



Directional Survey Certification

2948 I-70 Business Loop
Grand Junction, CO 81504
(970)-245-9447 Fax (970)-245-9454

Operator	TEP Rocky Mountain, LLC.
Well Name & No.	TR 314-21-597
County & State	Garfield County, CO
SDI Job No.	420117DEFK414599 & OP.000284
Rig	H&P 271

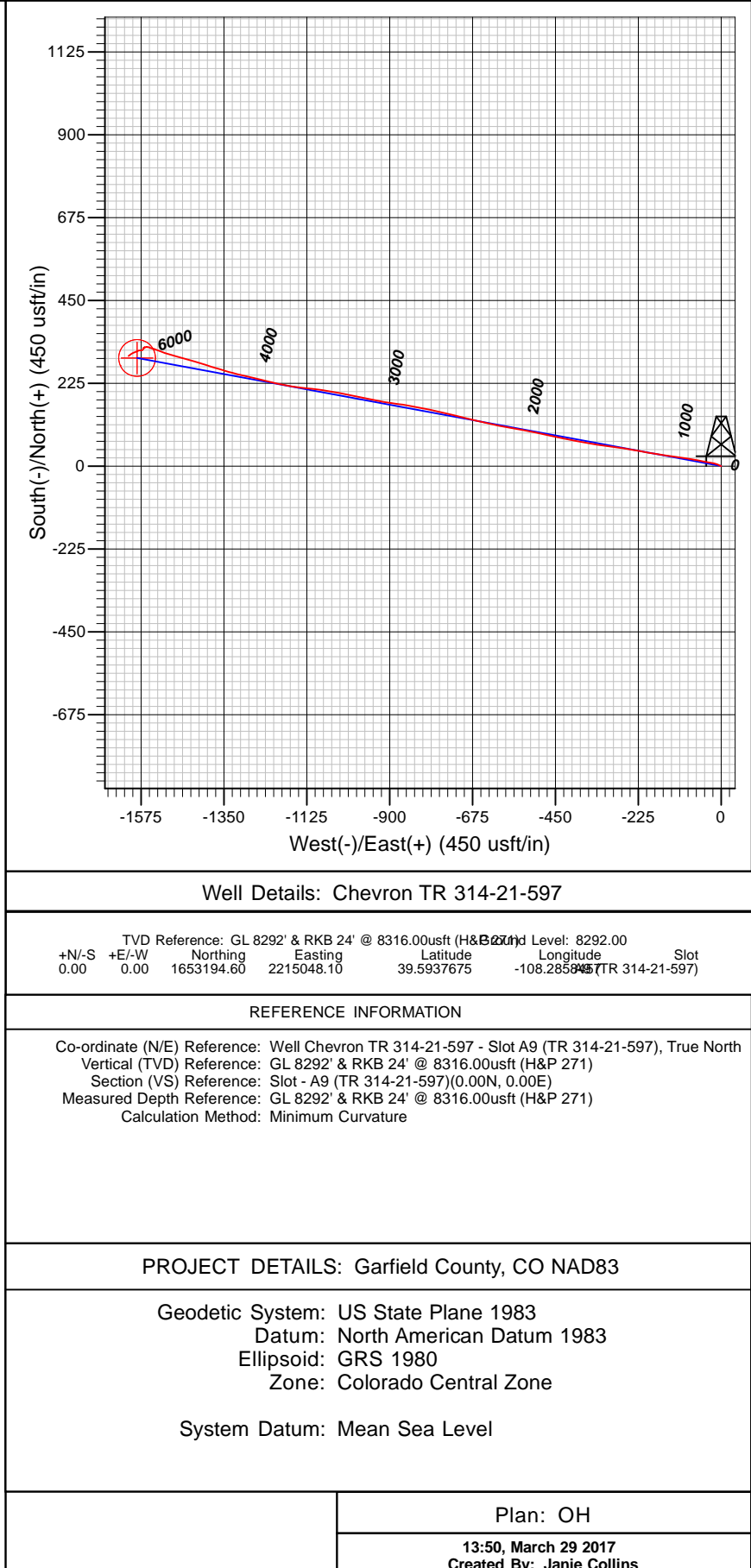
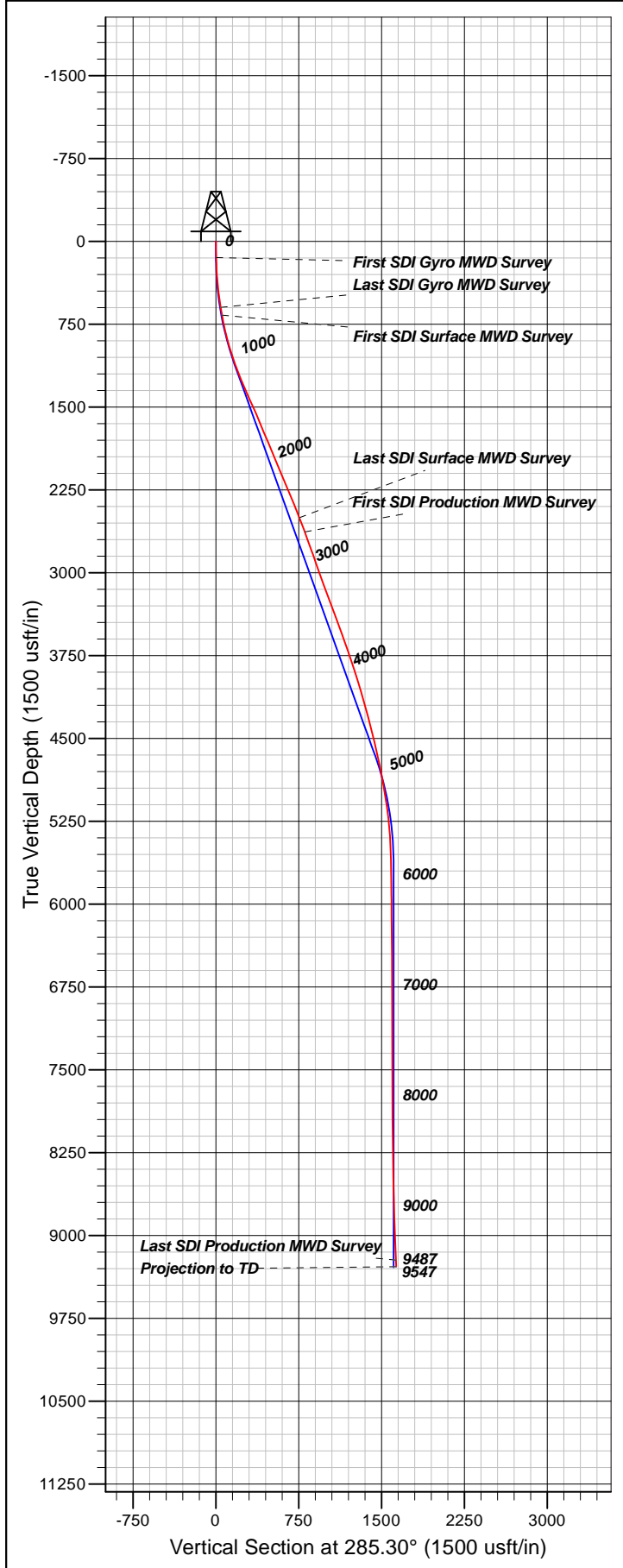
I, Mel Mireles Jr., having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 147 feet to a measured depth of 9,547 feet is true and correct as determined from all available records.


Signature

29-Mar-17

Date

Mel Mireles Jr.
Grand Junction Assistant Well Planner
Scientific Drilling - Colorado District



Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well Chevron TR 314-21-597 - Slot A9 (TR 314-21-597)
Project:	Garfield County, CO NAD83	TVD Reference:	GL 8292' & RKB 24' @ 8316.00usft (H&P 271)
Site:	TR 24-21-597 Pad	MD Reference:	GL 8292' & RKB 24' @ 8316.00usft (H&P 271)
Well:	Chevron TR 314-21-597	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Project	Garfield County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		TR 24-21-597 Pad			
Site Position:		Northing:	1,653,248.80 usft	Latitude:	39.5939185
From:	Map	Easting:	2,215,073.70 usft	Longitude:	-108.2857609
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.76 °

Well		Chevron TR 314-21-597 - Slot A9 (TR 314-21-597)				
Well Position	+N/-S	0.00 usft	Northing:	1,653,194.60 usft	Latitude:	39.5937676
	+E/-W	0.00 usft	Easting:	2,215,048.10 usft	Longitude:	-108.2858458
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	8,292.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/27/2017	9.83	65.92	51,660

Design	OH				
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	285.30	

Survey Program	Date	3/29/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
147.00	600.00	Survey #1 - Gyro MWD Survey (OH)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4	
672.00	2,640.00	Survey #2 - Surface MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,777.00	9,547.00	Survey #3 - Production MWD (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
147.00	1.06	287.58	146.99	0.41	-1.30	1.36	0.72	0.72	0.00	
First SDI Gyro MWD Survey										
239.00	2.64	291.62	238.94	1.45	-4.08	4.32	1.72	1.72	4.39	
330.00	4.49	295.58	329.76	3.76	-9.24	9.90	2.05	2.03	4.35	
421.00	6.33	286.26	420.35	6.70	-17.27	18.43	2.23	2.02	-10.24	
510.00	7.57	278.00	508.70	8.89	-27.78	29.15	1.79	1.39	-9.28	
600.00	9.06	281.34	597.75	11.11	-40.60	42.10	1.74	1.66	3.71	

Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well Chevron TR 314-21-597 - Slot A9 (TR 314-21-597)
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Site:	TR 24-21-597 Pad	MD Reference:	GL 8292' & RKB 24' @ 8316.00usft (H&P 271)
Well:	Chevron TR 314-21-597	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)
Last SDI Gyro MWD Survey									
672.00	10.39	281.39	668.72	13.51	-52.53	54.23	1.85	1.85	0.07
First SDI Surface MWD Survey									
764.00	12.15	278.92	758.94	16.65	-70.23	72.13	1.98	1.91	-2.68
857.00	14.03	279.69	849.52	20.06	-91.01	93.08	2.03	2.02	0.83
952.00	16.08	278.13	941.25	23.86	-115.39	117.59	2.20	2.16	-1.64
1,046.00	18.20	277.55	1,031.07	27.63	-142.83	145.06	2.26	2.26	-0.62
1,141.00	20.02	278.92	1,120.83	32.10	-173.60	175.92	1.97	1.92	1.44
1,236.00	22.04	280.87	1,209.50	37.99	-207.18	209.86	2.25	2.13	2.05
1,330.00	23.78	279.83	1,296.09	44.55	-243.17	246.31	1.90	1.85	-1.11
1,425.00	24.21	277.31	1,382.88	50.30	-281.37	284.67	1.17	0.45	-2.65
1,519.00	24.18	278.05	1,468.62	55.45	-319.55	322.85	0.32	-0.03	0.79
1,614.00	23.31	279.63	1,555.58	61.31	-357.34	360.86	1.13	-0.92	1.66
1,708.00	22.53	281.02	1,642.16	67.87	-393.36	397.32	1.01	-0.83	1.48
1,803.00	22.73	281.51	1,729.84	75.01	-429.21	433.79	0.29	0.21	0.52
1,897.00	23.04	282.42	1,816.44	82.59	-464.97	470.28	0.50	0.33	0.97
1,992.00	23.02	281.70	1,903.87	90.35	-501.31	507.38	0.30	-0.02	-0.76
2,086.00	23.02	280.00	1,990.39	97.27	-537.41	544.03	0.71	0.00	-1.81
2,181.00	22.19	279.84	2,078.09	103.56	-573.38	580.38	0.88	-0.87	-0.17
2,275.00	22.16	281.94	2,165.14	110.27	-608.21	615.75	0.84	-0.03	2.23
2,370.00	23.27	283.05	2,252.77	118.21	-644.02	652.39	1.25	1.17	1.17
2,464.00	23.44	284.19	2,339.07	126.99	-680.24	689.63	0.51	0.18	1.21
2,559.00	22.13	283.41	2,426.65	135.77	-715.96	726.41	1.42	-1.38	-0.82
2,640.00	20.93	282.20	2,502.00	142.36	-744.95	756.11	1.58	-1.48	-1.49
Last SDI Surface MWD Survey									
2,777.00	19.64	282.02	2,630.50	152.33	-791.39	803.53	0.94	-0.94	-0.13
First SDI Production MWD Survey									
2,872.00	19.93	281.72	2,719.89	158.94	-822.85	835.63	0.32	0.31	-0.32
2,966.00	20.28	279.96	2,808.16	165.02	-854.59	867.84	0.74	0.37	-1.87
3,061.00	18.29	276.83	2,897.83	169.64	-885.61	898.98	2.36	-2.09	-3.29
3,156.00	19.85	279.73	2,987.62	174.14	-916.31	929.78	1.92	1.64	3.05
3,250.00	20.86	282.17	3,075.75	180.36	-948.40	962.37	1.40	1.07	2.60
3,345.00	20.28	281.35	3,164.69	187.17	-981.08	995.69	0.68	-0.61	-0.86
3,439.00	21.08	281.33	3,252.63	193.69	-1,013.62	1,028.81	0.85	0.85	-0.02
3,534.00	19.87	280.96	3,341.63	200.12	-1,046.23	1,061.95	1.28	-1.27	-0.39
3,628.00	19.31	277.48	3,430.19	205.18	-1,077.32	1,093.28	1.38	-0.60	-3.70
3,723.00	20.92	277.36	3,519.39	209.40	-1,109.72	1,125.64	1.70	1.69	-0.13
3,817.00	19.90	276.31	3,607.49	213.31	-1,142.26	1,158.06	1.15	-1.09	-1.12
3,912.00	19.79	280.87	3,696.86	218.12	-1,174.13	1,190.06	1.63	-0.12	4.80
4,006.00	18.73	280.18	3,785.59	223.79	-1,204.61	1,220.96	1.15	-1.13	-0.73
4,100.00	18.29	284.39	3,874.74	230.12	-1,233.75	1,250.74	1.50	-0.47	4.48
4,195.00	17.50	284.45	3,965.14	237.39	-1,262.03	1,279.93	0.83	-0.83	0.06
4,289.00	16.36	283.24	4,055.06	243.95	-1,288.60	1,307.29	1.27	-1.21	-1.29

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Site:	TR 24-21-597 Pad	MD Reference:	GL 8292' & RKB 24' @ 8316.00usft (H&P 271)
Well:	Chevron TR 314-21-597	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)
4,384.00	15.21	282.39	4,146.48	249.69	-1,313.80	1,333.11	1.23	-1.21	-0.89
4,479.00	15.30	287.02	4,238.14	256.03	-1,337.95	1,358.09	1.29	0.09	4.87
4,573.00	14.60	286.32	4,328.95	262.99	-1,361.18	1,382.33	0.77	-0.74	-0.74
4,668.00	13.74	285.77	4,421.06	269.42	-1,383.53	1,405.58	0.92	-0.91	-0.58
4,762.00	14.25	288.17	4,512.27	276.06	-1,405.27	1,428.30	0.82	0.54	2.55
4,857.00	13.51	287.44	4,604.50	283.03	-1,426.96	1,451.07	0.80	-0.78	-0.77
4,951.00	12.31	285.70	4,696.12	289.04	-1,447.09	1,472.06	1.34	-1.28	-1.85
5,046.00	10.90	284.91	4,789.18	294.09	-1,465.52	1,491.17	1.49	-1.48	-0.83
5,140.00	9.99	284.82	4,881.62	298.46	-1,481.99	1,508.21	0.97	-0.97	-0.10
5,235.00	9.23	284.74	4,975.28	302.51	-1,497.32	1,524.07	0.80	-0.80	-0.08
5,329.00	8.62	291.86	5,068.15	307.05	-1,511.15	1,538.61	1.34	-0.65	7.57
5,424.00	8.18	290.98	5,162.13	312.12	-1,524.07	1,552.41	0.48	-0.46	-0.93
5,518.00	6.51	288.78	5,255.35	316.23	-1,535.36	1,564.38	1.80	-1.78	-2.34
5,613.00	4.48	285.35	5,349.91	318.94	-1,544.03	1,573.47	2.16	-2.14	-3.61
5,708.00	2.64	287.02	5,444.73	320.57	-1,549.71	1,579.36	1.94	-1.94	1.76
5,802.00	0.88	320.42	5,538.68	321.76	-1,552.24	1,582.12	2.09	-1.87	35.53
5,883.47	0.87	295.02	5,620.14	322.50	-1,553.19	1,583.24	0.47	-0.02	-31.17
TR 314-21-597 MVRD									
5,896.00	0.88	291.24	5,632.67	322.57	-1,553.37	1,583.43	0.47	0.10	-30.19
5,991.00	0.97	273.75	5,727.66	322.89	-1,554.85	1,584.94	0.31	0.09	-18.41
6,086.00	1.14	265.31	5,822.64	322.87	-1,556.59	1,586.62	0.24	0.18	-8.88
6,180.00	1.49	269.44	5,916.62	322.78	-1,558.75	1,588.67	0.39	0.37	4.39
6,274.00	0.35	12.45	6,010.61	323.05	-1,559.91	1,589.86	1.71	-1.21	109.59
6,369.00	0.24	336.39	6,105.60	323.51	-1,559.93	1,590.00	0.22	-0.12	-37.96
6,463.00	0.35	300.03	6,199.60	323.84	-1,560.25	1,590.40	0.23	0.12	-38.68
6,558.00	0.53	246.07	6,294.60	323.80	-1,560.91	1,591.02	0.45	0.19	-56.80
6,653.00	0.70	244.31	6,389.59	323.37	-1,561.83	1,591.80	0.18	0.18	-1.85
6,747.00	0.88	243.25	6,483.59	322.80	-1,562.99	1,592.77	0.19	0.19	-1.13
6,842.00	1.14	240.35	6,578.57	322.00	-1,564.47	1,593.98	0.28	0.27	-3.05
6,936.00	0.35	8.59	6,672.57	321.83	-1,565.24	1,594.68	1.47	-0.84	136.43
7,031.00	0.18	293.09	6,767.56	322.17	-1,565.33	1,594.86	0.37	-0.18	-79.47
7,126.00	0.26	256.79	6,862.56	322.18	-1,565.68	1,595.19	0.16	0.08	-38.21
7,220.00	0.62	251.78	6,956.56	321.97	-1,566.37	1,595.81	0.38	0.38	-5.33
7,315.00	0.79	242.02	7,051.55	321.50	-1,567.43	1,596.71	0.22	0.18	-10.27
7,409.00	1.23	219.17	7,145.54	320.42	-1,568.64	1,597.59	0.63	0.47	-24.31
7,504.00	0.26	73.10	7,240.53	319.69	-1,569.08	1,597.82	1.53	-1.02	-153.76
7,598.00	1.41	50.60	7,334.52	320.49	-1,567.98	1,596.97	1.25	1.22	-23.94
7,693.00	0.88	60.09	7,429.50	321.59	-1,566.45	1,595.78	0.59	-0.56	9.99
7,787.00	0.44	42.77	7,523.50	322.22	-1,565.58	1,595.11	0.51	-0.47	-18.43
7,882.00	0.26	271.03	7,618.49	322.49	-1,565.55	1,595.15	0.68	-0.19	-138.67
7,976.00	0.53	232.18	7,712.49	322.23	-1,566.10	1,595.62	0.39	0.29	-41.33
8,071.00	0.97	213.46	7,807.48	321.29	-1,566.89	1,596.13	0.52	0.46	-19.71
8,166.00	1.58	211.35	7,902.46	319.50	-1,568.02	1,596.74	0.64	0.64	-2.22

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Design:	OH	Database:	Grand Junction District

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8,260.00	2.20	211.79	7,996.41	316.86	-1,569.64	1,597.61	0.66	0.66	0.47	
8,354.00	1.06	247.30	8,090.37	314.99	-1,571.39	1,598.81	1.57	-1.21	37.78	
8,449.00	1.41	256.09	8,185.35	314.37	-1,573.34	1,600.52	0.42	0.37	9.25	
8,543.00	1.23	275.68	8,279.32	314.19	-1,575.47	1,602.53	0.51	-0.19	20.84	
8,638.00	1.22	266.37	8,374.30	314.23	-1,577.49	1,604.49	0.21	-0.01	-9.80	
8,733.00	1.32	261.45	8,469.28	314.00	-1,579.58	1,606.45	0.16	0.11	-5.18	
8,827.00	1.50	250.87	8,563.25	313.43	-1,581.81	1,608.45	0.34	0.19	-11.26	
8,922.00	1.76	250.55	8,658.21	312.54	-1,584.36	1,610.68	0.27	0.27	-0.34	
9,016.00	1.97	246.81	8,752.16	311.42	-1,587.21	1,613.13	0.26	0.22	-3.98	
9,111.00	2.11	245.36	8,847.10	310.05	-1,590.30	1,615.75	0.16	0.15	-1.53	
9,205.00	2.37	246.50	8,941.03	308.56	-1,593.66	1,618.59	0.28	0.28	1.21	
9,300.00	2.73	243.08	9,035.94	306.75	-1,597.48	1,621.79	0.41	0.38	-3.60	
9,395.00	3.25	239.74	9,130.81	304.37	-1,601.82	1,625.35	0.58	0.55	-3.52	
9,487.00	3.52	232.44	9,222.65	301.33	-1,606.31	1,628.89	0.55	0.29	-7.93	
Last SDI Production MWD Survey										
9,547.00	3.52	232.44	9,282.53	299.09	-1,609.23	1,631.11	0.00	0.00	0.00	
Projection to TD - TR 314-21-597 PBHL										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
147.00	146.99	0.41	-1.30	First SDI Gyro MWD Survey	
600.00	597.75	11.11	-40.60	Last SDI Gyro MWD Survey	
672.00	668.72	13.51	-52.53	First SDI Surface MWD Survey	
2,640.00	2,502.00	142.36	-744.95	Last SDI Surface MWD Survey	
2,777.00	2,630.50	152.33	-791.39	First SDI Production MWD Survey	
9,487.00	9,222.65	301.33	-1,606.31	Last SDI Production MWD Survey	
9,547.00	9,282.53	299.09	-1,609.23	Projection to TD	

Checked By: _____ Approved By: _____ Date: _____