



Project: Weld Co., CO  
 Site: Sec.22-T1N-R65W  
 Well: Drake 01N-65W-22-5C  
 Wellbore: Wellbore #1  
 Design: Design #1  
 Lat: 40° 1' 48.846 N  
 Long: 104° 38' 44.110 W  
 GL: 5090.00



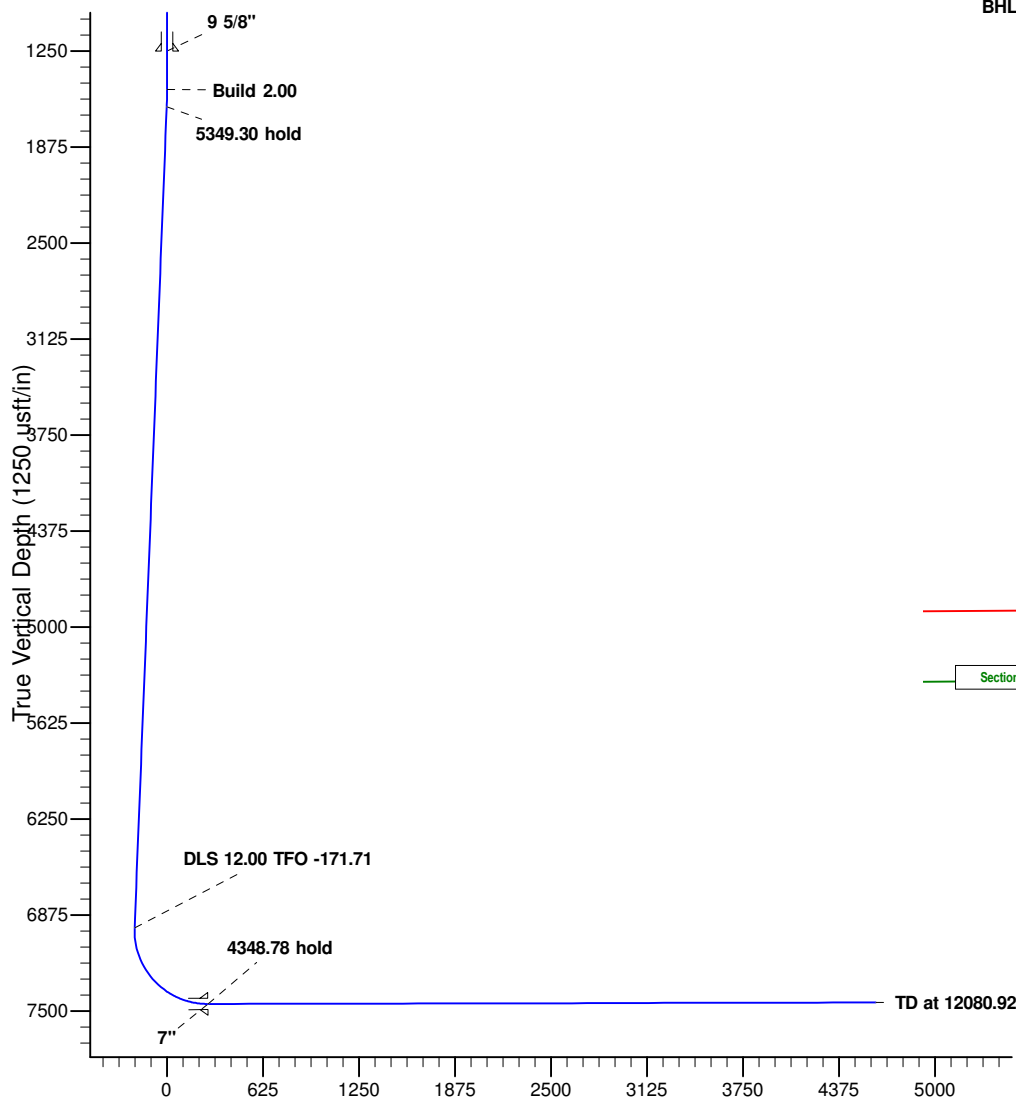
**Precision**  
 Directional Services

KB: WELL @ 5114.30usft (Original Well Elev)

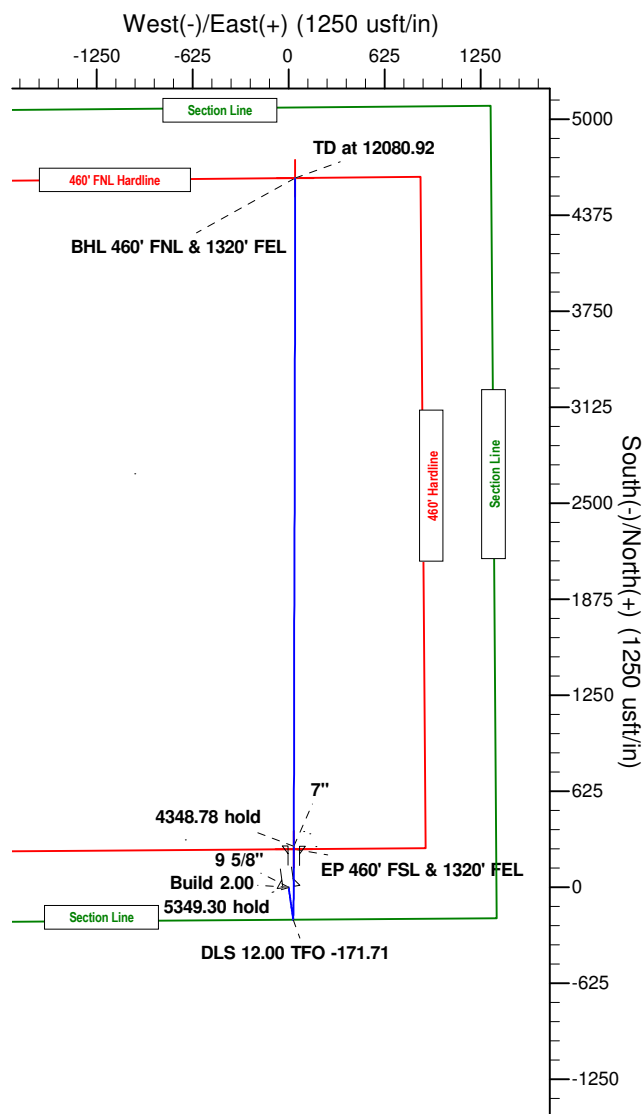


**M** Azimuths to True North  
 Magnetic North: 8.33°  
 Magnetic Field  
 Strength: 52605.6snT  
 Dip Angle: 66.66°  
 Date: 09/12/2014  
 Model: IGRF2010

CASING DETAILS:			
TVD	MD	Name	Size
1250.00	1250.00	9 5/8"	9-5/8
7454.30	7732.14	7"	7



Vertical Section at 0.54° (1250 usft/in)



#### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BHL 460' FNL & 1320' FEL	7444.30	4615.75	43.68	40° 2' 34.462 N	104° 38' 43.548 W	Shape
EP 460' FSL & 1320' FEL	7454.30	247.00	34.16	40° 1' 51.287 N	104° 38' 43.670 W	Point

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	Build 2.00
1613.10	2.26	171.84	1613.07	-2.21	0.32	2.00	171.84	-2.21	5349.30 hold
6962.39	2.26	171.84	6958.20	-211.20	30.29	0.00	0.00	-210.90	DLS 12.00 TFO -171.71
7732.14	90.13	0.13	7454.30	267.00	34.16	12.00	-171.71	267.31	4348.78 hold
12080.92	90.13	0.13	7444.30	4615.75	43.68	0.00	0.00	4615.96	TD at 12080.92



## **Verdad Oil & Gas**

**Weld Co., CO**

**Sec.22-T1N-R65W**

**Drake 01N-65W-22-5C**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**12 September, 2014**



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-5C
<b>Company:</b>	Verdad Oil & Gas	<b>TVD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Project:</b>	Weld Co., CO	<b>MD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Site:</b>	Sec.22-T1N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Drake 01N-65W-22-5C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	Weld Co., CO		
<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 Northern Zone		

Site	Sec.22-T1N-R65W				
Site Position:		Northing:	1,255,012.76 usft	Latitude:	40° 1' 48.846 N
From:	Lat/Long	Easting:	3,239,197.12 usft	Longitude:	104° 38' 44.884 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.55

Well	Drake 01N-65W-22-5C					
Well Position	+N/-S	-0.02 usft	Northing:	1,255,013.32 usft	Latitude:	40° 1' 48.846 N
	+E/-W	60.21 usft	Easting:	3,239,257.33 usft	Longitude:	104° 38' 44.110 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,090.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	09/12/14	8.33	66.66	52,606

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<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	0.54

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,613.10	2.26	171.84	1,613.07	-2.21	0.32	2.00	2.00	0.00	171.84	
6,962.39	2.26	171.84	6,958.20	-211.20	30.29	0.00	0.00	0.00	0.00	
7,732.14	90.13	0.13	7,454.30	267.00	34.16	12.00	11.42	-22.31	-171.71	EP 460' FSL & 1320'
12,080.92	90.13	0.13	7,444.30	4,615.75	43.68	0.00	0.00	0.00	0.00	BHL 460' FNL & 1320

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-5C
<b>Company:</b>	Verdad Oil & Gas	<b>TVD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Project:</b>	Weld Co., CO	<b>MD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Site:</b>	Sec.22-T1N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Drake 01N-65W-22-5C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned 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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Build 2.00</b>									
1,600.00	2.00	171.84	1,599.98	-1.73	0.25	-1.73	2.00	2.00	0.00
1,613.10	2.26	171.84	1,613.07	-2.21	0.32	-2.21	2.00	2.00	0.00
<b>5349.30 hold</b>									
1,700.00	2.26	171.84	1,699.90	-5.60	0.80	-5.60	0.00	0.00	0.00
1,800.00	2.26	171.84	1,799.83	-9.51	1.36	-9.50	0.00	0.00	0.00
1,900.00	2.26	171.84	1,899.75	-13.42	1.92	-13.40	0.00	0.00	0.00
2,000.00	2.26	171.84	1,999.67	-17.33	2.48	-17.30	0.00	0.00	0.00
2,100.00	2.26	171.84	2,099.59	-21.23	3.04	-21.20	0.00	0.00	0.00
2,200.00	2.26	171.84	2,199.51	-25.14	3.61	-25.10	0.00	0.00	0.00
2,300.00	2.26	171.84	2,299.44	-29.05	4.17	-29.00	0.00	0.00	0.00
2,400.00	2.26	171.84	2,399.36	-32.95	4.73	-32.91	0.00	0.00	0.00
2,500.00	2.26	171.84	2,499.28	-36.86	5.29	-36.81	0.00	0.00	0.00
2,600.00	2.26	171.84	2,599.20	-40.77	5.85	-40.71	0.00	0.00	0.00
2,700.00	2.26	171.84	2,699.12	-44.67	6.41	-44.61	0.00	0.00	0.00
2,800.00	2.26	171.84	2,799.05	-48.58	6.97	-48.51	0.00	0.00	0.00
2,900.00	2.26	171.84	2,898.97	-52.49	7.53	-52.41	0.00	0.00	0.00
3,000.00	2.26	171.84	2,998.89	-56.39	8.09	-56.31	0.00	0.00	0.00
3,100.00	2.26	171.84	3,098.81	-60.30	8.65	-60.22	0.00	0.00	0.00
3,200.00	2.26	171.84	3,198.73	-64.21	9.21	-64.12	0.00	0.00	0.00
3,300.00	2.26	171.84	3,298.66	-68.11	9.77	-68.02	0.00	0.00	0.00
3,400.00	2.26	171.84	3,398.58	-72.02	10.33	-71.92	0.00	0.00	0.00
3,500.00	2.26	171.84	3,498.50	-75.93	10.89	-75.82	0.00	0.00	0.00
3,600.00	2.26	171.84	3,598.42	-79.83	11.45	-79.72	0.00	0.00	0.00
3,700.00	2.26	171.84	3,698.34	-83.74	12.01	-83.62	0.00	0.00	0.00
3,800.00	2.26	171.84	3,798.27	-87.65	12.57	-87.52	0.00	0.00	0.00
3,900.00	2.26	171.84	3,898.19	-91.55	13.13	-91.43	0.00	0.00	0.00
4,000.00	2.26	171.84	3,998.11	-95.46	13.69	-95.33	0.00	0.00	0.00
4,100.00	2.26	171.84	4,098.03	-99.37	14.25	-99.23	0.00	0.00	0.00
4,200.00	2.26	171.84	4,197.96	-103.27	14.81	-103.13	0.00	0.00	0.00
4,300.00	2.26	171.84	4,297.88	-107.18	15.37	-107.03	0.00	0.00	0.00
4,400.00	2.26	171.84	4,397.80	-111.09	15.93	-110.93	0.00	0.00	0.00
4,500.00	2.26	171.84	4,497.72	-115.00	16.49	-114.83	0.00	0.00	0.00
4,600.00	2.26	171.84	4,597.64	-118.90	17.05	-118.74	0.00	0.00	0.00
4,700.00	2.26	171.84	4,697.57	-122.81	17.61	-122.64	0.00	0.00	0.00
4,800.00	2.26	171.84	4,797.49	-126.72	18.17	-126.54	0.00	0.00	0.00
4,900.00	2.26	171.84	4,897.41	-130.62	18.73	-130.44	0.00	0.00	0.00
5,000.00	2.26	171.84	4,997.33	-134.53	19.29	-134.34	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-5C
<b>Company:</b>	Verdad Oil & Gas	<b>TVD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Project:</b>	Weld Co., CO	<b>MD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Site:</b>	Sec.22-T1N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Drake 01N-65W-22-5C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned 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)
5,100.00	2.26	171.84	5,097.25	-138.44	19.85	-138.24	0.00	0.00	0.00
5,200.00	2.26	171.84	5,197.18	-142.34	20.41	-142.14	0.00	0.00	0.00
5,300.00	2.26	171.84	5,297.10	-146.25	20.97	-146.04	0.00	0.00	0.00
5,400.00	2.26	171.84	5,397.02	-150.16	21.53	-149.95	0.00	0.00	0.00
5,500.00	2.26	171.84	5,496.94	-154.06	22.09	-153.85	0.00	0.00	0.00
5,600.00	2.26	171.84	5,596.86	-157.97	22.65	-157.75	0.00	0.00	0.00
5,700.00	2.26	171.84	5,696.79	-161.88	23.21	-161.65	0.00	0.00	0.00
5,800.00	2.26	171.84	5,796.71	-165.78	23.77	-165.55	0.00	0.00	0.00
5,900.00	2.26	171.84	5,896.63	-169.69	24.33	-169.45	0.00	0.00	0.00
6,000.00	2.26	171.84	5,996.55	-173.60	24.89	-173.35	0.00	0.00	0.00
6,100.00	2.26	171.84	6,096.47	-177.50	25.45	-177.25	0.00	0.00	0.00
6,200.00	2.26	171.84	6,196.40	-181.41	26.02	-181.16	0.00	0.00	0.00
6,300.00	2.26	171.84	6,296.32	-185.32	26.58	-185.06	0.00	0.00	0.00
6,400.00	2.26	171.84	6,396.24	-189.22	27.14	-188.96	0.00	0.00	0.00
6,500.00	2.26	171.84	6,496.16	-193.13	27.70	-192.86	0.00	0.00	0.00
6,600.00	2.26	171.84	6,596.09	-197.04	28.26	-196.76	0.00	0.00	0.00
6,700.00	2.26	171.84	6,696.01	-200.94	28.82	-200.66	0.00	0.00	0.00
6,800.00	2.26	171.84	6,795.93	-204.85	29.38	-204.56	0.00	0.00	0.00
6,900.00	2.26	171.84	6,895.85	-208.76	29.94	-208.47	0.00	0.00	0.00
6,962.39	2.26	171.84	6,958.20	-211.20	30.29	-210.90	0.00	0.00	0.00
<b>DLS 12.00 TFO -171.71</b>									
6,975.00	0.80	155.92	6,970.80	-211.52	30.36	-211.23	12.00	-11.63	-126.27
7,000.00	2.30	8.28	6,995.79	-211.18	30.50	-210.89	12.00	6.01	-590.55
7,025.00	5.28	3.65	7,020.73	-209.54	30.65	-209.24	12.00	11.95	-18.51
7,050.00	8.28	2.37	7,045.56	-206.59	30.79	-206.29	12.00	11.99	-5.15
7,075.00	11.28	1.76	7,070.19	-202.35	30.94	-202.05	12.00	11.99	-2.42
7,100.00	14.28	1.41	7,094.57	-196.82	31.09	-196.52	12.00	12.00	-1.42
7,125.00	17.28	1.17	7,118.62	-190.03	31.25	-189.72	12.00	12.00	-0.93
7,150.00	20.28	1.01	7,142.29	-181.98	31.40	-181.68	12.00	12.00	-0.66
7,175.00	23.28	0.88	7,165.50	-172.71	31.55	-172.40	12.00	12.00	-0.50
7,200.00	26.28	0.79	7,188.20	-162.23	31.70	-161.93	12.00	12.00	-0.39
7,225.00	29.28	0.71	7,210.32	-150.59	31.86	-150.28	12.00	12.00	-0.32
7,250.00	32.28	0.64	7,231.79	-137.80	32.01	-137.49	12.00	12.00	-0.26
7,275.00	35.28	0.59	7,252.57	-123.90	32.15	-123.59	12.00	12.00	-0.22
7,300.00	38.28	0.54	7,272.59	-108.93	32.30	-108.62	12.00	12.00	-0.19
7,325.00	41.28	0.50	7,291.81	-92.94	32.45	-92.63	12.00	12.00	-0.17
7,350.00	44.28	0.46	7,310.16	-75.97	32.59	-75.66	12.00	12.00	-0.15
7,375.00	47.28	0.43	7,327.59	-58.05	32.73	-57.74	12.00	12.00	-0.13
7,400.00	50.28	0.40	7,344.06	-39.25	32.86	-38.94	12.00	12.00	-0.12
7,425.00	53.28	0.37	7,359.53	-19.62	32.99	-19.30	12.00	12.00	-0.11
7,450.00	56.28	0.34	7,373.95	0.80	33.12	1.12	12.00	12.00	-0.10
7,475.00	59.27	0.32	7,387.28	21.95	33.24	22.26	12.00	12.00	-0.10
7,500.00	62.27	0.30	7,399.48	43.76	33.36	44.08	12.00	12.00	-0.09
7,525.00	65.27	0.28	7,410.53	66.19	33.47	66.50	12.00	12.00	-0.08
7,550.00	68.27	0.26	7,420.39	89.16	33.58	89.47	12.00	12.00	-0.08
7,575.00	71.27	0.24	7,429.03	112.61	33.68	112.93	12.00	12.00	-0.08
7,600.00	74.27	0.22	7,436.43	136.49	33.77	136.80	12.00	12.00	-0.07
7,625.00	77.27	0.20	7,442.57	160.72	33.86	161.03	12.00	12.00	-0.07
7,650.00	80.27	0.18	7,447.44	185.24	33.94	185.55	12.00	12.00	-0.07
7,675.00	83.27	0.16	7,451.02	209.98	34.02	210.29	12.00	12.00	-0.07
7,700.00	86.27	0.15	7,453.29	234.87	34.09	235.18	12.00	12.00	-0.07
7,725.00	89.27	0.13	7,454.26	259.85	34.15	260.16	12.00	12.00	-0.07
7,732.14	90.13	0.13	7,454.30	267.00	34.16	267.31	12.00	12.00	-0.07
<b>4348.78 hold</b>									

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-5C
<b>Company:</b>	Verdad Oil & Gas	<b>TVD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Project:</b>	Weld Co., CO	<b>MD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Site:</b>	Sec.22-T1N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Drake 01N-65W-22-5C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned 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)
7,800.00	90.13	0.13	7,454.14	334.85	34.31	335.16	0.00	0.00	0.00
7,900.00	90.13	0.13	7,453.91	434.85	34.53	435.16	0.00	0.00	0.00
8,000.00	90.13	0.13	7,453.68	534.85	34.75	535.15	0.00	0.00	0.00
8,100.00	90.13	0.13	7,453.45	634.85	34.97	635.15	0.00	0.00	0.00
8,200.00	90.13	0.13	7,453.22	734.85	35.19	735.15	0.00	0.00	0.00
8,300.00	90.13	0.13	7,452.99	834.85	35.41	835.15	0.00	0.00	0.00
8,400.00	90.13	0.13	7,452.76	934.85	35.62	935.14	0.00	0.00	0.00
8,500.00	90.13	0.13	7,452.53	1,034.85	35.84	1,035.14	0.00	0.00	0.00
8,600.00	90.13	0.13	7,452.30	1,134.85	36.06	1,135.14	0.00	0.00	0.00
8,700.00	90.13	0.13	7,452.07	1,234.85	36.28	1,235.13	0.00	0.00	0.00
8,800.00	90.13	0.13	7,451.84	1,334.85	36.50	1,335.13	0.00	0.00	0.00
8,900.00	90.13	0.13	7,451.61	1,434.84	36.72	1,435.13	0.00	0.00	0.00
9,000.00	90.13	0.13	7,451.38	1,534.84	36.94	1,535.13	0.00	0.00	0.00
9,100.00	90.13	0.13	7,451.15	1,634.84	37.16	1,635.12	0.00	0.00	0.00
9,200.00	90.13	0.13	7,450.92	1,734.84	37.37	1,735.12	0.00	0.00	0.00
9,300.00	90.13	0.13	7,450.69	1,834.84	37.59	1,835.12	0.00	0.00	0.00
9,400.00	90.13	0.13	7,450.46	1,934.84	37.81	1,935.11	0.00	0.00	0.00
9,500.00	90.13	0.13	7,450.23	2,034.84	38.03	2,035.11	0.00	0.00	0.00
9,600.00	90.13	0.13	7,450.01	2,134.84	38.25	2,135.11	0.00	0.00	0.00
9,700.00	90.13	0.13	7,449.78	2,234.84	38.47	2,235.10	0.00	0.00	0.00
9,800.00	90.13	0.13	7,449.55	2,334.84	38.69	2,335.10	0.00	0.00	0.00
9,900.00	90.13	0.13	7,449.32	2,434.84	38.91	2,435.10	0.00	0.00	0.00
10,000.00	90.13	0.13	7,449.09	2,534.84	39.12	2,535.10	0.00	0.00	0.00
10,100.00	90.13	0.13	7,448.86	2,634.84	39.34	2,635.09	0.00	0.00	0.00
10,200.00	90.13	0.13	7,448.63	2,734.84	39.56	2,735.09	0.00	0.00	0.00
10,300.00	90.13	0.13	7,448.40	2,834.84	39.78	2,835.09	0.00	0.00	0.00
10,400.00	90.13	0.13	7,448.17	2,934.84	40.00	2,935.08	0.00	0.00	0.00
10,500.00	90.13	0.13	7,447.94	3,034.84	40.22	3,035.08	0.00	0.00	0.00
10,600.00	90.13	0.13	7,447.71	3,134.84	40.44	3,135.08	0.00	0.00	0.00
10,700.00	90.13	0.13	7,447.48	3,234.84	40.66	3,235.08	0.00	0.00	0.00
10,800.00	90.13	0.13	7,447.25	3,334.84	40.87	3,335.07	0.00	0.00	0.00
10,900.00	90.13	0.13	7,447.02	3,434.83	41.09	3,435.07	0.00	0.00	0.00
11,000.00	90.13	0.13	7,446.79	3,534.83	41.31	3,535.07	0.00	0.00	0.00
11,100.00	90.13	0.13	7,446.56	3,634.83	41.53	3,635.06	0.00	0.00	0.00
11,200.00	90.13	0.13	7,446.33	3,734.83	41.75	3,735.06	0.00	0.00	0.00
11,300.00	90.13	0.13	7,446.10	3,834.83	41.97	3,835.06	0.00	0.00	0.00
11,400.00	90.13	0.13	7,445.87	3,934.83	42.19	3,935.06	0.00	0.00	0.00
11,500.00	90.13	0.13	7,445.64	4,034.83	42.41	4,035.05	0.00	0.00	0.00
11,600.00	90.13	0.13	7,445.41	4,134.83	42.62	4,135.05	0.00	0.00	0.00
11,700.00	90.13	0.13	7,445.18	4,234.83	42.84	4,235.05	0.00	0.00	0.00
11,800.00	90.13	0.13	7,444.95	4,334.83	43.06	4,335.04	0.00	0.00	0.00
11,900.00	90.13	0.13	7,444.72	4,434.83	43.28	4,435.04	0.00	0.00	0.00
12,000.00	90.13	0.13	7,444.49	4,534.83	43.50	4,535.04	0.00	0.00	0.00
12,080.92	90.13	0.13	7,444.30	4,615.75	43.68	4,615.96	0.00	0.00	0.00
TD at 12080.92									

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-5C
<b>Company:</b>	Verdad Oil & Gas	<b>TVD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Project:</b>	Weld Co., CO	<b>MD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Site:</b>	Sec.22-T1N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Drake 01N-65W-22-5C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
BHL 460' FNL & 1320' F	0.00	0.00	7,444.30	4,615.75	43.68	1,259,629.28	3,239,256.53	40° 2' 34.462 N	104° 38' 43.548 W
- plan hits target center									
- Point									
EP 460' FSL & 1320' FE	0.00	0.00	7,454.30	247.00	34.16	1,255,260.64	3,239,289.11	40° 1' 51.287 N	104° 38' 43.670 W
- plan misses target center by 0.38usft at 7712.15usft MD (7453.93 TVD, 247.01 N, 34.12 E)									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(")	(")
1,250.00	1,250.00	9 5/8"		9-5/8	12-1/4
7,732.14	7,454.30	7"		7	7-1/2

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
(usft)	(usft)	(usft)	(usft)	
1,500.00	1,500.00	0.00	0.00	Build 2.00
1,613.10	1,613.07	-2.21	0.32	5349.30 hold
6,962.39	6,958.20	-211.20	30.29	DLS 12.00 TFO -171.71
7,732.14	7,454.30	267.00	34.16	4348.78 hold
12,080.92	7,444.30	4,615.75	43.68	TD at 12080.92



**Precision**  
Directional Services

## **Verdad Oil & Gas**

Weld Co., CO

Sec.22-T1N-R65W

Drake 01N-65W-22-5C

Wellbore #1

Design #1

# **Anticollision Summary Report**

12 September, 2014





<b>Company:</b>	Verdad Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-5C
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Reference Site:</b>	Sec.22-T1N-R65W	<b>MD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Drake 01N-65W-22-5C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	09/12/14		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	12,080.92	Design #1 (Wellbore #1)	MWD	Std MWD	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec.22-T1N-R65W						
Drake 01N-65W-22-1C - Wellbore #1 - Design #1	1,300.00	1,300.00	60.21	53.53	9.014	CC, ES
Drake 01N-65W-22-1C - Wellbore #1 - Design #1	12,080.92	12,107.19	659.93	580.26	8.284	SF
Drake 01N-65W-22-2N - Wellbore #1 - Design #1	1,333.42	1,333.42	45.08	38.23	6.577	CC, ES
Drake 01N-65W-22-2N - Wellbore #1 - Design #1	1,500.00	1,497.84	48.49	40.77	6.281	SF
Drake 01N-65W-22-3N - Wellbore #1 - Design #1	1,400.00	1,400.00	29.96	22.76	4.160	CC, ES
Drake 01N-65W-22-3N - Wellbore #1 - Design #1	1,500.00	1,499.18	31.29	23.56	4.050	SF
Drake 01N-65W-22-4N - Wellbore #1 - Design #1	1,434.88	1,434.88	15.12	7.74	2.047	CC
Drake 01N-65W-22-4N - Wellbore #1 - Design #1	1,500.00	1,499.88	15.32	7.60	1.983	ES, SF
Drake 01N-65W-22-6N - Wellbore #1 - Design #1	1,434.21	1,434.21	14.84	7.46	2.010	CC
Drake 01N-65W-22-6N - Wellbore #1 - Design #1	1,500.00	1,499.83	15.12	7.39	1.957	ES, SF
Drake 01N-65W-22-7N - Wellbore #1 - Design #1	1,400.00	1,400.00	29.96	22.76	4.160	CC, ES
Drake 01N-65W-22-7N - Wellbore #1 - Design #1	1,500.00	1,499.11	31.40	23.68	4.066	SF
Drake 01N-65W-22-8N - Wellbore #1 - Design #1	1,333.39	1,333.39	44.80	37.95	6.537	CC, ES
Drake 01N-65W-22-8N - Wellbore #1 - Design #1	1,500.00	1,497.78	48.33	40.61	6.260	SF
Drake 01N-65W-22-9C - Wellbore #1 - Design #1	1,300.00	1,300.00	59.93	53.25	8.972	CC, ES
Drake 01N-65W-22-9C - Wellbore #1 - Design #1	12,080.92	12,107.60	659.91	580.21	8.280	SF

<b>Company:</b>	Verdad Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-5C
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Reference Site:</b>	Sec.22-T1N-R65W	<b>MD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Drake 01N-65W-22-5C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5114.30usft (Original Well E

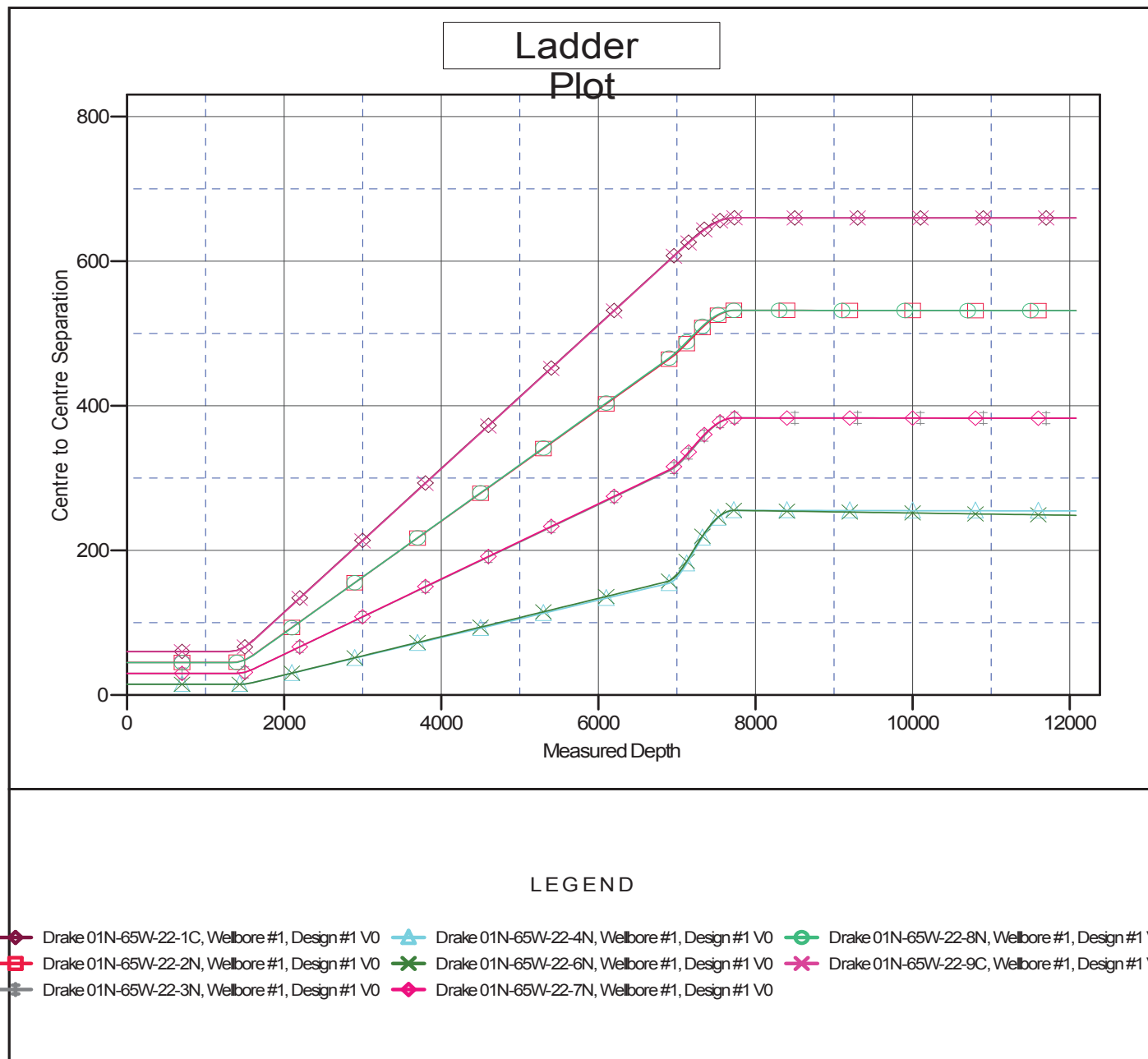
Offset Depths are relative to Offset Datum

Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Drake 01N-65W-22-5C

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.55°



<b>Company:</b>	Verdad Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-5C
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Reference Site:</b>	Sec.22-T1N-R65W	<b>MD Reference:</b>	WELL @ 5114.30usft (Original Well Elev)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Drake 01N-65W-22-5C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5114.30usft (Original Well E

Offset Depths are relative to Offset Datum

Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Drake 01N-65W-22-5C

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.55°

