



US ROCKIES REGION PLANNING

KERR MCGEE OIL & GAS ONSHORE LP

WELD_STATE 5 PAD

P_STATE 8-16

P_STATE 8-16

Plan: PLAN #1 09-10-09 RHS

Standard Planning Report

10 September, 2009





P_STATE 8-16
KERR MCGEE OIL & GAS ONSHORE LP
SECTION 16 T1N R68W
380 FNL 2503 FWL
LAT: 40° 3' 26.424 N
LONG: 105° 0' 33.264 W



Azimuths to True North
Magnetic North: 9.16°

Magnetic Field
Strength: 53126.0nT
Dip Angle: 66.80°
Date: 9/10/2009
Model: IGRF200510

WELL DETAILS: P_STATE 8-16

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude	Slot
0.00	0.00	1264114.48	3137371.88	5135.00	40° 3' 26.424 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	
2838.50	34.37	126.45	2737.27	-297.18	402.30	2.00	126.45	500.17	
5801.22	34.37	126.45	5182.73	-1290.96	1747.61	0.00	0.00	2172.72	
7519.72	0.00	0.00	6800.00	-1588.15	2149.91	2.00	180.00	2672.89	
9156.72	0.00	0.00	8437.00	-1588.15	2149.91	0.00	0.00	2672.89	PBHL_STATE 8-16(380 FNL 2503 FWL)50' TGT RAD

FORMATION TOP DETAILS

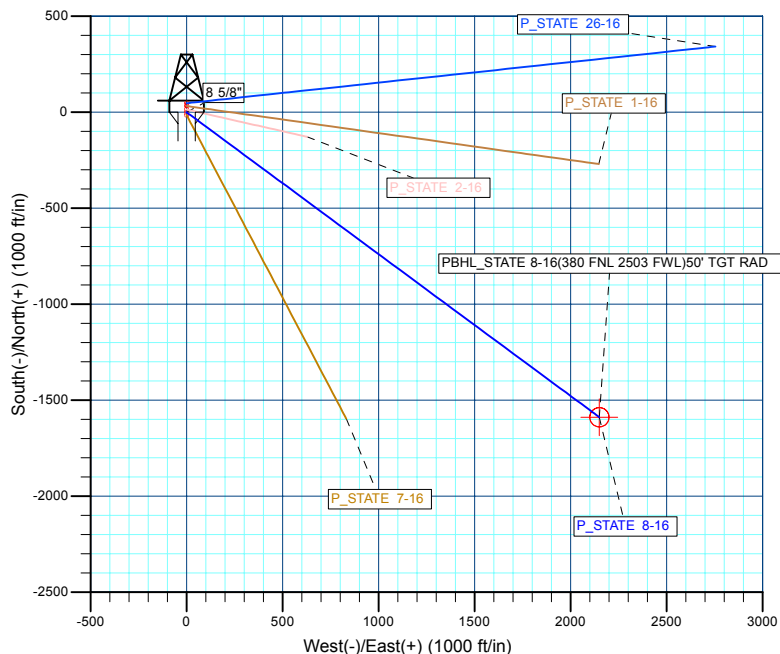
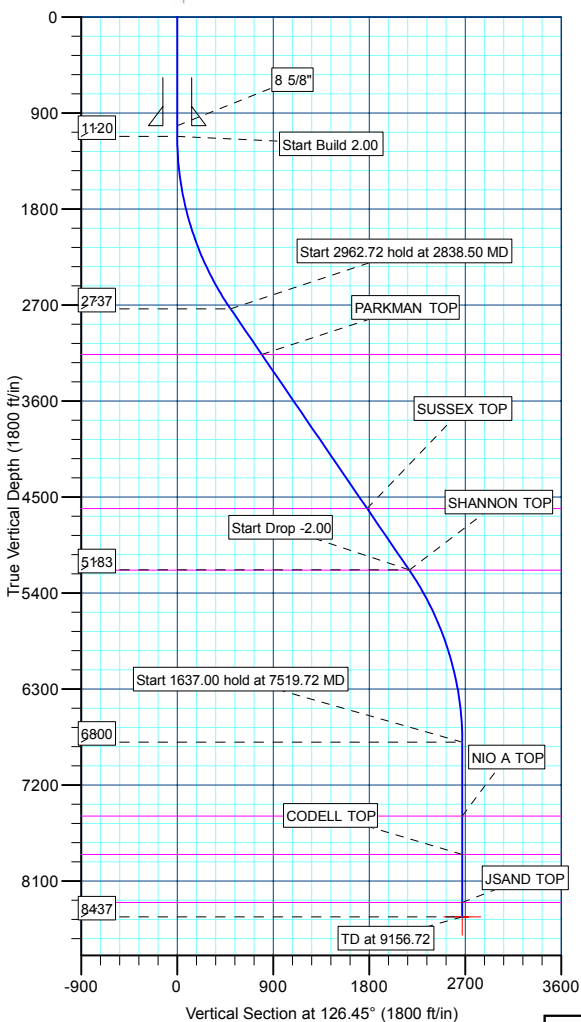
TVDPath	MDPath	Formation
3166.00	3357.91	PARKMAN TOP
4608.00	5104.92	SUSSEX TOP
5187.00	5806.39	SHANNON TOP
7492.00	8211.72	NIO A TOP
7852.00	8571.72	CODELL TOP
8302.00	9021.72	JSAND TOP

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	8437.00	-1588.15	2149.91	1262538.26	3139530.54	40° 3' 10.728 N	105° 0' 5.616 W	Circle (Radius: 50.00)

Plan: PLAN #1 09-10-09 RHS (P_STATE 8-16/P_STATE 8-16)

Created By: Robert H. Scott



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_STATE 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_STATE 8-16		
Design:	PLAN #1 09-10-09 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 8-16					
Well Position	+N/-S	-32.79 ft	Northing:	1,264,114.48 ft	Latitude:	40° 3' 26.424 N
	+E/-W	0.00 ft	Easting:	3,137,371.88 ft	Longitude:	105° 0' 33.264 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,135.00 ft

Wellbore	P_STATE 8-16				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/10/2009	9.16	66.80	53,126

Design	PLAN #1 09-10-09 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	126.45

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	
2,838.50	34.37	126.45	2,737.27	-297.18	402.30	2.00	2.00	0.00	126.45	
5,801.22	34.37	126.45	5,182.73	-1,290.96	1,747.61	0.00	0.00	0.00	0.00	
7,519.72	0.00	0.00	6,800.00	-1,588.15	2,149.91	2.00	-2.00	0.00	180.00	
9,156.72	0.00	0.00	8,437.00	-1,588.15	2,149.91	0.00	0.00	0.00	0.00	PBHL_STATE 8-16



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_STATE 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_STATE 8-16		
Design:	PLAN #1 09-10-09 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	126.45	1,199.99	-0.66	0.90	1.12	2.00	2.00	0.00
1,300.00	3.60	126.45	1,299.88	-3.36	4.55	5.65	2.00	2.00	0.00
1,400.00	5.60	126.45	1,399.55	-8.12	11.00	13.67	2.00	2.00	0.00
1,500.00	7.60	126.45	1,498.89	-14.95	20.24	25.17	2.00	2.00	0.00
1,600.00	9.60	126.45	1,597.76	-23.84	32.27	40.12	2.00	2.00	0.00
1,700.00	11.60	126.45	1,696.05	-34.77	47.06	58.51	2.00	2.00	0.00
1,800.00	13.60	126.45	1,793.63	-47.73	64.61	80.33	2.00	2.00	0.00
1,900.00	15.60	126.45	1,890.40	-62.70	84.88	105.53	2.00	2.00	0.00
2,000.00	17.60	126.45	1,986.23	-79.68	107.86	134.10	2.00	2.00	0.00
2,100.00	19.60	126.45	2,081.00	-98.63	133.52	165.99	2.00	2.00	0.00
2,200.00	21.60	126.45	2,174.60	-119.53	161.81	201.18	2.00	2.00	0.00
2,300.00	23.60	126.45	2,266.92	-142.36	192.72	239.60	2.00	2.00	0.00
2,400.00	25.60	126.45	2,357.83	-167.10	226.20	281.23	2.00	2.00	0.00
2,500.00	27.60	126.45	2,447.25	-193.70	262.22	326.00	2.00	2.00	0.00
2,600.00	29.60	126.45	2,535.04	-222.14	300.72	373.87	2.00	2.00	0.00
2,700.00	31.60	126.45	2,621.11	-252.39	341.66	424.77	2.00	2.00	0.00
2,800.00	33.60	126.45	2,705.35	-284.40	384.99	478.65	2.00	2.00	0.00
Start 2962.72 hold at 2838.50 MD									
2,838.50	34.37	126.45	2,737.27	-297.18	402.30	500.17	2.00	2.00	0.00
2,900.00	34.37	126.45	2,788.04	-317.81	430.23	534.88	0.00	0.00	0.00
3,000.00	34.37	126.45	2,870.58	-351.35	475.64	591.34	0.00	0.00	0.00
3,100.00	34.37	126.45	2,953.12	-384.90	521.05	647.79	0.00	0.00	0.00
3,200.00	34.37	126.45	3,035.66	-418.44	566.45	704.25	0.00	0.00	0.00
3,300.00	34.37	126.45	3,118.20	-451.98	611.86	760.70	0.00	0.00	0.00
PARKMAN TOP									
3,357.91	34.37	126.45	3,166.00	-471.41	638.16	793.39	0.00	0.00	0.00
3,400.00	34.37	126.45	3,200.74	-485.53	657.27	817.15	0.00	0.00	0.00
3,500.00	34.37	126.45	3,283.28	-519.07	702.68	873.61	0.00	0.00	0.00
3,600.00	34.37	126.45	3,365.82	-552.61	748.08	930.06	0.00	0.00	0.00
3,700.00	34.37	126.45	3,448.36	-586.15	793.49	986.51	0.00	0.00	0.00
3,800.00	34.37	126.45	3,530.90	-619.70	838.90	1,042.97	0.00	0.00	0.00
3,900.00	34.37	126.45	3,613.45	-653.24	884.31	1,099.42	0.00	0.00	0.00
4,000.00	34.37	126.45	3,695.99	-686.78	929.72	1,155.87	0.00	0.00	0.00
4,100.00	34.37	126.45	3,778.53	-720.33	975.12	1,212.33	0.00	0.00	0.00
4,200.00	34.37	126.45	3,861.07	-753.87	1,020.53	1,268.78	0.00	0.00	0.00
4,300.00	34.37	126.45	3,943.61	-787.41	1,065.94	1,325.23	0.00	0.00	0.00
4,400.00	34.37	126.45	4,026.15	-820.95	1,111.35	1,381.69	0.00	0.00	0.00
4,500.00	34.37	126.45	4,108.69	-854.50	1,156.75	1,438.14	0.00	0.00	0.00
4,600.00	34.37	126.45	4,191.23	-888.04	1,202.16	1,494.59	0.00	0.00	0.00
4,700.00	34.37	126.45	4,273.77	-921.58	1,247.57	1,551.05	0.00	0.00	0.00
4,800.00	34.37	126.45	4,356.31	-955.13	1,292.98	1,607.50	0.00	0.00	0.00
4,900.00	34.37	126.45	4,438.85	-988.67	1,338.39	1,663.95	0.00	0.00	0.00
5,000.00	34.37	126.45	4,521.40	-1,022.21	1,383.79	1,720.41	0.00	0.00	0.00
5,100.00	34.37	126.45	4,603.94	-1,055.75	1,429.20	1,776.86	0.00	0.00	0.00
SUSSEX TOP									
5,104.92	34.37	126.45	4,608.00	-1,057.41	1,431.44	1,779.64	0.00	0.00	0.00
5,200.00	34.37	126.45	4,686.48	-1,089.30	1,474.61	1,833.31	0.00	0.00	0.00
5,300.00	34.37	126.45	4,769.02	-1,122.84	1,520.02	1,889.77	0.00	0.00	0.00
5,400.00	34.37	126.45	4,851.56	-1,156.38	1,565.43	1,946.22	0.00	0.00	0.00
5,500.00	34.37	126.45	4,934.10	-1,189.93	1,610.83	2,002.67	0.00	0.00	0.00
5,600.00	34.37	126.45	5,016.64	-1,223.47	1,656.24	2,059.13	0.00	0.00	0.00



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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 8-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_STATE 8-16		
Design:	PLAN #1 09-10-09 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)
5,700.00	34.37	126.45	5,099.18	-1,257.01	1,701.65	2,115.58	0.00	0.00	0.00
5,800.00	34.37	126.45	5,181.72	-1,290.55	1,747.06	2,172.04	0.00	0.00	0.00
Start Drop -2.00									
5,801.22	34.37	126.45	5,182.73	-1,290.96	1,747.61	2,172.72	0.00	0.00	0.00
SHANNON TOP									
5,806.39	34.27	126.45	5,187.00	-1,292.70	1,749.95	2,175.64	2.00	-2.00	0.00
5,900.00	32.39	126.45	5,265.21	-1,323.26	1,791.32	2,227.07	2.00	-2.00	0.00
6,000.00	30.39	126.45	5,350.57	-1,354.21	1,833.22	2,279.16	2.00	-2.00	0.00
6,100.00	28.39	126.45	5,437.69	-1,383.37	1,872.70	2,328.24	2.00	-2.00	0.00
6,200.00	26.39	126.45	5,526.47	-1,410.70	1,909.71	2,374.25	2.00	-2.00	0.00
6,300.00	24.39	126.45	5,616.80	-1,436.18	1,944.20	2,417.13	2.00	-2.00	0.00
6,400.00	22.39	126.45	5,708.58	-1,459.77	1,976.13	2,456.84	2.00	-2.00	0.00
6,500.00	20.39	126.45	5,801.68	-1,481.45	2,005.47	2,493.31	2.00	-2.00	0.00
6,600.00	18.39	126.45	5,896.00	-1,501.18	2,032.18	2,526.52	2.00	-2.00	0.00
6,700.00	16.39	126.45	5,991.42	-1,518.94	2,056.23	2,556.41	2.00	-2.00	0.00
6,800.00	14.39	126.45	6,087.83	-1,534.71	2,077.58	2,582.96	2.00	-2.00	0.00
6,900.00	12.39	126.45	6,185.11	-1,548.47	2,096.21	2,606.12	2.00	-2.00	0.00
7,000.00	10.39	126.45	6,283.13	-1,560.21	2,112.10	2,625.87	2.00	-2.00	0.00
7,100.00	8.39	126.45	6,381.78	-1,569.91	2,125.23	2,642.20	2.00	-2.00	0.00
7,200.00	6.39	126.45	6,480.95	-1,577.56	2,135.58	2,655.07	2.00	-2.00	0.00
7,300.00	4.39	126.45	6,580.50	-1,583.14	2,143.14	2,664.47	2.00	-2.00	0.00
7,400.00	2.39	126.45	6,680.32	-1,586.66	2,147.90	2,670.39	2.00	-2.00	0.00
7,500.00	0.39	126.45	6,780.28	-1,588.10	2,149.86	2,672.82	2.00	-2.00	0.00
Start 1637.00 hold at 7519.72 MD									
7,519.72	0.00	0.00	6,800.00	-1,588.15	2,149.91	2,672.89	2.00	-2.00	0.00
7,600.00	0.00	0.00	6,880.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
7,700.00	0.00	0.00	6,980.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
7,800.00	0.00	0.00	7,080.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
7,900.00	0.00	0.00	7,180.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,000.00	0.00	0.00	7,280.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,100.00	0.00	0.00	7,380.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,200.00	0.00	0.00	7,480.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
NIO A TOP									
8,211.72	0.00	0.00	7,492.00	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,300.00	0.00	0.00	7,580.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,400.00	0.00	0.00	7,680.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,500.00	0.00	0.00	7,780.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
CODELL TOP									
8,571.72	0.00	0.00	7,852.00	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,600.00	0.00	0.00	7,880.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,700.00	0.00	0.00	7,980.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,800.00	0.00	0.00	8,080.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
8,900.00	0.00	0.00	8,180.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
9,000.00	0.00	0.00	8,280.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
JSAND TOP									
9,021.72	0.00	0.00	8,302.00	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
9,100.00	0.00	0.00	8,380.28	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00
PBHL_STATE 8-16(380 FNL 2503 FWL)50' TGT RAD									
9,156.72	0.00	0.00	8,437.00	-1,588.15	2,149.91	2,672.89	0.00	0.00	0.00



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_STATE 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_STATE 8-16		
Design:	PLAN #1 09-10-09 RHS		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
PBHL_STATE 8-16(3)	0.00	0.00	8,437.00	-1,588.15	2,149.91	1,262,538.26	3,139,530.54	40° 3' 10.728 N	105° 0' 5.616 W
- plan hits target center									
- Circle (radius 50.00)									

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

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
3,357.91	3,166.00	PARKMAN TOP				
5,104.92	4,608.00	SUSSEX TOP				
5,806.39	5,187.00	SHANNON TOP				
8,211.72	7,492.00	NIO A TOP				
8,571.72	7,852.00	CODELL TOP				
9,021.72	8,302.00	JSAND TOP				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
1,120.00	1,120.00	0.00	0.00	Start Build 2.00	
2,838.50	2,737.27	-297.18	402.30	Start 2962.72 hold at 2838.50 MD	
5,801.22	5,182.73	-1,290.96	1,747.61	Start Drop -2.00	
7,519.72	6,800.00	-1,588.15	2,149.91	Start 1637.00 hold at 7519.72 MD	
9,156.72	8,437.00	-1,588.15	2,149.91	TD at 9156.72	



US ROCKIES REGION PLANNING

**KERR MCGEE OIL & GAS ONSHORE LP
WELD_STATE 5 PAD
P_STATE 8-16**

**P_STATE 8-16
PLAN #1 09-10-09 RHS**

Anticollision Report

10 September, 2009





Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 09-10-09 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 9/10/2009			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	9,156.72	PLAN #1 09-10-09 RHS (P_STATE 8-16)	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	332.07	332.17	32.47	31.25	26.598	CC, ES
P_STATE 1-16 - P_STATE 1-16 - PLAN #1 09-09-09 RH	5,801.22	5,778.65	1,096.80	1,006.36	12.128	SF
P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RH	1,120.00	1,120.00	14.57	9.79	3.050	CC, ES
P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RH	1,200.00	1,200.09	14.98	9.88	2.936	SF
P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 I	1,120.00	1,120.00	47.36	42.58	9.915	CC, ES
P_STATE 26-16 - P_STATE 26-16 - PLAN #1 09-10-09 I	1,300.00	1,299.59	51.33	45.83	9.336	SF
P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RH	1,120.00	1,120.00	14.58	9.80	3.052	CC, ES
P_STATE 7-16 - P_STATE 7-16 - PLAN #1 09-09-09 RH	1,200.00	1,199.64	14.90	9.81	2.924	SF

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						
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	171.647	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	32.79	0.00	32.79	32.15	0.64	51.193	
300.00	300.00	300.15	300.10	0.55	0.53	4.58	32.43	2.60	32.53	31.45	1.08	30.163	
332.07	332.07	332.17	332.07	0.62	0.61	8.01	32.16	4.53	32.47	31.25	1.22	26.598	CC, ES
400.00	400.00	399.75	399.38	0.77	0.77	18.25	31.34	10.33	33.00	31.49	1.52	21.730	
500.00	500.00	498.27	497.06	0.99	1.06	37.91	29.55	23.02	37.57	35.61	1.96	19.159	
600.00	600.00	595.22	592.41	1.22	1.41	56.10	27.11	40.35	49.20	46.77	2.43	20.252	
700.00	700.00	690.15	684.78	1.44	1.83	68.76	24.07	61.94	68.17	65.20	2.97	22.939	
800.00	800.00	782.66	773.67	1.67	2.33	76.79	20.50	87.33	93.49	89.89	3.60	25.956	
900.00	900.00	872.44	858.63	1.89	2.90	81.92	16.46	116.02	124.27	119.96	4.31	28.825	
1,000.00	1,000.00	959.23	939.39	2.12	3.52	85.34	12.03	147.48	159.90	154.81	5.09	31.424	
1,100.00	1,100.00	1,042.82	1,015.73	2.34	4.21	87.70	7.29	181.18	199.95	194.03	5.92	33.760	
1,120.00	1,120.00	1,059.14	1,030.46	2.39	4.35	88.08	6.31	188.15	208.46	202.37	6.10	34.198	
1,200.00	1,199.99	1,123.50	1,087.93	2.55	4.93	-36.75	2.27	216.82	243.29	237.95	5.33	45.605	
1,300.00	1,299.88	1,200.00	1,154.93	2.74	5.68	-35.40	-2.88	253.37	287.97	282.20	5.77	49.901	
1,400.00	1,399.55	1,278.60	1,222.17	2.94	6.54	-34.50	-8.55	293.67	333.72	327.47	6.25	53.413	
1,500.00	1,498.89	1,354.90	1,285.79	3.16	7.43	-33.92	-14.42	335.37	380.41	373.67	6.74	56.410	
1,600.00	1,597.76	1,441.66	1,357.16	3.41	8.48	-33.61	-21.30	384.21	426.33	419.01	7.31	58.300	
1,700.00	1,696.05	1,531.71	1,431.25	3.70	9.59	-33.55	-28.43	434.91	469.66	461.73	7.93	59.233	

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 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 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	
1,800.00	1,793.63	1,622.90	1,506.26	4.04	10.72	-33.70	-35.66	486.24	510.39	501.80	8.59	59.410	
1,900.00	1,890.40	1,715.10	1,582.12	4.44	11.86	-34.00	-42.97	538.15	548.52	539.22	9.31	58.947	
2,000.00	1,986.23	1,808.22	1,658.72	4.90	13.02	-34.45	-50.35	590.57	584.06	573.98	10.08	57.940	
2,100.00	2,081.00	1,902.13	1,735.98	5.43	14.19	-35.02	-57.79	643.44	617.03	606.11	10.93	56.474	
2,200.00	2,174.60	1,996.72	1,813.80	6.03	15.37	-35.71	-65.29	696.69	647.47	635.62	11.85	54.624	
2,300.00	2,266.92	2,091.88	1,892.08	6.71	16.56	-36.51	-72.83	750.26	675.42	662.54	12.87	52.461	
2,400.00	2,357.83	2,187.48	1,970.73	7.46	17.76	-37.42	-80.41	804.09	700.94	686.93	14.00	50.054	
2,500.00	2,447.25	2,283.42	2,049.66	8.30	18.96	-38.43	-88.01	858.10	724.10	708.84	15.25	47.468	
2,600.00	2,535.04	2,379.58	2,128.76	9.21	20.17	-39.56	-95.63	912.23	744.99	728.35	16.64	44.766	
2,700.00	2,621.11	2,475.83	2,207.94	10.20	21.38	-40.80	-103.26	966.41	763.72	745.53	18.18	42.006	
2,800.00	2,705.35	2,572.06	2,287.11	11.26	22.58	-42.15	-110.89	1,020.59	780.39	760.50	19.89	39.241	
2,838.50	2,737.27	2,609.08	2,317.57	11.69	23.05	-42.70	-113.82	1,041.43	786.29	765.70	20.59	38.185	
2,900.00	2,788.04	2,668.20	2,366.20	12.40	23.79	-43.71	-118.51	1,074.71	795.63	773.88	21.75	36.581	
3,000.00	2,870.58	2,764.33	2,445.28	13.55	25.00	-45.30	-126.12	1,128.83	811.33	787.64	23.70	34.236	
3,100.00	2,953.12	2,860.45	2,524.36	14.71	26.21	-46.84	-133.74	1,182.95	827.66	801.94	25.72	32.178	
3,200.00	3,035.66	2,956.58	2,603.44	15.89	27.42	-48.31	-141.36	1,237.06	844.57	816.76	27.81	30.371	
3,300.00	3,118.20	3,052.70	2,682.52	17.07	28.63	-49.73	-148.98	1,291.18	862.03	832.08	29.95	28.779	
3,400.00	3,200.74	3,148.83	2,761.60	18.25	29.83	-51.10	-156.60	1,345.29	880.01	847.86	32.15	27.374	
3,500.00	3,283.28	3,244.95	2,840.68	19.45	31.04	-52.41	-164.22	1,399.41	898.47	864.08	34.39	26.129	
3,600.00	3,365.82	3,341.08	2,919.76	20.64	32.25	-53.67	-171.84	1,453.52	917.39	880.73	36.66	25.023	
3,700.00	3,448.36	3,437.21	2,998.84	21.84	33.46	-54.88	-179.45	1,507.64	936.74	897.77	38.97	24.036	
3,800.00	3,530.90	3,533.33	3,077.92	23.05	34.67	-56.05	-187.07	1,561.76	956.49	915.18	41.31	23.154	
3,900.00	3,613.45	3,629.46	3,157.00	24.25	35.88	-57.17	-194.69	1,615.87	976.62	932.95	43.67	22.362	
4,000.00	3,695.99	3,725.58	3,236.08	25.46	37.09	-58.24	-202.31	1,669.99	997.11	951.05	46.06	21.649	
4,100.00	3,778.53	3,821.71	3,315.16	26.67	38.30	-59.27	-209.93	1,724.10	1,017.93	969.47	48.46	21.005	
4,200.00	3,861.07	3,951.17	3,422.71	27.88	39.76	-60.66	-219.97	1,795.43	1,038.11	986.83	51.28	20.245	
4,300.00	3,943.61	4,101.11	3,551.96	29.09	41.18	-62.49	-230.56	1,870.65	1,054.05	999.66	54.39	19.379	
4,400.00	4,026.15	4,250.21	3,685.13	30.30	42.40	-64.56	-239.90	1,936.99	1,065.65	1,008.07	57.58	18.508	
4,500.00	4,108.69	4,397.25	3,820.46	31.52	43.44	-66.86	-247.91	1,993.89	1,073.23	1,012.39	60.84	17.640	
4,600.00	4,191.23	4,541.09	3,956.13	32.73	44.27	-69.39	-254.56	2,041.12	1,077.23	1,013.15	64.08	16.811	
4,700.00	4,273.77	4,680.73	4,090.46	33.95	44.93	-72.13	-259.87	2,078.82	1,078.17	1,010.89	67.28	16.025	
4,800.00	4,356.31	4,815.39	4,221.96	35.17	45.43	-75.05	-263.89	2,107.44	1,076.66	1,006.27	70.39	15.296	
4,900.00	4,438.85	4,944.44	4,349.37	36.38	45.78	-78.14	-266.74	2,127.65	1,073.37	1,000.02	73.35	14.633	
5,000.00	4,521.40	5,067.46	4,471.71	37.60	46.01	-81.35	-268.52	2,140.27	1,069.01	992.88	76.13	14.041	
5,100.00	4,603.94	5,184.20	4,588.29	38.82	46.15	-84.65	-269.36	2,146.23	1,064.33	985.64	78.69	13.525	
5,200.00	4,686.48	5,282.40	4,686.48	40.04	46.20	-87.60	-269.46	2,147.00	1,060.30	979.42	80.88	13.109	
5,295.14	4,765.01	5,360.93	4,765.01	41.20	46.24	-90.00	-269.46	2,147.00	1,058.94	976.21	82.73	12.800	
5,300.00	4,769.02	5,364.94	4,769.02	41.26	46.24	-90.12	-269.46	2,147.00	1,058.94	976.12	82.82	12.786	
5,400.00	4,851.56	5,447.48	4,851.56	42.48	46.28	-92.64	-269.46	2,147.00	1,060.59	975.97	84.63	12.533	
5,500.00	4,934.10	5,530.02	4,934.10	43.70	46.32	-95.15	-269.46	2,147.00	1,065.23	978.94	86.30	12.344	
5,600.00	5,016.64	5,612.56	5,016.64	44.92	46.36	-97.64	-269.46	2,147.00	1,072.83	985.01	87.82	12.216	
5,700.00	5,099.18	5,695.11	5,099.18	46.14	46.41	-100.10	-269.46	2,147.00	1,083.32	994.13	89.20	12.145	
5,801.22	5,182.73	5,778.65	5,182.73	47.38	46.45	-102.55	-269.46	2,147.00	1,096.80	1,006.36	90.44	12.128 SF	
5,900.00	5,265.21	5,861.13	5,265.21	48.45	46.49	-105.17	-269.46	2,147.00	1,112.20	1,020.74	91.46	12.160	
6,000.00	5,350.57	5,946.49	5,350.57	49.38	46.54	-107.71	-269.46	2,147.00	1,129.21	1,037.00	92.22	12.245	
6,100.00	5,437.69	6,033.61	5,437.69	50.25	46.59	-110.13	-269.46	2,147.00	1,147.18	1,054.38	92.80	12.361	
6,200.00	5,526.47	6,122.39	5,526.47	51.06	46.64	-112.40	-269.46	2,147.00	1,165.65	1,072.41	93.24	12.501	
6,300.00	5,616.80	6,212.72	5,616.80	51.81	46.69	-114.51	-269.46	2,147.00	1,184.21	1,090.66	93.56	12.658	
6,400.00	5,708.58	6,304.50	5,708.58	52.51	46.74	-116.45	-269.46	2,147.00	1,202.51	1,108.74	93.77	12.825	
6,500.00	5,801.68	6,397.60	5,801.68	53.14	46.80	-118.22	-269.46	2,147.00	1,220.22	1,126.33	93.89	12.996	
6,600.00	5,896.00	6,491.92	5,896.00	53.72	46.85	-119.81	-269.46	2,147.00	1,237.05	1,143.10	93.95	13.167	
6,700.00	5,991.42	6,587.35	5,991.42	54.23	46.91	-121.23	-269.46	2,147.00	1,252.77	1,158.80	93.97	13.332	

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 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 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	
6,800.00	6,087.83	6,683.75	6,087.83	54.69	46.97	-122.48	-269.46	2,147.00	1,267.15	1,173.20	93.95	13.487	
6,900.00	6,185.11	6,781.03	6,185.11	55.09	47.03	-123.55	-269.46	2,147.00	1,280.02	1,186.10	93.92	13.629	
7,000.00	6,283.13	6,879.05	6,283.13	55.44	47.09	-124.46	-269.46	2,147.00	1,291.22	1,197.34	93.88	13.754	
7,100.00	6,381.78	6,977.71	6,381.78	55.73	47.15	-125.20	-269.46	2,147.00	1,300.63	1,206.79	93.84	13.860	
7,200.00	6,480.95	7,076.87	6,480.95	55.96	47.22	-125.78	-269.46	2,147.00	1,308.14	1,214.33	93.81	13.944	
7,300.00	6,580.50	7,176.42	6,580.50	56.14	47.28	-126.20	-269.46	2,147.00	1,313.68	1,219.88	93.80	14.005	
7,400.00	6,680.32	7,276.24	6,680.32	56.27	47.35	-126.47	-269.46	2,147.00	1,317.20	1,223.38	93.82	14.040	
7,500.00	6,780.28	7,376.21	6,780.28	56.35	47.42	-126.58	-269.46	2,147.00	1,318.64	1,224.78	93.86	14.049	
7,519.72	6,800.00	7,395.92	6,800.00	56.36	47.43	-0.13	-269.46	2,147.00	1,318.68	1,224.81	93.88	14.047	
7,600.00	6,880.28	7,476.21	6,880.28	56.41	47.49	-0.13	-269.46	2,147.00	1,318.68	1,224.70	93.98	14.031	
7,700.00	6,980.28	7,576.21	6,980.28	56.46	47.56	-0.13	-269.46	2,147.00	1,318.68	1,224.57	94.12	14.011	
7,800.00	7,080.28	7,676.21	7,080.28	56.52	47.63	-0.13	-269.46	2,147.00	1,318.68	1,224.43	94.25	13.991	
7,900.00	7,180.28	7,776.21	7,180.28	56.57	47.70	-0.13	-269.46	2,147.00	1,318.68	1,224.29	94.39	13.970	
8,000.00	7,280.28	7,876.21	7,280.28	56.63	47.78	-0.13	-269.46	2,147.00	1,318.68	1,224.15	94.54	13.949	
8,100.00	7,380.28	7,976.21	7,380.28	56.69	47.85	-0.13	-269.46	2,147.00	1,318.68	1,224.00	94.68	13.928	
8,200.00	7,480.28	8,076.21	7,480.28	56.75	47.92	-0.13	-269.46	2,147.00	1,318.68	1,223.86	94.83	13.906	
8,300.00	7,580.28	8,176.21	7,580.28	56.81	48.00	-0.13	-269.46	2,147.00	1,318.68	1,223.71	94.97	13.885	
8,400.00	7,680.28	8,276.21	7,680.28	56.87	48.08	-0.13	-269.46	2,147.00	1,318.68	1,223.56	95.12	13.863	
8,500.00	7,780.28	8,376.21	7,780.28	56.93	48.15	-0.13	-269.46	2,147.00	1,318.68	1,223.41	95.28	13.841	
8,600.00	7,880.28	8,476.21	7,880.28	56.99	48.23	-0.13	-269.46	2,147.00	1,318.68	1,223.26	95.43	13.819	
8,700.00	7,980.28	8,576.21	7,980.28	57.05	48.31	-0.13	-269.46	2,147.00	1,318.68	1,223.10	95.58	13.796	
8,753.52	8,033.80	8,629.73	8,033.80	57.09	48.35	-0.13	-269.46	2,147.00	1,318.68	1,223.02	95.67	13.784	
8,800.00	8,080.28	8,647.92	8,052.00	57.12	48.37	-0.13	-269.46	2,147.00	1,318.99	1,223.27	95.72	13.780	
8,900.00	8,180.28	8,647.92	8,052.00	57.18	48.37	-0.13	-269.46	2,147.00	1,324.91	1,229.12	95.79	13.831	
9,000.00	8,280.28	8,647.92	8,052.00	57.25	48.37	-0.13	-269.46	2,147.00	1,338.30	1,242.43	95.87	13.959	
9,100.00	8,380.28	8,647.92	8,052.00	57.31	48.37	-0.13	-269.46	2,147.00	1,358.93	1,262.98	95.95	14.163	
9,156.72	8,437.00	8,647.92	8,052.00	57.35	48.37	-0.13	-269.46	2,147.00	1,373.74	1,277.74	96.00	14.310	



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.57	0.00	14.57				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	14.57	0.00	14.57	14.38	0.19	76.246	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	14.57	0.00	14.57	13.93	0.64	22.740	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	14.57	0.00	14.57	13.48	1.09	13.363	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	14.57	0.00	14.57	13.03	1.54	9.461	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	14.57	0.00	14.57	12.58	1.99	7.323	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	14.57	0.00	14.57	12.13	2.44	5.973	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	14.57	0.00	14.57	11.68	2.89	5.044	
800.00	800.00	800.00	800.00	1.67	1.67	0.00	14.57	0.00	14.57	11.23	3.34	4.364	
900.00	900.00	900.00	900.00	1.89	1.89	0.00	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	0.00	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	0.00	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	0.00	14.57	0.00	14.57	9.79	4.78	3.050 CC, ES	
1,200.00	1,199.99	1,200.09	1,200.08	2.55	2.55	-125.71	14.32	1.09	14.98	9.88	5.10	2.936 SF	
1,300.00	1,299.88	1,300.17	1,300.05	2.74	2.75	-123.08	13.32	5.52	16.70	11.22	5.49	3.044	
1,400.00	1,399.55	1,400.20	1,399.76	2.94	2.96	-119.55	11.54	13.35	19.81	13.91	5.89	3.360	
1,500.00	1,498.89	1,500.15	1,499.03	3.16	3.19	-116.07	9.00	24.56	24.34	18.00	6.34	3.840	
1,600.00	1,597.76	1,599.97	1,597.73	3.41	3.45	-113.09	5.70	39.12	30.33	23.49	6.84	4.433	
1,700.00	1,696.05	1,699.66	1,695.71	3.70	3.75	-110.70	1.65	57.00	37.75	30.34	7.41	5.092	
1,800.00	1,793.63	1,799.23	1,793.00	4.04	4.08	-109.50	-3.02	77.65	46.57	38.50	8.07	5.768	
1,900.00	1,890.40	1,898.70	1,890.12	4.44	4.45	-111.62	-7.77	98.60	56.62	47.83	8.79	6.441	
2,000.00	1,986.23	1,997.91	1,987.00	4.90	4.83	-115.72	-12.50	119.49	68.18	58.64	9.54	7.146	
2,100.00	2,081.00	2,096.76	2,083.51	5.43	5.22	-120.69	-17.22	140.31	81.73	71.43	10.30	7.938	
2,200.00	2,174.60	2,195.11	2,179.54	6.03	5.62	-125.82	-21.91	161.02	97.75	86.72	11.03	8.861	
2,300.00	2,266.92	2,292.84	2,274.97	6.71	6.03	-130.71	-26.57	181.61	116.60	104.87	11.73	9.939	
2,400.00	2,357.83	2,389.85	2,369.69	7.46	6.45	-135.16	-31.20	202.04	138.53	126.14	12.39	11.177	
2,500.00	2,447.25	2,486.00	2,463.57	8.30	6.86	-139.08	-35.79	222.29	163.70	150.67	13.02	12.568	
2,600.00	2,535.04	2,581.19	2,556.52	9.21	7.28	-142.50	-40.33	242.33	192.16	178.53	13.63	14.101	
2,700.00	2,621.11	2,675.30	2,648.40	10.20	7.69	-145.44	-44.82	262.15	223.94	209.73	14.21	15.758	
2,800.00	2,705.35	2,768.20	2,739.12	11.26	8.11	-147.97	-49.26	281.72	259.03	244.25	14.78	17.526	
2,838.50	2,737.27	2,803.63	2,773.70	11.69	8.26	-148.84	-50.95	289.18	273.42	258.42	15.00	18.233	
2,900.00	2,788.04	2,860.06	2,828.80	12.40	8.52	-150.34	-53.64	301.07	296.87	281.48	15.39	19.293	
3,000.00	2,870.58	2,951.82	2,918.40	13.55	8.93	-152.32	-58.02	320.39	335.31	319.27	16.05	20.896	
3,100.00	2,953.12	3,043.57	3,007.99	14.71	9.34	-153.90	-62.39	339.71	374.03	357.30	16.73	22.359	
3,200.00	3,035.66	3,135.33	3,097.58	15.89	9.76	-155.18	-66.77	359.04	412.95	395.52	17.43	23.695	
3,300.00	3,118.20	3,227.09	3,187.17	17.07	10.18	-156.24	-71.15	378.36	452.01	433.87	18.14	24.917	
3,400.00	3,200.74	3,318.84	3,276.76	18.25	10.60	-157.14	-75.53	397.69	491.18	472.32	18.87	26.037	
3,500.00	3,283.28	3,410.60	3,366.36	19.45	11.02	-157.90	-79.90	417.01	530.44	510.84	19.60	27.065	
3,600.00	3,365.82	3,502.36	3,455.95	20.64	11.44	-158.56	-84.28	436.34	569.77	549.43	20.34	28.011	
3,700.00	3,448.36	3,594.12	3,545.54	21.84	11.86	-159.13	-88.66	455.66	609.16	588.07	21.09	28.885	
3,800.00	3,530.90	3,685.87	3,635.13	23.05	12.29	-159.64	-93.04	474.99	648.59	626.74	21.84	29.693	
3,900.00	3,613.45	3,777.63	3,724.73	24.25	12.71	-160.08	-97.42	494.31	688.06	665.45	22.60	30.442	
4,000.00	3,695.99	3,869.39	3,814.32	25.46	13.14	-160.48	-101.79	513.64	727.56	704.19	23.37	31.138	
4,100.00	3,778.53	3,961.14	3,903.91	26.67	13.56	-160.84	-106.17	532.96	767.08	742.95	24.13	31.786	
4,200.00	3,861.07	4,052.90	3,993.50	27.88	13.99	-161.16	-110.55	552.28	806.63	781.73	24.90	32.392	
4,300.00	3,943.61	4,135.47	4,074.19	29.09	14.32	-161.44	-114.43	569.40	846.47	820.85	25.62	33.035	
4,400.00	4,026.15	4,200.00	4,137.53	30.30	14.54	-161.70	-117.15	581.42	888.01	861.75	26.26	33.810	
4,500.00	4,108.69	4,281.48	4,217.88	31.52	14.78	-162.11	-120.14	594.60	931.25	904.37	26.88	34.647	
4,600.00	4,191.23	4,352.20	4,287.90	32.73	14.97	-162.51	-122.32	604.24	976.31	948.87	27.45	35.571	
4,700.00	4,273.77	4,421.35	4,356.58	33.95	15.14	-162.94	-124.08	612.02	1,023.12	995.14	27.98	36.561	
4,800.00	4,356.31	4,500.00	4,434.91	35.17	15.31	-163.47	-125.64	618.91	1,071.72	1,043.23	28.48	37.625	
4,900.00	4,438.85	4,554.83	4,489.62	36.38	15.41	-163.86	-126.45	622.47	1,121.84	1,092.87	28.97	38.723	

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 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_STATE 5 PAD - P_STATE 2-16 - P_STATE 2-16 - PLAN #1 09-09-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
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
5,000.00	4,521.40	4,619.14	4,553.86	37.60	15.52	-164.34	-127.10	625.35	1,173.68	1,144.25	29.43	39.880	
5,100.00	4,603.94	4,681.81	4,616.52	38.82	15.61	-164.82	-127.43	626.79	1,227.11	1,197.24	29.87	41.083	
5,200.00	4,686.48	4,751.78	4,686.48	40.04	15.71	-165.37	-127.48	627.02	1,281.99	1,251.71	30.28	42.334	
5,300.00	4,769.02	4,834.32	4,769.02	41.26	15.82	-165.98	-127.48	627.02	1,337.23	1,306.54	30.69	43.577	
5,400.00	4,851.56	4,916.86	4,851.56	42.48	15.93	-166.53	-127.48	627.02	1,392.57	1,361.46	31.11	44.766	
5,500.00	4,934.10	4,999.40	4,934.10	43.70	16.05	-167.05	-127.48	627.02	1,447.99	1,416.45	31.54	45.908	
5,600.00	5,016.64	5,081.94	5,016.64	44.92	16.16	-167.53	-127.48	627.02	1,503.49	1,471.50	31.99	47.004	
5,700.00	5,099.18	5,164.48	5,099.18	46.14	16.28	-167.97	-127.48	627.02	1,559.06	1,526.62	32.44	48.057	
5,801.22	5,182.73	5,248.02	5,182.73	47.38	16.40	-168.39	-127.48	627.02	1,615.37	1,582.45	32.91	49.079	
5,900.00	5,265.21	5,330.51	5,265.21	48.45	16.52	-169.01	-127.48	627.02	1,668.98	1,635.47	33.51	49.808	
6,000.00	5,350.57	5,415.86	5,350.57	49.38	16.65	-169.56	-127.48	627.02	1,720.40	1,686.31	34.09	50.473	
6,100.00	5,437.69	5,502.98	5,437.69	50.25	16.78	-170.04	-127.48	627.02	1,768.89	1,734.24	34.65	51.055	
6,200.00	5,526.47	5,591.77	5,526.47	51.06	16.91	-170.46	-127.48	627.02	1,814.37	1,779.19	35.18	51.567	
6,300.00	5,616.80	5,682.10	5,616.80	51.81	17.05	-170.83	-127.48	627.02	1,856.79	1,821.09	35.69	52.020	
6,400.00	5,708.58	5,773.87	5,708.58	52.51	17.19	-171.16	-127.48	627.02	1,896.08	1,859.91	36.17	52.421	
6,500.00	5,801.68	5,866.98	5,801.68	53.14	17.34	-171.44	-127.48	627.02	1,932.19	1,895.58	36.61	52.777	
6,600.00	5,896.00	5,961.30	5,896.00	53.72	17.49	-171.68	-127.48	627.02	1,965.07	1,928.06	37.01	53.094	
6,700.00	5,991.42	6,056.72	5,991.42	54.23	17.64	-171.89	-127.48	627.02	1,994.69	1,957.32	37.37	53.378	
6,800.00	6,087.83	6,153.13	6,087.83	54.69	17.79	-172.08	-127.48	627.02	2,020.99	1,983.31	37.68	53.632	
6,900.00	6,185.11	6,250.40	6,185.11	55.09	17.95	-172.23	-127.48	627.02	2,043.95	2,006.00	37.95	53.860	
7,000.00	6,283.13	6,348.43	6,283.13	55.44	18.11	-172.36	-127.48	627.02	2,063.53	2,025.37	38.17	54.065	
7,100.00	6,381.78	6,447.08	6,381.78	55.73	18.27	-172.46	-127.48	627.02	2,079.72	2,041.38	38.34	54.249	
7,200.00	6,480.95	6,546.24	6,480.95	55.96	18.43	-172.54	-127.48	627.02	2,092.48	2,054.02	38.45	54.415	
7,300.00	6,580.50	6,645.80	6,580.50	56.14	18.60	-172.60	-127.48	627.02	2,101.80	2,063.28	38.52	54.563	
7,400.00	6,680.32	6,745.62	6,680.32	56.27	18.76	-172.63	-127.48	627.02	2,107.67	2,069.14	38.54	54.694	
7,500.00	6,780.28	6,845.58	6,780.28	56.35	18.93	-172.65	-127.48	627.02	2,110.08	2,071.59	38.50	54.810	
7,519.72	6,800.00	6,865.30	6,800.00	56.36	18.96	-46.19	-127.48	627.02	2,110.15	2,071.67	38.48	54.831	
7,600.00	6,880.28	6,945.58	6,880.28	56.41	19.10	-46.19	-127.48	627.02	2,110.15	2,071.41	38.74	54.472	
7,700.00	6,980.28	7,045.58	6,980.28	56.46	19.27	-46.19	-127.48	627.02	2,110.15	2,071.09	39.06	54.026	
7,800.00	7,080.28	7,145.58	7,080.28	56.52	19.44	-46.19	-127.48	627.02	2,110.15	2,070.77	39.38	53.585	
7,900.00	7,180.28	7,245.58	7,180.28	56.57	19.62	-46.19	-127.48	627.02	2,110.15	2,070.45	39.70	53.148	
8,000.00	7,280.28	7,345.58	7,280.28	56.63	19.79	-46.19	-127.48	627.02	2,110.15	2,070.12	40.03	52.715	
8,100.00	7,380.28	7,445.58	7,380.28	56.69	19.96	-46.19	-127.48	627.02	2,110.15	2,069.79	40.36	52.286	
8,200.00	7,480.28	7,545.58	7,480.28	56.75	20.14	-46.19	-127.48	627.02	2,110.15	2,069.46	40.69	51.861	
8,300.00	7,580.28	7,645.58	7,580.28	56.81	20.32	-46.19	-127.48	627.02	2,110.15	2,069.13	41.02	51.441	
8,400.00	7,680.28	7,745.58	7,680.28	56.87	20.49	-46.19	-127.48	627.02	2,110.15	2,068.80	41.35	51.025	
8,500.00	7,780.28	7,845.58	7,780.28	56.93	20.67	-46.19	-127.48	627.02	2,110.15	2,068.46	41.69	50.614	
8,600.00	7,880.28	7,945.58	7,880.28	56.99	20.85	-46.19	-127.48	627.02	2,110.15	2,068.12	42.03	50.206	
8,700.00	7,980.28	8,045.58	7,980.28	57.05	21.03	-46.19	-127.48	627.02	2,110.15	2,067.78	42.37	49.804	
8,756.55	8,036.83	8,102.13	8,036.83	57.09	21.14	-46.19	-127.48	627.02	2,110.15	2,067.59	42.56	49.577	
8,800.00	8,080.28	8,122.30	8,057.00	57.12	21.17	-46.19	-127.48	627.02	2,110.28	2,067.62	42.66	49.463	
8,900.00	8,180.28	8,122.30	8,057.00	57.18	21.17	-46.19	-127.48	627.02	2,113.75	2,070.95	42.80	49.381	
9,000.00	8,280.28	8,122.30	8,057.00	57.25	21.17	-46.19	-127.48	627.02	2,121.93	2,078.99	42.95	49.409	
9,100.00	8,380.28	8,122.30	8,057.00	57.31	21.17	-46.19	-127.48	627.02	2,134.77	2,091.68	43.09	49.543	
9,156.72	8,437.00	8,122.30	8,057.00	57.35	21.17	-46.19	-127.48	627.02	2,144.09	2,100.92	43.17	49.665	



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 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-MWMD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.36	0.00	47.36				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	47.36	0.00	47.36	47.16	0.19	247.870	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	47.36	0.00	47.36	46.72	0.64	73.926	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	47.36	0.00	47.36	46.27	1.09	43.441	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	47.36	0.00	47.36	45.82	1.54	30.758	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	47.36	0.00	47.36	45.37	1.99	23.807	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	47.36	0.00	47.36	44.92	2.44	19.418	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	47.36	0.00	47.36	44.47	2.89	16.396	
800.00	800.00	800.00	800.00	1.67	1.67	0.00	47.36	0.00	47.36	44.02	3.34	14.188	
900.00	900.00	900.00	900.00	1.89	1.89	0.00	47.36	0.00	47.36	43.57	3.79	12.504	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	0.00	47.36	0.00	47.36	43.12	4.24	11.177	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	0.00	47.36	0.00	47.36	42.67	4.69	10.105	
1,120.00	1,120.00	1,120.00	1,120.00	2.39	2.39	0.00	47.36	0.00	47.36	42.58	4.78	9.915 CC, ES	
1,200.00	1,199.99	1,199.85	1,199.84	2.55	2.56	-126.19	47.47	1.11	48.14	43.03	5.11	9.425	
1,300.00	1,299.88	1,299.59	1,299.47	2.74	2.76	-125.21	47.96	5.60	51.33	45.83	5.50	9.336 SF	
1,400.00	1,399.55	1,399.16	1,398.72	2.94	2.98	-123.73	48.80	13.51	56.99	51.08	5.91	9.646	
1,500.00	1,498.89	1,498.46	1,497.36	3.16	3.21	-122.04	50.02	24.82	65.15	58.80	6.35	10.257	
1,600.00	1,597.76	1,597.41	1,595.20	3.41	3.47	-120.37	51.59	39.46	75.81	68.97	6.84	11.081	
1,700.00	1,696.05	1,695.91	1,692.04	3.70	3.77	-118.83	53.50	57.37	88.96	81.57	7.39	12.030	
1,800.00	1,793.63	1,793.89	1,787.69	4.04	4.10	-117.47	55.76	78.45	104.58	96.55	8.03	13.029	
1,900.00	1,890.40	1,891.26	1,881.98	4.44	4.48	-116.28	58.35	102.61	122.64	113.89	8.75	14.013	
2,000.00	1,986.23	1,987.95	1,974.73	4.90	4.92	-115.24	61.26	129.74	143.09	133.51	9.58	14.936	
2,100.00	2,081.00	2,083.89	2,065.81	5.43	5.41	-114.33	64.48	159.72	165.89	155.37	10.52	15.767	
2,200.00	2,174.60	2,179.02	2,155.06	6.03	5.97	-113.51	67.98	192.42	191.00	179.42	11.58	16.493	
2,300.00	2,266.92	2,273.28	2,242.38	6.71	6.58	-112.76	71.76	227.72	218.35	205.59	12.76	17.111	
2,400.00	2,357.83	2,366.63	2,327.65	7.46	7.26	-112.06	75.81	265.46	247.90	233.84	14.06	17.628	
2,500.00	2,447.25	2,459.01	2,410.79	8.30	8.00	-111.40	80.10	305.52	279.59	264.11	15.49	18.054	
2,600.00	2,535.04	2,550.40	2,491.70	9.21	8.79	-110.77	84.63	347.75	313.37	296.34	17.03	18.401	
2,700.00	2,621.11	2,640.76	2,570.34	10.20	9.64	-110.15	89.37	392.01	349.16	330.47	18.69	18.682	
2,800.00	2,705.35	2,730.08	2,646.64	11.26	10.54	-109.54	94.32	438.16	386.91	366.44	20.46	18.907	
2,838.50	2,737.27	2,764.18	2,675.39	11.69	10.91	-109.31	96.27	456.39	401.95	380.77	21.18	18.980	
2,900.00	2,788.04	2,818.41	2,720.65	12.40	11.50	-109.35	99.46	486.10	426.35	404.00	22.36	19.071	
3,000.00	2,870.58	2,908.14	2,794.49	13.55	12.53	-109.17	104.89	536.78	466.57	442.22	24.35	19.160	
3,100.00	2,953.12	2,999.64	2,869.62	14.71	13.60	-108.98	110.46	588.72	506.88	480.48	26.40	19.202	
3,200.00	3,035.66	3,091.14	2,944.74	15.89	14.68	-108.82	116.02	640.66	547.20	518.73	28.46	19.224	
3,300.00	3,118.20	3,182.64	3,019.87	17.07	15.77	-108.68	121.59	692.60	587.52	556.97	30.55	19.233	
3,400.00	3,200.74	3,274.15	3,094.99	18.25	16.87	-108.56	127.16	744.54	627.84	595.20	32.64	19.233	
3,500.00	3,283.28	3,365.65	3,170.12	19.45	17.97	-108.45	132.73	796.48	668.16	633.41	34.75	19.228	
3,600.00	3,365.82	3,457.15	3,245.24	20.64	19.08	-108.35	138.29	848.43	708.49	671.62	36.87	19.218	
3,700.00	3,448.36	3,548.65	3,320.37	21.84	20.20	-108.27	143.86	900.37	748.82	709.83	38.99	19.206	
3,800.00	3,530.90	3,640.16	3,395.49	23.05	21.31	-108.19	149.43	952.31	789.15	748.03	41.12	19.192	
3,900.00	3,613.45	3,731.66	3,470.62	24.25	22.43	-108.12	155.00	1,004.25	829.48	786.22	43.25	19.177	
4,000.00	3,695.99	3,823.16	3,545.74	25.46	23.56	-108.06	160.56	1,056.19	869.81	824.41	45.39	19.162	
4,100.00	3,778.53	3,914.66	3,620.87	26.67	24.68	-108.01	166.13	1,108.13	910.14	862.60	47.54	19.146	
4,200.00	3,861.07	4,006.17	3,695.99	27.88	25.81	-107.95	171.70	1,160.08	950.47	900.79	49.68	19.130	
4,300.00	3,943.61	4,097.67	3,771.12	29.09	26.94	-107.91	177.27	1,212.02	990.80	938.97	51.83	19.115	
4,400.00	4,026.15	4,189.17	3,846.24	30.30	28.07	-107.86	182.83	1,263.96	1,031.14	977.15	53.99	19.100	
4,500.00	4,108.69	4,280.67	3,921.37	31.52	29.20	-107.82	188.40	1,315.90	1,071.47	1,015.33	56.14	19.085	
4,600.00	4,191.23	4,372.18	3,996.49	32.73	30.33	-107.78	193.97	1,367.84	1,111.81	1,053.51	58.30	19.070	
4,700.00	4,273.77	4,463.68	4,071.62	33.95	31.47	-107.75	199.54	1,419.78	1,152.14	1,091.68	60.46	19.056	
4,800.00	4,356.31	4,555.18	4,146.74	35.17	32.60	-107.72	205.10	1,471.73	1,192.48	1,129.86	62.62	19.043	
4,900.00	4,438.85	4,646.68	4,221.87	36.38	33.74	-107.68	210.67	1,523.67	1,232.81	1,168.03	64.78	19.030	

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 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 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-MWID												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,521.40	4,738.19	4,296.99	37.60	34.87	-107.66	216.24	1,575.61	1,273.15	1,206.20	66.95	19.017	
5,100.00	4,603.94	4,829.69	4,372.12	38.82	36.01	-107.63	221.80	1,627.55	1,313.48	1,244.37	69.11	19.005	
5,200.00	4,686.48	4,921.19	4,447.24	40.04	37.15	-107.60	227.37	1,679.49	1,353.82	1,282.54	71.28	18.993	
5,300.00	4,769.02	5,012.69	4,522.27	41.26	38.29	-107.58	232.94	1,731.43	1,394.16	1,320.71	73.45	18.982	
5,400.00	4,851.56	5,104.20	4,597.49	42.48	39.43	-107.56	238.51	1,783.38	1,434.49	1,358.88	75.61	18.971	
5,500.00	4,934.10	5,195.70	4,672.62	43.70	40.57	-107.54	244.07	1,835.32	1,474.83	1,397.05	77.78	18.961	
5,600.00	5,016.64	5,287.20	4,747.75	44.92	41.70	-107.52	249.64	1,887.26	1,515.17	1,435.21	79.95	18.950	
5,700.00	5,099.18	5,378.70	4,822.87	46.14	42.84	-107.50	255.21	1,939.20	1,555.50	1,473.38	82.12	18.941	
5,801.22	5,182.73	5,471.32	4,898.91	47.38	44.00	-107.48	260.84	1,991.77	1,596.33	1,512.01	84.32	18.931	
5,900.00	5,265.21	5,561.89	4,973.27	48.45	45.13	-108.22	266.35	2,043.19	1,635.70	1,549.20	86.50	18.910	
6,000.00	5,350.57	5,653.87	5,048.78	49.38	46.28	-108.82	271.95	2,095.40	1,674.57	1,586.00	88.57	18.907	
6,100.00	5,437.69	5,746.03	5,124.45	50.25	47.42	-109.28	277.56	2,147.72	1,712.43	1,621.84	90.59	18.902	
6,200.00	5,526.47	5,838.27	5,200.18	51.06	48.58	-109.62	283.17	2,200.07	1,749.28	1,656.71	92.57	18.896	
6,300.00	5,616.80	5,934.11	5,278.90	51.81	49.75	-109.82	289.00	2,254.44	1,785.13	1,690.60	94.52	18.885	
6,400.00	5,708.58	6,031.99	5,357.43	52.51	51.00	-109.86	295.89	2,318.75	1,819.18	1,722.69	96.49	18.854	
6,500.00	5,801.68	6,122.39	5,440.73	53.14	52.14	-109.87	302.48	2,380.23	1,850.90	1,752.62	98.29	18.832	
6,600.00	5,896.00	6,215.25	5,528.74	53.72	53.21	-109.87	308.72	2,438.46	1,880.21	1,780.25	99.96	18.809	
6,700.00	5,991.42	6,310.51	5,617.32	54.23	54.19	-109.85	314.57	2,493.03	1,907.02	1,805.52	101.50	18.789	
6,800.00	6,087.83	6,408.07	5,713.32	54.69	55.09	-109.82	319.98	2,543.51	1,931.22	1,828.33	102.89	18.769	
6,900.00	6,185.11	6,507.79	5,819.51	55.09	55.91	-109.77	324.91	2,589.49	1,952.75	1,848.60	104.14	18.751	
7,000.00	6,283.13	6,609.51	5,924.58	55.44	56.64	-109.71	329.31	2,630.55	1,971.51	1,866.27	105.24	18.734	
7,100.00	6,381.78	6,713.05	6,031.17	55.73	57.25	-109.63	333.14	2,666.30	1,987.45	1,881.27	106.17	18.719	
7,200.00	6,480.95	6,818.20	6,138.88	55.96	57.78	-109.54	336.37	2,696.37	2,000.49	1,893.53	106.96	18.704	
7,300.00	6,580.50	6,924.71	6,245.22	56.14	58.20	-109.43	338.95	2,720.44	2,010.57	1,903.00	107.58	18.690	
7,400.00	6,680.32	7,032.33	6,352.66	56.27	58.52	-109.31	340.85	2,738.24	2,017.67	1,909.63	108.04	18.675	
7,500.00	6,780.28	7,140.79	6,463.63	56.35	58.75	-109.18	342.07	2,749.55	2,021.72	1,913.37	108.35	18.659	
7,519.72	6,800.00	7,158.16	6,476.96	56.36	58.78	17.30	342.22	2,751.00	2,022.16	1,913.77	108.40	18.655	
7,600.00	6,880.28	7,239.81	6,552.56	56.41	58.88	17.38	342.57	2,754.23	2,023.09	1,914.56	108.53	18.641	
7,700.00	6,980.28	7,337.53	6,650.28	56.46	58.94	17.38	342.58	2,754.36	2,023.13	1,914.48	108.65	18.620	
7,800.00	7,080.28	7,437.53	6,750.28	56.52	59.00	17.38	342.58	2,754.36	2,023.13	1,914.36	108.77	18.600	
7,900.00	7,180.28	7,537.53	6,850.28	56.57	59.06	17.38	342.58	2,754.36	2,023.13	1,914.24	108.89	18.579	
8,000.00	7,280.28	7,637.53	6,950.28	56.63	59.12	17.38	342.58	2,754.36	2,023.13	1,914.12	109.01	18.558	
8,100.00	7,380.28	7,737.53	7,050.28	56.69	59.18	17.38	342.58	2,754.36	2,023.13	1,913.99	109.14	18.537	
8,200.00	7,480.28	7,837.53	7,150.28	56.75	59.24	17.38	342.58	2,754.36	2,023.13	1,913.87	109.27	18.516	
8,300.00	7,580.28	7,937.53	7,250.28	56.81	59.30	17.38	342.58	2,754.36	2,023.13	1,913.74	109.39	18.494	
8,400.00	7,680.28	8,037.53	7,350.28	56.87	59.36	17.38	342.58	2,754.36	2,023.13	1,913.61	109.52	18.472	
8,500.00	7,780.28	8,137.53	7,450.28	56.93	59.42	17.38	342.58	2,754.36	2,023.13	1,913.48	109.65	18.450	
8,600.00	7,880.28	8,237.53	7,550.28	56.99	59.49	17.38	342.58	2,754.36	2,023.13	1,913.35	109.79	18.428	
8,700.00	7,980.28	8,337.53	7,650.28	57.05	59.55	17.38	342.58	2,754.36	2,023.13	1,913.21	109.92	18.405	
8,800.00	8,080.28	8,437.53	7,750.28	57.12	59.62	17.38	342.58	2,754.36	2,023.13	1,913.08	110.06	18.383	
8,900.00	8,180.28	8,537.53	7,850.28	57.18	59.68	17.38	342.58	2,754.36	2,023.13	1,912.94	110.19	18.360	
9,000.00	8,280.28	8,637.53	7,950.28	57.25	59.75	17.38	342.58	2,754.36	2,023.13	1,912.80	110.33	18.336	
9,100.00	8,380.28	8,737.53	8,050.28	57.31	59.81	17.38	342.58	2,754.36	2,023.13	1,912.66	110.48	18.313	
9,156.72	8,437.00	8,787.53	8,100.00	57.35	59.85	17.38	342.58	2,754.36	2,023.13	1,912.58	110.56	18.300	



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 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
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	180.00	-14.58	0.00	14.58				
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-14.58	0.00	14.58	14.38	0.19	76.290	
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-14.58	0.00	14.58	13.93	0.64	22.753	
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-14.58	0.00	14.58	13.49	1.09	13.370	
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-14.58	0.00	14.58	13.04	1.54	9.467	
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-14.58	0.00	14.58	12.59	1.99	7.327	
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-14.58	0.00	14.58	12.14	2.44	5.977	
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-14.58	0.00	14.58	11.69	2.89	5.046	
800.00	800.00	800.00	800.00	1.67	1.67	180.00	-14.58	0.00	14.58	11.24	3.34	4.367	
900.00	900.00	900.00	900.00	1.89	1.89	180.00	-14.58	0.00	14.58	10.79	3.79	3.848	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	180.00	-14.58	0.00	14.58	10.34	4.24	3.440	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	180.00	-14.58	0.00	14.58	9.89	4.69	3.110	
1,120.00	1,120.00	1,120.00	1,120.00	2.39	2.39	180.00	-14.58	0.00	14.58	9.80	4.78	3.052 CC, ES	
1,200.00	1,199.99	1,199.64	1,199.63	2.55	2.55	55.00	-15.55	0.52	14.90	9.81	5.10	2.924 SF	
1,300.00	1,299.88	1,299.16	1,299.04	2.74	2.72	60.28	-19.53	2.61	16.31	10.85	5.46	2.989	
1,400.00	1,399.55	1,398.61	1,398.18	2.94	2.91	67.56	-26.56	6.30	19.07	13.23	5.85	3.263	
1,500.00	1,498.89	1,497.97	1,496.88	3.16	3.12	74.82	-36.61	11.59	23.41	17.14	6.27	3.732	
1,600.00	1,597.76	1,597.20	1,594.99	3.41	3.36	80.90	-49.67	18.46	29.42	22.67	6.76	4.355	
1,700.00	1,696.05	1,696.26	1,692.38	3.70	3.64	85.59	-65.70	26.89	37.11	29.80	7.32	5.072	
1,800.00	1,793.63	1,795.12	1,788.89	4.04	3.96	89.07	-84.66	36.86	46.44	38.47	7.97	5.825	
1,900.00	1,890.40	1,893.75	1,884.38	4.44	4.34	91.64	-106.50	48.34	57.35	48.62	8.74	6.565	
2,000.00	1,986.23	1,992.12	1,978.72	4.90	4.78	93.53	-131.16	61.31	69.81	60.19	9.62	7.256	
2,100.00	2,081.00	2,090.21	2,071.77	5.43	5.29	94.92	-158.60	75.74	83.78	73.15	10.64	7.877	
2,200.00	2,174.60	2,187.99	2,163.43	6.03	5.86	95.96	-188.74	91.59	99.22	87.44	11.79	8.417	
2,300.00	2,266.92	2,285.69	2,253.82	6.71	6.49	96.77	-221.53	108.84	116.08	103.01	13.08	8.877	
2,400.00	2,357.83	2,384.03	2,344.42	7.46	7.17	98.36	-255.37	126.64	133.74	119.24	14.50	9.226	
2,500.00	2,447.25	2,482.08	2,434.75	8.30	7.86	100.79	-289.12	144.38	152.14	136.13	16.01	9.502	
2,600.00	2,535.04	2,579.72	2,524.71	9.21	8.57	103.74	-322.72	162.05	171.61	154.02	17.59	9.755	
2,700.00	2,621.11	2,676.83	2,614.18	10.20	9.28	106.98	-356.14	179.63	192.53	173.32	19.21	10.023	
2,800.00	2,705.35	2,773.30	2,703.06	11.26	10.00	110.34	-389.34	197.09	215.24	194.41	20.83	10.333	
2,838.50	2,737.27	2,810.25	2,737.10	11.69	10.28	111.64	-402.05	203.77	224.53	203.08	21.45	10.468	
2,900.00	2,788.04	2,869.17	2,791.39	12.40	10.72	113.86	-422.33	214.44	239.79	217.36	22.43	10.691	
3,000.00	2,870.58	2,964.98	2,879.66	13.55	11.45	116.93	-455.30	231.77	265.25	241.25	24.00	11.053	
3,100.00	2,953.12	3,060.78	2,967.92	14.71	12.18	119.46	-488.27	249.11	291.29	265.75	25.54	11.405	
3,200.00	3,035.66	3,156.59	3,056.19	15.89	12.91	121.57	-521.24	266.45	317.79	290.72	27.07	11.741	
3,300.00	3,118.20	3,252.40	3,144.46	17.07	13.65	123.36	-554.21	283.79	344.63	316.05	28.58	12.057	
3,400.00	3,200.74	3,348.20	3,232.73	18.25	14.39	124.90	-587.18	301.13	371.74	341.65	30.09	12.355	
3,500.00	3,283.28	3,444.01	3,321.00	19.45	15.14	126.23	-620.15	318.47	399.07	367.48	31.59	12.632	
3,600.00	3,365.82	3,539.82	3,409.27	20.64	15.88	127.38	-653.12	335.81	426.57	393.48	33.09	12.892	
3,700.00	3,448.36	3,635.63	3,497.53	21.84	16.63	128.40	-686.09	353.15	454.21	419.63	34.58	13.134	
3,800.00	3,530.90	3,731.43	3,585.80	23.05	17.38	129.30	-719.06	370.49	481.97	445.90	36.08	13.360	
3,900.00	3,613.45	3,827.24	3,674.07	24.25	18.12	130.11	-752.03	387.83	509.83	472.26	37.57	13.571	
4,000.00	3,695.99	3,923.05	3,762.34	25.46	18.88	130.83	-785.00	405.17	537.78	498.72	39.06	13.769	
4,100.00	3,778.53	4,018.85	3,850.61	26.67	19.63	131.48	-817.97	422.50	565.79	525.24	40.55	13.954	
4,200.00	3,861.07	4,114.66	3,938.88	27.88	20.38	132.07	-850.94	439.84	593.87	551.83	42.04	14.127	
4,300.00	3,943.61	4,210.47	4,027.15	29.09	21.13	132.60	-883.91	457.18	621.99	578.47	43.53	14.290	
4,400.00	4,026.15	4,306.28	4,115.41	30.30	21.89	133.09	-916.88	474.52	650.17	605.15	45.01	14.444	
4,500.00	4,108.69	4,402.08	4,203.68	31.52	22.64	133.54	-949.85	491.86	678.38	631.88	46.50	14.588	
4,600.00	4,191.23	4,497.89	4,291.95	32.73	23.40	133.95	-982.82	509.20	706.63	658.64	47.99	14.725	
4,700.00	4,273.77	4,593.70	4,380.22	33.95	24.15	134.33	-1,015.79	526.54	734.91	685.43	49.48	14.854	
4,800.00	4,356.31	4,689.50	4,468.49	35.17	24.91	134.69	-1,048.76	543.88	763.22	712.26	50.96	14.976	
4,900.00	4,438.85	4,785.31	4,556.76	36.38	25.67	135.01	-1,081.73	561.22	791.55	739.10	52.45	15.092	

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



Weatherford International Ltd.

Anticollision Report



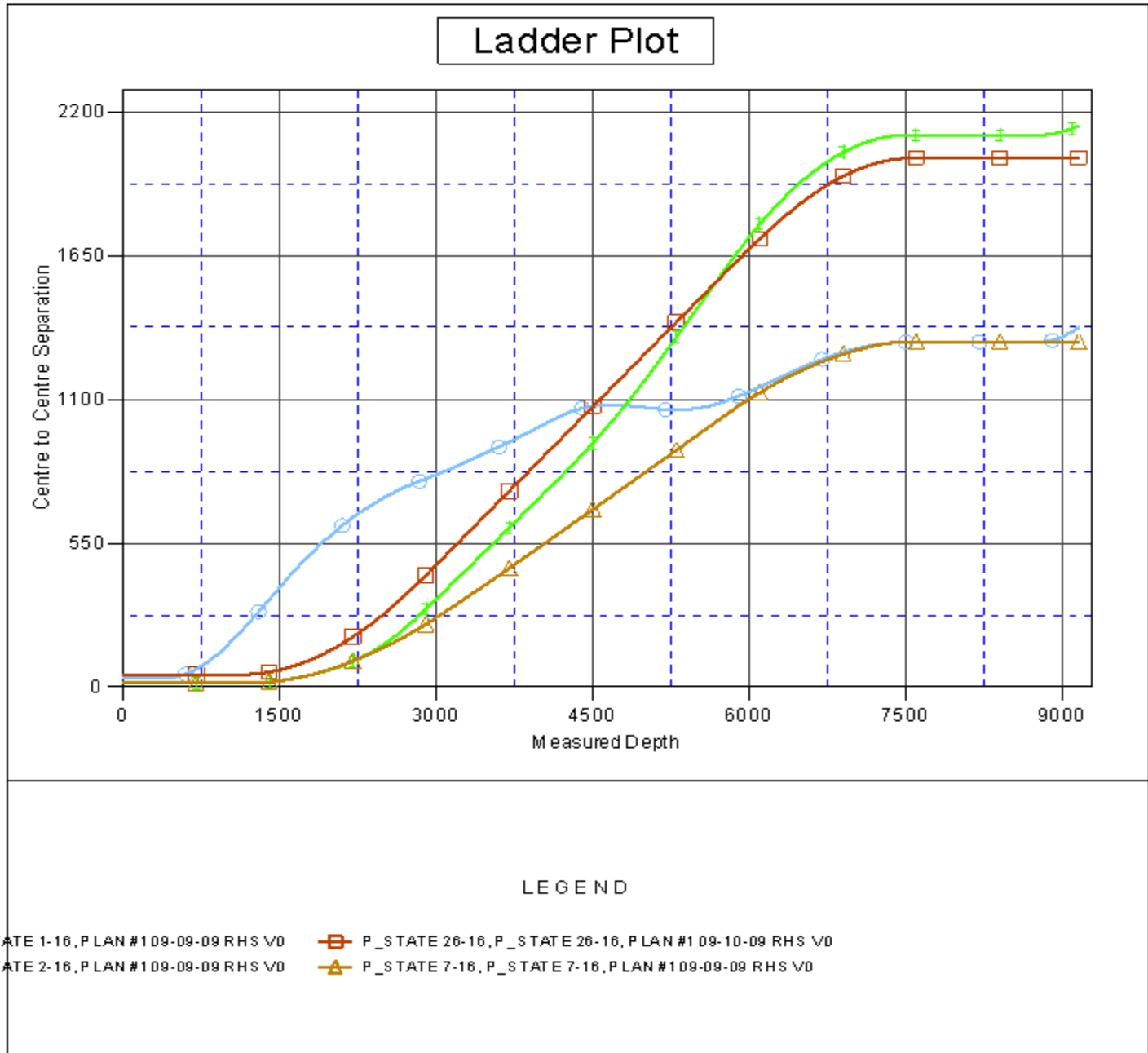
Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 8-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5150.00ft (Original Well Elev)
Reference Site:	WELD_STATE 5 PAD	MD Reference:	WELL @ 5150.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_STATE 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 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
5,000.00	4,521.40	4,881.12	4,645.03	37.60	26.42	135.32	-1,114.70	578.56	819.91	765.97	53.94	15.202	
5,100.00	4,603.94	4,976.93	4,733.29	38.82	27.18	135.60	-1,147.67	595.89	848.28	792.86	55.42	15.306	
5,200.00	4,686.48	5,072.73	4,821.56	40.04	27.94	135.87	-1,180.64	613.23	876.68	819.77	56.91	15.405	
5,300.00	4,769.02	5,168.54	4,909.83	41.26	28.70	136.12	-1,213.61	630.57	905.09	846.69	58.39	15.500	
5,400.00	4,851.56	5,264.35	4,998.10	42.48	29.46	136.35	-1,246.58	647.91	933.51	873.63	59.88	15.590	
5,500.00	4,934.10	5,360.15	5,086.37	43.70	30.21	136.58	-1,279.55	665.25	961.95	900.59	61.36	15.677	
5,600.00	5,016.64	5,455.96	5,174.64	44.92	30.97	136.78	-1,312.52	682.59	990.40	927.55	62.85	15.759	
5,700.00	5,099.18	5,551.77	5,262.90	46.14	31.73	136.98	-1,345.49	699.93	1,018.86	954.53	64.33	15.838	
5,801.22	5,182.73	5,648.74	5,352.25	47.38	32.50	137.17	-1,378.87	717.48	1,047.68	981.85	65.83	15.915	
5,900.00	5,265.21	5,737.63	5,434.24	48.45	33.12	137.67	-1,409.24	733.45	1,074.74	1,007.67	67.07	16.025	
6,000.00	5,350.57	5,820.93	5,511.87	49.38	33.59	138.12	-1,435.98	747.51	1,100.67	1,032.60	68.07	16.170	
6,100.00	5,437.69	5,900.00	5,586.34	50.25	34.00	138.56	-1,459.50	759.88	1,125.28	1,056.30	68.97	16.314	
6,200.00	5,526.47	5,987.48	5,669.54	51.06	34.43	138.99	-1,483.40	772.45	1,148.52	1,078.71	69.82	16.451	
6,300.00	5,616.80	6,070.71	5,749.43	51.81	34.80	139.40	-1,504.03	783.30	1,170.41	1,099.86	70.56	16.588	
6,400.00	5,708.58	6,153.90	5,829.93	52.51	35.14	139.80	-1,522.60	793.07	1,190.93	1,119.72	71.21	16.724	
6,500.00	5,801.68	6,237.04	5,910.96	53.14	35.46	140.18	-1,539.08	801.73	1,210.06	1,138.29	71.77	16.860	
6,600.00	5,896.00	6,320.13	5,992.44	53.72	35.74	140.56	-1,553.46	809.30	1,227.79	1,155.55	72.24	16.996	
6,700.00	5,991.42	6,400.00	6,071.18	54.23	35.98	140.91	-1,565.31	815.53	1,244.12	1,171.50	72.62	17.133	
6,800.00	6,087.83	6,486.08	6,156.43	54.69	36.19	141.27	-1,575.90	821.10	1,259.02	1,186.12	72.90	17.271	
6,900.00	6,185.11	6,568.94	6,238.77	55.09	36.37	141.62	-1,583.95	825.33	1,272.50	1,199.42	73.08	17.412	
7,000.00	6,283.13	6,651.69	6,321.25	55.44	36.52	141.95	-1,589.88	828.45	1,284.55	1,211.38	73.18	17.555	
7,100.00	6,381.78	6,734.32	6,403.77	55.73	36.63	142.28	-1,593.70	830.46	1,295.17	1,222.00	73.18	17.699	
7,200.00	6,480.95	6,816.84	6,486.26	55.96	36.72	142.61	-1,595.41	831.36	1,304.35	1,231.26	73.09	17.846	
7,300.00	6,580.50	6,911.08	6,580.50	56.14	36.79	142.93	-1,595.51	831.41	1,311.79	1,238.85	72.93	17.987	
7,400.00	6,680.32	7,010.90	6,680.32	56.27	36.87	143.14	-1,595.51	831.41	1,316.52	1,243.72	72.80	18.084	
7,500.00	6,780.28	7,110.86	6,780.28	56.35	36.94	143.22	-1,595.51	831.41	1,318.47	1,245.74	72.73	18.129	
7,519.72	6,800.00	7,130.58	6,800.00	56.36	36.96	-90.32	-1,595.51	831.41	1,318.52	1,245.80	72.72	18.132	
7,600.00	6,880.28	7,210.86	6,880.28	56.41	37.02	-90.32	-1,595.51	831.41	1,318.52	1,245.68	72.84	18.101	
7,700.00	6,980.28	7,310.86	6,980.28	56.46	37.09	-90.32	-1,595.51	831.41	1,318.52	1,245.53	72.99	18.063	
7,800.00	7,080.28	7,410.86	7,080.28	56.52	37.17	-90.32	-1,595.51	831.41	1,318.52	1,245.37	73.15	18.025	
7,900.00	7,180.28	7,510.86	7,180.28	56.57	37.25	-90.32	-1,595.51	831.41	1,318.52	1,245.21	73.31	17.986	
8,000.00	7,280.28	7,610.86	7,280.28	56.63	37.33	-90.32	-1,595.51	831.41	1,318.52	1,245.05	73.47	17.947	
8,100.00	7,380.28	7,710.86	7,380.28	56.69	37.41	-90.32	-1,595.51	831.41	1,318.52	1,244.89	73.63	17.907	
8,200.00	7,480.28	7,810.86	7,480.28	56.75	37.49	-90.32	-1,595.51	831.41	1,318.52	1,244.73	73.80	17.867	
8,300.00	7,580.28	7,910.86	7,580.28	56.81	37.58	-90.32	-1,595.51	831.41	1,318.52	1,244.56	73.96	17.827	
8,400.00	7,680.28	8,010.86	7,680.28	56.87	37.66	-90.32	-1,595.51	831.41	1,318.52	1,244.39	74.13	17.786	
8,500.00	7,780.28	8,110.86	7,780.28	56.93	37.75	-90.32	-1,595.51	831.41	1,318.52	1,244.22	74.31	17.745	
8,600.00	7,880.28	8,210.86	7,880.28	56.99	37.83	-90.32	-1,595.51	831.41	1,318.52	1,244.04	74.48	17.703	
8,700.00	7,980.28	8,310.86	7,980.28	57.05	37.92	-90.32	-1,595.51	831.41	1,318.52	1,243.86	74.66	17.661	
8,800.00	8,080.28	8,410.86	8,080.28	57.12	38.01	-90.32	-1,595.51	831.41	1,318.52	1,243.69	74.84	17.619	
8,900.00	8,180.28	8,510.86	8,180.28	57.18	38.10	-90.32	-1,595.51	831.41	1,318.52	1,243.50	75.02	17.576	
9,000.00	8,280.28	8,610.86	8,280.28	57.25	38.19	-90.32	-1,595.51	831.41	1,318.52	1,243.32	75.20	17.533	
9,100.00	8,380.28	8,710.86	8,380.28	57.31	38.28	-90.32	-1,595.51	831.41	1,318.52	1,243.13	75.39	17.490	
9,156.72	8,437.00	8,767.58	8,437.00	57.35	38.34	-90.32	-1,595.51	831.41	1,318.52	1,243.03	75.49	17.465	



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_STATE 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5150.00ft (Original Well Elev)Coordinates are relative to: P_STATE 8-16
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 8-16
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 8-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_STATE 8-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-10-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5150.00ft (Original Well Elev)Coordinates are relative to: P_STATE 8-16
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°

