



## **EP Energy E&P Company, L.P.**

Crockett Co, TX

University Salt Draw 3820

OH

OH

**Design: Surveys**

## **Standard Survey Report**

29 March, 2017

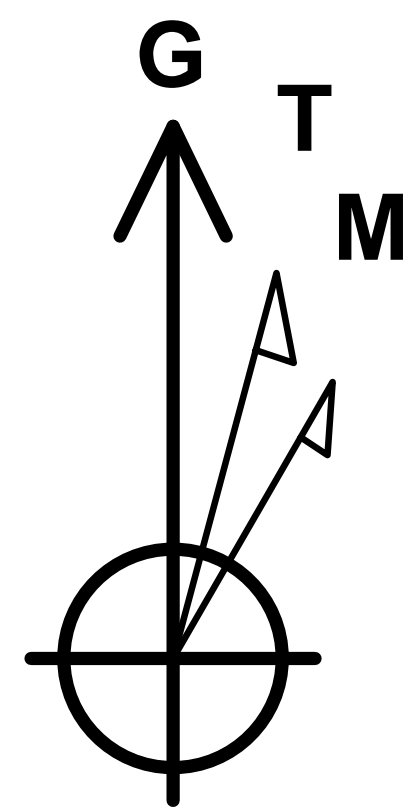






WELL DETAILS: OH

Ground Elevation: 2611.00  
RKB Elevation: KB=27 (Nabors 888) @ 2638.00ft (Nabors 888)  
Rig Name: Nabors 888  
Wellbore: OH  
Plan: PN3



Azimuths to Grid North  
True North: 0.39°  
Magnetic North: 5.88°  
  
Magnetic Field  
Strength: 47587.6snT  
Dip Angle: 59.63°  
Date: 3/7/2017  
Model: HDGM

Northing 498577.550      Easting 1761276.930      Latitude 31° 2' 7.17682 N      Longitude 101° 5' 44.07415 W

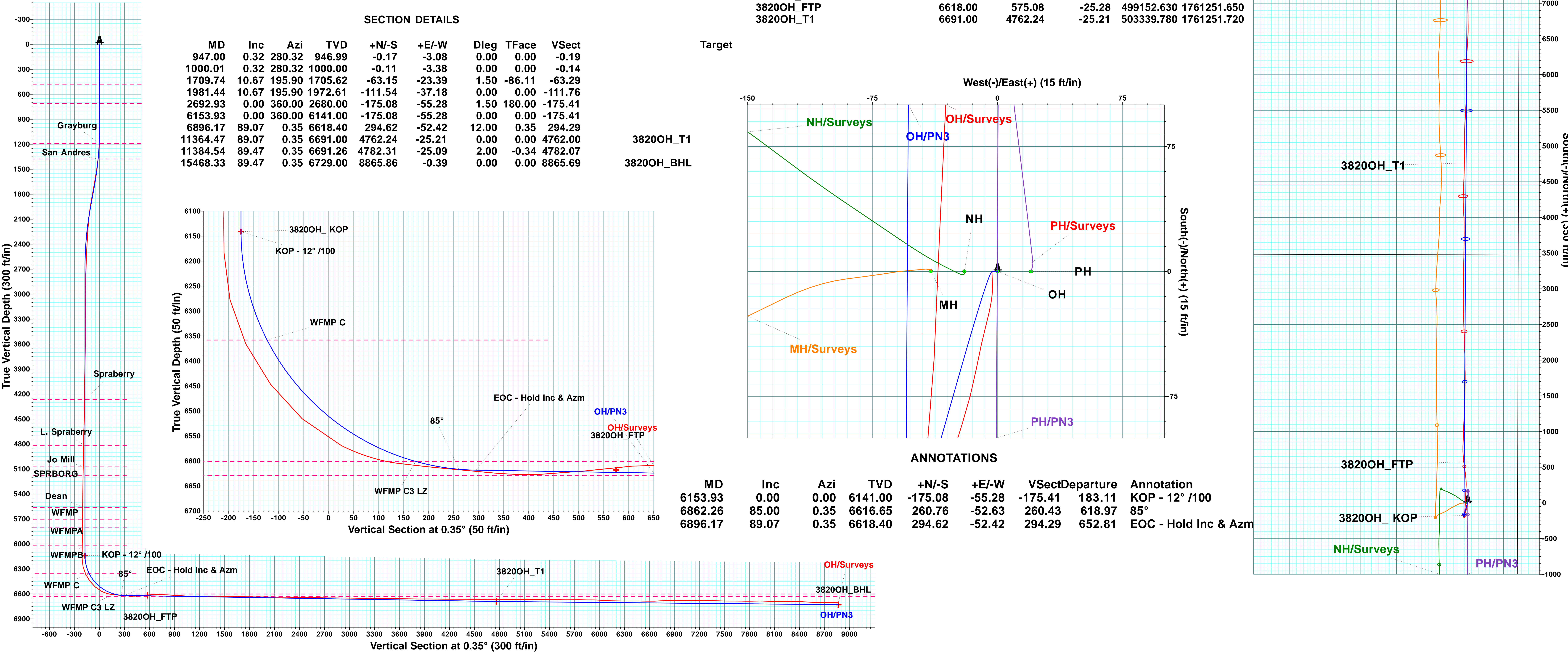
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
3820OH_KOP	6141.00	-175.08	-55.28	498402.470	1761221.650
3820OH_BHL	6729.00	8865.86	-0.39	507443.390	1761276.540
3820OH_FTP	6618.00	575.08	-25.28	499152.630	1761251.650
3820OH_T1	6691.00	4762.24	-25.21	503339.780	1761251.720

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
947.00	0.32	280.32	946.99	-0.17	-3.08	0.00	0.00	-0.19
1000.01	0.32	280.32	1000.00	-0.11	-3.38	0.00	0.00	-0.14
1709.74	10.67	195.90	1705.62	-63.15	-23.39	1.50	-86.11	-63.29
1981.44	10.67	195.90	1972.61	-111.54	-37.18	0.00	0.00	-111.76
2692.93	0.00	360.00	2680.00	-175.08	-55.28	1.50	180.00	-175.41
6153.93	0.00	360.00	6141.00	-175.08	-55.28	0.00	0.00	-175.41
6896.17	89.07	0.35	6618.40	294.62	-52.42	12.00	0.35	294.29
11364.47	89.07	0.35	6691.00	4762.24	-25.21	0.00	0.00	4762.00
11384.54	89.47	0.35	6691.26	4782.31	-25.09	2.00	-0.34	4782.07
15468.33	89.47	0.35	6729.00	8865.86	-0.39	0.00	0.00	8865.69

3820OH\_T1  
3820OH\_BHL





<b>Company:</b>	EP Energy E&P Company, L.P.	<b>Local Co-ordinate Reference:</b>	Well OH
<b>Project:</b>	Crockett Co, TX	<b>TVD Reference:</b>	KB=27 (Nabors 888) @ 2638.00ft (Nabors 888)
<b>Site:</b>	University Salt Draw 3820	<b>MD Reference:</b>	KB=27 (Nabors 888) @ 2638.00ft (Nabors 888)
<b>Well:</b>	OH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	RyanUSA_Compass

<b>Project</b>	Crockett Co, TX, Crockett Co, 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 Central 4203		

<b>Site</b>	University Salt Draw 3820		
<b>Site Position:</b>		<b>Northing:</b>	498,904.940 usft
<b>From:</b>	Map	<b>Easting:</b>	1,757,113.810 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	31° 2' 10.13259 N
		<b>Longitude:</b>	101° 6' 31.95308 W
		<b>Grid Convergence:</b>	-0.40 °

<b>Well</b>	OH		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 498,577.550 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 1,761,276.930 usft
<b>Position Uncertainty</b>	2.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	31° 2' 7.17682 N
		<b>Longitude:</b>	101° 5' 44.07415 W
		<b>Ground Level:</b>	2,611.00 ft

<b>Wellbore</b>	OH		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>
	HDGM	3/7/2017	5.48
			<b>Dip Angle (°)</b> 59.63
			<b>Field Strength (nT)</b> 47,587.60000000

<b>Design</b>	Surveys		
<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>
	0.00	0.00	0.00
			<b>Direction (°)</b> 0.35

<b>Survey Program</b>	<b>Date</b>	3/29/2017		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
27.00	947.00	MS Energy (OH)	GYRO-NS	OWSG Gyrocompass Gyro
1,089.00	15,526.00	NDS MWD (OH)	MWD+HRGM	OWSG MWD + HRGM

<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
27.00	0.00	360.00	27.00	0.00	0.00	0.00	0.00	0.00	0.00
77.00	0.15	133.48	77.00	-0.05	0.05	-0.04	0.30	0.30	0.00
127.00	0.20	195.73	127.00	-0.17	0.07	-0.17	0.37	0.10	124.50
177.00	0.20	249.55	177.00	-0.29	-0.03	-0.29	0.36	0.00	107.64
227.00	0.09	257.81	227.00	-0.33	-0.15	-0.33	0.22	-0.22	16.52
277.00	0.12	321.26	277.00	-0.29	-0.23	-0.30	0.23	0.06	126.90
327.00	0.20	318.61	327.00	-0.19	-0.32	-0.19	0.16	0.16	-5.30
377.00	0.20	263.03	377.00	-0.13	-0.46	-0.14	0.37	0.00	-111.16
427.00	0.14	298.23	427.00	-0.12	-0.60	-0.12	0.24	-0.12	70.40

<b>Company:</b>	EP Energy E&P Company, L.P.	<b>Local Co-ordinate Reference:</b>	Well OH
<b>Project:</b>	Crockett Co, TX	<b>TVD Reference:</b>	KB=27 (Nabors 888) @ 2638.00ft (Nabors 888)
<b>Site:</b>	University Salt Draw 3820	<b>MD Reference:</b>	KB=27 (Nabors 888) @ 2638.00ft (Nabors 888)
<b>Well:</b>	OH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	RyanUSA_Compass

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)
477.00	0.37	328.09	477.00	0.05	-0.74	0.05	0.52	0.46	59.72
527.00	0.21	281.87	527.00	0.21	-0.91	0.20	0.54	-0.32	-92.44
577.00	0.47	246.08	577.00	0.14	-1.19	0.13	0.65	0.52	-71.58
627.00	0.27	281.20	627.00	0.08	-1.49	0.07	0.59	-0.40	70.24
677.00	0.44	266.69	676.99	0.09	-1.80	0.08	0.38	0.34	-29.02
727.00	0.32	308.34	726.99	0.17	-2.10	0.16	0.59	-0.24	83.30
777.00	0.28	240.34	776.99	0.20	-2.32	0.18	0.67	-0.08	-136.00
827.00	0.39	245.24	826.99	0.06	-2.58	0.05	0.23	0.22	9.80
877.00	0.23	230.83	876.99	-0.07	-2.81	-0.09	0.35	-0.32	-28.82
927.00	0.24	252.72	926.99	-0.17	-2.99	-0.18	0.18	0.02	43.78
947.00	0.32	280.32	946.99	-0.17	-3.08	-0.19	0.77	0.40	138.00
1,089.00	0.25	172.17	1,088.99	-0.40	-3.43	-0.42	0.33	-0.05	-76.16
1,278.00	4.63	177.97	1,277.77	-8.44	-3.11	-8.46	2.32	2.32	3.07
1,467.00	8.50	194.49	1,465.51	-29.60	-6.33	-29.63	2.26	2.05	8.74
1,656.00	9.81	190.98	1,652.10	-58.93	-12.89	-59.01	0.75	0.69	-1.86
1,845.00	11.19	197.48	1,837.94	-92.23	-21.47	-92.36	0.96	0.73	3.44
2,034.00	7.25	195.55	2,024.46	-121.22	-30.18	-121.40	2.09	-2.08	-1.02
2,223.00	4.25	199.42	2,212.49	-139.32	-35.71	-139.54	1.60	-1.59	2.05
2,412.00	3.06	194.14	2,401.10	-150.82	-39.27	-151.05	0.65	-0.63	-2.79
2,602.00	2.19	171.82	2,590.91	-159.33	-39.99	-159.57	0.70	-0.46	-11.75
2,791.00	2.31	214.01	2,779.77	-166.06	-41.61	-166.31	0.86	0.06	22.32
2,980.00	1.63	293.63	2,968.69	-168.14	-46.20	-168.42	1.36	-0.36	42.13
3,169.00	0.63	263.22	3,157.65	-167.19	-49.69	-167.49	0.60	-0.53	-16.09
3,357.00	0.31	111.00	3,345.65	-167.49	-50.25	-167.79	0.49	-0.17	-80.97
3,547.00	1.25	188.17	3,535.63	-169.73	-50.06	-170.03	0.64	0.49	40.62
3,737.00	0.81	200.82	3,725.60	-173.03	-50.83	-173.34	0.26	-0.23	6.66
3,926.00	1.19	174.10	3,914.57	-176.23	-51.11	-176.54	0.31	0.20	-14.14
4,115.00	0.94	223.85	4,103.54	-179.30	-51.98	-179.62	0.49	-0.13	26.32
4,305.00	0.44	124.53	4,293.53	-180.84	-52.46	-181.16	0.58	-0.26	-52.27
4,494.00	1.75	179.38	4,482.50	-184.14	-51.83	-184.45	0.81	0.69	29.02
4,684.00	1.56	158.28	4,672.42	-189.44	-50.84	-189.75	0.33	-0.10	-11.11
4,873.00	1.19	149.49	4,861.37	-193.52	-48.89	-193.82	0.22	-0.20	-4.65
5,063.00	0.75	180.26	5,051.34	-196.47	-47.89	-196.76	0.35	-0.23	16.19
5,252.00	0.81	187.99	5,240.32	-199.03	-48.09	-199.32	0.06	0.03	4.09
5,441.00	0.69	191.68	5,429.31	-201.46	-48.50	-201.76	0.07	-0.06	1.95
5,630.00	0.63	164.43	5,618.29	-203.58	-48.45	-203.87	0.17	-0.03	-14.42
5,820.00	0.75	200.12	5,808.28	-205.75	-48.60	-206.05	0.23	0.06	18.78
6,009.00	0.69	176.74	5,997.27	-208.05	-48.96	-208.35	0.16	-0.03	-12.37
6,133.00	0.63	190.98	6,121.26	-209.47	-49.05	-209.76	0.14	-0.05	11.48
6,153.01	0.39	271.46	6,141.27	-209.57	-49.14	-209.87	3.41	-1.22	402.15
3820OH_KOP									
6,195.00	1.63	324.57	6,183.25	-209.08	-49.63	-209.38	3.41	2.96	126.49
6,290.00	13.19	359.20	6,277.32	-197.10	-50.56	-197.41	12.51	12.17	36.45

<b>Company:</b>	EP Energy E&P Company, L.P.	<b>Local Co-ordinate Reference:</b>	Well OH
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<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	RyanUSA_Compass

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)	
6,384.00	26.25	6.06	6,365.62	-165.56	-48.51	-165.86	14.09	13.89	7.30	
6,479.00	37.00	6.41	6,446.40	-116.12	-43.08	-116.38	11.32	11.32	0.37	
6,573.00	48.13	2.89	6,515.53	-52.85	-38.15	-53.08	12.10	11.84	-3.74	
6,668.00	63.13	2.19	6,569.01	25.26	-34.72	25.05	15.80	15.79	-0.74	
6,763.00	77.81	3.24	6,600.68	114.45	-30.46	114.26	15.49	15.45	1.11	
6,787.00	82.94	3.42	6,604.69	138.07	-29.08	137.88	21.39	21.38	0.75	
6,881.00	84.56	1.84	6,614.93	231.40	-24.80	231.25	2.40	1.72	-1.68	
6,976.00	84.81	356.39	6,623.73	325.95	-26.26	325.78	5.72	0.26	-5.74	
7,071.00	91.25	351.47	6,627.00	420.28	-36.30	420.05	8.53	6.78	-5.18	
7,165.00	97.25	352.70	6,620.04	513.08	-49.20	512.77	6.51	6.38	1.31	
7,223.56	95.48	353.13	6,613.54	570.83	-56.38	570.48	3.11	-3.02	0.74	
3820OH_FTP										
7,260.00	94.38	353.40	6,610.41	606.89	-60.64	606.51	3.11	-3.02	0.73	
7,355.00	89.00	357.44	6,607.61	701.49	-68.21	701.06	7.08	-5.66	4.25	
7,449.00	87.19	1.66	6,610.74	795.41	-68.95	794.97	4.88	-1.93	4.49	
7,544.00	85.94	2.54	6,616.43	890.17	-65.48	889.76	1.61	-1.32	0.93	
7,639.00	86.88	2.36	6,622.38	984.90	-61.42	984.50	1.01	0.99	-0.19	
7,733.00	87.25	2.19	6,627.19	1,078.70	-57.70	1,078.33	0.43	0.39	-0.18	
7,828.00	87.69	2.01	6,631.38	1,173.54	-54.22	1,173.19	0.50	0.46	-0.19	
7,923.00	92.38	3.59	6,631.32	1,268.40	-49.58	1,268.07	5.21	4.94	1.66	
8,017.00	89.31	2.01	6,629.94	1,362.26	-44.99	1,361.96	3.67	-3.27	-1.68	
8,112.00	88.44	0.43	6,631.80	1,457.22	-42.97	1,456.93	1.90	-0.92	-1.66	
8,207.00	91.00	1.13	6,632.27	1,552.20	-41.67	1,551.92	2.79	2.69	0.74	
8,302.00	88.50	0.61	6,632.68	1,647.18	-40.23	1,646.91	2.69	-2.63	-0.55	
8,396.00	89.75	1.49	6,634.12	1,741.15	-38.51	1,740.89	1.63	1.33	0.94	
8,491.00	88.69	358.15	6,635.41	1,836.13	-38.81	1,835.86	3.69	-1.12	-3.52	
8,585.00	90.31	0.61	6,636.23	1,930.11	-39.82	1,929.83	3.13	1.72	2.62	
8,680.00	88.69	359.20	6,637.06	2,025.10	-39.98	2,024.82	2.26	-1.71	-1.48	
8,774.00	89.19	355.51	6,638.80	2,118.97	-44.32	2,118.66	3.96	0.53	-3.93	
8,869.00	90.31	0.61	6,639.22	2,213.88	-47.53	2,213.55	5.50	1.18	5.37	
8,964.00	87.81	357.44	6,640.77	2,308.83	-49.15	2,308.49	4.25	-2.63	-3.34	
9,059.00	88.75	357.62	6,643.63	2,403.70	-53.24	2,403.33	1.01	0.99	0.19	
9,153.00	90.88	358.67	6,643.93	2,497.64	-56.28	2,497.25	2.53	2.27	1.12	
9,248.00	88.63	357.97	6,644.34	2,592.60	-59.07	2,592.19	2.48	-2.37	-0.74	
9,343.00	88.06	357.97	6,647.08	2,687.50	-62.43	2,687.07	0.60	-0.60	0.00	
9,437.00	90.50	0.08	6,648.26	2,781.46	-64.03	2,781.02	3.43	2.60	2.24	
9,532.00	88.63	359.73	6,648.98	2,876.46	-64.19	2,876.01	2.00	-1.97	-0.37	
9,627.00	90.44	0.61	6,649.75	2,971.45	-63.91	2,971.00	2.12	1.91	0.93	
9,721.00	88.31	359.73	6,650.78	3,065.44	-63.63	3,064.99	2.45	-2.27	-0.94	
9,816.00	89.38	1.31	6,652.69	3,160.41	-62.76	3,159.97	2.01	1.13	1.66	
9,910.00	89.00	0.96	6,654.02	3,254.38	-60.90	3,253.95	0.55	-0.40	-0.37	
10,006.00	89.69	2.36	6,655.12	3,350.33	-58.12	3,349.91	1.63	0.72	1.46	
10,101.06	88.94	0.61	6,656.26	3,445.35	-55.66	3,444.94	2.00	-0.79	-1.84	
10,195.00	88.94	359.73	6,657.99	3,539.27	-55.38	3,538.87	0.94	0.00	-0.94	

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<b>Site:</b>	University Salt Draw 3820	<b>MD Reference:</b>	KB=27 (Nabors 888) @ 2638.00ft (Nabors 888)
<b>Well:</b>	OH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	RyanUSA_Compass

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)
10,290.00	90.31	2.36	6,658.62	3,634.24	-53.65	3,633.85	3.12	1.44	2.77
10,385.00	88.63	359.38	6,659.49	3,729.21	-52.20	3,728.82	3.60	-1.77	-3.14
10,480.00	89.44	359.55	6,661.09	3,824.19	-53.09	3,823.80	0.87	0.85	0.18
10,574.00	90.75	0.25	6,660.94	3,918.19	-53.26	3,917.79	1.58	1.39	0.74
10,669.00	88.56	356.92	6,661.51	4,013.14	-55.60	4,012.73	4.20	-2.31	-3.51
10,764.00	89.75	356.92	6,662.91	4,107.99	-60.70	4,107.54	1.25	1.25	0.00
10,859.00	90.00	357.09	6,663.12	4,202.86	-65.67	4,202.38	0.32	0.26	0.18
10,953.00	88.94	2.72	6,663.99	4,296.82	-65.82	4,296.34	6.09	-1.13	5.99
11,048.00	90.94	3.07	6,664.09	4,391.69	-61.03	4,391.24	2.14	2.11	0.37
11,143.00	89.06	1.66	6,664.09	4,486.60	-57.11	4,486.17	2.47	-1.98	-1.48
11,238.00	90.63	2.19	6,664.35	4,581.55	-53.92	4,581.13	1.74	1.65	0.56
11,332.00	89.69	0.96	6,664.08	4,675.51	-51.33	4,675.11	1.65	-1.00	-1.31
11,419.23	89.97	0.96	6,664.34	4,762.73	-49.87	4,762.33	0.33	0.33	0.00
<b>3820OH_T1</b>									
11,427.00	90.00	0.96	6,664.34	4,770.49	-49.74	4,770.10	0.33	0.33	0.00
11,522.00	88.56	0.25	6,665.53	4,865.48	-48.74	4,865.09	1.69	-1.52	-0.75
11,617.00	90.94	0.25	6,665.95	4,960.47	-48.32	4,960.08	2.51	2.51	0.00
11,711.00	89.38	1.84	6,665.69	5,054.45	-46.61	5,054.07	2.37	-1.66	1.69
11,806.00	88.69	0.25	6,667.29	5,149.41	-44.88	5,149.04	1.82	-0.73	-1.67
11,901.00	90.31	1.31	6,668.11	5,244.40	-43.58	5,244.03	2.04	1.71	1.12
11,995.00	87.81	2.19	6,669.66	5,338.33	-40.71	5,337.98	2.82	-2.66	0.94
12,090.00	91.81	4.47	6,669.97	5,433.15	-35.20	5,432.83	4.85	4.21	2.40
12,185.00	88.50	2.36	6,669.71	5,527.96	-29.54	5,527.68	4.13	-3.48	-2.22
12,279.00	90.13	3.59	6,670.84	5,621.82	-24.66	5,621.57	2.17	1.73	1.31
12,374.00	90.75	5.00	6,670.11	5,716.55	-17.55	5,716.33	1.62	0.65	1.48
12,468.00	88.06	359.20	6,671.09	5,810.43	-14.10	5,810.24	6.80	-2.86	-6.17
12,562.00	90.50	359.38	6,672.27	5,904.41	-15.27	5,904.21	2.60	2.60	0.19
12,657.00	86.13	357.27	6,675.06	5,999.30	-18.04	5,999.08	5.11	-4.60	-2.22
12,751.00	87.00	0.61	6,680.69	6,093.10	-19.77	6,092.87	3.67	0.93	3.55
12,846.00	89.19	2.19	6,683.85	6,188.01	-17.45	6,187.79	2.84	2.31	1.66
12,941.00	89.13	1.49	6,685.24	6,282.95	-14.40	6,282.75	0.74	-0.06	-0.74
13,034.00	91.19	4.30	6,684.98	6,375.82	-9.71	6,375.64	3.75	2.22	3.02
13,129.00	89.00	3.77	6,684.83	6,470.58	-3.02	6,470.44	2.37	-2.31	-0.56
13,224.00	89.31	2.36	6,686.23	6,565.43	2.06	6,565.32	1.52	0.33	-1.48
13,318.00	90.38	358.85	6,686.48	6,659.41	3.05	6,659.30	3.90	1.14	-3.73
13,413.00	94.06	0.25	6,682.80	6,754.31	2.30	6,754.20	4.14	3.87	1.47
13,507.00	91.88	358.85	6,677.93	6,848.18	1.56	6,848.06	2.76	-2.32	-1.49
13,602.00	89.44	358.85	6,676.84	6,943.14	-0.34	6,943.01	2.57	-2.57	0.00
13,696.00	89.31	358.15	6,677.86	7,037.10	-2.80	7,036.96	0.76	-0.14	-0.74
13,791.00	90.06	357.79	6,678.39	7,132.04	-6.17	7,131.87	0.88	0.79	-0.38
13,885.00	88.44	355.68	6,679.62	7,225.87	-11.52	7,225.67	2.83	-1.72	-2.24
13,980.00	90.38	2.89	6,680.60	7,320.79	-12.70	7,320.58	7.86	2.04	7.59
14,075.00	86.88	1.66	6,682.87	7,415.68	-8.93	7,415.48	3.90	-3.68	-1.29

<b>Company:</b>	EP Energy E&P Company, L.P.	<b>Local Co-ordinate Reference:</b>	Well OH
<b>Project:</b>	Crockett Co, TX	<b>TVD Reference:</b>	KB=27 (Nabors 888) @ 2638.00ft (Nabors 888)
<b>Site:</b>	University Salt Draw 3820	<b>MD Reference:</b>	KB=27 (Nabors 888) @ 2638.00ft (Nabors 888)
<b>Well:</b>	OH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	RyanUSA_Compass

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)	
14,170.00	90.19	3.95	6,685.30	7,510.51	-4.29	7,510.34	4.24	3.48	2.41	
14,265.00	89.81	3.42	6,685.30	7,605.31	1.82	7,605.18	0.69	-0.40	-0.56	
14,359.00	88.88	1.31	6,686.37	7,699.22	5.70	7,699.11	2.45	-0.99	-2.24	
14,453.00	90.06	1.31	6,687.24	7,793.19	7.85	7,793.09	1.26	1.26	0.00	
14,547.00	91.63	2.19	6,685.85	7,887.13	10.72	7,887.05	1.91	1.67	0.94	
14,642.00	87.69	359.20	6,686.42	7,982.10	11.87	7,982.02	5.21	-4.15	-3.15	
14,737.00	87.38	359.02	6,690.50	8,077.00	10.39	8,076.91	0.38	-0.33	-0.19	
14,832.00	91.31	0.61	6,691.59	8,171.97	10.09	8,171.88	4.46	4.14	1.67	
14,927.00	87.56	358.67	6,692.53	8,266.94	9.49	8,266.84	4.44	-3.95	-2.04	
15,021.00	91.13	359.90	6,693.60	8,360.91	8.32	8,360.80	4.02	3.80	1.31	
15,116.00	86.69	359.55	6,695.41	8,455.87	7.86	8,455.76	4.69	-4.67	-0.37	
15,210.00	87.13	359.20	6,700.47	8,549.72	6.84	8,549.61	0.60	0.47	-0.37	
15,305.00	88.31	359.55	6,704.25	8,644.64	5.81	8,644.52	1.30	1.24	0.37	
15,399.00	91.88	0.61	6,704.10	8,738.62	5.94	8,738.50	3.96	3.80	1.13	
15,525.27	91.88	0.61	6,699.96	8,864.82	7.28	8,864.70	0.00	0.00	0.00	
3820OH_BHL										
15,526.00	91.88	0.61	6,699.93	8,865.55	7.29	8,865.43	0.00	0.00	0.00	
PTB										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
15,526.00	6,699.93	8,865.55	7.29	PTB	

Checked By: _____	Approved By: _____	Date: _____
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