



US ROCKIES REGION PLANNING

KERR MCGEE OIL & GAS ONSHORE LP

WELD_STATE 5 PAD

P_STATE 2-16

P_STATE 2-16

Plan: PLAN #1 09-09-09 RHS

Standard Planning Report

10 September, 2009





P_STATE 2-16
KERR MCGEE OIL & GAS ONSHORE LP
SECTION 16 T1N R68W
364 FNL 2503 FWL
LAT: 40° 3' 26.568 N
LONG: 105° 0' 33.264 W



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

WELL DETAILS: P_STATE 2-16

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude	Slot
0.00	0.00	1264129.05	3137371.80	5135.00	40° 3' 26.568 N	105° 0' 33.264 W	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1120.00	0.00	0.00	1120.00	0.00	0.00	0.00	0.00	0.00	
1743.54	12.47	102.76	1738.63	-14.93	65.92	2.00	102.76	67.59	
4094.76	12.47	102.76	4034.37	-127.11	561.10	0.00	0.00	575.32	
4718.30	0.00	0.00	4653.00	-142.05	627.02	2.00	180.00	642.91	
8122.30	0.00	0.00	8057.00	-142.05	627.02	0.00	0.00	642.91	PBHL_STATE 2-16(510 FNL 2180 FEL)50' TGT RAD

FORMATION TOP DETAILS

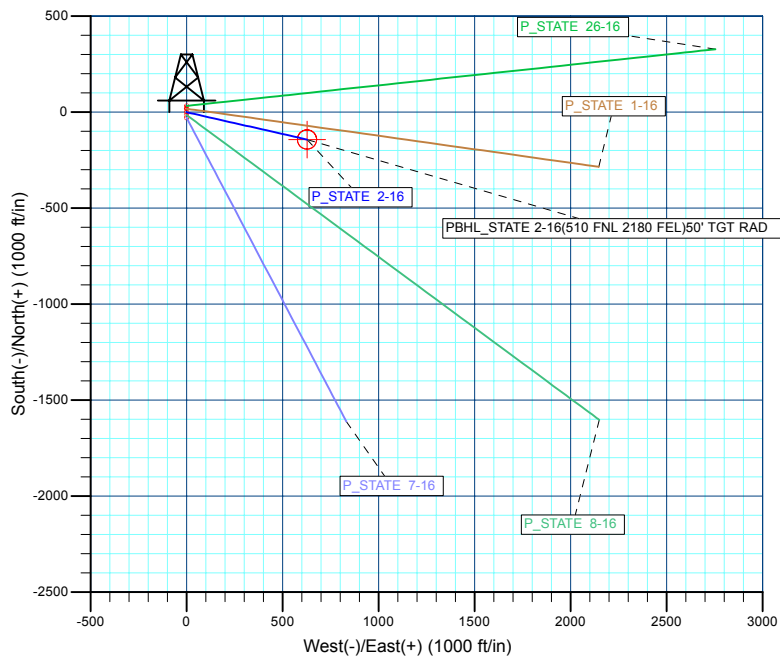
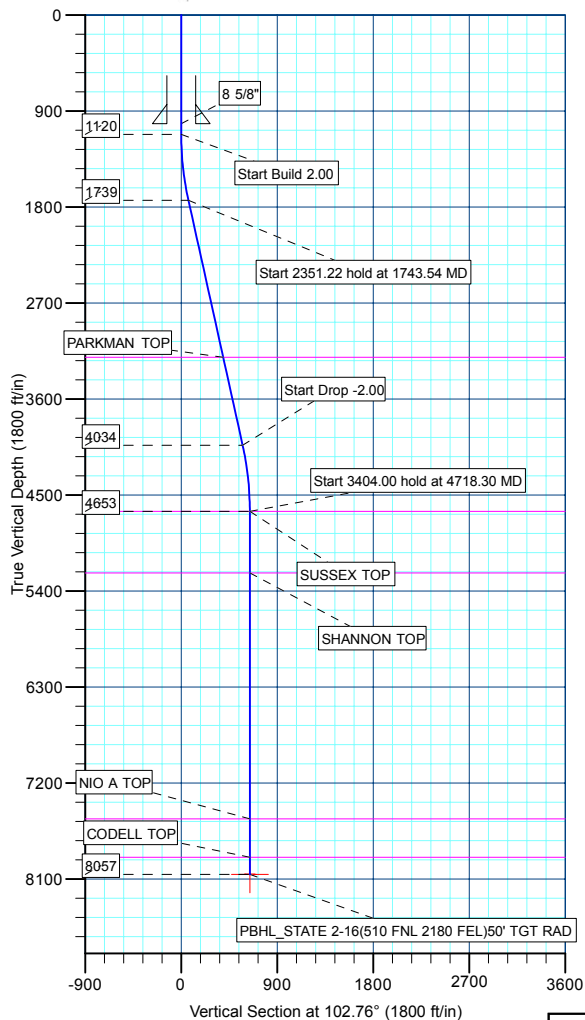
TVDPath	MDPath	Formation
3211.00	3251.49	PARKMAN TOP
4653.00	4718.30	SUSSEX TOP
5232.00	5297.30	SHANNON TOP
7537.00	7602.30	NIO A TOP
7897.00	7962.30	CODELL TOP

CASING DETAILS

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



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



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8057.00	-142.05	627.02	1263990.47	3137999.59	40° 3' 25.164 N	105° 0' 25.200 W	Circle (Radius: 50.00)

Plan: PLAN #1 09-09-09 RHS (P_STATE 2-16/P_STATE 2-16)

Created By: Robert H. Scott



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_STATE 2-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site:	WELD_STATE 5 PAD	North Reference:	True
Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_STATE 2-16		
Design:	PLAN #1 09-09-09 RHS		

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

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

Well	P_STATE 2-16					
Well Position	+N/-S	-18.23 ft	Northing:	1,264,129.05 ft	Latitude:	40° 3' 26.568 N
	+E/-W	0.00 ft	Easting:	3,137,371.80 ft	Longitude:	105° 0' 33.264 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,135.00 ft

Wellbore	P_STATE 2-16				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/9/2009	9.16	66.80	53,126

Design	PLAN #1 09-09-09 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	102.76

Plan Sections										
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	
1,120.00	0.00	0.00	1,120.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,743.54	12.47	102.76	1,738.63	-14.93	65.92	2.00	2.00	0.00	102.76	
4,094.76	12.47	102.76	4,034.37	-127.11	561.10	0.00	0.00	0.00	0.00	
4,718.30	0.00	0.00	4,653.00	-142.05	627.02	2.00	-2.00	0.00	180.00	
8,122.30	0.00	0.00	8,057.00	-142.05	627.02	0.00	0.00	0.00	0.00	PBHL_STATE 2-16



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_STATE 2-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site:	WELD_STATE 5 PAD	North Reference:	True
Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_STATE 2-16		
Design:	PLAN #1 09-09-09 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Start Build 2.00									
1,120.00	0.00	0.00	1,120.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	1.60	102.76	1,199.99	-0.25	1.09	1.12	2.00	2.00	0.00
1,300.00	3.60	102.76	1,299.88	-1.25	5.51	5.65	2.00	2.00	0.00
1,400.00	5.60	102.76	1,399.55	-3.02	13.33	13.67	2.00	2.00	0.00
1,500.00	7.60	102.76	1,498.89	-5.56	24.54	25.17	2.00	2.00	0.00
1,600.00	9.60	102.76	1,597.76	-8.86	39.13	40.12	2.00	2.00	0.00
1,700.00	11.60	102.76	1,696.05	-12.93	57.07	58.51	2.00	2.00	0.00
Start 2351.22 hold at 1743.54 MD									
1,743.54	12.47	102.76	1,738.63	-14.93	65.92	67.59	2.00	2.00	0.00
1,800.00	12.47	102.76	1,793.76	-17.63	77.81	79.78	0.00	0.00	0.00
1,900.00	12.47	102.76	1,891.40	-22.40	98.87	101.38	0.00	0.00	0.00
2,000.00	12.47	102.76	1,989.04	-27.17	119.93	122.97	0.00	0.00	0.00
2,100.00	12.47	102.76	2,086.68	-31.94	140.99	144.57	0.00	0.00	0.00
2,200.00	12.47	102.76	2,184.32	-36.71	162.05	166.16	0.00	0.00	0.00
2,300.00	12.47	102.76	2,281.96	-41.48	183.11	187.75	0.00	0.00	0.00
2,400.00	12.47	102.76	2,379.60	-46.25	204.17	209.35	0.00	0.00	0.00
2,500.00	12.47	102.76	2,477.24	-51.03	225.24	230.94	0.00	0.00	0.00
2,600.00	12.47	102.76	2,574.88	-55.80	246.30	252.54	0.00	0.00	0.00
2,700.00	12.47	102.76	2,672.52	-60.57	267.36	274.13	0.00	0.00	0.00
2,800.00	12.47	102.76	2,770.16	-65.34	288.42	295.73	0.00	0.00	0.00
2,900.00	12.47	102.76	2,867.80	-70.11	309.48	317.32	0.00	0.00	0.00
3,000.00	12.47	102.76	2,965.44	-74.88	330.54	338.91	0.00	0.00	0.00
3,100.00	12.47	102.76	3,063.08	-79.65	351.60	360.51	0.00	0.00	0.00
3,200.00	12.47	102.76	3,160.72	-84.42	372.66	382.10	0.00	0.00	0.00
PARKMAN TOP									
3,251.49	12.47	102.76	3,211.00	-86.88	383.50	393.22	0.00	0.00	0.00
3,300.00	12.47	102.76	3,258.37	-89.19	393.72	403.70	0.00	0.00	0.00
3,400.00	12.47	102.76	3,356.01	-93.97	414.78	425.29	0.00	0.00	0.00
3,500.00	12.47	102.76	3,453.65	-98.74	435.84	446.89	0.00	0.00	0.00
3,600.00	12.47	102.76	3,551.29	-103.51	456.90	468.48	0.00	0.00	0.00
3,700.00	12.47	102.76	3,648.93	-108.28	477.96	490.07	0.00	0.00	0.00
3,800.00	12.47	102.76	3,746.57	-113.05	499.02	511.67	0.00	0.00	0.00
3,900.00	12.47	102.76	3,844.21	-117.82	520.08	533.26	0.00	0.00	0.00
4,000.00	12.47	102.76	3,941.85	-122.59	541.14	554.86	0.00	0.00	0.00
Start Drop -2.00									
4,094.76	12.47	102.76	4,034.37	-127.11	561.10	575.32	0.00	0.00	0.00
4,100.00	12.37	102.76	4,039.49	-127.36	562.20	576.45	2.00	-2.00	0.00
4,200.00	10.37	102.76	4,137.53	-131.72	581.42	596.15	2.00	-2.00	0.00
4,300.00	8.37	102.76	4,236.19	-135.31	597.29	612.43	2.00	-2.00	0.00
4,400.00	6.37	102.76	4,335.36	-138.14	609.79	625.25	2.00	-2.00	0.00
4,500.00	4.37	102.76	4,434.91	-140.21	618.91	634.60	2.00	-2.00	0.00
4,600.00	2.37	102.76	4,534.74	-141.51	624.64	640.47	2.00	-2.00	0.00
4,700.00	0.37	102.76	4,634.70	-142.03	626.96	642.85	2.00	-2.00	0.00
Start 3404.00 hold at 4718.30 MD - SUSSEX TOP									
4,718.30	0.00	0.00	4,653.00	-142.05	627.02	642.91	2.00	-2.00	0.00
4,800.00	0.00	0.00	4,734.70	-142.05	627.02	642.91	0.00	0.00	0.00
4,900.00	0.00	0.00	4,834.70	-142.05	627.02	642.91	0.00	0.00	0.00
5,000.00	0.00	0.00	4,934.70	-142.05	627.02	642.91	0.00	0.00	0.00
5,100.00	0.00	0.00	5,034.70	-142.05	627.02	642.91	0.00	0.00	0.00
5,200.00	0.00	0.00	5,134.70	-142.05	627.02	642.91	0.00	0.00	0.00
SHANNON TOP									
5,297.30	0.00	0.00	5,232.00	-142.05	627.02	642.91	0.00	0.00	0.00



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_STATE 2-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site:	WELD_STATE 5 PAD	North Reference:	True
Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_STATE 2-16		
Design:	PLAN #1 09-09-09 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	0.00	0.00	5,234.70	-142.05	627.02	642.91	0.00	0.00	0.00
5,400.00	0.00	0.00	5,334.70	-142.05	627.02	642.91	0.00	0.00	0.00
5,500.00	0.00	0.00	5,434.70	-142.05	627.02	642.91	0.00	0.00	0.00
5,600.00	0.00	0.00	5,534.70	-142.05	627.02	642.91	0.00	0.00	0.00
5,700.00	0.00	0.00	5,634.70	-142.05	627.02	642.91	0.00	0.00	0.00
5,800.00	0.00	0.00	5,734.70	-142.05	627.02	642.91	0.00	0.00	0.00
5,900.00	0.00	0.00	5,834.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,000.00	0.00	0.00	5,934.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,100.00	0.00	0.00	6,034.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,200.00	0.00	0.00	6,134.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,300.00	0.00	0.00	6,234.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,400.00	0.00	0.00	6,334.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,500.00	0.00	0.00	6,434.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,600.00	0.00	0.00	6,534.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,700.00	0.00	0.00	6,634.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,800.00	0.00	0.00	6,734.70	-142.05	627.02	642.91	0.00	0.00	0.00
6,900.00	0.00	0.00	6,834.70	-142.05	627.02	642.91	0.00	0.00	0.00
7,000.00	0.00	0.00	6,934.70	-142.05	627.02	642.91	0.00	0.00	0.00
7,100.00	0.00	0.00	7,034.70	-142.05	627.02	642.91	0.00	0.00	0.00
7,200.00	0.00	0.00	7,134.70	-142.05	627.02	642.91	0.00	0.00	0.00
7,300.00	0.00	0.00	7,234.70	-142.05	627.02	642.91	0.00	0.00	0.00
7,400.00	0.00	0.00	7,334.70	-142.05	627.02	642.91	0.00	0.00	0.00
7,500.00	0.00	0.00	7,434.70	-142.05	627.02	642.91	0.00	0.00	0.00
7,600.00	0.00	0.00	7,534.70	-142.05	627.02	642.91	0.00	0.00	0.00
NIO A TOP									
7,602.30	0.00	0.00	7,537.00	-142.05	627.02	642.91	0.00	0.00	0.00
7,700.00	0.00	0.00	7,634.70	-142.05	627.02	642.91	0.00	0.00	0.00
7,800.00	0.00	0.00	7,734.70	-142.05	627.02	642.91	0.00	0.00	0.00
7,900.00	0.00	0.00	7,834.70	-142.05	627.02	642.91	0.00	0.00	0.00
CODELL TOP									
7,962.30	0.00	0.00	7,897.00	-142.05	627.02	642.91	0.00	0.00	0.00
8,000.00	0.00	0.00	7,934.70	-142.05	627.02	642.91	0.00	0.00	0.00
8,100.00	0.00	0.00	8,034.70	-142.05	627.02	642.91	0.00	0.00	0.00
PBHL_STATE 2-16(510 FNL 2180 FEL)50' TGT RAD									
8,122.30	0.00	0.00	8,057.00	-142.05	627.02	642.91	0.00	0.00	0.00

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL_STATE 2-16(5	0.00	0.00	8,057.00	-142.05	627.02	1,263,990.47	3,137,999.59	40° 3' 25.164 N	105° 0' 25.200 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points

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



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_STATE 2-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site:	WELD_STATE 5 PAD	North Reference:	True
Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_STATE 2-16		
Design:	PLAN #1 09-09-09 RHS		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,251.49	3,211.00	PARKMAN TOP			
4,718.30	4,653.00	SUSSEX TOP			
5,297.30	5,232.00	SHANNON TOP			
7,602.30	7,537.00	NIO A TOP			
7,962.30	7,897.00	CODELL TOP			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,120.00	1,120.00	0.00	0.00	Start Build 2.00
1,743.54	1,738.63	-14.93	65.92	Start 2351.22 hold at 1743.54 MD
4,094.76	4,034.37	-127.11	561.10	Start Drop -2.00
4,718.30	4,653.00	-142.05	627.02	Start 3404.00 hold at 4718.30 MD
8,122.30	8,057.00	-142.05	627.02	TD at 8122.30



US ROCKIES REGION PLANNING

**KERR MCGEE OIL & GAS ONSHORE LP
WELD_STATE 5 PAD
P_STATE 2-16**

**P_STATE 2-16
PLAN #1 09-09-09 RHS**

Anticollision Report

10 September, 2009





Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 09-09-09 RHS		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	0.00 to 20,000.00ft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 9/9/2009				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	8,122.30	PLAN #1 09-09-09 RHS (P_STATE 2-16)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WELD_STATE 5 PAD						
P_STATE 1-16 - P_STATE 1-16 - PLAN #1 09-09-09 RH	298.39	298.43	18.05	16.98	16.869	CC
P_STATE 1-16 - P_STATE 1-16 - PLAN #1 09-09-09 RH	300.00	300.04	18.05	16.97	16.759	ES
P_STATE 1-16 - P_STATE 1-16 - PLAN #1 09-09-09 RH	400.00	399.54	19.71	18.19	13.015	SF
P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 I	1,120.00	1,120.00	32.79	28.01	6.865	CC, ES
P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 I	1,400.00	1,399.59	37.27	31.32	6.271	SF
P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RH	1,120.00	1,120.00	29.14	24.37	6.101	CC, ES
P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RH	1,200.00	1,199.28	29.88	24.78	5.859	SF
P_STATE 8-16 - P_STATE 8-16 - PLAN #1 09-10-09 RH	1,120.00	1,120.00	14.57	9.79	3.050	CC, ES
P_STATE 8-16 - P_STATE 8-16 - PLAN #1 09-10-09 RH	1,200.00	1,199.76	14.98	9.88	2.935	SF

Offset Design WELD_STATE 5 PAD - P_STATE 1-16 - P_STATE 1-16 - PLAN #1 09-09-09 RHS												
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)	Offset Wellbore Centre +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	18.23	0.00	18.23			
100.00	100.00	100.00	100.00	0.10	0.10	0.00	18.23	0.00	18.23	18.04	0.19	95.401
200.00	200.00	200.00	200.00	0.32	0.32	0.00	18.23	0.00	18.23	17.59	0.64	28.453
298.39	298.39	298.43	298.39	0.54	0.53	8.00	17.87	2.51	18.05	16.98	1.07	16.869 CC
300.00	300.00	300.04	300.00	0.55	0.53	8.26	17.86	2.59	18.05	16.97	1.08	16.759 ES
400.00	400.00	399.54	399.17	0.77	0.77	31.58	16.77	10.31	19.71	18.19	1.51	13.015 SF
500.00	500.00	497.96	496.75	0.99	1.05	56.87	14.99	22.97	27.62	25.62	2.00	13.832
600.00	600.00	594.81	592.01	1.22	1.41	72.68	12.56	40.27	42.93	40.36	2.57	16.711
700.00	700.00	689.65	684.30	1.44	1.83	81.24	9.52	61.82	64.48	61.25	3.23	19.949
800.00	800.00	782.08	773.11	1.67	2.33	86.09	5.96	87.16	91.41	87.42	3.98	22.954
900.00	900.00	871.78	858.02	1.89	2.89	89.05	1.92	115.79	123.18	118.37	4.81	25.597
1,000.00	1,000.00	958.50	938.72	2.12	3.52	90.97	-2.50	147.20	159.47	153.75	5.72	27.899
1,100.00	1,100.00	1,042.04	1,015.02	2.34	4.20	92.29	-7.23	180.85	199.95	193.27	6.68	29.922
1,120.00	1,120.00	1,058.35	1,029.74	2.39	4.34	92.50	-8.21	187.81	208.53	201.65	6.88	30.297
1,200.00	1,199.99	1,122.71	1,087.23	2.55	4.92	-9.44	-12.25	216.46	243.40	238.12	5.28	46.135
1,300.00	1,299.88	1,200.00	1,154.93	2.75	5.68	-8.72	-17.44	253.37	287.59	281.85	5.74	50.101
1,400.00	1,399.55	1,278.40	1,222.01	2.96	6.54	-8.20	-23.10	293.56	332.35	326.12	6.23	53.356
1,500.00	1,498.89	1,354.90	1,285.79	3.19	7.43	-7.82	-28.99	335.37	377.58	370.86	6.73	56.142

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



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 1-16 - P_STATE 1-16 - PLAN #1 09-09-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,600.00	1,597.76	1,443.18	1,358.41	3.45	8.50	-7.52	-35.98	385.06	421.54	414.25	7.29	57.854	
1,700.00	1,696.05	1,534.46	1,433.51	3.75	9.62	-7.33	-43.22	436.45	462.36	454.49	7.87	58.716	
1,743.54	1,738.63	1,574.63	1,466.56	3.89	10.12	-7.28	-46.40	459.07	479.14	471.01	8.14	58.880	
1,800.00	1,793.76	1,626.89	1,509.55	4.09	10.77	-7.27	-50.54	488.49	500.51	492.03	8.48	59.018	
1,900.00	1,891.40	1,719.45	1,585.70	4.45	11.92	-7.26	-57.88	540.60	538.36	529.27	9.10	59.188	
2,000.00	1,989.04	1,812.01	1,661.84	4.83	13.07	-7.25	-65.22	592.71	576.21	566.49	9.72	59.288	
2,100.00	2,086.68	1,904.57	1,737.99	5.23	14.22	-7.25	-72.55	644.82	614.06	603.71	10.35	59.338	
2,200.00	2,184.32	1,997.13	1,814.14	5.64	15.38	-7.24	-79.89	696.92	651.91	640.93	10.98	59.353	
2,300.00	2,281.96	2,089.69	1,890.28	6.06	16.53	-7.24	-87.22	749.03	689.76	678.13	11.62	59.341	
2,400.00	2,379.60	2,182.25	1,966.43	6.49	17.69	-7.23	-94.56	801.14	727.61	715.34	12.27	59.312	
2,500.00	2,477.24	2,274.82	2,042.58	6.92	18.85	-7.23	-101.90	853.25	765.46	752.54	12.91	59.271	
2,600.00	2,574.88	2,367.38	2,118.72	7.36	20.01	-7.22	-109.23	905.36	803.31	789.74	13.56	59.221	
2,700.00	2,672.52	2,459.94	2,194.87	7.80	21.18	-7.22	-116.57	957.47	841.15	826.94	14.22	59.165	
2,800.00	2,770.16	2,552.50	2,271.02	8.25	22.34	-7.22	-123.90	1,009.58	879.00	864.13	14.87	59.105	
2,900.00	2,867.80	2,645.06	2,347.16	8.70	23.50	-7.21	-131.24	1,061.69	916.85	901.32	15.53	59.043	
3,000.00	2,965.44	2,737.62	2,423.31	9.15	24.66	-7.21	-138.57	1,113.79	954.70	938.51	16.19	58.980	
3,100.00	3,063.08	2,830.18	2,499.46	9.60	25.83	-7.21	-145.91	1,165.90	992.55	975.70	16.85	58.916	
3,200.00	3,160.72	2,922.74	2,575.60	10.06	26.99	-7.21	-153.25	1,218.01	1,030.40	1,012.89	17.51	58.853	
3,300.00	3,258.37	3,015.30	2,651.75	10.51	28.15	-7.21	-160.58	1,270.12	1,068.25	1,050.08	18.17	58.791	
3,400.00	3,356.01	3,107.86	2,727.90	10.97	29.32	-7.20	-167.92	1,322.23	1,106.10	1,087.26	18.83	58.729	
3,500.00	3,453.65	3,200.42	2,804.04	11.43	30.48	-7.20	-175.25	1,374.34	1,143.95	1,124.45	19.50	58.669	
3,600.00	3,551.29	3,292.98	2,880.19	11.89	31.65	-7.20	-182.59	1,426.45	1,181.80	1,161.63	20.16	58.611	
3,700.00	3,648.93	3,385.54	2,956.34	12.35	32.81	-7.20	-189.93	1,478.55	1,219.64	1,198.81	20.83	58.554	
3,800.00	3,746.57	3,478.10	3,032.48	12.81	33.98	-7.20	-197.26	1,530.66	1,257.49	1,236.00	21.50	58.498	
3,900.00	3,844.21	3,570.66	3,108.63	13.28	35.14	-7.19	-204.60	1,582.77	1,295.34	1,273.18	22.16	58.444	
4,000.00	3,941.85	3,663.22	3,184.78	13.74	36.31	-7.19	-211.93	1,634.88	1,333.19	1,310.36	22.83	58.392	
4,094.76	4,034.37	3,750.93	3,256.93	14.18	37.41	-7.19	-218.89	1,684.26	1,369.06	1,345.59	23.47	58.344	
4,100.00	4,039.49	3,755.78	3,260.92	14.20	37.47	-7.20	-219.27	1,686.99	1,371.04	1,347.55	23.49	58.361	
4,200.00	4,137.53	3,847.60	3,336.46	14.54	38.63	-7.29	-226.55	1,738.68	1,410.66	1,386.69	23.96	58.874	
4,300.00	4,236.19	4,075.49	3,529.53	14.83	40.95	-7.35	-243.40	1,858.39	1,449.63	1,424.76	24.87	58.292	
4,400.00	4,335.36	4,337.99	3,765.48	15.09	43.03	-7.38	-259.39	1,971.99	1,481.57	1,455.83	25.74	57.549	
4,500.00	4,434.91	4,616.35	4,028.24	15.31	44.65	-7.41	-272.13	2,062.44	1,505.51	1,479.04	26.48	56.862	
4,600.00	4,534.74	4,906.82	4,312.11	15.50	45.70	-7.42	-280.58	2,122.49	1,520.68	1,493.67	27.01	56.304	
4,700.00	4,634.70	5,204.19	4,608.26	15.64	46.16	-7.43	-283.98	2,146.66	1,526.54	1,499.24	27.30	55.925	
4,718.30	4,653.00	5,248.92	4,653.00	15.66	46.19	95.34	-284.03	2,147.00	1,526.60	1,499.28	27.31	55.892	
4,800.00	4,734.70	5,330.63	4,734.70	15.77	46.22	95.34	-284.03	2,147.00	1,526.60	1,499.04	27.55	55.406	
4,900.00	4,834.70	5,430.63	4,834.70	15.91	46.27	95.34	-284.03	2,147.00	1,526.60	1,498.74	27.85	54.810	
5,000.00	4,934.70	5,530.63	4,934.70	16.05	46.32	95.34	-284.03	2,147.00	1,526.60	1,498.44	28.16	54.220	
5,100.00	5,034.70	5,630.63	5,034.70	16.19	46.37	95.34	-284.03	2,147.00	1,526.60	1,498.13	28.46	53.635	
5,200.00	5,134.70	5,730.63	5,134.70	16.33	46.42	95.34	-284.03	2,147.00	1,526.60	1,497.82	28.77	53.057	
5,300.00	5,234.70	5,830.63	5,234.70	16.48	46.48	95.34	-284.03	2,147.00	1,526.60	1,497.51	29.09	52.486	
5,400.00	5,334.70	5,930.63	5,334.70	16.63	46.53	95.34	-284.03	2,147.00	1,526.60	1,497.19	29.40	51.921	
5,500.00	5,434.70	6,030.63	5,434.70	16.78	46.59	95.34	-284.03	2,147.00	1,526.60	1,496.87	29.72	51.362	
5,600.00	5,534.70	6,130.63	5,534.70	16.93	46.64	95.34	-284.03	2,147.00	1,526.60	1,496.55	30.04	50.811	
5,700.00	5,634.70	6,230.63	5,634.70	17.08	46.70	95.34	-284.03	2,147.00	1,526.60	1,496.22	30.37	50.266	
5,800.00	5,734.70	6,330.63	5,734.70	17.23	46.76	95.34	-284.03	2,147.00	1,526.60	1,495.90	30.70	49.728	
5,900.00	5,834.70	6,430.63	5,834.70	17.39	46.81	95.34	-284.03	2,147.00	1,526.60	1,495.57	31.03	49.197	
6,000.00	5,934.70	6,530.63	5,934.70	17.55	46.87	95.34	-284.03	2,147.00	1,526.60	1,495.23	31.36	48.674	
6,100.00	6,034.70	6,630.63	6,034.70	17.71	46.94	95.34	-284.03	2,147.00	1,526.60	1,494.89	31.70	48.157	
6,200.00	6,134.70	6,730.63	6,134.70	17.87	47.00	95.34	-284.03	2,147.00	1,526.60	1,494.56	32.04	47.648	
6,300.00	6,234.70	6,830.63	6,234.70	18.03	47.06	95.34	-284.03	2,147.00	1,526.60	1,494.21	32.38	47.146	
6,400.00	6,334.70	6,930.63	6,334.70	18.19	47.12	95.34	-284.03	2,147.00	1,526.60	1,493.87	32.72	46.651	

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



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 1-16 - P_STATE 1-16 - PLAN #1 09-09-09 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	
6,500.00	6,434.70	7,030.63	6,434.70	18.35	47.19	95.34	-284.03	2,147.00	1,526.60	1,493.53	33.07	46.162	
6,600.00	6,534.70	7,130.63	6,534.70	18.52	47.25	95.34	-284.03	2,147.00	1,526.60	1,493.18	33.42	45.681	
6,700.00	6,634.70	7,230.63	6,634.70	18.69	47.32	95.34	-284.03	2,147.00	1,526.60	1,492.83	33.77	45.207	
6,800.00	6,734.70	7,330.63	6,734.70	18.85	47.39	95.34	-284.03	2,147.00	1,526.60	1,492.47	34.12	44.740	
6,900.00	6,834.70	7,430.63	6,834.70	19.02	47.46	95.34	-284.03	2,147.00	1,526.60	1,492.12	34.48	44.280	
7,000.00	6,934.70	7,530.63	6,934.70	19.19	47.53	95.34	-284.03	2,147.00	1,526.60	1,491.76	34.83	43.827	
7,100.00	7,034.70	7,630.63	7,034.70	19.36	47.60	95.34	-284.03	2,147.00	1,526.60	1,491.40	35.19	43.381	
7,200.00	7,134.70	7,730.63	7,134.70	19.54	47.67	95.34	-284.03	2,147.00	1,526.60	1,491.04	35.55	42.941	
7,300.00	7,234.70	7,830.63	7,234.70	19.71	47.74	95.34	-284.03	2,147.00	1,526.60	1,490.68	35.91	42.508	
7,400.00	7,334.70	7,930.63	7,334.70	19.88	47.82	95.34	-284.03	2,147.00	1,526.60	1,490.32	36.28	42.081	
7,500.00	7,434.70	8,030.63	7,434.70	20.06	47.89	95.34	-284.03	2,147.00	1,526.60	1,489.95	36.64	41.661	
7,600.00	7,534.70	8,130.63	7,534.70	20.24	47.97	95.34	-284.03	2,147.00	1,526.60	1,489.58	37.01	41.248	
7,700.00	7,634.70	8,230.63	7,634.70	20.41	48.04	95.34	-284.03	2,147.00	1,526.60	1,489.22	37.38	40.840	
7,800.00	7,734.70	8,330.63	7,734.70	20.59	48.12	95.34	-284.03	2,147.00	1,526.60	1,488.84	37.75	40.439	
7,900.00	7,834.70	8,430.63	7,834.70	20.77	48.20	95.34	-284.03	2,147.00	1,526.60	1,488.47	38.12	40.045	
8,000.00	7,934.70	8,530.63	7,934.70	20.95	48.28	95.34	-284.03	2,147.00	1,526.60	1,488.10	38.50	39.656	
8,100.00	8,034.70	8,630.63	8,034.70	21.13	48.36	95.34	-284.03	2,147.00	1,526.60	1,487.72	38.87	39.273	
8,107.72	8,042.42	8,638.34	8,042.42	21.15	48.36	95.34	-284.03	2,147.00	1,526.60	1,487.69	38.90	39.244	
8,122.30	8,057.00	8,647.92	8,052.00	21.17	48.37	95.34	-284.03	2,147.00	1,526.60	1,487.66	38.95	39.197	



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
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	32.79	0.00	32.79				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	32.79	0.00	32.79	32.60	0.19	171.625	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	32.79	0.00	32.79	32.15	0.64	51.186	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	32.79	0.00	32.79	31.70	1.09	30.079	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	32.79	0.00	32.79	31.25	1.54	21.297	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	32.79	0.00	32.79	30.80	1.99	16.484	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	32.79	0.00	32.79	30.35	2.44	13.445	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	32.79	0.00	32.79	29.90	2.89	11.353	
800.00	800.00	800.00	800.00	1.67	1.67	0.00	32.79	0.00	32.79	29.45	3.34	9.824	
900.00	900.00	900.00	900.00	1.89	1.89	0.00	32.79	0.00	32.79	29.00	3.79	8.658	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	0.00	32.79	0.00	32.79	28.55	4.24	7.739	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	0.00	32.79	0.00	32.79	28.10	4.69	6.997	
1,120.00	1,120.00	1,120.00	1,120.00	2.39	2.39	0.00	32.79	0.00	32.79	28.01	4.78	6.865 CC, ES	
1,200.00	1,199.99	1,199.90	1,199.89	2.55	2.56	-102.72	32.91	1.11	33.15	28.04	5.11	6.485	
1,300.00	1,299.88	1,299.76	1,299.64	2.75	2.76	-102.56	33.39	5.61	34.64	29.12	5.52	6.280	
1,400.00	1,399.55	1,399.59	1,399.14	2.96	2.98	-102.31	34.24	13.55	37.27	31.32	5.94	6.271 SF	
1,500.00	1,498.89	1,499.36	1,498.25	3.19	3.22	-101.99	35.46	24.94	41.03	34.62	6.41	6.405	
1,600.00	1,597.76	1,599.06	1,596.83	3.45	3.48	-101.65	37.05	39.73	45.93	39.00	6.92	6.636	
1,700.00	1,696.05	1,698.67	1,694.74	3.75	3.77	-101.31	39.00	57.91	51.95	44.44	7.51	6.920	
1,743.54	1,738.63	1,742.00	1,737.13	3.89	3.92	-101.16	39.96	66.88	54.92	47.13	7.79	7.047	
1,800.00	1,793.76	1,798.17	1,791.85	4.09	4.11	-100.53	41.30	79.44	58.98	50.81	8.18	7.212	
1,900.00	1,891.40	1,897.45	1,887.94	4.45	4.51	-97.31	43.96	104.25	66.67	57.74	8.93	7.464	
2,000.00	1,989.04	1,996.29	1,982.68	4.83	4.96	-92.23	46.96	132.22	75.41	65.66	9.75	7.736	
2,100.00	2,086.68	2,094.44	2,075.76	5.23	5.47	-86.12	50.28	163.20	85.87	75.26	10.60	8.097	
2,200.00	2,184.32	2,191.71	2,166.88	5.64	6.04	-79.68	53.91	197.01	98.68	87.22	11.45	8.615	
2,300.00	2,281.96	2,287.86	2,255.78	6.06	6.68	-73.42	57.81	233.43	114.35	102.08	12.27	9.322	
2,400.00	2,379.60	2,382.72	2,342.23	6.49	7.38	-67.66	61.97	272.25	133.20	120.18	13.03	10.224	
2,500.00	2,477.24	2,476.10	2,426.02	6.92	8.14	-62.56	66.36	313.22	155.39	141.65	13.74	11.309	
2,600.00	2,574.88	2,567.85	2,506.99	7.36	8.95	-58.15	70.96	356.10	180.92	166.51	14.41	12.553	
2,700.00	2,672.52	2,657.81	2,585.02	7.80	9.81	-54.36	75.73	400.64	209.76	194.70	15.06	13.933	
2,800.00	2,770.16	2,745.88	2,660.00	8.25	10.71	-51.14	80.65	446.57	241.79	226.11	15.68	15.424	
2,900.00	2,867.80	2,831.96	2,731.87	8.70	11.65	-48.39	85.70	493.65	276.90	260.62	16.28	17.010	
3,000.00	2,965.44	2,921.36	2,805.36	9.15	12.68	-45.95	91.13	544.29	314.44	297.55	16.89	18.613	
3,100.00	3,063.08	3,013.19	2,880.75	9.60	13.76	-43.96	96.72	596.41	352.54	335.01	17.53	20.113	
3,200.00	3,160.72	3,105.02	2,956.14	10.06	14.84	-42.36	102.30	648.54	390.94	372.76	18.17	21.511	
3,300.00	3,258.37	3,196.85	3,031.54	10.51	15.94	-41.04	107.89	700.67	429.55	410.72	18.83	22.811	
3,400.00	3,356.01	3,288.68	3,106.93	10.97	17.04	-39.93	113.48	752.79	468.32	448.83	19.50	24.021	
3,500.00	3,453.65	3,380.51	3,182.32	11.43	18.15	-39.00	119.06	804.92	507.22	487.05	20.17	25.149	
3,600.00	3,551.29	3,472.34	3,257.72	11.89	19.27	-38.19	124.65	857.05	546.22	525.38	20.85	26.201	
3,700.00	3,648.93	3,564.17	3,333.11	12.35	20.39	-37.50	130.24	909.18	585.30	563.77	21.53	27.183	
3,800.00	3,746.57	3,656.00	3,408.50	12.81	21.51	-36.89	135.83	961.30	624.45	602.22	22.22	28.103	
3,900.00	3,844.21	3,747.83	3,483.90	13.28	22.63	-36.35	141.41	1,013.43	663.64	640.73	22.91	28.964	
4,000.00	3,941.85	3,839.66	3,559.29	13.74	23.76	-35.87	147.00	1,065.56	702.88	679.27	23.61	29.773	
4,094.76	4,034.37	3,926.67	3,630.73	14.18	24.83	-35.47	152.29	1,114.95	740.10	715.83	24.27	30.494	
4,100.00	4,039.49	3,931.49	3,634.68	14.20	24.89	-35.47	152.59	1,117.68	742.16	717.85	24.31	30.530	
4,200.00	4,137.53	4,022.62	3,709.50	14.54	26.01	-35.51	158.13	1,169.42	782.92	757.93	24.98	31.336	
4,300.00	4,236.19	4,112.41	3,783.22	14.83	27.12	-35.50	163.60	1,220.39	826.30	800.70	25.60	32.281	
4,400.00	4,335.36	4,200.76	3,855.76	15.09	28.21	-35.43	168.97	1,270.54	872.31	846.16	26.15	33.360	
4,500.00	4,434.91	4,287.55	3,927.01	15.31	29.29	-35.34	174.25	1,319.80	920.92	894.28	26.64	34.568	
4,600.00	4,534.74	4,372.67	3,996.90	15.50	30.34	-35.23	179.43	1,368.13	972.13	945.05	27.08	35.899	
4,700.00	4,634.70	4,456.03	4,065.34	15.64	31.37	-35.12	184.50	1,415.45	1,025.91	998.45	27.47	37.349	
4,718.30	4,653.00	4,471.09	4,077.70	15.66	31.56	67.66	185.42	1,423.99	1,036.03	1,008.50	27.53	37.626	

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



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 RHS												Offset Site Error: 0.00 ft	
Survey Program: 0-MWD												Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)		Separation Factor
4,800.00	4,734.70	4,538.17	4,132.78	15.77	32.39	68.34	189.50	1,462.07	1,081.45	1,053.76	27.70	39.043	
4,900.00	4,834.70	4,620.27	4,200.18	15.91	33.41	69.11	194.50	1,508.67	1,137.18	1,109.22	27.97	40.662	
5,000.00	4,934.70	4,702.37	4,267.59	16.05	34.43	69.80	199.49	1,555.28	1,193.04	1,164.78	28.27	42.206	
5,100.00	5,034.70	4,784.47	4,335.00	16.19	35.45	70.43	204.49	1,601.88	1,249.01	1,220.43	28.59	43.693	
5,200.00	5,134.70	4,866.57	4,402.40	16.33	36.47	71.01	209.48	1,648.49	1,305.08	1,276.16	28.92	45.125	
5,300.00	5,234.70	4,948.68	4,469.81	16.48	37.49	71.54	214.48	1,695.10	1,361.23	1,331.96	29.27	46.505	
5,400.00	5,334.70	5,030.78	4,537.22	16.63	38.51	72.03	219.47	1,741.70	1,417.46	1,387.83	29.63	47.835	
5,500.00	5,434.70	5,112.88	4,604.62	16.78	39.53	72.48	224.47	1,788.31	1,473.75	1,443.75	30.01	49.115	
5,600.00	5,534.70	5,194.98	4,672.03	16.93	40.56	72.90	229.46	1,834.91	1,530.10	1,499.71	30.39	50.349	
5,700.00	5,634.70	5,277.08	4,739.44	17.08	41.58	73.29	234.46	1,881.52	1,586.51	1,555.73	30.78	51.538	
5,800.00	5,734.70	5,359.18	4,806.85	17.23	42.60	73.66	239.45	1,928.12	1,642.96	1,611.78	31.18	52.685	
5,900.00	5,834.70	5,441.29	4,874.25	17.39	43.62	74.00	244.45	1,974.73	1,699.46	1,667.86	31.59	53.790	
6,000.00	5,934.70	5,523.39	4,941.66	17.55	44.65	74.32	249.45	2,021.33	1,755.99	1,723.98	32.01	54.856	
6,100.00	6,034.70	5,605.49	5,009.07	17.71	45.67	74.62	254.44	2,067.94	1,812.56	1,780.13	32.43	55.884	
6,200.00	6,134.70	5,687.59	5,076.47	17.87	46.70	74.90	259.44	2,114.54	1,869.16	1,836.30	32.86	56.877	
6,300.00	6,234.70	5,769.69	5,143.88	18.03	47.72	75.16	264.43	2,161.15	1,925.79	1,892.49	33.30	57.835	
6,400.00	6,334.70	5,851.79	5,211.29	18.19	48.74	75.41	269.43	2,207.75	1,982.45	1,948.71	33.74	58.761	
6,500.00	6,434.70	5,935.62	5,313.30	18.35	50.22	75.76	276.91	2,277.55	2,038.95	2,004.65	34.30	59.444	
6,600.00	6,534.70	6,278.46	5,573.83	18.52	53.06	76.43	293.33	2,430.77	2,089.58	2,054.24	35.34	59.125	
6,700.00	6,634.70	6,618.70	5,884.05	18.69	55.55	76.95	308.17	2,569.23	2,130.34	2,093.89	36.45	58.444	
6,800.00	6,734.70	6,992.44	6,241.14	18.85	57.46	77.31	319.83	2,678.01	2,159.51	2,121.97	37.53	57.535	
6,900.00	6,834.70	7,390.59	6,633.72	19.02	58.60	77.50	326.69	2,742.03	2,175.63	2,137.16	38.47	56.556	
7,000.00	6,934.70	7,691.95	6,934.70	19.19	58.92	77.54	328.01	2,754.36	2,178.65	2,139.59	39.06	55.770	
7,100.00	7,034.70	7,791.95	7,034.70	19.36	58.97	77.54	328.01	2,754.36	2,178.65	2,139.27	39.39	55.314	
7,200.00	7,134.70	7,891.95	7,134.70	19.54	59.03	77.54	328.01	2,754.36	2,178.65	2,138.94	39.71	54.862	
7,300.00	7,234.70	7,991.95	7,234.70	19.71	59.09	77.54	328.01	2,754.36	2,178.65	2,138.62	40.04	54.415	
7,400.00	7,334.70	8,091.95	7,334.70	19.88	59.15	77.54	328.01	2,754.36	2,178.65	2,138.29	40.37	53.971	
7,500.00	7,434.70	8,191.95	7,434.70	20.06	59.21	77.54	328.01	2,754.36	2,178.65	2,137.96	40.70	53.533	
7,600.00	7,534.70	8,291.95	7,534.70	20.24	59.27	77.54	328.01	2,754.36	2,178.65	2,137.62	41.03	53.098	
7,700.00	7,634.70	8,391.95	7,634.70	20.41	59.33	77.54	328.01	2,754.36	2,178.65	2,137.29	41.37	52.669	
7,800.00	7,734.70	8,491.95	7,734.70	20.59	59.39	77.54	328.01	2,754.36	2,178.65	2,136.95	41.70	52.243	
7,900.00	7,834.70	8,591.95	7,834.70	20.77	59.46	77.54	328.01	2,754.36	2,178.65	2,136.61	42.04	51.823	
8,000.00	7,934.70	8,691.95	7,934.70	20.95	59.52	77.54	328.01	2,754.36	2,178.65	2,136.27	42.38	51.406	
8,100.00	8,034.70	8,791.95	8,034.70	21.13	59.59	77.54	328.01	2,754.36	2,178.65	2,135.93	42.72	50.995	
8,122.30	8,057.00	8,814.25	8,057.00	21.17	59.60	77.54	328.01	2,754.36	2,178.65	2,135.85	42.80	50.903	



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
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	-29.14	0.00	29.14				
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-29.14	0.00	29.14	28.95	0.19	152.536	
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-29.14	0.00	29.14	28.50	0.64	45.493	
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-29.14	0.00	29.14	28.05	1.09	26.733	
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-29.14	0.00	29.14	27.60	1.54	18.928	
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-29.14	0.00	29.14	27.15	1.99	14.650	
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-29.14	0.00	29.14	26.70	2.44	11.950	
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-29.14	0.00	29.14	26.25	2.89	10.090	
800.00	800.00	800.00	800.00	1.67	1.67	180.00	-29.14	0.00	29.14	25.80	3.34	8.731	
900.00	900.00	900.00	900.00	1.89	1.89	180.00	-29.14	0.00	29.14	25.35	3.79	7.695	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	180.00	-29.14	0.00	29.14	24.91	4.24	6.878	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	180.00	-29.14	0.00	29.14	24.46	4.69	6.218	
1,120.00	1,120.00	1,120.00	1,120.00	2.39	2.39	180.00	-29.14	0.00	29.14	24.37	4.78	6.101 CC, ES	
1,200.00	1,199.99	1,199.28	1,199.27	2.55	2.54	78.31	-30.11	0.51	29.88	24.78	5.10	5.859 SF	
1,300.00	1,299.88	1,298.27	1,298.16	2.75	2.72	82.17	-34.05	2.58	32.98	27.50	5.47	6.025	
1,400.00	1,399.55	1,397.05	1,396.62	2.96	2.91	87.42	-40.99	6.23	38.74	32.87	5.87	6.600	
1,500.00	1,498.89	1,495.48	1,494.40	3.19	3.12	92.61	-50.89	11.44	47.40	41.10	6.30	7.524	
1,600.00	1,597.76	1,593.44	1,591.29	3.45	3.35	97.00	-63.69	18.17	59.05	52.27	6.78	8.713	
1,700.00	1,696.05	1,690.83	1,687.07	3.75	3.62	100.41	-79.31	26.38	73.68	66.36	7.32	10.069	
1,743.54	1,738.63	1,733.03	1,728.36	3.89	3.76	101.62	-86.97	30.41	80.97	73.39	7.58	10.686	
1,800.00	1,793.76	1,787.58	1,781.56	4.09	3.94	102.83	-97.67	36.04	91.11	83.18	7.93	11.488	
1,900.00	1,891.40	1,883.71	1,874.70	4.45	4.31	103.30	-118.71	47.10	110.61	102.01	8.60	12.857	
2,000.00	1,989.04	1,979.05	1,966.23	4.83	4.72	102.47	-142.29	59.50	132.00	122.68	9.32	14.157	
2,100.00	2,086.68	2,073.39	2,055.89	5.23	5.20	100.92	-168.26	73.16	155.34	145.26	10.09	15.402	
2,200.00	2,184.32	2,166.55	2,143.43	5.64	5.73	98.99	-196.46	87.99	180.77	169.88	10.89	16.604	
2,300.00	2,281.96	2,258.36	2,228.64	6.06	6.30	96.90	-226.70	103.89	208.38	196.68	11.71	17.801	
2,400.00	2,379.60	2,353.49	2,316.29	6.49	6.95	94.91	-259.43	121.11	237.39	224.82	12.56	18.894	
2,500.00	2,477.24	2,448.91	2,404.19	6.92	7.62	93.35	-292.27	138.38	266.60	253.17	13.43	19.849	
2,600.00	2,574.88	2,544.32	2,492.10	7.36	8.31	92.10	-325.10	155.64	295.97	281.66	14.31	20.685	
2,700.00	2,672.52	2,639.73	2,580.00	7.80	9.01	91.07	-357.94	172.91	325.43	310.24	15.19	21.421	
2,800.00	2,770.16	2,735.14	2,667.90	8.25	9.72	90.21	-390.77	190.18	354.98	338.90	16.08	22.072	
2,900.00	2,867.80	2,830.55	2,755.81	8.70	10.43	89.49	-423.60	207.45	384.59	367.61	16.98	22.651	
3,000.00	2,965.44	2,925.96	2,843.71	9.15	11.15	88.87	-456.44	224.71	414.25	396.37	17.88	23.168	
3,100.00	3,063.08	3,021.37	2,931.61	9.60	11.88	88.33	-489.27	241.98	443.95	425.16	18.79	23.632	
3,200.00	3,160.72	3,116.78	3,019.52	10.06	12.61	87.86	-522.11	259.25	473.67	453.98	19.69	24.051	
3,300.00	3,258.37	3,212.19	3,107.42	10.51	13.34	87.44	-554.94	276.52	503.43	482.82	20.61	24.430	
3,400.00	3,356.01	3,307.61	3,195.33	10.97	14.08	87.07	-587.77	293.78	533.20	511.68	21.52	24.775	
3,500.00	3,453.65	3,403.02	3,283.23	11.43	14.82	86.74	-620.61	311.05	563.00	540.56	22.44	25.090	
3,600.00	3,551.29	3,498.43	3,371.13	11.89	15.56	86.44	-653.44	328.32	592.80	569.44	23.36	25.378	
3,700.00	3,648.93	3,593.84	3,459.04	12.35	16.30	86.18	-686.28	345.59	622.63	598.34	24.28	25.643	
3,800.00	3,746.57	3,689.25	3,546.94	12.81	17.05	85.93	-719.11	362.85	652.46	627.25	25.20	25.887	
3,900.00	3,844.21	3,784.66	3,634.84	13.28	17.79	85.71	-751.94	380.12	682.30	656.17	26.13	26.113	
4,000.00	3,941.85	3,880.07	3,722.75	13.74	18.54	85.50	-784.78	397.39	712.15	685.10	27.06	26.322	
4,094.76	4,034.37	3,970.48	3,806.04	14.18	19.25	85.33	-815.89	413.75	740.45	712.51	27.93	26.507	
4,100.00	4,039.49	3,975.48	3,810.65	14.20	19.29	85.35	-817.61	414.66	742.01	714.03	27.99	26.515	
4,200.00	4,137.53	4,070.78	3,898.45	14.54	20.03	85.65	-850.41	431.90	772.03	743.17	28.86	26.751	
4,300.00	4,236.19	4,165.79	3,985.98	14.83	20.78	85.73	-883.10	449.10	802.34	772.68	29.66	27.050	
4,400.00	4,335.36	4,260.39	4,073.14	15.09	21.53	85.61	-915.66	466.22	833.00	802.62	30.39	27.414	
4,500.00	4,434.91	4,354.48	4,159.82	15.31	22.27	85.32	-948.04	483.24	864.10	833.06	31.03	27.845	
4,600.00	4,534.74	4,447.93	4,245.92	15.50	23.00	84.88	-980.19	500.16	895.71	864.11	31.60	28.344	
4,700.00	4,634.70	4,540.63	4,331.33	15.64	23.73	84.32	-1,012.10	516.93	927.98	895.89	32.09	28.915	
4,718.30	4,653.00	4,557.50	4,346.87	15.66	23.87	-173.03	-1,017.90	519.99	933.97	901.79	32.18	29.027	

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



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
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	4,734.70	4,632.78	4,416.22	15.77	24.46	-174.09	-1,043.81	533.61	960.90	928.48	32.42	29.639	
4,900.00	4,834.70	4,724.91	4,501.11	15.91	25.19	-175.30	-1,075.51	550.28	994.25	961.52	32.73	30.382	
5,000.00	4,934.70	4,817.04	4,585.99	16.05	25.92	-176.44	-1,107.22	566.96	1,027.99	994.96	33.03	31.120	
5,100.00	5,034.70	4,909.17	4,670.87	16.19	26.64	-177.51	-1,138.92	583.63	1,062.08	1,028.74	33.34	31.853	
5,200.00	5,134.70	5,001.30	4,755.75	16.33	27.37	-178.51	-1,170.63	600.31	1,096.49	1,062.84	33.66	32.579	
5,300.00	5,234.70	5,093.43	4,840.63	16.48	28.10	-179.46	-1,202.33	616.98	1,131.19	1,097.22	33.97	33.297	
5,400.00	5,334.70	5,185.56	4,925.52	16.63	28.83	179.65	-1,234.04	633.65	1,166.16	1,131.86	34.29	34.004	
5,500.00	5,434.70	5,277.70	5,010.40	16.78	29.56	178.81	-1,265.74	650.33	1,201.36	1,166.74	34.62	34.701	
5,600.00	5,534.70	5,369.83	5,095.28	16.93	30.29	178.02	-1,297.45	667.00	1,236.79	1,201.84	34.95	35.386	
5,700.00	5,634.70	5,461.96	5,180.16	17.08	31.02	177.27	-1,329.15	683.68	1,272.42	1,237.13	35.29	36.059	
5,800.00	5,734.70	5,554.09	5,265.04	17.23	31.75	176.56	-1,360.86	700.35	1,308.23	1,272.60	35.63	36.719	
5,900.00	5,834.70	5,646.22	5,349.93	17.39	32.48	175.88	-1,392.57	717.02	1,344.21	1,308.24	35.97	37.367	
6,000.00	5,934.70	5,770.76	5,465.01	17.55	33.31	175.04	-1,434.68	739.17	1,379.88	1,343.54	36.35	37.964	
6,100.00	6,034.70	5,943.37	5,627.48	17.71	34.21	174.09	-1,486.19	766.26	1,411.36	1,374.59	36.78	38.376	
6,200.00	6,134.70	6,122.99	5,799.95	17.87	35.02	173.32	-1,530.51	789.57	1,437.46	1,400.23	37.23	38.610	
6,300.00	6,234.70	6,308.57	5,981.08	18.03	35.70	172.75	-1,566.15	808.31	1,457.83	1,420.14	37.69	38.677	
6,400.00	6,334.70	6,498.80	6,169.04	18.19	36.23	172.35	-1,591.84	821.82	1,472.17	1,434.02	38.15	38.589	
6,500.00	6,434.70	6,692.11	6,361.60	18.35	36.58	172.13	-1,606.58	829.57	1,480.28	1,441.69	38.59	38.358	
6,600.00	6,534.70	6,865.28	6,534.70	18.52	36.76	172.07	-1,610.08	831.41	1,482.19	1,443.20	38.99	38.017	
6,700.00	6,634.70	6,965.28	6,634.70	18.69	36.83	172.07	-1,610.08	831.41	1,482.19	1,442.90	39.29	37.727	
6,800.00	6,734.70	7,065.28	6,734.70	18.85	36.91	172.07	-1,610.08	831.41	1,482.19	1,442.60	39.59	37.439	
6,900.00	6,834.70	7,165.28	6,834.70	19.02	36.98	172.07	-1,610.08	831.41	1,482.19	1,442.30	39.89	37.154	
7,000.00	6,934.70	7,265.28	6,934.70	19.19	37.06	172.07	-1,610.08	831.41	1,482.19	1,441.99	40.20	36.870	
7,100.00	7,034.70	7,365.28	7,034.70	19.36	37.13	172.07	-1,610.08	831.41	1,482.19	1,441.68	40.51	36.588	
7,200.00	7,134.70	7,465.28	7,134.70	19.54	37.21	172.07	-1,610.08	831.41	1,482.19	1,441.37	40.82	36.308	
7,300.00	7,234.70	7,565.28	7,234.70	19.71	37.29	172.07	-1,610.08	831.41	1,482.19	1,441.05	41.14	36.030	
7,400.00	7,334.70	7,665.28	7,334.70	19.88	37.37	172.07	-1,610.08	831.41	1,482.19	1,440.74	41.45	35.755	
7,500.00	7,434.70	7,765.28	7,434.70	20.06	37.45	172.07	-1,610.08	831.41	1,482.19	1,440.42	41.77	35.481	
7,600.00	7,534.70	7,865.28	7,534.70	20.24	37.54	172.07	-1,610.08	831.41	1,482.19	1,440.09	42.10	35.210	
7,700.00	7,634.70	7,965.28	7,634.70	20.41	37.62	172.07	-1,610.08	831.41	1,482.19	1,439.77	42.42	34.941	
7,800.00	7,734.70	8,065.28	7,734.70	20.59	37.71	172.07	-1,610.08	831.41	1,482.19	1,439.44	42.75	34.675	
7,900.00	7,834.70	8,165.28	7,834.70	20.77	37.79	172.07	-1,610.08	831.41	1,482.19	1,439.12	43.07	34.410	
8,000.00	7,934.70	8,265.28	7,934.70	20.95	37.88	172.07	-1,610.08	831.41	1,482.19	1,438.78	43.40	34.148	
8,100.00	8,034.70	8,365.28	8,034.70	21.13	37.97	172.07	-1,610.08	831.41	1,482.19	1,438.45	43.74	33.888	
8,122.30	8,057.00	8,387.58	8,057.00	21.17	37.99	172.07	-1,610.08	831.41	1,482.19	1,438.38	43.81	33.831	



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 8-16 - P_STATE 8-16 - PLAN #1 09-10-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance								Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-180.00	-14.57	0.00	14.57				
100.00	100.00	100.00	100.00	0.10	0.10	-180.00	-14.57	0.00	14.57	14.38	0.19	76.246	
200.00	200.00	200.00	200.00	0.32	0.32	-180.00	-14.57	0.00	14.57	13.93	0.64	22.740	
300.00	300.00	300.00	300.00	0.55	0.55	-180.00	-14.57	0.00	14.57	13.48	1.09	13.363	
400.00	400.00	400.00	400.00	0.77	0.77	-180.00	-14.57	0.00	14.57	13.03	1.54	9.461	
500.00	500.00	500.00	500.00	0.99	0.99	-180.00	-14.57	0.00	14.57	12.58	1.99	7.323	
600.00	600.00	600.00	600.00	1.22	1.22	-180.00	-14.57	0.00	14.57	12.13	2.44	5.973	
700.00	700.00	700.00	700.00	1.44	1.44	-180.00	-14.57	0.00	14.57	11.68	2.89	5.044	
800.00	800.00	800.00	800.00	1.67	1.67	-180.00	-14.57	0.00	14.57	11.23	3.34	4.364	
900.00	900.00	900.00	900.00	1.89	1.89	-180.00	-14.57	0.00	14.57	10.78	3.79	3.846	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-180.00	-14.57	0.00	14.57	10.33	4.24	3.438	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-180.00	-14.57	0.00	14.57	9.88	4.69	3.108	
1,120.00	1,120.00	1,120.00	1,120.00	2.39	2.39	-180.00	-14.57	0.00	14.57	9.79	4.78	3.050 CC, ES	
1,200.00	1,199.99	1,199.76	1,199.75	2.55	2.55	77.97	-15.23	0.89	14.98	9.88	5.10	2.935 SF	
1,300.00	1,299.88	1,299.43	1,299.31	2.75	2.74	80.55	-17.90	4.52	16.69	11.21	5.49	3.042	
1,400.00	1,399.55	1,399.05	1,398.61	2.96	2.94	84.01	-22.64	10.92	19.79	13.89	5.90	3.355	
1,500.00	1,498.89	1,498.58	1,497.48	3.19	3.16	87.39	-29.41	20.09	24.30	17.96	6.35	3.830	
1,600.00	1,597.76	1,598.00	1,595.79	3.45	3.41	90.25	-38.21	32.00	30.26	23.41	6.85	4.419	
1,700.00	1,696.05	1,697.28	1,693.38	3.75	3.69	92.49	-49.01	46.63	37.66	30.23	7.42	5.073	
1,743.54	1,738.63	1,740.46	1,735.62	3.89	3.84	93.29	-54.33	53.83	41.32	33.62	7.71	5.363	
1,800.00	1,793.76	1,796.40	1,790.13	4.09	4.03	93.61	-61.79	63.93	46.44	38.35	8.08	5.745	
1,900.00	1,891.40	1,895.25	1,885.83	4.45	4.42	91.45	-76.51	83.86	56.43	47.63	8.81	6.407	
2,000.00	1,989.04	1,993.63	1,980.15	4.83	4.87	87.30	-93.10	106.32	67.91	58.33	9.58	7.091	
2,100.00	2,086.68	2,091.30	2,072.80	5.23	5.38	82.28	-111.47	131.18	81.32	70.97	10.36	7.851	
2,200.00	2,184.32	2,188.05	2,163.48	5.64	5.96	77.10	-131.50	158.29	97.12	85.99	11.13	8.727	
2,300.00	2,281.96	2,283.66	2,251.93	6.06	6.60	72.15	-153.07	187.50	115.64	103.77	11.88	9.737	
2,400.00	2,379.60	2,377.96	2,337.92	6.49	7.30	67.65	-176.05	218.61	137.09	124.49	12.59	10.885	
2,500.00	2,477.24	2,470.77	2,421.28	6.92	8.05	63.65	-200.30	251.43	161.56	148.27	13.29	12.160	
2,600.00	2,574.88	2,561.94	2,501.82	7.36	8.86	60.16	-225.67	285.77	189.08	175.13	13.96	13.549	
2,700.00	2,672.52	2,651.32	2,579.43	7.80	9.71	57.14	-252.01	321.43	219.63	205.02	14.61	15.034	
2,800.00	2,770.16	2,738.81	2,654.02	8.25	10.61	54.52	-279.17	358.20	253.14	237.89	15.25	16.601	
2,900.00	2,867.80	2,824.30	2,725.53	8.70	11.54	52.25	-307.00	395.88	289.52	273.65	15.88	18.237	
3,000.00	2,965.44	2,914.79	2,800.25	9.15	12.57	50.21	-337.34	436.95	327.87	311.34	16.53	19.840	
3,100.00	3,063.08	3,006.55	2,875.98	9.60	13.62	48.56	-368.12	478.61	366.54	349.35	17.19	21.318	
3,200.00	3,160.72	3,098.31	2,951.72	10.06	14.69	47.23	-398.90	520.28	405.42	387.55	17.88	22.680	
3,300.00	3,258.37	3,190.07	3,027.46	10.51	15.77	46.13	-429.67	561.94	444.46	425.89	18.57	23.936	
3,400.00	3,356.01	3,281.82	3,103.20	10.97	16.85	45.20	-460.45	603.61	483.61	464.34	19.27	25.096	
3,500.00	3,453.65	3,373.58	3,178.93	11.43	17.94	44.42	-491.23	645.27	522.86	502.88	19.98	26.169	
3,600.00	3,551.29	3,465.34	3,254.67	11.89	19.03	43.74	-522.01	686.94	562.17	541.48	20.70	27.163	
3,700.00	3,648.93	3,557.09	3,330.41	12.35	20.13	43.15	-552.79	728.60	601.55	580.13	21.42	28.086	
3,800.00	3,746.57	3,648.85	3,406.14	12.81	21.23	42.64	-583.56	770.27	640.97	618.83	22.14	28.945	
3,900.00	3,844.21	3,740.61	3,481.88	13.28	22.33	42.18	-614.34	811.93	680.43	657.56	22.88	29.745	
4,000.00	3,941.85	3,832.36	3,557.62	13.74	23.44	41.77	-645.12	853.60	719.93	696.32	23.61	30.492	
4,094.76	4,034.37	3,919.31	3,629.38	14.18	24.48	41.43	-674.28	893.08	757.38	733.07	24.31	31.155	
4,100.00	4,039.49	3,924.12	3,633.35	14.20	24.54	41.44	-675.90	895.26	759.45	735.10	24.35	31.187	
4,200.00	4,137.53	4,015.23	3,708.55	14.54	25.64	41.60	-706.46	936.63	800.32	775.24	25.08	31.912	
4,300.00	4,236.19	4,105.07	3,782.72	14.83	26.73	41.69	-736.59	977.43	843.61	817.87	25.74	32.774	
4,400.00	4,335.36	4,193.56	3,855.75	15.09	27.80	41.70	-766.27	1,017.61	889.31	862.98	26.34	33.766	
4,500.00	4,434.91	4,280.57	3,927.57	15.31	28.85	41.68	-795.46	1,057.11	937.43	910.55	26.87	34.882	
4,600.00	4,534.74	4,366.00	3,998.08	15.50	29.89	41.62	-824.12	1,095.91	987.95	960.59	27.35	36.117	
4,700.00	4,634.70	4,449.74	4,067.21	15.64	30.91	41.56	-852.21	1,133.93	1,040.87	1,013.09	27.78	37.466	
4,718.30	4,653.00	4,464.87	4,079.70	15.66	31.09	144.31	-857.28	1,140.81	1,050.81	1,022.96	27.86	37.724	

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



Weatherford International Ltd.

Anticollision Report



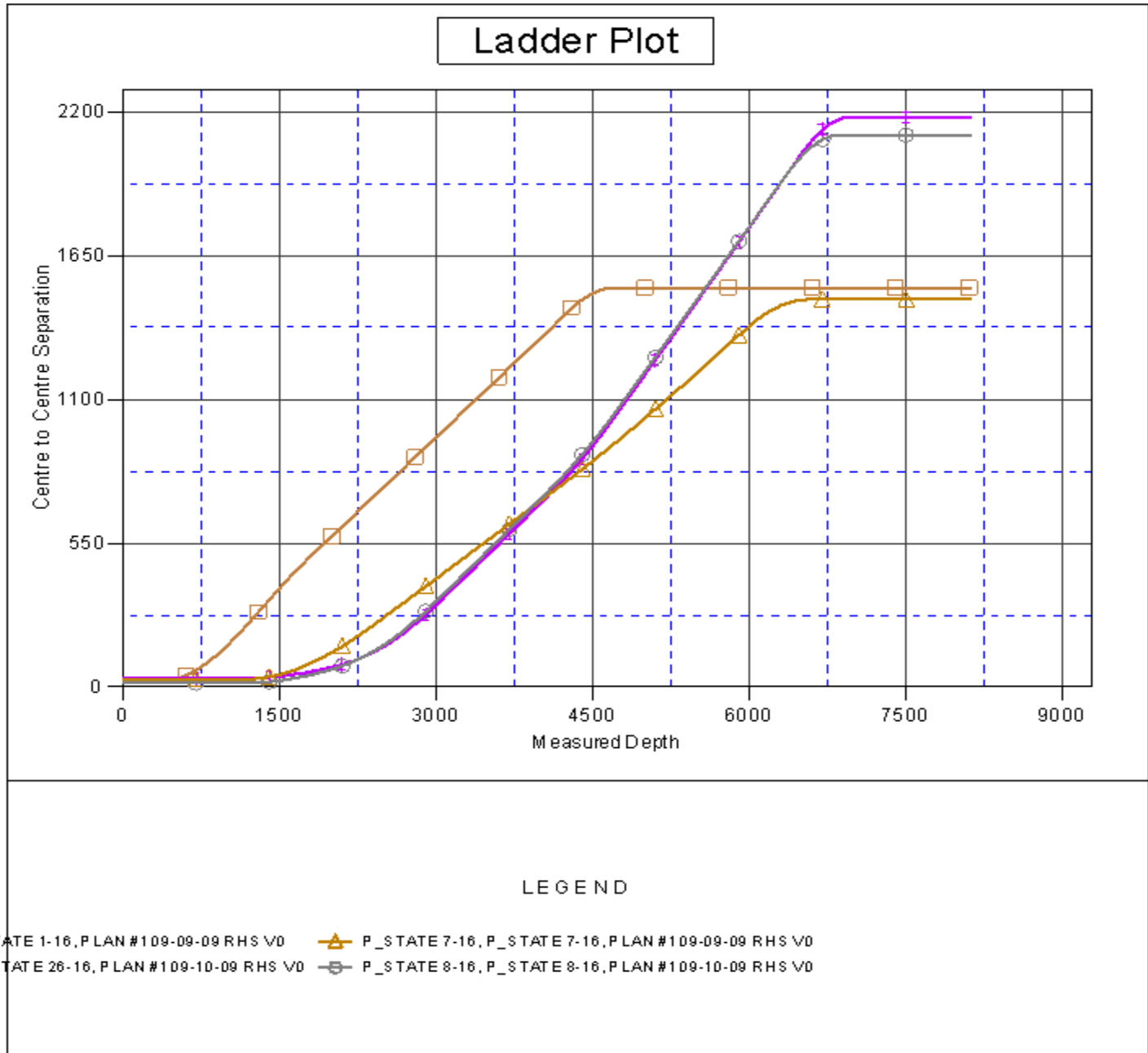
Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 8-16 - P_STATE 8-16 - PLAN #1 09-10-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
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	4,734.70	4,532.31	4,135.36	15.77	31.91	143.58	-879.90	1,171.43	1,095.45	1,067.41	28.05	39.058	
4,900.00	4,834.70	4,614.85	4,203.49	15.91	32.91	142.76	-907.59	1,208.91	1,150.25	1,121.94	28.31	40.632	
5,000.00	4,934.70	4,697.39	4,271.62	16.05	33.92	142.02	-935.28	1,246.39	1,205.20	1,176.61	28.59	42.152	
5,100.00	5,034.70	4,779.94	4,339.75	16.19	34.92	141.34	-962.96	1,283.87	1,260.28	1,231.39	28.89	43.619	
5,200.00	5,134.70	4,862.48	4,407.88	16.33	35.93	140.71	-990.65	1,321.35	1,315.48	1,286.27	29.21	45.034	
5,300.00	5,234.70	4,945.02	4,476.01	16.48	36.93	140.13	-1,018.34	1,358.83	1,370.78	1,341.23	29.54	46.398	
5,400.00	5,334.70	5,027.56	4,544.14	16.63	37.94	139.60	-1,046.02	1,396.31	1,426.17	1,396.28	29.89	47.714	
5,500.00	5,434.70	5,110.10	4,612.27	16.78	38.94	139.11	-1,073.71	1,433.79	1,481.64	1,451.39	30.25	48.982	
5,600.00	5,534.70	5,192.64	4,680.40	16.93	39.95	138.65	-1,101.40	1,471.27	1,537.18	1,506.56	30.62	50.205	
5,700.00	5,634.70	5,275.18	4,748.53	17.08	40.96	138.23	-1,129.08	1,508.75	1,592.79	1,561.79	31.00	51.384	
5,800.00	5,734.70	5,357.72	4,816.66	17.23	41.96	137.83	-1,156.77	1,546.23	1,648.45	1,617.07	31.39	52.521	
5,900.00	5,834.70	5,440.26	4,884.79	17.39	42.97	137.46	-1,184.46	1,583.71	1,704.17	1,672.39	31.78	53.618	
6,000.00	5,934.70	5,522.80	4,952.92	17.55	43.98	137.11	-1,212.14	1,621.19	1,759.93	1,727.74	32.19	54.676	
6,100.00	6,034.70	5,605.34	5,021.05	17.71	44.99	136.78	-1,239.83	1,658.67	1,815.74	1,783.14	32.60	55.697	
6,200.00	6,134.70	5,687.89	5,089.18	17.87	45.99	136.47	-1,267.52	1,696.15	1,871.58	1,838.56	33.02	56.683	
6,300.00	6,234.70	5,770.43	5,157.31	18.03	47.00	136.18	-1,295.20	1,733.63	1,927.46	1,894.02	33.44	57.634	
6,400.00	6,334.70	5,965.79	5,321.16	18.19	49.06	135.58	-1,358.38	1,819.16	1,981.90	1,947.72	34.18	57.987	
6,500.00	6,434.70	6,253.56	5,574.66	18.35	51.46	134.90	-1,439.15	1,928.49	2,028.79	1,993.63	35.16	57.704	
6,600.00	6,534.70	6,571.44	5,868.94	18.52	53.55	134.39	-1,510.31	2,024.82	2,066.21	2,030.03	36.18	57.106	
6,700.00	6,634.70	6,915.43	6,200.19	18.69	55.15	134.03	-1,564.98	2,098.84	2,092.80	2,055.63	37.17	56.307	
6,800.00	6,734.70	7,277.98	6,558.55	18.85	56.10	133.84	-1,596.66	2,141.71	2,107.42	2,069.39	38.03	55.422	
6,900.00	6,834.70	7,554.42	6,834.70	19.02	56.38	133.81	-1,602.71	2,149.91	2,110.15	2,071.56	38.59	54.675	
7,000.00	6,934.70	7,654.42	6,934.70	19.19	56.44	133.81	-1,602.71	2,149.91	2,110.15	2,071.24	38.91	54.228	
7,100.00	7,034.70	7,754.42	7,034.70	19.36	56.49	133.81	-1,602.71	2,149.91	2,110.15	2,070.92	39.23	53.785	
7,200.00	7,134.70	7,854.42	7,134.70	19.54	56.55	133.81	-1,602.71	2,149.91	2,110.15	2,070.60	39.56	53.346	
7,300.00	7,234.70	7,954.42	7,234.70	19.71	56.60	133.81	-1,602.71	2,149.91	2,110.15	2,070.27	39.88	52.911	
7,400.00	7,334.70	8,054.42	7,334.70	19.88	56.66	133.81	-1,602.71	2,149.91	2,110.15	2,069.94	40.21	52.481	
7,500.00	7,434.70	8,154.42	7,434.70	20.06	56.72	133.81	-1,602.71	2,149.91	2,110.15	2,069.61	40.54	52.054	
7,600.00	7,534.70	8,254.42	7,534.70	20.24	56.78	133.81	-1,602.71	2,149.91	2,110.15	2,069.28	40.87	51.632	
7,700.00	7,634.70	8,354.42	7,634.70	20.41	56.84	133.81	-1,602.71	2,149.91	2,110.15	2,068.95	41.20	51.214	
7,800.00	7,734.70	8,454.42	7,734.70	20.59	56.90	133.81	-1,602.71	2,149.91	2,110.15	2,068.61	41.54	50.801	
7,900.00	7,834.70	8,554.42	7,834.70	20.77	56.96	133.81	-1,602.71	2,149.91	2,110.15	2,068.28	41.88	50.391	
8,000.00	7,934.70	8,654.42	7,934.70	20.95	57.02	133.81	-1,602.71	2,149.91	2,110.15	2,067.94	42.21	49.986	
8,100.00	8,034.70	8,754.42	8,034.70	21.13	57.09	133.81	-1,602.71	2,149.91	2,110.15	2,067.60	42.56	49.586	
8,122.30	8,057.00	8,776.72	8,057.00	21.17	57.10	133.81	-1,602.71	2,149.91	2,110.15	2,067.52	42.63	49.497	



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5150.00ft (Original Well Elev)Coordinates are relative to: P_STATE 2-16
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W °
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.32°

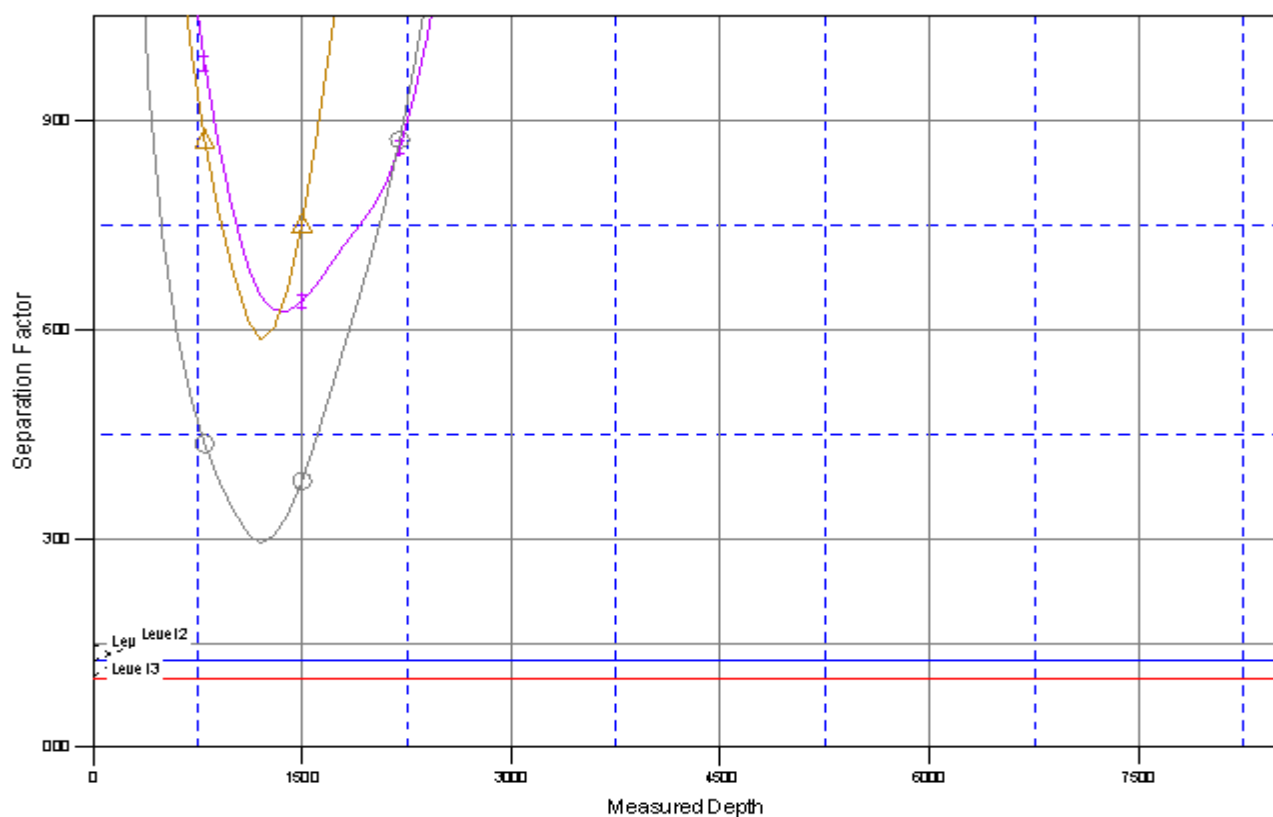




Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 2-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 2-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 2-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-09-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5150.00ft (Original Well Elev)Coordinates are relative to: P_STATE 2-16
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.32°

Separation Factor Plot



LEGEND

TATE 1-16, PLAN #1 09-09-09 RHS V0 P_STATE 7-16, P_STATE 7-16, PLAN #1 09-09-09 RHS V0
STATE 26-16, PLAN #1 09-10-09 RHS V0 P_STATE 8-16, P_STATE 8-16, PLAN #1 09-10-09 RHS V0