



Project: Weld Co., CO  
 Site: Sec.22-T1N-R65W  
 Well: Drake 01N-65W-22-3N  
 Wellbore: Wellbore #1  
 Design: Design #1  
 Lat: 40° 1' 48.846 N  
 Long: 104° 38' 44.495 W  
 GL: 5090.00

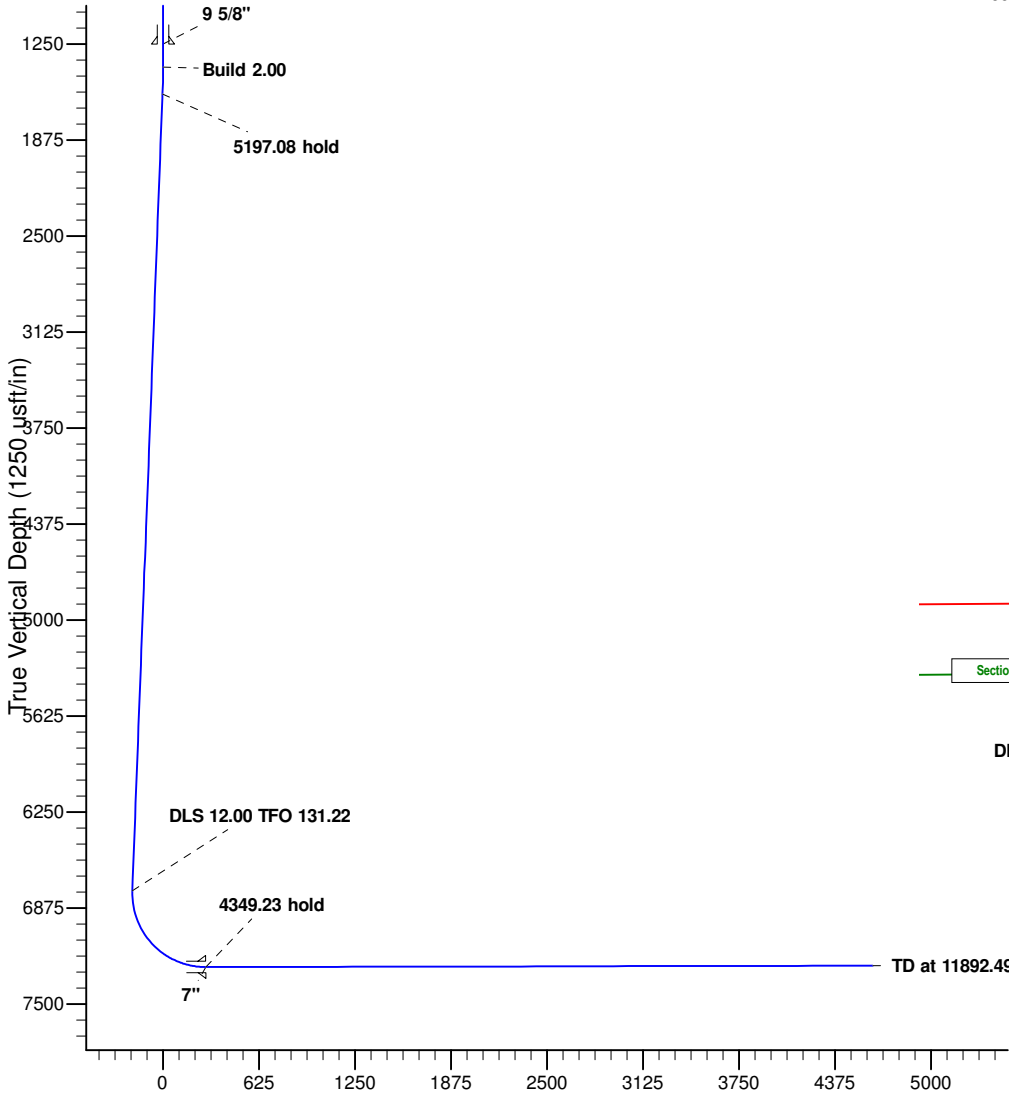


KB: WELL @ 5114.30usft (Original Well Elev)

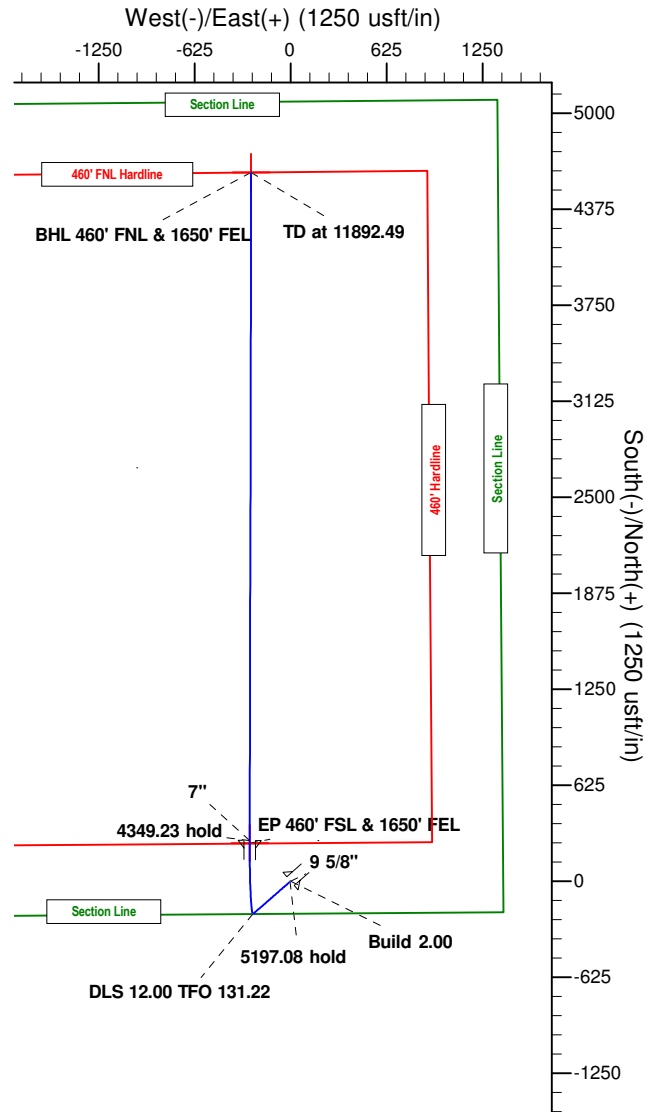


M Azimuths to True North  
 Magnetic North: 8.33°  
 Magnetic Field  
 Strength: 52605.6snT  
 Dip Angle: 66.66°  
 Date: 09/12/2014  
 Model: IGRF2010

CASING DETAILS:		Name	Size
TVD	MD	9 5/8"	9-5/8
1250.00	1250.00	7"	7
7259.30	7543.26		



Vertical Section at 356.82° (1250 usft/in)



WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BHL 460' FNL & 1650' FEL	7250.30	4613.94	-256.46	40° 2' 34.444 N	104° 38' 47.792 W	Shape
EP 460' FSL & 1650' FEL	7259.30	247.73	-266.03	40° 1' 51.294 N	104° 38' 47.915 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	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	Build 2.00
1575.86	3.52	228.84	1575.75	-3.55	-4.06	2.00	228.84	-3.32	5197.08 hold
6772.94	3.52	228.84	6763.04	-213.38	-244.11	0.00	0.00	-199.51	DLS 12.00 TFO 131.22
7543.26	90.12	0.13	7259.30	264.73	-266.03	12.00	131.22	279.08	4349.23 hold
11892.49	90.12	0.13	7250.30	4613.94	-256.46	0.00	0.00	4621.06	TD at 11892.49



**Precision**  
Directional Services

## **Verdad Oil & Gas**

Weld Co., CO

Sec.22-T1N-R65W

Drake 01N-65W-22-3N

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-22-3N
<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-22-3N	<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		

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

<b>Well</b>	Drake 01N-65W-22-3N					
<b>Well Position</b>	<b>+N/-S</b>	-0.02 usft	<b>Northing:</b>	1,255,013.03 usft	<b>Latitude:</b>	40° 1' 48.846 N
	<b>+E/-W</b>	30.24 usft	<b>Easting:</b>	3,239,227.37 usft	<b>Longitude:</b>	104° 38' 44.495 W
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	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	356.82

<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	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,575.86	3.52	228.84	1,575.75	-3.55	-4.06	2.00	2.00	0.00	228.84	
6,772.94	3.52	228.84	6,763.04	-213.38	-244.11	0.00	0.00	0.00	0.00	
7,543.26	90.12	0.13	7,259.30	264.73	-266.03	12.00	11.24	17.04	131.22	EP 460' FSL & 1650'
11,892.49	90.12	0.13	7,250.30	4,613.94	-256.46	0.00	0.00	0.00	0.00	BHL 460' FNL & 1650

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-3N
<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-22-3N	<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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
300.00	0.00	0.00	300.00	0.00	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	0.00
500.00	0.00	0.00	500.00	0.00	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	0.00
700.00	0.00	0.00	700.00	0.00	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	0.00
900.00	0.00	0.00	900.00	0.00	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	0.00
1,100.00	0.00	0.00	1,100.00	0.00	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	0.00
1,300.00	0.00	0.00	1,300.00	0.00	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	0.00
<b>Build 2.00</b>										
1,500.00	2.00	228.84	1,499.98	-1.15	-1.31	-1.07	2.00	2.00	0.00	0.00
1,575.86	3.52	228.84	1,575.75	-3.55	-4.06	-3.32	2.00	2.00	0.00	0.00
<b>5197.08 hold</b>										
1,600.00	3.52	228.84	1,599.84	-4.53	-5.18	-4.23	0.00	0.00	0.00	0.00
1,700.00	3.52	228.84	1,699.66	-8.56	-9.80	-8.01	0.00	0.00	0.00	0.00
1,800.00	3.52	228.84	1,799.47	-12.60	-14.42	-11.78	0.00	0.00	0.00	0.00
1,900.00	3.52	228.84	1,899.28	-16.64	-19.03	-15.56	0.00	0.00	0.00	0.00
2,000.00	3.52	228.84	1,999.09	-20.68	-23.65	-19.33	0.00	0.00	0.00	0.00
2,100.00	3.52	228.84	2,098.90	-24.71	-28.27	-23.11	0.00	0.00	0.00	0.00
2,200.00	3.52	228.84	2,198.71	-28.75	-32.89	-26.88	0.00	0.00	0.00	0.00
2,300.00	3.52	228.84	2,298.53	-32.79	-37.51	-30.66	0.00	0.00	0.00	0.00
2,400.00	3.52	228.84	2,398.34	-36.83	-42.13	-34.43	0.00	0.00	0.00	0.00
2,500.00	3.52	228.84	2,498.15	-40.86	-46.75	-38.21	0.00	0.00	0.00	0.00
2,600.00	3.52	228.84	2,597.96	-44.90	-51.37	-41.98	0.00	0.00	0.00	0.00
2,700.00	3.52	228.84	2,697.77	-48.94	-55.99	-45.76	0.00	0.00	0.00	0.00
2,800.00	3.52	228.84	2,797.58	-52.98	-60.60	-49.53	0.00	0.00	0.00	0.00
2,900.00	3.52	228.84	2,897.40	-57.01	-65.22	-53.31	0.00	0.00	0.00	0.00
3,000.00	3.52	228.84	2,997.21	-61.05	-69.84	-57.08	0.00	0.00	0.00	0.00
3,100.00	3.52	228.84	3,097.02	-65.09	-74.46	-60.86	0.00	0.00	0.00	0.00
3,200.00	3.52	228.84	3,196.83	-69.13	-79.08	-64.63	0.00	0.00	0.00	0.00
3,300.00	3.52	228.84	3,296.64	-73.16	-83.70	-68.41	0.00	0.00	0.00	0.00
3,400.00	3.52	228.84	3,396.45	-77.20	-88.32	-72.18	0.00	0.00	0.00	0.00
3,500.00	3.52	228.84	3,496.27	-81.24	-92.94	-75.96	0.00	0.00	0.00	0.00
3,600.00	3.52	228.84	3,596.08	-85.28	-97.55	-79.73	0.00	0.00	0.00	0.00
3,700.00	3.52	228.84	3,695.89	-89.31	-102.17	-83.51	0.00	0.00	0.00	0.00
3,800.00	3.52	228.84	3,795.70	-93.35	-106.79	-87.28	0.00	0.00	0.00	0.00
3,900.00	3.52	228.84	3,895.51	-97.39	-111.41	-91.06	0.00	0.00	0.00	0.00
4,000.00	3.52	228.84	3,995.32	-101.43	-116.03	-94.83	0.00	0.00	0.00	0.00
4,100.00	3.52	228.84	4,095.14	-105.46	-120.65	-98.61	0.00	0.00	0.00	0.00
4,200.00	3.52	228.84	4,194.95	-109.50	-125.27	-102.38	0.00	0.00	0.00	0.00
4,300.00	3.52	228.84	4,294.76	-113.54	-129.89	-106.16	0.00	0.00	0.00	0.00
4,400.00	3.52	228.84	4,394.57	-117.58	-134.51	-109.93	0.00	0.00	0.00	0.00
4,500.00	3.52	228.84	4,494.38	-121.61	-139.12	-113.71	0.00	0.00	0.00	0.00
4,600.00	3.52	228.84	4,594.19	-125.65	-143.74	-117.48	0.00	0.00	0.00	0.00
4,700.00	3.52	228.84	4,694.01	-129.69	-148.36	-121.26	0.00	0.00	0.00	0.00
4,800.00	3.52	228.84	4,793.82	-133.73	-152.98	-125.03	0.00	0.00	0.00	0.00
4,900.00	3.52	228.84	4,893.63	-137.76	-157.60	-128.81	0.00	0.00	0.00	0.00
5,000.00	3.52	228.84	4,993.44	-141.80	-162.22	-132.58	0.00	0.00	0.00	0.00

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<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-22-3N	<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	3.52	228.84	5,093.25	-145.84	-166.84	-136.36	0.00	0.00	0.00	
5,200.00	3.52	228.84	5,193.06	-149.88	-171.46	-140.13	0.00	0.00	0.00	
5,300.00	3.52	228.84	5,292.88	-153.91	-176.08	-143.91	0.00	0.00	0.00	
5,400.00	3.52	228.84	5,392.69	-157.95	-180.69	-147.68	0.00	0.00	0.00	
5,500.00	3.52	228.84	5,492.50	-161.99	-185.31	-151.46	0.00	0.00	0.00	
5,600.00	3.52	228.84	5,592.31	-166.03	-189.93	-155.23	0.00	0.00	0.00	
5,700.00	3.52	228.84	5,692.12	-170.06	-194.55	-159.01	0.00	0.00	0.00	
5,800.00	3.52	228.84	5,791.93	-174.10	-199.17	-162.78	0.00	0.00	0.00	
5,900.00	3.52	228.84	5,891.74	-178.14	-203.79	-166.56	0.00	0.00	0.00	
6,000.00	3.52	228.84	5,991.56	-182.18	-208.41	-170.33	0.00	0.00	0.00	
6,100.00	3.52	228.84	6,091.37	-186.21	-213.03	-174.10	0.00	0.00	0.00	
6,200.00	3.52	228.84	6,191.18	-190.25	-217.65	-177.88	0.00	0.00	0.00	
6,300.00	3.52	228.84	6,290.99	-194.29	-222.26	-181.65	0.00	0.00	0.00	
6,400.00	3.52	228.84	6,390.80	-198.33	-226.88	-185.43	0.00	0.00	0.00	
6,500.00	3.52	228.84	6,490.61	-202.36	-231.50	-189.20	0.00	0.00	0.00	
6,600.00	3.52	228.84	6,590.43	-206.40	-236.12	-192.98	0.00	0.00	0.00	
6,700.00	3.52	228.84	6,690.24	-210.44	-240.74	-196.75	0.00	0.00	0.00	
6,772.94	3.52	228.84	6,763.04	-213.38	-244.11	-199.51	0.00	0.00	0.00	
<b>DLS 12.00 TFO 131.22</b>										
6,775.00	3.36	232.02	6,765.10	-213.46	-244.20	-199.58	12.00	-7.66	154.10	
6,800.00	2.80	289.46	6,790.07	-213.71	-245.36	-199.76	12.00	-2.23	229.76	
6,825.00	4.73	326.22	6,815.01	-212.65	-246.51	-198.64	12.00	7.73	147.04	
6,850.00	7.41	339.33	6,839.87	-210.28	-247.65	-196.21	12.00	10.72	52.43	
6,875.00	10.27	345.35	6,864.57	-206.62	-248.78	-192.49	12.00	11.43	24.10	
6,900.00	13.19	348.75	6,889.05	-201.66	-249.90	-187.48	12.00	11.68	13.61	
6,925.00	16.14	350.94	6,913.23	-195.43	-251.01	-181.20	12.00	11.80	8.73	
6,950.00	19.10	352.46	6,937.06	-187.94	-252.09	-173.66	12.00	11.86	6.08	
6,975.00	22.08	353.58	6,960.46	-179.22	-253.16	-164.89	12.00	11.90	4.50	
7,000.00	25.06	354.45	6,983.37	-169.27	-254.19	-154.91	12.00	11.92	3.48	
7,025.00	28.04	355.15	7,005.73	-158.15	-255.20	-143.74	12.00	11.94	2.78	
7,050.00	31.03	355.72	7,027.48	-145.86	-256.18	-131.42	12.00	11.95	2.28	
7,075.00	34.02	356.20	7,048.56	-132.46	-257.13	-117.98	12.00	11.96	1.92	
7,100.00	37.01	356.61	7,068.90	-117.96	-258.04	-103.46	12.00	11.96	1.64	
7,125.00	40.00	356.97	7,088.46	-102.43	-258.91	-87.90	12.00	11.97	1.43	
7,150.00	42.99	357.28	7,107.19	-85.88	-259.74	-71.34	12.00	11.97	1.26	
7,175.00	45.99	357.56	7,125.02	-68.38	-260.52	-53.82	12.00	11.97	1.13	
7,200.00	48.98	357.82	7,141.91	-49.97	-261.27	-35.40	12.00	11.98	1.02	
7,225.00	51.98	358.05	7,157.82	-30.70	-261.96	-16.12	12.00	11.98	0.93	
7,250.00	54.97	358.27	7,172.70	-10.63	-262.60	3.96	12.00	11.98	0.86	
7,275.00	57.97	358.46	7,186.51	10.20	-263.20	24.79	12.00	11.98	0.80	
7,300.00	60.96	358.65	7,199.21	31.72	-263.74	46.31	12.00	11.98	0.75	
7,325.00	63.96	358.83	7,210.77	53.88	-264.23	68.46	12.00	11.98	0.70	
7,350.00	66.95	358.99	7,221.15	76.62	-264.66	91.19	12.00	11.98	0.67	
7,375.00	69.95	359.15	7,230.33	99.86	-265.03	114.42	12.00	11.99	0.64	
7,400.00	72.95	359.31	7,238.28	123.56	-265.35	138.10	12.00	11.99	0.62	
7,425.00	75.94	359.46	7,244.99	147.64	-265.61	162.15	12.00	11.99	0.60	
7,450.00	78.94	359.60	7,250.42	172.04	-265.81	186.53	12.00	11.99	0.58	
7,475.00	81.94	359.75	7,254.58	196.69	-265.95	211.14	12.00	11.99	0.57	
7,500.00	84.93	359.89	7,257.43	221.52	-266.03	235.94	12.00	11.99	0.56	
7,525.00	87.93	0.02	7,258.99	246.47	-266.05	260.86	12.00	11.99	0.56	
7,543.26	90.12	0.13	7,259.30	264.73	-266.03	279.08	12.00	11.99	0.55	
<b>4349.23 hold</b>										
7,600.00	90.12	0.13	7,259.18	321.47	-265.90	335.73	0.00	0.00	0.00	
7,700.00	90.12	0.13	7,258.98	421.47	-265.68	435.56	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-22-3N
<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-22-3N	<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	90.12	0.13	7,258.77	521.47	-265.46	535.39	0.00	0.00	0.00
7,900.00	90.12	0.13	7,258.56	621.46	-265.24	635.23	0.00	0.00	0.00
8,000.00	90.12	0.13	7,258.36	721.46	-265.02	735.06	0.00	0.00	0.00
8,100.00	90.12	0.13	7,258.15	821.46	-264.80	834.89	0.00	0.00	0.00
8,200.00	90.12	0.13	7,257.94	921.46	-264.58	934.73	0.00	0.00	0.00
8,300.00	90.12	0.13	7,257.73	1,021.46	-264.36	1,034.56	0.00	0.00	0.00
8,400.00	90.12	0.13	7,257.53	1,121.46	-264.14	1,134.39	0.00	0.00	0.00
8,500.00	90.12	0.13	7,257.32	1,221.46	-263.92	1,234.23	0.00	0.00	0.00
8,600.00	90.12	0.13	7,257.11	1,321.46	-263.70	1,334.06	0.00	0.00	0.00
8,700.00	90.12	0.13	7,256.91	1,421.46	-263.48	1,433.89	0.00	0.00	0.00
8,800.00	90.12	0.13	7,256.70	1,521.46	-263.26	1,533.73	0.00	0.00	0.00
8,900.00	90.12	0.13	7,256.49	1,621.46	-263.04	1,633.56	0.00	0.00	0.00
9,000.00	90.12	0.13	7,256.29	1,721.46	-262.82	1,733.39	0.00	0.00	0.00
9,100.00	90.12	0.13	7,256.08	1,821.46	-262.60	1,833.23	0.00	0.00	0.00
9,200.00	90.12	0.13	7,255.87	1,921.46	-262.38	1,933.06	0.00	0.00	0.00
9,300.00	90.12	0.13	7,255.66	2,021.46	-262.16	2,032.89	0.00	0.00	0.00
9,400.00	90.12	0.13	7,255.46	2,121.46	-261.94	2,132.73	0.00	0.00	0.00
9,500.00	90.12	0.13	7,255.25	2,221.46	-261.72	2,232.56	0.00	0.00	0.00
9,600.00	90.12	0.13	7,255.04	2,321.46	-261.50	2,332.39	0.00	0.00	0.00
9,700.00	90.12	0.13	7,254.84	2,421.46	-261.28	2,432.23	0.00	0.00	0.00
9,800.00	90.12	0.13	7,254.63	2,521.46	-261.06	2,532.06	0.00	0.00	0.00
9,900.00	90.12	0.13	7,254.42	2,621.46	-260.84	2,631.89	0.00	0.00	0.00
10,000.00	90.12	0.13	7,254.22	2,721.46	-260.62	2,731.72	0.00	0.00	0.00
10,100.00	90.12	0.13	7,254.01	2,821.45	-260.40	2,831.56	0.00	0.00	0.00
10,200.00	90.12	0.13	7,253.80	2,921.45	-260.18	2,931.39	0.00	0.00	0.00
10,300.00	90.12	0.13	7,253.60	3,021.45	-259.96	3,031.22	0.00	0.00	0.00
10,400.00	90.12	0.13	7,253.39	3,121.45	-259.74	3,131.06	0.00	0.00	0.00
10,500.00	90.12	0.13	7,253.18	3,221.45	-259.52	3,230.89	0.00	0.00	0.00
10,600.00	90.12	0.13	7,252.97	3,321.45	-259.30	3,330.72	0.00	0.00	0.00
10,700.00	90.12	0.13	7,252.77	3,421.45	-259.08	3,430.56	0.00	0.00	0.00
10,800.00	90.12	0.13	7,252.56	3,521.45	-258.86	3,530.39	0.00	0.00	0.00
10,900.00	90.12	0.13	7,252.35	3,621.45	-258.64	3,630.22	0.00	0.00	0.00
11,000.00	90.12	0.13	7,252.15	3,721.45	-258.42	3,730.06	0.00	0.00	0.00
11,100.00	90.12	0.13	7,251.94	3,821.45	-258.20	3,829.89	0.00	0.00	0.00
11,200.00	90.12	0.13	7,251.73	3,921.45	-257.98	3,929.72	0.00	0.00	0.00
11,300.00	90.12	0.13	7,251.53	4,021.45	-257.76	4,029.56	0.00	0.00	0.00
11,400.00	90.12	0.13	7,251.32	4,121.45	-257.54	4,129.39	0.00	0.00	0.00
11,500.00	90.12	0.13	7,251.11	4,221.45	-257.32	4,229.22	0.00	0.00	0.00
11,600.00	90.12	0.13	7,250.91	4,321.45	-257.10	4,329.06	0.00	0.00	0.00
11,700.00	90.12	0.13	7,250.70	4,421.45	-256.88	4,428.89	0.00	0.00	0.00
11,800.00	90.12	0.13	7,250.49	4,521.45	-256.66	4,528.72	0.00	0.00	0.00
11,892.49	90.12	0.13	7,250.30	4,613.94	-256.46	4,621.06	0.00	0.00	0.00
<b>TD at 11892.49</b>									

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-3N
<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-22-3N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
BHL 460' FNL & 1650' F - plan hits target center - Point	0.00	0.00	7,250.30	4,613.94	-256.46	1,259,624.29	3,238,926.47	40° 2' 34.444 N	104° 38' 47.792 W	
EP 460' FSL & 1650' FE - plan misses target center by 0.27usft at 7526.26usft MD (7259.03 TVD, 247.73 N, -266.05 E) - Point	0.00	0.00	7,259.30	247.73	-266.03	1,255,258.19	3,238,958.97	40° 1' 51.294 N	104° 38' 47.915 W	

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,250.00	1,250.00	9 5/8"	9-5/8	12-1/4	
7,543.26	7,259.30	7"	7	7-1/2	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,400.00	1,400.00	0.00	0.00	Build 2.00	
1,575.86	1,575.75	-3.55	-4.06	5197.08 hold	
6,772.94	6,763.04	-213.38	-244.11	DLS 12.00 TFO 131.22	
7,543.26	7,259.30	264.73	-266.03	4349.23 hold	
11,892.49	7,250.30	4,613.94	-256.46	TD at 11892.49	



**Precision**  
Directional Services

## **Verdad Oil & Gas**

Weld Co., CO  
Sec.22-T1N-R65W  
Drake 01N-65W-22-3N

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-22-3N
<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-22-3N	<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

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

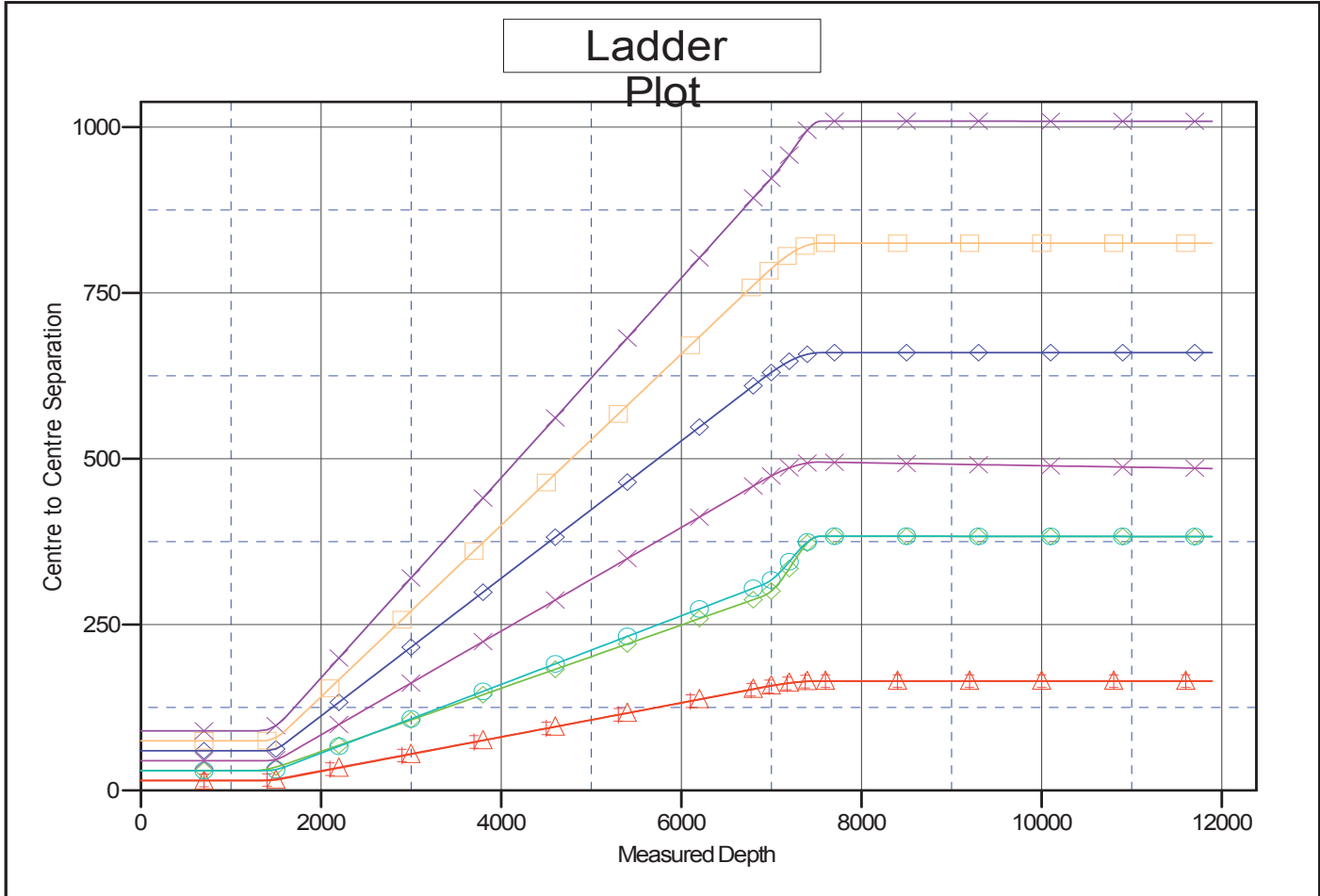
<b>Survey Tool Program</b>	<b>Date</b>	09/12/14		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	11,892.45	Design #1 (Wellbore #1)	MWD	Std MWD

Summary						
Site Name	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
Offset Well - Wellbore - Design						
Sec.22-T1N-R65W						
Drake 01N-65W-22-1C - Wellbore #1 - Design #1	1,300.00	1,300.00	30.24	23.56	4.528	CC, ES
Drake 01N-65W-22-1C - Wellbore #1 - Design #1	1,400.00	1,399.00	31.85	24.64	4.422	SF
Drake 01N-65W-22-2N - Wellbore #1 - Design #1	1,333.58	1,333.58	15.12	8.27	2.206	CC, ES
Drake 01N-65W-22-2N - Wellbore #1 - Design #1	11,892.49	11,901.47	164.93	86.09	2.092	SF
Drake 01N-65W-22-4N - Wellbore #1 - Design #1	1,400.00	1,400.00	14.84	7.64	2.060	CC, ES, SF
Drake 01N-65W-22-5C - Wellbore #1 - Design #1	1,400.00	1,400.00	29.96	22.76	4.160	CC, ES
Drake 01N-65W-22-5C - Wellbore #1 - Design #1	1,500.00	1,499.98	31.30	23.57	4.052	SF
Drake 01N-65W-22-6N - Wellbore #1 - Design #1	1,400.00	1,400.00	44.80	37.60	6.220	CC, ES
Drake 01N-65W-22-6N - Wellbore #1 - Design #1	1,500.00	1,499.49	46.40	38.67	6.007	SF
Drake 01N-65W-22-7N - Wellbore #1 - Design #1	1,400.00	1,400.00	59.93	52.72	8.319	CC, ES
Drake 01N-65W-22-7N - Wellbore #1 - Design #1	1,500.00	1,498.23	62.65	54.93	8.115	SF
Drake 01N-65W-22-8N - Wellbore #1 - Design #1	1,333.37	1,333.37	74.77	67.91	10.908	CC, ES
Drake 01N-65W-22-8N - Wellbore #1 - Design #1	1,500.00	1,496.36	79.55	71.83	10.309	SF
Drake 01N-65W-22-9C - Wellbore #1 - Design #1	1,300.00	1,300.00	89.89	83.21	13.457	CC, ES
Drake 01N-65W-22-9C - Wellbore #1 - Design #1	1,500.00	1,493.88	97.59	89.88	12.656	SF

<b>Company:</b>	Verdad Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-3N
<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-22-3N	<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-22-3N  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 0.55°



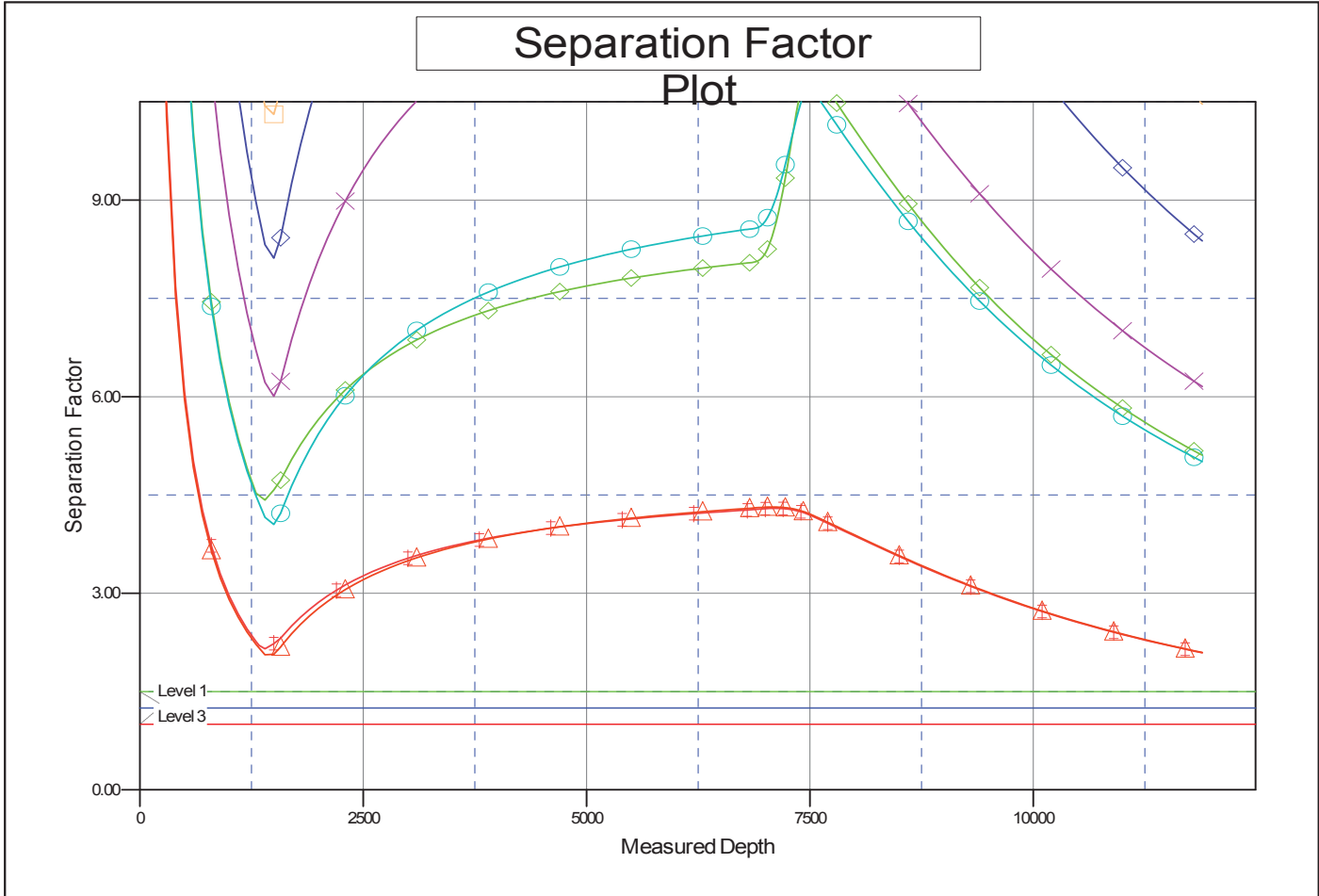
**LEGEND**

- ◆ Drake 01N-65W-22-1C, Wellbore #1, Design #1 V0
- ◆ Drake 01N-65W-22-2N, Wellbore #1, Design #1 V0
- ◆ Drake 01N-65W-22-4N, Wellbore #1, Design #1 V0
- ◆ Drake 01N-65W-22-5C, Wellbore #1, Design #1 V0
- ◆ Drake 01N-65W-22-6N, Wellbore #1, Design #1 V0
- ◆ Drake 01N-65W-22-7N, Wellbore #1, Design #1 V0
- ◆ Drake 01N-65W-22-8N, Wellbore #1, Design #1 V0
- ◆ Drake 01N-65W-22-9C, Wellbore #1, Design #1 V0

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	Verdad Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Drake 01N-65W-22-3N
<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-22-3N	<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)      Coordinates are relative to: Drake 01N-65W-22-3N  
 Offset Depths are relative to Offset Datum      Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Central Meridian is 105° 30' 0.000 W      Grid Convergence at Surface is: 0.55°



LEGEND

- ◆ Drake 01N-65W-22-1C, Wellbore #1, Design #1 V0
- Drake 01N-65W-22-5C, Wellbore #1, Design #1 V0
- Drake 01N-65W-22-8N, Wellbore #1, Design #1 V0
- ▲ Drake 01N-65W-22-2N, Wellbore #1, Design #1 V0
- ✕ Drake 01N-65W-22-6N, Wellbore #1, Design #1 V0
- ✕ Drake 01N-65W-22-9C, Wellbore #1, Design #1 V0
- ▲ Drake 01N-65W-22-4N, Wellbore #1, Design #1 V0
- ◆ Drake 01N-65W-22-7N, Wellbore #1, Design #1 V0

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation