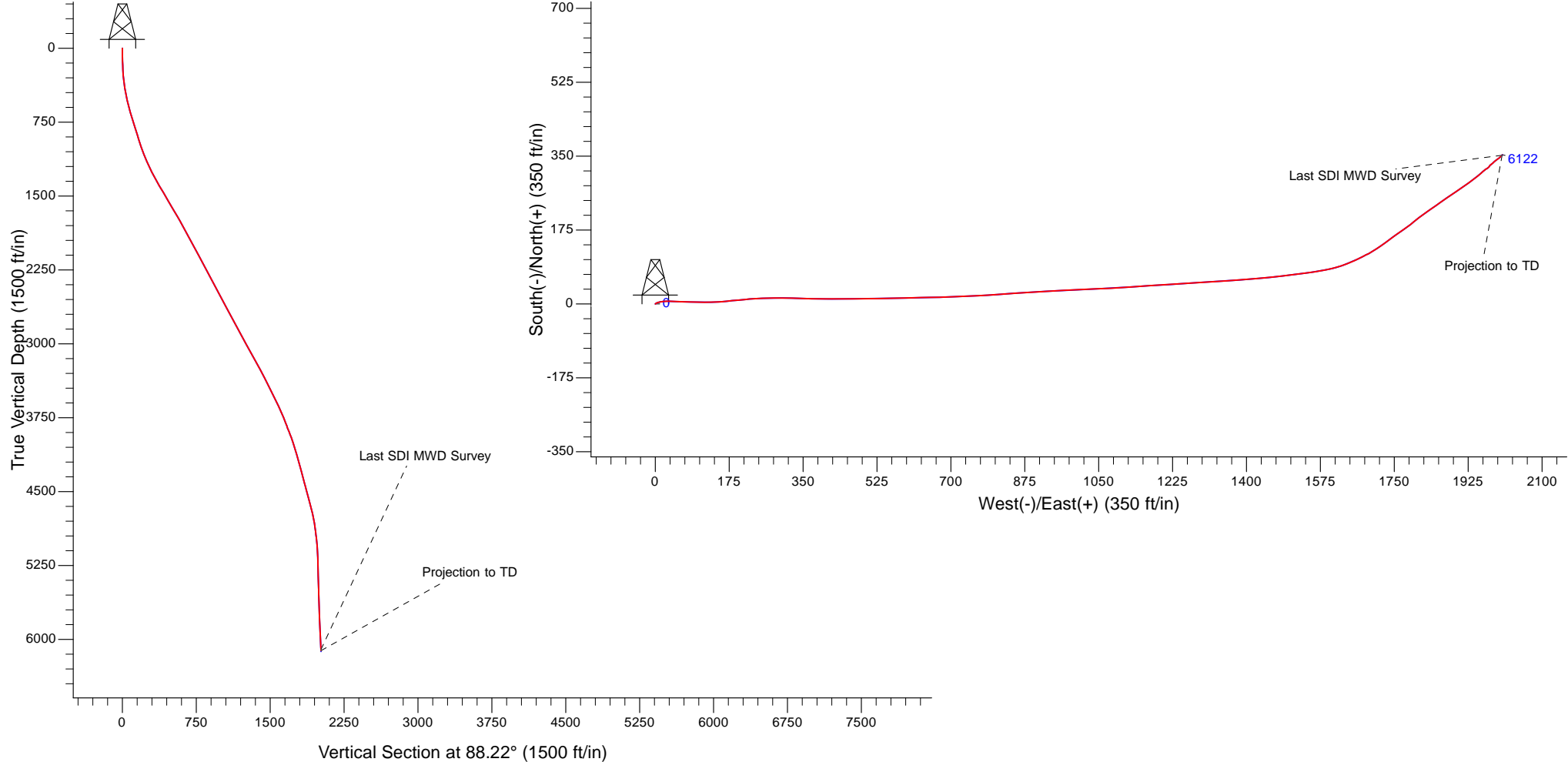


WELL DETAILS: Meguire 2						PROJECT DETAILS: US Rockies Wattenberg Planning UTM83	
GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)		4896.30		Geodetic System: Universal Transverse Mercator (US Survey Feet)			
Northing	Easting	Latitude	Longitude	Datum: North American Datum 1983			
14572318.58	1730781.92	40.1247330	-104.6767370	Ellipsoid: GRS 1980			
				Zone: Zone 13N (108 W to 102 W)			
Design: OH (Meguire 2/OH)				System Datum: Mean Sea Level			
Created By: Seth Burstad			Date: 1-03-2018	Local North: True			
		ANNOTATIONS					
	TVD	MD	Inc	Azi	+N/-S	+E/-W	Annotation
	6102.79	6555.00	4.75	47.55	351.95	2005.01	Last SDI MWD Survey
	6113.75	6566.00	4.75	38.00	352.61	2005.63	Projection to TD

Surface Hole:
 2451' FNL 470' FWL
 Sec 21 T2N R65W

BHL:
 2098' FNL 2476' FWL Sec 21
 MD: 6,566.00
 TVD: 6,113.75
 Lat: 40.1257011
 Long: -104.6695622





US ROCKIES REGION PLANNING

US Rockies Wattenberg Planning UTM83

Meguire

Meguire 2

OH

Design: OH

Standard Survey Report

01 November, 2017



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Meguire 2
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Site:	Meguire	MD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Well:	Meguire 2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Project	US Rockies Wattenberg Planning UTM83		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	Meguire, Site Center : Meguire 1				
Site Position:		Northing:	14,572,307.25 usft	Latitude:	40.1247020
From:	Lat/Long	Easting:	1,730,771.90 usft	Longitude:	-104.6767730
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.21 °

Well	Meguire 2					
Well Position	+N/-S	0.00 ft	Northing:	14,572,318.57 usft	Latitude:	40.1247330
	+E/-W	0.00 ft	Easting:	1,730,781.92 usft	Longitude:	-104.6767370
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,896.30 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	9/25/2017	8.29	66.67	52,235

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	88.22	

Survey Program	Date	11/1/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
128.00	1,091.00	Survey #1 - Surface (OH)	APC_SDI Standard Keeper 1 SDI Standard Wireline Keeper ver 1.0.3		
1,170.00	2,140.00	Survey #2 - Surface (OH)	APC_ISCWSA REV 2 MWD+ Fixed:v2:Rockies, crustal dec + 3-axis correction		
2,258.00	6,566.00	Survey #3 (OH)	APC_ISCWSA REV 2 MWD+ Fixed:v2:Rockies, crustal dec + 3-axis correction		

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
128.00	1.67	51.50	127.98	1.16	1.46	1.50	1.30	1.30	0.00	
First SDI MWD Survey										
219.00	3.17	67.50	218.90	2.95	4.82	4.91	1.79	1.65	17.58	
310.00	6.25	79.80	309.58	4.79	12.02	12.17	3.54	3.38	13.52	
353.00	7.30	83.06	352.28	5.53	17.04	17.20	2.60	2.44	7.58	
444.00	10.56	89.65	442.17	6.28	31.12	31.30	3.75	3.58	7.24	
535.00	12.67	93.43	531.30	5.74	49.42	49.58	2.46	2.32	4.15	
625.00	15.48	91.14	618.59	4.91	71.29	71.41	3.18	3.12	-2.54	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Meguire 2
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Site:	Meguire	MD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Well:	Meguire 2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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)
716.00	17.42	91.76	705.86	4.25	97.05	97.13	2.14	2.13	0.68
809.00	17.24	89.74	794.64	3.88	124.74	124.80	0.68	-0.19	-2.17
903.00	17.60	86.04	884.33	4.93	152.85	152.93	1.24	0.38	-3.94
997.00	19.00	83.76	973.58	7.57	182.24	182.39	1.67	1.49	-2.43
1,091.00	20.15	84.99	1,062.14	10.65	213.58	213.81	1.30	1.22	1.31
1,170.00	22.20	86.90	1,135.81	12.65	242.04	242.32	2.74	2.59	2.42
1,263.00	26.70	89.33	1,220.45	13.84	280.50	280.80	4.96	4.84	2.61
1,356.00	28.69	91.55	1,302.79	13.48	323.71	323.98	2.41	2.14	2.39
1,451.00	29.91	91.70	1,385.64	12.16	370.19	370.38	1.29	1.28	0.16
1,545.00	30.31	89.58	1,466.95	11.64	417.33	417.49	1.21	0.43	-2.26
1,638.00	30.19	89.36	1,547.29	12.07	464.18	464.33	0.18	-0.13	-0.24
1,732.00	30.95	89.07	1,628.23	12.73	511.98	512.13	0.82	0.81	-0.31
1,827.00	30.15	89.58	1,710.04	13.30	560.27	560.41	0.89	-0.84	0.54
1,921.00	29.14	87.93	1,791.73	14.30	606.75	606.90	1.38	-1.07	-1.76
2,014.00	28.29	89.30	1,873.30	15.39	651.41	651.58	1.16	-0.91	1.47
2,108.00	27.49	87.95	1,956.38	16.44	695.37	695.54	1.08	-0.85	-1.44
2,140.00	27.73	87.37	1,984.74	17.04	710.19	710.37	1.13	0.75	-1.81
2,258.00	27.83	87.46	2,089.13	19.52	765.13	765.36	0.09	0.08	0.08
2,352.00	28.74	85.90	2,171.91	22.11	809.59	809.89	1.25	0.97	-1.66
2,447.00	28.46	85.92	2,255.32	25.35	854.95	855.32	0.29	-0.29	0.02
2,543.00	28.42	86.23	2,339.73	28.48	900.56	901.01	0.16	-0.04	0.32
2,638.00	28.45	87.11	2,423.27	31.11	945.72	946.23	0.44	0.03	0.93
2,733.00	28.08	87.25	2,506.95	33.33	990.65	991.21	0.40	-0.39	0.15
2,828.00	27.56	87.71	2,590.97	35.28	1,034.94	1,035.54	0.59	-0.55	0.48
2,923.00	27.34	87.18	2,675.27	37.23	1,078.69	1,079.33	0.35	-0.23	-0.56
3,020.00	27.90	85.92	2,761.22	39.94	1,123.58	1,124.28	0.83	0.58	-1.30
3,115.00	28.57	86.44	2,844.91	42.93	1,168.42	1,169.19	0.75	0.71	0.55
3,212.00	29.18	86.34	2,929.85	45.88	1,215.17	1,216.01	0.63	0.63	-0.10
3,307.00	29.04	86.36	3,012.85	48.82	1,261.29	1,262.20	0.15	-0.15	0.02
3,402.00	29.00	86.61	3,095.93	51.65	1,307.29	1,308.27	0.13	-0.04	0.26
3,497.00	28.53	85.87	3,179.20	54.64	1,352.91	1,353.95	0.62	-0.49	-0.78
3,593.00	27.95	85.87	3,263.78	57.91	1,398.21	1,399.34	0.60	-0.60	0.00
3,688.00	27.81	84.49	3,347.75	61.65	1,442.48	1,443.70	0.70	-0.15	-1.45
3,782.00	26.74	83.39	3,431.30	66.19	1,485.31	1,486.65	1.26	-1.14	-1.17
3,877.00	25.72	82.64	3,516.52	71.29	1,526.99	1,528.47	1.13	-1.07	-0.79
3,909.00	25.51	82.56	3,545.37	73.07	1,540.71	1,542.23	0.67	-0.66	-0.25
3,940.00	25.81	81.48	3,573.31	74.93	1,554.00	1,555.58	1.79	0.97	-3.48
3,972.00	25.85	79.97	3,602.12	77.18	1,567.76	1,569.40	2.06	0.13	-4.72
4,004.00	25.83	80.21	3,630.92	79.58	1,581.50	1,583.21	0.33	-0.06	0.75
4,035.00	25.99	77.70	3,658.80	82.18	1,594.79	1,596.57	3.58	0.52	-8.10
4,066.00	25.80	76.58	3,686.69	85.19	1,607.99	1,609.86	1.69	-0.61	-3.61
4,101.00	23.72	71.05	3,718.47	89.24	1,622.06	1,624.05	8.89	-5.94	-15.80
4,132.00	22.41	68.56	3,747.00	93.43	1,633.46	1,635.57	5.27	-4.23	-8.03

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Meguire 2
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Site:	Meguire	MD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Well:	Meguire 2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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)
4,163.00	22.23	67.04	3,775.67	97.88	1,644.36	1,646.61	1.95	-0.58	-4.90
4,195.00	22.22	65.89	3,805.30	102.71	1,655.45	1,657.85	1.36	-0.03	-3.59
4,227.00	22.22	65.88	3,834.92	107.65	1,666.50	1,669.04	0.01	0.00	-0.03
4,259.00	23.44	62.73	3,864.41	113.04	1,677.68	1,680.38	5.40	3.81	-9.84
4,291.00	24.06	60.73	3,893.70	119.15	1,689.03	1,691.92	3.18	1.94	-6.25
4,322.00	24.32	58.91	3,921.98	125.53	1,700.01	1,703.09	2.55	0.84	-5.87
4,352.00	23.33	56.23	3,949.43	132.03	1,710.23	1,713.51	4.89	-3.30	-8.93
4,403.00	21.47	55.20	3,996.58	142.97	1,726.29	1,729.91	3.73	-3.65	-2.02
4,435.00	20.32	53.35	4,026.47	149.63	1,735.56	1,739.38	4.14	-3.59	-5.78
4,467.00	20.06	52.47	4,056.51	156.29	1,744.37	1,748.39	1.25	-0.81	-2.75
4,498.00	20.41	53.35	4,085.59	162.75	1,752.92	1,757.14	1.50	1.13	2.84
4,530.00	20.76	55.81	4,115.55	169.27	1,762.09	1,766.51	2.92	1.09	7.69
4,561.00	20.32	55.28	4,144.58	175.42	1,771.06	1,775.66	1.54	-1.42	-1.71
4,593.00	19.27	54.23	4,174.69	181.67	1,779.91	1,784.70	3.46	-3.28	-3.28
4,624.00	18.30	51.24	4,204.04	187.71	1,787.86	1,792.83	4.41	-3.13	-9.65
4,656.00	17.95	51.06	4,234.45	193.96	1,795.61	1,800.78	1.11	-1.09	-0.56
4,688.00	17.51	51.94	4,264.93	200.02	1,803.24	1,808.59	1.61	-1.38	2.75
4,719.00	17.16	52.56	4,294.52	205.68	1,810.54	1,816.06	1.28	-1.13	2.00
4,751.00	17.33	52.91	4,325.08	211.42	1,818.09	1,823.79	0.62	0.53	1.09
4,783.00	17.60	54.67	4,355.61	217.09	1,825.84	1,831.71	1.85	0.84	5.50
4,815.00	18.12	55.72	4,386.07	222.69	1,833.90	1,839.94	1.91	1.63	3.28
4,847.00	18.21	55.90	4,416.47	228.30	1,842.15	1,848.36	0.33	0.28	0.56
4,879.00	18.48	54.84	4,446.84	234.02	1,850.44	1,856.82	1.34	0.84	-3.31
4,910.00	18.39	54.23	4,476.25	239.71	1,858.42	1,864.98	0.69	-0.29	-1.97
4,940.00	18.12	54.23	4,504.74	245.20	1,866.05	1,872.77	0.90	-0.90	0.00
4,973.00	17.86	55.02	4,536.13	251.11	1,874.36	1,881.26	1.08	-0.79	2.39
5,005.00	17.60	56.25	4,566.61	256.61	1,882.40	1,889.47	1.42	-0.81	3.84
5,036.00	17.68	55.72	4,596.15	261.86	1,890.19	1,897.42	0.58	0.26	-1.71
5,068.00	17.68	56.34	4,626.64	267.29	1,898.25	1,905.64	0.59	0.00	1.94
5,101.00	17.24	57.22	4,658.12	272.72	1,906.53	1,914.09	1.55	-1.33	2.67
5,132.00	16.80	56.34	4,687.76	277.69	1,914.12	1,921.83	1.64	-1.42	-2.84
5,164.00	15.40	54.05	4,718.51	282.74	1,921.41	1,929.28	4.80	-4.38	-7.16
5,196.00	13.55	50.19	4,749.49	287.64	1,927.73	1,935.74	6.52	-5.78	-12.06
5,225.00	12.23	50.80	4,777.76	291.76	1,932.72	1,940.86	4.58	-4.55	2.10
5,259.00	11.17	53.35	4,811.05	296.00	1,938.15	1,946.42	3.47	-3.12	7.50
5,291.00	10.38	54.40	4,842.49	299.53	1,942.98	1,951.36	2.54	-2.47	3.28
5,323.00	10.12	53.09	4,873.98	302.89	1,947.57	1,956.06	1.09	-0.81	-4.09
5,355.00	9.33	49.57	4,905.52	306.26	1,951.80	1,960.38	3.09	-2.47	-11.00
5,386.00	9.06	47.29	4,936.12	309.55	1,955.50	1,964.19	1.46	-0.87	-7.35
5,418.00	8.36	47.99	4,967.75	312.82	1,959.08	1,967.87	2.21	-2.19	2.19
5,450.00	7.30	50.27	4,999.45	315.67	1,962.37	1,971.25	3.45	-3.31	7.13
5,482.00	6.42	55.37	5,031.22	317.99	1,965.41	1,974.35	3.34	-2.75	15.94
5,514.00	5.72	57.04	5,063.04	319.87	1,968.22	1,977.22	2.26	-2.19	5.22
5,545.00	4.57	55.46	5,093.92	321.41	1,970.53	1,979.58	3.74	-3.71	-5.10

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Meguire 2
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Site:	Meguire	MD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Well:	Meguire 2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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)
5,577.00	3.43	49.22	5,125.84	322.76	1,972.31	1,981.40	3.81	-3.56	-19.50
5,607.00	2.46	43.15	5,155.80	323.82	1,973.43	1,982.55	3.39	-3.23	-20.23
5,640.00	2.29	36.47	5,188.77	324.86	1,974.31	1,983.46	0.98	-0.52	-20.24
5,674.00	2.20	35.51	5,222.75	325.94	1,975.09	1,984.27	0.29	-0.26	-2.82
5,704.00	2.20	34.10	5,252.72	326.89	1,975.75	1,984.96	0.18	0.00	-4.70
5,736.00	2.11	38.85	5,284.70	327.85	1,976.46	1,985.70	0.62	-0.28	14.84
5,768.00	2.11	51.86	5,316.68	328.68	1,977.29	1,986.56	1.49	0.00	40.66
5,800.00	2.02	56.51	5,348.66	329.35	1,978.23	1,987.52	0.59	-0.28	14.53
5,832.00	1.94	51.33	5,380.64	330.00	1,979.12	1,988.43	0.61	-0.25	-16.19
5,864.00	1.94	48.34	5,412.62	330.70	1,979.95	1,989.28	0.32	0.00	-9.34
5,896.00	2.02	53.44	5,444.60	331.40	1,980.80	1,990.16	0.60	0.25	15.94
5,928.00	1.94	52.38	5,476.58	332.06	1,981.69	1,991.06	0.27	-0.25	-3.31
5,959.00	2.11	50.01	5,507.56	332.75	1,982.54	1,991.93	0.61	0.55	-7.65
5,990.00	2.29	47.29	5,538.54	333.54	1,983.43	1,992.85	0.67	0.58	-8.77
6,022.00	2.46	45.26	5,570.51	334.45	1,984.39	1,993.84	0.59	0.53	-6.34
6,054.00	2.29	44.56	5,602.49	335.39	1,985.33	1,994.80	0.54	-0.53	-2.19
6,085.00	2.29	47.72	5,633.46	336.25	1,986.22	1,995.72	0.41	0.00	10.19
6,116.00	2.64	49.83	5,664.43	337.13	1,987.22	1,996.75	1.17	1.13	6.81
6,148.00	2.73	51.68	5,696.40	338.08	1,988.38	1,997.94	0.39	0.28	5.78
6,180.00	2.64	50.89	5,728.36	339.01	1,989.55	1,999.14	0.30	-0.28	-2.47
6,213.00	2.46	48.96	5,761.33	339.96	1,990.68	2,000.29	0.60	-0.55	-5.85
6,244.00	2.38	51.42	5,792.30	340.80	1,991.68	2,001.32	0.42	-0.26	7.94
6,275.00	2.38	51.06	5,823.27	341.60	1,992.69	2,002.35	0.05	0.00	-1.16
6,308.00	2.55	54.32	5,856.24	342.46	1,993.81	2,003.51	0.67	0.52	9.88
6,340.00	3.26	54.93	5,888.20	343.40	1,995.14	2,004.86	2.22	2.22	1.91
6,369.00	3.52	58.89	5,917.15	344.33	1,996.57	2,006.32	1.21	0.90	13.66
6,401.00	3.52	58.10	5,949.09	345.36	1,998.25	2,008.03	0.15	0.00	-2.47
6,415.00	2.99	50.45	5,963.07	345.82	1,998.90	2,008.69	4.89	-3.79	-54.64
6,455.00	2.90	44.91	6,003.02	347.20	2,000.42	2,010.25	0.75	-0.23	-13.85
6,490.00	3.17	42.63	6,037.97	348.54	2,001.70	2,011.57	0.84	0.77	-6.51
6,520.00	4.35	41.22	6,067.90	350.00	2,003.01	2,012.93	3.95	3.93	-4.70
6,529.00	4.40	44.82	6,076.88	350.51	2,003.48	2,013.41	3.10	0.56	40.00
6,544.00	4.75	47.55	6,091.83	351.33	2,004.34	2,014.30	2.75	2.33	18.20
6,555.00	4.75	47.55	6,102.79	351.95	2,005.01	2,014.99	0.00	0.00	0.00
Last SDI MWD Survey									
6,566.00	4.75	38.00	6,113.75	352.61	2,005.63	2,015.63	7.18	0.00	-86.82
Projection to TD									

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Meguire 2
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Site:	Meguire	MD Reference:	GL 4896.3' & KB 20' @ 4916.30ft (Precision 461)
Well:	Meguire 2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
128.00	127.98	1.16	1.46	First SDI MWD Survey
6,555.00	6,102.79	351.95	2,005.01	Last SDI MWD Survey
6,566.00	6,113.75	352.61	2,005.63	Projection to TD

Checked By: _____ Approved By: _____ Date: _____