



Project: Weld Co., CO
 Site: Sec.22-T1N-R65W
 Well: Drake 01N-65W-22-1C
 Wellbore: Wellbore #1
 Design: Design #1
 Lat: 40° 1' 48.846 N
 Long: 104° 38' 44.884 W
 GL: 5090.00



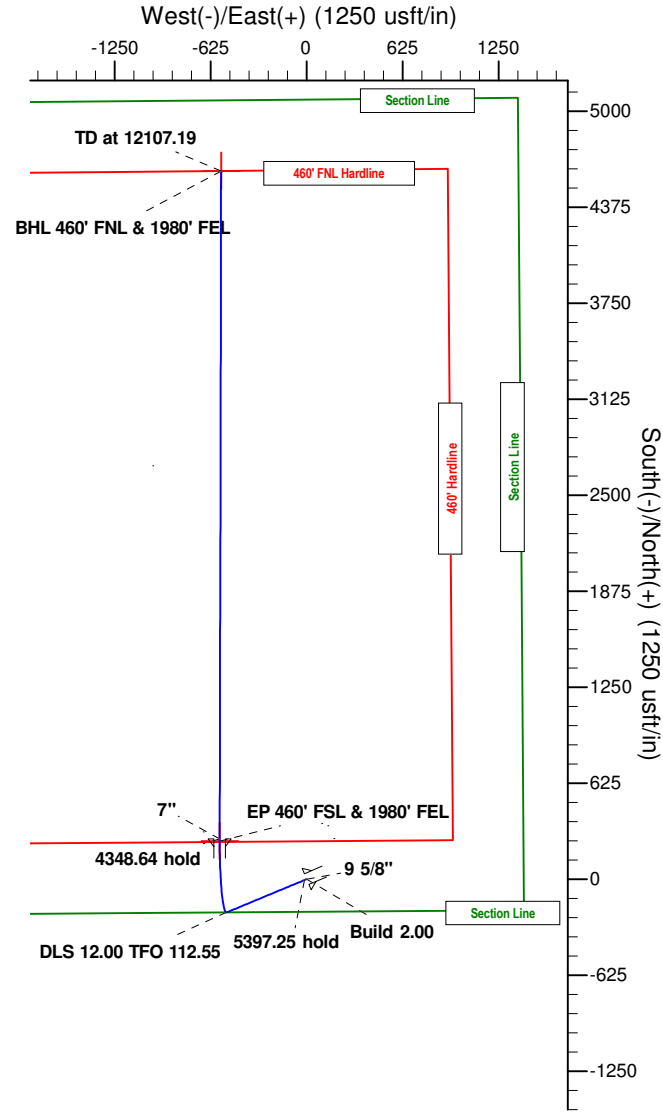
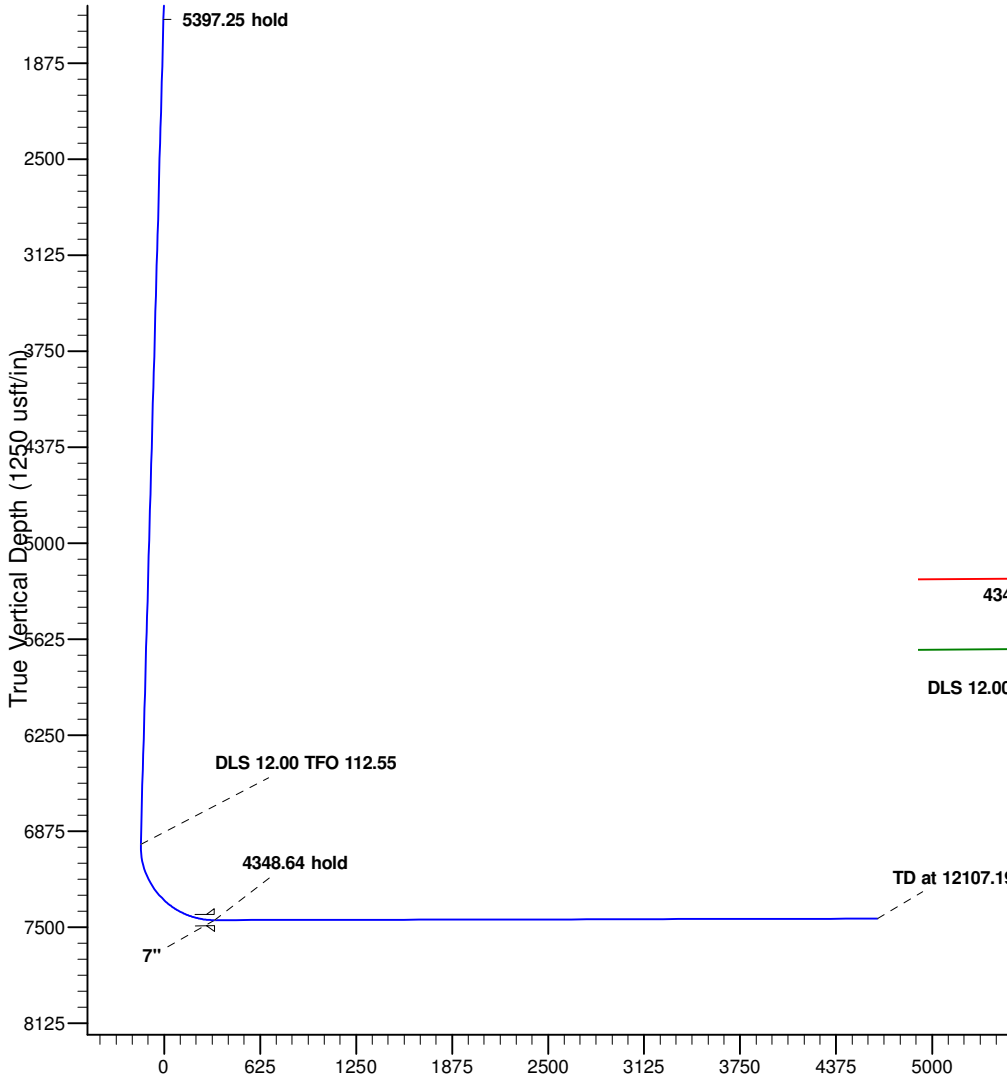
KB: WELL @ 5114.30usft (Original Well Elev)



M Azimuths to True North
 Magnetic North: 8.33°
 Magnetic Field
 Strength: 52605.5snT
 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	7758.55	7"	7



WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BHL 460' FNL & 1980' FEL	7444.30	4611.06	-556.04	40° 2' 34.415 N	104° 38' 52.033 W	Shape
EP 460' FSL & 1980' FEL	7454.30	248.45	-565.65	40° 1' 51.301 N	104° 38' 52.156 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	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	Build 2.00
1591.51	5.83	247.46	1591.01	-5.68	-13.69	2.00	247.46	-4.00	5397.25 hold
6988.76	5.83	247.46	6960.34	-215.85	-520.06	0.00	0.00	-152.03	DLS 12.00 TFO 112.55
7758.55	90.13	0.13	7454.30	262.45	-565.65	12.00	112.55	328.28	4348.64 hold
12107.19	90.13	0.13	7444.30	4611.06	-556.04	0.00	0.00	4644.46	TD at 12107.19



Precision
Directional Services

Verdad Oil & Gas

Weld Co., CO

Sec.22-T1N-R65W

Drake 01N-65W-22-1C

Wellbore #1

Plan: Design #1

Standard Planning Report

12 September, 2014



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

Project	Weld Co., CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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-22-1C					
Well Position	+N/-S	0.00 usft	Northing:	1,255,012.76 usft	Latitude:	40° 1' 48.846 N
	+E/-W	0.00 usft	Easting:	3,239,197.12 usft	Longitude:	104° 38' 44.884 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,090.00 usft

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

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	353.12

Plan Sections										
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	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,591.51	5.83	247.46	1,591.01	-5.68	-13.69	2.00	2.00	0.00	247.46	
6,988.76	5.83	247.46	6,960.34	-215.85	-520.06	0.00	0.00	0.00	0.00	
7,758.55	90.13	0.13	7,454.30	262.45	-565.65	12.00	10.95	14.64	112.55	EP 460' FSL & 1980'
12,107.19	90.13	0.13	7,444.30	4,611.06	-556.04	0.00	0.00	0.00	0.00	BHL 460' FNL & 1980

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Drake 01N-65W-22-1C
Company:	Verdad Oil & Gas	TVD Reference:	WELL @ 5114.30usft (Original Well Elev)
Project:	Weld Co., CO	MD Reference:	WELL @ 5114.30usft (Original Well Elev)
Site:	Sec.22-T1N-R65W	North Reference:	True
Well:	Drake 01N-65W-22-1C	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
Build 2.00										
1,400.00	2.00	247.46	1,399.98	-0.67	-1.61	-0.47	2.00	2.00	0.00	0.00
1,500.00	4.00	247.46	1,499.84	-2.68	-6.45	-1.88	2.00	2.00	0.00	0.00
1,591.51	5.83	247.46	1,591.01	-5.68	-13.69	-4.00	2.00	2.00	0.00	0.00
5397.25 hold										
1,600.00	5.83	247.46	1,599.45	-6.01	-14.48	-4.23	0.00	0.00	0.00	0.00
1,700.00	5.83	247.46	1,698.94	-9.91	-23.87	-6.98	0.00	0.00	0.00	0.00
1,800.00	5.83	247.46	1,798.42	-13.80	-33.25	-9.72	0.00	0.00	0.00	0.00
1,900.00	5.83	247.46	1,897.90	-17.69	-42.63	-12.46	0.00	0.00	0.00	0.00
2,000.00	5.83	247.46	1,997.38	-21.59	-52.01	-15.20	0.00	0.00	0.00	0.00
2,100.00	5.83	247.46	2,096.87	-25.48	-61.39	-17.95	0.00	0.00	0.00	0.00
2,200.00	5.83	247.46	2,196.35	-29.37	-70.78	-20.69	0.00	0.00	0.00	0.00
2,300.00	5.83	247.46	2,295.83	-33.27	-80.16	-23.43	0.00	0.00	0.00	0.00
2,400.00	5.83	247.46	2,395.32	-37.16	-89.54	-26.18	0.00	0.00	0.00	0.00
2,500.00	5.83	247.46	2,494.80	-41.06	-98.92	-28.92	0.00	0.00	0.00	0.00
2,600.00	5.83	247.46	2,594.28	-44.95	-108.30	-31.66	0.00	0.00	0.00	0.00
2,700.00	5.83	247.46	2,693.76	-48.84	-117.69	-34.40	0.00	0.00	0.00	0.00
2,800.00	5.83	247.46	2,793.25	-52.74	-127.07	-37.15	0.00	0.00	0.00	0.00
2,900.00	5.83	247.46	2,892.73	-56.63	-136.45	-39.89	0.00	0.00	0.00	0.00
3,000.00	5.83	247.46	2,992.21	-60.53	-145.83	-42.63	0.00	0.00	0.00	0.00
3,100.00	5.83	247.46	3,091.69	-64.42	-155.21	-45.37	0.00	0.00	0.00	0.00
3,200.00	5.83	247.46	3,191.18	-68.31	-164.60	-48.12	0.00	0.00	0.00	0.00
3,300.00	5.83	247.46	3,290.66	-72.21	-173.98	-50.86	0.00	0.00	0.00	0.00
3,400.00	5.83	247.46	3,390.14	-76.10	-183.36	-53.60	0.00	0.00	0.00	0.00
3,500.00	5.83	247.46	3,489.63	-80.00	-192.74	-56.35	0.00	0.00	0.00	0.00
3,600.00	5.83	247.46	3,589.11	-83.89	-202.12	-59.09	0.00	0.00	0.00	0.00
3,700.00	5.83	247.46	3,688.59	-87.78	-211.51	-61.83	0.00	0.00	0.00	0.00
3,800.00	5.83	247.46	3,788.07	-91.68	-220.89	-64.57	0.00	0.00	0.00	0.00
3,900.00	5.83	247.46	3,887.56	-95.57	-230.27	-67.32	0.00	0.00	0.00	0.00
4,000.00	5.83	247.46	3,987.04	-99.47	-239.65	-70.06	0.00	0.00	0.00	0.00
4,100.00	5.83	247.46	4,086.52	-103.36	-249.04	-72.80	0.00	0.00	0.00	0.00
4,200.00	5.83	247.46	4,186.00	-107.25	-258.42	-75.54	0.00	0.00	0.00	0.00
4,300.00	5.83	247.46	4,285.49	-111.15	-267.80	-78.29	0.00	0.00	0.00	0.00
4,400.00	5.83	247.46	4,384.97	-115.04	-277.18	-81.03	0.00	0.00	0.00	0.00
4,500.00	5.83	247.46	4,484.45	-118.94	-286.56	-83.77	0.00	0.00	0.00	0.00
4,600.00	5.83	247.46	4,583.94	-122.83	-295.95	-86.52	0.00	0.00	0.00	0.00
4,700.00	5.83	247.46	4,683.42	-126.72	-305.33	-89.26	0.00	0.00	0.00	0.00
4,800.00	5.83	247.46	4,782.90	-130.62	-314.71	-92.00	0.00	0.00	0.00	0.00
4,900.00	5.83	247.46	4,882.38	-134.51	-324.09	-94.74	0.00	0.00	0.00	0.00
5,000.00	5.83	247.46	4,981.87	-138.41	-333.47	-97.49	0.00	0.00	0.00	0.00

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Project:	Weld Co., CO	MD Reference:	WELL @ 5114.30usft (Original Well Elev)
Site:	Sec.22-T1N-R65W	North Reference:	True
Well:	Drake 01N-65W-22-1C	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	5.83	247.46	5,081.35	-142.30	-342.86	-100.23	0.00	0.00	0.00	
5,200.00	5.83	247.46	5,180.83	-146.19	-352.24	-102.97	0.00	0.00	0.00	
5,300.00	5.83	247.46	5,280.31	-150.09	-361.62	-105.71	0.00	0.00	0.00	
5,400.00	5.83	247.46	5,379.80	-153.98	-371.00	-108.46	0.00	0.00	0.00	
5,500.00	5.83	247.46	5,479.28	-157.88	-380.38	-111.20	0.00	0.00	0.00	
5,600.00	5.83	247.46	5,578.76	-161.77	-389.77	-113.94	0.00	0.00	0.00	
5,700.00	5.83	247.46	5,678.25	-165.66	-399.15	-116.69	0.00	0.00	0.00	
5,800.00	5.83	247.46	5,777.73	-169.56	-408.53	-119.43	0.00	0.00	0.00	
5,900.00	5.83	247.46	5,877.21	-173.45	-417.91	-122.17	0.00	0.00	0.00	
6,000.00	5.83	247.46	5,976.69	-177.35	-427.29	-124.91	0.00	0.00	0.00	
6,100.00	5.83	247.46	6,076.18	-181.24	-436.68	-127.66	0.00	0.00	0.00	
6,200.00	5.83	247.46	6,175.66	-185.13	-446.06	-130.40	0.00	0.00	0.00	
6,300.00	5.83	247.46	6,275.14	-189.03	-455.44	-133.14	0.00	0.00	0.00	
6,400.00	5.83	247.46	6,374.62	-192.92	-464.82	-135.88	0.00	0.00	0.00	
6,500.00	5.83	247.46	6,474.11	-196.82	-474.21	-138.63	0.00	0.00	0.00	
6,600.00	5.83	247.46	6,573.59	-200.71	-483.59	-141.37	0.00	0.00	0.00	
6,700.00	5.83	247.46	6,673.07	-204.60	-492.97	-144.11	0.00	0.00	0.00	
6,800.00	5.83	247.46	6,772.56	-208.50	-502.35	-146.86	0.00	0.00	0.00	
6,900.00	5.83	247.46	6,872.04	-212.39	-511.73	-149.60	0.00	0.00	0.00	
6,988.76	5.83	247.46	6,960.34	-215.85	-520.06	-152.03	0.00	0.00	0.00	
DLS 12.00 TFO 112.55										
7,000.00	5.46	260.67	6,971.52	-216.15	-521.12	-152.21	12.00	-3.32	117.57	
7,025.00	5.78	291.52	6,996.41	-215.88	-523.46	-151.66	12.00	1.29	123.39	
7,050.00	7.41	313.72	7,021.25	-214.31	-525.80	-149.82	12.00	6.54	88.80	
7,075.00	9.72	326.74	7,045.97	-211.43	-528.12	-146.68	12.00	9.23	52.09	
7,100.00	12.33	334.57	7,070.51	-207.25	-530.43	-142.26	12.00	10.43	31.31	
7,125.00	15.08	339.64	7,094.79	-201.79	-532.70	-136.56	12.00	11.01	20.29	
7,150.00	17.91	343.16	7,118.76	-195.06	-534.95	-129.61	12.00	11.32	14.08	
7,175.00	20.79	345.74	7,142.35	-187.08	-537.15	-121.43	12.00	11.51	10.32	
7,200.00	23.69	347.71	7,165.49	-177.87	-539.32	-112.03	12.00	11.62	7.89	
7,225.00	26.62	349.28	7,188.12	-167.46	-541.43	-101.44	12.00	11.70	6.25	
7,250.00	29.56	350.55	7,210.17	-155.87	-543.48	-89.69	12.00	11.76	5.09	
7,275.00	32.51	351.61	7,231.59	-143.14	-545.48	-76.81	12.00	11.80	4.25	
7,300.00	35.46	352.51	7,252.32	-129.30	-547.40	-62.84	12.00	11.83	3.61	
7,325.00	38.43	353.29	7,272.29	-114.39	-549.25	-47.81	12.00	11.85	3.12	
7,350.00	41.39	353.98	7,291.47	-98.45	-551.03	-31.78	12.00	11.87	2.74	
7,375.00	44.37	354.59	7,309.79	-81.53	-552.72	-14.77	12.00	11.89	2.43	
7,400.00	47.34	355.13	7,327.20	-63.66	-554.33	3.16	12.00	11.90	2.19	
7,425.00	50.32	355.63	7,343.65	-44.91	-555.84	21.96	12.00	11.91	1.99	
7,450.00	53.30	356.09	7,359.11	-25.31	-557.26	41.58	12.00	11.91	1.82	
7,475.00	56.28	356.51	7,373.52	-4.93	-558.58	61.97	12.00	11.92	1.69	
7,500.00	59.26	356.90	7,386.86	16.18	-559.79	83.08	12.00	11.93	1.57	
7,525.00	62.24	357.27	7,399.07	37.96	-560.90	104.84	12.00	11.93	1.48	
7,550.00	65.22	357.62	7,410.13	60.35	-561.89	127.19	12.00	11.93	1.40	
7,575.00	68.21	357.96	7,420.02	83.29	-562.78	150.07	12.00	11.94	1.33	
7,600.00	71.19	358.28	7,428.69	106.73	-563.55	173.43	12.00	11.94	1.28	
7,625.00	74.18	358.58	7,436.13	130.58	-564.20	197.19	12.00	11.94	1.24	
7,650.00	77.16	358.88	7,442.31	154.80	-564.74	221.29	12.00	11.94	1.20	
7,675.00	80.15	359.18	7,447.23	179.30	-565.15	245.67	12.00	11.94	1.17	
7,700.00	83.14	359.46	7,450.86	204.03	-565.45	270.26	12.00	11.95	1.15	
7,725.00	86.12	359.75	7,453.20	228.92	-565.62	294.99	12.00	11.95	1.14	
7,750.00	89.11	0.03	7,454.24	253.89	-565.67	319.79	12.00	11.95	1.13	
7,758.55	90.13	0.13	7,454.30	262.45	-565.65	328.28	12.00	11.95	1.13	
4348.64 hold										

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Project:	Weld Co., CO	MD Reference:	WELL @ 5114.30usft (Original Well Elev)
Site:	Sec.22-T1N-R65W	North Reference:	True
Well:	Drake 01N-65W-22-1C	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	7,454.20	303.89	-565.56	369.42	0.00	0.00	0.00
7,900.00	90.13	0.13	7,453.97	403.89	-565.34	468.67	0.00	0.00	0.00
8,000.00	90.13	0.13	7,453.74	503.89	-565.12	567.92	0.00	0.00	0.00
8,100.00	90.13	0.13	7,453.51	603.89	-564.90	667.18	0.00	0.00	0.00
8,200.00	90.13	0.13	7,453.29	703.89	-564.68	766.43	0.00	0.00	0.00
8,300.00	90.13	0.13	7,453.06	803.89	-564.46	865.69	0.00	0.00	0.00
8,400.00	90.13	0.13	7,452.83	903.89	-564.24	964.94	0.00	0.00	0.00
8,500.00	90.13	0.13	7,452.60	1,003.89	-564.01	1,064.19	0.00	0.00	0.00
8,600.00	90.13	0.13	7,452.37	1,103.89	-563.79	1,163.45	0.00	0.00	0.00
8,700.00	90.13	0.13	7,452.14	1,203.89	-563.57	1,262.70	0.00	0.00	0.00
8,800.00	90.13	0.13	7,451.91	1,303.89	-563.35	1,361.95	0.00	0.00	0.00
8,900.00	90.13	0.13	7,451.68	1,403.89	-563.13	1,461.21	0.00	0.00	0.00
9,000.00	90.13	0.13	7,451.45	1,503.89	-562.91	1,560.46	0.00	0.00	0.00
9,100.00	90.13	0.13	7,451.22	1,603.89	-562.69	1,659.72	0.00	0.00	0.00
9,200.00	90.13	0.13	7,450.99	1,703.89	-562.47	1,758.97	0.00	0.00	0.00
9,300.00	90.13	0.13	7,450.76	1,803.88	-562.25	1,858.22	0.00	0.00	0.00
9,400.00	90.13	0.13	7,450.53	1,903.88	-562.02	1,957.48	0.00	0.00	0.00
9,500.00	90.13	0.13	7,450.30	2,003.88	-561.80	2,056.73	0.00	0.00	0.00
9,600.00	90.13	0.13	7,450.07	2,103.88	-561.58	2,155.98	0.00	0.00	0.00
9,700.00	90.13	0.13	7,449.84	2,203.88	-561.36	2,255.24	0.00	0.00	0.00
9,800.00	90.13	0.13	7,449.61	2,303.88	-561.14	2,354.49	0.00	0.00	0.00
9,900.00	90.13	0.13	7,449.38	2,403.88	-560.92	2,453.75	0.00	0.00	0.00
10,000.00	90.13	0.13	7,449.15	2,503.88	-560.70	2,553.00	0.00	0.00	0.00
10,100.00	90.13	0.13	7,448.92	2,603.88	-560.48	2,652.25	0.00	0.00	0.00
10,200.00	90.13	0.13	7,448.69	2,703.88	-560.26	2,751.51	0.00	0.00	0.00
10,300.00	90.13	0.13	7,448.46	2,803.88	-560.04	2,850.76	0.00	0.00	0.00
10,400.00	90.13	0.13	7,448.23	2,903.88	-559.81	2,950.01	0.00	0.00	0.00
10,500.00	90.13	0.13	7,448.00	3,003.88	-559.59	3,049.27	0.00	0.00	0.00
10,600.00	90.13	0.13	7,447.77	3,103.88	-559.37	3,148.52	0.00	0.00	0.00
10,700.00	90.13	0.13	7,447.54	3,203.88	-559.15	3,247.78	0.00	0.00	0.00
10,800.00	90.13	0.13	7,447.31	3,303.88	-558.93	3,347.03	0.00	0.00	0.00
10,900.00	90.13	0.13	7,447.08	3,403.88	-558.71	3,446.28	0.00	0.00	0.00
11,000.00	90.13	0.13	7,446.85	3,503.88	-558.49	3,545.54	0.00	0.00	0.00
11,100.00	90.13	0.13	7,446.62	3,603.88	-558.27	3,644.79	0.00	0.00	0.00
11,200.00	90.13	0.13	7,446.39	3,703.88	-558.05	3,744.05	0.00	0.00	0.00
11,300.00	90.13	0.13	7,446.16	3,803.87	-557.82	3,843.30	0.00	0.00	0.00
11,400.00	90.13	0.13	7,445.93	3,903.87	-557.60	3,942.55	0.00	0.00	0.00
11,500.00	90.13	0.13	7,445.70	4,003.87	-557.38	4,041.81	0.00	0.00	0.00
11,600.00	90.13	0.13	7,445.47	4,103.87	-557.16	4,141.06	0.00	0.00	0.00
11,700.00	90.13	0.13	7,445.24	4,203.87	-556.94	4,240.31	0.00	0.00	0.00
11,800.00	90.13	0.13	7,445.01	4,303.87	-556.72	4,339.57	0.00	0.00	0.00
11,900.00	90.13	0.13	7,444.78	4,403.87	-556.50	4,438.82	0.00	0.00	0.00
12,000.00	90.13	0.13	7,444.55	4,503.87	-556.28	4,538.08	0.00	0.00	0.00
12,107.19	90.13	0.13	7,444.30	4,611.06	-556.04	4,644.47	0.00	0.00	0.00
TD at 12107.19									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Drake 01N-65W-22-1C
Company:	Verdad Oil & Gas	TVD Reference:	WELL @ 5114.30usft (Original Well Elev)
Project:	Weld Co., CO	MD Reference:	WELL @ 5114.30usft (Original Well Elev)
Site:	Sec.22-T1N-R65W	North Reference:	True
Well:	Drake 01N-65W-22-1C	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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 & 1980' F - plan hits target center - Point	0.00	0.00	7,444.30	4,611.06	-556.04	1,259,618.25	3,238,596.69	40° 2' 34.415 N	104° 38' 52.033 W	
EP 460' FSL & 1980' FE - plan misses target center by 0.17usft at 7744.56usft MD (7454.13 TVD, 248.45 N, -565.67 E) - Point	0.00	0.00	7,454.30	248.45	-565.65	1,255,255.74	3,238,629.10	40° 1' 51.301 N	104° 38' 52.156 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	
7,758.55	7,454.30	7"	7	7-1/2	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,300.00	1,300.00	0.00	0.00	Build 2.00	
1,591.51	1,591.01	-5.68	-13.69	5397.25 hold	
6,988.76	6,960.34	-215.85	-520.06	DLS 12.00 TFO 112.55	
7,758.55	7,454.30	262.45	-565.65	4348.64 hold	
12,107.19	7,444.30	4,611.06	-556.04	TD at 12107.19	



Precision
Directional Services

Verdad Oil & Gas

Weld Co., CO
Sec.22-T1N-R65W
Drake 01N-65W-22-1C

Wellbore #1
Design #1

Anticollision Summary Report

12 September, 2014



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

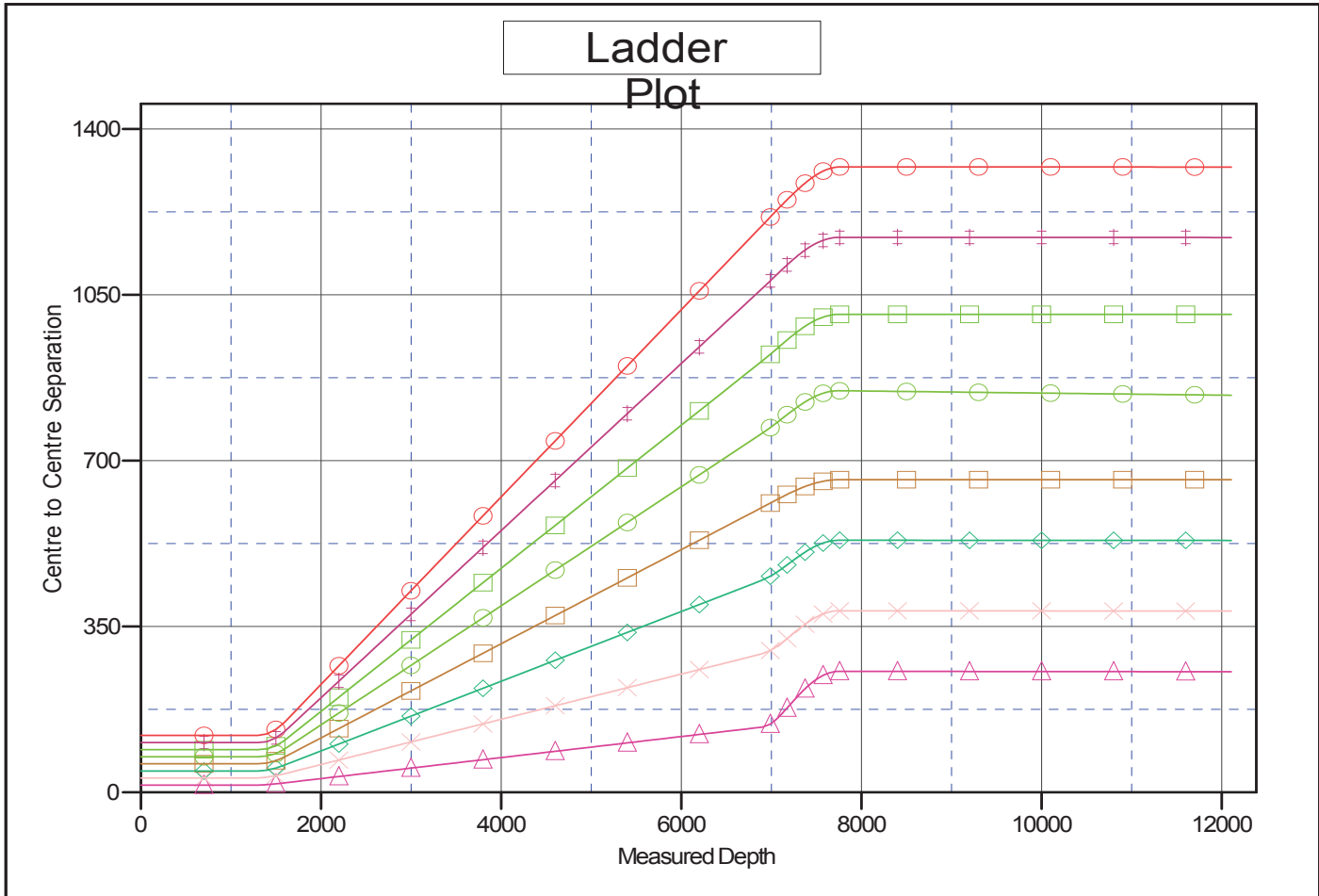
Survey Tool Program	Date	09/12/14		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	12,107.18	Design #1 (Wellbore #1)	MWD	Std MWD

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-22-2N - Wellbore #1 - Design #1	1,300.00	1,300.00	15.12	8.44	2.264	CC, ES, SF
Drake 01N-65W-22-3N - Wellbore #1 - Design #1	1,300.00	1,300.00	30.24	23.56	4.528	CC, ES
Drake 01N-65W-22-3N - Wellbore #1 - Design #1	1,400.00	1,399.98	31.86	24.66	4.425	SF
Drake 01N-65W-22-4N - Wellbore #1 - Design #1	1,300.00	1,300.00	45.08	38.41	6.750	CC, ES
Drake 01N-65W-22-4N - Wellbore #1 - Design #1	1,400.00	1,399.98	46.70	39.50	6.486	SF
Drake 01N-65W-22-5C - Wellbore #1 - Design #1	1,300.00	1,300.00	60.21	53.53	9.014	CC, ES
Drake 01N-65W-22-5C - Wellbore #1 - Design #1	12,107.19	12,074.80	659.90	580.27	8.287	SF
Drake 01N-65W-22-6N - Wellbore #1 - Design #1	1,300.00	1,300.00	75.05	68.37	11.235	CC, ES
Drake 01N-65W-22-6N - Wellbore #1 - Design #1	1,500.00	1,499.00	81.79	74.08	10.604	SF
Drake 01N-65W-22-7N - Wellbore #1 - Design #1	1,300.00	1,300.00	90.17	83.49	13.499	CC, ES
Drake 01N-65W-22-7N - Wellbore #1 - Design #1	1,500.00	1,497.15	98.03	90.32	12.716	SF
Drake 01N-65W-22-8N - Wellbore #1 - Design #1	1,300.00	1,300.00	105.01	98.33	15.721	CC, ES
Drake 01N-65W-22-8N - Wellbore #1 - Design #1	12,107.19	11,895.19	1,171.08	1,092.15	14.838	SF
Drake 01N-65W-22-9C - Wellbore #1 - Design #1	1,300.00	1,300.00	120.13	113.45	17.985	CC, ES
Drake 01N-65W-22-9C - Wellbore #1 - Design #1	12,107.19	12,101.50	1,319.81	1,240.05	16.549	SF

Company:	Verdad Oil & Gas	Local Co-ordinate Reference:	Well Drake 01N-65W-22-1C
Project:	Weld Co., CO	TVD Reference:	WELL @ 5114.30usft (Original Well Elev)
Reference Site:	Sec.22-T1N-R65W	MD Reference:	WELL @ 5114.30usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Drake 01N-65W-22-1C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	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-22-1C
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.55°



LEGEND

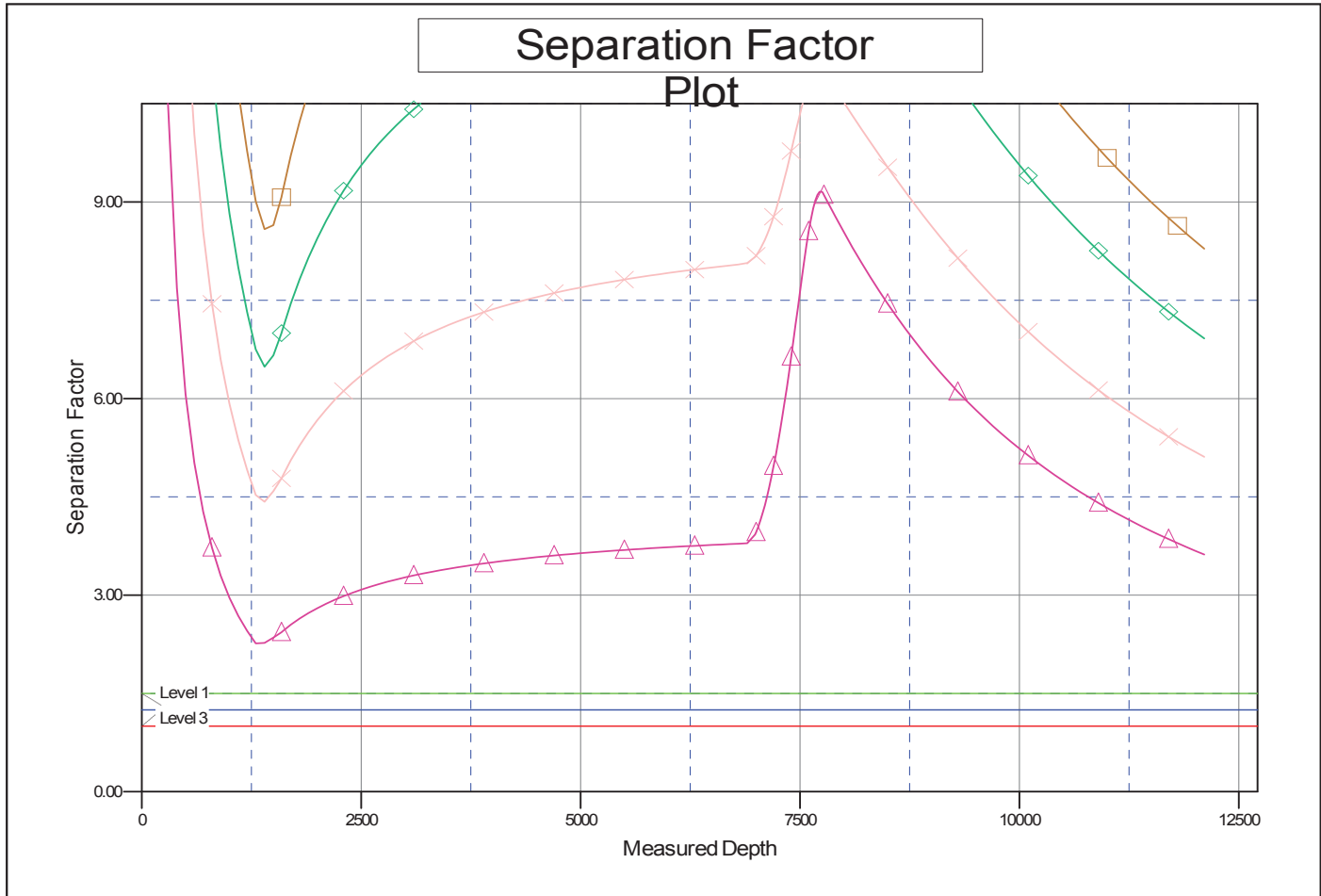
- ▲ Drake 01N-65W-22-2N, Wellbore #1, Design #1 V0
- Drake 01N-65W-22-5C, Wellbore #1, Design #1 V0
- ◆ Drake 01N-65W-22-8N, Wellbore #1, Design #1 V0
- × Drake 01N-65W-22-3N, Wellbore #1, Design #1 V0
- Drake 01N-65W-22-6N, Wellbore #1, Design #1 V0
- Drake 01N-65W-22-9C, Wellbore #1, Design #1 V0
- ◆ 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

Company:	Verdad Oil & Gas	Local Co-ordinate Reference:	Well Drake 01N-65W-22-1C
Project:	Weld Co., CO	TVD Reference:	WELL @ 5114.30usft (Original Well Elev)
Reference Site:	Sec.22-T1N-R65W	MD Reference:	WELL @ 5114.30usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Drake 01N-65W-22-1C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	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-22-1C
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.55°



LEGEND

- ▲ Drake 01N-65W-22-2N, 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-22-3N, 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