



# **US ROCKIES REGION PLANNING**

**KERR MCGEE OIL & GAS ONSHORE LP**

**WELD\_RASMUSSEN 9 PAD**

**P\_RASMUSSEN 20-29**

**P\_RASMUSSEN 20-29**

**Plan: PLAN #1 09-02-09 RHS**

## **Standard Planning Report**

**02 September, 2009**





P\_RASMUSSEN 20-29  
KERR MCGEE OIL & GAS ONSHORE LP  
SECTION 29 T2N R68W  
742 FSL 1962 FEL  
LAT: 40° 6' 15.696 N  
LONG: 105° 1' 28.992 W



Azimuths to True North  
Magnetic North: 9.18°  
Magnetic Field  
Strength: 53153.1nT  
Dip Angle: 66.84°  
Date: 9/2/2009  
Model: IGRF200510

WELL DETAILS: P\_RASMUSSEN 20-29

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude	Slot
0.00	0.00	1281218.93	3132947.01	4934.00	40° 6' 15.696 N	105° 1' 28.992 W	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3876.00	3989.49	PARKMAN
4411.00	4527.65	SUSSEX TOP
4824.00	4940.65	SHANNON TOP
7242.00	7358.65	NIO A TOP
7537.00	7653.65	CODELL TOP
7977.00	8093.65	JSAND TOP

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	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	
1604.88	17.10	48.06	1592.24	84.62	94.17	2.00	48.06	126.61	
3672.78	17.10	48.06	3568.76	490.97	546.38	0.00	0.00	734.57	
4527.65	0.00	0.00	4411.00	575.59	640.56	2.00	180.00	861.17	
8243.65	0.00	0.00	8127.00	575.59	640.56	0.00	0.00	861.17	PBHL_RASMUSSEN 20-29(1320 FSL 1320 FEL)50' TGT RAD

CASING DETAILS

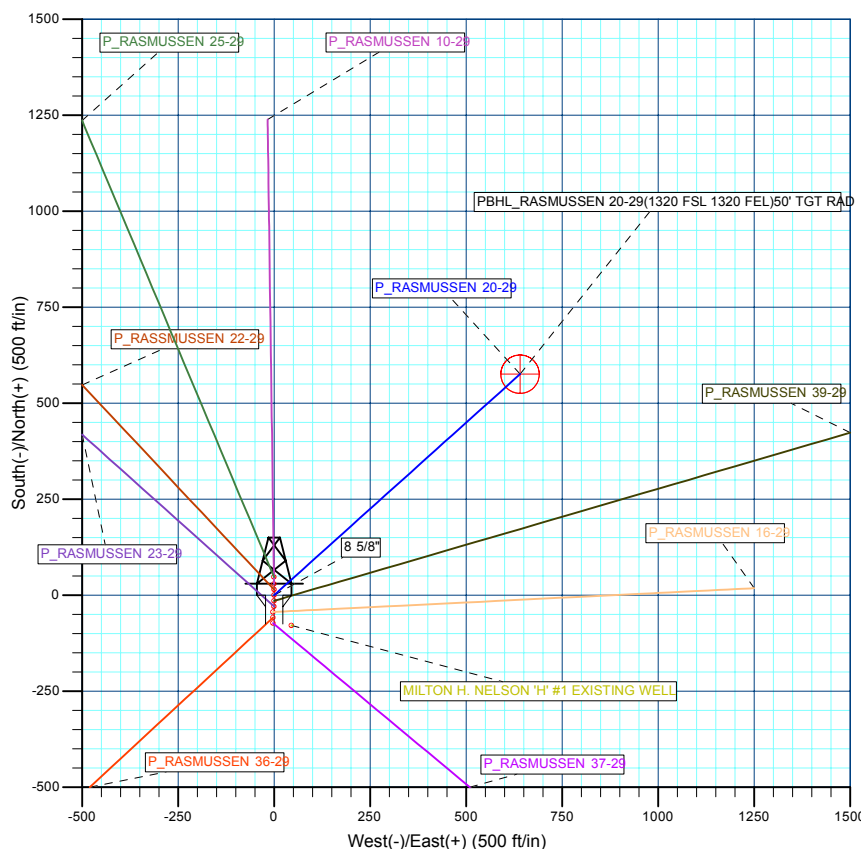
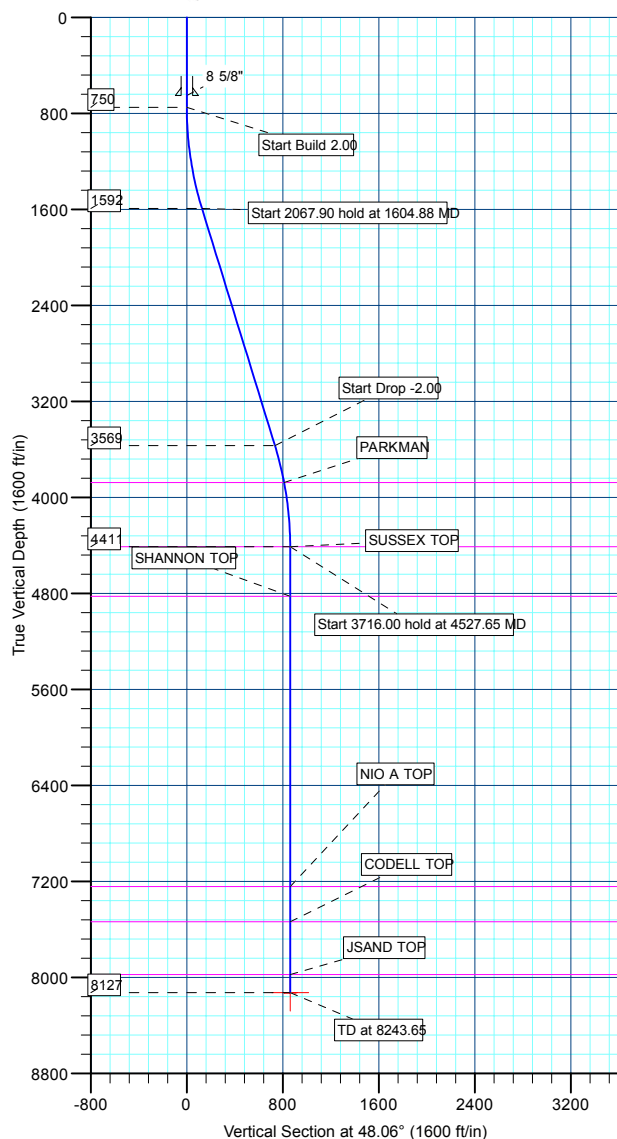
TVD	MD	Name	Size
650.00	650.00	8 5/8"	8.62

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8127.00	575.59	640.56	1281797.94	3133584.47	40° 6' 21.384 N	105° 1' 20.748 W	Circle (Radius: 50.00)



KB ELEV: WELL @ 4949.00ft (Original Well Elev)  
GRD ELEV: 4934.00



Plan: PLAN #1 09-02-09 RHS (P\_RASMUSSEN 20-29/P\_RASMUSSEN 20-29)

Created By: Robert H. Scott



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site:</b>	WELD_RASMUSSEN 9 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_RASMUSSEN 20-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_RASMUSSEN 20-29		
<b>Design:</b>	PLAN #1 09-02-09 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_RASMUSSEN 9 PAD, SECTION 29 T2N R68W			
Site Position:		Northing:	1,281,248.09 ft	Latitude:	40° 6' 15.984 N
From:	Lat/Long	Easting:	3,132,946.85 ft	Longitude:	105° 1' 28.992 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.31 °

Well	P_RASMUSSEN 20-29					
Well Position	+N/-S	-29.17 ft	Northing:	1,281,218.93 ft	Latitude:	40° 6' 15.696 N
	+E/-W	0.00 ft	Easting:	3,132,947.01 ft	Longitude:	105° 1' 28.992 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,934.00 ft

<b>Wellbore</b>	P_RASMUSSEN 20-29				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	9/2/2009	9.18	66.84	53,153

<b>Design</b>	PLAN #1 09-02-09 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	48.06

<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	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,604.88	17.10	48.06	1,592.24	84.62	94.17	2.00	2.00	0.00	48.06	
3,672.78	17.10	48.06	3,568.76	490.97	546.38	0.00	0.00	0.00	0.00	
4,527.65	0.00	0.00	4,411.00	575.59	640.56	2.00	-2.00	0.00	180.00	
8,243.65	0.00	0.00	8,127.00	575.59	640.56	0.00	0.00	0.00	0.00	PBHL_RASMUSSE



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site:</b>	WELD_RASMUSSEN 9 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_RASMUSSEN 20-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_RASMUSSEN 20-29		
<b>Design:</b>	PLAN #1 09-02-09 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 2.00</b>									
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	1.00	48.06	800.00	0.29	0.32	0.44	2.00	2.00	0.00
900.00	3.00	48.06	899.93	2.62	2.92	3.93	2.00	2.00	0.00
1,000.00	5.00	48.06	999.68	7.29	8.11	10.90	2.00	2.00	0.00
1,100.00	7.00	48.06	1,099.13	14.27	15.88	21.35	2.00	2.00	0.00
1,200.00	9.00	48.06	1,198.15	23.57	26.23	35.27	2.00	2.00	0.00
1,300.00	11.00	48.06	1,296.63	35.18	39.15	52.63	2.00	2.00	0.00
1,400.00	13.00	48.06	1,394.44	49.08	54.61	73.42	2.00	2.00	0.00
1,500.00	15.00	48.06	1,491.46	65.24	72.61	97.62	2.00	2.00	0.00
1,600.00	17.00	48.06	1,587.58	83.67	93.11	125.18	2.00	2.00	0.00
<b>Start 2067.90 hold at 1604.88 MD</b>									
1,604.88	17.10	48.06	1,592.24	84.62	94.17	126.61	2.00	2.00	0.00
1,700.00	17.10	48.06	1,683.17	103.31	114.97	154.57	0.00	0.00	0.00
1,800.00	17.10	48.06	1,778.75	122.96	136.84	183.97	0.00	0.00	0.00
1,900.00	17.10	48.06	1,874.33	142.62	158.71	213.37	0.00	0.00	0.00
2,000.00	17.10	48.06	1,969.91	162.27	180.58	242.77	0.00	0.00	0.00
2,100.00	17.10	48.06	2,065.49	181.92	202.45	272.17	0.00	0.00	0.00
2,200.00	17.10	48.06	2,161.07	201.57	224.32	301.57	0.00	0.00	0.00
2,300.00	17.10	48.06	2,256.65	221.22	246.18	330.97	0.00	0.00	0.00
2,400.00	17.10	48.06	2,352.23	240.87	268.05	360.37	0.00	0.00	0.00
2,500.00	17.10	48.06	2,447.81	260.52	289.92	389.77	0.00	0.00	0.00
2,600.00	17.10	48.06	2,543.39	280.17	311.79	419.17	0.00	0.00	0.00
2,700.00	17.10	48.06	2,638.97	299.82	333.66	448.57	0.00	0.00	0.00
2,800.00	17.10	48.06	2,734.55	319.47	355.52	477.97	0.00	0.00	0.00
2,900.00	17.10	48.06	2,830.13	339.12	377.39	507.37	0.00	0.00	0.00
3,000.00	17.10	48.06	2,925.71	358.77	399.26	536.77	0.00	0.00	0.00
3,100.00	17.10	48.06	3,021.29	378.42	421.13	566.17	0.00	0.00	0.00
3,200.00	17.10	48.06	3,116.87	398.07	443.00	595.57	0.00	0.00	0.00
3,300.00	17.10	48.06	3,212.45	417.72	464.86	624.97	0.00	0.00	0.00
3,400.00	17.10	48.06	3,308.03	437.37	486.73	654.37	0.00	0.00	0.00
3,500.00	17.10	48.06	3,403.62	457.02	508.60	683.77	0.00	0.00	0.00
3,600.00	17.10	48.06	3,499.20	476.67	530.47	713.17	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
3,672.78	17.10	48.06	3,568.76	490.97	546.38	734.57	0.00	0.00	0.00
3,700.00	16.55	48.06	3,594.81	496.24	552.25	742.45	2.00	-2.00	0.00
3,800.00	14.55	48.06	3,691.15	514.16	572.19	769.26	2.00	-2.00	0.00
3,900.00	12.55	48.06	3,788.36	529.82	589.62	792.69	2.00	-2.00	0.00
<b>PARKMAN</b>									
3,989.49	10.76	48.06	3,876.00	541.91	603.07	810.78	2.00	-2.00	0.00
4,000.00	10.55	48.06	3,886.33	543.21	604.51	812.72	2.00	-2.00	0.00
4,100.00	8.55	48.06	3,984.94	554.30	616.86	829.31	2.00	-2.00	0.00
4,200.00	6.55	48.06	4,084.06	563.08	626.63	842.46	2.00	-2.00	0.00
4,300.00	4.55	48.06	4,183.59	569.55	633.83	852.13	2.00	-2.00	0.00
4,400.00	2.55	48.06	4,283.39	573.69	638.44	858.33	2.00	-2.00	0.00
4,500.00	0.55	48.06	4,383.35	575.50	640.46	861.04	2.00	-2.00	0.00
<b>Start 3716.00 hold at 4527.65 MD - SUSSEX TOP</b>									
4,527.65	0.00	0.00	4,411.00	575.59	640.56	861.17	2.00	-2.00	0.00
4,600.00	0.00	0.00	4,483.35	575.59	640.56	861.17	0.00	0.00	0.00
4,700.00	0.00	0.00	4,583.35	575.59	640.56	861.17	0.00	0.00	0.00
4,800.00	0.00	0.00	4,683.35	575.59	640.56	861.17	0.00	0.00	0.00
4,900.00	0.00	0.00	4,783.35	575.59	640.56	861.17	0.00	0.00	0.00
<b>SHANNON TOP</b>									



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site:</b>	WELD_RASMUSSEN 9 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_RASMUSSEN 20-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_RASMUSSEN 20-29		
<b>Design:</b>	PLAN #1 09-02-09 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)
4,940.65	0.00	0.00	4,824.00	575.59	640.56	861.17	0.00	0.00	0.00
5,000.00	0.00	0.00	4,883.35	575.59	640.56	861.17	0.00	0.00	0.00
5,100.00	0.00	0.00	4,983.35	575.59	640.56	861.17	0.00	0.00	0.00
5,200.00	0.00	0.00	5,083.35	575.59	640.56	861.17	0.00	0.00	0.00
5,300.00	0.00	0.00	5,183.35	575.59	640.56	861.17	0.00	0.00	0.00
5,400.00	0.00	0.00	5,283.35	575.59	640.56	861.17	0.00	0.00	0.00
5,500.00	0.00	0.00	5,383.35	575.59	640.56	861.17	0.00	0.00	0.00
5,600.00	0.00	0.00	5,483.35	575.59	640.56	861.17	0.00	0.00	0.00
5,700.00	0.00	0.00	5,583.35	575.59	640.56	861.17	0.00	0.00	0.00
5,800.00	0.00	0.00	5,683.35	575.59	640.56	861.17	0.00	0.00	0.00
5,900.00	0.00	0.00	5,783.35	575.59	640.56	861.17	0.00	0.00	0.00
6,000.00	0.00	0.00	5,883.35	575.59	640.56	861.17	0.00	0.00	0.00
6,100.00	0.00	0.00	5,983.35	575.59	640.56	861.17	0.00	0.00	0.00
6,200.00	0.00	0.00	6,083.35	575.59	640.56	861.17	0.00	0.00	0.00
6,300.00	0.00	0.00	6,183.35	575.59	640.56	861.17	0.00	0.00	0.00
6,400.00	0.00	0.00	6,283.35	575.59	640.56	861.17	0.00	0.00	0.00
6,500.00	0.00	0.00	6,383.35	575.59	640.56	861.17	0.00	0.00	0.00
6,600.00	0.00	0.00	6,483.35	575.59	640.56	861.17	0.00	0.00	0.00
6,700.00	0.00	0.00	6,583.35	575.59	640.56	861.17	0.00	0.00	0.00
6,800.00	0.00	0.00	6,683.35	575.59	640.56	861.17	0.00	0.00	0.00
6,900.00	0.00	0.00	6,783.35	575.59	640.56	861.17	0.00	0.00	0.00
7,000.00	0.00	0.00	6,883.35	575.59	640.56	861.17	0.00	0.00	0.00
7,100.00	0.00	0.00	6,983.35	575.59	640.56	861.17	0.00	0.00	0.00
7,200.00	0.00	0.00	7,083.35	575.59	640.56	861.17	0.00	0.00	0.00
7,300.00	0.00	0.00	7,183.35	575.59	640.56	861.17	0.00	0.00	0.00
<b>NIO A TOP</b>									
7,358.65	0.00	0.00	7,242.00	575.59	640.56	861.17	0.00	0.00	0.00
7,400.00	0.00	0.00	7,283.35	575.59	640.56	861.17	0.00	0.00	0.00
7,500.00	0.00	0.00	7,383.35	575.59	640.56	861.17	0.00	0.00	0.00
7,600.00	0.00	0.00	7,483.35	575.59	640.56	861.17	0.00	0.00	0.00
<b>CODELL TOP</b>									
7,653.65	0.00	0.00	7,537.00	575.59	640.56	861.17	0.00	0.00	0.00
7,700.00	0.00	0.00	7,583.35	575.59	640.56	861.17	0.00	0.00	0.00
7,800.00	0.00	0.00	7,683.35	575.59	640.56	861.17	0.00	0.00	0.00
7,900.00	0.00	0.00	7,783.35	575.59	640.56	861.17	0.00	0.00	0.00
8,000.00	0.00	0.00	7,883.35	575.59	640.56	861.17	0.00	0.00	0.00
<b>JSAND TOP</b>									
8,093.65	0.00	0.00	7,977.00	575.59	640.56	861.17	0.00	0.00	0.00
8,100.00	0.00	0.00	7,983.35	575.59	640.56	861.17	0.00	0.00	0.00
8,200.00	0.00	0.00	8,083.35	575.59	640.56	861.17	0.00	0.00	0.00
<b>PBHL_RASMUSSEN 20-29(1320 FSL 1320 FEL)50' TGT RAD</b>									
8,243.65	0.00	0.00	8,127.00	575.59	640.56	861.17	0.00	0.00	0.00

#### Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_RASMUSSEN	0.00	0.00	8,127.00	575.59	640.56	1,281,797.94	3,133,584.47	40° 6' 21.384 N	105° 1' 20.748 W
- plan hits target center									
- Circle (radius 50.00)									



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site:</b>	WELD_RASMUSSEN 9 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_RASMUSSEN 20-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_RASMUSSEN 20-29		
<b>Design:</b>	PLAN #1 09-02-09 RHS		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (in)	Hole Diameter (in)
650.00	650.00	8 5/8"		8.62	11.00

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,989.49	3,876.00	PARKMAN				
4,527.65	4,411.00	SUSSEX TOP				
4,940.65	4,824.00	SHANNON TOP				
7,358.65	7,242.00	NIO A TOP				
7,653.65	7,537.00	CODELL TOP				
8,093.65	7,977.00	JSAND TOP				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
750.00	750.00	0.00	0.00	Start Build 2.00	
1,604.88	1,592.24	84.62	94.17	Start 2067.90 hold at 1604.88 MD	
3,672.78	3,568.76	490.97	546.38	Start Drop -2.00	
4,527.65	4,411.00	575.59	640.56	Start 3716.00 hold at 4527.65 MD	
8,243.65	8,127.00	575.59	640.56	TD at 8243.65	



# **US ROCKIES REGION PLANNING**

**KERR MCGEE OIL & GAS ONSHORE LP  
WELD\_RASMUSSEN 9 PAD  
P\_RASMUSSEN 20-29**

**P\_RASMUSSEN 20-29  
PLAN #1 09-02-09 RHS**

## **Anticollision Report**

**02 September, 2009**





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 09-02-09 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> 9/2/2009			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,243.65	PLAN #1 09-02-09 RHS (P_RASMUSSEN	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_RASMUSSEN 9 PAD						
MILTON H. NELSON 'H' #1 EXISTING WELL - MILTON	750.00	750.00	91.13	61.87	3.115	CC
MILTON H. NELSON 'H' #1 EXISTING WELL - MILTON	1,100.00	1,099.13	97.82	53.85	2.225	ES
MILTON H. NELSON 'H' #1 EXISTING WELL - MILTON	1,200.00	1,198.15	104.33	56.22	2.169	SF
P_RASMUSSEN 10-29 - P_RASMUSSEN 10-29 - PLAN	750.00	750.00	29.17	26.05	9.370	CC
P_RASMUSSEN 10-29 - P_RASMUSSEN 10-29 - PLAN	800.00	799.49	29.31	25.98	8.791	ES
P_RASMUSSEN 10-29 - P_RASMUSSEN 10-29 - PLAN	1,000.00	997.17	33.69	29.47	7.982	SF
P_RASMUSSEN 16-29 - P_RASMUSSEN 16-29 - PLAN	750.00	750.00	43.79	40.67	14.066	CC, ES
P_RASMUSSEN 16-29 - P_RASMUSSEN 16-29 - PLAN	1,000.00	1,000.29	50.70	46.52	12.117	SF
P_RASMUSSEN 23-29 - P_RASMUSSEN 23-29 - PLAN	764.87	764.97	29.13	25.95	9.163	CC
P_RASMUSSEN 23-29 - P_RASMUSSEN 23-29 - PLAN	800.00	800.33	29.13	25.80	8.738	ES
P_RASMUSSEN 23-29 - P_RASMUSSEN 23-29 - PLAN	900.00	900.79	29.70	25.93	7.880	SF
P_RASMUSSEN 25-29 - P_RASMUSSEN 25-29 - PLAN	1,058.11	1,055.83	40.91	36.43	9.114	CC, ES
P_RASMUSSEN 25-29 - P_RASMUSSEN 25-29 - PLAN	1,100.00	1,096.88	41.34	36.66	8.829	SF
P_RASMUSSEN 36-29 - P_RASMUSSEN 36-29 - PLAN	750.00	750.00	58.33	55.22	18.739	CC, ES
P_RASMUSSEN 36-29 - P_RASMUSSEN 36-29 - PLAN	900.00	897.99	63.02	59.30	16.919	SF
P_RASMUSSEN 37-29 - P_RASMUSSEN 37-29 - PLAN	750.00	750.00	72.89	69.78	23.414	CC, ES
P_RASMUSSEN 37-29 - P_RASMUSSEN 37-29 - PLAN	1,000.00	996.23	85.11	80.97	20.560	SF
P_RASMUSSEN 39-29 - P_RASMUSSEN 39-29 - PLAN	750.00	750.00	14.56	11.45	4.677	CC, ES
P_RASMUSSEN 39-29 - P_RASMUSSEN 39-29 - PLAN	900.00	900.18	16.49	12.73	4.387	SF
P_RASMUSSEN 22-29 - P_RASMUSSEN 22-29 - PI	966.41	966.08	11.13	7.05	2.731	CC, ES, SF

Offset Design		WELD_RASMUSSEN 9 PAD - MILTON H. NELSON 'H' #1 EXISTING WELL - MILTON H. NELSON 'H'										Offset Site Error:		0.00 ft			
Survey Program: 0-UNKNOWN														Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance										
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	150.06	-78.96	45.49	91.13								
100.00	100.00	100.00	100.00	0.10	1.70	150.06	-78.96	45.49	91.13	89.33	1.80	50.752					
200.00	200.00	200.00	200.00	0.32	5.70	150.06	-78.96	45.49	91.13	85.11	6.02	15.136					
300.00	300.00	300.00	300.00	0.55	9.70	150.06	-78.96	45.49	91.13	80.88	10.25	8.895					
400.00	400.00	400.00	400.00	0.77	13.70	150.06	-78.96	45.49	91.13	76.66	14.47	6.298					
500.00	500.00	500.00	500.00	0.99	17.70	150.06	-78.96	45.49	91.13	72.43	18.69	4.874					
600.00	600.00	600.00	600.00	1.22	21.70	150.06	-78.96	45.49	91.13	68.21	22.92	3.976					
700.00	700.00	700.00	700.00	1.44	25.70	150.06	-78.96	45.49	91.13	63.98	27.14	3.357					

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_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												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	
750.00	750.00	750.00	750.00	1.56	27.70	150.06	-78.96	45.49	91.13	61.87	29.26	3.115 CC	
800.00	800.00	800.00	800.00	1.67	29.70	102.26	-78.96	45.49	91.22	59.85	31.37	2.908	
900.00	899.93	899.93	899.93	1.88	33.70	104.37	-78.96	45.49	92.02	56.44	35.58	2.586	
1,000.00	999.68	999.68	999.68	2.11	37.69	108.45	-78.96	45.49	94.00	54.21	39.79	2.362	
1,100.00	1,099.13	1,099.13	1,099.13	2.35	41.67	114.17	-78.96	45.49	97.82	53.85	43.97	2.225 ES	
1,200.00	1,198.15	1,198.15	1,198.15	2.62	45.63	120.99	-78.96	45.49	104.33	56.22	48.10	2.169 SF	
1,300.00	1,296.63	1,296.63	1,296.63	2.92	49.57	128.25	-78.96	45.49	114.32	62.19	52.12	2.193	
1,400.00	1,394.44	1,394.44	1,394.44	3.27	53.48	135.28	-78.96	45.49	128.36	72.38	55.99	2.293	
1,500.00	1,491.46	1,491.46	1,491.46	3.67	57.36	141.63	-78.96	45.49	146.73	87.08	59.65	2.460	
1,604.88	1,592.24	1,592.24	1,592.24	4.15	61.39	147.35	-78.96	45.49	170.68	107.40	63.27	2.697	
1,700.00	1,683.17	1,683.17	1,683.17	4.63	65.03	151.74	-78.96	45.49	195.07	128.19	66.88	2.917	
1,800.00	1,778.75	1,778.75	1,778.75	5.16	68.85	155.32	-78.96	45.49	221.63	150.92	70.71	3.135	
1,900.00	1,874.33	1,874.33	1,874.33	5.70	72.67	158.13	-78.96	45.49	248.83	174.27	74.56	3.337	
2,000.00	1,969.91	1,969.91	1,969.91	6.25	76.50	160.39	-78.96	45.49	276.48	198.05	78.43	3.525	
2,100.00	2,065.49	2,065.49	2,065.49	6.81	80.32	162.24	-78.96	45.49	304.46	222.14	82.31	3.699	
2,200.00	2,161.07	2,161.07	2,161.07	7.38	84.14	163.78	-78.96	45.49	332.68	246.47	86.21	3.859	
2,300.00	2,256.65	2,256.65	2,256.65	7.95	87.97	165.08	-78.96	45.49	361.09	270.97	90.12	4.007	
2,400.00	2,352.23	2,352.23	2,352.23	8.52	91.79	166.19	-78.96	45.49	389.65	295.62	94.03	4.144	
2,500.00	2,447.81	2,447.81	2,447.81	9.10	95.61	167.15	-78.96	45.49	418.32	320.37	97.95	4.271	
2,600.00	2,543.39	2,543.39	2,543.39	9.68	99.44	167.98	-78.96	45.49	447.09	345.21	101.88	4.389	
2,700.00	2,638.97	2,638.97	2,638.97	10.27	103.26	168.72	-78.96	45.49	475.94	370.13	105.80	4.498	
2,800.00	2,734.55	2,734.55	2,734.55	10.85	107.08	169.37	-78.96	45.49	504.85	395.11	109.74	4.601	
2,900.00	2,830.13	2,830.13	2,830.13	11.44	110.91	169.95	-78.96	45.49	533.81	420.14	113.67	4.696	
3,000.00	2,925.71	2,925.71	2,925.71	12.03	114.73	170.47	-78.96	45.49	562.82	445.21	117.61	4.786	
3,100.00	3,021.29	3,021.29	3,021.29	12.62	118.55	170.94	-78.96	45.49	591.87	470.32	121.55	4.869	
3,200.00	3,116.87	3,116.87	3,116.87	13.21	122.37	171.37	-78.96	45.49	620.95	495.46	125.49	4.948	
3,300.00	3,212.45	3,212.45	3,212.45	13.80	126.20	171.76	-78.96	45.49	650.05	520.62	129.43	5.022	
3,400.00	3,308.03	3,308.03	3,308.03	14.39	130.02	172.11	-78.96	45.49	679.19	545.81	133.38	5.092	
3,500.00	3,403.62	3,403.62	3,403.62	14.98	133.84	172.44	-78.96	45.49	708.35	571.02	137.32	5.158	
3,600.00	3,499.20	3,499.20	3,499.20	15.58	137.67	172.74	-78.96	45.49	737.52	596.25	141.27	5.221	
3,672.78	3,568.76	3,568.76	3,568.76	16.01	140.45	172.94	-78.96	45.49	758.76	614.62	144.14	5.264	
3,700.00	3,594.81	3,594.81	3,594.81	16.15	141.49	173.04	-78.96	45.49	766.59	621.01	145.58	5.266	
3,800.00	3,691.15	3,691.15	3,691.15	16.59	145.35	173.34	-78.96	45.49	793.23	642.43	150.80	5.260	
3,900.00	3,788.36	3,788.36	3,788.36	16.98	149.23	173.58	-78.96	45.49	816.52	660.59	155.92	5.237	
4,000.00	3,886.33	3,886.33	3,886.33	17.33	153.15	173.78	-78.96	45.49	836.42	675.41	161.01	5.195	
4,100.00	3,984.94	3,984.94	3,984.94	17.65	157.10	173.93	-78.96	45.49	852.93	686.95	165.98	5.139	
4,200.00	4,084.06	4,084.06	4,084.06	17.91	161.06	174.05	-78.96	45.49	866.00	695.21	170.79	5.071	
4,300.00	4,183.59	4,183.59	4,183.59	18.13	165.04	174.14	-78.96	45.49	875.63	700.19	175.44	4.991	
4,400.00	4,283.39	4,283.39	4,283.39	18.31	169.04	174.19	-78.96	45.49	881.79	701.90	179.89	4.902	
4,500.00	4,383.35	4,383.35	4,383.35	18.44	173.03	174.22	-78.96	45.49	884.49	700.35	184.14	4.803	
4,527.65	4,411.00	4,411.00	4,411.00	18.47	174.14	-137.73	-78.96	45.49	884.62	699.35	185.27	4.775	
4,600.00	4,483.35	4,483.35	4,483.35	18.55	177.03	-137.73	-78.96	45.49	884.62	696.33	188.29	4.698	
4,700.00	4,583.35	4,583.35	4,583.35	18.66	181.03	-137.73	-78.96	45.49	884.62	692.15	192.47	4.596	
4,800.00	4,683.35	4,683.35	4,683.35	18.77	185.03	-137.73	-78.96	45.49	884.62	687.97	196.65	4.498	
4,900.00	4,783.35	4,783.35	4,783.35	18.89	189.03	-137.73	-78.96	45.49	884.62	683.78	200.84	4.405	
5,000.00	4,883.35	4,883.35	4,883.35	19.01	193.03	-137.73	-78.96	45.49	884.62	679.60	205.02	4.315	
5,100.00	4,983.35	4,983.35	4,983.35	19.13	197.03	-137.73	-78.96	45.49	884.62	675.41	209.21	4.228	
5,200.00	5,083.35	5,083.35	5,083.35	19.25	201.03	-137.73	-78.96	45.49	884.62	671.22	213.40	4.145	
5,300.00	5,183.35	5,183.35	5,183.35	19.38	205.03	-137.73	-78.96	45.49	884.62	667.03	217.59	4.066	
5,400.00	5,283.35	5,283.35	5,283.35	19.50	209.03	-137.73	-78.96	45.49	884.62	662.84	221.78	3.989	
5,500.00	5,383.35	5,383.35	5,383.35	19.63	213.03	-137.73	-78.96	45.49	884.62	658.65	225.97	3.915	
5,600.00	5,483.35	5,483.35	5,483.35	19.76	217.03	-137.73	-78.96	45.49	884.62	654.46	230.16	3.843	

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_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - MILTON H. NELSON 'H' #1 EXISTING WELL - MILTON H. NELSON 'H'													Offset Site Error: 0.00 ft
Survey Program: 0-UNKNOWN													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	
5,700.00	5,583.35	5,583.35	5,583.35	19.89	221.03	-137.73	-78.96	45.49	884.62	650.26	234.36	3.775	
5,800.00	5,683.35	5,683.35	5,683.35	20.02	225.03	-137.73	-78.96	45.49	884.62	646.07	238.55	3.708	
5,900.00	5,783.35	5,783.35	5,783.35	20.16	229.03	-137.73	-78.96	45.49	884.62	641.87	242.75	3.644	
6,000.00	5,883.35	5,883.35	5,883.35	20.29	233.03	-137.73	-78.96	45.49	884.62	637.68	246.94	3.582	
6,100.00	5,983.35	5,983.35	5,983.35	20.43	237.03	-137.73	-78.96	45.49	884.62	633.48	251.14	3.522	
6,200.00	6,083.35	6,083.35	6,083.35	20.57	241.03	-137.73	-78.96	45.49	884.62	629.28	255.34	3.464	
6,300.00	6,183.35	6,183.35	6,183.35	20.71	245.03	-137.73	-78.96	45.49	884.62	625.08	259.54	3.408	
6,400.00	6,283.35	6,283.35	6,283.35	20.85	249.03	-137.73	-78.96	45.49	884.62	620.88	263.74	3.354	
6,500.00	6,383.35	6,383.35	6,383.35	21.00	253.03	-137.73	-78.96	45.49	884.62	616.68	267.94	3.302	
6,600.00	6,483.35	6,483.35	6,483.35	21.14	257.03	-137.73	-78.96	45.49	884.62	612.48	272.14	3.251	
6,700.00	6,583.35	6,583.35	6,583.35	21.29	261.03	-137.73	-78.96	45.49	884.62	608.28	276.34	3.201	
6,800.00	6,683.35	6,683.35	6,683.35	21.44	265.03	-137.73	-78.96	45.49	884.62	604.08	280.54	3.153	
6,900.00	6,783.35	6,783.35	6,783.35	21.59	269.03	-137.73	-78.96	45.49	884.62	599.87	284.75	3.107	
7,000.00	6,883.35	6,883.35	6,883.35	21.74	273.03	-137.73	-78.96	45.49	884.62	595.67	288.95	3.061	
7,100.00	6,983.35	6,983.35	6,983.35	21.89	277.03	-137.73	-78.96	45.49	884.62	591.46	293.15	3.018	
7,200.00	7,083.35	7,083.35	7,083.35	22.04	281.03	-137.73	-78.96	45.49	884.62	587.26	297.36	2.975	
7,300.00	7,183.35	7,183.35	7,183.35	22.20	285.03	-137.73	-78.96	45.49	884.62	583.06	301.56	2.933	
7,400.00	7,283.35	7,283.35	7,283.35	22.35	289.03	-137.73	-78.96	45.49	884.62	578.85	305.77	2.893	
7,500.00	7,383.35	7,383.35	7,383.35	22.51	293.03	-137.73	-78.96	45.49	884.62	574.64	309.98	2.854	
7,600.00	7,483.35	7,483.35	7,483.35	22.67	297.03	-137.73	-78.96	45.49	884.62	570.44	314.18	2.816	
7,700.00	7,583.35	7,583.35	7,583.35	22.82	301.03	-137.73	-78.96	45.49	884.62	566.23	318.39	2.778	
7,800.00	7,683.35	7,683.35	7,683.35	22.98	305.03	-137.73	-78.96	45.49	884.62	562.02	322.60	2.742	
7,900.00	7,783.35	7,783.35	7,783.35	23.15	309.03	-137.73	-78.96	45.49	884.62	557.81	326.81	2.707	
8,000.00	7,883.35	7,883.35	7,883.35	23.31	313.03	-137.73	-78.96	45.49	884.62	553.61	331.01	2.672	
8,100.00	7,983.35	7,983.35	7,983.35	23.47	317.03	-137.73	-78.96	45.49	884.62	549.40	335.22	2.639	
8,200.00	8,083.35	8,083.35	8,083.35	23.63	321.03	-137.73	-78.96	45.49	884.62	545.19	339.43	2.606	
8,243.65	8,127.00	8,127.00	8,127.00	23.71	322.78	-137.73	-78.96	45.49	884.62	543.35	341.27	2.592	



# Weatherford International Ltd.

## Anticollision Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 10-29 - P_RASMUSSEN 10-29 - PLAN #1 09-02-09 R													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	29.17	0.00	29.17					
100.00	100.00	100.00	100.00	0.10	0.10	0.00	29.17	0.00	29.17	28.98	0.19	152.668		
200.00	200.00	200.00	200.00	0.32	0.32	0.00	29.17	0.00	29.17	28.53	0.64	45.533		
300.00	300.00	300.00	300.00	0.55	0.55	0.00	29.17	0.00	29.17	28.08	1.09	26.756		
400.00	400.00	400.00	400.00	0.77	0.77	0.00	29.17	0.00	29.17	27.63	1.54	18.944		
500.00	500.00	500.00	500.00	0.99	0.99	0.00	29.17	0.00	29.17	27.18	1.99	14.663		
600.00	600.00	600.00	600.00	1.22	1.22	0.00	29.17	0.00	29.17	26.73	2.44	11.960		
700.00	700.00	700.00	700.00	1.44	1.44	0.00	29.17	0.00	29.17	26.28	2.89	10.099		
750.00	750.00	750.00	750.00	1.56	1.56	0.00	29.17	0.00	29.17	26.05	3.11	9.370 CC		
800.00	800.00	799.49	799.49	1.67	1.67	-48.70	29.59	-0.01	29.31	25.98	3.33	8.791 ES		
900.00	899.93	898.42	898.35	1.88	1.89	-53.56	33.01	-0.05	30.57	26.80	3.77	8.102		
1,000.00	999.68	997.17	996.86	2.11	2.11	-62.02	39.82	-0.15	33.69	29.47	4.22	7.982 SF		
1,100.00	1,099.13	1,095.61	1,094.77	2.35	2.35	-71.80	49.99	-0.29	39.45	34.76	4.69	8.417		
1,200.00	1,198.15	1,193.64	1,191.87	2.62	2.61	-80.82	63.45	-0.48	48.40	43.21	5.19	9.327		
1,300.00	1,296.63	1,291.14	1,287.93	2.92	2.90	-88.05	80.12	-0.71	60.69	54.95	5.75	10.561		
1,400.00	1,394.44	1,388.01	1,382.75	3.27	3.22	-93.48	99.91	-0.98	76.24	69.86	6.38	11.958		
1,500.00	1,491.46	1,484.15	1,476.14	3.67	3.59	-97.44	122.71	-1.30	94.87	87.78	7.08	13.390		
1,604.88	1,592.24	1,584.07	1,572.34	4.15	4.03	-100.43	149.72	-1.67	117.56	109.63	7.93	14.832		
1,700.00	1,683.17	1,673.98	1,658.04	4.63	4.48	-102.23	176.87	-2.05	140.49	131.72	8.77	16.018		
1,800.00	1,778.75	1,767.74	1,746.47	5.16	5.00	-102.69	208.04	-2.48	166.41	156.69	9.71	17.133		
1,900.00	1,874.33	1,860.55	1,832.95	5.70	5.57	-102.25	241.72	-2.95	194.08	183.38	10.70	18.134		
2,000.00	1,969.91	1,952.24	1,917.26	6.25	6.18	-101.26	277.73	-3.45	223.54	211.81	11.73	19.062		
2,100.00	2,065.49	2,046.28	2,002.88	6.81	6.86	-100.07	316.61	-3.99	254.32	241.52	12.80	19.874		
2,200.00	2,161.07	2,141.29	2,089.36	7.38	7.55	-99.12	355.96	-4.53	285.23	271.34	13.89	20.540		
2,300.00	2,256.65	2,236.29	2,175.83	7.95	8.27	-98.35	395.32	-5.08	316.19	301.20	14.99	21.097		
2,400.00	2,352.23	2,331.30	2,262.30	8.52	8.98	-97.72	434.67	-5.63	347.20	331.10	16.10	21.569		
2,500.00	2,447.81	2,426.31	2,348.77	9.10	9.71	-97.19	474.02	-6.17	378.24	361.02	17.21	21.972		
2,600.00	2,543.39	2,521.32	2,435.24	9.68	10.44	-96.74	513.38	-6.72	409.30	390.97	18.34	22.320		
2,700.00	2,638.97	2,616.32	2,521.72	10.27	11.18	-96.36	552.73	-7.27	440.39	420.92	19.47	22.623		
2,800.00	2,734.55	2,711.33	2,608.19	10.85	11.92	-96.02	592.09	-7.81	471.49	450.89	20.60	22.890		
2,900.00	2,830.13	2,806.34	2,694.66	11.44	12.66	-95.73	631.44	-8.36	502.60	480.87	21.73	23.125		
3,000.00	2,925.71	2,901.35	2,781.13	12.03	13.40	-95.47	670.79	-8.90	533.72	510.85	22.87	23.335		
3,100.00	3,021.29	2,996.35	2,867.60	12.62	14.15	-95.24	710.15	-9.45	564.86	540.84	24.01	23.522		
3,200.00	3,116.87	3,091.36	2,954.07	13.21	14.90	-95.03	749.50	-10.00	595.99	570.84	25.16	23.690		
3,300.00	3,212.45	3,186.37	3,040.55	13.80	15.65	-94.85	788.86	-10.54	627.14	600.84	26.30	23.843		
3,400.00	3,308.03	3,281.38	3,127.02	14.39	16.40	-94.68	828.21	-11.09	658.29	630.84	27.45	23.981		
3,500.00	3,403.62	3,376.38	3,213.49	14.98	17.15	-94.53	867.56	-11.63	689.45	660.85	28.60	24.108		
3,600.00	3,499.20	3,471.39	3,299.96	15.58	17.91	-94.39	906.92	-12.18	720.61	690.86	29.75	24.223		
3,672.78	3,568.76	3,540.53	3,362.89	16.01	18.45	-94.29	935.56	-12.58	743.29	712.70	30.59	24.301		
3,700.00	3,594.81	3,566.40	3,386.43	16.15	18.66	-94.42	946.27	-12.73	751.76	720.86	30.90	24.326		
3,800.00	3,691.15	3,663.77	3,475.07	16.59	19.42	-94.74	986.58	-13.29	782.72	750.75	31.97	24.481		
3,900.00	3,788.36	3,781.39	3,583.31	16.98	20.14	-94.82	1,032.60	-13.92	811.85	778.88	32.96	24.631		
4,000.00	3,886.33	3,901.22	3,695.41	17.33	20.81	-94.83	1,074.87	-14.51	838.04	804.18	33.85	24.754		
4,100.00	3,984.94	4,023.11	3,811.17	17.65	21.42	-94.75	1,113.03	-15.04	861.20	826.54	34.66	24.848		
4,200.00	4,084.06	4,146.90	3,930.29	17.91	21.98	-94.60	1,146.70	-15.51	881.25	845.88	35.37	24.917		
4,300.00	4,183.59	4,272.42	4,052.43	18.13	22.48	-94.37	1,175.56	-15.91	898.12	862.14	35.98	24.964		
4,400.00	4,283.39	4,399.44	4,177.20	18.31	22.92	-94.06	1,199.29	-16.24	911.73	875.25	36.48	24.994		
4,500.00	4,383.35	4,527.73	4,304.16	18.44	23.27	-93.66	1,217.62	-16.49	922.05	885.19	36.86	25.017		
4,527.65	4,411.00	4,563.39	4,339.59	18.47	23.36	-45.48	1,221.71	-16.55	924.31	887.37	36.94	25.021		
4,600.00	4,483.35	4,657.10	4,432.90	18.55	23.56	-45.11	1,230.34	-16.67	929.07	891.94	37.13	25.021		
4,700.00	4,583.35	4,787.36	4,562.96	18.66	23.76	-44.81	1,237.25	-16.76	932.89	895.49	37.39	24.949		
4,800.00	4,683.35	4,907.76	4,683.35	18.77	23.89	-44.76	1,238.57	-16.78	933.61	895.98	37.63	24.808		

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



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
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
4,900.00	4,783.35	5,007.76	4,783.35	18.89	23.97	-44.76	1,238.57	-16.78	933.61	895.75	37.86	24.659	
5,000.00	4,883.35	5,107.76	4,883.35	19.01	24.06	-44.76	1,238.57	-16.78	933.61	895.52	38.09	24.509	
5,100.00	4,983.35	5,207.76	4,983.35	19.13	24.15	-44.76	1,238.57	-16.78	933.61	895.29	38.33	24.359	
5,200.00	5,083.35	5,307.76	5,083.35	19.25	24.25	-44.76	1,238.57	-16.78	933.61	895.05	38.57	24.209	
5,300.00	5,183.35	5,407.76	5,183.35	19.38	24.34	-44.76	1,238.57	-16.78	933.61	894.81	38.81	24.057	
5,400.00	5,283.35	5,507.76	5,283.35	19.50	24.44	-44.76	1,238.57	-16.78	933.61	894.56	39.05	23.906	
5,500.00	5,383.35	5,607.76	5,383.35	19.63	24.54	-44.76	1,238.57	-16.78	933.61	894.31	39.30	23.754	
5,600.00	5,483.35	5,707.76	5,483.35	19.76	24.64	-44.76	1,238.57	-16.78	933.61	894.06	39.56	23.602	
5,700.00	5,583.35	5,807.76	5,583.35	19.89	24.74	-44.76	1,238.57	-16.78	933.61	893.80	39.81	23.450	
5,800.00	5,683.35	5,907.76	5,683.35	20.02	24.84	-44.76	1,238.57	-16.78	933.61	893.54	40.07	23.298	
5,900.00	5,783.35	6,007.76	5,783.35	20.16	24.94	-44.76	1,238.57	-16.78	933.61	893.28	40.34	23.146	
6,000.00	5,883.35	6,107.76	5,883.35	20.29	25.05	-44.76	1,238.57	-16.78	933.61	893.01	40.60	22.994	
6,100.00	5,983.35	6,207.76	5,983.35	20.43	25.16	-44.76	1,238.57	-16.78	933.61	892.74	40.87	22.842	
6,200.00	6,083.35	6,307.76	6,083.35	20.57	25.27	-44.76	1,238.57	-16.78	933.61	892.47	41.15	22.691	
6,300.00	6,183.35	6,407.76	6,183.35	20.71	25.38	-44.76	1,238.57	-16.78	933.61	892.19	41.42	22.539	
6,400.00	6,283.35	6,507.76	6,283.35	20.85	25.49	-44.76	1,238.57	-16.78	933.61	891.91	41.70	22.388	
6,500.00	6,383.35	6,607.76	6,383.35	21.00	25.60	-44.76	1,238.57	-16.78	933.61	891.63	41.98	22.238	
6,600.00	6,483.35	6,707.76	6,483.35	21.14	25.72	-44.76	1,238.57	-16.78	933.61	891.35	42.27	22.088	
6,700.00	6,583.35	6,807.76	6,583.35	21.29	25.84	-44.76	1,238.57	-16.78	933.61	891.06	42.56	21.939	
6,800.00	6,683.35	6,907.76	6,683.35	21.44	25.95	-44.76	1,238.57	-16.78	933.61	890.77	42.85	21.790	
6,900.00	6,783.35	7,007.76	6,783.35	21.59	26.07	-44.76	1,238.57	-16.78	933.61	890.48	43.14	21.642	
7,000.00	6,883.35	7,107.76	6,883.35	21.74	26.19	-44.76	1,238.57	-16.78	933.61	890.18	43.43	21.495	
7,100.00	6,983.35	7,207.76	6,983.35	21.89	26.32	-44.76	1,238.57	-16.78	933.61	889.88	43.73	21.348	
7,200.00	7,083.35	7,307.76	7,083.35	22.04	26.44	-44.76	1,238.57	-16.78	933.61	889.58	44.03	21.202	
7,300.00	7,183.35	7,407.76	7,183.35	22.20	26.56	-44.76	1,238.57	-16.78	933.61	889.28	44.34	21.057	
7,400.00	7,283.35	7,507.76	7,283.35	22.35	26.69	-44.76	1,238.57	-16.78	933.61	888.97	44.64	20.912	
7,500.00	7,383.35	7,607.76	7,383.35	22.51	26.82	-44.76	1,238.57	-16.78	933.61	888.66	44.95	20.769	
7,600.00	7,483.35	7,707.76	7,483.35	22.67	26.95	-44.76	1,238.57	-16.78	933.61	888.35	45.26	20.626	
7,700.00	7,583.35	7,807.76	7,583.35	22.82	27.08	-44.76	1,238.57	-16.78	933.61	888.04	45.58	20.484	
7,800.00	7,683.35	7,907.76	7,683.35	22.98	27.21	-44.76	1,238.57	-16.78	933.61	887.72	45.89	20.344	
7,900.00	7,783.35	8,007.76	7,783.35	23.15	27.34	-44.76	1,238.57	-16.78	933.61	887.40	46.21	20.204	
8,000.00	7,883.35	8,107.76	7,883.35	23.31	27.47	-44.76	1,238.57	-16.78	933.61	887.09	46.53	20.065	
8,100.00	7,983.35	8,207.76	7,983.35	23.47	27.61	-44.76	1,238.57	-16.78	933.61	886.76	46.85	19.927	
8,200.00	8,083.35	8,307.76	8,083.35	23.63	27.74	-44.76	1,238.57	-16.78	933.61	886.44	47.18	19.790	
8,226.78	8,110.13	8,334.54	8,110.13	23.68	27.78	-44.76	1,238.57	-16.78	933.61	886.35	47.26	19.754	
8,243.65	8,127.00	8,345.41	8,121.00	23.71	27.80	-44.76	1,238.57	-16.78	933.63	886.33	47.31	19.735	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												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	-176.34	-43.70	-2.80	43.79				
100.00	100.00	100.00	100.00	0.10	0.10	-176.34	-43.70	-2.80	43.79	43.60	0.19	229.185	
200.00	200.00	200.00	200.00	0.32	0.32	-176.34	-43.70	-2.80	43.79	43.15	0.64	68.354	
300.00	300.00	300.00	300.00	0.55	0.55	-176.34	-43.70	-2.80	43.79	42.70	1.09	40.167	
400.00	400.00	400.00	400.00	0.77	0.77	-176.34	-43.70	-2.80	43.79	42.25	1.54	28.439	
500.00	500.00	500.00	500.00	0.99	0.99	-176.34	-43.70	-2.80	43.79	41.80	1.99	22.012	
600.00	600.00	600.00	600.00	1.22	1.22	-176.34	-43.70	-2.80	43.79	41.35	2.44	17.955	
700.00	700.00	700.00	700.00	1.44	1.44	-176.34	-43.70	-2.80	43.79	40.90	2.89	15.160	
750.00	750.00	750.00	750.00	1.56	1.56	-176.34	-43.70	-2.80	43.79	40.67	3.11	14.066 CC, ES	
800.00	800.00	800.02	800.02	1.67	1.67	135.98	-43.70	-2.78	44.10	40.76	3.33	13.227	
900.00	899.93	900.18	900.16	1.88	1.87	136.37	-43.59	-0.68	46.36	42.60	3.75	12.355	
1,000.00	999.68	1,000.29	1,000.10	2.11	2.08	135.48	-43.32	4.91	50.70	46.52	4.18	12.117 SF	
1,100.00	1,099.13	1,100.25	1,099.65	2.35	2.31	133.70	-42.87	13.97	57.17	52.53	4.64	12.317	
1,200.00	1,198.15	1,199.99	1,198.59	2.62	2.56	131.44	-42.25	26.45	65.83	60.69	5.14	12.807	
1,300.00	1,296.63	1,299.42	1,296.74	2.92	2.85	129.07	-41.47	42.32	76.71	71.01	5.70	13.464	
1,400.00	1,394.44	1,398.47	1,393.91	3.27	3.18	126.77	-40.52	61.50	89.86	83.53	6.33	14.192	
1,500.00	1,491.46	1,497.08	1,489.92	3.67	3.56	124.66	-39.41	83.91	105.27	98.21	7.06	14.914	
1,604.88	1,592.24	1,600.00	1,589.25	4.15	4.01	122.68	-38.08	110.81	123.86	115.93	7.93	15.615	
1,700.00	1,683.17	1,692.76	1,677.89	4.63	4.48	120.86	-36.73	138.10	142.04	133.20	8.84	16.066	
1,800.00	1,778.75	1,789.82	1,769.65	5.16	5.04	118.25	-35.17	169.70	161.77	151.88	9.88	16.367	
1,900.00	1,874.33	1,886.13	1,859.58	5.70	5.66	115.19	-33.47	204.11	182.44	171.43	11.00	16.577	
2,000.00	1,969.91	1,981.48	1,947.43	6.25	6.35	111.89	-31.64	241.13	204.37	192.18	12.19	16.767	
2,100.00	2,065.49	2,077.48	2,034.95	6.81	7.09	108.64	-29.69	280.53	227.61	214.20	13.41	16.976	
2,200.00	2,161.07	2,173.97	2,122.87	7.38	7.86	105.95	-27.72	320.24	251.46	236.83	14.64	17.182	
2,300.00	2,256.65	2,270.46	2,210.79	7.95	8.64	103.72	-25.76	359.94	275.76	259.90	15.86	17.385	
2,400.00	2,352.23	2,366.95	2,298.71	8.52	9.43	101.85	-23.80	399.65	300.38	283.30	17.09	17.582	
2,500.00	2,447.81	2,463.44	2,386.63	9.10	10.22	100.27	-21.83	439.36	325.26	306.96	18.31	17.768	
2,600.00	2,543.39	2,559.93	2,474.55	9.68	11.03	98.91	-19.87	479.06	350.35	330.82	19.53	17.943	
2,700.00	2,638.97	2,656.42	2,562.46	10.27	11.84	97.73	-17.91	518.77	375.59	354.85	20.74	18.107	
2,800.00	2,734.55	2,752.91	2,650.38	10.85	12.65	96.70	-15.94	558.48	400.97	379.01	21.96	18.259	
2,900.00	2,830.13	2,849.40	2,738.30	11.44	13.47	95.79	-13.98	598.18	426.45	403.27	23.17	18.402	
3,000.00	2,925.71	2,945.89	2,826.22	12.03	14.28	94.99	-12.02	637.89	452.02	427.63	24.39	18.534	
3,100.00	3,021.29	3,042.38	2,914.14	12.62	15.10	94.27	-10.05	677.59	477.67	452.07	25.60	18.657	
3,200.00	3,116.87	3,138.87	3,002.06	13.21	15.93	93.62	-8.09	717.30	503.38	476.56	26.82	18.772	
3,300.00	3,212.45	3,235.36	3,089.98	13.80	16.75	93.03	-6.13	757.01	529.14	501.12	28.03	18.880	
3,400.00	3,308.03	3,331.85	3,177.90	14.39	17.57	92.51	-4.16	796.71	554.95	525.71	29.24	18.980	
3,500.00	3,403.62	3,428.34	3,265.82	14.98	18.40	92.02	-2.20	836.42	580.81	550.36	30.45	19.074	
3,600.00	3,499.20	3,524.83	3,353.74	15.58	19.23	91.58	-0.24	876.13	606.69	575.03	31.66	19.162	
3,672.78	3,568.76	3,595.05	3,417.72	16.01	19.83	91.28	1.19	905.02	625.55	593.01	32.54	19.222	
3,700.00	3,594.81	3,621.32	3,441.65	16.15	20.06	91.31	1.73	915.83	632.61	599.73	32.87	19.244	
3,800.00	3,691.15	3,717.66	3,529.45	16.59	20.88	91.23	3.69	955.48	658.51	624.54	33.97	19.383	
3,900.00	3,788.36	3,813.73	3,616.98	16.98	21.71	90.90	5.64	995.01	684.45	649.46	34.99	19.562	
4,000.00	3,886.33	3,926.27	3,720.36	17.33	22.53	90.28	7.84	1,039.40	709.43	673.52	35.91	19.755	
4,100.00	3,984.94	4,041.07	3,827.53	17.65	23.22	89.63	9.87	1,080.47	732.20	695.51	36.69	19.958	
4,200.00	4,084.06	4,157.55	3,937.87	17.91	23.86	88.96	11.71	1,117.73	752.70	715.34	37.36	20.148	
4,300.00	4,183.59	4,275.63	4,051.18	18.13	24.43	88.24	13.35	1,150.89	770.87	732.95	37.92	20.329	
4,400.00	4,283.39	4,395.20	4,167.21	18.31	24.94	87.48	14.78	1,179.70	786.67	748.30	38.37	20.504	
4,500.00	4,383.35	4,516.15	4,285.70	18.44	25.38	86.68	15.97	1,203.89	800.04	761.35	38.69	20.679	
4,527.65	4,411.00	4,549.81	4,318.85	18.47	25.48	134.50	16.26	1,209.73	803.31	764.55	38.76	20.728	
4,600.00	4,483.35	4,638.47	4,406.46	18.55	25.74	133.79	16.93	1,223.25	810.89	772.00	38.89	20.850	
4,700.00	4,583.35	4,762.23	4,529.38	18.66	26.03	133.06	17.64	1,237.58	818.94	779.84	39.09	20.948	
4,800.00	4,683.35	4,887.02	4,653.83	18.77	26.24	132.61	18.09	1,246.64	824.03	784.72	39.31	20.962	

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_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 16-29 - P_RASMUSSEN 16-29 - PLAN #1 09-02-09 RI												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	4,783.35	5,012.36	4,779.11	18.89	26.39	132.43	18.27	1,250.30	826.08	786.54	39.54	20.892	
5,000.00	4,883.35	5,116.60	4,883.35	19.01	26.47	132.42	18.27	1,250.37	826.13	786.36	39.76	20.777	
5,100.00	4,983.35	5,216.60	4,983.35	19.13	26.56	132.42	18.27	1,250.37	826.13	786.14	39.99	20.660	
5,200.00	5,083.35	5,316.60	5,083.35	19.25	26.65	132.42	18.27	1,250.37	826.13	785.91	40.22	20.542	
5,300.00	5,183.35	5,416.60	5,183.35	19.38	26.74	132.42	18.27	1,250.37	826.13	785.68	40.45	20.424	
5,400.00	5,283.35	5,516.60	5,283.35	19.50	26.83	132.42	18.27	1,250.37	826.13	785.44	40.69	20.305	
5,500.00	5,383.35	5,616.60	5,383.35	19.63	26.92	132.42	18.27	1,250.37	826.13	785.20	40.93	20.186	
5,600.00	5,483.35	5,716.60	5,483.35	19.76	27.02	132.42	18.27	1,250.37	826.13	784.96	41.17	20.066	
5,700.00	5,583.35	5,816.60	5,583.35	19.89	27.11	132.42	18.27	1,250.37	826.13	784.71	41.42	19.947	
5,800.00	5,683.35	5,916.60	5,683.35	20.02	27.21	132.42	18.27	1,250.37	826.13	784.46	41.67	19.827	
5,900.00	5,783.35	6,016.60	5,783.35	20.16	27.31	132.42	18.27	1,250.37	826.13	784.20	41.92	19.707	
6,000.00	5,883.35	6,116.60	5,883.35	20.29	27.41	132.42	18.27	1,250.37	826.13	783.95	42.18	19.587	
6,100.00	5,983.35	6,216.60	5,983.35	20.43	27.51	132.42	18.27	1,250.37	826.13	783.69	42.44	19.467	
6,200.00	6,083.35	6,316.60	6,083.35	20.57	27.62	132.42	18.27	1,250.37	826.13	783.42	42.70	19.346	
6,300.00	6,183.35	6,416.60	6,183.35	20.71	27.72	132.42	18.27	1,250.37	826.13	783.16	42.97	19.227	
6,400.00	6,283.35	6,516.60	6,283.35	20.85	27.83	132.42	18.27	1,250.37	826.13	782.89	43.24	19.107	
6,500.00	6,383.35	6,616.60	6,383.35	21.00	27.94	132.42	18.27	1,250.37	826.13	782.62	43.51	18.987	
6,600.00	6,483.35	6,716.60	6,483.35	21.14	28.05	132.42	18.27	1,250.37	826.13	782.34	43.79	18.868	
6,700.00	6,583.35	6,816.60	6,583.35	21.29	28.16	132.42	18.27	1,250.37	826.13	782.06	44.06	18.749	
6,800.00	6,683.35	6,916.60	6,683.35	21.44	28.27	132.42	18.27	1,250.37	826.13	781.78	44.34	18.630	
6,900.00	6,783.35	7,016.60	6,783.35	21.59	28.38	132.42	18.27	1,250.37	826.13	781.50	44.63	18.511	
7,000.00	6,883.35	7,116.60	6,883.35	21.74	28.50	132.42	18.27	1,250.37	826.13	781.21	44.91	18.393	
7,100.00	6,983.35	7,216.60	6,983.35	21.89	28.61	132.42	18.27	1,250.37	826.13	780.92	45.20	18.276	
7,200.00	7,083.35	7,316.60	7,083.35	22.04	28.73	132.42	18.27	1,250.37	826.13	780.63	45.50	18.158	
7,300.00	7,183.35	7,416.60	7,183.35	22.20	28.85	132.42	18.27	1,250.37	826.13	780.34	45.79	18.042	
7,400.00	7,283.35	7,516.60	7,283.35	22.35	28.97	132.42	18.27	1,250.37	826.13	780.04	46.09	17.926	
7,500.00	7,383.35	7,616.60	7,383.35	22.51	29.09	132.42	18.27	1,250.37	826.13	779.74	46.39	17.810	
7,600.00	7,483.35	7,716.60	7,483.35	22.67	29.21	132.42	18.27	1,250.37	826.13	779.44	46.69	17.695	
7,700.00	7,583.35	7,816.60	7,583.35	22.82	29.34	132.42	18.27	1,250.37	826.13	779.13	46.99	17.580	
7,800.00	7,683.35	7,916.60	7,683.35	22.98	29.46	132.42	18.27	1,250.37	826.13	778.83	47.30	17.467	
7,900.00	7,783.35	8,016.60	7,783.35	23.15	29.59	132.42	18.27	1,250.37	826.13	778.52	47.61	17.353	
8,000.00	7,883.35	8,116.60	7,883.35	23.31	29.72	132.42	18.27	1,250.37	826.13	778.21	47.92	17.241	
8,100.00	7,983.35	8,216.60	7,983.35	23.47	29.84	132.42	18.27	1,250.37	826.13	777.90	48.23	17.129	
8,200.00	8,083.35	8,316.60	8,083.35	23.63	29.97	132.42	18.27	1,250.37	826.13	777.58	48.54	17.018	
8,227.22	8,110.57	8,343.82	8,110.57	23.68	30.01	132.42	18.27	1,250.37	826.13	777.50	48.63	16.988	
8,243.65	8,127.00	8,355.25	8,122.00	23.71	30.02	132.42	18.27	1,250.37	826.14	777.47	48.68	16.972	





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 23-29 - P_RASMUSSEN 23-29 - PLAN #1 09-02-09 R												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	-29.13	0.00	29.13				
100.00	100.00	100.00	100.00	0.10	0.10	-180.00	-29.13	0.00	29.13	28.93	0.19	152.449	
200.00	200.00	200.00	200.00	0.32	0.32	-180.00	-29.13	0.00	29.13	28.48	0.64	45.467	
300.00	300.00	300.00	300.00	0.55	0.55	-180.00	-29.13	0.00	29.13	28.04	1.09	26.718	
400.00	400.00	400.00	400.00	0.77	0.77	-180.00	-29.13	0.00	29.13	27.59	1.54	18.917	
500.00	500.00	500.00	500.00	0.99	0.99	-180.00	-29.13	0.00	29.13	27.14	1.99	14.642	
600.00	600.00	600.00	600.00	1.22	1.22	-180.00	-29.13	0.00	29.13	26.69	2.44	11.943	
700.00	700.00	700.00	700.00	1.44	1.44	-180.00	-29.13	0.00	29.13	26.24	2.89	10.084	
750.00	750.00	750.00	750.00	1.56	1.56	-180.00	-29.13	0.00	29.13	26.01	3.11	9.356	
764.87	764.87	764.97	764.97	1.59	1.59	132.06	-29.10	-0.03	29.13	25.95	3.18	9.163 CC	
800.00	800.00	800.33	800.33	1.67	1.67	133.23	-28.83	-0.33	29.13	25.80	3.33	8.738 ES	
900.00	899.93	900.79	900.72	1.88	1.89	143.37	-26.48	-2.96	29.70	25.93	3.77	7.880 SF	
1,000.00	999.68	1,000.64	1,000.32	2.11	2.11	161.12	-21.82	-8.17	33.35	29.15	4.21	7.927	
1,100.00	1,099.13	1,099.48	1,098.62	2.35	2.35	179.33	-14.93	-15.87	43.14	38.49	4.65	9.284	
1,200.00	1,198.15	1,196.94	1,195.13	2.62	2.62	-167.30	-5.92	-25.93	60.00	54.91	5.10	11.771	
1,300.00	1,296.63	1,292.67	1,289.43	2.92	2.91	-158.64	5.05	-38.19	83.31	77.74	5.57	14.952	
1,400.00	1,394.44	1,386.35	1,381.13	3.27	3.23	-153.04	17.81	-52.45	112.33	106.25	6.08	18.479	
1,500.00	1,491.46	1,477.69	1,469.89	3.67	3.60	-149.24	32.17	-68.50	146.53	139.91	6.62	22.123	
1,604.88	1,592.24	1,570.70	1,559.52	4.15	4.02	-146.41	48.73	-87.01	187.58	180.34	7.24	25.910	
1,700.00	1,683.17	1,652.89	1,638.02	4.63	4.43	-144.73	64.97	-105.16	227.96	220.08	7.88	28.914	
1,800.00	1,778.75	1,737.48	1,718.04	5.16	4.91	-143.08	83.24	-125.58	272.27	263.67	8.60	31.667	
1,900.00	1,874.33	1,820.13	1,795.42	5.70	5.42	-141.53	102.61	-147.23	318.47	309.13	9.34	34.089	
2,000.00	1,969.91	1,901.96	1,871.18	6.25	5.97	-140.06	123.22	-170.26	366.55	356.43	10.12	36.225	
2,100.00	2,065.49	1,988.87	1,951.33	6.81	6.59	-138.75	145.63	-195.31	415.40	404.46	10.94	37.955	
2,200.00	2,161.07	2,075.78	2,031.48	7.38	7.22	-137.72	168.04	-220.36	464.38	452.60	11.78	39.411	
2,300.00	2,256.65	2,162.69	2,111.62	7.95	7.86	-136.89	190.46	-245.40	513.45	500.82	12.63	40.649	
2,400.00	2,352.23	2,249.60	2,191.77	8.52	8.51	-136.20	212.87	-270.45	562.60	549.11	13.49	41.711	
2,500.00	2,447.81	2,336.51	2,271.92	9.10	9.17	-135.62	235.28	-295.50	611.79	597.44	14.35	42.629	
2,600.00	2,543.39	2,423.42	2,352.06	9.68	9.83	-135.12	257.69	-320.54	661.03	645.80	15.22	43.430	
2,700.00	2,638.97	2,510.32	2,432.21	10.27	10.49	-134.70	280.10	-345.59	710.29	694.20	16.09	44.133	
2,800.00	2,734.55	2,597.23	2,512.36	10.85	11.16	-134.33	302.51	-370.64	759.58	742.61	16.97	44.754	
2,900.00	2,830.13	2,684.14	2,592.50	11.44	11.83	-134.00	324.92	-395.68	808.90	791.04	17.85	45.305	
3,000.00	2,925.71	2,771.05	2,672.65	12.03	12.51	-133.71	347.34	-420.73	858.23	839.49	18.74	45.799	
3,100.00	3,021.29	2,857.96	2,752.80	12.62	13.18	-133.46	369.75	-445.78	907.57	887.95	19.63	46.242	
3,200.00	3,116.87	2,944.87	2,832.95	13.21	13.86	-133.23	392.16	-470.83	956.93	936.42	20.52	46.643	
3,300.00	3,212.45	3,031.78	2,913.09	13.80	14.54	-133.02	414.57	-495.87	1,006.30	984.89	21.41	47.006	
3,400.00	3,308.03	3,118.69	2,993.24	14.39	15.22	-132.83	436.98	-520.92	1,055.68	1,033.38	22.30	47.338	
3,500.00	3,403.62	3,205.60	3,073.39	14.98	15.90	-132.66	459.39	-545.97	1,105.07	1,081.87	23.20	47.640	
3,600.00	3,499.20	3,292.50	3,153.53	15.58	16.58	-132.50	481.80	-571.01	1,154.46	1,130.37	24.09	47.918	
3,672.78	3,568.76	3,355.75	3,211.86	16.01	17.07	-132.40	498.11	-589.24	1,190.41	1,165.66	24.75	48.106	
3,700.00	3,594.81	3,379.45	3,233.72	16.15	17.26	-132.58	504.23	-596.07	1,203.78	1,178.76	25.02	48.112	
3,800.00	3,691.15	3,484.74	3,330.99	16.59	18.04	-133.10	531.09	-626.09	1,251.35	1,225.32	26.03	48.066	
3,900.00	3,788.36	3,622.79	3,460.43	16.98	18.83	-133.44	563.08	-661.84	1,294.14	1,267.08	27.06	47.825	
4,000.00	3,886.33	3,767.30	3,598.22	17.33	19.57	-133.72	592.07	-694.24	1,331.22	1,303.21	28.02	47.514	
4,100.00	3,984.94	3,917.62	3,743.70	17.65	20.22	-133.94	617.27	-722.40	1,362.27	1,333.38	28.89	47.148	
4,200.00	4,084.06	4,072.94	3,895.88	17.91	20.78	-134.10	637.92	-745.49	1,386.99	1,357.32	29.67	46.751	
4,300.00	4,183.59	4,232.25	4,053.48	18.13	21.24	-134.23	653.36	-762.75	1,405.13	1,374.80	30.33	46.333	
4,400.00	4,283.39	4,394.37	4,214.92	18.31	21.57	-134.32	663.06	-773.58	1,416.50	1,385.64	30.86	45.896	
4,500.00	4,383.35	4,558.02	4,378.46	18.44	21.78	-134.38	666.65	-777.60	1,420.99	1,389.72	31.27	45.449	
4,527.65	4,411.00	4,590.56	4,411.00	18.47	21.81	-86.33	666.67	-777.62	1,421.09	1,389.75	31.34	45.341	
4,600.00	4,483.35	4,662.91	4,483.35	18.55	21.88	-86.33	666.67	-777.62	1,421.09	1,389.57	31.52	45.086	
4,700.00	4,583.35	4,762.91	4,583.35	18.66	21.97	-86.33	666.67	-777.62	1,421.09	1,389.32	31.77	44.724	

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_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												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	
4,800.00	4,683.35	4,862.91	4,683.35	18.77	22.07	-86.33	666.67	-777.62	1,421.09	1,389.06	32.03	44.362	
4,900.00	4,783.35	4,962.91	4,783.35	18.89	22.17	-86.33	666.67	-777.62	1,421.09	1,388.80	32.30	44.000	
5,000.00	4,883.35	5,062.91	4,883.35	19.01	22.27	-86.33	666.67	-777.62	1,421.09	1,388.53	32.56	43.639	
5,100.00	4,983.35	5,162.91	4,983.35	19.13	22.38	-86.33	666.67	-777.62	1,421.09	1,388.26	32.84	43.278	
5,200.00	5,083.35	5,262.91	5,083.35	19.25	22.48	-86.33	666.67	-777.62	1,421.09	1,387.98	33.11	42.919	
5,300.00	5,183.35	5,362.91	5,183.35	19.38	22.59	-86.33	666.67	-777.62	1,421.09	1,387.70	33.39	42.560	
5,400.00	5,283.35	5,462.91	5,283.35	19.50	22.70	-86.33	666.67	-777.62	1,421.09	1,387.42	33.67	42.203	
5,500.00	5,383.35	5,562.91	5,383.35	19.63	22.81	-86.33	666.67	-777.62	1,421.09	1,387.13	33.96	41.847	
5,600.00	5,483.35	5,662.91	5,483.35	19.76	22.92	-86.33	666.67	-777.62	1,421.09	1,386.84	34.25	41.493	
5,700.00	5,583.35	5,762.91	5,583.35	19.89	23.03	-86.33	666.67	-777.62	1,421.09	1,386.55	34.54	41.140	
5,800.00	5,683.35	5,862.91	5,683.35	20.02	23.15	-86.33	666.67	-777.62	1,421.09	1,386.25	34.84	40.790	
5,900.00	5,783.35	5,962.91	5,783.35	20.16	23.26	-86.33	666.67	-777.62	1,421.09	1,385.95	35.14	40.442	
6,000.00	5,883.35	6,062.91	5,883.35	20.29	23.38	-86.33	666.67	-777.62	1,421.09	1,385.65	35.44	40.096	
6,100.00	5,983.35	6,162.91	5,983.35	20.43	23.50	-86.33	666.67	-777.62	1,421.09	1,385.35	35.75	39.753	
6,200.00	6,083.35	6,262.91	6,083.35	20.57	23.62	-86.33	666.67	-777.62	1,421.09	1,385.04	36.06	39.412	
6,300.00	6,183.35	6,362.91	6,183.35	20.71	23.75	-86.33	666.67	-777.62	1,421.09	1,384.72	36.37	39.074	
6,400.00	6,283.35	6,462.91	6,283.35	20.85	23.87	-86.33	666.67	-777.62	1,421.09	1,384.41	36.68	38.739	
6,500.00	6,383.35	6,562.91	6,383.35	21.00	24.00	-86.33	666.67	-777.62	1,421.09	1,384.09	37.00	38.406	
6,600.00	6,483.35	6,662.91	6,483.35	21.14	24.12	-86.33	666.67	-777.62	1,421.09	1,383.77	37.32	38.077	
6,700.00	6,583.35	6,762.91	6,583.35	21.29	24.25	-86.33	666.67	-777.62	1,421.09	1,383.45	37.64	37.750	
6,800.00	6,683.35	6,862.91	6,683.35	21.44	24.38	-86.33	666.67	-777.62	1,421.09	1,383.12	37.97	37.427	
6,900.00	6,783.35	6,962.91	6,783.35	21.59	24.52	-86.33	666.67	-777.62	1,421.09	1,382.80	38.30	37.106	
7,000.00	6,883.35	7,062.91	6,883.35	21.74	24.65	-86.33	666.67	-777.62	1,421.09	1,382.46	38.63	36.788	
7,100.00	6,983.35	7,162.91	6,983.35	21.89	24.78	-86.33	666.67	-777.62	1,421.09	1,382.13	38.96	36.474	
7,200.00	7,083.35	7,262.91	7,083.35	22.04	24.92	-86.33	666.67	-777.62	1,421.09	1,381.80	39.30	36.163	
7,300.00	7,183.35	7,362.91	7,183.35	22.20	25.05	-86.33	666.67	-777.62	1,421.09	1,381.46	39.63	35.855	
7,400.00	7,283.35	7,462.91	7,283.35	22.35	25.19	-86.33	666.67	-777.62	1,421.09	1,381.12	39.97	35.551	
7,500.00	7,383.35	7,562.91	7,383.35	22.51	25.33	-86.33	666.67	-777.62	1,421.09	1,380.78	40.32	35.249	
7,600.00	7,483.35	7,662.91	7,483.35	22.67	25.47	-86.33	666.67	-777.62	1,421.09	1,380.43	40.66	34.951	
7,700.00	7,583.35	7,762.91	7,583.35	22.82	25.61	-86.33	666.67	-777.62	1,421.09	1,380.09	41.01	34.656	
7,764.41	7,647.76	7,827.32	7,647.76	22.93	25.71	-86.33	666.67	-777.62	1,421.09	1,379.86	41.23	34.468	
7,800.00	7,683.35	7,856.56	7,677.00	22.98	25.75	-86.33	666.67	-777.62	1,421.11	1,379.77	41.34	34.374	
7,900.00	7,783.35	7,856.56	7,677.00	23.15	25.75	-86.33	666.67	-777.62	1,425.07	1,383.55	41.52	34.322	
8,000.00	7,883.35	7,856.56	7,677.00	23.31	25.75	-86.33	666.67	-777.62	1,436.00	1,394.30	41.70	34.436	
8,100.00	7,983.35	7,856.56	7,677.00	23.47	25.75	-86.33	666.67	-777.62	1,453.74	1,411.86	41.88	34.712	
8,200.00	8,083.35	7,856.56	7,677.00	23.63	25.75	-86.33	666.67	-777.62	1,478.05	1,435.99	42.06	35.140	
8,243.65	8,127.00	7,856.56	7,677.00	23.71	25.75	-86.33	666.67	-777.62	1,490.64	1,448.50	42.14	35.373	





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 25-29 - P_RASMUSSEN 25-29 - PLAN #1 09-02-09 RI												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	0.00	47.37	0.00	47.37				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	47.37	0.00	47.37	47.18	0.19	247.938	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	47.37	0.00	47.37	46.73	0.64	73.946	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	47.37	0.00	47.37	46.28	1.09	43.453	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	47.37	0.00	47.37	45.83	1.54	30.766	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	47.37	0.00	47.37	45.38	1.99	23.813	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	47.37	0.00	47.37	44.93	2.44	19.424	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	47.37	0.00	47.37	44.48	2.89	16.401	
750.00	750.00	750.00	750.00	1.56	1.56	0.00	47.37	0.00	47.37	44.26	3.11	15.216	
800.00	800.00	800.00	800.00	1.67	1.67	-48.46	47.37	0.00	47.08	43.74	3.34	14.115	
900.00	899.93	899.93	899.93	1.88	1.89	-51.83	47.37	0.00	44.84	41.06	3.78	11.872	
1,000.00	999.68	998.78	998.77	2.11	2.11	-59.69	48.02	-0.28	41.60	37.38	4.22	9.853	
1,058.11	1,057.51	1,055.83	1,055.79	2.25	2.24	-66.92	49.72	-0.99	40.91	36.43	4.49	9.114 CC, ES	
1,100.00	1,099.13	1,096.88	1,096.80	2.35	2.33	-73.12	51.58	-1.77	41.34	36.66	4.68	8.829 SF	
1,200.00	1,198.15	1,194.52	1,194.17	2.62	2.56	-88.94	58.20	-4.55	46.50	41.34	5.17	9.000	
1,300.00	1,296.63	1,291.47	1,290.55	2.92	2.79	-102.36	67.79	-8.59	58.13	52.46	5.67	10.251	
1,400.00	1,394.44	1,387.51	1,385.63	3.27	3.04	-111.62	80.24	-13.83	75.72	69.52	6.20	12.212	
1,500.00	1,491.46	1,482.44	1,479.12	3.67	3.32	-117.51	95.44	-20.22	98.39	91.62	6.77	14.531	
1,604.88	1,592.24	1,580.59	1,575.14	4.15	3.64	-121.30	114.14	-28.08	126.93	119.50	7.43	17.086	
1,700.00	1,683.17	1,668.53	1,660.54	4.63	3.98	-123.45	133.46	-36.21	155.81	147.72	8.10	19.245	
1,800.00	1,778.75	1,760.08	1,748.72	5.16	4.37	-124.22	156.13	-45.75	187.99	179.14	8.86	21.230	
1,900.00	1,874.33	1,850.52	1,835.02	5.70	4.80	-124.11	181.07	-56.24	221.87	212.20	9.67	22.950	
2,000.00	1,969.91	1,939.71	1,919.24	6.25	5.28	-123.48	208.11	-67.61	257.42	246.89	10.53	24.450	
2,100.00	2,065.49	2,027.51	2,001.22	6.81	5.80	-122.54	237.08	-79.79	294.67	283.24	11.43	25.778	
2,200.00	2,161.07	2,113.78	2,080.80	7.38	6.36	-121.41	267.78	-92.71	333.66	321.30	12.37	26.981	
2,300.00	2,256.65	2,200.99	2,160.27	7.95	6.98	-120.18	300.88	-106.63	374.31	360.97	13.34	28.049	
2,400.00	2,352.23	2,291.89	2,242.90	8.52	7.65	-119.08	335.80	-121.31	415.41	401.05	14.36	28.927	
2,500.00	2,447.81	2,382.79	2,325.53	9.10	8.33	-118.18	370.72	-136.00	456.62	441.24	15.39	29.679	
2,600.00	2,543.39	2,473.69	2,408.16	9.68	9.03	-117.43	405.64	-150.69	497.91	481.49	16.42	30.329	
2,700.00	2,638.97	2,564.59	2,490.79	10.27	9.73	-116.79	440.56	-165.38	539.26	521.80	17.45	30.895	
2,800.00	2,734.55	2,655.49	2,573.42	10.85	10.44	-116.25	475.48	-180.06	580.65	562.16	18.50	31.392	
2,900.00	2,830.13	2,746.39	2,656.05	11.44	11.16	-115.77	510.40	-194.75	622.09	602.54	19.54	31.831	
3,000.00	2,925.71	2,837.29	2,738.68	12.03	11.88	-115.36	545.32	-209.44	663.55	642.96	20.59	32.221	
3,100.00	3,021.29	2,928.19	2,821.31	12.62	12.61	-114.99	580.24	-224.13	705.04	683.39	21.65	32.570	
3,200.00	3,116.87	3,019.09	2,903.93	13.21	13.33	-114.67	615.16	-238.81	746.55	723.85	22.70	32.883	
3,300.00	3,212.45	3,109.99	2,986.56	13.80	14.07	-114.38	650.08	-253.50	788.08	764.32	23.76	33.167	
3,400.00	3,308.03	3,200.89	3,069.19	14.39	14.80	-114.11	685.00	-268.19	829.62	804.80	24.82	33.424	
3,500.00	3,403.62	3,291.79	3,151.82	14.98	15.53	-113.88	719.92	-282.88	871.18	845.30	25.88	33.658	
3,600.00	3,499.20	3,382.69	3,234.45	15.58	16.27	-113.66	754.84	-297.56	912.75	885.80	26.95	33.872	
3,672.78	3,568.76	3,448.84	3,294.59	16.01	16.81	-113.52	780.25	-308.25	943.00	915.28	27.72	34.016	
3,700.00	3,594.81	3,473.60	3,317.10	16.15	17.01	-113.68	789.77	-312.26	954.28	926.25	28.03	34.050	
3,800.00	3,691.15	3,564.83	3,400.03	16.59	17.75	-114.16	824.81	-327.00	994.88	965.82	29.06	34.232	
3,900.00	3,788.36	3,656.40	3,483.26	16.98	18.50	-114.44	859.99	-341.79	1,034.22	1,004.16	30.06	34.406	
4,000.00	3,886.33	3,748.19	3,566.70	17.33	19.24	-114.55	895.25	-356.62	1,072.33	1,041.32	31.01	34.581	
4,100.00	3,984.94	3,840.09	3,650.24	17.65	20.00	-114.50	930.56	-371.47	1,109.23	1,077.32	31.91	34.766	
4,200.00	4,084.06	3,932.00	3,733.79	17.91	20.75	-114.31	965.87	-386.32	1,144.99	1,112.25	32.75	34.967	
4,300.00	4,183.59	4,023.79	3,817.23	18.13	21.50	-113.99	1,001.13	-401.15	1,179.69	1,146.17	33.52	35.190	
4,400.00	4,283.39	4,115.36	3,900.46	18.31	22.25	-113.57	1,036.31	-415.95	1,213.42	1,179.18	34.24	35.443	
4,500.00	4,383.35	4,206.59	3,983.40	18.44	23.00	-113.04	1,071.35	-430.69	1,246.27	1,211.39	34.88	35.731	
4,527.65	4,411.00	4,231.74	4,006.26	18.47	23.20	-64.83	1,081.02	-434.76	1,255.21	1,220.17	35.04	35.817	
4,600.00	4,483.35	4,297.51	4,066.04	18.55	23.74	-63.96	1,106.28	-445.38	1,278.69	1,243.28	35.40	36.118	
4,700.00	4,583.35	4,388.41	4,148.67	18.66	24.49	-62.80	1,141.20	-460.07	1,311.58	1,275.69	35.89	36.543	

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_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 25-29 - P_RASMUSSEN 25-29 - PLAN #1 09-02-09 RI												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	
4,800.00	4,683.35	4,479.31	4,231.31	18.77	25.23	-61.70	1,176.12	-474.76	1,344.96	1,308.59	36.37	36.984	
4,900.00	4,783.35	4,570.22	4,313.94	18.89	25.98	-60.65	1,211.05	-489.45	1,378.79	1,341.96	36.83	37.438	
5,000.00	4,883.35	4,661.12	4,396.57	19.01	26.73	-59.65	1,245.97	-504.13	1,413.04	1,375.75	37.28	37.901	
5,100.00	4,983.35	4,752.02	4,479.20	19.13	27.48	-58.69	1,280.89	-518.82	1,447.68	1,409.95	37.73	38.373	
5,200.00	5,083.35	4,842.92	4,561.83	19.25	28.22	-57.77	1,315.81	-533.51	1,482.68	1,444.52	38.16	38.852	
5,300.00	5,183.35	4,933.82	4,644.46	19.38	28.97	-56.89	1,350.73	-548.20	1,518.02	1,479.42	38.59	39.335	
5,400.00	5,283.35	5,024.72	4,727.09	19.50	29.72	-56.05	1,385.65	-562.89	1,553.67	1,514.65	39.02	39.821	
5,500.00	5,383.35	5,115.63	4,809.72	19.63	30.47	-55.25	1,420.57	-577.57	1,589.62	1,550.18	39.44	40.309	
5,600.00	5,483.35	5,206.53	4,892.35	19.76	31.22	-54.48	1,455.49	-592.26	1,625.83	1,585.98	39.85	40.799	
5,700.00	5,583.35	5,297.43	4,974.98	19.89	31.97	-53.75	1,490.41	-606.95	1,662.31	1,622.05	40.26	41.287	
5,800.00	5,683.35	5,388.33	5,057.62	20.02	32.72	-53.04	1,525.34	-621.64	1,699.02	1,658.35	40.67	41.775	
5,900.00	5,783.35	5,479.23	5,140.25	20.16	33.47	-52.36	1,560.26	-636.33	1,735.96	1,694.89	41.08	42.261	
6,000.00	5,883.35	5,570.13	5,222.88	20.29	34.22	-51.71	1,595.18	-651.01	1,773.11	1,731.63	41.48	42.744	
6,100.00	5,983.35	5,661.03	5,305.51	20.43	34.97	-51.09	1,630.10	-665.70	1,810.46	1,768.57	41.89	43.224	
6,200.00	6,083.35	5,751.94	5,388.14	20.57	35.72	-50.49	1,665.02	-680.39	1,847.99	1,805.70	42.29	43.700	
6,300.00	6,183.35	5,842.84	5,470.77	20.71	36.47	-49.91	1,699.94	-695.08	1,885.69	1,843.00	42.69	44.172	
6,400.00	6,283.35	5,933.74	5,553.40	20.85	37.22	-49.35	1,734.86	-709.77	1,923.56	1,880.47	43.09	44.639	
6,500.00	6,383.35	6,024.64	5,636.03	21.00	37.97	-48.82	1,769.78	-724.45	1,961.59	1,918.09	43.49	45.101	
6,600.00	6,483.35	6,119.16	5,718.52	21.14	38.71	-47.93	1,804.70	-739.13	1,999.99	1,954.96	44.03	45.400	
6,700.00	6,583.35	6,209.05	5,801.05	21.29	39.46	-46.81	1,839.81	-753.81	2,038.99	1,993.24	44.71	45.398	
6,800.00	6,683.35	6,300.00	5,883.14	21.44	40.21	-46.02	1,875.00	-768.49	2,078.99	2,031.71	45.38	45.233	
6,900.00	6,783.35	6,391.17	5,965.89	21.59	40.96	-45.54	1,910.26	-783.17	2,118.99	2,071.11	45.98	44.935	
7,000.00	6,883.35	6,482.35	6,048.35	21.74	41.71	-45.40	1,945.69	-797.85	2,159.00	2,103.66	46.48	44.539	
7,100.00	6,983.35	6,573.52	6,131.00	21.89	42.46	-45.40	1,981.18	-812.53	2,200.00	2,146.40	46.75	44.283	
7,200.00	7,083.35	6,664.69	6,213.65	22.04	43.21	-45.40	2,016.67	-827.21	2,241.00	2,189.12	47.02	44.023	
7,300.00	7,183.35	6,755.86	6,296.30	22.20	43.96	-45.40	2,052.16	-841.89	2,282.00	2,231.84	47.30	43.763	
7,400.00	7,283.35	6,847.03	6,378.95	22.35	44.71	-45.40	2,087.65	-856.57	2,323.00	2,274.56	47.59	43.504	
7,500.00	7,383.35	6,938.20	6,461.60	22.51	45.46	-45.40	2,123.14	-871.25	2,364.00	2,317.27	47.87	43.245	
7,600.00	7,483.35	7,029.37	6,544.25	22.67	46.21	-45.40	2,158.63	-885.93	2,405.00	2,360.00	48.16	42.988	
7,700.00	7,583.35	7,120.54	6,626.90	22.82	46.96	-45.40	2,194.12	-900.61	2,446.00	2,402.70	48.45	42.731	
7,800.00	7,683.35	7,211.71	6,709.55	22.98	47.71	-45.40	2,229.61	-915.29	2,487.00	2,445.41	48.74	42.475	
7,900.00	7,783.35	7,302.88	6,792.20	23.15	48.46	-45.40	2,265.10	-929.97	2,528.00	2,488.12	48.93	42.339	
8,000.00	7,883.35	7,394.05	6,874.85	23.31	49.21	-45.40	2,300.59	-944.65	2,569.00	2,530.84	49.09	42.324	
8,100.00	7,983.35	7,485.22	6,957.50	23.47	49.96	-45.40	2,336.08	-959.33	2,610.00	2,573.56	49.25	42.406	
8,200.00	8,083.35	7,576.39	7,040.15	23.63	50.71	-45.40	2,371.57	-974.01	2,651.00	2,616.28	49.42	42.581	
8,243.65	8,127.00	7,619.70	7,073.46	23.71	50.96	-45.40	2,407.06	-988.69	2,692.00	2,659.00	49.49	42.686	



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## Anticollision Report



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<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 36-29 - P_RASMUSSEN 36-29 - PLAN #1 09-02-09 RI													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	-177.25	-58.27	-2.80	58.33					
100.00	100.00	100.00	100.00	0.10	0.10	-177.25	-58.27	-2.80	58.33	58.14	0.19	305.337		
200.00	200.00	200.00	200.00	0.32	0.32	-177.25	-58.27	-2.80	58.33	57.69	0.64	91.065		
300.00	300.00	300.00	300.00	0.55	0.55	-177.25	-58.27	-2.80	58.33	57.24	1.09	53.513		
400.00	400.00	400.00	400.00	0.77	0.77	-177.25	-58.27	-2.80	58.33	56.80	1.54	37.889		
500.00	500.00	500.00	500.00	0.99	0.99	-177.25	-58.27	-2.80	58.33	56.35	1.99	29.326		
600.00	600.00	600.00	600.00	1.22	1.22	-177.25	-58.27	-2.80	58.33	55.90	2.44	23.920		
700.00	700.00	700.00	700.00	1.44	1.44	-177.25	-58.27	-2.80	58.33	55.45	2.89	20.197		
750.00	750.00	750.00	750.00	1.56	1.56	-177.25	-58.27	-2.80	58.33	55.22	3.11	18.739 CC, ES		
800.00	800.00	799.71	799.71	1.67	1.66	135.03	-58.31	-2.85	58.69	55.36	3.33	17.626		
900.00	899.93	897.99	897.95	1.88	1.84	138.68	-59.92	-4.58	63.02	59.30	3.72	16.919 SF		
1,000.00	999.68	995.32	995.12	2.11	2.03	145.00	-63.76	-8.73	73.16	69.03	4.13	17.720		
1,100.00	1,099.13	1,091.04	1,090.43	2.35	2.24	151.74	-69.73	-15.18	89.98	85.44	4.53	19.843		
1,200.00	1,198.15	1,184.51	1,183.17	2.62	2.47	157.51	-77.63	-23.72	113.86	108.92	4.94	23.062		
1,300.00	1,296.63	1,275.18	1,272.72	2.92	2.72	161.96	-87.26	-34.13	144.69	139.35	5.33	27.133		
1,400.00	1,394.44	1,362.55	1,358.54	3.27	3.00	165.26	-98.36	-46.12	182.13	176.41	5.72	31.843		
1,500.00	1,491.46	1,446.21	1,440.22	3.67	3.31	167.68	-110.65	-59.39	225.81	219.71	6.10	37.026		
1,604.88	1,592.24	1,529.60	1,521.08	4.15	3.65	169.54	-124.50	-74.36	277.85	271.37	6.49	42.837		
1,700.00	1,683.17	1,600.00	1,588.85	4.63	3.97	170.93	-137.44	-88.34	328.93	322.05	6.88	47.783		
1,800.00	1,778.75	1,675.49	1,660.98	5.16	4.36	172.09	-152.56	-104.68	384.86	377.54	7.32	52.596		
1,900.00	1,874.33	1,747.32	1,729.05	5.70	4.76	172.96	-168.14	-121.51	442.95	435.20	7.75	57.179		
2,000.00	1,969.91	1,827.90	1,805.13	6.25	5.24	173.73	-186.16	-140.98	501.95	493.74	8.20	61.180		
2,100.00	2,065.49	1,908.47	1,881.22	6.81	5.73	174.34	-204.18	-160.45	560.99	552.33	8.67	64.735		
2,200.00	2,161.07	1,989.05	1,957.30	7.38	6.23	174.84	-222.19	-179.91	620.07	610.94	9.13	67.879		
2,300.00	2,256.65	2,069.63	2,033.39	7.95	6.74	175.24	-240.21	-199.38	679.18	669.57	9.61	70.680		
2,400.00	2,352.23	2,150.20	2,109.48	8.52	7.25	175.59	-258.23	-218.85	738.30	728.22	10.09	73.192		
2,500.00	2,447.81	2,230.78	2,185.56	9.10	7.77	175.88	-276.24	-238.31	797.44	786.87	10.57	75.453		
2,600.00	2,543.39	2,311.36	2,261.65	9.68	8.29	176.13	-294.26	-257.78	856.59	845.54	11.05	77.497		
2,700.00	2,638.97	2,391.93	2,337.73	10.27	8.82	176.35	-312.28	-277.24	915.75	904.21	11.54	79.347		
2,800.00	2,734.55	2,472.51	2,413.82	10.85	9.35	176.55	-330.29	-296.71	974.92	962.89	12.03	81.028		
2,900.00	2,830.13	2,553.09	2,489.90	11.44	9.88	176.72	-348.31	-316.18	1,034.09	1,021.57	12.52	82.564		
3,000.00	2,925.71	2,633.66	2,565.99	12.03	10.41	176.87	-366.33	-335.64	1,093.27	1,080.25	13.02	83.973		
3,100.00	3,021.29	2,714.24	2,642.08	12.62	10.95	177.01	-384.34	-355.11	1,152.46	1,138.94	13.52	85.269		
3,200.00	3,116.87	2,794.82	2,718.16	13.21	11.48	177.13	-402.36	-374.58	1,211.65	1,197.63	14.01	86.462		
3,300.00	3,212.45	2,875.39	2,794.25	13.80	12.02	177.24	-420.38	-394.04	1,270.84	1,256.32	14.51	87.563		
3,400.00	3,308.03	2,955.97	2,870.33	14.39	12.56	177.34	-438.39	-413.51	1,330.03	1,315.02	15.01	88.585		
3,500.00	3,403.62	3,036.55	2,946.42	14.98	13.10	177.44	-456.41	-432.98	1,389.23	1,373.71	15.52	89.534		
3,600.00	3,499.20	3,117.12	3,022.51	15.58	13.64	177.52	-474.43	-452.44	1,448.43	1,432.41	16.02	90.418		
3,672.78	3,568.76	3,175.76	3,077.88	16.01	14.03	177.58	-487.54	-466.61	1,491.51	1,475.12	16.39	91.023		
3,700.00	3,594.81	3,197.78	3,098.66	16.15	14.18	177.62	-492.46	-471.93	1,507.52	1,490.96	16.56	91.039		
3,800.00	3,691.15	3,279.92	3,176.23	16.59	14.73	177.74	-510.83	-491.77	1,564.53	1,547.36	17.16	91.152		
3,900.00	3,788.36	3,364.00	3,255.62	16.98	15.30	177.85	-529.63	-512.08	1,618.64	1,600.88	17.75	91.170		
4,000.00	3,886.33	3,449.91	3,336.75	17.33	15.88	177.94	-548.84	-532.84	1,669.78	1,651.46	18.33	91.108		
4,100.00	3,984.94	3,537.56	3,419.51	17.65	16.47	178.02	-568.44	-554.01	1,717.90	1,699.02	18.88	90.978		
4,200.00	4,084.06	3,712.86	3,586.11	17.91	17.39	178.12	-605.43	-593.98	1,761.62	1,741.99	19.62	89.775		
4,300.00	4,183.59	3,961.44	3,827.30	18.13	18.37	178.20	-646.08	-637.91	1,795.00	1,774.52	20.48	87.660		
4,400.00	4,283.39	4,225.70	4,088.35	18.31	19.13	178.25	-673.56	-667.59	1,816.42	1,795.15	21.27	85.385		
4,500.00	4,383.35	4,499.09	4,361.15	18.44	19.59	178.27	-684.67	-679.60	1,825.12	1,803.15	21.97	83.088		
4,527.65	4,411.00	4,548.94	4,411.00	18.47	19.64	-133.67	-684.81	-679.75	1,825.33	1,803.23	22.10	82.607		
4,600.00	4,483.35	4,621.29	4,483.35	18.55	19.71	-133.67	-684.81	-679.75	1,825.33	1,802.99	22.34	81.707		
4,700.00	4,583.35	4,721.29	4,583.35	18.66	19.81	-133.67	-684.81	-679.75	1,825.33	1,802.64	22.69	80.447		
4,800.00	4,683.35	4,821.29	4,683.35	18.77	19.91	-133.67	-684.81	-679.75	1,825.33	1,802.29	23.04	79.215		

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



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<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 36-29 - P_RASMUSSEN 36-29 - PLAN #1 09-02-09 RI												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	4,783.35	4,921.29	4,783.35	18.89	20.01	-133.67	-684.81	-679.75	1,825.33	1,801.93	23.40	78.008	
5,000.00	4,883.35	5,021.29	4,883.35	19.01	20.11	-133.67	-684.81	-679.75	1,825.33	1,801.57	23.76	76.828	
5,100.00	4,983.35	5,121.29	4,983.35	19.13	20.22	-133.67	-684.81	-679.75	1,825.33	1,801.21	24.12	75.673	
5,200.00	5,083.35	5,221.29	5,083.35	19.25	20.33	-133.67	-684.81	-679.75	1,825.33	1,800.84	24.49	74.543	
5,300.00	5,183.35	5,321.29	5,183.35	19.38	20.44	-133.67	-684.81	-679.75	1,825.33	1,800.48	24.85	73.439	
5,400.00	5,283.35	5,421.29	5,283.35	19.50	20.55	-133.67	-684.81	-679.75	1,825.33	1,800.10	25.23	72.360	
5,500.00	5,383.35	5,521.29	5,383.35	19.63	20.66	-133.67	-684.81	-679.75	1,825.33	1,799.73	25.60	71.304	
5,600.00	5,483.35	5,621.29	5,483.35	19.76	20.77	-133.67	-684.81	-679.75	1,825.33	1,799.36	25.97	70.273	
5,700.00	5,583.35	5,721.29	5,583.35	19.89	20.89	-133.67	-684.81	-679.75	1,825.33	1,798.98	26.35	69.265	
5,800.00	5,683.35	5,821.29	5,683.35	20.02	21.01	-133.67	-684.81	-679.75	1,825.33	1,798.60	26.73	68.279	
5,900.00	5,783.35	5,921.29	5,783.35	20.16	21.13	-133.67	-684.81	-679.75	1,825.33	1,798.21	27.12	67.317	
6,000.00	5,883.35	6,021.29	5,883.35	20.29	21.25	-133.67	-684.81	-679.75	1,825.33	1,797.83	27.50	66.376	
6,100.00	5,983.35	6,121.29	5,983.35	20.43	21.38	-133.67	-684.81	-679.75	1,825.33	1,797.44	27.89	65.456	
6,200.00	6,083.35	6,221.29	6,083.35	20.57	21.50	-133.67	-684.81	-679.75	1,825.33	1,797.06	28.27	64.557	
6,300.00	6,183.35	6,321.29	6,183.35	20.71	21.63	-133.67	-684.81	-679.75	1,825.33	1,796.67	28.66	63.679	
6,400.00	6,283.35	6,421.29	6,283.35	20.85	21.76	-133.67	-684.81	-679.75	1,825.33	1,796.27	29.06	62.820	
6,500.00	6,383.35	6,521.29	6,383.35	21.00	21.89	-133.67	-684.81	-679.75	1,825.33	1,795.88	29.45	61.981	
6,600.00	6,483.35	6,621.29	6,483.35	21.14	22.02	-133.67	-684.81	-679.75	1,825.33	1,795.49	29.84	61.161	
6,700.00	6,583.35	6,721.29	6,583.35	21.29	22.15	-133.67	-684.81	-679.75	1,825.33	1,795.09	30.24	60.359	
6,800.00	6,683.35	6,821.29	6,683.35	21.44	22.28	-133.67	-684.81	-679.75	1,825.33	1,794.69	30.64	59.575	
6,900.00	6,783.35	6,921.29	6,783.35	21.59	22.42	-133.67	-684.81	-679.75	1,825.33	1,794.29	31.04	58.809	
7,000.00	6,883.35	7,021.29	6,883.35	21.74	22.56	-133.67	-684.81	-679.75	1,825.33	1,793.89	31.44	58.059	
7,100.00	6,983.35	7,121.29	6,983.35	21.89	22.70	-133.67	-684.81	-679.75	1,825.33	1,793.49	31.84	57.326	
7,200.00	7,083.35	7,221.29	7,083.35	22.04	22.84	-133.67	-684.81	-679.75	1,825.33	1,793.09	32.24	56.609	
7,300.00	7,183.35	7,321.29	7,183.35	22.20	22.98	-133.67	-684.81	-679.75	1,825.33	1,792.68	32.65	55.908	
7,400.00	7,283.35	7,421.29	7,283.35	22.35	23.12	-133.67	-684.81	-679.75	1,825.33	1,792.28	33.05	55.222	
7,500.00	7,383.35	7,521.29	7,383.35	22.51	23.26	-133.67	-684.81	-679.75	1,825.33	1,791.87	33.46	54.550	
7,600.00	7,483.35	7,621.29	7,483.35	22.67	23.41	-133.67	-684.81	-679.75	1,825.33	1,791.46	33.87	53.893	
7,700.00	7,583.35	7,721.29	7,583.35	22.82	23.56	-133.67	-684.81	-679.75	1,825.33	1,791.05	34.28	53.251	
7,766.21	7,649.56	7,787.50	7,649.56	22.93	23.65	-133.67	-684.81	-679.75	1,825.33	1,790.78	34.55	52.832	
7,800.00	7,683.35	7,819.94	7,682.00	22.98	23.70	-133.67	-684.81	-679.75	1,825.33	1,790.65	34.69	52.626	
7,900.00	7,783.35	7,819.94	7,682.00	23.15	23.70	-133.67	-684.81	-679.75	1,828.14	1,793.25	34.89	52.392	
8,000.00	7,883.35	7,819.94	7,682.00	23.31	23.70	-133.67	-684.81	-679.75	1,836.40	1,801.30	35.10	52.315	
8,100.00	7,983.35	7,819.94	7,682.00	23.47	23.70	-133.67	-684.81	-679.75	1,850.04	1,814.73	35.31	52.391	
8,200.00	8,083.35	7,819.94	7,682.00	23.63	23.70	-133.67	-684.81	-679.75	1,868.93	1,833.41	35.52	52.614	
8,243.65	8,127.00	7,819.94	7,682.00	23.71	23.70	-133.67	-684.81	-679.75	1,878.79	1,843.18	35.61	52.755	



# Weatherford International Ltd.

## Anticollision Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
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	-177.80	-72.83	-2.80	72.89				
100.00	100.00	100.00	100.00	0.10	0.10	-177.80	-72.83	-2.80	72.89	72.70	0.19	381.513	
200.00	200.00	200.00	200.00	0.32	0.32	-177.80	-72.83	-2.80	72.89	72.25	0.64	113.785	
300.00	300.00	300.00	300.00	0.55	0.55	-177.80	-72.83	-2.80	72.89	71.80	1.09	66.863	
400.00	400.00	400.00	400.00	0.77	0.77	-177.80	-72.83	-2.80	72.89	71.35	1.54	47.341	
500.00	500.00	500.00	500.00	0.99	0.99	-177.80	-72.83	-2.80	72.89	70.90	1.99	36.643	
600.00	600.00	600.00	600.00	1.22	1.22	-177.80	-72.83	-2.80	72.89	70.45	2.44	29.888	
700.00	700.00	700.00	700.00	1.44	1.44	-177.80	-72.83	-2.80	72.89	70.00	2.89	25.236	
750.00	750.00	750.00	750.00	1.56	1.56	-177.80	-72.83	-2.80	72.89	69.78	3.11	23.414 CC, ES	
800.00	800.00	799.84	799.84	1.67	1.67	134.37	-72.85	-2.78	73.20	69.87	3.33	21.966	
900.00	899.93	898.22	898.19	1.88	1.85	134.95	-74.14	-1.23	76.90	73.17	3.73	20.623	
1,000.00	999.68	996.23	996.05	2.11	2.04	135.19	-77.59	2.90	85.11	80.97	4.14	20.560 SF	
1,100.00	1,099.13	1,093.58	1,093.01	2.35	2.25	135.14	-83.12	9.55	97.79	93.22	4.57	21.398	
1,200.00	1,198.15	1,189.99	1,188.69	2.62	2.48	134.87	-90.69	18.62	114.90	109.87	5.03	22.846	
1,300.00	1,296.63	1,285.19	1,282.72	2.92	2.75	134.47	-100.17	29.99	136.37	130.84	5.53	24.673	
1,400.00	1,394.44	1,378.92	1,374.78	3.27	3.05	134.00	-111.46	43.53	162.11	156.04	6.07	26.699	
1,500.00	1,491.46	1,470.95	1,464.56	3.67	3.39	133.48	-124.41	59.07	192.03	185.36	6.67	28.787	
1,604.88	1,592.24	1,565.43	1,555.99	4.15	3.80	132.91	-139.62	77.32	227.78	220.42	7.36	30.935	
1,700.00	1,683.17	1,649.50	1,636.67	4.63	4.21	132.69	-154.78	95.50	262.97	254.89	8.07	32.574	
1,800.00	1,778.75	1,736.52	1,719.39	5.16	4.69	132.08	-172.05	116.22	301.63	292.77	8.87	34.023	
1,900.00	1,874.33	1,822.67	1,800.46	5.70	5.20	131.23	-190.72	138.61	342.01	332.31	9.70	35.265	
2,000.00	1,969.91	1,913.69	1,885.74	6.25	5.79	130.38	-211.09	163.05	383.13	372.53	10.59	36.174	
2,100.00	2,065.49	2,004.72	1,971.02	6.81	6.40	129.70	-231.46	187.49	424.30	412.80	11.50	36.891	
2,200.00	2,161.07	2,095.74	2,056.30	7.38	7.01	129.13	-251.84	211.93	465.51	453.09	12.43	37.463	
2,300.00	2,256.65	2,186.77	2,141.59	7.95	7.64	128.66	-272.21	236.37	506.76	493.40	13.36	37.926	
2,400.00	2,352.23	2,277.79	2,228.87	8.52	8.27	128.26	-292.58	260.81	548.03	533.72	14.31	38.307	
2,500.00	2,447.81	2,368.82	2,312.15	9.10	8.91	127.91	-312.96	285.25	589.32	574.06	15.26	38.624	
2,600.00	2,543.39	2,459.84	2,397.43	9.68	9.55	127.61	-333.33	309.69	630.62	614.41	16.21	38.891	
2,700.00	2,638.97	2,550.86	2,482.72	10.27	10.20	127.35	-353.70	334.13	671.94	654.76	17.18	39.118	
2,800.00	2,734.55	2,641.89	2,568.00	10.85	10.84	127.12	-374.08	358.57	713.27	695.13	18.14	39.313	
2,900.00	2,830.13	2,732.91	2,653.28	11.44	11.49	126.91	-394.45	383.01	754.60	735.49	19.11	39.481	
3,000.00	2,925.71	2,823.94	2,738.56	12.03	12.15	126.72	-414.82	407.45	795.95	775.86	20.09	39.628	
3,100.00	3,021.29	2,914.96	2,823.85	12.62	12.80	126.56	-435.19	431.89	837.30	816.24	21.06	39.756	
3,200.00	3,116.87	3,005.99	2,909.13	13.21	13.46	126.41	-455.57	456.33	878.65	856.62	22.04	39.869	
3,300.00	3,212.45	3,097.01	2,994.41	13.80	14.11	126.27	-475.94	480.77	920.01	897.00	23.02	39.970	
3,400.00	3,308.03	3,188.04	3,079.69	14.39	14.77	126.14	-496.31	505.21	961.38	937.38	24.00	40.059	
3,500.00	3,403.62	3,279.06	3,164.98	14.98	15.43	126.03	-516.69	529.65	1,002.75	977.76	24.98	40.140	
3,600.00	3,499.20	3,370.09	3,250.26	15.58	16.09	125.92	-537.06	554.09	1,044.12	1,018.15	25.97	40.212	
3,672.78	3,568.76	3,436.33	3,312.32	16.01	16.57	125.85	-551.89	571.87	1,074.23	1,047.54	26.68	40.260	
3,700.00	3,594.81	3,461.14	3,335.57	16.15	16.75	126.01	-557.44	578.53	1,085.42	1,058.45	26.97	40.248	
3,800.00	3,691.15	3,561.31	3,429.48	16.59	17.45	126.48	-579.75	605.30	1,125.26	1,097.29	27.97	40.236	
3,900.00	3,788.36	3,689.77	3,551.27	16.98	18.14	126.79	-605.90	636.67	1,161.16	1,132.21	28.95	40.110	
4,000.00	3,886.33	3,822.32	3,678.71	17.33	18.74	127.04	-629.19	664.61	1,192.16	1,162.32	29.84	39.954	
4,100.00	3,984.94	3,958.48	3,811.24	17.65	19.28	127.24	-649.16	688.56	1,218.05	1,187.41	30.64	39.754	
4,200.00	4,084.06	4,097.70	3,948.12	17.91	19.75	127.39	-665.39	708.03	1,238.65	1,207.30	31.35	39.516	
4,300.00	4,183.59	4,239.34	4,088.47	18.13	20.12	127.51	-677.51	722.57	1,253.82	1,221.89	31.93	39.263	
4,400.00	4,283.39	4,382.69	4,231.30	18.31	20.40	127.59	-685.23	731.83	1,263.46	1,231.05	32.41	38.981	
4,500.00	4,383.35	4,526.98	4,375.49	18.44	20.59	127.63	-688.38	735.61	1,267.49	1,234.72	32.77	38.678	
4,527.65	4,411.00	4,562.49	4,411.00	18.47	20.63	175.70	-688.46	735.70	1,267.62	1,234.78	32.84	38.594	
4,600.00	4,483.35	4,634.83	4,483.35	18.55	20.69	175.70	-688.46	735.70	1,267.62	1,234.61	33.01	38.398	
4,700.00	4,583.35	4,734.83	4,583.35	18.66	20.79	175.70	-688.46	735.70	1,267.62	1,234.36	33.26	38.112	
4,800.00	4,683.35	4,834.83	4,683.35	18.77	20.89	175.70	-688.46	735.70	1,267.62	1,234.11	33.51	37.826	

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_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 37-29 - P_RASMUSSEN 37-29 - PLAN #1 09-02-09 RI												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	4,783.35	4,934.83	4,783.35	18.89	20.98	175.70	-688.46	735.70	1,267.62	1,233.86	33.77	37.539	
5,000.00	4,883.35	5,034.83	4,883.35	19.01	21.09	175.70	-688.46	735.70	1,267.62	1,233.60	34.03	37.252	
5,100.00	4,983.35	5,134.83	4,983.35	19.13	21.19	175.70	-688.46	735.70	1,267.62	1,233.33	34.29	36.966	
5,200.00	5,083.35	5,234.83	5,083.35	19.25	21.29	175.70	-688.46	735.70	1,267.62	1,233.07	34.56	36.680	
5,300.00	5,183.35	5,334.83	5,183.35	19.38	21.40	175.70	-688.46	735.70	1,267.62	1,232.79	34.83	36.394	
5,400.00	5,283.35	5,434.83	5,283.35	19.50	21.51	175.70	-688.46	735.70	1,267.62	1,232.52	35.11	36.109	
5,500.00	5,383.35	5,534.83	5,383.35	19.63	21.62	175.70	-688.46	735.70	1,267.62	1,232.24	35.38	35.825	
5,600.00	5,483.35	5,634.83	5,483.35	19.76	21.73	175.70	-688.46	735.70	1,267.62	1,231.96	35.67	35.541	
5,700.00	5,583.35	5,734.83	5,583.35	19.89	21.84	175.70	-688.46	735.70	1,267.62	1,231.67	35.95	35.259	
5,800.00	5,683.35	5,834.83	5,683.35	20.02	21.96	175.70	-688.46	735.70	1,267.62	1,231.38	36.24	34.978	
5,900.00	5,783.35	5,934.83	5,783.35	20.16	22.08	175.70	-688.46	735.70	1,267.62	1,231.09	36.53	34.699	
6,000.00	5,883.35	6,034.83	5,883.35	20.29	22.19	175.70	-688.46	735.70	1,267.62	1,230.80	36.83	34.420	
6,100.00	5,983.35	6,134.83	5,983.35	20.43	22.32	175.70	-688.46	735.70	1,267.62	1,230.50	37.13	34.144	
6,200.00	6,083.35	6,234.83	6,083.35	20.57	22.44	175.70	-688.46	735.70	1,267.62	1,230.20	37.43	33.869	
6,300.00	6,183.35	6,334.83	6,183.35	20.71	22.56	175.70	-688.46	735.70	1,267.62	1,229.89	37.73	33.596	
6,400.00	6,283.35	6,434.83	6,283.35	20.85	22.69	175.70	-688.46	735.70	1,267.62	1,229.59	38.04	33.325	
6,500.00	6,383.35	6,534.83	6,383.35	21.00	22.81	175.70	-688.46	735.70	1,267.62	1,229.28	38.35	33.055	
6,600.00	6,483.35	6,634.83	6,483.35	21.14	22.94	175.70	-688.46	735.70	1,267.62	1,228.96	38.66	32.788	
6,700.00	6,583.35	6,734.83	6,583.35	21.29	23.07	175.70	-688.46	735.70	1,267.62	1,228.65	38.98	32.523	
6,800.00	6,683.35	6,834.83	6,683.35	21.44	23.20	175.70	-688.46	735.70	1,267.62	1,228.33	39.29	32.260	
6,900.00	6,783.35	6,934.83	6,783.35	21.59	23.33	175.70	-688.46	735.70	1,267.62	1,228.01	39.61	31.999	
7,000.00	6,883.35	7,034.83	6,883.35	21.74	23.47	175.70	-688.46	735.70	1,267.62	1,227.69	39.94	31.740	
7,100.00	6,983.35	7,134.83	6,983.35	21.89	23.60	175.70	-688.46	735.70	1,267.62	1,227.36	40.26	31.483	
7,200.00	7,083.35	7,234.83	7,083.35	22.04	23.74	175.70	-688.46	735.70	1,267.62	1,227.03	40.59	31.229	
7,300.00	7,183.35	7,334.83	7,183.35	22.20	23.88	175.70	-688.46	735.70	1,267.62	1,226.70	40.92	30.977	
7,400.00	7,283.35	7,434.83	7,283.35	22.35	24.02	175.70	-688.46	735.70	1,267.62	1,226.37	41.25	30.728	
7,500.00	7,383.35	7,534.83	7,383.35	22.51	24.16	175.70	-688.46	735.70	1,267.62	1,226.04	41.59	30.481	
7,600.00	7,483.35	7,634.83	7,483.35	22.67	24.30	175.70	-688.46	735.70	1,267.62	1,225.70	41.92	30.236	
7,700.00	7,583.35	7,734.83	7,583.35	22.82	24.44	175.70	-688.46	735.70	1,267.62	1,225.36	42.26	29.994	
7,800.00	7,683.35	7,834.83	7,683.35	22.98	24.59	175.70	-688.46	735.70	1,267.62	1,225.02	42.60	29.754	
7,900.00	7,783.35	7,838.49	7,687.00	23.15	24.59	175.70	-688.46	735.70	1,271.28	1,228.50	42.79	29.713	
8,000.00	7,883.35	7,838.49	7,687.00	23.31	24.59	175.70	-688.46	735.70	1,282.74	1,239.78	42.96	29.858	
8,100.00	7,983.35	7,838.49	7,687.00	23.47	24.59	175.70	-688.46	735.70	1,301.80	1,258.67	43.14	30.177	
8,200.00	8,083.35	7,838.49	7,687.00	23.63	24.59	175.70	-688.46	735.70	1,328.14	1,284.83	43.32	30.661	
8,243.65	8,127.00	7,838.49	7,687.00	23.71	24.59	175.70	-688.46	735.70	1,341.82	1,298.42	43.40	30.921	





# Weatherford International Ltd.

## Anticollision Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												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	-14.56	0.00	14.56				
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-14.56	0.00	14.56	14.37	0.19	76.203	
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-14.56	0.00	14.56	13.92	0.64	22.727	
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-14.56	0.00	14.56	13.47	1.09	13.355	
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-14.56	0.00	14.56	13.02	1.54	9.456	
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-14.56	0.00	14.56	12.57	1.99	7.319	
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-14.56	0.00	14.56	12.12	2.44	5.970	
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-14.56	0.00	14.56	11.67	2.89	5.041	
750.00	750.00	750.00	750.00	1.56	1.56	180.00	-14.56	0.00	14.56	11.45	3.11	4.677 CC, ES	
800.00	800.00	800.03	800.03	1.67	1.67	132.93	-14.54	0.07	14.83	11.50	3.33	4.450	
900.00	899.93	900.18	900.15	1.88	1.88	133.67	-13.85	2.42	16.49	12.73	3.76	4.387 SF	
1,000.00	999.68	1,000.32	1,000.10	2.11	2.09	131.85	-12.19	8.13	19.48	15.28	4.20	4.641	
1,100.00	1,099.13	1,100.41	1,099.74	2.35	2.33	128.75	-9.55	17.18	23.86	19.20	4.66	5.118	
1,200.00	1,198.15	1,200.41	1,198.90	2.62	2.58	125.36	-5.93	29.56	29.70	24.53	5.17	5.742	
1,300.00	1,296.63	1,300.29	1,297.44	2.92	2.88	122.22	-1.36	45.23	37.05	31.30	5.75	6.445	
1,400.00	1,394.44	1,400.02	1,395.19	3.27	3.21	119.49	4.16	64.16	45.92	39.51	6.41	7.165	
1,500.00	1,491.46	1,499.56	1,492.02	3.67	3.60	117.19	10.62	86.29	56.32	49.15	7.17	7.855	
1,604.88	1,592.24	1,603.72	1,592.41	4.15	4.07	115.18	18.38	112.90	68.84	60.75	8.09	8.509	
1,700.00	1,683.17	1,697.99	1,682.36	4.63	4.55	112.85	26.29	139.99	80.99	71.95	9.04	8.958	
1,800.00	1,778.75	1,796.75	1,775.54	5.16	5.12	109.02	35.45	171.40	94.14	84.00	10.14	9.286	
1,900.00	1,874.33	1,894.94	1,867.00	5.70	5.76	104.36	45.45	205.66	108.16	96.86	11.31	9.567	
2,000.00	1,969.91	1,992.33	1,956.47	6.25	6.47	99.30	56.23	242.60	123.58	111.07	12.51	9.880	
2,100.00	2,065.49	2,090.20	2,045.57	6.81	7.22	94.57	67.56	281.46	140.41	126.71	13.71	10.245	
2,200.00	2,161.07	2,188.18	2,134.77	7.38	8.00	90.86	78.92	320.37	157.99	143.11	14.88	10.615	
2,300.00	2,256.65	2,286.16	2,223.97	7.95	8.79	87.89	90.27	359.29	176.09	160.04	16.05	10.974	
2,400.00	2,352.23	2,384.14	2,313.17	8.52	9.58	85.48	101.63	398.20	194.56	177.36	17.20	11.313	
2,500.00	2,447.81	2,482.12	2,402.37	9.10	10.39	83.49	112.98	437.12	213.30	194.96	18.34	11.629	
2,600.00	2,543.39	2,580.09	2,491.57	9.68	11.20	81.82	124.34	476.03	232.26	212.78	19.48	11.921	
2,700.00	2,638.97	2,678.07	2,580.77	10.27	12.01	80.40	135.69	514.95	251.38	230.76	20.62	12.191	
2,800.00	2,734.55	2,776.05	2,669.97	10.85	12.83	79.18	147.04	553.86	270.63	248.87	21.76	12.440	
2,900.00	2,830.13	2,874.03	2,759.17	11.44	13.66	78.13	158.40	592.78	289.97	267.09	22.89	12.669	
3,000.00	2,925.71	2,972.01	2,848.37	12.03	14.48	77.20	169.75	631.69	309.41	285.38	24.02	12.880	
3,100.00	3,021.29	3,069.99	2,937.57	12.62	15.31	76.39	181.11	670.61	328.91	303.75	25.16	13.075	
3,200.00	3,116.87	3,167.97	3,026.77	13.21	16.14	75.66	192.46	709.52	348.47	322.18	26.29	13.256	
3,300.00	3,212.45	3,265.95	3,115.97	13.80	16.97	75.02	203.82	748.44	368.07	340.65	27.42	13.423	
3,400.00	3,308.03	3,363.93	3,205.17	14.39	17.80	74.43	215.17	787.35	387.72	359.16	28.55	13.579	
3,500.00	3,403.62	3,461.90	3,294.37	14.98	18.63	73.91	226.53	826.27	407.40	377.71	29.69	13.724	
3,600.00	3,499.20	3,559.88	3,383.57	15.58	19.46	73.43	237.88	865.18	427.11	396.29	30.82	13.859	
3,672.78	3,568.76	3,631.19	3,448.48	16.01	20.07	73.11	246.14	893.50	441.47	409.83	31.64	13.951	
3,700.00	3,594.81	3,657.85	3,472.76	16.15	20.30	73.09	249.23	904.09	446.88	414.94	31.95	13.988	
3,800.00	3,691.15	3,755.55	3,561.70	16.59	21.13	72.77	260.56	942.90	467.43	434.51	32.93	14.196	
3,900.00	3,788.36	3,852.79	3,650.23	16.98	21.96	72.14	271.82	981.52	489.11	455.33	33.78	14.479	
4,000.00	3,886.33	3,949.45	3,738.22	17.33	22.78	71.25	283.03	1,019.91	512.04	477.53	34.51	14.837	
4,100.00	3,984.94	4,045.41	3,825.59	17.65	23.60	70.16	294.15	1,058.02	536.37	501.26	35.11	15.276	
4,200.00	4,084.06	4,140.55	3,912.21	17.91	24.42	68.90	305.17	1,095.81	562.30	526.70	35.59	15.798	
4,300.00	4,183.59	4,234.77	3,997.98	18.13	25.22	67.52	316.09	1,133.23	589.99	554.04	35.96	16.409	
4,400.00	4,283.39	4,327.94	4,082.80	18.31	26.02	66.06	326.89	1,170.24	619.64	583.44	36.21	17.115	
4,500.00	4,383.35	4,419.95	4,166.57	18.44	26.81	64.56	337.55	1,206.78	651.41	615.06	36.35	17.919	
4,527.65	4,411.00	4,445.17	4,189.53	18.47	27.02	112.20	340.47	1,216.80	660.59	624.22	36.38	18.160	
4,600.00	4,483.35	4,511.04	4,249.50	18.55	27.59	110.69	348.11	1,242.96	685.07	648.77	36.31	18.868	
4,700.00	4,583.35	4,602.08	4,332.38	18.66	28.37	108.76	358.66	1,279.12	719.59	683.35	36.24	19.855	
4,800.00	4,683.35	4,693.12	4,415.26	18.77	29.15	107.01	369.21	1,315.28	754.80	718.59	36.20	20.849	

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_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 39-29 - P_RASMUSSEN 39-29 - PLAN #1 09-02-09 RI												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
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
4,900.00	4,783.35	4,784.16	4,498.14	18.89	29.93	105.40	379.76	1,351.44	790.60	754.41	36.19	21.845	
5,000.00	4,883.35	4,875.20	4,581.02	19.01	30.71	103.93	390.31	1,387.60	826.92	790.71	36.21	22.837	
5,100.00	4,983.35	4,966.24	4,663.91	19.13	31.49	102.58	400.86	1,423.75	863.70	827.44	36.25	23.824	
5,200.00	5,083.35	5,057.28	4,746.79	19.25	32.27	101.33	411.41	1,459.91	900.87	864.55	36.33	24.800	
5,300.00	5,183.35	5,148.32	4,829.67	19.38	33.05	100.18	421.96	1,496.07	938.40	901.98	36.42	25.764	
5,400.00	5,283.35	5,239.36	4,912.55	19.50	33.83	99.12	432.51	1,532.23	976.24	939.70	36.55	26.713	
5,500.00	5,383.35	5,330.40	4,995.43	19.63	34.61	98.13	443.06	1,568.39	1,014.36	977.67	36.69	27.646	
5,600.00	5,483.35	5,421.43	5,078.32	19.76	35.39	97.21	453.61	1,604.55	1,052.72	1,015.86	36.86	28.562	
5,700.00	5,583.35	5,512.47	5,161.20	19.89	36.17	96.36	464.16	1,640.71	1,091.30	1,054.25	37.05	29.459	
5,800.00	5,683.35	5,622.49	5,261.55	20.02	37.04	95.41	476.79	1,684.00	1,129.81	1,092.56	37.25	30.333	
5,900.00	5,783.35	5,771.42	5,399.68	20.16	37.97	94.34	492.37	1,737.38	1,164.97	1,127.50	37.47	31.090	
6,000.00	5,883.35	5,926.34	5,546.25	20.29	38.82	93.46	506.41	1,785.52	1,195.56	1,157.81	37.75	31.671	
6,100.00	5,983.35	6,086.67	5,700.55	20.43	39.55	92.75	518.59	1,827.25	1,221.26	1,183.19	38.07	32.082	
6,200.00	6,083.35	6,251.65	5,861.60	20.57	40.17	92.21	528.58	1,861.48	1,241.79	1,203.38	38.41	32.331	
6,300.00	6,183.35	6,420.33	6,028.12	20.71	40.65	91.82	536.08	1,887.21	1,256.91	1,218.14	38.77	32.420	
6,400.00	6,283.35	6,591.66	6,198.56	20.85	41.00	91.57	540.89	1,903.68	1,266.44	1,227.30	39.14	32.360	
6,500.00	6,383.35	6,764.44	6,371.18	21.00	41.20	91.48	542.83	1,910.34	1,270.27	1,230.77	39.50	32.156	
6,600.00	6,483.35	6,876.62	6,483.35	21.14	41.29	91.48	542.87	1,910.48	1,270.35	1,230.54	39.81	31.910	
6,700.00	6,583.35	6,976.62	6,583.35	21.29	41.36	91.48	542.87	1,910.48	1,270.35	1,230.24	40.10	31.676	
6,800.00	6,683.35	7,076.62	6,683.35	21.44	41.44	91.48	542.87	1,910.48	1,270.35	1,229.95	40.40	31.442	
6,900.00	6,783.35	7,176.62	6,783.35	21.59	41.52	91.48	542.87	1,910.48	1,270.35	1,229.64	40.70	31.210	
7,000.00	6,883.35	7,276.62	6,883.35	21.74	41.59	91.48	542.87	1,910.48	1,270.35	1,229.34	41.01	30.979	
7,100.00	6,983.35	7,376.62	6,983.35	21.89	41.67	91.48	542.87	1,910.48	1,270.35	1,229.04	41.31	30.750	
7,200.00	7,083.35	7,476.62	7,083.35	22.04	41.76	91.48	542.87	1,910.48	1,270.35	1,228.73	41.62	30.522	
7,300.00	7,183.35	7,576.62	7,183.35	22.20	41.84	91.48	542.87	1,910.48	1,270.35	1,228.42	41.93	30.296	
7,400.00	7,283.35	7,676.62	7,283.35	22.35	41.92	91.48	542.87	1,910.48	1,270.35	1,228.10	42.24	30.071	
7,500.00	7,383.35	7,776.62	7,383.35	22.51	42.00	91.48	542.87	1,910.48	1,270.35	1,227.79	42.56	29.848	
7,600.00	7,483.35	7,876.62	7,483.35	22.67	42.09	91.48	542.87	1,910.48	1,270.35	1,227.47	42.88	29.627	
7,700.00	7,583.35	7,976.62	7,583.35	22.82	42.17	91.48	542.87	1,910.48	1,270.35	1,227.15	43.20	29.407	
7,800.00	7,683.35	8,076.62	7,683.35	22.98	42.26	91.48	542.87	1,910.48	1,270.35	1,226.83	43.52	29.189	
7,900.00	7,783.35	8,100.27	7,707.00	23.15	42.28	91.48	542.87	1,910.48	1,272.64	1,228.91	43.74	29.099	
8,000.00	7,883.35	8,100.27	7,707.00	23.31	42.28	91.48	542.87	1,910.48	1,282.53	1,238.61	43.92	29.204	
8,100.00	7,983.35	8,100.27	7,707.00	23.47	42.28	91.48	542.87	1,910.48	1,300.06	1,255.96	44.10	29.481	
8,200.00	8,083.35	8,100.27	7,707.00	23.63	42.28	91.48	542.87	1,910.48	1,324.92	1,280.64	44.28	29.921	
8,243.65	8,127.00	8,100.27	7,707.00	23.71	42.28	91.48	542.87	1,910.48	1,337.98	1,293.62	44.36	30.161	





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASMUSSEN 22-29 - P_RASMUSSEN 22-29 - PLAN #1 09-02-09												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	14.58	0.00	14.58				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	14.58	0.00	14.58	14.39	0.19	76.334	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	14.58	0.00	14.58	13.94	0.64	22.766	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	14.58	0.00	14.58	13.49	1.09	13.378	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	14.58	0.00	14.58	13.04	1.54	9.472	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	14.58	0.00	14.58	12.59	1.99	7.332	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	14.58	0.00	14.58	12.15	2.44	5.980	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	14.58	0.00	14.58	11.70	2.89	5.049	
750.00	750.00	750.00	750.00	1.56	1.56	0.00	14.58	0.00	14.58	11.47	3.11	4.685	
800.00	800.00	800.00	800.00	1.67	1.67	-49.36	14.58	0.00	14.30	10.96	3.34	4.286	
900.00	899.93	899.93	899.93	1.88	1.89	-61.81	14.58	0.00	12.31	8.53	3.78	3.259	
966.41	966.20	966.08	966.08	2.03	2.04	-81.85	14.71	-0.12	11.13	7.05	4.07	2.731	CC, ES, SF
1,000.00	999.68	999.43	999.42	2.11	2.11	-95.64	15.11	-0.50	11.63	7.41	4.22	2.755	
1,100.00	1,099.13	1,098.32	1,098.23	2.35	2.33	-126.59	17.98	-3.18	19.44	14.79	4.65	4.179	
1,200.00	1,198.15	1,196.38	1,196.02	2.62	2.56	-137.82	23.28	-8.15	34.45	29.37	5.09	6.774	
1,300.00	1,296.63	1,293.27	1,292.34	2.92	2.79	-141.49	30.91	-15.30	54.79	49.25	5.54	9.896	
1,400.00	1,394.44	1,388.66	1,386.77	3.27	3.04	-142.60	40.73	-24.52	79.94	73.92	6.01	13.295	
1,500.00	1,491.46	1,482.25	1,478.93	3.67	3.32	-142.72	52.60	-35.64	109.70	103.18	6.52	16.818	
1,604.88	1,592.24	1,578.18	1,572.79	4.15	3.64	-142.40	67.04	-49.17	145.72	138.62	7.10	20.516	
1,700.00	1,683.17	1,663.44	1,655.61	4.63	3.97	-142.09	81.78	-63.00	181.38	173.67	7.71	23.534	
1,800.00	1,778.75	1,751.63	1,740.61	5.16	4.35	-141.27	98.92	-79.07	220.56	212.18	8.39	26.304	
1,900.00	1,874.33	1,838.22	1,823.33	5.70	4.77	-140.20	117.60	-96.58	261.53	252.43	9.10	28.725	
2,000.00	1,969.91	1,923.10	1,903.63	6.25	5.22	-139.02	137.68	-115.39	304.30	294.44	9.86	30.863	
2,100.00	2,065.49	2,006.18	1,981.39	6.81	5.72	-137.79	158.99	-135.38	348.89	338.24	10.65	32.774	
2,200.00	2,161.07	2,087.37	2,056.55	7.38	6.25	-136.55	181.41	-156.39	395.31	383.84	11.46	34.489	
2,300.00	2,256.65	2,166.62	2,129.03	7.95	6.82	-135.34	204.78	-178.30	443.55	431.25	12.30	36.054	
2,400.00	2,352.23	2,243.88	2,198.82	8.52	7.42	-134.17	228.95	-200.96	493.61	480.45	13.16	37.512	
2,500.00	2,447.81	2,319.11	2,265.89	9.10	8.04	-133.05	253.81	-224.27	545.46	531.43	14.03	38.889	
2,600.00	2,543.39	2,392.29	2,330.25	9.68	8.68	-131.97	279.22	-248.08	599.07	584.16	14.90	40.195	
2,700.00	2,638.97	2,463.42	2,391.93	10.27	9.35	-130.95	305.05	-272.30	654.40	638.61	15.79	41.444	
2,800.00	2,734.55	2,544.27	2,461.47	10.85	10.13	-129.88	335.15	-300.52	710.78	694.04	16.75	42.445	
2,900.00	2,830.13	2,626.15	2,531.88	11.44	10.94	-128.95	365.64	-329.10	767.32	749.62	17.71	43.331	
3,000.00	2,925.71	2,708.03	2,602.29	12.03	11.76	-128.15	396.12	-357.68	823.99	805.31	18.67	44.129	
3,100.00	3,021.29	2,789.90	2,672.70	12.62	12.58	-127.45	426.61	-386.26	880.75	861.11	19.64	44.848	
3,200.00	3,116.87	2,871.78	2,743.11	13.21	13.41	-126.83	457.10	-414.84	937.58	916.98	20.61	45.500	
3,300.00	3,212.45	2,953.66	2,813.52	13.80	14.24	-126.28	487.59	-443.42	994.49	972.91	21.58	46.094	
3,400.00	3,308.03	3,035.54	2,883.93	14.39	15.08	-125.80	518.07	-472.00	1,051.45	1,028.90	22.54	46.638	
3,500.00	3,403.62	3,117.42	2,954.34	14.98	15.92	-125.36	548.56	-500.58	1,108.46	1,084.94	23.52	47.137	
3,600.00	3,499.20	3,199.29	3,024.75	15.58	16.77	-124.96	579.05	-529.16	1,165.50	1,141.01	24.49	47.597	
3,672.78	3,568.76	3,258.88	3,075.99	16.01	17.38	-124.70	601.23	-549.96	1,207.04	1,181.84	25.19	47.908	
3,700.00	3,594.81	3,281.21	3,095.19	16.15	17.61	-124.91	609.55	-557.75	1,222.52	1,197.03	25.49	47.957	
3,800.00	3,691.15	3,363.76	3,166.18	16.59	18.47	-125.56	640.29	-586.57	1,278.36	1,251.84	26.52	48.200	
3,900.00	3,788.36	3,447.10	3,237.85	16.98	19.34	-126.06	671.32	-615.66	1,332.58	1,305.06	27.53	48.410	
4,000.00	3,886.33	3,531.13	3,310.12	17.33	20.21	-126.41	702.61	-644.99	1,385.17	1,356.67	28.50	48.605	
4,100.00	3,984.94	3,615.75	3,382.89	17.65	21.09	-126.64	734.12	-674.53	1,436.14	1,406.70	29.43	48.797	
4,200.00	4,084.06	3,700.86	3,456.07	17.91	21.98	-126.76	765.80	-704.24	1,485.49	1,455.18	30.32	48.997	
4,300.00	4,183.59	3,786.34	3,529.58	18.13	22.87	-126.78	797.63	-734.08	1,533.27	1,502.11	31.16	49.212	
4,400.00	4,283.39	3,872.10	3,603.33	18.31	23.77	-126.71	829.57	-764.01	1,579.50	1,547.56	31.94	49.453	
4,500.00	4,383.35	3,958.03	3,677.22	18.44	24.67	-126.56	861.56	-794.01	1,624.23	1,591.57	32.67	49.724	
4,527.65	4,411.00	3,981.80	3,697.67	18.47	24.92	-78.45	870.41	-802.31	1,636.34	1,603.49	32.85	49.805	
4,600.00	4,483.35	4,044.02	3,751.17	18.55	25.57	-77.75	893.58	-824.02	1,667.99	1,634.74	33.25	50.162	
4,700.00	4,583.35	4,130.02	3,825.12	18.66	26.47	-76.82	925.60	-854.04	1,712.08	1,678.29	33.79	50.661	

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



# Weatherford International Ltd.

## Anticollision Report



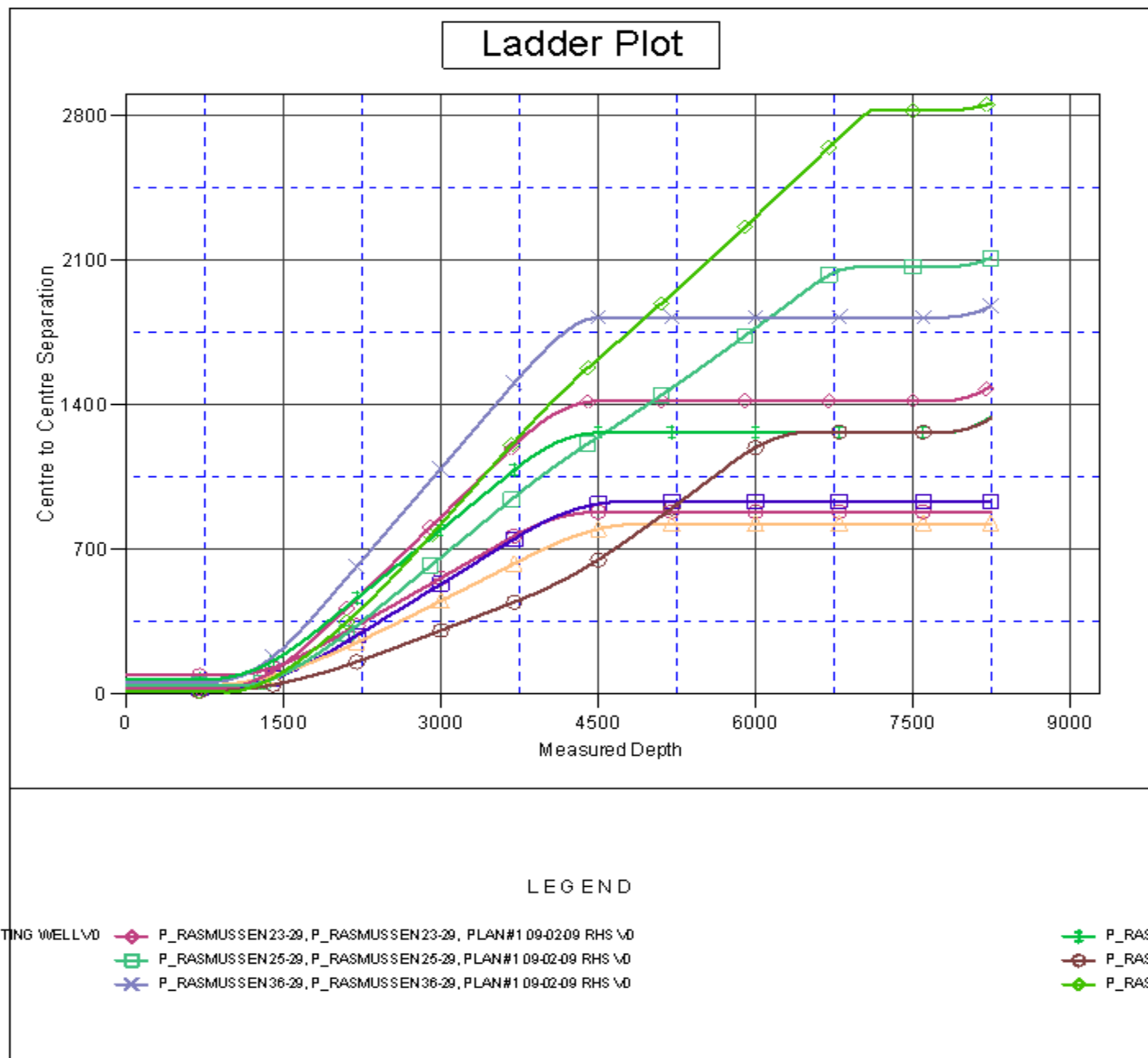
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RASMUSSEN 9 PAD - P_RASSMUSSEN 22-29 - P_RASSMUSSEN 22-29 - PLAN #1 09-02-09												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	
4,800.00	4,683.35	4,216.01	3,899.08	18.77	27.38	-75.93	957.62	-884.06	1,756.55	1,722.23	34.32	51.175	
4,900.00	4,783.35	4,302.00	3,973.03	18.89	28.28	-75.09	989.64	-914.08	1,801.37	1,766.53	34.84	51.699	
5,000.00	4,883.35	4,388.00	4,046.98	19.01	29.19	-74.28	1,021.66	-944.09	1,846.51	1,811.16	35.35	52.231	
5,100.00	4,983.35	4,473.99	4,120.93	19.13	30.09	-73.51	1,053.68	-974.11	1,891.95	1,856.10	35.85	52.770	
5,200.00	5,083.35	4,559.99	4,194.88	19.25	31.00	-72.77	1,085.70	-1,004.13	1,937.67	1,901.33	36.34	53.313	
5,300.00	5,183.35	4,645.98	4,268.83	19.38	31.90	-72.06	1,117.72	-1,034.15	1,983.65	1,946.82	36.83	53.860	
5,400.00	5,283.35	4,731.98	4,342.78	19.50	32.81	-71.39	1,149.74	-1,064.16	2,029.87	1,992.56	37.31	54.407	
5,500.00	5,383.35	4,817.97	4,416.73	19.63	33.71	-70.74	1,181.76	-1,094.18	2,076.32	2,038.54	37.78	54.955	
5,600.00	5,483.35	4,903.97	4,490.68	19.76	34.62	-70.12	1,213.78	-1,124.20	2,122.98	2,084.73	38.25	55.502	
5,700.00	5,583.35	4,989.96	4,564.64	19.89	35.53	-69.52	1,245.80	-1,154.22	2,169.83	2,131.12	38.71	56.047	
5,800.00	5,683.35	5,075.96	4,638.59	20.02	36.43	-68.95	1,277.82	-1,184.23	2,216.87	2,177.70	39.17	56.589	
5,900.00	5,783.35	5,161.95	4,712.54	20.16	37.34	-68.40	1,309.84	-1,214.25	2,264.08	2,224.45	39.63	57.128	
6,000.00	5,883.35	5,247.95	4,786.49	20.29	38.25	-67.88	1,341.86	-1,244.27	2,311.46	2,271.37	40.09	57.662	
6,100.00	5,983.35	5,333.94	4,860.44	20.43	39.16	-67.37	1,373.88	-1,274.29	2,358.99	2,318.45	40.54	58.192	
6,200.00	6,083.35	5,419.94	4,934.39	20.57	40.07	-66.88	1,405.90	-1,304.30	2,406.66	2,365.67	40.99	58.717	
6,300.00	6,183.35	5,505.93	5,008.34	20.71	40.97	-66.41	1,437.92	-1,334.32	2,454.47	2,413.03	41.44	59.236	
6,400.00	6,283.35	5,591.93	5,082.29	20.85	41.88	-65.96	1,469.94	-1,364.34	2,502.40	2,460.52	41.88	59.749	
6,500.00	6,383.35	5,677.92	5,156.24	21.00	42.79	-65.52	1,501.96	-1,394.36	2,550.46	2,508.13	42.33	60.256	
6,600.00	6,483.35	5,763.92	5,230.19	21.14	43.70	-65.10	1,533.98	-1,424.38	2,598.62	2,555.85	42.77	60.756	
6,700.00	6,583.35	5,849.91	5,304.15	21.29	44.61	-64.70	1,566.00	-1,454.39	2,646.90	2,603.69	43.21	61.250	
6,800.00	6,683.35	5,935.91	5,378.10	21.44	45.52	-64.31	1,598.02	-1,484.41	2,695.28	2,651.62	43.66	61.736	
6,900.00	6,783.35	6,021.90	5,452.05	21.59	46.43	-63.93	1,630.04	-1,514.43	2,743.75	2,699.65	44.10	62.216	
7,000.00	6,883.35	6,107.90	5,526.00	21.74	47.34	-63.56	1,662.07	-1,544.45	2,792.32	2,747.78	44.54	62.688	
7,100.00	6,983.35	7,375.65	6,719.94	21.89	54.15	-60.76	1,949.90	-1,814.28	2,825.66	2,778.13	47.52	59.458	
7,200.00	7,083.35	7,739.50	7,083.35	22.04	54.54	-60.67	1,959.91	-1,823.67	2,826.43	2,778.32	48.11	58.749	
7,300.00	7,183.35	7,839.50	7,183.35	22.20	54.60	-60.67	1,959.91	-1,823.67	2,826.43	2,778.05	48.38	58.421	
7,400.00	7,283.35	7,939.50	7,283.35	22.35	54.67	-60.67	1,959.91	-1,823.67	2,826.43	2,777.78	48.65	58.095	
7,500.00	7,383.35	8,039.50	7,383.35	22.51	54.73	-60.67	1,959.91	-1,823.67	2,826.43	2,777.51	48.93	57.769	
7,600.00	7,483.35	8,139.50	7,483.35	22.67	54.79	-60.67	1,959.91	-1,823.67	2,826.43	2,777.23	49.20	57.444	
7,700.00	7,583.35	8,239.50	7,583.35	22.82	54.86	-60.67	1,959.91	-1,823.67	2,826.43	2,776.95	49.48	57.120	
7,765.86	7,649.21	8,305.37	7,649.21	22.93	54.90	-60.67	1,959.91	-1,823.67	2,826.43	2,776.77	49.67	56.906	
7,800.00	7,683.35	8,337.16	7,681.00	22.98	54.92	-60.67	1,959.91	-1,823.67	2,826.44	2,776.67	49.76	56.799	
7,900.00	7,783.35	8,337.16	7,681.00	23.15	54.92	-60.67	1,959.91	-1,823.67	2,828.29	2,778.36	49.93	56.650	
8,000.00	7,883.35	8,337.16	7,681.00	23.31	54.92	-60.67	1,959.91	-1,823.67	2,833.67	2,783.58	50.09	56.572	
8,100.00	7,983.35	8,337.16	7,681.00	23.47	54.92	-60.67	1,959.91	-1,823.67	2,842.56	2,792.30	50.26	56.562	
8,200.00	8,083.35	8,337.16	7,681.00	23.63	54.92	-60.67	1,959.91	-1,823.67	2,854.93	2,804.51	50.42	56.620	
8,243.65	8,127.00	8,337.16	7,681.00	23.71	54.92	-60.67	1,959.91	-1,823.67	2,861.41	2,810.91	50.50	56.667	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4949.00ft (Original Well Elev) Coordinates are relative to: P\_RASMUSSEN 20-29  
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: 0.31°

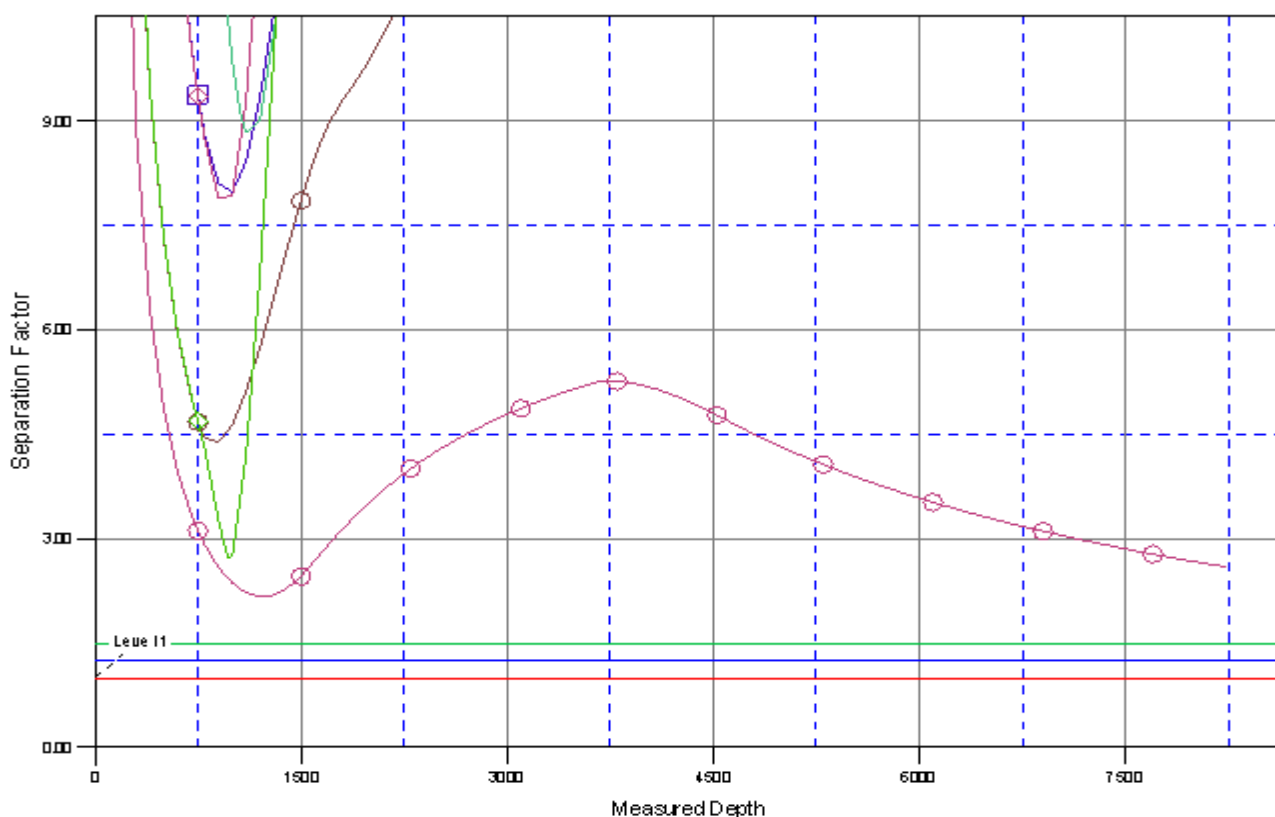




<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RASMUSSEN 20-29
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RASMUSSEN 9 PAD	<b>MD Reference:</b>	WELL @ 4949.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RASMUSSEN 20-29	<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_RASMUSSEN 20-29	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 09-02-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4949.00ft (Original Well Elev) Coordinates are relative to: P\_RASMUSSEN 20-29  
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: 0.31°

## Separation Factor Plot



### LEGEND

STING WELL VD	◆ P_RASMUSSEN 23-29, P_RASMUSSEN 23-29, PLAN #1 09-02-09 RHS VD	◆ P_RASML
	◆ P_RASMUSSEN 25-29, P_RASMUSSEN 25-29, PLAN #1 09-02-09 RHS VD	◆ P_RASML
	◆ P_RASMUSSEN 36-29, P_RASMUSSEN 36-29, PLAN #1 09-02-09 RHS VD	◆ P_RASML