



Extraction Oil & Gas

Weld County, CO (NAD83)

RBF

4

OH / Job #61104

Survey: Phoenix MWD Surveys

Standard Survey Report

27 May, 2017



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well 4
Project:	Weld County, CO (NAD83)	TVD Reference:	RKB @ 4803.00usft (Patterson 346)
Site:	RBF	MD Reference:	RKB @ 4803.00usft (Patterson 346)
Well:	4	North Reference:	True
Wellbore:	OH / Job #61104	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 346)	Database:	Compass 5000 RMR

Project	Weld County, CO (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	RBF		
Site Position:		Northing:	1,416,272.86 usft
From:	Lat/Long	Easting:	3,174,878.37 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40° 28' 27.728 N
		Longitude:	104° 52' 17.036 W
		Grid Convergence:	0.41 °

Well	4		
Well Position	+N/-S	0.00 usft	Northing: 1,416,224.76 usft
	+E/-W	0.00 usft	Easting: 3,174,878.43 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	40° 28' 27.253 N
		Longitude:	104° 52' 17.040 W
		Ground Level:	4,778.00 usft

Wellbore	OH / Job #61104				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/15/2017	8.42	66.93	52,461

Design	Surveys (Patterson 346)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	277.46	

Survey Program	Date	5/27/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
128.00	1,570.00	Total MWD Surveys (OH / Surface)	MWD	OWSG Rev.2 MWD - Standard	
1,520.00	16,853.00	Phoenix MWD Surveys (OH / Job #61104)	MWD+HDGM	OWSG Rev.2 MWD + HDGM	

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)	
1,520.00	13.97	21.60	1,501.67	170.83	59.51	-36.82	0.00	0.00	0.00	
Tie In										
1,603.00	13.37	20.95	1,582.31	189.11	66.63	-41.51	0.75	-0.72	-0.78	
First Phoenix MWD Survey										
1,698.00	12.47	16.05	1,674.91	209.22	73.39	-45.60	1.49	-0.95	-5.16	
1,792.00	13.60	17.55	1,766.49	229.51	79.53	-49.05	1.25	1.20	1.60	
1,887.00	14.81	18.39	1,858.58	251.69	86.73	-53.31	1.29	1.27	0.88	
1,981.00	14.24	15.01	1,949.58	274.25	93.52	-57.11	1.09	-0.61	-3.60	
2,076.00	14.18	19.26	2,041.67	296.52	100.38	-61.02	1.10	-0.06	4.47	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well 4
Project:	Weld County, CO (NAD83)	TVD Reference:	RKB @ 4803.00usft (Patterson 346)
Site:	RBF	MD Reference:	RKB @ 4803.00usft (Patterson 346)
Well:	4	North Reference:	True
Wellbore:	OH / Job #61104	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 346)	Database:	Compass 5000 RMR

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)	
2,170.00	14.11	23.99	2,132.83	317.86	108.84	-66.63	1.23	-0.07	5.03	
2,265.00	13.01	22.05	2,225.18	338.35	117.56	-72.62	1.25	-1.16	-2.04	
2,359.00	13.89	22.96	2,316.60	358.55	125.93	-78.30	0.96	0.94	0.97	
2,453.00	13.57	21.47	2,407.91	379.20	134.37	-83.98	0.51	-0.34	-1.59	
2,548.00	13.58	20.68	2,500.26	400.01	142.39	-89.23	0.20	0.01	-0.83	
2,643.00	13.12	19.07	2,592.69	420.63	149.85	-93.95	0.62	-0.48	-1.69	
2,737.00	12.88	22.25	2,684.28	440.41	157.30	-98.77	0.80	-0.26	3.38	
2,832.00	14.34	20.48	2,776.61	461.23	165.43	-104.13	1.60	1.54	-1.86	
2,927.00	13.70	18.61	2,868.78	482.92	173.13	-108.95	0.83	-0.67	-1.97	
3,022.00	12.62	23.67	2,961.29	503.09	180.89	-114.02	1.66	-1.14	5.33	
3,117.00	13.23	24.14	3,053.88	522.51	189.50	-120.04	0.65	0.64	0.49	
3,212.00	14.13	22.01	3,146.19	543.18	198.30	-126.07	1.09	0.95	-2.24	
3,305.00	14.23	24.02	3,236.35	564.15	207.20	-132.18	0.54	0.11	2.16	
3,398.00	14.38	22.30	3,326.47	585.27	216.24	-138.40	0.48	0.16	-1.85	
3,493.00	13.80	18.77	3,418.61	606.92	224.36	-143.64	1.09	-0.61	-3.72	
3,587.00	13.79	18.91	3,509.90	628.13	231.60	-148.06	0.04	-0.01	0.15	
3,682.00	15.87	19.71	3,601.73	651.07	239.65	-153.06	2.20	2.19	0.84	
3,776.00	16.50	17.56	3,692.01	675.90	248.01	-158.13	0.92	0.67	-2.29	
3,871.00	16.78	15.79	3,783.03	701.96	255.81	-162.48	0.61	0.29	-1.86	
3,963.00	16.20	13.68	3,871.25	727.20	262.46	-165.80	0.91	-0.63	-2.29	
4,057.00	14.90	19.98	3,961.81	751.31	269.69	-169.84	2.27	-1.38	6.70	
4,152.00	12.77	21.35	4,054.05	772.57	277.69	-175.00	2.27	-2.24	1.44	
4,246.00	14.09	17.46	4,145.48	793.16	284.91	-179.48	1.70	1.40	-4.14	
4,340.00	13.77	19.83	4,236.72	814.60	292.13	-183.87	0.70	-0.34	2.52	
4,434.00	15.59	21.09	4,327.64	836.91	300.48	-189.24	1.97	1.94	1.34	
4,529.00	14.15	19.38	4,419.46	859.77	308.92	-194.65	1.58	-1.52	-1.80	
4,623.00	13.03	18.94	4,510.83	880.64	316.17	-199.13	1.20	-1.19	-0.47	
4,717.00	13.99	20.90	4,602.23	901.27	323.67	-203.88	1.13	1.02	2.09	
4,812.00	13.89	19.34	4,694.43	922.76	331.54	-208.89	0.41	-0.11	-1.64	
4,906.00	12.78	18.85	4,785.89	943.25	338.64	-213.27	1.19	-1.18	-0.52	
5,000.00	12.91	20.50	4,877.54	962.92	345.67	-217.69	0.41	0.14	1.76	
5,095.00	12.98	23.56	4,970.13	982.64	353.65	-223.04	0.73	0.07	3.22	
5,189.00	13.04	27.36	5,061.72	1,001.74	362.75	-229.58	0.91	0.06	4.04	
5,283.00	13.62	26.85	5,153.18	1,021.03	372.62	-236.86	0.63	0.62	-0.54	
5,377.00	13.63	26.55	5,244.54	1,040.81	382.57	-244.16	0.08	0.01	-0.32	
5,471.00	13.76	25.26	5,335.87	1,060.83	392.29	-251.20	0.35	0.14	-1.37	
5,565.00	13.95	22.91	5,427.13	1,081.38	401.47	-257.63	0.63	0.20	-2.50	
5,660.00	11.91	19.65	5,519.72	1,101.16	409.23	-262.75	2.28	-2.15	-3.43	
5,754.00	10.44	17.90	5,611.93	1,118.40	415.11	-266.34	1.60	-1.56	-1.86	
5,848.00	8.38	17.43	5,704.66	1,133.04	419.78	-269.07	2.19	-2.19	-0.50	
5,942.00	6.76	15.26	5,797.84	1,144.91	423.28	-271.01	1.75	-1.72	-2.31	
6,037.00	4.83	19.19	5,892.35	1,154.09	426.07	-272.58	2.07	-2.03	4.14	
6,131.00	3.66	18.34	5,986.09	1,160.67	428.32	-273.95	1.25	-1.24	-0.90	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well 4
Project:	Weld County, CO (NAD83)	TVD Reference:	RKB @ 4803.00usft (Patterson 346)
Site:	RBF	MD Reference:	RKB @ 4803.00usft (Patterson 346)
Well:	4	North Reference:	True
Wellbore:	OH / Job #61104	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 346)	Database:	Compass 5000 RMR

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)
6,225.00	1.26	25.04	6,080.00	1,164.46	429.70	-274.83	2.57	-2.55	7.13
6,319.00	0.07	71.36	6,173.99	1,165.41	430.19	-275.19	1.29	-1.27	49.28
6,413.00	0.20	199.69	6,267.99	1,165.28	430.19	-275.21	0.27	0.14	136.52
6,532.00	3.31	263.04	6,386.92	1,164.66	426.71	-271.84	2.71	2.61	53.24
6,626.00	14.34	275.55	6,479.67	1,165.46	412.38	-257.53	11.84	11.73	13.31
6,720.00	20.13	276.05	6,569.41	1,168.30	384.69	-229.70	6.16	6.16	0.53
6,815.00	28.11	269.74	6,656.06	1,169.92	345.98	-191.11	8.82	8.40	-6.64
6,909.00	37.66	269.51	6,734.91	1,169.57	295.01	-140.61	10.16	10.16	-0.24
7,003.00	47.09	271.53	6,804.28	1,170.25	231.73	-77.79	10.13	10.03	2.15
7,098.00	57.50	270.34	6,862.30	1,171.42	156.69	-3.23	11.00	10.96	-1.25
7,192.00	69.17	269.40	6,904.41	1,171.19	72.83	79.89	12.45	12.41	-1.00
7,286.00	78.51	270.24	6,930.55	1,170.93	-17.35	169.28	9.97	9.94	0.89
7,380.00	83.93	268.33	6,944.89	1,169.76	-110.21	261.19	6.11	5.77	-2.03
7,474.00	88.65	268.09	6,950.97	1,166.83	-203.94	353.75	5.03	5.02	-0.26
7,568.00	87.92	266.68	6,953.78	1,162.54	-297.79	446.25	1.69	-0.78	-1.50
7,662.00	89.57	268.18	6,955.84	1,158.33	-391.67	538.79	2.37	1.76	1.60
7,757.00	90.47	271.77	6,955.81	1,158.28	-486.65	632.96	3.90	0.95	3.78
7,851.00	90.58	271.05	6,954.95	1,160.60	-580.62	726.43	0.77	0.12	-0.77
7,945.00	90.40	270.49	6,954.14	1,161.86	-674.61	819.79	0.63	-0.19	-0.60
8,040.00	90.46	270.20	6,953.43	1,162.43	-769.60	914.05	0.31	0.06	-0.31
8,134.00	90.92	269.26	6,952.30	1,161.99	-863.59	1,007.19	1.11	0.49	-1.00
8,229.00	90.41	270.57	6,951.20	1,161.85	-958.59	1,101.36	1.48	-0.54	1.38
8,323.00	89.05	272.88	6,951.64	1,164.68	-1,052.53	1,194.88	2.85	-1.45	2.46
8,417.00	88.80	272.02	6,953.40	1,168.70	-1,146.43	1,288.50	0.95	-0.27	-0.91
8,512.00	88.83	271.34	6,955.37	1,171.48	-1,241.37	1,383.00	0.72	0.03	-0.72
8,606.00	88.91	271.17	6,957.22	1,173.54	-1,335.33	1,476.43	0.20	0.09	-0.18
8,700.00	90.06	270.82	6,958.07	1,175.17	-1,429.31	1,569.82	1.28	1.22	-0.37
8,795.00	90.61	270.84	6,957.51	1,176.55	-1,524.30	1,664.19	0.58	0.58	0.02
8,889.00	90.96	270.52	6,956.22	1,177.66	-1,618.28	1,757.52	0.50	0.37	-0.34
8,984.00	91.15	270.11	6,954.47	1,178.18	-1,713.26	1,851.76	0.48	0.20	-0.43
9,078.00	90.41	271.60	6,953.19	1,179.59	-1,807.24	1,945.13	1.77	-0.79	1.59
9,173.00	90.99	272.26	6,952.03	1,182.79	-1,902.18	2,039.68	0.92	0.61	0.69
9,267.00	89.01	270.92	6,952.03	1,185.39	-1,996.14	2,133.18	2.54	-2.11	-1.43
9,361.00	89.21	270.54	6,953.49	1,186.59	-2,090.12	2,226.52	0.46	0.21	-0.40
9,456.00	89.39	270.88	6,954.66	1,187.77	-2,185.10	2,320.85	0.40	0.19	0.36
9,550.00	89.24	270.45	6,955.78	1,188.86	-2,279.09	2,414.18	0.48	-0.16	-0.46
9,644.00	89.41	268.84	6,956.89	1,188.28	-2,373.08	2,507.30	1.72	0.18	-1.71
9,739.00	90.07	269.46	6,957.32	1,186.87	-2,468.06	2,601.30	0.95	0.69	0.65
9,833.00	90.85	269.22	6,956.56	1,185.79	-2,562.05	2,694.36	0.87	0.83	-0.26
9,928.00	90.66	269.05	6,955.31	1,184.35	-2,657.04	2,788.35	0.27	-0.20	-0.18
10,023.00	90.89	271.10	6,954.03	1,184.48	-2,752.02	2,882.54	2.17	0.24	2.16
10,117.00	90.16	270.90	6,953.16	1,186.12	-2,846.00	2,975.94	0.81	-0.78	-0.21
10,211.00	90.46	271.65	6,952.66	1,188.21	-2,939.98	3,069.39	0.86	0.32	0.80
10,306.00	90.44	271.53	6,951.91	1,190.84	-3,034.94	3,163.89	0.13	-0.02	-0.13

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well 4
Project:	Weld County, CO (NAD83)	TVD Reference:	RKB @ 4803.00usft (Patterson 346)
Site:	RBF	MD Reference:	RKB @ 4803.00usft (Patterson 346)
Well:	4	North Reference:	True
Wellbore:	OH / Job #61104	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 346)	Database:	Compass 5000 RMR

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)
10,400.00	91.91	271.32	6,949.98	1,193.18	-3,128.89	3,257.35	1.58	1.56	-0.22
10,495.00	92.19	270.69	6,946.58	1,194.85	-3,223.81	3,351.68	0.73	0.29	-0.66
10,589.00	90.32	270.73	6,944.53	1,196.01	-3,317.78	3,445.00	1.99	-1.99	0.04
10,683.00	90.21	270.20	6,944.09	1,196.77	-3,411.77	3,538.30	0.58	-0.12	-0.56
10,777.00	89.82	269.48	6,944.07	1,196.51	-3,505.77	3,631.47	0.87	-0.41	-0.77
10,871.00	90.00	269.19	6,944.21	1,195.42	-3,599.76	3,724.53	0.36	0.19	-0.31
10,966.00	90.15	269.40	6,944.09	1,194.25	-3,694.76	3,818.56	0.27	0.16	0.22
11,060.00	90.53	269.10	6,943.53	1,193.02	-3,788.75	3,911.60	0.52	0.40	-0.32
11,154.00	90.49	269.06	6,942.69	1,191.51	-3,882.73	4,004.59	0.06	-0.04	-0.04
11,248.00	90.76	269.42	6,941.67	1,190.26	-3,976.72	4,097.62	0.48	0.29	0.38
11,343.00	90.93	271.41	6,940.27	1,190.95	-4,071.70	4,191.89	2.10	0.18	2.09
11,437.00	90.90	271.70	6,938.77	1,193.50	-4,165.65	4,285.37	0.31	-0.03	0.31
11,531.00	90.58	270.32	6,937.55	1,195.16	-4,259.63	4,378.77	1.51	-0.34	-1.47
11,625.00	90.65	270.01	6,936.54	1,195.43	-4,353.62	4,472.00	0.34	0.07	-0.33
11,720.00	90.90	269.94	6,935.26	1,195.39	-4,448.61	4,566.18	0.27	0.26	-0.07
11,815.00	90.54	269.51	6,934.07	1,194.93	-4,543.60	4,660.31	0.59	-0.38	-0.45
11,908.00	91.01	273.17	6,932.81	1,197.11	-4,636.55	4,752.76	3.97	0.51	3.94
12,003.00	90.95	272.53	6,931.18	1,201.83	-4,731.42	4,847.43	0.68	-0.06	-0.67
12,098.00	90.97	272.05	6,929.59	1,205.63	-4,826.33	4,942.03	0.51	0.02	-0.51
12,192.00	90.95	271.12	6,928.02	1,208.22	-4,920.28	5,035.53	0.99	-0.02	-0.99
12,288.00	90.76	270.20	6,926.58	1,209.33	-5,016.26	5,130.84	0.98	-0.20	-0.96
12,383.00	91.95	269.94	6,924.34	1,209.45	-5,111.24	5,225.02	1.28	1.25	-0.27
12,478.00	89.92	271.33	6,922.79	1,210.50	-5,206.21	5,319.33	2.59	-2.14	1.46
12,573.00	90.31	270.97	6,922.60	1,212.41	-5,301.19	5,413.75	0.56	0.41	-0.38
12,668.00	91.51	271.92	6,921.09	1,214.80	-5,396.15	5,508.21	1.61	1.26	1.00
12,764.00	92.57	272.08	6,917.67	1,218.15	-5,492.02	5,603.71	1.12	1.10	0.17
12,859.00	92.06	272.19	6,913.83	1,221.69	-5,586.88	5,698.23	0.55	-0.54	0.12
12,954.00	89.28	272.15	6,912.72	1,225.28	-5,681.80	5,792.81	2.93	-2.93	-0.04
13,049.00	88.65	271.20	6,914.44	1,228.06	-5,776.74	5,887.30	1.20	-0.66	-1.00
13,144.00	88.79	271.68	6,916.56	1,230.45	-5,871.69	5,981.76	0.53	0.15	0.51
13,239.00	88.57	270.97	6,918.75	1,232.64	-5,966.63	6,076.19	0.78	-0.23	-0.75
13,335.00	90.00	270.98	6,919.95	1,234.27	-6,062.61	6,171.56	1.49	1.49	0.01
13,430.00	90.08	270.39	6,919.88	1,235.41	-6,157.60	6,265.90	0.63	0.08	-0.62
13,524.00	90.31	270.02	6,919.56	1,235.75	-6,251.60	6,359.14	0.46	0.24	-0.39
13,620.00	90.45	270.31	6,918.92	1,236.02	-6,347.60	6,454.36	0.34	0.15	0.30
13,714.00	90.14	269.45	6,918.44	1,235.83	-6,441.60	6,547.54	0.97	-0.33	-0.91
13,809.00	90.25	269.34	6,918.12	1,234.82	-6,536.59	6,641.60	0.16	0.12	-0.12
13,904.00	90.96	268.74	6,917.11	1,233.23	-6,631.57	6,735.57	0.98	0.75	-0.63
13,999.00	92.12	270.70	6,914.56	1,232.77	-6,726.53	6,829.66	2.40	1.22	2.06
14,093.00	92.29	270.79	6,910.94	1,233.99	-6,820.45	6,922.95	0.20	0.18	0.10
14,188.00	91.96	269.40	6,907.42	1,234.15	-6,915.38	7,017.10	1.50	-0.35	-1.46
14,283.00	92.06	269.35	6,904.09	1,233.11	-7,010.32	7,111.09	0.12	0.11	-0.05
14,377.00	91.41	271.17	6,901.24	1,233.54	-7,104.27	7,204.30	2.06	-0.69	1.94

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well 4
Project:	Weld County, CO (NAD83)	TVD Reference:	RKB @ 4803.00usft (Patterson 346)
Site:	RBF	MD Reference:	RKB @ 4803.00usft (Patterson 346)
Well:	4	North Reference:	True
Wellbore:	OH / Job #61104	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 346)	Database:	Compass 5000 RMR

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)
14,472.00	91.21	270.66	6,899.07	1,235.05	-7,199.23	7,298.66	0.58	-0.21	-0.54
14,567.00	91.90	271.61	6,896.49	1,236.93	-7,294.18	7,393.05	1.24	0.73	1.00
14,661.00	91.98	271.48	6,893.31	1,239.47	-7,388.09	7,486.49	0.16	0.09	-0.14
14,755.00	92.06	270.51	6,890.00	1,241.10	-7,482.02	7,579.83	1.03	0.09	-1.03
14,849.00	92.65	270.19	6,886.13	1,241.67	-7,575.93	7,673.03	0.71	0.63	-0.34
14,943.00	90.61	271.82	6,883.46	1,243.32	-7,669.87	7,766.39	2.78	-2.17	1.73
15,038.00	90.38	271.17	6,882.64	1,245.80	-7,764.84	7,860.87	0.73	-0.24	-0.68
15,133.00	92.32	272.24	6,880.40	1,248.62	-7,859.76	7,955.36	2.33	2.04	1.13
15,227.00	90.91	271.98	6,877.75	1,252.08	-7,953.66	8,048.91	1.53	-1.50	-0.28
15,322.00	91.14	271.27	6,876.05	1,254.78	-8,048.61	8,143.40	0.79	0.24	-0.75
15,416.00	92.00	270.66	6,873.48	1,256.36	-8,142.56	8,236.76	1.12	0.91	-0.65
15,510.00	90.34	271.70	6,871.56	1,258.30	-8,236.51	8,330.17	2.08	-1.77	1.11
15,603.00	88.92	271.31	6,872.16	1,260.74	-8,329.48	8,422.67	1.58	-1.53	-0.42
15,697.00	89.00	271.73	6,873.86	1,263.23	-8,423.43	8,516.14	0.45	0.09	0.45
15,790.00	88.79	269.77	6,875.66	1,264.45	-8,516.40	8,608.49	2.12	-0.23	-2.11
15,884.00	90.44	269.21	6,876.29	1,263.61	-8,610.39	8,701.57	1.85	1.76	-0.60
15,978.00	90.52	269.55	6,875.50	1,262.59	-8,704.38	8,794.63	0.37	0.09	0.36
16,072.00	90.70	269.52	6,874.50	1,261.83	-8,798.37	8,887.73	0.19	0.19	-0.03
16,165.00	89.67	269.61	6,874.20	1,261.13	-8,891.37	8,979.85	1.11	-1.11	0.10
16,259.00	90.72	270.19	6,873.88	1,260.96	-8,985.36	9,073.03	1.28	1.12	0.62
16,353.00	88.93	270.92	6,874.17	1,261.87	-9,079.35	9,166.34	2.06	-1.90	0.78
16,446.00	88.92	270.90	6,875.91	1,263.35	-9,172.33	9,258.72	0.02	-0.01	-0.02
16,540.00	90.02	270.85	6,876.78	1,264.78	-9,266.31	9,352.09	1.17	1.17	-0.05
16,633.00	90.87	270.97	6,876.06	1,266.26	-9,359.29	9,444.48	0.92	0.91	0.13
16,727.00	91.75	270.85	6,873.91	1,267.75	-9,453.26	9,537.84	0.94	0.94	-0.13
16,786.00	92.45	271.66	6,871.75	1,269.05	-9,512.20	9,596.45	1.81	1.19	1.37
Final Phoenix MWD Survey									
16,853.00	92.45	271.66	6,868.89	1,270.98	-9,579.11	9,663.05	0.00	0.00	0.00
Projection to TD									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,520.00	1,501.67	170.83	59.51	Tie In
1,603.00	1,582.31	189.11	66.63	First Phoenix MWD Survey
16,786.00	6,871.75	1,269.05	-9,512.20	Final Phoenix MWD Survey
16,853.00	6,868.89	1,270.98	-9,579.11	Projection to TD