



Project: Weld Co., CO
 Site: Sec.4-T6N-R65W
 Well: Teakwood EF 33-229HN
 Wellbore: Wellbore #1
 Design: Design #1
 Lat: 40° 31' 1.401 N
 Long: 104° 40' 19.711 W
 GL: 4772.30

KB: WELL @ 4788.80usft (Original Well Elev)

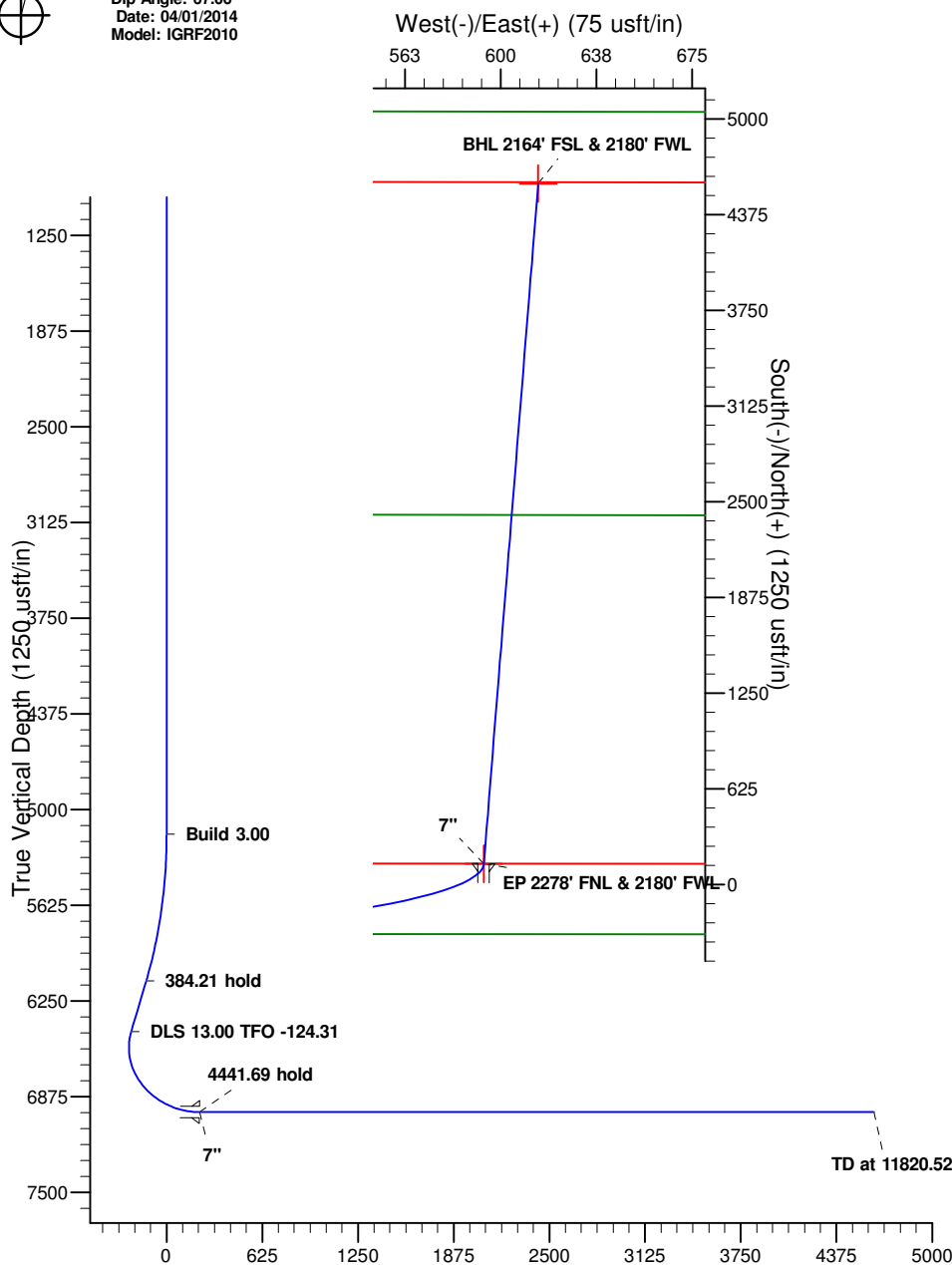


Precision
 Directional Services

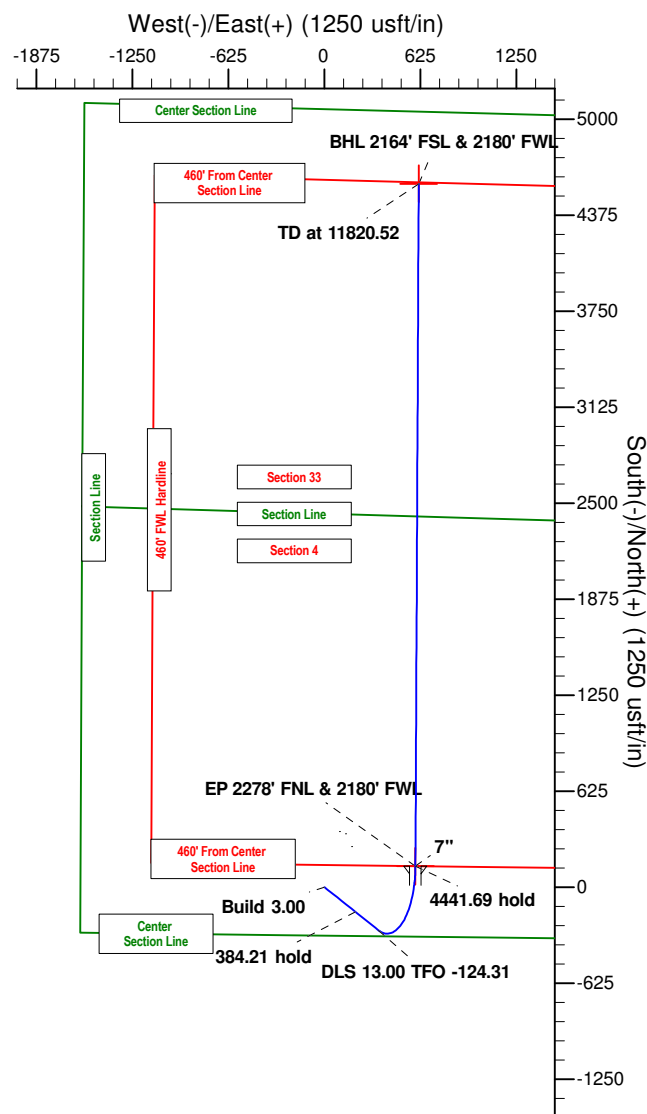


Azimuths to True North
 Magnetic North: 8.45°
 Magnetic Field
 Strength: 52908.1snT
 Dip Angle: 67.06°
 Date: 04/01/2014
 Model: IGRF2010

CASING DETAILS:
 TVD MD Name Size
 6975.80 7378.83 7" 7"



Vertical Section at 7.64° (1250 usft/in)



WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BHL 2164' FSL & 2180' FWL	6975.80	4579.01	614.61	40° 31' 46.650 N	104° 40' 11.752 W	Point
EP 2278' FNL & 2180' FWL	6975.80	137.37	593.31	40° 31' 2.759 N	104° 40' 12.029 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	
5160.00	0.00	0.00	5160.00	0.00	0.00	0.00	0.00	0.00	Build 3.00
6163.16	30.09	128.54	6117.66	-160.40	201.38	3.00	128.54	-132.19	384.21 hold
6547.36	30.09	128.54	6450.08	-280.43	352.07	0.00	0.00	-231.10	DLS 13.00 TFO -124.31
7378.83	90.00	0.27	6975.80	137.37	593.31	13.00	-124.31	215.07	4441.69 hold
11820.52	90.00	0.27	6975.80	4579.01	614.61	0.00	0.00	4620.07	TD at 11820.52



Great Western Oil & Gas

Weld Co., CO

Sec.4-T6N-R65W

Teakwood EF 33-229HN

Wellbore #1

Plan: Design #1

Standard Planning Report

01 April, 2014



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Teakwood EF 33-229HN
Company:	Great Western Oil & Gas	TVD Reference:	WELL @ 4788.80usft (Original Well Elev)
Project:	Weld Co., CO	MD Reference:	WELL @ 4788.80usft (Original Well Elev)
Site:	Sec.4-T6N-R65W	North Reference:	True
Well:	Teakwood EF 33-229HN	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.4-T6N-R65W			
Site Position:		Northing:	1,432,263.36 usft	Latitude:	40° 31' 1.268 N
From:	Lat/Long	Easting:	3,229,986.65 usft	Longitude:	104° 40' 22.030 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.53

Well	Teakwood EF 33-229HN					
Well Position	+N/-S	13.46 usft	Northing:	1,432,278.50 usft	Latitude:	40° 31' 1.401 N
	+E/-W	179.05 usft	Easting:	3,230,165.57 usft	Longitude:	104° 40' 19.711 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,772.30 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	04/01/14	8.45	67.06	52,908

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	7.64

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	
5,160.00	0.00	0.00	5,160.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,163.16	30.09	128.54	6,117.66	-160.40	201.38	3.00	3.00	0.00	128.54	
6,547.36	30.09	128.54	6,450.08	-280.43	352.07	0.00	0.00	0.00	0.00	
7,378.83	90.00	0.27	6,975.80	137.37	593.31	13.00	7.20	-15.43	-124.31	EP 2278' FNL & 2180
11,820.52	90.00	0.27	6,975.80	4,579.01	614.61	0.00	0.00	0.00	0.00	BHL 2164' FSL & 2180

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Teakwood EF 33-229HN
Company:	Great Western Oil & Gas	TVD Reference:	WELL @ 4788.80usft (Original Well Elev)
Project:	Weld Co., CO	MD Reference:	WELL @ 4788.80usft (Original Well Elev)
Site:	Sec.4-T6N-R65W	North Reference:	True
Well:	Teakwood EF 33-229HN	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
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
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,160.00	0.00	0.00	5,160.00	0.00	0.00	0.00	0.00	0.00	0.00
Build 3.00									

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Project:	Weld Co., CO	MD Reference:	WELL @ 4788.80usft (Original Well Elev)
Site:	Sec.4-T6N-R65W	North Reference:	True
Well:	Teakwood EF 33-229HN	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)
5,200.00	1.20	128.54	5,200.00	-0.26	0.33	-0.22	3.00	3.00	0.00
5,300.00	4.20	128.54	5,299.87	-3.20	4.01	-2.63	3.00	3.00	0.00
5,400.00	7.20	128.54	5,399.37	-9.38	11.78	-7.73	3.00	3.00	0.00
5,500.00	10.20	128.54	5,498.21	-18.81	23.61	-15.50	3.00	3.00	0.00
5,600.00	13.20	128.54	5,596.12	-31.44	39.47	-25.91	3.00	3.00	0.00
5,700.00	16.20	128.54	5,692.83	-47.25	59.32	-38.94	3.00	3.00	0.00
5,800.00	19.20	128.54	5,788.09	-66.19	83.10	-54.54	3.00	3.00	0.00
5,900.00	22.20	128.54	5,881.62	-88.21	110.74	-72.69	3.00	3.00	0.00
6,000.00	25.20	128.54	5,973.18	-113.25	142.18	-93.33	3.00	3.00	0.00
6,100.00	28.20	128.54	6,062.51	-141.24	177.32	-116.39	3.00	3.00	0.00
6,163.16	30.09	128.54	6,117.66	-160.40	201.38	-132.19	3.00	3.00	0.00
384.21 hold									
6,200.00	30.09	128.54	6,149.54	-171.91	215.83	-141.67	0.00	0.00	0.00
6,300.00	30.09	128.54	6,236.06	-203.15	255.05	-167.42	0.00	0.00	0.00
6,400.00	30.09	128.54	6,322.58	-234.39	294.27	-193.16	0.00	0.00	0.00
6,500.00	30.09	128.54	6,409.10	-265.63	333.50	-218.91	0.00	0.00	0.00
6,547.36	30.09	128.54	6,450.08	-280.43	352.07	-231.10	0.00	0.00	0.00
DLS 13.00 TFO -124.31									
6,550.00	29.90	127.97	6,452.36	-281.25	353.11	-231.77	13.00	-7.28	-21.54
6,575.00	28.21	122.25	6,474.22	-288.24	363.02	-237.38	13.00	-6.76	-22.87
6,600.00	26.78	115.92	6,496.40	-293.85	373.09	-241.61	13.00	-5.71	-25.31
6,625.00	25.67	109.01	6,518.83	-298.08	383.27	-244.44	13.00	-4.48	-27.64
6,650.00	24.90	101.61	6,541.44	-300.90	393.55	-245.88	13.00	-3.08	-29.60
6,675.00	24.51	93.89	6,564.16	-302.32	403.88	-245.90	13.00	-1.54	-30.91
6,700.00	24.53	86.05	6,586.91	-302.31	414.23	-244.52	13.00	0.06	-31.35
6,725.00	24.94	78.34	6,609.62	-300.89	424.58	-241.73	13.00	1.67	-30.83
6,750.00	25.74	70.98	6,632.22	-298.05	434.87	-237.55	13.00	3.19	-29.46
6,775.00	26.89	64.11	6,654.64	-293.81	445.09	-231.99	13.00	4.58	-27.47
6,800.00	28.33	57.83	6,676.79	-288.18	455.20	-225.07	13.00	5.80	-25.12
6,825.00	30.04	52.16	6,698.62	-281.18	465.17	-216.80	13.00	6.84	-22.68
6,850.00	31.97	47.08	6,720.05	-272.83	474.96	-207.23	13.00	7.71	-20.33
6,875.00	34.08	42.54	6,741.01	-263.16	484.55	-196.36	13.00	8.44	-18.15
6,900.00	36.34	38.48	6,761.44	-252.20	493.90	-184.26	13.00	9.04	-16.22
6,925.00	38.72	34.85	6,781.27	-239.98	502.98	-170.94	13.00	9.53	-14.53
6,950.00	41.21	31.59	6,800.43	-226.55	511.76	-156.45	13.00	9.93	-13.07
6,975.00	43.77	28.63	6,818.86	-211.94	520.22	-140.85	13.00	10.27	-11.81
7,000.00	46.41	25.95	6,836.51	-196.20	528.33	-124.17	13.00	10.54	-10.74
7,025.00	49.10	23.49	6,853.32	-179.39	536.06	-106.49	13.00	10.77	-9.83
7,050.00	51.84	21.22	6,869.23	-161.56	543.38	-87.84	13.00	10.97	-9.06
7,075.00	54.62	19.12	6,884.19	-142.76	550.28	-68.29	13.00	11.13	-8.40
7,100.00	57.44	17.17	6,898.16	-123.06	556.73	-47.90	13.00	11.26	-7.83
7,125.00	60.28	15.33	6,911.09	-102.52	562.71	-26.75	13.00	11.38	-7.35
7,150.00	63.15	13.59	6,922.93	-81.20	568.21	-4.89	13.00	11.47	-6.95
7,175.00	66.04	11.94	6,933.66	-59.18	573.19	17.60	13.00	11.55	-6.60
7,200.00	68.94	10.36	6,943.23	-36.52	577.66	40.65	13.00	11.62	-6.31
7,225.00	71.86	8.85	6,951.61	-13.31	581.58	64.18	13.00	11.68	-6.07
7,250.00	74.79	7.38	6,958.78	10.40	584.96	88.13	13.00	11.72	-5.87
7,275.00	77.73	5.95	6,964.72	34.52	587.78	112.40	13.00	11.76	-5.71
7,300.00	80.68	4.56	6,969.40	58.97	590.02	136.94	13.00	11.79	-5.58
7,325.00	83.63	3.19	6,972.81	83.68	591.69	161.65	13.00	11.81	-5.49
7,350.00	86.59	1.83	6,974.94	108.56	592.78	186.45	13.00	11.82	-5.43
7,375.00	89.55	0.48	6,975.79	133.54	593.29	211.27	13.00	11.83	-5.39
7,378.83	90.00	0.27	6,975.80	137.37	593.31	215.07	13.00	11.83	-5.38

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Well:	Teakwood EF 33-229HN	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)
4441.69 hold - EP 2278' FNL & 2180' FWL									
7,400.00	90.00	0.27	6,975.80	158.54	593.41	236.07	0.00	0.00	0.00
7,500.00	90.00	0.27	6,975.80	258.53	593.89	335.24	0.00	0.00	0.00
7,600.00	90.00	0.27	6,975.80	358.53	594.37	434.42	0.00	0.00	0.00
7,700.00	90.00	0.27	6,975.80	458.53	594.85	533.59	0.00	0.00	0.00
7,800.00	90.00	0.27	6,975.80	558.53	595.33	632.76	0.00	0.00	0.00
7,900.00	90.00	0.27	6,975.80	658.53	595.81	731.94	0.00	0.00	0.00
8,000.00	90.00	0.27	6,975.80	758.53	596.29	831.11	0.00	0.00	0.00
8,100.00	90.00	0.27	6,975.80	858.53	596.77	930.29	0.00	0.00	0.00
8,200.00	90.00	0.27	6,975.80	958.53	597.25	1,029.46	0.00	0.00	0.00
8,300.00	90.00	0.27	6,975.80	1,058.53	597.73	1,128.63	0.00	0.00	0.00
8,400.00	90.00	0.27	6,975.80	1,158.52	598.21	1,227.81	0.00	0.00	0.00
8,500.00	90.00	0.27	6,975.80	1,258.52	598.69	1,326.98	0.00	0.00	0.00
8,600.00	90.00	0.27	6,975.80	1,358.52	599.17	1,426.15	0.00	0.00	0.00
8,700.00	90.00	0.27	6,975.80	1,458.52	599.65	1,525.33	0.00	0.00	0.00
8,800.00	90.00	0.27	6,975.80	1,558.52	600.13	1,624.50	0.00	0.00	0.00
8,900.00	90.00	0.27	6,975.80	1,658.52	600.61	1,723.68	0.00	0.00	0.00
9,000.00	90.00	0.27	6,975.80	1,758.52	601.08	1,822.85	0.00	0.00	0.00
9,100.00	90.00	0.27	6,975.80	1,858.52	601.56	1,922.02	0.00	0.00	0.00
9,200.00	90.00	0.27	6,975.80	1,958.51	602.04	2,021.20	0.00	0.00	0.00
9,300.00	90.00	0.27	6,975.80	2,058.51	602.52	2,120.37	0.00	0.00	0.00
9,400.00	90.00	0.27	6,975.80	2,158.51	603.00	2,219.55	0.00	0.00	0.00
9,500.00	90.00	0.27	6,975.80	2,258.51	603.48	2,318.72	0.00	0.00	0.00
9,600.00	90.00	0.27	6,975.80	2,358.51	603.96	2,417.89	0.00	0.00	0.00
9,700.00	90.00	0.27	6,975.80	2,458.51	604.44	2,517.07	0.00	0.00	0.00
9,800.00	90.00	0.27	6,975.80	2,558.51	604.92	2,616.24	0.00	0.00	0.00
9,900.00	90.00	0.27	6,975.80	2,658.51	605.40	2,715.41	0.00	0.00	0.00
10,000.00	90.00	0.27	6,975.80	2,758.51	605.88	2,814.59	0.00	0.00	0.00
10,100.00	90.00	0.27	6,975.80	2,858.50	606.36	2,913.76	0.00	0.00	0.00
10,200.00	90.00	0.27	6,975.80	2,958.50	606.84	3,012.94	0.00	0.00	0.00
10,300.00	90.00	0.27	6,975.80	3,058.50	607.32	3,112.11	0.00	0.00	0.00
10,400.00	90.00	0.27	6,975.80	3,158.50	607.80	3,211.28	0.00	0.00	0.00
10,500.00	90.00	0.27	6,975.80	3,258.50	608.28	3,310.46	0.00	0.00	0.00
10,600.00	90.00	0.27	6,975.80	3,358.50	608.76	3,409.63	0.00	0.00	0.00
10,700.00	90.00	0.27	6,975.80	3,458.50	609.24	3,508.81	0.00	0.00	0.00
10,800.00	90.00	0.27	6,975.80	3,558.50	609.72	3,607.98	0.00	0.00	0.00
10,900.00	90.00	0.27	6,975.80	3,658.50	610.20	3,707.15	0.00	0.00	0.00
11,000.00	90.00	0.27	6,975.80	3,758.49	610.67	3,806.33	0.00	0.00	0.00
11,100.00	90.00	0.27	6,975.80	3,858.49	611.15	3,905.50	0.00	0.00	0.00
11,200.00	90.00	0.27	6,975.80	3,958.49	611.63	4,004.67	0.00	0.00	0.00
11,300.00	90.00	0.27	6,975.80	4,058.49	612.11	4,103.85	0.00	0.00	0.00
11,400.00	90.00	0.27	6,975.80	4,158.49	612.59	4,203.02	0.00	0.00	0.00
11,500.00	90.00	0.27	6,975.80	4,258.49	613.07	4,302.20	0.00	0.00	0.00
11,600.00	90.00	0.27	6,975.80	4,358.49	613.55	4,401.37	0.00	0.00	0.00
11,700.00	90.00	0.27	6,975.80	4,458.49	614.03	4,500.54	0.00	0.00	0.00
11,800.00	90.00	0.27	6,975.80	4,558.48	614.51	4,599.72	0.00	0.00	0.00
11,820.52	90.00	0.27	6,975.80	4,579.01	614.61	4,620.07	0.00	0.00	0.00
TD at 11820.52 - BHL 2164' FSL & 2180' FWL									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Teakwood EF 33-229HN
Company:	Great Western Oil & Gas	TVD Reference:	WELL @ 4788.80usft (Original Well Elev)
Project:	Weld Co., CO	MD Reference:	WELL @ 4788.80usft (Original Well Elev)
Site:	Sec.4-T6N-R65W	North Reference:	True
Well:	Teakwood EF 33-229HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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									
EP 2278' FNL & 2180' F	0.00	0.00	6,975.80	137.37	593.31	1,432,421.40	3,230,757.57	40° 31' 2.759 N	104° 40' 12.029 W
- plan hits target center									
- Point									
BHL 2164' FSL & 2180' I	0.00	0.00	6,975.80	4,579.01	614.61	1,436,863.04	3,230,737.40	40° 31' 46.650 N	104° 40' 11.752 W
- plan hits target center									
- Point									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(")	(")
7,378.83	6,975.80	7"	7	7-1/2

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
(usft)	(usft)	(usft)	(usft)	
5,160.00	5,160.00	0.00	0.00	Build 3.00
6,163.16	6,117.66	-160.40	201.38	384.21 hold
6,547.36	6,450.08	-280.43	352.07	DLS 13.00 TFO -124.31
7,378.83	6,975.80	137.37	593.31	4441.69 hold
11,820.52	6,975.80	4,579.01	614.61	TD at 11820.52



Precision
Directional Services

Great Western Oil & Gas

Weld Co., CO

Sec.4-T6N-R65W

Teakwood EF 33-229HN

Wellbore #1

Design #1

Anticollision Summary Report

01 April, 2014



Company:	Great Western Oil & Gas	Local Co-ordinate Reference:	Well Teakwood EF 33-229HN
Project:	Weld Co., CO	TVD Reference:	WELL @ 4788.80usft (Original Well Elev)
Reference Site:	Sec.4-T6N-R65W	MD Reference:	WELL @ 4788.80usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Teakwood EF 33-229HN	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

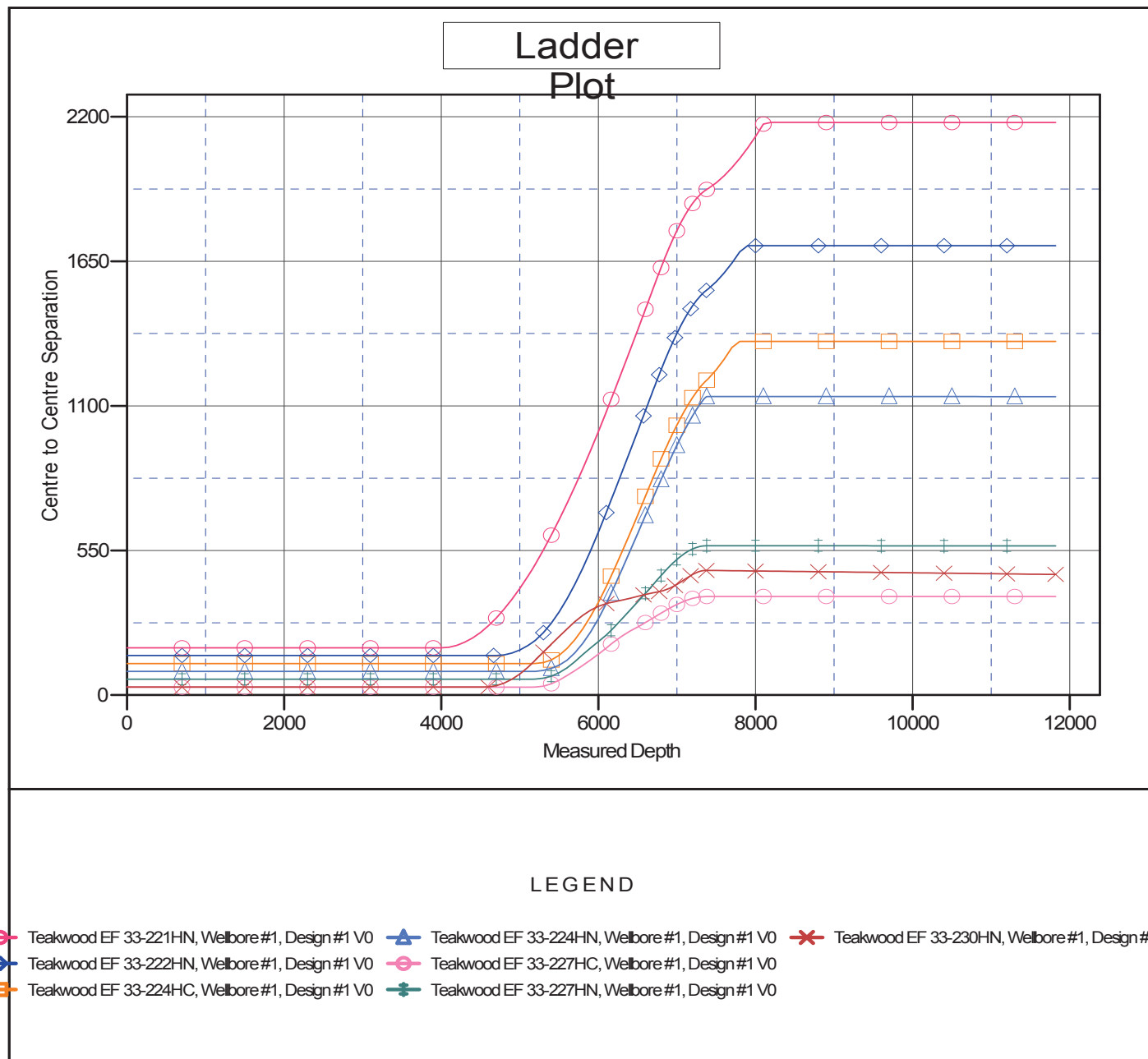
Survey Tool Program		Date	04/01/14		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	11,820.52	Design #1 (Wellbore #1)	MWD	Std MWD	

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.4-T6N-R65W						
Teakwood EF 33-221HN - Wellbore #1 - Design #1	4,000.00	4,000.00	179.56	158.70	8.609	CC, ES
Teakwood EF 33-221HN - Wellbore #1 - Design #1	4,100.00	4,091.42	181.93	160.57	8.518	SF
Teakwood EF 33-222HN - Wellbore #1 - Design #1	4,700.00	4,700.00	150.28	125.76	6.128	CC, ES
Teakwood EF 33-222HN - Wellbore #1 - Design #1	4,800.00	4,792.90	152.62	127.59	6.098	SF
Teakwood EF 33-224HC - Wellbore #1 - Design #1	5,160.00	5,160.00	119.90	92.97	4.452	CC, ES
Teakwood EF 33-224HC - Wellbore #1 - Design #1	5,200.00	5,200.00	120.21	93.07	4.429	SF
Teakwood EF 33-224HN - Wellbore #1 - Design #1	5,160.00	5,160.00	89.82	62.89	3.335	CC, ES
Teakwood EF 33-224HN - Wellbore #1 - Design #1	5,200.00	5,200.00	90.13	62.99	3.321	SF
Teakwood EF 33-227HC - Wellbore #1 - Design #1	5,160.00	5,160.00	30.11	3.18	1.118	Level 2, CC, ES, SF
Teakwood EF 33-227HN - Wellbore #1 - Design #1	5,160.00	5,160.00	60.27	33.34	2.238	CC, ES
Teakwood EF 33-227HN - Wellbore #1 - Design #1	5,200.00	5,200.00	60.58	33.44	2.232	SF
Teakwood EF 33-230HN - Wellbore #1 - Design #1	4,533.46	4,533.46	30.36	6.71	1.284	Level 3, CC, ES, SF

Company:	Great Western Oil & Gas	Local Co-ordinate Reference:	Well Teakwood EF 33-229HN
Project:	Weld Co., CO	TVD Reference:	WELL @ 4788.80usft (Original Well Elev)
Reference Site:	Sec.4-T6N-R65W	MD Reference:	WELL @ 4788.80usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Teakwood EF 33-229HN	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 @ 4788.80usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Teakwood EF 33-229HN
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.53°



Company:	Great Western Oil & Gas	Local Co-ordinate Reference:	Well Teakwood EF 33-229HN
Project:	Weld Co., CO	TVD Reference:	WELL @ 4788.80usft (Original Well Elev)
Reference Site:	Sec.4-T6N-R65W	MD Reference:	WELL @ 4788.80usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Teakwood EF 33-229HN	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 @ 4788.80usft (Original Well E

Offset Depths are relative to Offset Datum

Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Teakwood EF 33-229HN

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.53°

