of sec. 27 / North line of sec. 34	18,369	5,027 ' in section 27 (89.1945%)
Last Perforation	18,978	609 ' in section 34 (10.8055%)
Total Depth (BHL) in Springer	19,122	
		5,636 ' total length of C.I. (100%)

