



## Directional Survey Certification

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

<b>Operator</b>	TEP Rocky Mountain, LLC
<b>Well Name &amp; No.</b>	TR 523-21-597
<b>County &amp; State</b>	Garfield, CO
<b>SDI Job No.</b>	420117DEFK408872 & 420217DEF418467
<b>Rig</b>	H&P 271

I, Janie Collins, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 149 feet to a measured depth of 9,414 feet is true and correct as determined from all available records.

A handwritten signature in blue ink, appearing to read 'Janie Collins', written over a horizontal line.

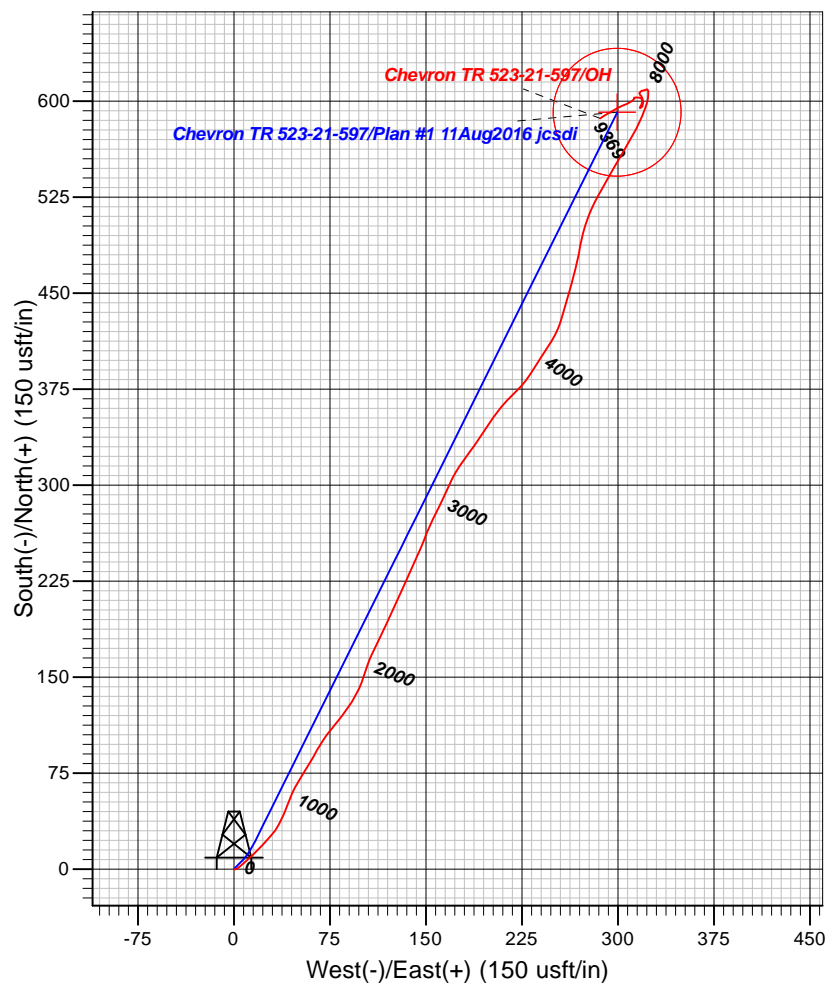
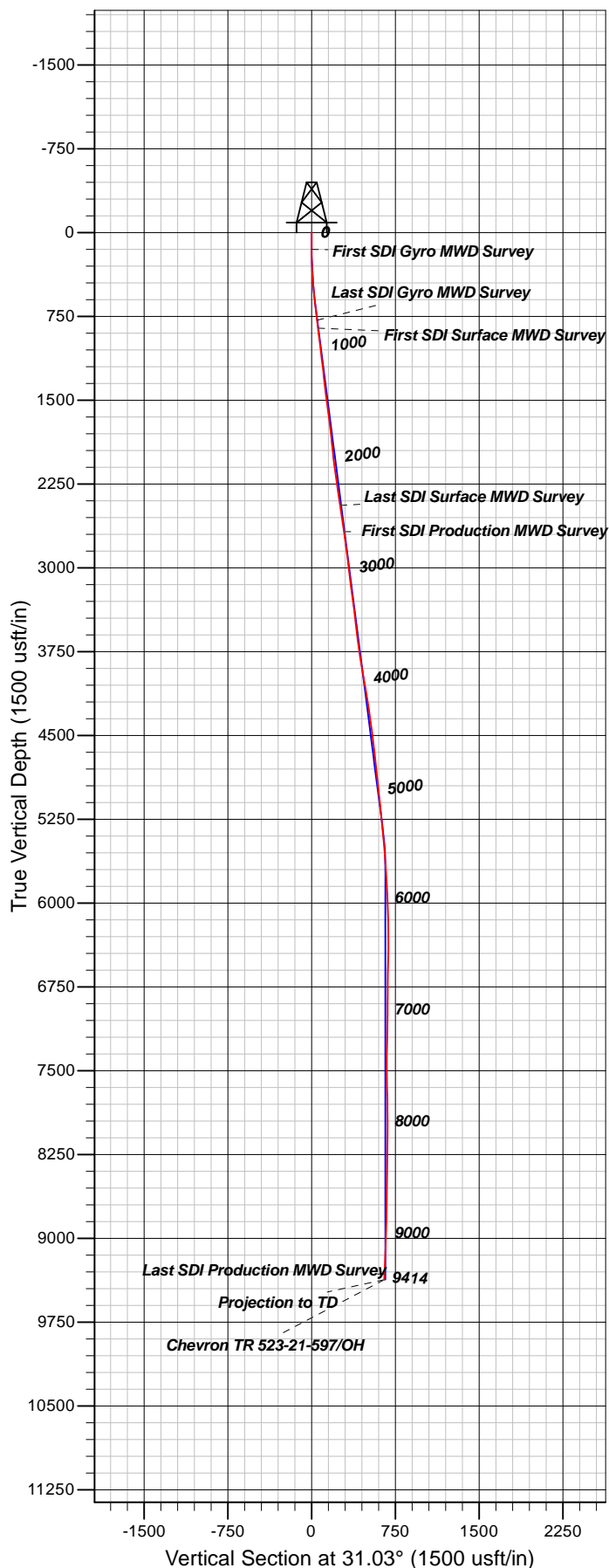
Signature

27-Feb-17

Date

### Janie Collins

Colorado District Well Planner  
Scientific Drilling International



#### Well Details: Chevron TR 523-21-597

TVD Reference: GL 8292' & RKB 24' @ 8316.00usft (H&P 318) & Slot Level: 8292.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1653237.80	2215079.60	39.5938887	-108.2857233

#### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Chevron TR 523-21-597 - Slot B2 (TR 523-21-597), True North  
 Vertical (TVD) Reference: GL 8292' & RKB 24' @ 8316.00usft (H&P 318)  
 Section (VS) Reference: Slot - B2 (TR 523-21-597)(0.00N, 0.00E)  
 Measured Depth Reference: GL 8292' & RKB 24' @ 8316.00usft (H&P 318)  
 Calculation Method: Minimum Curvature

#### PROJECT DETAILS: Garfield County, CO NAD83

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Colorado Central Zone

System Datum: Mean Sea Level

Plan: OH

13:00, February 27 2017  
 Created By: Janie Collins

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well Chevron TR 523-21-597 - Slot B2 (TR 523-21-597)
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 8292' & RKB 24' @ 8316.00usft (H&P 318)
<b>Site:</b>	TR 24-21-597 Pad	<b>MD Reference:</b>	GL 8292' & RKB 24' @ 8316.00usft (H&P 318)
<b>Well:</b>	Chevron TR 523-21-597	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Grand Junction District

<b>Project</b>	Garfield County, CO NAD83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 523-21-597 - Slot B2 (TR 523-21-597)				
Well Position	+N/-S	0.00 usft	Northing:	1,653,237.80 usft	Latitude:	39.5938888
	+E/-W	0.00 usft	Easting:	2,215,079.60 usft	Longitude:	-108.2857387
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	8,292.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	12/27/2016	9.83	65.92	51,670

<b>Design</b>	OH				
<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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	31.03	

<b>Survey Program</b>	<b>Date</b>	2/27/2017			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
149.00	787.00	Survey #1 - Gyro MWD Survey (OH)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4	
858.00	2,457.00	Survey #2 - Surface MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,693.00	9,414.00	Survey #3 - Production MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
149.00	0.53	107.05	149.00	-0.20	0.66	0.17	0.36	0.36	0.00	
<b>First SDI Gyro MWD Survey</b>										
240.00	1.14	69.35	239.99	-0.01	1.91	0.98	0.87	0.67	-41.43	
331.00	2.99	47.55	330.93	1.92	4.51	3.96	2.17	2.03	-23.96	
421.00	4.75	50.19	420.72	5.89	9.10	9.74	1.97	1.96	2.93	
511.00	5.98	45.79	510.32	11.54	15.32	17.79	1.44	1.37	-4.89	
601.00	6.25	42.89	599.81	18.40	22.02	27.12	0.46	0.30	-3.22	

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well Chevron TR 523-21-597 - Slot B2 (TR 523-21-597)
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 8292' & RKB 24' @ 8316.00usft (H&P 318)
<b>Site:</b>	TR 24-21-597 Pad	<b>MD Reference:</b>	GL 8292' & RKB 24' @ 8316.00usft (H&P 318)
<b>Well:</b>	Chevron TR 523-21-597	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	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)
695.00	6.51	42.19	693.23	26.10	29.08	37.35	0.29	0.28	-0.74
787.00	6.86	28.39	784.61	34.79	35.20	47.96	1.78	0.38	-15.00
<b>Last SDI Gyro MWD Survey</b>									
858.00	6.99	23.66	855.09	42.48	38.95	56.48	0.82	0.18	-6.66
<b>First SDI Surface MWD Survey</b>									
952.00	7.29	19.52	948.36	53.34	43.23	68.00	0.63	0.32	-4.40
1,045.00	7.04	28.17	1,040.64	63.93	47.90	79.47	1.19	-0.27	9.30
1,137.00	7.07	32.17	1,131.94	73.69	53.57	90.76	0.53	0.03	4.35
1,230.00	7.01	31.31	1,224.24	83.38	59.57	102.16	0.13	-0.06	-0.92
1,323.00	5.91	27.82	1,316.65	92.47	64.75	112.61	1.26	-1.18	-3.75
1,417.00	5.97	34.40	1,410.15	100.78	69.77	122.33	0.73	0.06	7.00
1,512.00	7.75	39.20	1,504.46	109.82	76.61	133.60	1.97	1.87	5.05
1,606.00	8.04	38.32	1,597.57	119.89	84.70	146.39	0.33	0.31	-0.94
1,701.00	7.73	31.75	1,691.68	130.54	92.18	159.37	1.00	-0.33	-6.92
1,795.00	6.66	24.10	1,784.94	140.89	97.73	171.11	1.53	-1.14	-8.14
1,890.00	5.63	17.16	1,879.39	150.37	101.35	181.10	1.33	-1.08	-7.31
1,985.00	6.16	20.11	1,973.89	159.61	104.48	190.63	0.64	0.56	3.11
2,079.00	7.47	25.09	2,067.22	169.88	108.81	201.66	1.53	1.39	5.30
2,174.00	7.51	27.04	2,161.41	181.00	114.25	213.99	0.27	0.04	2.05
2,268.00	8.35	23.55	2,254.51	192.73	119.77	226.89	1.03	0.89	-3.71
2,363.00	9.07	25.07	2,348.42	205.84	125.70	241.17	0.80	0.76	1.60
2,457.00	8.58	24.38	2,441.30	218.93	131.73	255.51	0.53	-0.52	-0.73
<b>Last SDI Surface MWD Survey</b>									
2,693.00	8.26	23.68	2,674.76	250.49	145.81	289.81	0.14	-0.14	-0.30
<b>First SDI Production MWD Survey</b>									
2,787.00	7.18	20.24	2,767.91	262.19	150.55	302.27	1.25	-1.15	-3.66
2,882.00	7.49	27.54	2,862.13	273.25	155.47	314.29	1.03	0.33	7.68
2,976.00	7.27	24.85	2,955.35	284.08	160.80	326.32	0.44	-0.23	-2.86
3,071.00	7.03	24.97	3,049.61	294.80	165.78	338.07	0.25	-0.25	0.13
3,166.00	6.68	25.61	3,143.94	305.06	170.62	349.35	0.38	-0.37	0.67
3,260.00	7.72	35.34	3,237.20	315.14	176.64	361.09	1.70	1.11	10.35
3,355.00	7.85	35.01	3,331.32	325.66	184.05	373.93	0.14	0.14	-0.35
3,449.00	7.20	35.16	3,424.51	335.73	191.13	386.21	0.69	-0.69	0.16
3,544.00	6.60	33.82	3,518.82	345.13	197.59	397.60	0.65	-0.63	-1.41
3,638.00	6.24	33.38	3,612.23	353.89	203.41	408.10	0.39	-0.38	-0.47
3,733.00	8.35	42.70	3,706.46	363.27	210.93	420.01	2.54	2.22	9.81
3,827.00	9.55	45.78	3,799.32	373.72	221.15	434.24	1.37	1.28	3.28
3,922.00	9.90	32.68	3,892.96	386.09	231.21	450.03	2.35	0.37	-13.79
4,016.00	9.74	32.54	3,985.59	399.60	239.85	466.05	0.17	-0.17	-0.15
4,110.00	9.60	32.99	4,078.25	412.88	248.39	481.83	0.17	-0.15	0.48
4,205.00	9.69	17.43	4,171.92	427.15	255.10	497.53	2.74	0.09	-16.38
4,299.00	8.97	15.89	4,264.68	441.75	259.48	512.29	0.81	-0.77	-1.64
4,394.00	8.41	15.30	4,358.59	455.57	263.34	526.12	0.60	-0.59	-0.62

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well Chevron TR 523-21-597 - Slot B2 (TR 523-21-597)
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<b>Site:</b>	TR 24-21-597 Pad	<b>MD Reference:</b>	GL 8292' & RKB 24' @ 8316.00usft (H&P 318)
<b>Well:</b>	Chevron TR 523-21-597	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	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)
4,489.00	7.74	13.78	4,452.65	468.49	266.69	538.92	0.74	-0.71	-1.60
4,583.00	7.30	12.11	4,545.84	480.47	269.45	550.61	0.52	-0.47	-1.78
4,678.00	6.86	10.62	4,640.11	491.95	271.77	561.64	0.50	-0.46	-1.57
4,772.00	6.16	19.23	4,733.51	502.23	274.46	571.84	1.28	-0.74	9.16
4,867.00	5.89	19.05	4,827.98	511.65	277.73	581.60	0.28	-0.28	-0.19
4,961.00	6.77	29.43	4,921.41	521.04	282.03	591.85	1.53	0.94	11.04
5,056.00	6.24	28.37	5,015.80	530.46	287.23	602.61	0.57	-0.56	-1.12
5,150.00	6.16	28.99	5,109.25	539.36	292.10	612.75	0.11	-0.09	0.66
5,245.00	5.52	30.64	5,203.76	547.75	296.90	622.41	0.70	-0.67	1.74
5,339.00	5.53	29.42	5,297.32	555.59	301.43	631.46	0.13	0.01	-1.30
5,434.00	5.19	31.27	5,391.90	563.25	305.91	640.33	0.40	-0.36	1.95
5,528.00	4.64	29.13	5,485.56	570.20	309.97	648.39	0.62	-0.59	-2.28
5,623.00	4.48	27.93	5,580.26	576.84	313.58	655.93	0.20	-0.17	-1.26
5,718.00	4.04	23.54	5,675.00	583.18	316.65	662.95	0.58	-0.46	-4.62
5,812.00	3.43	23.62	5,768.80	588.79	319.10	669.03	0.65	-0.65	0.09
5,906.00	3.09	19.31	5,862.64	593.76	321.07	674.30	0.45	-0.36	-4.59
6,001.00	2.55	18.18	5,957.53	598.19	322.57	678.86	0.57	-0.57	-1.19
6,096.00	2.11	8.60	6,052.45	601.92	323.49	682.54	0.62	-0.46	-10.08
6,190.00	1.80	0.99	6,146.40	605.11	323.78	685.42	0.43	-0.33	-8.10
6,284.00	1.76	0.07	6,240.35	608.03	323.80	687.93	0.05	-0.04	-0.98
6,379.00	1.15	247.49	6,335.33	609.12	322.92	688.42	2.57	-0.64	-118.51
6,473.00	1.49	255.66	6,429.31	608.46	320.87	686.79	0.41	0.36	8.69
6,568.00	1.76	252.58	6,524.27	607.72	318.28	684.82	0.30	0.28	-3.24
6,663.00	1.23	188.51	6,619.24	606.27	316.74	682.78	1.74	-0.56	-67.44
6,757.00	1.07	127.34	6,713.23	604.74	317.29	681.76	1.25	-0.17	-65.07
6,852.00	0.78	145.92	6,808.21	603.67	318.35	681.39	0.44	-0.31	19.56
6,946.00	0.62	157.66	6,902.21	602.67	318.91	680.81	0.23	-0.17	12.49
7,041.00	0.78	171.52	6,997.20	601.55	319.20	680.01	0.24	0.17	14.59
7,136.00	0.88	190.70	7,092.19	600.20	319.16	678.82	0.31	0.11	20.19
7,230.00	1.14	193.78	7,186.18	598.58	318.80	677.25	0.28	0.28	3.28
7,325.00	1.14	207.58	7,281.16	596.82	318.14	675.41	0.29	0.00	14.53
7,419.00	1.49	205.12	7,375.13	594.89	317.19	673.26	0.38	0.37	-2.62
7,514.00	1.13	48.77	7,470.12	594.39	317.37	672.92	2.70	-0.38	-164.58
7,608.00	0.84	57.89	7,564.11	595.36	318.65	674.42	0.35	-0.31	9.70
7,703.00	1.58	10.09	7,659.09	597.02	319.47	676.27	1.25	0.78	-50.32
7,797.00	0.97	3.59	7,753.07	599.09	319.74	678.18	0.67	-0.65	-6.91
7,892.00	1.14	334.67	7,848.05	600.75	319.39	679.42	0.58	0.18	-30.44
7,986.00	0.88	302.41	7,942.04	601.98	318.38	679.95	0.65	-0.28	-34.32
8,081.00	1.32	286.59	8,037.02	602.69	316.71	679.70	0.56	0.46	-16.65
8,176.00	1.93	263.92	8,131.98	602.83	314.07	678.46	0.92	0.64	-23.86
8,270.00	0.26	122.33	8,225.96	602.55	312.68	677.50	2.28	-1.78	-150.63
8,364.00	0.53	187.72	8,319.96	602.00	312.80	677.10	0.51	0.29	69.56
8,459.00	0.53	229.46	8,414.96	601.28	312.41	676.28	0.40	0.00	43.94

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well Chevron TR 523-21-597 - Slot B2 (TR 523-21-597)
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 8292' & RKB 24' @ 8316.00usft (H&P 318)
<b>Site:</b>	TR 24-21-597 Pad	<b>MD Reference:</b>	GL 8292' & RKB 24' @ 8316.00usft (H&P 318)
<b>Well:</b>	Chevron TR 523-21-597	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	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)	
8,553.00	0.70	227.44	8,508.95	600.61	311.66	675.31	0.18	0.18	-2.15	
8,648.00	0.88	232.80	8,603.94	599.78	310.65	674.08	0.20	0.19	5.64	
8,743.00	1.32	246.78	8,698.93	598.90	309.06	672.51	0.54	0.46	14.72	
8,837.00	1.76	242.12	8,792.89	597.80	306.79	670.40	0.49	0.47	-4.96	
8,932.00	1.93	248.89	8,887.84	596.54	304.01	667.89	0.29	0.18	7.13	
9,026.00	2.11	240.89	8,981.79	595.13	301.02	665.14	0.36	0.19	-8.51	
9,121.00	2.37	240.98	9,076.71	593.33	297.77	661.92	0.27	0.27	0.09	
9,215.00	2.46	240.98	9,170.63	591.41	294.31	658.48	0.10	0.10	0.00	
9,310.00	2.64	240.19	9,265.53	589.33	290.63	654.81	0.19	0.19	-0.83	
9,364.00	2.99	235.27	9,319.47	587.91	288.39	652.44	0.79	0.65	-9.11	
Last SDI Production MWD Survey										
9,414.00	2.99	235.27	9,369.40	586.42	286.25	650.06	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
149.00	149.00	-0.20	0.66	First SDI Gyro MWD Survey	
787.00	784.61	34.79	35.20	Last SDI Gyro MWD Survey	
858.00	855.09	42.48	38.95	First SDI Surface MWD Survey	
2,457.00	2,441.30	218.93	131.73	Last SDI Surface MWD Survey	
2,693.00	2,674.76	250.49	145.81	First SDI Production MWD Survey	
9,364.00	9,319.47	587.91	288.39	Last SDI Production MWD Survey	
9,414.00	9,369.40	586.42	286.25	Projection to TD	

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