



# **US ROCKIES REGION PLANNING**

**KERR MCGEE OIL & GAS ONSHORE LP**

**WELD\_STATE 5 PAD**

**P\_STATE 1-16**

**P\_STATE 1-16**

**Plan: PLAN #1 09-09-09 RHS**

## **Standard Planning Report**

**10 September, 2009**





P\_STATE 1-16  
KERR MCGEE OIL & GAS ONSHORE LP  
SECTION 16 T1N R68W  
348 FNL 2503 FWL  
LAT: 40° 3' 26.748 N  
LONG: 105° 0' 33.264 W



Azimuths to True North  
Magnetic North: 9.16°  
Magnetic Field  
Strength: 53126.3nT  
Dip Angle: 66.80°  
Date: 9/9/2009  
Model: IGRF200510

WELL DETAILS: P\_STATE 1-16

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude	Slot
0.00	0.00	1264147.28	3137371.69	5135.00	40° 3' 26.748 N	105° 0' 33.264 W	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	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	
1354.90	34.65	98.01	1285.79	-47.21	335.37	3.00	98.01	338.68	
3858.04	34.65	98.01	3345.05	-245.60	1744.56	0.00	0.00	1761.76	
5243.92	0.00	0.00	4648.00	-302.26	2147.00	2.50	180.00	2168.17	
8647.92	0.00	0.00	8052.00	-302.26	2147.00	0.00	0.00	2168.17	PBHL_STATE 1-16(660 FNL 660 FEL)50' TGT RAD

FORMATION TOP DETAILS

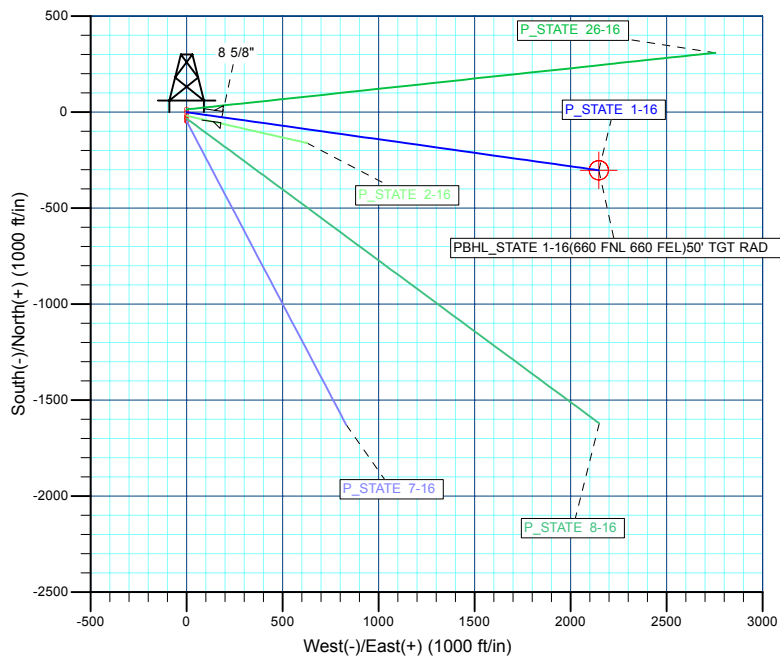
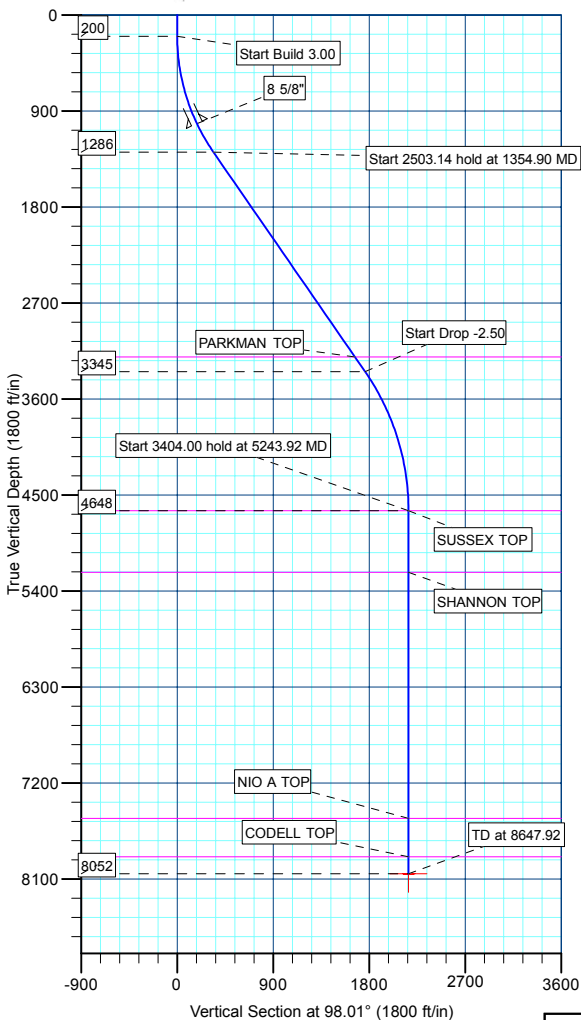
TVDPath	MDPath	Formation
3206.00	3689.02	PARKMAN TOP
4648.00	5243.92	SUSSEX TOP
5227.00	5822.92	SHANNON TOP
7532.00	8127.92	NIO A TOP
7892.00	8487.92	CODELL TOP

CASING DETAILS

TVD	MD	Name	Size
1020.00	1047.55	8 5/8"	8.62



KB ELEV: WELL @ 5150.00ft (Original Well Elev)  
GRD ELEV: 5135.00



WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8052.00	-302.26	2147.00	1263856.91	3139520.33	40° 3' 23.760 N	105° 0' 5.652 W	Circle (Radius: 50.00)

Plan: PLAN #1 09-09-09 RHS (P\_STATE 1-16/P\_STATE 1-16)

Created By: Robert H. Scott



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site:</b>	WELD_STATE 5 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_STATE 1-16		
<b>Design:</b>	PLAN #1 09-09-09 RHS		

<b>Project</b>	KERR MCGEE OIL & GAS ONSHORE LP, KERR MCGEE OIL & GAS ONSHORE LP		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		WELD_STATE 5 PAD, SECTION 16 T1N R68W			
Site Position:		Northing:	1,264,147.28 ft	Latitude:	40° 3' 26.748 N
From:	Lat/Long	Easting:	3,137,371.69 ft	Longitude:	105° 0' 33.264 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.32 °

Well	P_STATE 1-16					
Well Position	+N/-S	0.00 ft	Northing:	1,264,147.28 ft	Latitude:	40° 3' 26.748 N
	+E/-W	0.00 ft	Easting:	3,137,371.69 ft	Longitude:	105° 0' 33.264 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,135.00 ft

<b>Wellbore</b>	P_STATE 1-16				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	9/9/2009	9.16	66.80	53,126

<b>Design</b>	PLAN #1 09-09-09 RHS			
<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	98.01

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	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	
1,354.90	34.65	98.01	1,285.79	-47.21	335.37	3.00	3.00	0.00	98.01	
3,858.04	34.65	98.01	3,345.05	-245.60	1,744.56	0.00	0.00	0.00	0.00	
5,243.92	0.00	0.00	4,648.00	-302.26	2,147.00	2.50	-2.50	0.00	180.00	
8,647.92	0.00	0.00	8,052.00	-302.26	2,147.00	0.00	0.00	0.00	0.00	PBHL_STATE 1-16



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site:</b>	WELD_STATE 5 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_STATE 1-16		
<b>Design:</b>	PLAN #1 09-09-09 RHS		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
<b>Start Build 3.00</b>									
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	3.00	98.01	299.95	-0.36	2.59	2.62	3.00	3.00	0.00
400.00	6.00	98.01	399.63	-1.46	10.36	10.46	3.00	3.00	0.00
500.00	9.00	98.01	498.77	-3.28	23.28	23.51	3.00	3.00	0.00
600.00	12.00	98.01	597.08	-5.82	41.33	41.74	3.00	3.00	0.00
700.00	15.00	98.01	694.31	-9.07	64.44	65.08	3.00	3.00	0.00
800.00	18.00	98.01	790.18	-13.03	92.56	93.48	3.00	3.00	0.00
900.00	21.00	98.01	884.43	-17.68	125.61	126.85	3.00	3.00	0.00
1,000.00	24.00	98.01	976.81	-23.02	163.50	165.12	3.00	3.00	0.00
<b>8 5/8"</b>									
1,047.55	25.43	98.01	1,020.00	-25.79	183.19	184.99	3.00	3.00	0.00
1,100.00	27.00	98.01	1,067.06	-29.02	206.13	208.16	3.00	3.00	0.00
1,200.00	30.00	98.01	1,154.93	-35.67	253.37	255.87	3.00	3.00	0.00
1,300.00	33.00	98.01	1,240.18	-42.95	305.11	308.12	3.00	3.00	0.00
<b>Start 2503.14 hold at 1354.90 MD</b>									
1,354.90	34.65	98.01	1,285.79	-47.21	335.37	338.68	3.00	3.00	0.00
1,400.00	34.65	98.01	1,322.89	-50.79	360.76	364.32	0.00	0.00	0.00
1,500.00	34.65	98.01	1,405.16	-58.71	417.05	421.17	0.00	0.00	0.00
1,600.00	34.65	98.01	1,487.43	-66.64	473.35	478.02	0.00	0.00	0.00
1,700.00	34.65	98.01	1,569.69	-74.56	529.65	534.87	0.00	0.00	0.00
1,800.00	34.65	98.01	1,651.96	-82.49	585.94	591.72	0.00	0.00	0.00
1,900.00	34.65	98.01	1,734.23	-90.42	642.24	648.57	0.00	0.00	0.00
2,000.00	34.65	98.01	1,816.50	-98.34	698.54	705.43	0.00	0.00	0.00
2,100.00	34.65	98.01	1,898.76	-106.27	754.84	762.28	0.00	0.00	0.00
2,200.00	34.65	98.01	1,981.03	-114.19	811.13	819.13	0.00	0.00	0.00
2,300.00	34.65	98.01	2,063.30	-122.12	867.43	875.98	0.00	0.00	0.00
2,400.00	34.65	98.01	2,145.56	-130.04	923.73	932.83	0.00	0.00	0.00
2,500.00	34.65	98.01	2,227.83	-137.97	980.02	989.69	0.00	0.00	0.00
2,600.00	34.65	98.01	2,310.10	-145.89	1,036.32	1,046.54	0.00	0.00	0.00
2,700.00	34.65	98.01	2,392.36	-153.82	1,092.62	1,103.39	0.00	0.00	0.00
2,800.00	34.65	98.01	2,474.63	-161.75	1,148.91	1,160.24	0.00	0.00	0.00
2,900.00	34.65	98.01	2,556.90	-169.67	1,205.21	1,217.09	0.00	0.00	0.00
3,000.00	34.65	98.01	2,639.16	-177.60	1,261.51	1,273.95	0.00	0.00	0.00
3,100.00	34.65	98.01	2,721.43	-185.52	1,317.80	1,330.80	0.00	0.00	0.00
3,200.00	34.65	98.01	2,803.70	-193.45	1,374.10	1,387.65	0.00	0.00	0.00
3,300.00	34.65	98.01	2,885.97	-201.37	1,430.40	1,444.50	0.00	0.00	0.00
3,400.00	34.65	98.01	2,968.23	-209.30	1,486.69	1,501.35	0.00	0.00	0.00
3,500.00	34.65	98.01	3,050.50	-217.22	1,542.99	1,558.21	0.00	0.00	0.00
3,600.00	34.65	98.01	3,132.77	-225.15	1,599.29	1,615.06	0.00	0.00	0.00
<b>PARKMAN TOP</b>									
3,689.02	34.65	98.01	3,206.00	-232.20	1,649.40	1,665.67	0.00	0.00	0.00
3,700.00	34.65	98.01	3,215.03	-233.08	1,655.58	1,671.91	0.00	0.00	0.00
3,800.00	34.65	98.01	3,297.30	-241.00	1,711.88	1,728.76	0.00	0.00	0.00
<b>Start Drop -2.50</b>									
3,858.04	34.65	98.01	3,345.05	-245.60	1,744.56	1,761.76	0.00	0.00	0.00
3,900.00	33.60	98.01	3,379.78	-248.88	1,767.86	1,785.30	2.50	-2.50	0.00
4,000.00	31.10	98.01	3,464.26	-256.34	1,820.84	1,838.80	2.50	-2.50	0.00
4,100.00	28.60	98.01	3,550.99	-263.28	1,870.12	1,888.56	2.50	-2.50	0.00
4,200.00	26.10	98.01	3,639.80	-269.68	1,915.61	1,934.50	2.50	-2.50	0.00
4,300.00	23.60	98.01	3,730.54	-275.54	1,957.22	1,976.52	2.50	-2.50	0.00
4,400.00	21.10	98.01	3,823.02	-280.84	1,994.87	2,014.54	2.50	-2.50	0.00
4,500.00	18.60	98.01	3,917.07	-285.57	2,028.49	2,048.49	2.50	-2.50	0.00



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<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site:</b>	WELD_STATE 5 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_STATE 1-16		
<b>Design:</b>	PLAN #1 09-09-09 RHS		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.00	16.10	98.01	4,012.52	-289.73	2,058.01	2,078.30	2.50	-2.50	0.00
4,700.00	13.60	98.01	4,109.17	-293.30	2,083.38	2,103.93	2.50	-2.50	0.00
4,800.00	11.10	98.01	4,206.85	-296.28	2,104.56	2,125.31	2.50	-2.50	0.00
4,900.00	8.60	98.01	4,305.37	-298.67	2,121.49	2,142.41	2.50	-2.50	0.00
5,000.00	6.10	98.01	4,404.54	-300.45	2,134.16	2,155.20	2.50	-2.50	0.00
5,100.00	3.60	98.01	4,504.17	-301.63	2,142.53	2,163.65	2.50	-2.50	0.00
5,200.00	1.10	98.01	4,604.08	-302.20	2,146.58	2,167.75	2.50	-2.50	0.00
<b>Start 3404.00 hold at 5243.92 MD - SUSSEX TOP</b>									
5,243.92	0.00	0.00	4,648.00	-302.26	2,147.00	2,168.17	2.50	-2.50	0.00
5,300.00	0.00	0.00	4,704.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
5,400.00	0.00	0.00	4,804.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
5,500.00	0.00	0.00	4,904.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
5,600.00	0.00	0.00	5,004.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
5,700.00	0.00	0.00	5,104.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
5,800.00	0.00	0.00	5,204.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
<b>SHANNON TOP</b>									
5,822.92	0.00	0.00	5,227.00	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
5,900.00	0.00	0.00	5,304.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,000.00	0.00	0.00	5,404.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,100.00	0.00	0.00	5,504.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,200.00	0.00	0.00	5,604.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,300.00	0.00	0.00	5,704.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,400.00	0.00	0.00	5,804.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,500.00	0.00	0.00	5,904.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,600.00	0.00	0.00	6,004.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,700.00	0.00	0.00	6,104.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,800.00	0.00	0.00	6,204.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
6,900.00	0.00	0.00	6,304.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,000.00	0.00	0.00	6,404.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,100.00	0.00	0.00	6,504.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,200.00	0.00	0.00	6,604.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,300.00	0.00	0.00	6,704.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,400.00	0.00	0.00	6,804.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,500.00	0.00	0.00	6,904.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,600.00	0.00	0.00	7,004.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,700.00	0.00	0.00	7,104.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,800.00	0.00	0.00	7,204.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
7,900.00	0.00	0.00	7,304.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
8,000.00	0.00	0.00	7,404.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
8,100.00	0.00	0.00	7,504.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
<b>NIO A TOP</b>									
8,127.92	0.00	0.00	7,532.00	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
8,200.00	0.00	0.00	7,604.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
8,300.00	0.00	0.00	7,704.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
8,400.00	0.00	0.00	7,804.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
<b>CODELL TOP</b>									
8,487.92	0.00	0.00	7,892.00	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
8,500.00	0.00	0.00	7,904.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
8,600.00	0.00	0.00	8,004.08	-302.26	2,147.00	2,168.17	0.00	0.00	0.00
<b>PBHL_STATE 1-16(660 FNL 660 FEL)50' TGT RAD</b>									
8,647.92	0.00	0.00	8,052.00	-302.26	2,147.00	2,168.17	0.00	0.00	0.00



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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site:</b>	WELD_STATE 5 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_STATE 1-16		
<b>Design:</b>	PLAN #1 09-09-09 RHS		

#### Design Targets

##### Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL_STATE 1-16(6)	0.00	0.00	8,052.00	-302.26	2,147.00	1,263,856.91	3,139,520.33	40° 3' 23.760 N	105° 0' 5.652 W
- plan hits target center									
- Circle (radius 50.00)									

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,047.55	1,020.00	8 5/8"	8.62	11.00

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,689.02	3,206.00	PARKMAN TOP			
5,243.92	4,648.00	SUSSEX TOP			
5,822.92	5,227.00	SHANNON TOP			
8,127.92	7,532.00	NIO A TOP			
8,487.92	7,892.00	CODELL TOP			

#### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.00	200.00	0.00	0.00	Start Build 3.00
1,354.90	1,285.79	-47.21	335.37	Start 2503.14 hold at 1354.90 MD
3,858.04	3,345.05	-245.60	1,744.56	Start Drop -2.50
5,243.92	4,648.00	-302.26	2,147.00	Start 3404.00 hold at 5243.92 MD
8,647.92	8,052.00	-302.26	2,147.00	TD at 8647.92



# **US ROCKIES REGION PLANNING**

**KERR MCGEE OIL & GAS ONSHORE LP  
WELD\_STATE 5 PAD  
P\_STATE 1-16**

**P\_STATE 1-16  
PLAN #1 09-09-09 RHS**

## **Anticollision Report**

**10 September, 2009**





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 09-09-09 RHS		
<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>	0.00 to 20,000.00ft	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.00ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 9/10/2009			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,647.92	PLAN #1 09-09-09 RHS (P_STATE 1-16)	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>						
WELD_STATE 5 PAD						
P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RH	298.44	298.40	18.05	16.97	16.805	CC
P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RH	300.00	299.95	18.05	16.97	16.699	ES
P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RH	400.00	399.63	19.71	18.17	12.808	SF
P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 I	200.00	200.00	14.56	13.92	22.733	CC, ES
P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 I	5,800.00	5,777.71	551.88	458.21	5.892	SF
P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RH	358.86	358.68	46.91	45.55	34.618	CC
P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RH	400.00	399.63	47.06	45.52	30.489	ES
P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RH	600.00	597.08	58.60	56.02	22.657	SF
P_STATE 8-16 - P_STATE 8-16 - PLAN #1 09-10-09 RH	332.17	332.06	32.47	31.24	26.349	CC, ES
P_STATE 8-16 - P_STATE 8-16 - PLAN #1 09-10-09 RH	5,800.00	5,657.55	1,087.56	998.04	12.148	SF

<b>Offset Design</b> WELD_STATE 5 PAD - P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RHS												
<b>Survey Program:</b> 0-MWD												
<b>Reference</b>												
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Semi Major Axis Reference (ft)</b>	<b>Semi Major Axis Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>Offset Wellbore Centre +E/-W (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance 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	180.00	-18.23	0.00	18.23			
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-18.23	0.00	18.23	18.04	0.19	95.401
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-18.23	0.00	18.23	17.59	0.64	28.453
298.44	298.40	298.40	298.40	0.53	0.54	89.99	-18.23	0.00	18.05	16.97	1.07	16.805 CC
300.00	299.95	299.95	299.95	0.53	0.54	90.24	-18.23	0.00	18.05	16.97	1.08	16.699 ES
400.00	399.63	399.63	399.63	0.77	0.77	113.58	-18.23	0.00	19.71	18.17	1.54	12.808 SF
500.00	498.77	498.77	498.77	1.06	0.99	138.93	-18.23	0.00	27.67	25.67	2.00	13.805
600.00	597.08	597.08	597.08	1.42	1.21	154.79	-18.23	0.00	43.15	40.70	2.45	17.597
700.00	694.31	694.31	694.31	1.88	1.43	163.36	-18.23	0.00	65.09	62.19	2.89	22.487
800.00	790.18	790.18	790.18	2.42	1.65	168.21	-18.23	0.00	92.71	89.37	3.34	27.771
900.00	884.43	884.43	884.43	3.08	1.86	171.16	-18.23	0.00	125.61	121.83	3.78	33.191
1,000.00	976.81	976.81	976.81	3.83	2.07	173.07	-18.23	0.00	163.57	159.34	4.23	38.644
1,100.00	1,067.06	1,067.06	1,067.06	4.70	2.27	174.37	-18.23	0.00	206.41	201.73	4.69	44.057
1,200.00	1,154.93	1,158.28	1,158.28	5.68	2.47	175.32	-18.28	0.25	253.74	248.60	5.14	49.352
1,300.00	1,240.18	1,254.30	1,254.25	6.78	2.66	175.99	-18.92	3.07	303.32	297.72	5.60	54.164
1,354.90	1,285.79	1,307.37	1,307.23	7.43	2.77	176.26	-19.58	5.97	331.25	325.39	5.85	56.588
1,400.00	1,322.89	1,351.46	1,351.21	7.97	2.86	176.48	-20.29	9.11	354.10	347.97	6.12	57.836

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>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,500.00	1,405.16	1,452.07	1,451.32	9.20	3.08	176.83	-22.47	18.75	402.61	395.87	6.73	59.779	
1,600.00	1,487.43	1,556.56	1,554.87	10.43	3.34	177.04	-25.56	32.38	447.99	440.62	7.37	60.781	
1,700.00	1,569.69	1,664.87	1,661.59	11.67	3.64	177.15	-29.64	50.38	490.06	482.03	8.03	61.029	
1,800.00	1,651.96	1,770.79	1,765.24	12.92	3.99	177.17	-34.46	71.66	528.80	520.10	8.70	60.776	
1,900.00	1,734.23	1,863.35	1,855.61	14.16	4.32	177.18	-38.88	91.15	566.65	557.29	9.35	60.573	
2,000.00	1,816.50	1,955.91	1,945.99	15.41	4.67	177.19	-43.29	110.65	604.50	594.48	10.01	60.360	
2,100.00	1,898.76	2,048.47	2,036.37	16.66	5.03	177.19	-47.71	130.14	642.34	631.66	10.68	60.142	
2,200.00	1,981.03	2,141.03	2,126.74	17.92	5.40	177.20	-52.13	149.64	680.19	668.84	11.35	59.927	
2,300.00	2,063.30	2,233.59	2,217.12	19.17	5.78	177.20	-56.54	169.13	718.04	706.02	12.02	59.716	
2,400.00	2,145.56	2,326.15	2,307.50	20.42	6.17	177.21	-60.96	188.62	755.89	743.19	12.70	59.513	
2,500.00	2,227.83	2,418.71	2,397.87	21.68	6.57	177.21	-65.37	208.12	793.74	780.36	13.38	59.318	
2,600.00	2,310.10	2,511.28	2,488.25	22.93	6.97	177.22	-69.79	227.61	831.59	817.53	14.06	59.132	
2,700.00	2,392.36	2,603.84	2,578.63	24.19	7.38	177.22	-74.21	247.10	869.44	854.69	14.75	58.956	
2,800.00	2,474.63	2,696.40	2,669.00	25.45	7.79	177.22	-78.62	266.60	907.29	891.85	15.43	58.787	
2,900.00	2,556.90	2,788.96	2,759.38	26.71	8.20	177.23	-83.04	286.09	945.14	929.02	16.12	58.627	
3,000.00	2,639.16	2,881.52	2,849.76	27.96	8.61	177.23	-87.45	305.59	982.99	966.18	16.81	58.476	
3,100.00	2,721.43	2,974.08	2,940.13	29.22	9.03	177.23	-91.87	325.08	1,020.83	1,003.33	17.50	58.332	
3,200.00	2,803.70	3,066.64	3,030.51	30.48	9.45	177.23	-96.29	344.57	1,058.68	1,040.49	18.19	58.196	
3,300.00	2,885.97	3,159.20	3,120.89	31.74	9.87	177.23	-100.70	364.07	1,096.53	1,077.65	18.88	58.067	
3,400.00	2,968.23	3,251.76	3,211.26	33.00	10.29	177.24	-105.12	383.56	1,134.38	1,114.80	19.58	57.944	
3,500.00	3,050.50	3,344.32	3,301.64	34.25	10.72	177.24	-109.54	403.05	1,172.23	1,151.96	20.27	57.828	
3,600.00	3,132.77	3,436.88	3,392.02	35.51	11.14	177.24	-113.95	422.55	1,210.08	1,189.11	20.97	57.717	
3,700.00	3,215.03	3,529.44	3,482.39	36.77	11.57	177.24	-118.37	442.04	1,247.93	1,226.27	21.66	57.612	
3,800.00	3,297.30	3,622.00	3,572.77	38.03	11.99	177.24	-122.78	461.54	1,285.78	1,263.42	22.36	57.512	
3,858.04	3,345.05	3,675.72	3,625.23	38.76	12.24	177.24	-125.35	472.85	1,307.75	1,284.98	22.76	57.456	
3,900.00	3,379.78	3,714.71	3,663.29	39.24	12.42	177.26	-127.21	481.06	1,323.27	1,300.15	23.12	57.230	
4,000.00	3,464.26	3,808.70	3,755.06	40.25	12.85	177.30	-131.69	500.85	1,357.38	1,333.44	23.93	56.714	
4,100.00	3,550.99	3,904.09	3,848.20	41.17	13.30	177.32	-136.24	520.94	1,387.36	1,362.66	24.69	56.184	
4,200.00	3,639.80	4,000.70	3,942.53	42.01	13.74	177.33	-140.85	541.29	1,413.15	1,387.76	25.40	55.644	
4,300.00	3,730.54	4,097.15	4,036.71	42.78	14.19	177.32	-145.45	561.60	1,434.71	1,408.68	26.04	55.104	
4,400.00	3,823.02	4,162.66	4,100.84	43.46	14.41	177.32	-148.41	574.63	1,453.20	1,426.70	26.50	54.846	
4,500.00	3,917.07	4,228.15	4,165.24	44.05	14.62	177.32	-151.03	586.23	1,469.63	1,442.75	26.88	54.671	
4,600.00	4,012.52	4,300.00	4,236.19	44.57	14.83	177.32	-153.54	597.29	1,484.01	1,456.80	27.21	54.549	
4,700.00	4,109.17	4,359.10	4,294.74	45.02	14.99	177.32	-155.30	605.09	1,496.28	1,468.85	27.42	54.566	
4,800.00	4,206.85	4,424.55	4,359.77	45.38	15.15	177.32	-156.95	612.35	1,506.48	1,478.91	27.57	54.633	
4,900.00	4,305.37	4,500.00	4,434.91	45.68	15.31	177.32	-158.44	618.91	1,514.66	1,486.99	27.67	54.742	
5,000.00	4,404.54	4,555.43	4,490.22	45.91	15.41	177.32	-159.25	622.51	1,520.65	1,493.00	27.64	55.011	
5,100.00	4,504.17	4,620.86	4,555.58	46.06	15.53	177.32	-159.91	625.40	1,524.59	1,497.03	27.56	55.322	
5,200.00	4,604.08	4,700.00	4,634.70	46.16	15.64	177.32	-160.26	626.96	1,526.54	1,499.12	27.42	55.673	
5,204.18	4,608.26	4,700.00	4,634.70	46.16	15.64	177.32	-160.26	626.96	1,526.54	1,499.13	27.41	55.700	
5,243.92	4,648.00	4,715.03	4,649.73	46.18	15.66	-84.66	-160.27	627.02	1,526.60	1,499.30	27.30	55.916	
5,264.45	4,668.52	4,733.82	4,668.52	46.19	15.68	-84.66	-160.27	627.02	1,526.60	1,499.24	27.36	55.800	
5,300.00	4,704.08	4,769.37	4,704.08	46.21	15.73	-84.66	-160.27	627.02	1,526.60	1,499.13	27.46	55.588	
5,400.00	4,804.08	4,869.37	4,804.08	46.26	15.86	-84.66	-160.27	627.02	1,526.60	1,498.83	27.76	54.992	
5,500.00	4,904.08	4,969.37	4,904.08	46.31	16.00	-84.66	-160.27	627.02	1,526.60	1,498.53	28.06	54.400	
5,600.00	5,004.08	5,069.37	5,004.08	46.36	16.15	-84.66	-160.27	627.02	1,526.60	1,498.23	28.37	53.814	
5,700.00	5,104.08	5,169.37	5,104.08	46.41	16.29	-84.66	-160.27	627.02	1,526.60	1,497.92	28.68	53.234	
5,800.00	5,204.08	5,269.37	5,204.08	46.46	16.43	-84.66	-160.27	627.02	1,526.60	1,497.61	28.99	52.660	
5,900.00	5,304.08	5,369.37	5,304.08	46.51	16.58	-84.66	-160.27	627.02	1,526.60	1,497.29	29.31	52.093	
6,000.00	5,404.08	5,469.37	5,404.08	46.57	16.73	-84.66	-160.27	627.02	1,526.60	1,496.97	29.62	51.533	
6,100.00	5,504.08	5,569.37	5,504.08	46.62	16.88	-84.66	-160.27	627.02	1,526.60	1,496.65	29.95	50.979	
6,200.00	5,604.08	5,669.37	5,604.08	46.68	17.03	-84.66	-160.27	627.02	1,526.60	1,496.32	30.27	50.432	

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>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RHS													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,300.00	5,704.08	5,769.37	5,704.08	46.74	17.19	-84.66	-160.27	627.02	1,526.60	1,496.00	30.60	49.892	
6,400.00	5,804.08	5,869.37	5,804.08	46.80	17.34	-84.66	-160.27	627.02	1,526.60	1,495.67	30.93	49.359	
6,500.00	5,904.08	5,969.37	5,904.08	46.86	17.50	-84.66	-160.27	627.02	1,526.60	1,495.33	31.26	48.834	
6,600.00	6,004.08	6,069.37	6,004.08	46.92	17.66	-84.66	-160.27	627.02	1,526.60	1,495.00	31.60	48.315	
6,700.00	6,104.08	6,169.37	6,104.08	46.98	17.82	-84.66	-160.27	627.02	1,526.60	1,494.66	31.93	47.803	
6,800.00	6,204.08	6,269.37	6,204.08	47.04	17.98	-84.66	-160.27	627.02	1,526.60	1,494.32	32.28	47.299	
6,900.00	6,304.08	6,369.37	6,304.08	47.10	18.14	-84.66	-160.27	627.02	1,526.60	1,493.98	32.62	46.802	
7,000.00	6,404.08	6,469.37	6,404.08	47.17	18.30	-84.66	-160.27	627.02	1,526.60	1,493.63	32.96	46.311	
7,100.00	6,504.08	6,569.37	6,504.08	47.23	18.47	-84.66	-160.27	627.02	1,526.60	1,493.28	33.31	45.828	
7,200.00	6,604.08	6,669.37	6,604.08	47.30	18.63	-84.66	-160.27	627.02	1,526.60	1,492.93	33.66	45.352	
7,300.00	6,704.08	6,769.37	6,704.08	47.37	18.80	-84.66	-160.27	627.02	1,526.60	1,492.58	34.01	44.883	
7,400.00	6,804.08	6,869.37	6,804.08	47.44	18.97	-84.66	-160.27	627.02	1,526.60	1,492.23	34.37	44.421	
7,500.00	6,904.08	6,969.37	6,904.08	47.51	19.14	-84.66	-160.27	627.02	1,526.60	1,491.87	34.72	43.965	
7,600.00	7,004.08	7,069.37	7,004.08	47.58	19.31	-84.66	-160.27	627.02	1,526.60	1,491.51	35.08	43.517	
7,700.00	7,104.08	7,169.37	7,104.08	47.65	19.48	-84.66	-160.27	627.02	1,526.60	1,491.15	35.44	43.075	
7,800.00	7,204.08	7,269.37	7,204.08	47.72	19.66	-84.66	-160.27	627.02	1,526.60	1,490.79	35.80	42.640	
7,900.00	7,304.08	7,369.37	7,304.08	47.79	19.83	-84.66	-160.27	627.02	1,526.60	1,490.43	36.17	42.211	
8,000.00	7,404.08	7,469.37	7,404.08	47.87	20.01	-84.66	-160.27	627.02	1,526.60	1,490.06	36.53	41.789	
8,100.00	7,504.08	7,569.37	7,504.08	47.94	20.18	-84.66	-160.27	627.02	1,526.60	1,489.70	36.90	41.374	
8,200.00	7,604.08	7,669.37	7,604.08	48.02	20.36	-84.66	-160.27	627.02	1,526.60	1,489.33	37.27	40.965	
8,300.00	7,704.08	7,769.37	7,704.08	48.09	20.54	-84.66	-160.27	627.02	1,526.60	1,488.96	37.64	40.562	
8,400.00	7,804.08	7,869.37	7,804.08	48.17	20.72	-84.66	-160.27	627.02	1,526.60	1,488.59	38.01	40.165	
8,500.00	7,904.08	7,969.37	7,904.08	48.25	20.90	-84.66	-160.27	627.02	1,526.60	1,488.21	38.38	39.774	
8,600.00	8,004.08	8,069.37	8,004.08	48.33	21.08	-84.66	-160.27	627.02	1,526.60	1,487.84	38.76	39.390	
8,647.92	8,052.00	8,117.30	8,052.00	48.37	21.16	-84.66	-160.27	627.02	1,526.60	1,487.66	38.94	39.207	



# Weatherford International Ltd.

## Anticollision Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
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	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.56	0.00	14.56				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	14.56	0.00	14.56	14.37	0.19	76.224	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	14.56	0.00	14.56	13.92	0.64	22.733 CC, ES	
300.00	299.95	299.95	299.95	0.53	0.54	-107.84	14.56	0.00	15.15	14.07	1.08	14.034	
400.00	399.63	399.63	399.63	0.77	0.77	-130.75	14.56	0.00	19.08	17.56	1.52	12.520	
500.00	498.77	498.77	498.77	1.06	0.99	-150.25	14.56	0.00	29.33	27.37	1.97	14.905	
600.00	597.08	597.08	597.08	1.42	1.21	-161.38	14.56	0.00	46.08	43.67	2.41	19.135	
700.00	694.31	694.31	694.31	1.88	1.43	-167.46	14.56	0.00	68.64	65.79	2.85	24.082	
800.00	790.18	790.18	790.18	2.42	1.65	-170.98	14.56	0.00	96.59	93.29	3.30	29.306	
900.00	884.43	884.43	884.43	3.08	1.86	-173.17	14.56	0.00	129.69	125.94	3.75	34.627	
1,000.00	976.81	976.81	976.81	3.83	2.07	-174.61	14.56	0.00	167.77	163.57	4.20	39.966	
1,100.00	1,067.06	1,067.06	1,067.06	4.70	2.27	-175.60	14.56	0.00	210.69	206.03	4.65	45.285	
1,200.00	1,154.93	1,158.22	1,158.22	5.68	2.47	-176.31	14.59	0.25	258.08	252.97	5.11	50.502	
1,300.00	1,240.18	1,254.00	1,253.95	6.78	2.67	-176.72	14.90	3.12	307.79	302.22	5.57	55.220	
1,354.90	1,285.79	1,306.88	1,306.75	7.43	2.78	-176.83	15.21	6.06	335.83	330.00	5.83	57.596	
1,400.00	1,322.89	1,350.79	1,350.54	7.97	2.88	-176.92	15.55	9.24	358.79	352.69	6.10	58.793	
1,500.00	1,405.16	1,450.88	1,450.15	9.20	3.10	-176.95	16.60	18.98	407.63	400.91	6.72	60.648	
1,600.00	1,487.43	1,554.71	1,553.04	10.43	3.36	-176.83	18.07	32.73	453.46	446.10	7.36	61.586	
1,700.00	1,569.69	1,662.18	1,658.95	11.67	3.66	-176.59	20.01	50.86	496.13	488.10	8.03	61.785	
1,800.00	1,651.96	1,773.19	1,767.55	12.92	4.03	-176.24	22.46	73.72	535.49	526.76	8.73	61.367	
1,900.00	1,734.23	1,887.56	1,878.41	14.16	4.47	-175.80	25.46	101.63	571.38	561.92	9.46	60.422	
2,000.00	1,816.50	2,005.06	1,991.04	15.41	5.00	-175.26	29.02	134.86	603.67	593.44	10.23	59.015	
2,100.00	1,898.76	2,125.41	2,104.90	16.66	5.65	-174.63	33.17	173.63	632.25	621.19	11.06	57.189	
2,200.00	1,981.03	2,248.28	2,219.34	17.92	6.41	-173.90	37.94	218.08	657.00	645.06	11.94	55.005	
2,300.00	2,063.30	2,373.28	2,333.69	19.17	7.31	-173.07	43.32	268.26	677.85	664.94	12.91	52.507	
2,400.00	2,145.56	2,499.99	2,447.24	20.42	8.33	-172.13	49.31	324.14	694.75	680.78	13.97	49.743	
2,500.00	2,227.83	2,627.93	2,559.26	21.68	9.51	-171.08	55.89	385.58	707.67	692.53	15.14	46.737	
2,600.00	2,310.10	2,756.61	2,669.03	22.93	10.83	-169.89	63.04	452.32	716.62	700.17	16.45	43.565	
2,700.00	2,392.36	2,879.76	2,771.20	24.19	12.20	-168.62	70.37	520.67	721.73	703.87	17.87	40.396	
2,800.00	2,474.63	2,978.78	2,852.49	25.45	13.35	-167.57	76.39	576.88	725.75	706.55	19.20	37.796	
2,900.00	2,556.90	3,077.79	2,933.79	26.71	14.52	-166.53	82.42	633.08	730.02	709.41	20.60	35.430	
3,000.00	2,639.16	3,176.81	3,015.08	27.96	15.70	-165.50	88.44	689.29	734.52	712.45	22.07	33.275	
3,100.00	2,721.43	3,275.83	3,096.38	29.22	16.89	-164.49	94.47	745.50	739.26	715.66	23.61	31.313	
3,200.00	2,803.70	3,374.85	3,177.67	30.48	18.08	-163.49	100.49	801.71	744.24	719.03	25.21	29.527	
3,300.00	2,885.97	3,473.86	3,258.97	31.74	19.29	-162.50	106.52	857.91	749.44	722.58	26.86	27.899	
3,400.00	2,968.23	3,572.88	3,340.26	33.00	20.49	-161.52	112.54	914.12	754.87	726.29	28.58	26.414	
3,500.00	3,050.50	3,671.90	3,421.56	34.25	21.70	-160.56	118.57	970.33	760.51	730.16	30.35	25.057	
3,600.00	3,132.77	3,770.92	3,502.85	35.51	22.92	-159.61	124.59	1,026.54	766.37	734.19	32.18	23.817	
3,700.00	3,215.03	3,869.93	3,584.15	36.77	24.13	-158.68	130.62	1,082.74	772.44	738.38	34.05	22.682	
3,800.00	3,297.30	3,968.95	3,665.44	38.03	25.35	-157.76	136.64	1,138.95	778.71	742.73	35.98	21.642	
3,858.04	3,345.05	4,026.42	3,712.62	38.76	26.06	-157.24	140.14	1,171.57	782.44	745.32	37.12	21.077	
3,900.00	3,379.78	4,067.97	3,746.74	39.24	26.57	-156.87	142.67	1,195.16	784.83	746.82	38.01	20.649	
4,000.00	3,464.26	4,166.94	3,828.00	40.25	27.79	-155.90	148.69	1,251.34	787.83	747.68	40.15	19.621	
4,100.00	3,550.99	4,265.70	3,909.08	41.17	29.02	-154.77	154.70	1,307.40	787.14	744.75	42.39	18.568	
4,200.00	3,639.80	4,364.05	3,989.83	42.01	30.23	-153.46	160.68	1,363.23	782.85	738.10	44.75	17.495	
4,300.00	3,730.54	4,461.81	4,070.09	42.78	31.44	-151.96	166.63	1,418.72	775.10	727.87	47.23	16.410	
4,400.00	3,823.02	4,558.79	4,149.71	43.46	32.65	-150.23	172.53	1,473.77	764.07	714.19	49.88	15.318	
4,500.00	3,917.07	4,654.80	4,228.54	44.05	33.84	-148.27	178.37	1,528.28	749.97	697.27	52.71	14.229	
4,600.00	4,012.52	4,749.67	4,306.42	44.57	35.02	-146.02	184.14	1,582.13	733.08	677.34	55.74	13.152	
4,700.00	4,109.17	4,843.21	4,383.22	45.02	36.18	-143.46	189.83	1,635.23	713.70	654.71	59.00	12.098	
4,800.00	4,206.85	4,935.24	4,458.78	45.38	37.32	-140.55	195.43	1,687.47	692.26	629.77	62.48	11.079	
4,900.00	4,305.37	5,025.60	4,532.97	45.68	38.45	-137.26	200.93	1,738.76	669.24	603.05	66.19	10.111	

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>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 RHS												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	
5,000.00	4,404.54	5,114.10	4,605.63	45.91	39.55	-133.56	206.32	1,789.00	645.28	575.20	70.08	9.208	
5,100.00	4,504.17	5,200.58	4,676.63	46.06	40.63	-129.44	211.58	1,838.09	621.13	547.05	74.08	8.385	
5,200.00	4,604.08	5,284.87	4,745.83	46.16	41.68	-124.90	216.71	1,885.94	597.74	519.68	78.06	7.657	
5,243.92	4,648.00	5,321.17	4,775.63	46.18	42.13	-24.77	218.91	1,906.54	587.99	508.23	79.76	7.372	
5,300.00	4,704.08	5,367.21	4,813.43	46.21	42.70	-22.25	221.72	1,932.67	576.58	494.82	81.75	7.053	
5,400.00	4,804.08	5,449.31	4,880.84	46.26	43.72	-17.59	226.71	1,979.28	560.20	475.12	85.08	6.584	
5,500.00	4,904.08	5,531.41	4,948.24	46.31	44.75	-12.78	231.71	2,025.89	549.31	461.28	88.03	6.240	
5,600.00	5,004.08	5,613.51	5,015.65	46.36	45.77	-7.87	236.70	2,072.49	544.21	453.72	90.48	6.014	
5,635.51	5,039.58	5,642.66	5,039.59	46.38	46.14	-6.12	238.48	2,089.04	543.83	452.61	91.22	5.961	
5,700.00	5,104.08	5,695.61	5,083.06	46.41	46.80	-2.94	241.70	2,119.10	545.07	452.70	92.38	5.901	
5,800.00	5,204.08	5,777.71	5,150.46	46.46	47.82	1.95	246.69	2,165.70	551.88	458.21	93.67	5.892 SF	
5,900.00	5,304.08	5,859.82	5,217.87	46.51	48.84	6.72	251.69	2,212.31	564.40	470.04	94.37	5.981	
6,000.00	5,404.08	5,943.90	5,286.98	46.57	49.86	11.42	256.79	2,259.93	582.24	487.76	94.48	6.163	
6,100.00	5,504.08	6,034.91	5,362.99	46.62	50.84	16.08	262.13	2,309.69	604.07	510.09	93.97	6.428	
6,200.00	5,604.08	6,129.75	5,443.86	46.68	51.75	20.41	267.41	2,358.95	628.58	535.58	93.00	6.759	
6,300.00	5,704.08	6,228.45	5,529.70	46.74	52.64	24.37	272.60	2,407.37	654.72	562.99	91.73	7.138	
6,400.00	5,804.08	6,330.99	5,620.61	46.80	53.50	27.94	277.65	2,454.52	681.56	591.28	90.28	7.549	
6,500.00	5,904.08	6,437.33	5,716.61	46.86	54.32	31.12	282.52	2,499.98	708.31	619.53	88.78	7.978	
6,600.00	6,004.08	6,547.37	5,817.68	46.92	55.09	33.91	287.16	2,543.25	734.28	646.98	87.31	8.410	
6,700.00	6,104.08	6,660.97	5,923.68	46.98	55.81	36.34	291.51	2,583.84	758.90	672.98	85.92	8.833	
6,800.00	6,204.08	6,777.94	6,034.43	47.04	56.47	38.43	295.52	2,621.23	781.67	697.01	84.67	9.232	
6,900.00	6,304.08	6,898.01	6,149.61	47.10	57.06	40.18	299.13	2,654.91	802.18	718.60	83.58	9.598	
7,000.00	6,404.08	7,020.87	6,268.84	47.17	57.57	41.63	302.29	2,684.37	820.08	737.41	82.67	9.920	
7,100.00	6,504.08	7,146.16	6,391.62	47.23	58.00	42.79	304.94	2,709.15	835.08	753.13	81.95	10.191	
7,200.00	6,604.08	7,273.46	6,517.35	47.30	58.35	43.68	307.05	2,728.84	846.94	765.52	81.42	10.402	
7,300.00	6,704.08	7,402.29	6,645.38	47.37	58.62	44.30	308.58	2,743.09	855.51	774.41	81.10	10.549	
7,400.00	6,804.08	7,532.17	6,774.96	47.44	58.80	44.67	309.50	2,751.65	860.63	779.67	80.97	10.629	
7,500.00	6,904.08	7,661.33	6,904.08	47.51	58.90	44.78	309.79	2,754.36	862.26	781.22	81.04	10.640	
7,600.00	7,004.08	7,761.33	7,004.08	47.58	58.96	44.78	309.79	2,754.36	862.26	781.07	81.19	10.620	
7,700.00	7,104.08	7,861.33	7,104.08	47.65	59.01	44.78	309.79	2,754.36	862.26	780.91	81.35	10.600	
7,800.00	7,204.08	7,961.33	7,204.08	47.72	59.07	44.78	309.79	2,754.36	862.26	780.75	81.51	10.579	
7,900.00	7,304.08	8,061.33	7,304.08	47.79	59.13	44.78	309.79	2,754.36	862.26	780.59	81.67	10.558	
8,000.00	7,404.08	8,161.33	7,404.08	47.87	59.19	44.78	309.79	2,754.36	862.26	780.43	81.83	10.537	
8,100.00	7,504.08	8,261.33	7,504.08	47.94	59.25	44.78	309.79	2,754.36	862.26	780.26	81.99	10.516	
8,200.00	7,604.08	8,361.33	7,604.08	48.02	59.31	44.78	309.79	2,754.36	862.26	780.10	82.16	10.495	
8,300.00	7,704.08	8,461.33	7,704.08	48.09	59.37	44.78	309.79	2,754.36	862.26	779.93	82.33	10.473	
8,400.00	7,804.08	8,561.33	7,804.08	48.17	59.44	44.78	309.79	2,754.36	862.26	779.76	82.50	10.451	
8,500.00	7,904.08	8,661.33	7,904.08	48.25	59.50	44.78	309.79	2,754.36	862.26	779.58	82.68	10.429	
8,600.00	8,004.08	8,761.33	8,004.08	48.33	59.57	44.78	309.79	2,754.36	862.26	779.41	82.85	10.407	
8,647.92	8,052.00	8,809.25	8,052.00	48.37	59.60	44.78	309.79	2,754.36	862.26	779.32	82.94	10.397	



# Weatherford International Ltd.

## Anticollision Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWMD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	180.00	-47.37	0.00	47.37				
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-47.37	0.00	47.37	47.18	0.19	247.936	
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-47.37	0.00	47.37	46.73	0.64	73.946	
300.00	299.95	299.95	299.95	0.53	0.54	85.15	-47.37	0.00	47.08	45.99	1.08	43.556	
358.86	358.68	358.68	358.68	0.67	0.68	90.00	-47.37	0.00	46.91	45.55	1.35	34.618 CC	
400.00	399.63	399.63	399.63	0.77	0.77	94.68	-47.37	0.00	47.06	45.52	1.54	30.489 ES	
500.00	498.77	498.77	498.77	1.06	0.99	109.60	-47.37	0.00	49.86	47.80	2.06	24.249	
600.00	597.08	597.08	597.08	1.42	1.21	126.23	-47.37	0.00	58.60	56.02	2.59	22.657 SF	
700.00	694.31	694.31	694.31	1.88	1.43	140.29	-47.37	0.00	74.96	71.87	3.09	24.267	
800.00	790.18	790.18	790.18	2.42	1.65	150.41	-47.37	0.00	98.73	95.17	3.56	27.727	
900.00	884.43	884.43	884.43	3.08	1.86	157.32	-47.37	0.00	129.07	125.06	4.02	32.128	
1,000.00	976.81	976.81	976.81	3.83	2.07	162.05	-47.37	0.00	165.31	160.84	4.47	36.981	
1,100.00	1,067.06	1,067.06	1,067.06	4.70	2.27	165.36	-47.37	0.00	206.94	202.02	4.92	42.040	
1,200.00	1,154.93	1,156.29	1,156.29	5.68	2.46	167.72	-47.57	0.11	253.55	248.18	5.37	47.210	
1,300.00	1,240.18	1,246.19	1,246.15	6.78	2.63	169.08	-49.83	1.29	303.95	298.13	5.82	52.184	
1,354.90	1,285.79	1,295.12	1,295.01	7.43	2.72	169.48	-52.10	2.49	333.04	326.96	6.08	54.744	
1,400.00	1,322.89	1,335.36	1,335.16	7.97	2.79	169.81	-54.53	3.77	357.22	350.87	6.35	56.245	
1,500.00	1,405.16	1,425.87	1,425.29	9.20	2.97	170.10	-61.81	7.59	409.97	402.99	6.98	58.768	
1,600.00	1,487.43	1,518.04	1,518.76	10.43	3.17	169.95	-71.80	12.85	461.46	453.81	7.65	60.307	
1,700.00	1,569.69	1,611.72	1,609.30	11.67	3.40	169.49	-84.63	19.59	511.69	503.30	8.39	61.007	
1,800.00	1,651.96	1,706.73	1,702.63	12.92	3.67	168.78	-100.36	27.87	560.66	551.46	9.19	60.984	
1,900.00	1,734.23	1,802.89	1,796.44	14.16	3.99	167.88	-119.07	37.71	608.40	598.32	10.08	60.342	
2,000.00	1,816.50	1,900.01	1,890.41	15.41	4.37	166.82	-140.77	49.12	654.99	643.92	11.07	59.182	
2,100.00	1,898.76	1,997.87	1,984.20	16.66	4.81	165.64	-165.49	62.12	700.47	688.31	12.16	57.601	
2,200.00	1,981.03	2,096.25	2,077.47	17.92	5.32	164.34	-193.17	76.68	744.96	731.58	13.37	55.710	
2,300.00	2,063.30	2,194.93	2,169.88	19.17	5.90	162.94	-223.77	92.77	788.54	773.83	14.71	53.610	
2,400.00	2,145.56	2,290.66	2,258.40	20.42	6.52	161.52	-256.04	109.74	831.37	815.23	16.15	51.493	
2,500.00	2,227.83	2,379.37	2,340.13	21.68	7.13	160.28	-286.56	125.79	874.30	856.71	17.58	49.719	
2,600.00	2,310.10	2,468.08	2,421.86	22.93	7.76	159.15	-317.09	141.85	917.54	898.49	19.05	48.153	
2,700.00	2,392.36	2,556.79	2,503.59	24.19	8.40	158.12	-347.62	157.90	961.05	940.50	20.55	46.770	
2,800.00	2,474.63	2,645.50	2,585.32	25.45	9.05	157.18	-378.15	173.96	1,004.80	982.74	22.06	45.544	
2,900.00	2,556.90	2,734.21	2,667.05	26.71	9.71	156.32	-408.68	190.01	1,048.75	1,025.16	23.59	44.455	
3,000.00	2,639.16	2,822.92	2,748.77	27.96	10.37	155.52	-439.20	206.07	1,092.89	1,067.76	25.13	43.484	
3,100.00	2,721.43	2,911.63	2,830.50	29.22	11.04	154.78	-469.73	222.12	1,137.19	1,110.50	26.69	42.615	
3,200.00	2,803.70	3,000.34	2,912.23	30.48	11.72	154.10	-500.26	238.17	1,181.63	1,153.38	28.25	41.834	
3,300.00	2,885.97	3,089.05	2,993.96	31.74	12.40	153.47	-530.79	254.23	1,226.19	1,196.38	29.81	41.129	
3,400.00	2,968.23	3,177.76	3,075.69	33.00	13.08	152.88	-561.31	270.28	1,270.87	1,239.49	31.39	40.491	
3,500.00	3,050.50	3,266.47	3,157.42	34.25	13.76	152.33	-591.84	286.34	1,315.65	1,282.69	32.96	39.912	
3,600.00	3,132.77	3,355.17	3,239.15	35.51	14.45	151.81	-622.37	302.39	1,360.53	1,325.98	34.54	39.384	
3,700.00	3,215.03	3,443.88	3,320.88	36.77	15.13	151.33	-652.90	318.45	1,405.49	1,369.36	36.13	38.902	
3,800.00	3,297.30	3,532.59	3,402.61	38.03	15.82	150.88	-683.43	334.50	1,450.52	1,412.80	37.72	38.459	
3,858.04	3,345.05	3,584.08	3,450.05	38.76	16.23	150.63	-701.14	343.82	1,476.69	1,438.05	38.64	38.219	
3,900.00	3,379.78	3,621.43	3,484.46	39.24	16.52	150.70	-714.00	350.58	1,495.32	1,456.06	39.26	38.086	
4,000.00	3,464.26	3,711.41	3,567.36	40.25	17.22	150.79	-744.96	366.86	1,537.35	1,496.64	40.71	37.768	
4,100.00	3,550.99	3,802.62	3,651.39	41.17	17.93	150.76	-776.35	383.37	1,575.99	1,533.84	42.15	37.386	
4,200.00	3,639.80	3,894.89	3,736.40	42.01	18.65	150.63	-808.10	400.07	1,611.24	1,567.64	43.60	36.951	
4,300.00	3,730.54	3,988.03	3,822.21	42.78	19.38	150.40	-840.16	416.93	1,643.08	1,598.03	45.05	36.472	
4,400.00	3,823.02	4,081.87	3,908.67	43.46	20.12	150.08	-872.45	433.91	1,671.51	1,625.02	46.49	35.956	
4,500.00	3,917.07	4,176.24	3,995.61	44.05	20.86	149.66	-904.92	450.99	1,696.55	1,648.63	47.91	35.408	
4,600.00	4,012.52	4,270.94	4,082.86	44.57	21.61	149.16	-937.51	468.13	1,718.23	1,668.90	49.33	34.833	
4,700.00	4,109.17	4,365.81	4,170.27	45.02	22.36	148.56	-970.16	485.30	1,736.59	1,685.87	50.72	34.236	
4,800.00	4,206.85	4,460.66	4,257.65	45.38	23.10	147.88	-1,002.80	502.46	1,751.70	1,699.60	52.10	33.621	

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>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.00	4,305.37	4,555.31	4,344.86	45.68	23.85	147.10	-1,035.38	519.59	1,763.63	1,710.17	53.46	32.989	
5,000.00	4,404.54	4,649.59	4,431.71	45.91	24.59	146.23	-1,067.82	536.65	1,772.46	1,717.66	54.80	32.345	
5,100.00	4,504.17	4,743.30	4,518.05	46.06	25.33	145.27	-1,100.07	553.61	1,778.30	1,722.18	56.11	31.691	
5,200.00	4,604.08	4,836.28	4,603.71	46.16	26.07	144.21	-1,132.07	570.44	1,781.26	1,723.86	57.40	31.030	
5,243.92	4,648.00	4,876.84	4,641.08	46.18	26.39	-118.27	-1,146.02	577.78	1,781.69	1,723.73	57.97	30.737	
5,300.00	4,704.08	4,928.50	4,688.68	46.21	26.80	-118.91	-1,163.80	587.13	1,782.05	1,723.28	58.76	30.327	
5,400.00	4,804.08	5,020.64	4,773.56	46.26	27.53	-120.06	-1,195.51	603.81	1,783.33	1,723.17	60.17	29.640	
5,500.00	4,904.08	5,112.77	4,858.45	46.31	28.26	-121.21	-1,227.21	620.48	1,785.47	1,723.91	61.55	29.006	
5,600.00	5,004.08	5,204.90	4,943.33	46.36	28.98	-122.36	-1,258.92	637.15	1,788.44	1,725.52	62.92	28.423	
5,700.00	5,104.08	5,297.03	5,028.21	46.41	29.71	-123.50	-1,290.62	653.83	1,792.26	1,727.99	64.27	27.887	
5,800.00	5,204.08	5,389.16	5,113.09	46.46	30.44	-124.64	-1,322.33	670.50	1,796.91	1,731.32	65.59	27.396	
5,900.00	5,304.08	5,481.29	5,197.97	46.51	31.17	-125.77	-1,354.03	687.17	1,802.38	1,735.49	66.89	26.946	
6,000.00	5,404.08	5,573.42	5,282.86	46.57	31.90	-126.90	-1,385.74	703.85	1,808.68	1,740.52	68.16	26.536	
6,100.00	5,504.08	5,665.56	5,367.74	46.62	32.63	-128.02	-1,417.45	720.52	1,815.78	1,746.38	69.41	26.162	
6,200.00	5,604.08	5,766.98	5,461.50	46.68	33.29	-129.22	-1,451.68	738.53	1,823.54	1,752.96	70.58	25.835	
6,300.00	5,704.08	5,876.19	5,563.84	46.74	33.88	-130.39	-1,485.40	756.26	1,831.30	1,759.63	71.67	25.553	
6,400.00	5,804.08	5,988.40	5,670.42	46.80	34.43	-131.46	-1,516.43	772.58	1,838.78	1,766.12	72.66	25.307	
6,500.00	5,904.08	6,103.38	5,780.97	46.86	34.94	-132.41	-1,544.36	787.27	1,845.77	1,772.22	73.55	25.096	
6,600.00	6,004.08	6,220.84	5,895.13	46.92	35.40	-133.24	-1,568.82	800.13	1,852.06	1,777.72	74.33	24.916	
6,700.00	6,104.08	6,340.46	6,012.45	46.98	35.80	-133.93	-1,589.46	810.98	1,857.48	1,782.47	75.01	24.763	
6,800.00	6,204.08	6,461.88	6,132.42	47.04	36.13	-134.48	-1,605.95	819.66	1,861.88	1,786.30	75.58	24.635	
6,900.00	6,304.08	6,584.69	6,254.46	47.10	36.40	-134.89	-1,618.04	826.01	1,865.14	1,789.10	76.04	24.529	
7,000.00	6,404.08	6,708.46	6,377.93	47.17	36.60	-135.13	-1,625.52	829.95	1,867.17	1,790.79	76.38	24.445	
7,100.00	6,504.08	6,832.72	6,502.15	47.23	36.73	-135.23	-1,628.29	831.40	1,867.93	1,791.31	76.62	24.380	
7,200.00	6,604.08	6,934.66	6,604.08	47.30	36.81	-135.23	-1,628.30	831.41	1,867.93	1,791.16	76.77	24.331	
7,300.00	6,704.08	7,034.66	6,704.08	47.37	36.88	-135.23	-1,628.30	831.41	1,867.93	1,791.01	76.93	24.282	
7,400.00	6,804.08	7,134.66	6,804.08	47.44	36.96	-135.23	-1,628.30	831.41	1,867.93	1,790.85	77.08	24.233	
7,500.00	6,904.08	7,234.66	6,904.08	47.51	37.03	-135.23	-1,628.30	831.41	1,867.93	1,790.69	77.24	24.183	
7,600.00	7,004.08	7,334.66	7,004.08	47.58	37.11	-135.23	-1,628.30	831.41	1,867.93	1,790.53	77.40	24.133	
7,700.00	7,104.08	7,434.66	7,104.08	47.65	37.19	-135.23	-1,628.30	831.41	1,867.93	1,790.37	77.56	24.083	
7,800.00	7,204.08	7,534.66	7,204.08	47.72	37.27	-135.23	-1,628.30	831.41	1,867.93	1,790.20	77.73	24.031	
7,900.00	7,304.08	7,634.66	7,304.08	47.79	37.35	-135.23	-1,628.30	831.41	1,867.93	1,790.04	77.90	23.980	
8,000.00	7,404.08	7,734.66	7,404.08	47.87	37.43	-135.23	-1,628.30	831.41	1,867.93	1,789.87	78.07	23.928	
8,100.00	7,504.08	7,834.66	7,504.08	47.94	37.51	-135.23	-1,628.30	831.41	1,867.93	1,789.69	78.24	23.875	
8,200.00	7,604.08	7,934.66	7,604.08	48.02	37.60	-135.23	-1,628.30	831.41	1,867.93	1,789.52	78.41	23.822	
8,300.00	7,704.08	8,034.66	7,704.08	48.09	37.68	-135.23	-1,628.30	831.41	1,867.93	1,789.34	78.59	23.768	
8,400.00	7,804.08	8,134.66	7,804.08	48.17	37.77	-135.23	-1,628.30	831.41	1,867.93	1,789.16	78.77	23.714	
8,500.00	7,904.08	8,234.66	7,904.08	48.25	37.85	-135.23	-1,628.30	831.41	1,867.93	1,788.98	78.95	23.660	
8,600.00	8,004.08	8,334.66	8,004.08	48.33	37.94	-135.23	-1,628.30	831.41	1,867.93	1,788.80	79.13	23.605	
8,647.92	8,052.00	8,382.58	8,052.00	48.37	37.98	-135.23	-1,628.30	831.41	1,867.93	1,788.71	79.22	23.579	





# Weatherford International Ltd.

## Anticollision Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 8-16 - P_STATE 8-16 - PLAN #1 09-10-09 RHS												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	-180.00	-32.79	0.00	32.79				
100.00	100.00	100.00	100.00	0.10	0.10	-180.00	-32.79	0.00	32.79	32.60	0.19	171.647	
200.00	200.00	200.00	200.00	0.32	0.32	-180.00	-32.79	0.00	32.79	32.15	0.64	51.193	
300.00	299.95	299.95	299.95	0.53	0.54	86.56	-32.79	0.00	32.53	31.45	1.08	30.099	
332.17	332.06	332.06	332.06	0.61	0.62	90.00	-32.79	0.00	32.47	31.24	1.23	26.349 CC, ES	
400.00	399.63	399.63	399.63	0.77	0.77	100.23	-32.79	0.00	33.00	31.46	1.54	21.389	
500.00	498.77	498.77	498.77	1.06	0.99	119.95	-32.79	0.00	37.59	35.55	2.04	18.415	
600.00	597.08	597.08	597.08	1.42	1.21	138.23	-32.79	0.00	49.35	46.82	2.53	19.505	
700.00	694.31	694.31	694.31	1.88	1.43	150.94	-32.79	0.00	68.67	65.68	2.99	22.952	
800.00	790.18	790.18	790.18	2.42	1.65	158.99	-32.79	0.00	94.65	91.21	3.44	27.507	
900.00	884.43	884.43	884.43	3.08	1.86	164.12	-32.79	0.00	126.52	122.63	3.89	32.540	
1,000.00	976.81	976.81	976.81	3.83	2.07	167.52	-32.79	0.00	163.80	159.46	4.34	37.771	
1,100.00	1,067.06	1,067.06	1,067.06	4.70	2.27	169.85	-32.79	0.00	206.16	201.38	4.79	43.070	
1,200.00	1,154.93	1,157.63	1,157.63	5.68	2.46	171.53	-32.94	0.20	253.20	247.97	5.24	48.367	
1,300.00	1,240.18	1,251.65	1,251.61	6.78	2.65	172.53	-34.59	2.43	303.01	297.32	5.69	53.289	
1,354.90	1,285.79	1,303.38	1,303.26	7.43	2.74	172.83	-36.28	4.72	331.29	325.35	5.94	55.775	
1,400.00	1,322.89	1,346.23	1,346.00	7.97	2.83	173.08	-38.10	7.18	354.56	348.35	6.21	57.131	
1,500.00	1,405.16	1,443.58	1,442.89	9.20	3.03	173.31	-43.64	14.68	404.42	397.60	6.82	59.287	
1,600.00	1,487.43	1,544.08	1,542.53	10.43	3.27	173.21	-51.41	25.20	451.78	444.31	7.48	60.430	
1,700.00	1,569.69	1,647.63	1,644.65	11.67	3.55	172.87	-61.58	38.97	496.54	488.36	8.18	60.724	
1,800.00	1,651.96	1,754.10	1,748.93	12.92	3.88	172.32	-74.32	56.22	538.59	529.66	8.93	60.290	
1,900.00	1,734.23	1,863.30	1,854.99	14.16	4.29	171.60	-89.77	77.13	577.87	568.12	9.76	59.220	
2,000.00	1,816.50	1,975.00	1,962.37	15.41	4.78	170.72	-108.04	101.87	614.32	603.66	10.67	57.597	
2,100.00	1,898.76	2,088.96	2,070.59	16.66	5.37	169.69	-129.23	130.55	647.91	636.23	11.67	55.498	
2,200.00	1,981.03	2,204.85	2,179.11	17.92	6.06	168.52	-153.39	163.25	678.62	665.81	12.80	52.997	
2,300.00	2,063.30	2,322.35	2,287.36	19.17	6.88	167.21	-180.52	199.98	706.47	692.39	14.08	50.174	
2,400.00	2,145.56	2,441.09	2,394.76	20.42	7.80	165.75	-210.60	240.70	731.52	716.00	15.52	47.137	
2,500.00	2,227.83	2,560.67	2,500.71	21.68	8.85	164.14	-243.53	285.28	753.84	736.70	17.14	43.979	
2,600.00	2,310.10	2,680.68	2,604.62	22.93	10.01	162.39	-279.20	333.56	773.55	754.58	18.97	40.787	
2,700.00	2,392.36	2,800.70	2,705.94	24.19	11.27	160.49	-317.42	385.31	790.81	769.80	21.01	37.638	
2,800.00	2,474.63	2,904.30	2,791.59	25.45	12.45	158.77	-352.05	432.18	806.46	783.41	23.05	34.991	
2,900.00	2,556.90	3,000.43	2,870.93	26.71	13.55	157.22	-384.29	475.83	822.60	797.53	25.07	32.809	
3,000.00	2,639.16	3,096.55	2,950.27	27.96	14.67	155.72	-416.53	519.48	839.33	812.17	27.17	30.896	
3,100.00	2,721.43	3,192.68	3,029.62	29.22	15.80	154.29	-448.78	563.13	856.63	827.31	29.32	29.217	
3,200.00	2,803.70	3,288.80	3,108.96	30.48	16.94	152.90	-481.02	606.78	874.45	842.93	31.52	27.739	
3,300.00	2,885.97	3,384.93	3,188.30	31.74	18.08	151.58	-513.26	650.43	892.77	858.99	33.78	26.433	
3,400.00	2,968.23	3,481.06	3,267.64	33.00	19.22	150.30	-545.51	694.07	911.55	875.49	36.07	25.275	
3,500.00	3,050.50	3,577.18	3,346.99	34.25	20.37	149.07	-577.75	737.72	930.77	892.38	38.39	24.245	
3,600.00	3,132.77	3,673.31	3,426.33	35.51	21.52	147.89	-609.99	781.37	950.41	909.66	40.74	23.326	
3,700.00	3,215.03	3,769.43	3,505.67	36.77	22.68	146.76	-642.24	825.02	970.42	927.30	43.12	22.504	
3,800.00	3,297.30	3,865.56	3,585.02	38.03	23.84	145.67	-674.48	868.67	990.80	945.28	45.52	21.764	
3,858.04	3,345.05	3,921.35	3,631.07	38.76	24.51	145.06	-693.19	894.00	1,002.79	955.86	46.93	21.369	
3,900.00	3,379.78	3,961.70	3,664.38	39.24	25.00	144.74	-706.73	912.33	1,011.22	963.28	47.94	21.094	
4,000.00	3,464.26	4,057.99	3,743.85	40.25	26.16	143.88	-739.03	956.05	1,029.09	978.77	50.32	20.449	
4,100.00	3,550.99	4,154.28	3,823.33	41.17	27.32	142.88	-771.33	999.77	1,043.93	991.18	52.75	19.790	
4,200.00	3,639.80	4,250.39	3,902.66	42.01	28.49	141.74	-803.56	1,043.41	1,055.87	1,000.65	55.21	19.123	
4,300.00	3,730.54	4,346.14	3,981.70	42.78	29.65	140.45	-835.68	1,086.89	1,065.04	1,007.33	57.71	18.455	
4,400.00	3,823.02	4,441.35	4,060.28	43.46	30.81	139.03	-867.62	1,130.12	1,071.63	1,011.40	60.23	17.793	
4,500.00	3,917.07	4,535.84	4,138.27	44.05	31.95	137.46	-899.31	1,173.03	1,075.83	1,013.07	62.76	17.142	
4,600.00	4,012.52	4,629.42	4,215.51	44.57	33.09	135.75	-930.70	1,215.52	1,077.89	1,012.59	65.29	16.508	
4,700.00	4,109.17	4,721.92	4,291.86	45.02	34.22	133.88	-961.73	1,257.52	1,078.06	1,010.24	67.82	15.896	
4,800.00	4,206.85	4,813.16	4,367.17	45.38	35.33	131.87	-992.33	1,298.95	1,076.66	1,006.34	70.31	15.312	

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>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

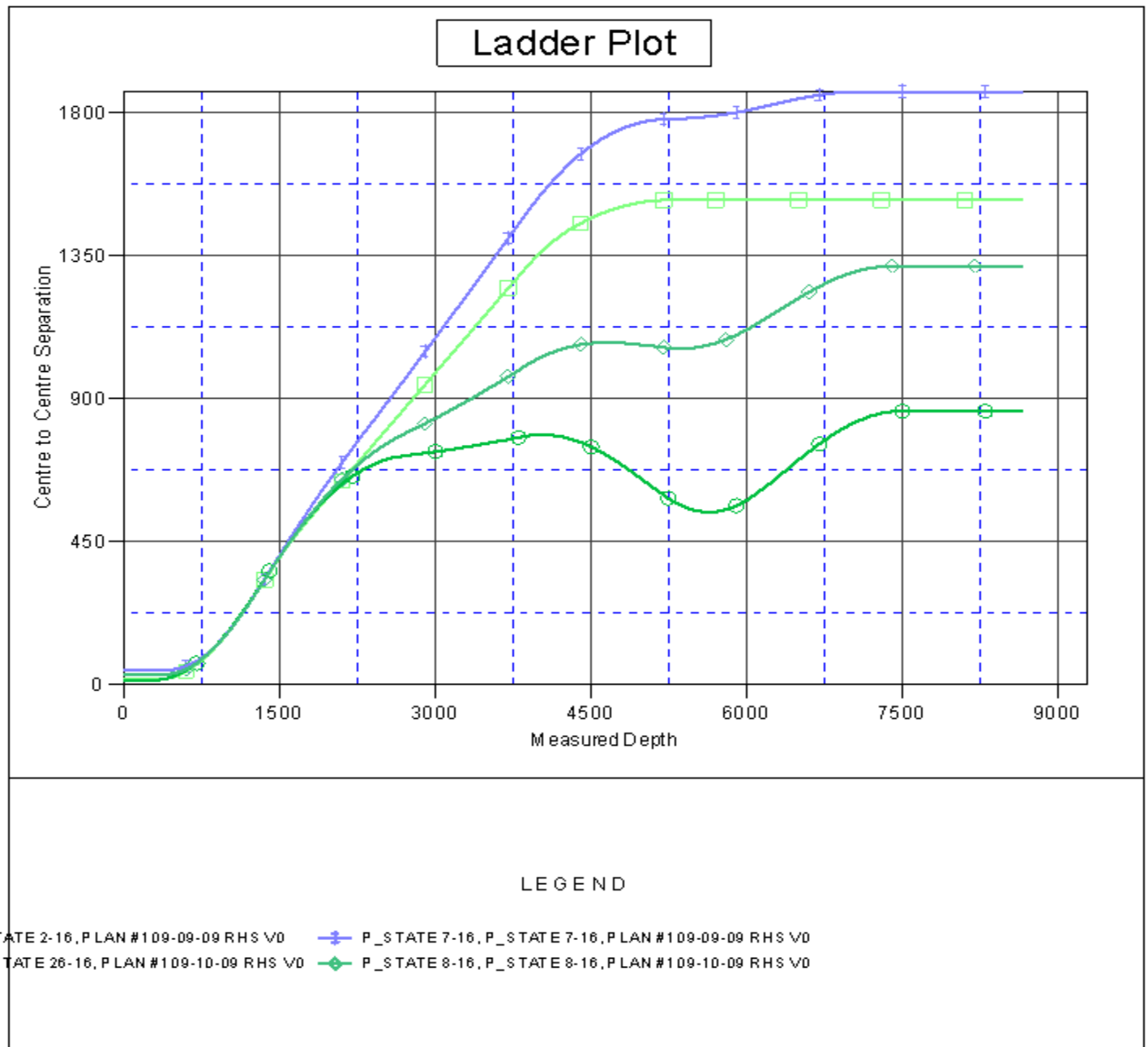
Offset Design WELD_STATE 5 PAD - P_STATE 8-16 - P_STATE 8-16 - PLAN #1 09-10-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	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	
4,900.00	4,305.37	4,902.96	4,441.30	45.68	36.42	129.72	-1,022.46	1,339.73	1,074.01	1,001.25	72.76	14.762	
5,000.00	4,404.54	4,991.17	4,514.11	45.91	37.49	127.43	-1,052.04	1,379.78	1,070.50	995.37	75.14	14.247	
5,100.00	4,504.17	5,077.60	4,585.45	46.06	38.55	125.03	-1,081.03	1,419.03	1,066.55	989.13	77.42	13.776	
5,200.00	4,604.08	5,162.10	4,655.20	46.16	39.58	122.52	-1,109.38	1,457.40	1,062.60	983.04	79.56	13.356	
5,243.92	4,648.00	5,198.56	4,685.29	46.18	40.02	-140.60	-1,121.61	1,473.96	1,061.00	980.54	80.45	13.188	
5,300.00	4,704.08	5,244.85	4,723.50	46.21	40.59	-142.01	-1,137.13	1,494.97	1,059.50	977.93	81.56	12.990	
5,360.93	4,765.01	5,295.14	4,765.01	46.24	41.20	-143.55	-1,154.00	1,517.81	1,058.94	976.21	82.73	12.800	
5,400.00	4,804.08	5,327.39	4,791.63	46.26	41.59	-144.53	-1,164.82	1,532.45	1,059.17	975.72	83.45	12.693	
5,500.00	4,904.08	5,409.93	4,859.76	46.31	42.60	-147.05	-1,192.51	1,569.93	1,061.84	976.65	85.19	12.464	
5,600.00	5,004.08	5,492.47	4,927.89	46.36	43.61	-149.55	-1,220.19	1,607.41	1,067.50	980.72	86.79	12.300	
5,700.00	5,104.08	5,575.01	4,996.02	46.41	44.62	-152.03	-1,247.88	1,644.89	1,076.10	987.86	88.23	12.196	
5,800.00	5,204.08	5,657.55	5,064.15	46.46	45.62	-154.48	-1,275.57	1,682.37	1,087.56	998.04	89.53	12.148 SF	
5,900.00	5,304.08	5,740.09	5,132.28	46.51	46.63	-156.89	-1,303.25	1,719.85	1,101.80	1,011.14	90.66	12.153	
6,000.00	5,404.08	5,825.72	5,203.01	46.57	47.65	-159.34	-1,331.92	1,758.67	1,118.68	1,027.03	91.65	12.207	
6,100.00	5,504.08	5,922.82	5,284.53	46.62	48.66	-161.94	-1,363.27	1,801.10	1,137.36	1,044.91	92.45	12.302	
6,200.00	5,604.08	6,024.21	5,371.50	46.68	49.59	-164.44	-1,394.22	1,843.00	1,157.11	1,064.10	93.01	12.441	
6,300.00	5,704.08	6,129.90	5,464.06	46.74	50.49	-166.81	-1,424.53	1,884.03	1,177.39	1,083.99	93.41	12.605	
6,400.00	5,804.08	6,239.86	5,562.30	46.80	51.36	-169.03	-1,453.88	1,923.76	1,197.72	1,104.05	93.66	12.788	
6,500.00	5,904.08	6,354.02	5,666.21	46.86	52.19	-171.08	-1,481.96	1,961.77	1,217.61	1,123.81	93.80	12.980	
6,600.00	6,004.08	6,472.24	5,775.71	46.92	52.97	-172.94	-1,508.42	1,997.59	1,236.65	1,142.79	93.86	13.176	
6,700.00	6,104.08	6,594.31	5,890.61	46.98	53.69	-174.60	-1,532.90	2,030.73	1,254.42	1,160.57	93.86	13.365	
6,800.00	6,204.08	6,719.97	6,010.60	47.04	54.33	-176.06	-1,555.04	2,060.71	1,270.57	1,176.76	93.81	13.544	
6,900.00	6,304.08	6,848.86	6,135.26	47.10	54.89	-177.30	-1,574.48	2,087.02	1,284.78	1,191.03	93.75	13.704	
7,000.00	6,404.08	6,980.58	6,264.05	47.17	55.37	-178.32	-1,590.88	2,109.23	1,296.76	1,203.06	93.70	13.839	
7,100.00	6,504.08	7,114.65	6,396.28	47.23	55.76	-179.12	-1,603.95	2,126.92	1,306.30	1,212.63	93.68	13.945	
7,200.00	6,604.08	7,250.53	6,531.21	47.30	56.05	-179.68	-1,613.43	2,139.75	1,313.22	1,219.53	93.69	14.017	
7,300.00	6,704.08	7,387.63	6,667.96	47.37	56.26	179.98	-1,619.13	2,147.46	1,317.37	1,223.61	93.76	14.051	
7,400.00	6,804.08	7,523.79	6,804.08	47.44	56.37	179.87	-1,620.94	2,149.91	1,318.68	1,224.80	93.88	14.046	
7,500.00	6,904.08	7,623.79	6,904.08	47.51	56.42	179.87	-1,620.94	2,149.91	1,318.68	1,224.67	94.01	14.027	
7,600.00	7,004.08	7,723.79	7,004.08	47.58	56.47	179.87	-1,620.94	2,149.91	1,318.68	1,224.54	94.15	14.006	
7,700.00	7,104.08	7,823.79	7,104.08	47.65	56.53	179.87	-1,620.94	2,149.91	1,318.68	1,224.40	94.29	13.986	
7,800.00	7,204.08	7,923.79	7,204.08	47.72	56.59	179.87	-1,620.94	2,149.91	1,318.68	1,224.26	94.43	13.965	
7,900.00	7,304.08	8,023.79	7,304.08	47.79	56.64	179.87	-1,620.94	2,149.91	1,318.68	1,224.11	94.57	13.944	
8,000.00	7,404.08	8,123.79	7,404.08	47.87	56.70	179.87	-1,620.94	2,149.91	1,318.68	1,223.97	94.72	13.923	
8,100.00	7,504.08	8,223.79	7,504.08	47.94	56.76	179.87	-1,620.94	2,149.91	1,318.68	1,223.82	94.86	13.901	
8,200.00	7,604.08	8,323.79	7,604.08	48.02	56.82	179.87	-1,620.94	2,149.91	1,318.68	1,223.67	95.01	13.879	
8,300.00	7,704.08	8,423.79	7,704.08	48.09	56.88	179.87	-1,620.94	2,149.91	1,318.68	1,223.52	95.16	13.858	
8,400.00	7,804.08	8,523.79	7,804.08	48.17	56.94	179.87	-1,620.94	2,149.91	1,318.68	1,223.37	95.31	13.836	
8,500.00	7,904.08	8,623.79	7,904.08	48.25	57.00	179.87	-1,620.94	2,149.91	1,318.68	1,223.22	95.47	13.813	
8,600.00	8,004.08	8,723.79	8,004.08	48.33	57.07	179.87	-1,620.94	2,149.91	1,318.68	1,223.06	95.62	13.791	
8,647.92	8,052.00	8,771.72	8,052.00	48.37	57.10	179.87	-1,620.94	2,149.91	1,318.68	1,222.99	95.70	13.780	





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_STATE 1-16
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_STATE 5 PAD	<b>MD Reference:</b>	WELL @ 5150.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_STATE 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_STATE 1-16	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-09-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5150.00ft (Original Well Elev)Coordinates are relative to: P\_STATE 1-16  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W °  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.32°





Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 1-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 1-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 1-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5150.00ft (Original Well Elev)Coordinates are relative to: P\_STATE 1-16  
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: 0.32°

