



# **US ROCKIES REGION PLANNING**

**KERR MCGEE OIL & GAS ONSHORE LP**

**WELD\_WITTEMYER 3 PAD**

**P\_WITTEMYER 41-2**

**P\_WITTEMYER 41-2**

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

## **Standard Planning Report**

**02 September, 2009**





**P. WITTEMYER 41-2**  
**KERR MCGEE OIL & GAS ONSHORE LP**  
**SECTION 2 T2N R67W**  
**1452 FNL 1247 FEL**  
**LAT: 40° 10' 13.152 N**  
**LONG: 104° 51' 9.972 W**



Azimuths to True North  
Magnetic North: 9.09°  
  
Magnetic Field  
Strength: 53207.6nT  
Dip Angle: 66.92°  
Date: 9/2/2009  
Model: IGRF200510

**WELL DETAILS: P\_WITTEMYER 41-2**

+N/-S	+E/-W	Northing	Ground Level: Easting	4841.00 Latitude	Longitude	Slot
0.00	0.00	1305550.63	3180869.35	40° 10' 13.152 N	104° 51' 9.972 W	

**FORMATION TOP DETAILS**

TVDPath	MDPath	Formation
3862.00	4070.11	PARKMAN
4398.00	4626.27	SUSSEX TOP
4825.00	5055.50	SHANNON TOP
7078.00	7308.50	NIO A TOP
7338.00	7568.50	CODELL 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	
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	
2187.00	24.74	77.16	2148.92	58.43	256.37	2.00	77.16	262.94	
3868.50	24.74	77.16	3676.08	214.82	942.48	0.00	0.00	966.65	
5105.50	0.00	0.00	4875.00	273.25	1198.85	2.00	180.00	1229.59	
7728.50	0.00	0.00	7498.00	273.25	1198.85	0.00	0.00	1229.59	PBHL_WITTEMYER 41-2(1150 FNL 50 FEL)50' TGT RAD

**CASING DETAILS**

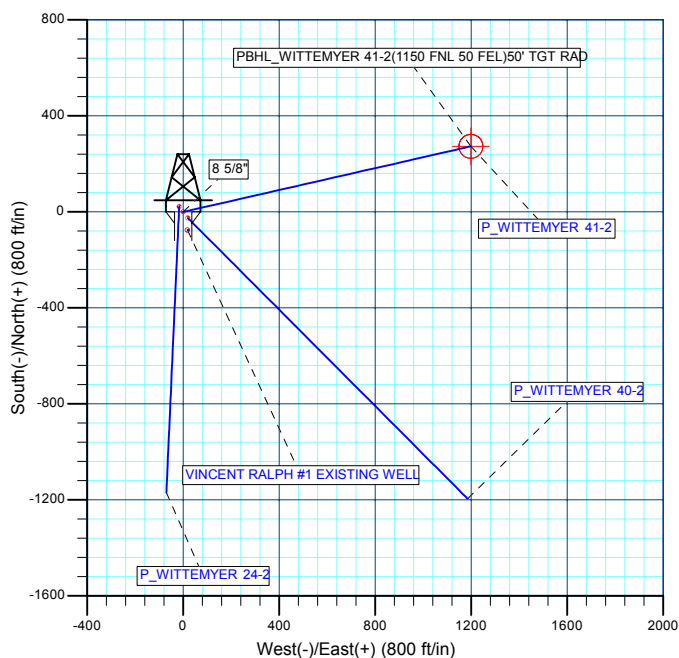
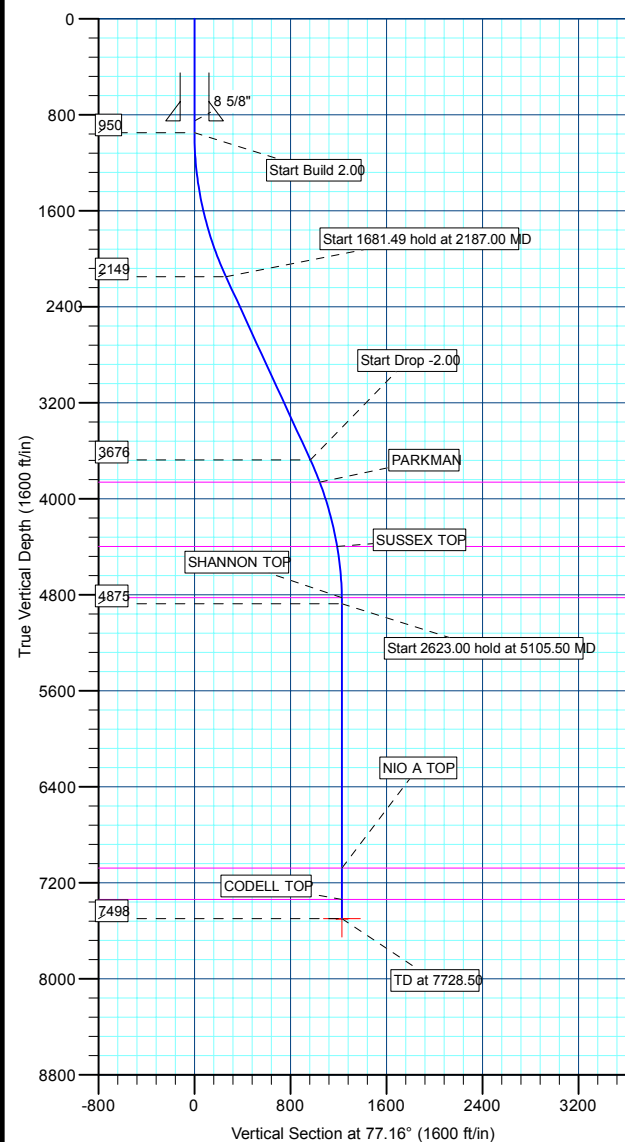
TVD	MD	Name	Size
850.00	850.00	8 5/8"	8.62

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7498.00	273.25	1198.85	1305832.62	3182066.17	40° 10' 15.852 N	104° 50' 54.528 W	Circle (Radius: 50.00)



KB ELEV: WELL @ 4856.00ft (Original Well Elev)  
GRD ELEV: 4841.00



Plan: PLAN #1 09-02-09 RHS (P\_WITTEMYER 41-2 /P\_WITTEMYER 41-2 )

Created By: Robert H. Scott



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_WITTEMYER 41-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site:</b>	WELD_WITTEMYER 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_WITTEMYER 41-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_WITTEMYER 41-2		
<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_WITTEMYER 3 PAD, SECTION 2 T2N R67W			
Site Position:		Northing:	1,305,572.37 ft	Latitude:	40° 10' 13.368 N
From:	Lat/Long	Easting:	3,180,852.42 ft	Longitude:	104° 51' 10.188 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.42 °

Well		P_WITTEMYER 41-2				
Well Position	+N/-S	-21.87 ft	Northing:	1,305,550.63 ft	Latitude:	40° 10' 13.152 N
	+E/-W	16.77 ft	Easting:	3,180,869.35 ft	Longitude:	104° 51' 9.972 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,841.00 ft

<b>Wellbore</b>	P_WITTEMYER 41-2				
<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	9.09	66.92	53,208

<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	77.16	

<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	
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,187.00	24.74	77.16	2,148.92	58.43	256.37	2.00	2.00	0.00	77.16	
3,868.50	24.74	77.16	3,676.08	214.82	942.48	0.00	0.00	0.00	0.00	
5,105.50	0.00	0.00	4,875.00	273.25	1,198.85	2.00	-2.00	0.00	180.00	
7,728.50	0.00	0.00	7,498.00	273.25	1,198.85	0.00	0.00	0.00	0.00	PBHL_WITTEMYEI



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_WITTEMYER 41-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site:</b>	WELD_WITTEMYER 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_WITTEMYER 41-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_WITTEMYER 41-2		
<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>									
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	1.00	77.16	1,000.00	0.10	0.43	0.44	2.00	2.00	0.00
1,100.00	3.00	77.16	1,099.93	0.87	3.83	3.93	2.00	2.00	0.00
1,200.00	5.00	77.16	1,199.68	2.42	10.63	10.90	2.00	2.00	0.00
1,300.00	7.00	77.16	1,299.13	4.75	20.82	21.35	2.00	2.00	0.00
1,400.00	9.00	77.16	1,398.15	7.84	34.39	35.27	2.00	2.00	0.00
1,500.00	11.00	77.16	1,496.63	11.70	51.32	52.63	2.00	2.00	0.00
1,600.00	13.00	77.16	1,594.44	16.32	71.59	73.42	2.00	2.00	0.00
1,700.00	15.00	77.16	1,691.46	21.69	95.17	97.62	2.00	2.00	0.00
1,800.00	17.00	77.16	1,787.58	27.82	122.05	125.18	2.00	2.00	0.00
1,900.00	19.00	77.16	1,882.68	34.69	152.17	156.08	2.00	2.00	0.00
2,000.00	21.00	77.16	1,976.65	42.29	185.52	190.28	2.00	2.00	0.00
2,100.00	23.00	77.16	2,069.36	50.61	222.04	227.74	2.00	2.00	0.00
<b>Start 1681.49 hold at 2187.00 MD</b>									
2,187.00	24.74	77.16	2,148.92	58.43	256.37	262.94	2.00	2.00	0.00
2,200.00	24.74	77.16	2,160.72	59.64	261.67	268.38	0.00	0.00	0.00
2,300.00	24.74	77.16	2,251.55	68.94	302.47	310.23	0.00	0.00	0.00
2,400.00	24.74	77.16	2,342.37	78.24	343.28	352.08	0.00	0.00	0.00
2,500.00	24.74	77.16	2,433.19	87.54	384.08	393.93	0.00	0.00	0.00
2,600.00	24.74	77.16	2,524.01	96.84	424.89	435.78	0.00	0.00	0.00
2,700.00	24.74	77.16	2,614.83	106.14	465.69	477.63	0.00	0.00	0.00
2,800.00	24.74	77.16	2,705.65	115.44	506.49	519.48	0.00	0.00	0.00
2,900.00	24.74	77.16	2,796.48	124.75	547.30	561.33	0.00	0.00	0.00
3,000.00	24.74	77.16	2,887.30	134.05	588.10	603.18	0.00	0.00	0.00
3,100.00	24.74	77.16	2,978.12	143.35	628.90	645.03	0.00	0.00	0.00
3,200.00	24.74	77.16	3,068.94	152.65	669.71	686.88	0.00	0.00	0.00
3,300.00	24.74	77.16	3,159.76	161.95	710.51	728.73	0.00	0.00	0.00
3,400.00	24.74	77.16	3,250.58	171.25	751.32	770.58	0.00	0.00	0.00
3,500.00	24.74	77.16	3,341.41	180.55	792.12	812.43	0.00	0.00	0.00
3,600.00	24.74	77.16	3,432.23	189.85	832.92	854.28	0.00	0.00	0.00
3,700.00	24.74	77.16	3,523.05	199.15	873.73	896.13	0.00	0.00	0.00
3,800.00	24.74	77.16	3,613.87	208.45	914.53	937.99	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
3,868.50	24.74	77.16	3,676.08	214.82	942.48	966.65	0.00	0.00	0.00
3,900.00	24.11	77.16	3,704.76	217.71	955.18	979.68	2.00	-2.00	0.00
4,000.00	22.11	77.16	3,796.73	226.44	993.45	1,018.93	2.00	-2.00	0.00
<b>PARKMAN</b>									
4,070.11	20.71	77.16	3,862.00	232.12	1,018.40	1,044.51	2.00	-2.00	0.00
4,100.00	20.11	77.16	3,890.02	234.44	1,028.56	1,054.94	2.00	-2.00	0.00
4,200.00	18.11	77.16	3,984.50	241.71	1,060.48	1,087.68	2.00	-2.00	0.00
4,300.00	16.11	77.16	4,080.07	248.25	1,089.16	1,117.10	2.00	-2.00	0.00
4,400.00	14.11	77.16	4,176.61	254.05	1,114.58	1,143.16	2.00	-2.00	0.00
4,500.00	12.11	77.16	4,274.00	259.09	1,136.69	1,165.84	2.00	-2.00	0.00
4,600.00	10.11	77.16	4,372.12	263.37	1,155.48	1,185.11	2.00	-2.00	0.00
<b>SUSSEX TOP</b>									
4,626.27	9.58	77.16	4,398.00	264.37	1,159.86	1,189.60	2.00	-2.00	0.00
4,700.00	8.11	77.16	4,470.85	266.89	1,170.91	1,200.94	2.00	-2.00	0.00
4,800.00	6.11	77.16	4,570.08	269.64	1,182.98	1,213.32	2.00	-2.00	0.00
4,900.00	4.11	77.16	4,669.68	271.62	1,191.66	1,222.23	2.00	-2.00	0.00
5,000.00	2.11	77.16	4,769.52	272.82	1,196.95	1,227.65	2.00	-2.00	0.00
<b>SHANNON TOP</b>									
5,055.50	1.00	77.16	4,825.00	273.16	1,198.42	1,229.16	2.00	-2.00	0.00



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_WITTEMYER 41-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site:</b>	WELD_WITTEMYER 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_WITTEMYER 41-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_WITTEMYER 41-2		
<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)
5,100.00	0.11	77.16	4,869.50	273.25	1,198.84	1,229.59	2.00	-2.00	0.00
<b>Start 2623.00 hold at 5105.50 MD</b>									
5,105.50	0.00	0.00	4,875.00	273.25	1,198.85	1,229.59	2.00	-2.00	-1,402.99
5,200.00	0.00	0.00	4,969.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
5,300.00	0.00	0.00	5,069.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
5,400.00	0.00	0.00	5,169.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
5,500.00	0.00	0.00	5,269.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
5,600.00	0.00	0.00	5,369.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
5,700.00	0.00	0.00	5,469.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
5,800.00	0.00	0.00	5,569.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
5,900.00	0.00	0.00	5,669.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,000.00	0.00	0.00	5,769.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,100.00	0.00	0.00	5,869.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,200.00	0.00	0.00	5,969.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,300.00	0.00	0.00	6,069.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,400.00	0.00	0.00	6,169.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,500.00	0.00	0.00	6,269.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,600.00	0.00	0.00	6,369.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,700.00	0.00	0.00	6,469.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,800.00	0.00	0.00	6,569.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
6,900.00	0.00	0.00	6,669.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
7,000.00	0.00	0.00	6,769.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
7,100.00	0.00	0.00	6,869.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
7,200.00	0.00	0.00	6,969.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
7,300.00	0.00	0.00	7,069.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
<b>NIO A TOP</b>									
7,308.50	0.00	0.00	7,078.00	273.25	1,198.85	1,229.59	0.00	0.00	0.00
7,400.00	0.00	0.00	7,169.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
7,500.00	0.00	0.00	7,269.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
<b>CODELL TOP</b>									
7,568.50	0.00	0.00	7,338.00	273.25	1,198.85	1,229.59	0.00	0.00	0.00
7,600.00	0.00	0.00	7,369.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
7,700.00	0.00	0.00	7,469.50	273.25	1,198.85	1,229.59	0.00	0.00	0.00
<b>PBHL_WITTEMYER 41-2(1150 FNL 50 FEL)50' TGT RAD</b>									
7,728.50	0.00	0.00	7,498.00	273.25	1,198.85	1,229.59	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_WITTEMYER 4	0.00	0.00	7,498.00	273.25	1,198.85	1,305,832.62	3,182,066.17	40° 10' 15.852 N	104° 50' 54.528 W
- plan hits target center									
- Circle (radius 50.00)									

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
850.00	850.00	8 5/8"	8.62	11.00



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_WITTEMYER 41-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site:</b>	WELD_WITTEMYER 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_WITTEMYER 41-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_WITTEMYER 41-2		
<b>Design:</b>	PLAN #1 09-02-09 RHS		

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,070.11	3,862.00	PARKMAN			
4,626.27	4,398.00	SUSSEX TOP			
5,055.50	4,825.00	SHANNON TOP			
7,308.50	7,078.00	NIO A TOP			
7,568.50	7,338.00	CODELL TOP			

#### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
950.00	950.00	0.00	0.00	Start Build 2.00
2,187.00	2,148.92	58.43	256.37	Start 1681.49 hold at 2187.00 MD
3,868.50	3,676.08	214.82	942.48	Start Drop -2.00
5,105.50	4,875.00	273.25	1,198.85	Start 2623.00 hold at 5105.50 MD
7,728.50	7,498.00	273.25	1,198.85	TD at 7728.50



# **US ROCKIES REGION PLANNING**

**KERR MCGEE OIL & GAS ONSHORE LP  
WELD\_WITTEMYER 3 PAD  
P\_WITTEMYER 41-2**

**P\_WITTEMYER 41-2  
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_WITTEMYER 41-2
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_WITTEMYER 3 PAD	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_WITTEMYER 41-2	<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_WITTEMYER 41-2	<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	7,728.50	PLAN #1 09-02-09 RHS (P_WITTEMYER	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_WITTEMYER 3 PAD						
P_WITTEMYER 24-2 - P_WITTEMYER 24-2 - PLAN #1	1,097.83	1,098.68	26.87	22.29	5.859	CC
P_WITTEMYER 24-2 - P_WITTEMYER 24-2 - PLAN #1	1,100.00	1,100.85	26.87	22.28	5.849	ES, SF
P_WITTEMYER 40-2 - P_WITTEMYER 40-2 - PLAN #1	950.00	950.00	32.14	28.13	8.011	CC, ES
P_WITTEMYER 40-2 - P_WITTEMYER 40-2 - PLAN #1	1,100.00	1,098.26	34.49	29.89	7.492	SF
VINCENT RALPH #1 EXISTING WELL - VINCENT RALF	1,023.03	1,023.02	77.83	37.05	1.908	CC
VINCENT RALPH #1 EXISTING WELL - VINCENT RALF	1,300.00	1,299.13	80.47	28.04	1.535	ES
VINCENT RALPH #1 EXISTING WELL - VINCENT RALF	1,400.00	1,398.15	85.07	28.50	1.504	SF

<b>Offset Design</b> WELD_WITTEMYER 3 PAD - P_WITTEMYER 24-2 - P_WITTEMYER 24-2 - PLAN #1 09-02-09 RHS													<b>Offset Site Error:</b>	0.00 ft
<b>Survey Program:</b> 0-MWD													<b>Offset Well Error:</b>	0.00 ft
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>			<b>Distance</b>									<b>Warning</b>
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Reference (ft)</b>	<b>Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>	<b>Minimum Separation (ft)</b>	<b>Separation Factor</b>		
0.00	0.00	0.00	0.00	0.00	0.00	-37.48	21.87	-16.77	27.56					
100.00	100.00	100.00	100.00	0.10	0.10	-37.48	21.87	-16.77	27.56	27.37	0.19	144.241		
200.00	200.00	200.00	200.00	0.32	0.32	-37.48	21.87	-16.77	27.56	26.92	0.64	43.019		
300.00	300.00	300.00	300.00	0.55	0.55	-37.48	21.87	-16.77	27.56	26.47	1.09	25.279		
400.00	400.00	400.00	400.00	0.77	0.77	-37.48	21.87	-16.77	27.56	26.02	1.54	17.899		
500.00	500.00	500.00	500.00	0.99	0.99	-37.48	21.87	-16.77	27.56	25.57	1.99	13.854		
600.00	600.00	600.00	600.00	1.22	1.22	-37.48	21.87	-16.77	27.56	25.12	2.44	11.300		
700.00	700.00	700.00	700.00	1.44	1.44	-37.48	21.87	-16.77	27.56	24.67	2.89	9.541		
800.00	800.00	800.00	800.00	1.67	1.67	-37.48	21.87	-16.77	27.56	24.22	3.34	8.256		
900.00	900.00	900.00	900.00	1.89	1.89	-37.48	21.87	-16.77	27.56	23.77	3.79	7.276		
950.00	950.00	950.00	950.00	2.01	2.01	-37.48	21.87	-16.77	27.56	23.55	4.01	6.869		
1,000.00	1,000.00	1,000.36	1,000.36	2.11	2.10	-116.07	21.43	-16.79	27.41	23.19	4.22	6.500		
1,097.83	1,097.77	1,098.68	1,098.61	2.32	2.27	-127.47	18.02	-16.94	26.87	22.29	4.59	5.859	CC	
1,100.00	1,099.93	1,100.85	1,100.78	2.32	2.28	-127.85	17.90	-16.94	26.87	22.28	4.59	5.849	ES, SF	
1,200.00	1,199.68	1,200.64	1,200.32	2.54	2.46	-150.17	10.92	-17.26	29.16	24.18	4.98	5.857		
1,300.00	1,299.13	1,299.28	1,298.42	2.77	2.67	-173.20	0.62	-17.71	38.76	33.39	5.37	7.217		
1,400.00	1,398.15	1,396.35	1,394.54	3.03	2.90	171.26	-12.80	-18.31	56.71	50.93	5.78	9.803		
1,500.00	1,496.63	1,491.45	1,488.23	3.33	3.16	162.08	-29.10	-19.04	81.76	75.53	6.23	13.131		
1,600.00	1,594.44	1,584.23	1,579.06	3.67	3.45	156.49	-47.98	-19.88	112.86	106.16	6.70	16.853		
1,700.00	1,691.46	1,674.38	1,666.68	4.06	3.79	152.83	-69.13	-20.82	149.40	142.20	7.20	20.752		
1,800.00	1,787.58	1,761.62	1,750.80	4.51	4.16	150.27	-92.22	-21.85	190.97	183.23	7.74	24.688		

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_WITTEMYER 41-2
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_WITTEMYER 3 PAD	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_WITTEMYER 41-2	<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_WITTEMYER 41-2	<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_WITTEMYER 3 PAD - P_WITTEMYER 24-2 - P_WITTEMYER 24-2 - PLAN #1 09-02-09 RHS												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
1,900.00	1,882.68	1,845.73	1,831.21	5.03	4.56	148.34	-116.89	-22.95	237.26	228.96	8.31	28.559	
2,000.00	1,976.65	1,926.55	1,907.75	5.62	4.98	146.79	-142.80	-24.11	288.01	279.08	8.93	32.246	
2,100.00	2,069.36	2,000.00	1,976.65	6.28	5.40	145.50	-168.22	-25.24	342.97	333.38	9.59	35.764	
2,187.00	2,148.92	2,068.38	2,040.19	6.91	5.84	144.44	-193.46	-26.37	393.97	383.73	10.23	38.498	
2,200.00	2,160.72	2,077.79	2,048.88	7.01	5.90	144.41	-197.05	-26.53	401.82	391.48	10.34	38.867	
2,300.00	2,251.55	2,149.01	2,114.31	7.79	6.38	144.07	-225.16	-27.78	463.03	451.86	11.17	41.470	
2,400.00	2,342.37	2,222.95	2,181.59	8.59	6.91	143.64	-255.79	-29.14	525.48	513.44	12.04	43.660	
2,500.00	2,433.19	2,300.86	2,252.40	9.40	7.49	143.26	-288.26	-30.59	588.10	575.16	12.94	45.441	
2,600.00	2,524.01	2,378.77	2,323.21	10.22	8.08	142.95	-320.72	-32.04	650.74	636.88	13.87	46.932	
2,700.00	2,614.83	2,456.68	2,394.01	11.05	8.67	142.70	-353.19	-33.49	713.39	698.59	14.80	48.198	
2,800.00	2,705.65	2,534.59	2,464.82	11.89	9.27	142.49	-385.66	-34.93	776.04	760.30	15.75	49.283	
2,900.00	2,796.48	2,612.50	2,535.63	12.73	9.88	142.31	-418.12	-36.38	838.70	822.00	16.70	50.221	
3,000.00	2,887.30	2,690.41	2,606.44	13.58	10.49	142.16	-450.59	-37.83	901.37	883.71	17.66	51.036	
3,100.00	2,978.12	2,768.31	2,677.24	14.43	11.10	142.03	-483.06	-39.27	964.04	945.41	18.63	51.752	
3,200.00	3,068.94	2,846.22	2,748.05	15.28	11.72	141.91	-515.52	-40.72	1,026.71	1,007.11	19.60	52.385	
3,300.00	3,159.76	2,924.13	2,818.86	16.14	12.34	141.80	-547.99	-42.17	1,089.38	1,068.81	20.57	52.948	
3,400.00	3,250.58	3,002.04	2,889.66	17.00	12.96	141.71	-580.46	-43.62	1,152.06	1,130.50	21.55	53.452	
3,500.00	3,341.41	3,079.95	2,960.47	17.86	13.58	141.63	-612.92	-45.06	1,214.73	1,192.20	22.53	53.905	
3,600.00	3,432.23	3,157.86	3,031.28	18.72	14.21	141.55	-645.39	-46.51	1,277.41	1,253.89	23.52	54.315	
3,700.00	3,523.05	3,235.77	3,102.08	19.58	14.83	141.48	-677.86	-47.96	1,340.09	1,315.59	24.50	54.688	
3,800.00	3,613.87	3,313.68	3,172.89	20.44	15.46	141.42	-710.32	-49.41	1,402.77	1,377.28	25.49	55.029	
3,868.50	3,676.08	3,367.04	3,221.39	21.03	15.89	141.38	-732.56	-50.40	1,445.71	1,419.54	26.17	55.246	
3,900.00	3,704.76	3,391.67	3,243.77	21.28	16.09	141.67	-742.82	-50.85	1,465.35	1,438.86	26.49	55.320	
4,000.00	3,796.73	3,470.91	3,315.79	21.93	16.73	142.48	-775.84	-52.33	1,526.27	1,498.84	27.44	55.629	
4,100.00	3,890.02	3,551.70	3,389.22	22.54	17.38	143.14	-809.51	-53.83	1,584.99	1,556.62	28.37	55.868	
4,200.00	3,984.50	3,633.95	3,463.97	23.10	18.05	143.66	-843.79	-55.35	1,641.45	1,612.16	29.29	56.051	
4,300.00	4,080.07	3,717.55	3,539.95	23.61	18.73	144.06	-878.63	-56.91	1,695.60	1,665.42	30.18	56.189	
4,400.00	4,176.61	3,814.10	3,627.75	24.06	19.46	144.30	-918.76	-58.70	1,747.37	1,716.29	31.08	56.228	
4,500.00	4,274.00	3,981.37	3,782.28	24.47	20.39	144.19	-982.65	-61.54	1,794.29	1,762.19	32.10	55.905	
4,600.00	4,372.12	4,159.87	3,951.00	24.82	21.28	144.10	-1,040.77	-64.14	1,834.55	1,801.47	33.08	55.459	
4,700.00	4,470.85	4,348.59	4,132.95	25.12	22.09	144.04	-1,090.67	-66.36	1,867.61	1,833.57	34.05	54.853	
4,800.00	4,570.08	4,545.96	4,326.34	25.37	22.78	144.01	-1,129.94	-68.11	1,893.00	1,858.11	34.89	54.249	
4,900.00	4,669.68	4,749.93	4,528.53	25.57	23.31	144.03	-1,156.45	-69.29	1,910.32	1,874.73	35.59	53.677	
5,000.00	4,769.52	4,957.99	4,736.18	25.72	23.64	144.11	-1,168.62	-69.83	1,919.28	1,883.17	36.11	53.155	
5,105.50	4,875.00	5,096.81	4,875.00	25.83	23.78	-138.67	-1,169.33	-69.87	1,921.12	1,884.71	36.41	52.770	
5,200.00	4,969.50	5,191.31	4,969.50	25.91	23.86	-138.67	-1,169.33	-69.87	1,921.12	1,884.50	36.62	52.464	
5,300.00	5,069.50	5,291.31	5,069.50	26.00	23.94	-138.67	-1,169.33	-69.87	1,921.12	1,884.26	36.85	52.130	
5,400.00	5,169.50	5,391.31	5,169.50	26.09	24.03	-138.67	-1,169.33	-69.87	1,921.12	1,884.03	37.09	51.795	
5,500.00	5,269.50	5,491.31	5,269.50	26.18	24.12	-138.67	-1,169.33	-69.87	1,921.12	1,883.78	37.33	51.458	
5,600.00	5,369.50	5,591.31	5,369.50	26.28	24.21	-138.67	-1,169.33	-69.87	1,921.12	1,883.54	37.58	51.121	
5,700.00	5,469.50	5,691.31	5,469.50	26.38	24.30	-138.67	-1,169.33	-69.87	1,921.12	1,883.29	37.83	50.783	
5,800.00	5,569.50	5,791.31	5,569.50	26.47	24.40	-138.67	-1,169.33	-69.87	1,921.12	1,883.03	38.08	50.444	
5,900.00	5,669.50	5,891.31	5,669.50	26.57	24.49	-138.67	-1,169.33	-69.87	1,921.12	1,882.77	38.34	50.106	
6,000.00	5,769.50	5,991.31	5,769.50	26.67	24.59	-138.67	-1,169.33	-69.87	1,921.12	1,882.51	38.60	49.767	
6,100.00	5,869.50	6,091.31	5,869.50	26.78	24.69	-138.67	-1,169.33	-69.87	1,921.12	1,882.25	38.87	49.429	
6,200.00	5,969.50	6,191.31	5,969.50	26.88	24.79	-138.67	-1,169.33	-69.87	1,921.12	1,881.98	39.13	49.090	
6,300.00	6,069.50	6,291.31	6,069.50	26.99	24.89	-138.67	-1,169.33	-69.87	1,921.12	1,881.71	39.41	48.753	
6,400.00	6,169.50	6,391.31	6,169.50	27.09	25.00	-138.67	-1,169.33	-69.87	1,921.12	1,881.44	39.68	48.416	
6,500.00	6,269.50	6,491.31	6,269.50	27.20	25.10	-138.67	-1,169.33	-69.87	1,921.12	1,881.16	39.96	48.080	
6,600.00	6,369.50	6,591.31	6,369.50	27.31	25.21	-138.67	-1,169.33	-69.87	1,921.12	1,880.88	40.24	47.744	
6,700.00	6,469.50	6,691.31	6,469.50	27.42	25.32	-138.67	-1,169.33	-69.87	1,921.12	1,880.59	40.52	47.410	
6,800.00	6,569.50	6,791.31	6,569.50	27.54	25.43	-138.67	-1,169.33	-69.87	1,921.12	1,880.31	40.81	47.077	

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_WITTEMYER 41-2
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_WITTEMYER 3 PAD	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_WITTEMYER 41-2	<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_WITTEMYER 41-2	<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>Offset Design</b> WELD_WITTEMYER 3 PAD - P_WITTEMYER 24-2 - P_WITTEMYER 24-2 - PLAN #1 09-02-09 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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
6,900.00	6,669.50	6,891.31	6,669.50	27.65	25.54	-138.67	-1,169.33	-69.87	1,921.12	1,880.02	41.10	46.746	
7,000.00	6,769.50	6,991.31	6,769.50	27.77	25.66	-138.67	-1,169.33	-69.87	1,921.12	1,879.73	41.39	46.415	
7,100.00	6,869.50	7,091.31	6,869.50	27.88	25.77	-138.67	-1,169.33	-69.87	1,921.12	1,879.43	41.68	46.087	
7,200.00	6,969.50	7,191.31	6,969.50	28.00	25.89	-138.67	-1,169.33	-69.87	1,921.12	1,879.13	41.98	45.760	
7,300.00	7,069.50	7,291.31	7,069.50	28.12	26.01	-138.67	-1,169.33	-69.87	1,921.12	1,878.83	42.28	45.434	
7,400.00	7,169.50	7,391.31	7,169.50	28.24	26.12	-138.67	-1,169.33	-69.87	1,921.12	1,878.53	42.59	45.111	
7,500.00	7,269.50	7,491.31	7,269.50	28.37	26.24	-138.67	-1,169.33	-69.87	1,921.12	1,878.22	42.89	44.789	
7,600.00	7,369.50	7,591.31	7,369.50	28.49	26.37	-138.67	-1,169.33	-69.87	1,921.12	1,877.92	43.20	44.469	
7,700.00	7,469.50	7,691.31	7,469.50	28.61	26.49	-138.67	-1,169.33	-69.87	1,921.12	1,877.60	43.51	44.152	
7,728.50	7,498.00	7,719.81	7,498.00	28.65	26.53	-138.67	-1,169.33	-69.87	1,921.12	1,877.52	43.60	44.062	



# Weatherford International Ltd.

## Anticollision Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_WITTEMYER 41-2
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_WITTEMYER 3 PAD	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_WITTEMYER 41-2	<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_WITTEMYER 41-2	<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	142.51	-25.50	19.56	32.14				
100.00	100.00	100.00	100.00	0.10	0.10	142.51	-25.50	19.56	32.14	31.95	0.19	168.238	
200.00	200.00	200.00	200.00	0.32	0.32	142.51	-25.50	19.56	32.14	31.50	0.64	50.176	
300.00	300.00	300.00	300.00	0.55	0.55	142.51	-25.50	19.56	32.14	31.05	1.09	29.485	
400.00	400.00	400.00	400.00	0.77	0.77	142.51	-25.50	19.56	32.14	30.60	1.54	20.876	
500.00	500.00	500.00	500.00	0.99	0.99	142.51	-25.50	19.56	32.14	30.15	1.99	16.158	
600.00	600.00	600.00	600.00	1.22	1.22	142.51	-25.50	19.56	32.14	29.70	2.44	13.180	
700.00	700.00	700.00	700.00	1.44	1.44	142.51	-25.50	19.56	32.14	29.25	2.89	11.129	
800.00	800.00	800.00	800.00	1.67	1.67	142.51	-25.50	19.56	32.14	28.80	3.34	9.630	
900.00	900.00	900.00	900.00	1.89	1.89	142.51	-25.50	19.56	32.14	28.35	3.79	8.487	
950.00	950.00	950.00	950.00	2.01	2.01	142.51	-25.50	19.56	32.14	28.13	4.01	8.011 CC, ES	
1,000.00	1,000.00	999.45	999.44	2.11	2.11	65.94	-25.81	19.86	32.39	28.17	4.22	7.679	
1,100.00	1,099.93	1,098.26	1,098.19	2.32	2.29	70.35	-28.22	22.27	34.49	29.89	4.60	7.492 SF	
1,200.00	1,199.68	1,196.82	1,196.51	2.54	2.48	77.62	-33.03	27.06	39.20	34.20	5.01	7.828	
1,300.00	1,299.13	1,294.97	1,294.13	2.77	2.69	85.54	-40.20	34.21	47.16	41.72	5.44	8.666	
1,400.00	1,398.15	1,392.55	1,390.79	3.03	2.93	92.52	-49.67	43.64	58.71	52.79	5.92	9.920	
1,500.00	1,496.63	1,489.41	1,486.23	3.33	3.20	98.00	-61.37	55.30	73.91	67.46	6.45	11.459	
1,600.00	1,594.44	1,585.41	1,580.21	3.67	3.52	102.08	-75.21	69.10	92.66	85.61	7.05	13.145	
1,700.00	1,691.46	1,680.41	1,672.52	4.06	3.89	105.05	-91.10	84.94	114.83	107.10	7.73	14.859	
1,800.00	1,787.58	1,774.29	1,762.96	4.51	4.30	107.19	-108.92	102.70	140.28	131.78	8.50	16.512	
1,900.00	1,882.68	1,866.93	1,851.36	5.03	4.77	108.72	-128.56	122.27	168.89	159.53	9.36	18.046	
2,000.00	1,976.65	1,958.24	1,937.55	5.62	5.29	109.80	-149.88	143.52	200.55	190.23	10.32	19.429	
2,100.00	2,069.36	2,048.12	2,021.42	6.28	5.87	110.54	-172.76	166.32	235.15	223.76	11.39	20.650	
2,187.00	2,148.92	2,125.10	2,092.42	6.91	6.40	110.98	-193.83	187.32	267.57	255.18	12.40	21.585	
2,200.00	2,160.72	2,136.50	2,102.87	7.01	6.48	111.12	-197.06	190.54	272.59	260.03	12.56	21.708	
2,300.00	2,251.55	2,226.02	2,184.38	7.79	7.16	111.90	-223.27	216.66	311.87	298.04	13.83	22.557	
2,400.00	2,342.37	2,317.83	2,267.83	8.59	7.89	112.46	-250.38	243.69	351.38	336.24	15.14	23.202	
2,500.00	2,433.19	2,409.65	2,351.28	9.40	8.63	112.91	-277.50	270.71	390.92	374.43	16.49	23.707	
2,600.00	2,524.01	2,501.46	2,434.73	10.22	9.37	113.28	-304.62	297.74	430.47	412.62	17.85	24.110	
2,700.00	2,614.83	2,593.27	2,518.18	11.05	10.13	113.59	-331.73	324.76	470.04	450.80	19.24	24.436	
2,800.00	2,705.65	2,685.08	2,601.63	11.89	10.90	113.84	-358.85	351.79	509.62	488.99	20.63	24.704	
2,900.00	2,796.48	2,776.90	2,685.08	12.73	11.67	114.06	-385.97	378.82	549.20	527.17	22.03	24.927	
3,000.00	2,887.30	2,868.71	2,768.53	13.58	12.44	114.26	-413.08	405.84	588.79	565.35	23.44	25.116	
3,100.00	2,978.12	2,960.52	2,851.98	14.43	13.22	114.42	-440.20	432.87	628.38	603.52	24.86	25.277	
3,200.00	3,068.94	3,052.34	2,935.43	15.28	14.00	114.57	-467.32	459.89	667.98	641.70	26.28	25.416	
3,300.00	3,159.76	3,144.15	3,018.88	16.14	14.78	114.70	-494.43	486.92	707.59	679.88	27.71	25.537	
3,400.00	3,250.58	3,235.96	3,102.33	17.00	15.56	114.82	-521.55	513.95	747.19	718.05	29.14	25.643	
3,500.00	3,341.41	3,327.77	3,185.78	17.86	16.35	114.92	-548.67	540.97	786.80	756.23	30.57	25.737	
3,600.00	3,432.23	3,419.59	3,269.23	18.72	17.14	115.02	-575.79	568.00	826.41	794.40	32.01	25.821	
3,700.00	3,523.05	3,511.40	3,352.68	19.58	17.93	115.10	-602.90	595.02	866.02	832.57	33.44	25.896	
3,800.00	3,613.87	3,603.21	3,436.13	20.44	18.72	115.18	-630.02	622.05	905.63	870.74	34.89	25.960	
3,868.50	3,676.08	3,666.10	3,493.29	21.03	19.26	115.23	-648.59	640.56	932.76	896.88	35.88	25.997	
3,900.00	3,704.76	3,695.06	3,519.61	21.28	19.51	115.49	-657.15	649.09	945.17	908.83	36.34	26.009	
4,000.00	3,796.73	3,787.34	3,603.49	21.93	20.31	116.14	-684.40	676.25	983.66	945.95	37.70	26.089	
4,100.00	3,890.02	3,880.10	3,687.80	22.54	21.11	116.58	-711.80	703.55	1,020.73	981.70	39.03	26.150	
4,200.00	3,984.50	3,973.22	3,772.44	23.10	21.91	116.82	-739.30	730.97	1,056.38	1,016.06	40.32	26.199	
4,300.00	4,080.07	4,066.60	3,857.31	23.61	22.72	116.89	-766.88	758.45	1,090.64	1,049.07	41.57	26.239	
4,400.00	4,176.61	4,160.11	3,942.30	24.06	23.53	116.80	-794.50	785.98	1,123.53	1,080.77	42.76	26.276	
4,500.00	4,274.00	4,253.65	4,027.32	24.47	24.34	116.57	-822.13	813.51	1,155.12	1,111.23	43.89	26.316	
4,600.00	4,372.12	4,347.10	4,112.26	24.82	25.15	116.20	-849.73	841.02	1,185.49	1,140.52	44.97	26.361	
4,700.00	4,470.85	4,440.34	4,197.01	25.12	25.96	115.72	-877.27	868.47	1,214.72	1,168.74	45.98	26.418	
4,800.00	4,570.08	4,533.27	4,281.47	25.37	26.77	115.13	-904.71	895.82	1,242.92	1,196.00	46.92	26.490	

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_WITTEMYER 41-2
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_WITTEMYER 3 PAD	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_WITTEMYER 41-2	<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_WITTEMYER 41-2	<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_WITTEMYER 3 PAD - P_WITTEMYER 40-2 - P_WITTEMYER 40-2 - PLAN #1 09-02-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
4,900.00	4,669.68	4,625.77	4,365.55	25.57	27.57	114.44	-932.03	923.05	1,270.20	1,222.42	47.78	26.582	
5,000.00	4,769.52	4,717.72	4,449.12	25.72	28.37	113.66	-959.19	950.12	1,296.70	1,248.13	48.57	26.697	
5,105.50	4,875.00	4,814.02	4,536.65	25.83	29.21	-170.09	-987.63	978.46	1,323.96	1,274.65	49.31	26.849	
5,200.00	4,969.50	4,904.24	4,618.66	25.91	29.97	-171.44	-1,014.25	1,005.00	1,348.46	1,298.58	49.88	27.033	
5,300.00	5,069.50	5,036.44	4,740.32	26.00	30.81	-173.22	-1,050.88	1,041.50	1,373.48	1,323.04	50.45	27.226	
5,400.00	5,169.50	5,173.68	4,868.99	26.09	31.59	-174.80	-1,084.66	1,075.17	1,396.26	1,345.30	50.96	27.400	
5,500.00	5,269.50	5,315.59	5,004.28	26.18	32.31	-176.15	-1,114.96	1,105.37	1,416.41	1,364.99	51.42	27.546	
5,600.00	5,369.50	5,461.68	5,145.60	26.28	32.93	-177.27	-1,141.16	1,131.47	1,433.61	1,381.78	51.83	27.660	
5,700.00	5,469.50	5,611.35	5,292.14	26.38	33.47	-178.17	-1,162.67	1,152.91	1,447.56	1,395.36	52.20	27.730	
5,800.00	5,569.50	5,763.89	5,442.91	26.47	33.89	-178.83	-1,178.98	1,169.17	1,458.04	1,405.51	52.53	27.755	
5,900.00	5,669.50	5,918.49	5,596.75	26.57	34.20	-179.26	-1,189.69	1,179.85	1,464.88	1,412.05	52.83	27.728	
6,000.00	5,769.50	6,074.29	5,752.39	26.67	34.40	-179.45	-1,194.53	1,184.66	1,467.95	1,414.85	53.10	27.648	
6,100.00	5,869.50	6,191.41	5,869.50	26.78	34.49	-179.46	-1,194.81	1,184.94	1,468.12	1,414.81	53.31	27.539	
6,200.00	5,969.50	6,291.41	5,969.50	26.88	34.56	-179.46	-1,194.81	1,184.94	1,468.12	1,414.61	53.51	27.436	
6,300.00	6,069.50	6,391.41	6,069.50	26.99	34.64	-179.46	-1,194.81	1,184.94	1,468.12	1,414.41	53.71	27.332	
6,400.00	6,169.50	6,491.41	6,169.50	27.09	34.72	-179.46	-1,194.81	1,184.94	1,468.12	1,414.20	53.92	27.227	
6,500.00	6,269.50	6,591.41	6,269.50	27.20	34.79	-179.46	-1,194.81	1,184.94	1,468.12	1,413.99	54.13	27.122	
6,600.00	6,369.50	6,691.41	6,369.50	27.31	34.87	-179.46	-1,194.81	1,184.94	1,468.12	1,413.78	54.34	27.016	
6,700.00	6,469.50	6,791.41	6,469.50	27.42	34.95	-179.46	-1,194.81	1,184.94	1,468.12	1,413.57	54.56	26.909	
6,800.00	6,569.50	6,891.41	6,569.50	27.54	35.03	-179.46	-1,194.81	1,184.94	1,468.12	1,413.35	54.78	26.802	
6,900.00	6,669.50	6,991.41	6,669.50	27.65	35.11	-179.46	-1,194.81	1,184.94	1,468.12	1,413.13	55.00	26.694	
7,000.00	6,769.50	7,091.41	6,769.50	27.77	35.20	-179.46	-1,194.81	1,184.94	1,468.12	1,412.90	55.22	26.586	
7,100.00	6,869.50	7,191.41	6,869.50	27.88	35.28	-179.46	-1,194.81	1,184.94	1,468.12	1,412.68	55.45	26.477	
7,200.00	6,969.50	7,291.41	6,969.50	28.00	35.37	-179.46	-1,194.81	1,184.94	1,468.12	1,412.45	55.68	26.368	
7,300.00	7,069.50	7,391.41	7,069.50	28.12	35.46	-179.46	-1,194.81	1,184.94	1,468.12	1,412.21	55.91	26.259	
7,400.00	7,169.50	7,491.41	7,169.50	28.24	35.55	-179.46	-1,194.81	1,184.94	1,468.12	1,411.98	56.14	26.149	
7,500.00	7,269.50	7,591.41	7,269.50	28.37	35.63	-179.46	-1,194.81	1,184.94	1,468.12	1,411.74	56.38	26.039	
7,600.00	7,369.50	7,691.41	7,369.50	28.49	35.73	-179.46	-1,194.81	1,184.94	1,468.12	1,411.50	56.62	25.929	
7,700.00	7,469.50	7,791.41	7,469.50	28.61	35.82	-179.46	-1,194.81	1,184.94	1,468.12	1,411.26	56.86	25.818	
7,728.50	7,498.00	7,819.91	7,498.00	28.65	35.84	-179.46	-1,194.81	1,184.94	1,468.12	1,411.19	56.93	25.786	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_WITTEMYER 41-2
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_WITTEMYER 3 PAD	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_WITTEMYER 41-2	<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_WITTEMYER 41-2	<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_WITTEMYER 3 PAD - VINCENT RALPH #1 EXISTING WELL - VINCENT RALPH #1 EXISTING												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	
0.00	0.00	0.00	0.00	0.00	0.00	166.47	-75.68	18.20	77.84				
100.00	100.00	100.00	100.00	0.10	1.70	166.47	-75.68	18.20	77.84	76.04	1.80	43.350	
200.00	200.00	200.00	200.00	0.32	5.70	166.47	-75.68	18.20	77.84	71.82	6.02	12.929	
300.00	300.00	300.00	300.00	0.55	9.70	166.47	-75.68	18.20	77.84	67.59	10.25	7.597	
400.00	400.00	400.00	400.00	0.77	13.70	166.47	-75.68	18.20	77.84	63.37	14.47	5.379	
500.00	500.00	500.00	500.00	0.99	17.70	166.47	-75.68	18.20	77.84	59.14	18.69	4.164	
600.00	600.00	600.00	600.00	1.22	21.70	166.47	-75.68	18.20	77.84	54.92	22.92	3.396	
700.00	700.00	700.00	700.00	1.44	25.70	166.47	-75.68	18.20	77.84	50.69	27.14	2.868	
800.00	800.00	800.00	800.00	1.67	29.70	166.47	-75.68	18.20	77.84	46.47	31.37	2.481	
900.00	900.00	900.00	900.00	1.89	33.70	166.47	-75.68	18.20	77.84	42.24	35.59	2.187	
950.00	950.00	950.00	950.00	2.01	35.70	166.47	-75.68	18.20	77.84	40.13	37.71	2.064	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	37.70	89.64	-75.68	18.20	77.83	38.02	39.81	1.955	
1,023.03	1,023.02	1,023.02	1,023.02	2.16	38.62	90.00	-75.68	18.20	77.83	37.05	40.78	1.908 CC	
1,100.00	1,099.93	1,099.93	1,099.93	2.32	41.70	92.20	-75.68	18.20	77.89	33.87	44.02	1.769	
1,200.00	1,199.68	1,199.68	1,199.68	2.54	45.69	97.27	-75.68	18.20	78.47	30.24	48.23	1.627	
1,300.00	1,299.13	1,299.13	1,299.13	2.77	49.67	104.60	-75.68	18.20	80.47	28.04	52.43	1.535 ES	
1,400.00	1,398.15	1,398.15	1,398.15	3.03	53.63	113.55	-75.68	18.20	85.07	28.50	56.57	1.504 SF	
1,500.00	1,496.63	1,496.63	1,496.63	3.33	57.57	123.11	-75.68	18.20	93.44	32.85	60.59	1.542	
1,600.00	1,594.44	1,594.44	1,594.44	3.67	61.48	132.23	-75.68	18.20	106.36	41.97	64.40	1.652	
1,700.00	1,691.46	1,691.46	1,691.46	4.06	65.36	140.19	-75.68	18.20	124.12	56.16	67.96	1.826	
1,800.00	1,787.58	1,787.58	1,787.58	4.51	69.20	146.77	-75.68	18.20	146.61	75.32	71.29	2.057	
1,900.00	1,882.68	1,882.68	1,882.68	5.03	73.01	152.05	-75.68	18.20	173.57	99.18	74.39	2.333	
2,000.00	1,976.65	1,976.65	1,976.65	5.62	76.77	156.24	-75.68	18.20	204.72	127.45	77.27	2.649	
2,100.00	2,069.36	2,069.36	2,069.36	6.28	80.47	159.55	-75.68	18.20	239.79	159.86	79.93	3.000	
2,187.00	2,148.92	2,148.92	2,148.92	6.91	83.66	161.89	-75.68	18.20	273.33	191.27	82.05	3.331	
2,200.00	2,160.72	2,160.72	2,160.72	7.01	84.13	162.23	-75.68	18.20	278.55	196.05	82.50	3.376	
2,300.00	2,251.55	2,251.55	2,251.55	7.79	87.76	164.51	-75.68	18.20	318.94	232.98	85.96	3.710	
2,400.00	2,342.37	2,342.37	2,342.37	8.59	91.39	166.29	-75.68	18.20	359.67	270.20	89.47	4.020	
2,500.00	2,433.19	2,433.19	2,433.19	9.40	95.03	167.70	-75.68	18.20	400.63	307.62	93.02	4.307	
2,600.00	2,524.01	2,524.01	2,524.01	10.22	98.66	168.85	-75.68	18.20	441.76	345.18	96.59	4.574	
2,700.00	2,614.83	2,614.83	2,614.83	11.05	102.29	169.81	-75.68	18.20	483.01	382.84	100.17	4.822	
2,800.00	2,705.65	2,705.65	2,705.65	11.89	105.93	170.62	-75.68	18.20	524.36	420.59	103.77	5.053	
2,900.00	2,796.48	2,796.48	2,796.48	12.73	109.56	171.31	-75.68	18.20	565.78	458.40	107.38	5.269	
3,000.00	2,887.30	2,887.30	2,887.30	13.58	113.19	171.90	-75.68	18.20	607.26	496.26	111.00	5.471	
3,100.00	2,978.12	2,978.12	2,978.12	14.43	116.82	172.42	-75.68	18.20	648.79	534.17	114.62	5.660	
3,200.00	3,068.94	3,068.94	3,068.94	15.28	120.46	172.88	-75.68	18.20	690.35	572.11	118.25	5.838	
3,300.00	3,159.76	3,159.76	3,159.76	16.14	124.09	173.28	-75.68	18.20	731.95	610.07	121.88	6.005	
3,400.00	3,250.58	3,250.58	3,250.58	17.00	127.72	173.65	-75.68	18.20	773.58	648.06	125.52	6.163	
3,500.00	3,341.41	3,341.41	3,341.41	17.86	131.36	173.97	-75.68	18.20	815.23	686.07	129.16	6.312	
3,600.00	3,432.23	3,432.23	3,432.23	18.72	134.99	174.27	-75.68	18.20	856.90	724.09	132.80	6.452	
3,700.00	3,523.05	3,523.05	3,523.05	19.58	138.62	174.53	-75.68	18.20	898.58	762.13	136.45	6.585	
3,800.00	3,613.87	3,613.87	3,613.87	20.44	142.25	174.77	-75.68	18.20	940.28	800.18	140.10	6.712	
3,868.50	3,676.08	3,676.08	3,676.08	21.03	144.74	174.93	-75.68	18.20	968.85	826.25	142.60	6.794	
3,900.00	3,704.76	3,704.76	3,704.76	21.28	145.89	175.02	-75.68	18.20	981.84	837.45	144.39	6.800	
4,000.00	3,796.73	3,796.73	3,796.73	21.93	149.57	175.28	-75.68	18.20	1,020.97	870.93	150.03	6.805	
4,100.00	3,890.02	3,890.02	3,890.02	22.54	153.30	175.50	-75.68	18.20	1,056.88	901.24	155.64	6.791	
4,200.00	3,984.50	3,984.50	3,984.50	23.10	157.08	175.69	-75.68	18.20	1,089.53	928.36	161.17	6.760	
4,300.00	4,080.07	4,080.07	4,080.07	23.61	160.90	175.85	-75.68	18.20	1,118.87	952.24	166.63	6.715	
4,400.00	4,176.61	4,176.61	4,176.61	24.06	164.76	175.98	-75.68	18.20	1,144.88	972.82	172.06	6.654	
4,500.00	4,274.00	4,274.00	4,274.00	24.47	168.66	176.09	-75.68	18.20	1,167.51	990.14	177.37	6.582	
4,600.00	4,372.12	4,372.12	4,372.12	24.82	172.58	176.18	-75.68	18.20	1,186.73	1,004.20	182.54	6.501	
4,700.00	4,470.85	4,470.85	4,470.85	25.12	176.53	176.25	-75.68	18.20	1,202.53	1,014.99	187.54	6.412	

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



# Weatherford International Ltd.

## Anticollision Report



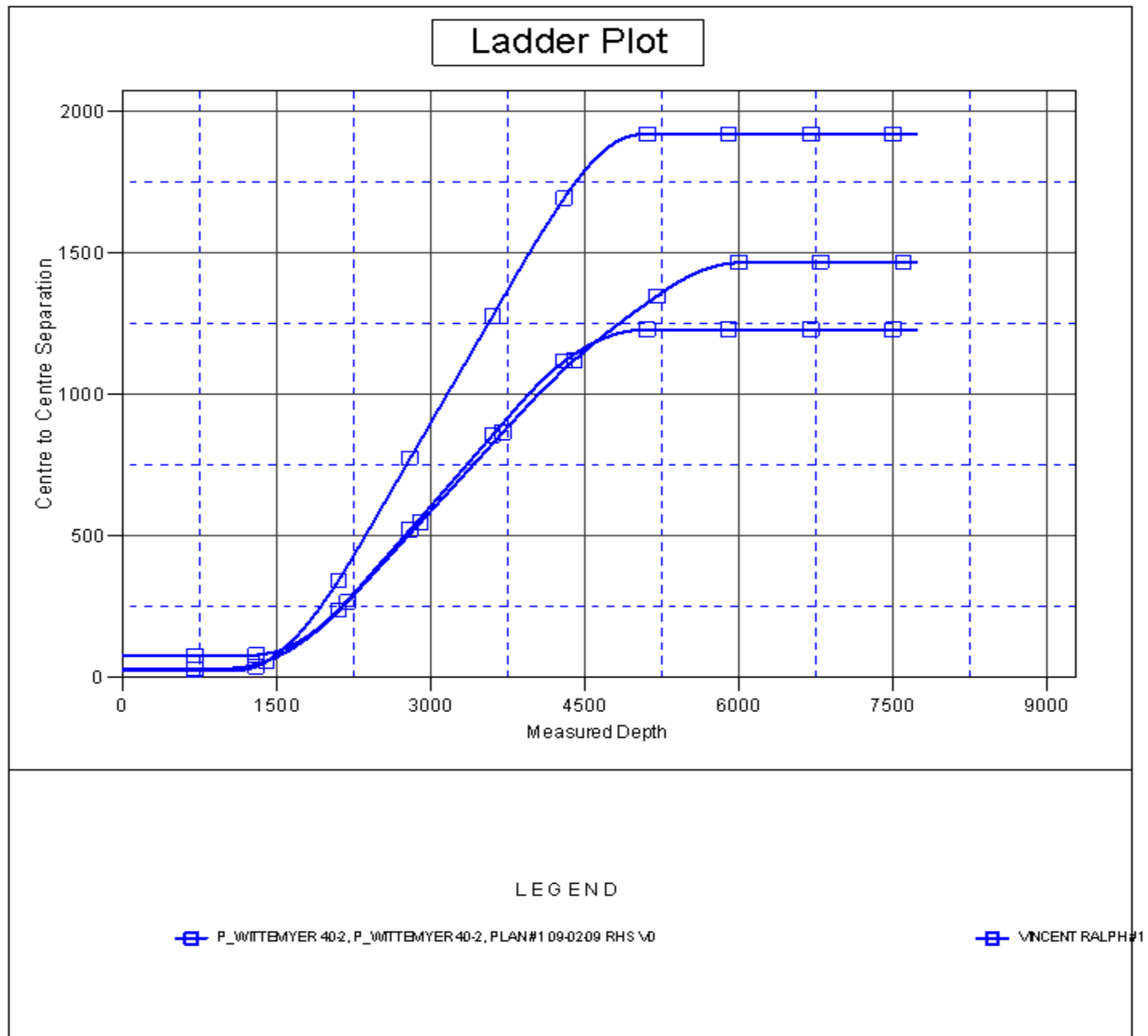
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_WITTEMYER 41-2
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_WITTEMYER 3 PAD	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_WITTEMYER 41-2	<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_WITTEMYER 41-2	<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						
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
4,800.00	4,570.08	4,570.08	4,570.08	25.37	180.50	176.31	-75.68	18.20	1,214.88	1,022.52	192.36	6.316	
4,900.00	4,669.68	4,669.68	4,669.68	25.57	184.49	176.34	-75.68	18.20	1,223.77	1,026.79	196.98	6.213	
5,000.00	4,769.52	4,769.52	4,769.52	25.72	188.48	176.37	-75.68	18.20	1,229.19	1,027.81	201.38	6.104	
5,105.50	4,875.00	4,875.00	4,875.00	25.83	192.70	-106.46	-75.68	18.20	1,231.13	1,025.37	205.75	5.983	
5,200.00	4,969.50	4,969.50	4,969.50	25.91	196.48	-106.46	-75.68	18.20	1,231.13	1,021.44	209.68	5.871	
5,300.00	5,069.50	5,069.50	5,069.50	26.00	200.48	-106.46	-75.68	18.20	1,231.13	1,017.28	213.84	5.757	
5,400.00	5,169.50	5,169.50	5,169.50	26.09	204.48	-106.46	-75.68	18.20	1,231.13	1,013.12	218.01	5.647	
5,500.00	5,269.50	5,269.50	5,269.50	26.18	208.48	-106.46	-75.68	18.20	1,231.13	1,008.95	222.18	5.541	
5,600.00	5,369.50	5,369.50	5,369.50	26.28	212.48	-106.46	-75.68	18.20	1,231.13	1,004.78	226.34	5.439	
5,700.00	5,469.50	5,469.50	5,469.50	26.38	216.48	-106.46	-75.68	18.20	1,231.13	1,000.61	230.51	5.341	
5,800.00	5,569.50	5,569.50	5,569.50	26.47	220.48	-106.46	-75.68	18.20	1,231.13	996.44	234.69	5.246	
5,900.00	5,669.50	5,669.50	5,669.50	26.57	224.48	-106.46	-75.68	18.20	1,231.13	992.27	238.86	5.154	
6,000.00	5,769.50	5,769.50	5,769.50	26.67	228.48	-106.46	-75.68	18.20	1,231.13	988.09	243.03	5.066	
6,100.00	5,869.50	5,869.50	5,869.50	26.78	232.48	-106.46	-75.68	18.20	1,231.13	983.92	247.21	4.980	
6,200.00	5,969.50	5,969.50	5,969.50	26.88	236.48	-106.46	-75.68	18.20	1,231.13	979.74	251.39	4.897	
6,300.00	6,069.50	6,069.50	6,069.50	26.99	240.48	-106.46	-75.68	18.20	1,231.13	975.56	255.56	4.817	
6,400.00	6,169.50	6,169.50	6,169.50	27.09	244.48	-106.46	-75.68	18.20	1,231.13	971.38	259.74	4.740	
6,500.00	6,269.50	6,269.50	6,269.50	27.20	248.48	-106.46	-75.68	18.20	1,231.13	967.20	263.92	4.665	
6,600.00	6,369.50	6,369.50	6,369.50	27.31	252.48	-106.46	-75.68	18.20	1,231.13	963.02	268.11	4.592	
6,700.00	6,469.50	6,469.50	6,469.50	27.42	256.48	-106.46	-75.68	18.20	1,231.13	958.84	272.29	4.521	
6,800.00	6,569.50	6,569.50	6,569.50	27.54	260.48	-106.46	-75.68	18.20	1,231.13	954.65	276.47	4.453	
6,900.00	6,669.50	6,669.50	6,669.50	27.65	264.48	-106.46	-75.68	18.20	1,231.13	950.47	280.66	4.387	
7,000.00	6,769.50	6,769.50	6,769.50	27.77	268.48	-106.46	-75.68	18.20	1,231.13	946.28	284.85	4.322	
7,100.00	6,869.50	6,869.50	6,869.50	27.88	272.48	-106.46	-75.68	18.20	1,231.13	942.09	289.03	4.259	
7,200.00	6,969.50	6,969.50	6,969.50	28.00	276.48	-106.46	-75.68	18.20	1,231.13	937.91	293.22	4.199	
7,300.00	7,069.50	7,069.50	7,069.50	28.12	280.48	-106.46	-75.68	18.20	1,231.13	933.72	297.41	4.139	
7,400.00	7,169.50	7,169.50	7,169.50	28.24	284.48	-106.46	-75.68	18.20	1,231.13	929.53	301.60	4.082	
7,500.00	7,269.50	7,269.50	7,269.50	28.37	288.48	-106.46	-75.68	18.20	1,231.13	925.34	305.79	4.026	
7,600.00	7,369.50	7,369.50	7,369.50	28.49	292.48	-106.46	-75.68	18.20	1,231.13	921.14	309.98	3.972	
7,700.00	7,469.50	7,469.50	7,469.50	28.61	296.48	-106.46	-75.68	18.20	1,231.13	916.95	314.17	3.919	
7,728.50	7,498.00	7,498.00	7,498.00	28.65	297.62	-106.46	-75.68	18.20	1,231.13	915.76	315.37	3.904	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_WITTEMYER 41-2
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<b>Reference Site:</b>	WELD_WITTEMYER 3 PAD	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_WITTEMYER 41-2	<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_WITTEMYER 41-2	<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 @ 4856.00ft (Original Well Elev)Coordinates are relative to: P\_WITTEMYER 41-2  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W °  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.42°



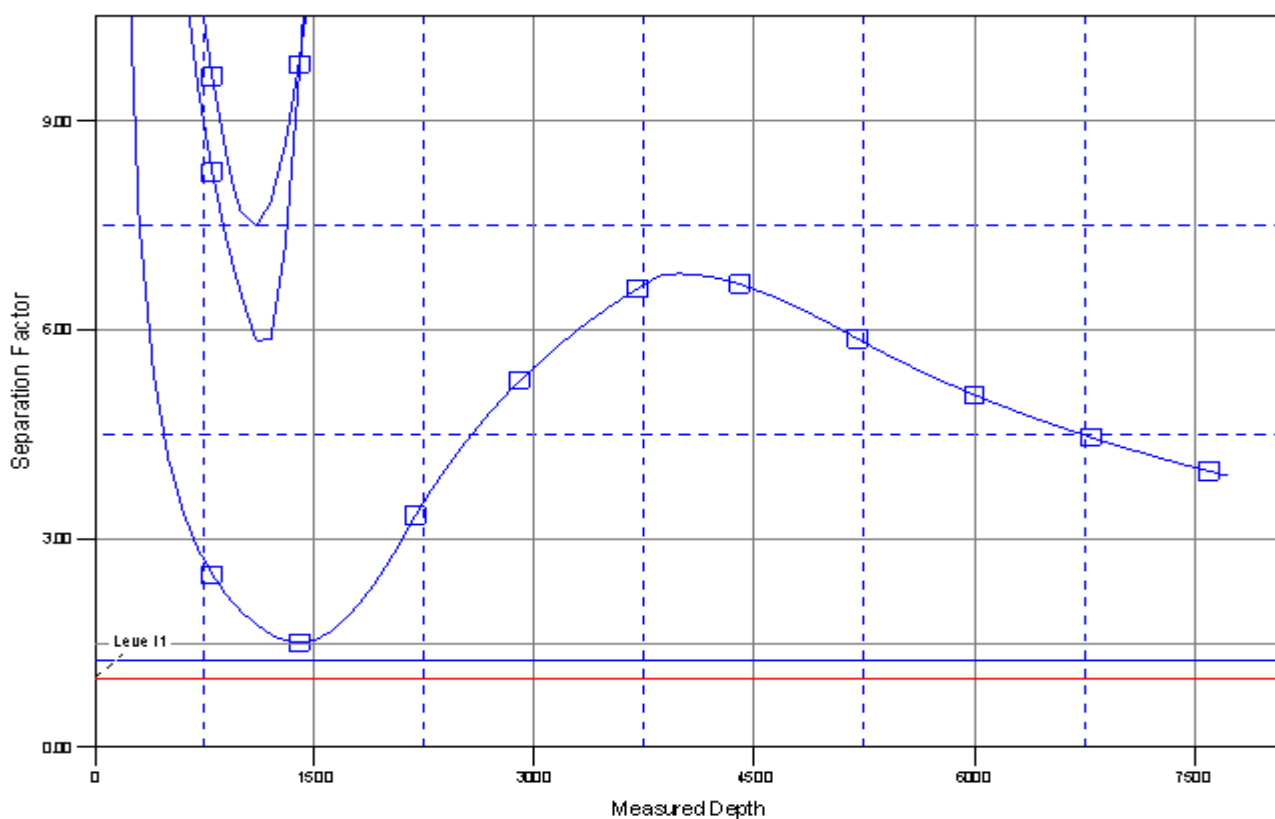




<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_WITTEMYER 41-2
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_WITTEMYER 3 PAD	<b>MD Reference:</b>	WELL @ 4856.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_WITTEMYER 41-2	<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_WITTEMYER 41-2	<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 @ 4856.00ft (Original Well Elev) Coordinates are relative to: P\_WITTEMYER 41-2  
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: 0.42°

## Separation Factor Plot



### LEGEND

— P\_WITTEMYER 40-2, P\_WITTEMYER 40-2, PLAN#1 09-02-09 RHS MD

— VINCENT RALPH#1