



# **SHELL E&P**

**MOFFAT COUNTY, CO**

**HERRING DRAW 4-33**

**HERRING DRAW 4-33**

**HERRING DRAW 4-33**

**Plan: PLAN 1**

## **Standard Planning Report**

**29 August, 2012**





Project: MOFFAT COUNTY, CO  
 Site: HERRING DRAW 4-33  
 Well: HERRING DRAW 4-33  
 Wellbore: HERRING DRAW 4-33  
 Design: PLAN 1  
 Latitude: 40° 20' 44.590 N  
 Longitude: 107° 30' 20.240 W  
 GL: 6804.00  
 KB: KB @ 6820.00ft (Original Well Elev)



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

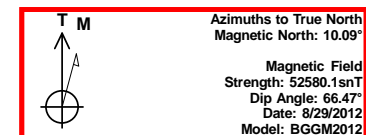
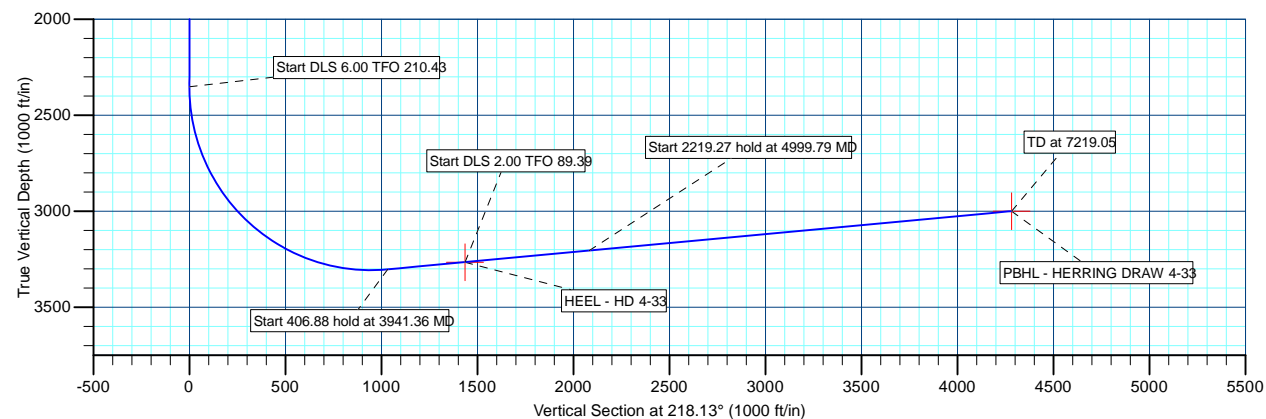
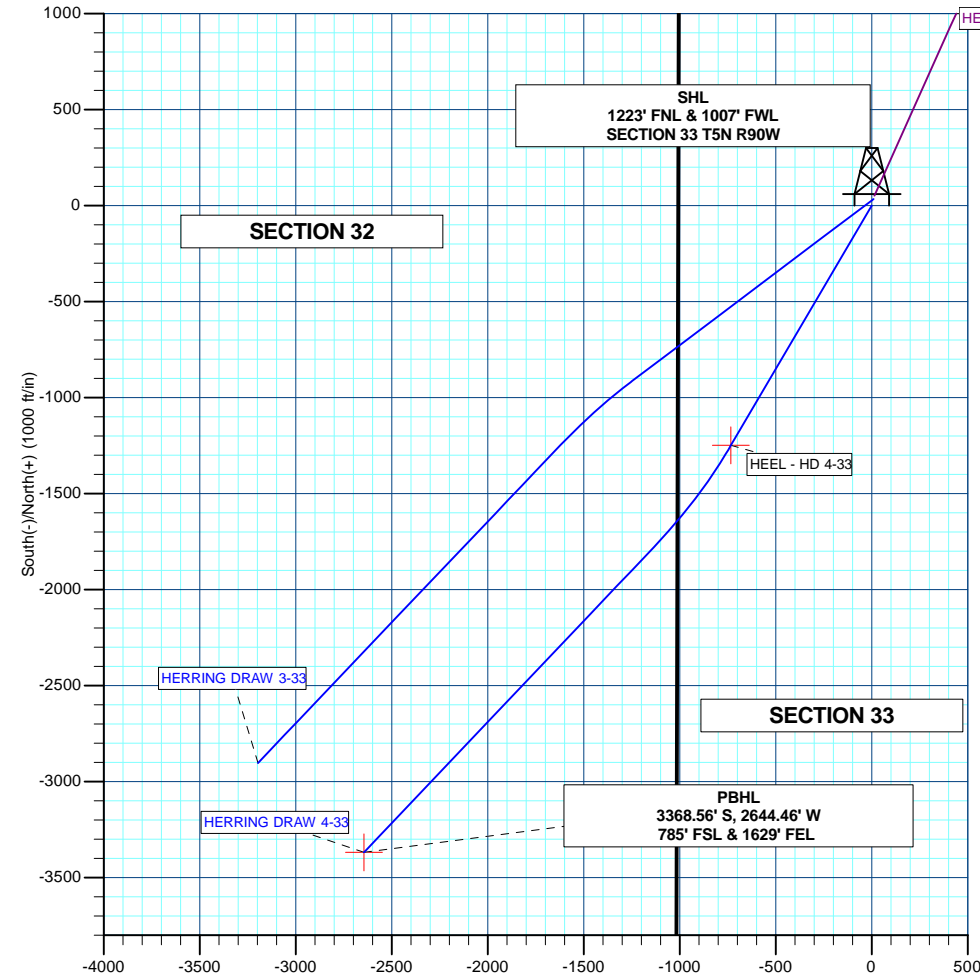
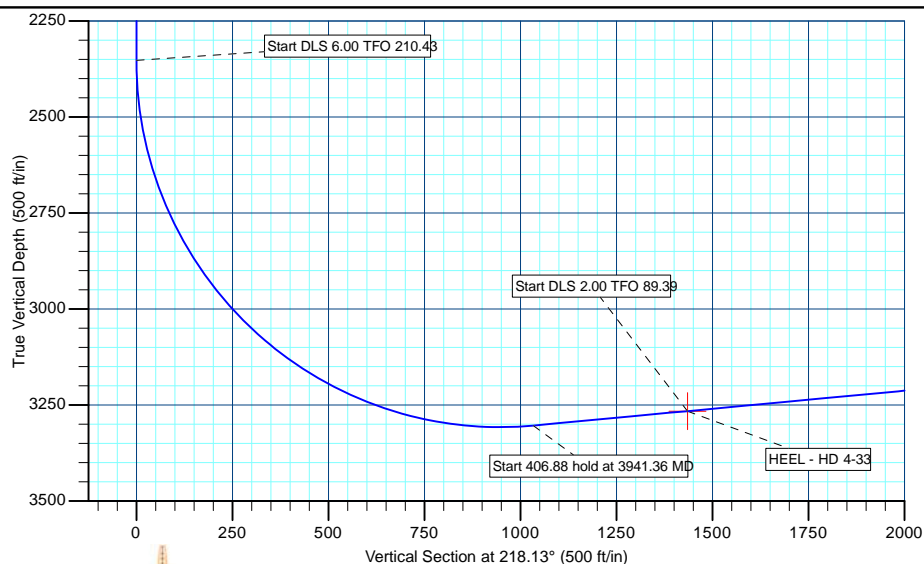
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL - HERRING DRAW 4-33	3000.00	-3368.56	-2644.46	40° 20' 11.300 N	107° 30' 54.390 W	Point
HEEL - HD 4-33	3266.00	-1248.95	-733.60	40° 20' 32.248 N	107° 30' 29.714 W	Point

#### WELL DETAILS: HERRING DRAW 4-33

+N/-S	+E/-W	Northing	Easting	Ground Level: 6804.00	Latitude	Longitude	Slot
0.00	0.00	1375108.03	2441013.86		40° 20' 44.590 N	107° 30' 20.240 W	

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2352.83	0.00	0.00	2352.83	0.00	0.00	0.00	0.00	0.00	Start DLS 6.00 TFO 210.43
3941.36	95.31	210.43	3303.66	-899.62	-528.41	6.00	210.43	1033.91	Start 406.88 hold at 3941.36 MD
4348.24	95.31	210.43	3266.00	-1248.95	-733.60	0.00	0.00	1435.39	Start DLS 2.00 TFO 89.39
4999.79	95.31	223.52	3205.43	-1766.10	-1122.92	2.00	89.39	2082.57	Start 2219.27 hold at 4999.79 MD
7219.05	95.31	223.52	3000.00	-3368.56	-2644.46	0.00	0.00	4282.56	TD at 7219.05





<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well HERRING DRAW 4-33
<b>Company:</b>	SHELL E&P	<b>TVD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Project:</b>	MOFFAT COUNTY, CO	<b>MD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Site:</b>	HERRING DRAW 4-33	<b>North Reference:</b>	True
<b>Well:</b>	HERRING DRAW 4-33	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HERRING DRAW 4-33		
<b>Design:</b>	PLAN 1		

<b>Project</b>	MOFFAT COUNTY, 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>	HERRING DRAW 4-33			
<b>Site Position:</b>		<b>Northing:</b>	1,375,108.03 usft	<b>Latitude:</b> 40° 20' 44.590 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,441,013.86 usft	<b>Longitude:</b> 107° 30' 20.240 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b> -1.30 °

<b>Well</b>	HERRING DRAW 4-33			
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,375,108.03 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,441,013.86 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft
			<b>Ground Level:</b>	6,804.00 ft

<b>Wellbore</b>	HERRING DRAW 4-33				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2012	8/29/2012	10.09	66.47	52,580

<b>Design</b>	PLAN 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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	218.13

<b>Plan Sections</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Turn Rate</b>	<b>TFO</b>	<b>Target</b>
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,352.83	0.00	0.00	2,352.83	0.00	0.00	0.00	0.00	0.00	0.00	
3,941.36	95.31	210.43	3,303.66	-899.62	-528.41	6.00	6.00	-9.42	210.43	
4,348.24	95.31	210.43	3,266.00	-1,248.95	-733.60	0.00	0.00	0.00	0.00	HEEL - HD 4-33
4,999.79	95.31	223.52	3,205.43	-1,766.10	-1,122.92	2.00	0.00	2.01	89.39	
7,219.05	95.31	223.52	3,000.00	-3,368.56	-2,644.46	0.00	0.00	0.00	0.00	PBHL - HERRING DF



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well HERRING DRAW 4-33
<b>Company:</b>	SHELL E&P	<b>TVD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Project:</b>	MOFFAT COUNTY, CO	<b>MD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Site:</b>	HERRING DRAW 4-33	<b>North Reference:</b>	True
<b>Well:</b>	HERRING DRAW 4-33	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HERRING DRAW 4-33		
<b>Design:</b>	PLAN 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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
Start DLS 6.00 TFO 210.43									
2,352.83	0.00	0.00	2,352.83	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	2.83	210.43	2,399.98	-1.00	-0.59	1.15	6.00	6.00	0.00
2,450.00	5.83	210.43	2,449.83	-4.26	-2.50	4.89	6.00	6.00	0.00
2,500.00	8.83	210.43	2,499.42	-9.76	-5.73	11.22	6.00	6.00	0.00
2,550.00	11.83	210.43	2,548.60	-17.49	-10.27	20.10	6.00	6.00	0.00
2,600.00	14.83	210.43	2,597.25	-27.43	-16.11	31.52	6.00	6.00	0.00
2,650.00	17.83	210.43	2,645.23	-39.55	-23.23	45.45	6.00	6.00	0.00
2,700.00	20.83	210.43	2,692.40	-53.82	-31.61	61.85	6.00	6.00	0.00
2,750.00	23.83	210.43	2,738.65	-70.20	-41.23	80.67	6.00	6.00	0.00
2,800.00	26.83	210.43	2,783.84	-88.64	-52.06	101.87	6.00	6.00	0.00
2,850.00	29.83	210.43	2,827.84	-109.10	-64.08	125.38	6.00	6.00	0.00
2,900.00	32.83	210.43	2,870.55	-131.51	-77.25	151.14	6.00	6.00	0.00
2,950.00	35.83	210.43	2,911.83	-155.82	-91.53	179.08	6.00	6.00	0.00
3,000.00	38.83	210.43	2,951.59	-181.96	-106.88	209.13	6.00	6.00	0.00
3,050.00	41.83	210.43	2,989.70	-209.86	-123.27	241.19	6.00	6.00	0.00
3,100.00	44.83	210.43	3,026.06	-239.44	-140.64	275.19	6.00	6.00	0.00
3,150.00	47.83	210.43	3,060.59	-270.62	-158.96	311.02	6.00	6.00	0.00
3,200.00	50.83	210.43	3,093.17	-303.32	-178.16	348.60	6.00	6.00	0.00
3,250.00	53.83	210.43	3,123.72	-337.44	-198.21	387.81	6.00	6.00	0.00
3,300.00	56.83	210.43	3,152.16	-372.90	-219.03	428.56	6.00	6.00	0.00
3,350.00	59.83	210.43	3,178.41	-409.58	-240.58	470.73	6.00	6.00	0.00
3,400.00	62.83	210.43	3,202.39	-447.41	-262.80	514.19	6.00	6.00	0.00
3,450.00	65.83	210.43	3,224.05	-486.26	-285.62	558.85	6.00	6.00	0.00
3,500.00	68.83	210.43	3,243.32	-526.04	-308.98	604.56	6.00	6.00	0.00
3,550.00	71.83	210.43	3,260.15	-566.63	-332.83	651.21	6.00	6.00	0.00
3,600.00	74.83	210.43	3,274.49	-607.93	-357.08	698.68	6.00	6.00	0.00
3,650.00	77.83	210.43	3,286.30	-649.81	-381.68	746.82	6.00	6.00	0.00
3,700.00	80.83	210.43	3,295.56	-692.18	-406.57	795.50	6.00	6.00	0.00
3,750.00	83.83	210.43	3,302.23	-734.90	-431.66	844.60	6.00	6.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well HERRING DRAW 4-33
Company:	SHELL E&P	TVD Reference:	KB @ 6820.00ft (Original Well Elev)
Project:	MOFFAT COUNTY, CO	MD Reference:	KB @ 6820.00ft (Original Well Elev)
Site:	HERRING DRAW 4-33	North Reference:	True
Well:	HERRING DRAW 4-33	Survey Calculation Method:	Minimum Curvature
Wellbore:	HERRING DRAW 4-33		
Design:	PLAN 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,800.00	86.83	210.43	3,306.30	-777.86	-456.90	893.98	6.00	6.00	0.00
3,850.00	89.83	210.43	3,307.76	-820.95	-482.21	943.50	6.00	6.00	0.00
3,900.00	92.83	210.43	3,306.60	-864.05	-507.52	993.03	6.00	6.00	0.00
Start 406.88 hold at 3941.36 MD									
3,941.36	95.31	210.43	3,303.66	-899.62	-528.41	1,033.91	6.00	6.00	0.00
4,000.00	95.31	210.43	3,298.24	-949.96	-557.99	1,091.77	0.00	0.00	0.00
4,100.00	95.31	210.43	3,288.98	-1,035.82	-608.42	1,190.44	0.00	0.00	0.00
4,200.00	95.31	210.43	3,279.72	-1,121.68	-658.85	1,289.12	0.00	0.00	0.00
4,300.00	95.31	210.43	3,270.47	-1,207.53	-709.28	1,387.79	0.00	0.00	0.00
Start DLS 2.00 TFO 89.39 - HEEL - HD 4-33									
4,348.24	95.31	210.43	3,266.00	-1,248.95	-733.60	1,435.39	0.00	0.00	0.00
4,400.00	95.32	211.47	3,261.20	-1,293.15	-760.11	1,486.52	2.00	0.02	2.01
4,500.00	95.34	213.48	3,251.92	-1,377.14	-813.56	1,585.60	2.00	0.01	2.01
4,600.00	95.34	215.49	3,242.61	-1,459.21	-869.93	1,684.96	2.00	0.01	2.01
4,700.00	95.35	217.49	3,233.29	-1,539.25	-929.13	1,784.47	2.00	0.00	2.01
4,800.00	95.34	219.50	3,223.98	-1,617.17	-991.11	1,884.03	2.00	0.00	2.01
4,900.00	95.33	221.51	3,214.68	-1,692.87	-1,055.78	1,983.51	2.00	-0.01	2.01
Start 2219.27 hold at 4999.79 MD									
4,999.79	95.31	223.52	3,205.43	-1,766.10	-1,122.92	2,082.57	2.00	-0.02	2.01
5,100.00	95.31	223.52	3,196.15	-1,838.46	-1,191.63	2,181.91	0.00	0.00	0.00
5,200.00	95.31	223.52	3,186.89	-1,910.67	-1,260.19	2,281.04	0.00	0.00	0.00
5,300.00	95.31	223.52	3,177.64	-1,982.88	-1,328.75	2,380.18	0.00	0.00	0.00
5,400.00	95.31	223.52	3,168.38	-2,055.08	-1,397.31	2,479.31	0.00	0.00	0.00
5,500.00	95.31	223.52	3,159.13	-2,127.29	-1,465.87	2,578.44	0.00	0.00	0.00
5,600.00	95.31	223.52	3,149.87	-2,199.50	-1,534.43	2,677.57	0.00	0.00	0.00
5,700.00	95.31	223.52	3,140.61	-2,271.70	-1,602.99	2,776.70	0.00	0.00	0.00
5,800.00	95.31	223.52	3,131.36	-2,343.91	-1,671.55	2,875.83	0.00	0.00	0.00
5,900.00	95.31	223.52	3,122.10	-2,416.12	-1,740.11	2,974.97	0.00	0.00	0.00
6,000.00	95.31	223.52	3,112.84	-2,488.32	-1,808.67	3,074.10	0.00	0.00	0.00
6,100.00	95.31	223.52	3,103.59	-2,560.53	-1,877.23	3,173.23	0.00	0.00	0.00
6,200.00	95.31	223.52	3,094.33	-2,632.73	-1,945.79	3,272.36	0.00	0.00	0.00
6,300.00	95.31	223.52	3,085.07	-2,704.94	-2,014.35	3,371.49	0.00	0.00	0.00
6,400.00	95.31	223.52	3,075.82	-2,777.15	-2,082.91	3,470.62	0.00	0.00	0.00
6,500.00	95.31	223.52	3,066.56	-2,849.35	-2,151.47	3,569.75	0.00	0.00	0.00
6,600.00	95.31	223.52	3,057.30	-2,921.56	-2,220.03	3,668.89	0.00	0.00	0.00
6,700.00	95.31	223.52	3,048.05	-2,993.77	-2,288.59	3,768.02	0.00	0.00	0.00
6,800.00	95.31	223.52	3,038.79	-3,065.97	-2,357.16	3,867.15	0.00	0.00	0.00
6,900.00	95.31	223.52	3,029.53	-3,138.18	-2,425.72	3,966.28	0.00	0.00	0.00
7,000.00	95.31	223.52	3,020.28	-3,210.39	-2,494.28	4,065.41	0.00	0.00	0.00
7,100.00	95.31	223.52	3,011.02	-3,282.59	-2,562.84	4,164.54	0.00	0.00	0.00
7,200.00	95.31	223.52	3,001.76	-3,354.80	-2,631.40	4,263.68	0.00	0.00	0.00
TD at 7219.05 - PBHL - HERRING DRAW 4-33									
7,219.05	95.31	223.52	3,000.00	-3,368.56	-2,644.46	4,282.56	0.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well HERRING DRAW 4-33
<b>Company:</b>	SHELL E&P	<b>TVD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Project:</b>	MOFFAT COUNTY, CO	<b>MD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Site:</b>	HERRING DRAW 4-33	<b>North Reference:</b>	True
<b>Well:</b>	HERRING DRAW 4-33	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HERRING DRAW 4-33		
<b>Design:</b>	PLAN 1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
PBHL - HERRING DRAW - plan hits target center - Point	0.00	0.00	3,000.00	-3,368.56	-2,644.46	1,371,800.15	2,438,293.90	40° 20' 11.300 N	107° 30' 54.390 W
HEEL - HD 4-33 - plan hits target center - Point	0.00	0.00	3,266.00	-1,248.95	-733.60	1,373,876.00	2,440,252.20	40° 20' 32.248 N	107° 30' 29.714 W

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
2,352.83	2,352.83	0.00	0.00	Start DLS 6.00 TFO 210.43
3,941.36	3,303.66	-899.62	-528.41	Start 406.88 hold at 3941.36 MD
4,348.24	3,266.00	-1,248.95	-733.60	Start DLS 2.00 TFO 89.39
4,999.79	3,205.43	-1,766.10	-1,122.92	Start 2219.27 hold at 4999.79 MD
7,219.05	3,000.00	-3,368.56	-2,644.46	TD at 7219.05



# **SHELL E&P**

**MOFFAT COUNTY, CO**

**HERRING DRAW 4-33**

**HERRING DRAW 4-33**

**HERRING DRAW 4-33**

**PLAN 1**

## **Anticollision Report**

**29 August, 2012**



**Weatherford®**



<b>Company:</b>	SHELL E&P	<b>Local Co-ordinate Reference:</b>	Well HERRING DRAW 4-33
<b>Project:</b>	MOFFAT COUNTY, CO	<b>TVD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Reference Site:</b>	HERRING DRAW 4-33	<b>MD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HERRING DRAW 4-33	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HERRING DRAW 4-33	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PLAN 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN 1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.00ft	<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 1,611.13 ft	<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> 8/29/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	7,219.02	PLAN 1 (HERRING DRAW 4-33)	MWD	MWD - Standard

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance Between Ellipses (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
<b>HERRING DRAW 1-33</b>						
HERRING DRAW 1-33 - HERRING DRAW 1-33 - PLAN	2,300.00	2,300.00	53.46	43.38	5.304	CC, ES
HERRING DRAW 1-33 - HERRING DRAW 1-33 - PLAN	2,400.00	2,399.98	54.58	44.08	5.195	SF
<b>HERRING DRAW 3-33</b>						
HERRING DRAW 3-33 - HERRING DRAW 3-33 - PLAN	2,300.00	2,300.00	35.64	25.56	3.536	CC
HERRING DRAW 3-33 - HERRING DRAW 3-33 - PLAN	2,305.40	2,305.40	35.64	25.54	3.528	ES
HERRING DRAW 3-33 - HERRING DRAW 3-33 - PLAN	2,400.00	2,400.62	36.58	26.08	3.484	SF

<b>Offset Design</b>	HERRING DRAW 1-33 - HERRING DRAW 1-33 - HERRING DRAW 1-33 - PLAN 1											<b>Offset Site Error:</b>	0.00 ft
<b>Survey Program:</b>	0-MWD											<b>Offset Well Error:</b>	0.00 ft
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>		<b>Distance</b>							<b>Warning</b>		
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Reference (ft)</b>	<b>Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>		<b>Minimum Separation (ft)</b>	<b>Separation Factor</b>
0.00	0.00	0.00	0.00	0.00	0.00	15.11	51.61	13.94	53.46				
100.00	100.00	100.00	100.00	0.09	0.09	15.11	51.61	13.94	53.46	53.27		0.19	283.135
200.00	200.00	200.00	200.00	0.32	0.32	15.11	51.61	13.94	53.46	52.82		0.64	83.744
300.00	300.00	300.00	300.00	0.54	0.54	15.11	51.61	13.94	53.46	52.37		1.09	49.139
400.00	400.00	400.00	400.00	0.77	0.77	15.11	51.61	13.94	53.46	51.92		1.54	34.771
500.00	500.00	500.00	500.00	0.99	0.99	15.11	51.61	13.94	53.46	51.47		1.99	26.904
600.00	600.00	600.00	600.00	1.22	1.22	15.11	51.61	13.94	53.46	51.02		2.44	21.940
700.00	700.00	700.00	700.00	1.44	1.44	15.11	51.61	13.94	53.46	50.57		2.89	18.523
800.00	800.00	800.00	800.00	1.67	1.67	15.11	51.61	13.94	53.46	50.12		3.34	16.027
900.00	900.00	900.00	900.00	1.89	1.89	15.11	51.61	13.94	53.46	49.67		3.79	14.123
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	15.11	51.61	13.94	53.46	49.22		4.23	12.624
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	15.11	51.61	13.94	53.46	48.77		4.68	11.412
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	15.11	51.61	13.94	53.46	48.32		5.13	10.413
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	15.11	51.61	13.94	53.46	47.87		5.58	9.575
1,400.00	1,400.00	1,400.00	1,400.00	3.02	3.02	15.11	51.61	13.94	53.46	47.42		6.03	8.861
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	15.11	51.61	13.94	53.46	46.97		6.48	8.247
1,600.00	1,600.00	1,600.00	1,600.00	3.47	3.47	15.11	51.61	13.94	53.46	46.53		6.93	7.712
1,700.00	1,700.00	1,700.00	1,700.00	3.69	3.69	15.11	51.61	13.94	53.46	46.08		7.38	7.242
1,800.00	1,800.00	1,800.00	1,800.00	3.92	3.92	15.11	51.61	13.94	53.46	45.63		7.83	6.826
1,900.00	1,900.00	1,900.00	1,900.00	4.14	4.14	15.11	51.61	13.94	53.46	45.18		8.28	6.456
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	15.11	51.61	13.94	53.46	44.73		8.73	6.123

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





Weatherford International Ltd.  
Anticollision Report



<b>Company:</b>	SHELL E&P	<b>Local Co-ordinate Reference:</b>	Well HERRING DRAW 4-33
<b>Project:</b>	MOFFAT COUNTY, CO	<b>TVD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Reference Site:</b>	HERRING DRAW 4-33	<b>MD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HERRING DRAW 4-33	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HERRING DRAW 4-33	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PLAN 1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design HERRING DRAW 1-33 - HERRING DRAW 1-33 - HERRING DRAW 1-33 - PLAN 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,100.00	2,100.00	2,100.00	2,100.00	4.59	4.59	15.11	51.61	13.94	53.46	44.28	9.18	5.824		
2,200.00	2,200.00	2,200.00	2,200.00	4.81	4.81	15.11	51.61	13.94	53.46	43.83	9.63	5.552		
2,300.00	2,300.00	2,300.00	2,300.00	5.04	5.04	15.11	51.61	13.94	53.46	43.38	10.08	5.304 CC, ES		
2,331.41	2,331.41	2,331.41	2,331.41	5.11	5.11	164.75	51.61	13.94	53.69	43.48	10.21	5.256		
2,400.00	2,399.98	2,399.98	2,399.98	5.25	5.26	164.99	51.61	13.94	54.58	44.08	10.51	5.195 SF		
2,500.00	2,499.42	2,499.42	2,499.42	5.43	5.49	167.20	51.61	13.94	64.44	53.63	10.81	5.960		
2,600.00	2,597.25	2,594.62	2,594.61	5.63	5.70	170.00	52.04	14.13	85.07	74.05	11.01	7.724		
2,700.00	2,692.40	2,678.42	2,678.16	5.87	5.89	172.15	57.68	16.66	122.33	111.23	11.10	11.017		
2,800.00	2,783.84	2,750.00	2,748.89	6.22	6.06	173.35	67.65	21.14	176.09	165.01	11.08	15.897		
2,900.00	2,870.55	2,812.17	2,809.52	6.72	6.21	173.92	80.12	26.73	243.56	232.62	10.94	22.261		
3,000.00	2,951.59	2,860.26	2,855.76	7.41	6.32	173.95	92.16	32.14	321.95	311.24	10.71	30.064		
3,100.00	3,026.06	2,900.00	2,893.45	8.29	6.43	173.56	103.66	37.30	408.62	398.20	10.42	39.218		
3,200.00	3,093.17	2,922.14	2,914.21	9.38	6.50	172.30	110.67	40.45	501.20	491.08	10.12	49.533		
3,300.00	3,152.16	2,938.54	2,929.48	10.66	6.55	169.42	116.14	42.90	597.79	587.82	9.96	59.994		
3,400.00	3,202.39	2,950.00	2,940.08	12.10	6.59	159.98	120.10	44.68	696.71	685.88	10.83	64.343		
3,500.00	3,243.32	2,950.00	2,940.08	13.69	6.59	52.87	120.10	44.68	796.57	779.50	17.07	46.666		
3,600.00	3,274.49	2,950.00	2,940.08	15.40	6.59	11.97	120.10	44.68	896.25	886.51	9.73	92.093		
3,700.00	3,295.56	2,936.38	2,927.47	17.19	6.54	5.74	115.40	42.57	994.69	985.72	8.97	110.876		
3,800.00	3,306.30	2,923.73	2,915.70	19.04	6.50	3.64	111.19	40.68	1,091.13	1,082.24	8.89	122.740		
3,900.00	3,306.60	2,900.00	2,893.45	20.92	6.43	2.49	103.66	37.30	1,184.90	1,175.85	9.05	130.970		
4,000.00	3,298.24	2,900.00	2,893.45	22.83	6.43	2.26	103.66	37.30	1,276.07	1,266.49	9.57	133.307		
4,100.00	3,288.98	2,872.29	2,867.22	24.75	6.36	2.05	95.49	33.63	1,367.47	1,357.22	10.25	133.425		
4,200.00	3,279.72	2,850.00	2,845.95	26.68	6.30	1.90	89.41	30.91	1,459.68	1,448.74	10.94	133.462		
4,300.00	3,270.47	2,850.00	2,845.95	28.63	6.30	1.90	89.41	30.91	1,552.47	1,540.82	11.64	133.365		



# Weatherford International Ltd.

## Anticollision Report



<b>Company:</b>	SHELL E&P	<b>Local Co-ordinate Reference:</b>	Well HERRING DRAW 4-33
<b>Project:</b>	MOFFAT COUNTY, CO	<b>TVD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Reference Site:</b>	HERRING DRAW 4-33	<b>MD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HERRING DRAW 4-33	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HERRING DRAW 4-33	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PLAN 1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design HERRING DRAW 3-33 - HERRING DRAW 3-33 - HERRING DRAW 3-33 - PLAN 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	15.11	34.41	9.29	35.64					
100.00	100.00	100.00	100.00	0.09	0.09	15.11	34.41	9.29	35.64	35.45	0.19	188.757		
200.00	200.00	200.00	200.00	0.32	0.32	15.11	34.41	9.29	35.64	35.00	0.64	55.829		
300.00	300.00	300.00	300.00	0.54	0.54	15.11	34.41	9.29	35.64	34.55	1.09	32.759		
400.00	400.00	400.00	400.00	0.77	0.77	15.11	34.41	9.29	35.64	34.10	1.54	23.181		
500.00	500.00	500.00	500.00	0.99	0.99	15.11	34.41	9.29	35.64	33.65	1.99	17.936		
600.00	600.00	600.00	600.00	1.22	1.22	15.11	34.41	9.29	35.64	33.20	2.44	14.627		
700.00	700.00	700.00	700.00	1.44	1.44	15.11	34.41	9.29	35.64	32.75	2.89	12.349		
800.00	800.00	800.00	800.00	1.67	1.67	15.11	34.41	9.29	35.64	32.30	3.34	10.684		
900.00	900.00	900.00	900.00	1.89	1.89	15.11	34.41	9.29	35.64	31.85	3.79	9.415		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	15.11	34.41	9.29	35.64	31.40	4.23	8.416		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	15.11	34.41	9.29	35.64	30.95	4.68	7.608		
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	15.11	34.41	9.29	35.64	30.50	5.13	6.942		
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	15.11	34.41	9.29	35.64	30.05	5.58	6.383		
1,400.00	1,400.00	1,400.00	1,400.00	3.02	3.02	15.11	34.41	9.29	35.64	29.61	6.03	5.907		
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	15.11	34.41	9.29	35.64	29.16	6.48	5.498		
1,600.00	1,600.00	1,600.00	1,600.00	3.47	3.47	15.11	34.41	9.29	35.64	28.71	6.93	5.141		
1,700.00	1,700.00	1,700.00	1,700.00	3.69	3.69	15.11	34.41	9.29	35.64	28.26	7.38	4.828		
1,800.00	1,800.00	1,800.00	1,800.00	3.92	3.92	15.11	34.41	9.29	35.64	27.81	7.83	4.551		
1,900.00	1,900.00	1,900.00	1,900.00	4.14	4.14	15.11	34.41	9.29	35.64	27.36	8.28	4.304		
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	15.11	34.41	9.29	35.64	26.91	8.73	4.082		
2,100.00	2,100.00	2,100.00	2,100.00	4.59	4.59	15.11	34.41	9.29	35.64	26.46	9.18	3.882		
2,200.00	2,200.00	2,200.00	2,200.00	4.81	4.81	15.11	34.41	9.29	35.64	26.01	9.63	3.701		
2,300.00	2,300.00	2,300.00	2,300.00	5.04	5.04	15.11	34.41	9.29	35.64	25.56	10.08	3.536 CC		
2,305.40	2,305.40	2,305.40	2,305.40	5.05	5.05	164.69	34.41	9.29	35.64	25.54	10.10	3.528 ES		
2,400.00	2,399.98	2,400.62	2,400.62	5.25	5.26	164.94	34.27	9.11	36.58	26.08	10.50	3.484 SF		
2,500.00	2,499.42	2,503.76	2,503.41	5.43	5.45	161.97	29.55	2.86	40.43	29.66	10.77	3.753		
2,600.00	2,597.25	2,606.81	2,604.68	5.63	5.66	154.77	18.20	-12.18	46.39	35.39	11.00	4.217		
2,700.00	2,692.40	2,709.50	2,702.98	5.87	5.93	145.72	0.42	-35.74	55.41	44.11	11.30	4.905		
2,800.00	2,783.84	2,811.57	2,796.98	6.22	6.30	136.78	-23.45	-67.36	68.24	56.41	11.82	5.772		
2,900.00	2,870.55	2,912.81	2,885.53	6.72	6.82	128.99	-52.97	-106.47	85.13	72.42	12.71	6.697		
3,000.00	2,951.59	3,013.09	2,967.64	7.41	7.55	122.54	-87.61	-152.36	105.97	91.92	14.05	7.543		
3,100.00	3,026.06	3,112.33	3,042.52	8.29	8.49	117.24	-126.80	-204.29	130.42	114.58	15.84	8.234		
3,200.00	3,093.17	3,210.51	3,109.56	9.38	9.66	112.83	-169.98	-261.48	158.09	140.02	18.07	8.750		
3,300.00	3,152.16	3,307.67	3,168.32	10.66	11.04	109.07	-216.56	-323.21	188.56	167.87	20.68	9.117		
3,400.00	3,202.39	3,403.93	3,218.49	12.10	12.60	105.77	-266.02	-388.73	221.40	197.77	23.63	9.369		
3,500.00	3,243.32	3,499.43	3,259.86	13.69	14.31	102.82	-317.85	-457.40	256.21	229.35	26.86	9.540		
3,600.00	3,274.49	3,594.38	3,292.26	15.40	16.16	100.12	-371.60	-528.61	292.55	262.25	30.30	9.654		
3,700.00	3,295.56	3,689.02	3,315.58	17.19	18.10	97.62	-426.83	-601.78	330.03	296.10	33.93	9.728		
3,800.00	3,306.30	3,783.60	3,329.72	19.04	20.12	95.28	-483.15	-676.39	368.22	330.54	37.67	9.774		
3,900.00	3,306.60	3,878.42	3,334.54	20.92	22.19	93.09	-540.17	-751.94	406.72	365.21	41.51	9.799		
4,000.00	3,298.24	3,972.79	3,330.42	22.83	24.27	92.30	-596.96	-827.18	445.10	399.77	45.33	9.819		
4,100.00	3,288.98	4,065.18	3,324.16	24.75	26.33	92.33	-652.49	-900.75	483.36	434.23	49.13	9.838		
4,200.00	3,279.72	4,157.57	3,317.90	26.68	28.41	92.35	-708.02	-974.32	521.62	468.66	52.96	9.849		
4,300.00	3,270.47	4,249.96	3,311.64	28.63	30.51	92.37	-763.55	-1,047.89	559.89	503.06	56.82	9.853		
4,400.00	3,261.20	4,342.53	3,305.36	30.54	32.62	92.47	-819.19	-1,121.61	597.72	536.84	60.88	9.818		
4,500.00	3,251.92	4,436.21	3,299.01	32.37	34.76	92.65	-875.50	-1,196.21	632.68	567.61	65.06	9.724		
4,600.00	3,242.61	4,537.22	3,292.14	34.25	37.06	92.85	-936.31	-1,276.56	664.26	594.83	69.42	9.569		
4,700.00	3,233.29	4,633.29	3,282.59	36.16	39.80	93.03	-1,015.02	-1,374.49	689.63	615.40	74.24	9.289		
4,800.00	3,223.98	4,729.68	3,271.33	38.11	42.54	93.15	-1,100.08	-1,471.41	707.33	628.24	79.09	8.943		
4,900.00	3,214.68	4,824.39	3,258.40	40.10	45.29	93.20	-1,190.81	-1,565.98	717.14	633.18	83.96	8.541		
5,000.00	3,205.41	5,041.03	3,245.81	42.11	47.73	93.23	-1,274.27	-1,646.49	719.48	630.99	88.50	8.130		

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



**Weatherford International Ltd.**  
Anticollision Report



<b>Company:</b>	SHELL E&P	<b>Local Co-ordinate Reference:</b>	Well HERRING DRAW 4-33
<b>Project:</b>	MOFFAT COUNTY, CO	<b>TVD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Reference Site:</b>	HERRING DRAW 4-33	<b>MD Reference:</b>	KB @ 6820.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HERRING DRAW 4-33	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HERRING DRAW 4-33	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PLAN 1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design HERRING DRAW 3-33 - HERRING DRAW 3-33 - HERRING DRAW 3-33 - PLAN 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
5,100.00	3,196.15	5,141.02	3,234.86	44.17	49.89	93.10	-1,346.27	-1,715.00	719.50	626.73	92.77	7.756		
5,200.00	3,186.90	5,241.01	3,223.91	46.26	52.04	92.96	-1,418.26	-1,783.52	719.52	622.45	97.08	7.412		
5,300.00	3,177.64	5,340.99	3,212.95	48.37	54.20	92.82	-1,490.25	-1,852.03	719.55	618.16	101.40	7.096		
5,400.00	3,168.38	5,440.98	3,202.00	50.48	56.37	92.69	-1,562.24	-1,920.55	719.58	613.86	105.72	6.806		
5,500.00	3,159.13	5,540.96	3,191.04	52.60	58.54	92.55	-1,634.24	-1,989.06	719.62	609.56	110.06	6.538		
5,600.00	3,149.87	5,640.95	3,180.09	54.73	60.71	92.42	-1,706.23	-2,057.57	719.66	605.25	114.40	6.290		
5,700.00	3,140.61	5,740.93	3,169.14	56.87	62.88	92.28	-1,778.22	-2,126.09	719.70	600.95	118.75	6.060		
5,800.00	3,131.36	5,840.92	3,158.18	59.01	65.06	92.14	-1,850.21	-2,194.60	719.75	596.64	123.11	5.846		
5,900.00	3,122.10	5,940.90	3,147.23	61.16	67.24	92.01	-1,922.21	-2,263.11	719.80	592.33	127.47	5.647		
6,000.00	3,112.84	6,040.89	3,136.28	63.31	69.42	91.87	-1,994.20	-2,331.63	719.86	588.02	131.84	5.460		
6,100.00	3,103.59	6,140.87	3,125.32	65.46	71.60	91.73	-2,066.19	-2,400.14	719.91	583.71	136.21	5.286		
6,200.00	3,094.33	6,240.86	3,114.37	67.62	73.78	91.60	-2,138.18	-2,468.66	719.98	579.40	140.58	5.122		
6,300.00	3,085.07	6,340.84	3,103.41	69.78	75.96	91.46	-2,210.18	-2,537.17	720.05	575.09	144.95	4.967		
6,400.00	3,075.82	6,440.83	3,092.46	71.94	78.15	91.33	-2,282.17	-2,605.68	720.12	570.79	149.33	4.822		
6,500.00	3,066.56	6,540.82	3,081.51	74.11	80.34	91.19	-2,354.16	-2,674.20	720.19	566.48	153.71	4.685		
6,600.00	3,057.30	6,640.80	3,070.55	76.28	82.52	91.05	-2,426.15	-2,742.71	720.27	562.18	158.10	4.556		
6,700.00	3,048.05	6,740.79	3,059.60	78.45	84.71	90.92	-2,498.15	-2,811.23	720.36	557.88	162.48	4.434		
6,800.00	3,038.79	6,840.77	3,048.65	80.63	86.90	90.78	-2,570.14	-2,879.74	720.45	553.58	166.87	4.318		
6,900.00	3,029.53	6,940.76	3,037.69	82.80	89.09	90.65	-2,642.13	-2,948.25	720.54	549.28	171.25	4.207		
7,000.00	3,020.28	7,040.74	3,026.74	84.98	91.29	90.51	-2,714.12	-3,016.77	720.64	544.99	175.64	4.103		
7,100.00	3,011.02	7,140.73	3,015.79	87.16	93.48	90.37	-2,786.12	-3,085.28	720.74	540.70	180.03	4.003		
7,200.00	3,001.76	7,240.71	3,004.83	89.34	95.67	90.24	-2,858.11	-3,153.80	720.84	536.42	184.42	3.909		
7,219.05	3,000.00	7,259.76	3,002.74	89.76	96.09	90.21	-2,871.83	-3,166.85	720.86	535.60	185.26	3.891		



Company:	SHELL E&P	Local Co-ordinate Reference:	Well HERRING DRAW 4-33
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Reference Site:	HERRING DRAW 4-33	MD Reference:	KB @ 6820.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	HERRING DRAW 4-33	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	HERRING DRAW 4-33	Database:	EDM 5000.1 Single User Db
Reference Design:	PLAN 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 6820.00ft (Original Well Elev)

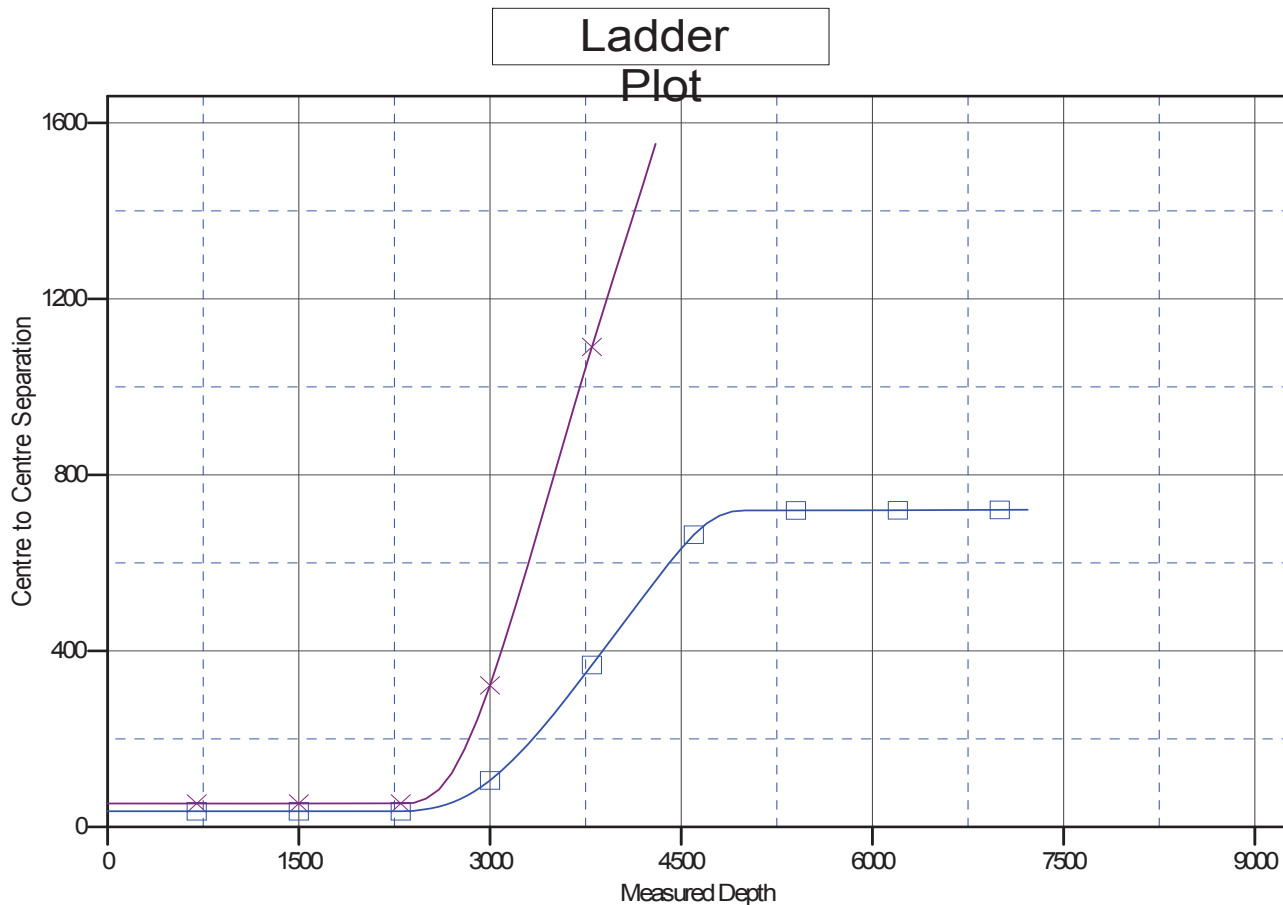
Offset Depths are relative to Offset Datum

Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: HERRING DRAW 4-33

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: -1.30°

**LEGEND**

3D DRAW 3-33, HERRING DRAW 3-33, PLAN 1 V0 ✕ HERRING DRAW 1-33, HERRING DRAW 1-33, PLAN 1 V0



Company:	SHELL E&P	Local Co-ordinate Reference:	Well HERRING DRAW 4-33
Project:	MOFFAT COUNTY, CO	TVD Reference:	KB @ 6820.00ft (Original Well Elev)
Reference Site:	HERRING DRAW 4-33	MD Reference:	KB @ 6820.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	HERRING DRAW 4-33	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	HERRING DRAW 4-33	Database:	EDM 5000.1 Single User Db
Reference Design:	PLAN 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 6820.00ft (Original Well Elev)

Offset Depths are relative to Offset Datum

Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: HERRING DRAW 4-33

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: -1.30°

