



US ROCKIES REGION PLANNING

KERR MCGEE OIL & GAS ONSHORE LP

WELD_BOULTER 2 PAD

P_BOULTER 37-21

P_BOULTER 37-21

Plan: PLAN #2 09-14-09 RHS

Standard Planning Report

14 September, 2009





P_BOULTER 37-21
KERR MCGEE OIL & GAS ONSHORE LP
SECTION 21 T4N R65W
2041' FSL, 1990' FEL
LAT: 40° 17' 45.996 N
LONG: 104° 39' 58.248 W



Azimuths to True North
Magnetic North: 9.01°
Magnetic Field
Strength: 53294.1nT
Dip Angle: 67.05°
Date: 9/1/2009
Model: IGRF200510

WELL DETAILS: P_BOULTER 37-21

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude	Slot
0.00	0.00	1351807.49	3232579.95	4871.00	40° 17' 45.996 N	104° 39' 58.248 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	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	
1946.84	24.94	161.65	1907.85	-253.50	84.08	2.00	161.65	267.08	
5513.67	24.94	161.65	5142.15	-1680.87	557.53	0.00	0.00	1770.92	
6760.51	0.00	0.00	6350.00	-1934.36	641.61	2.00	180.00	2037.99	
8313.51	0.00	0.00	7903.00	-1934.36	641.61	0.00	0.00	2037.99	PBHL_37-21(60' FSL, 1350' FEL)50' TGT RAD

FORMATION TOP DETAILS

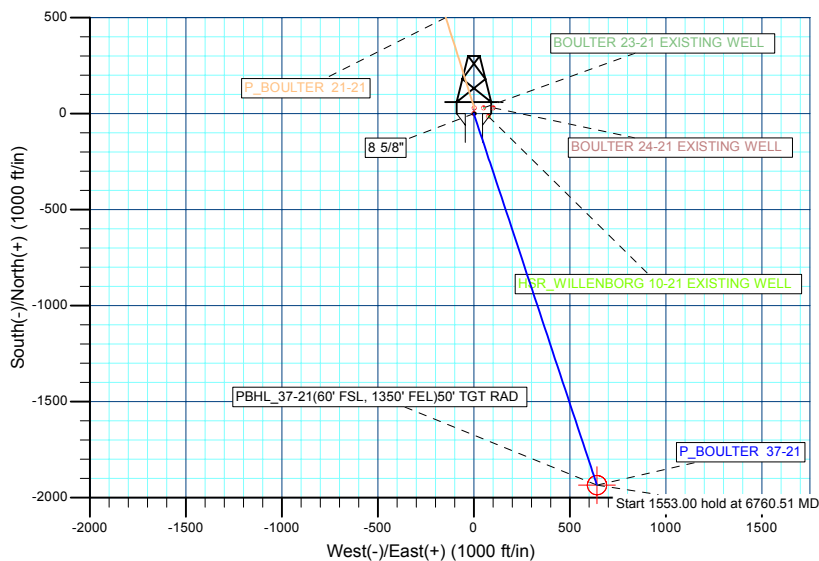
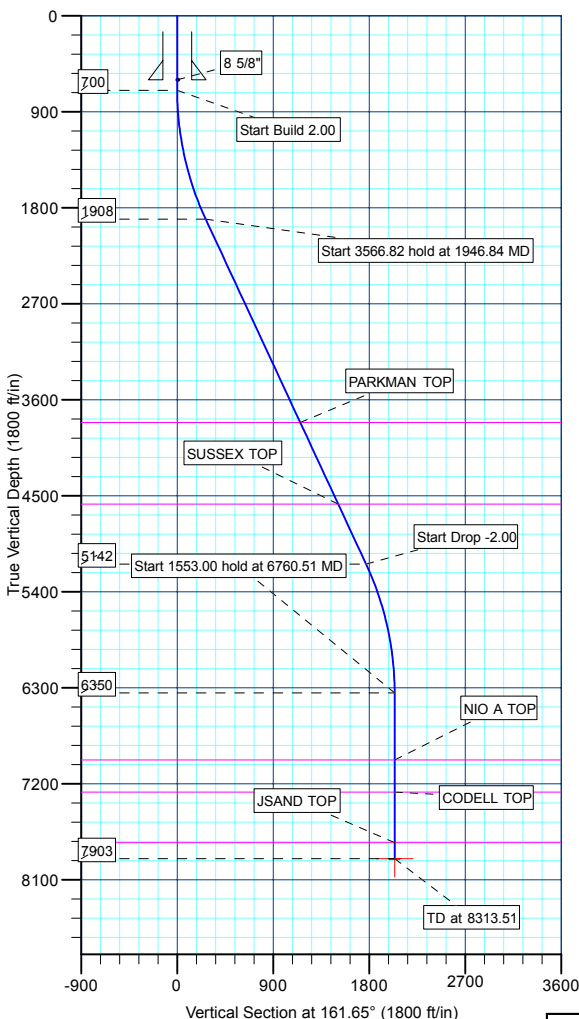
TVDPath	MDPath	Formation
3814.00	4048.97	PARKMAN TOP
4578.00	4891.52	SUSSEX TOP
6978.00	7388.51	NIO A TOP
7278.00	7688.51	CODELL TOP
7753.00	8163.51	JSAND TOP

CASING DETAILS

TVD	MD	Name	Size
600.00	600.00	8 5/8"	8.62



KB ELEV: WELL @ 4886.00ft (Original Well Elev)
GRD ELEV: 4871.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7903.00	-1934.36	641.61	1349879.25	3233239.7240	17° 26.880 N	104° 39' 49.968 W	Circle (Radius: 50.00)

Plan: PLAN #2 09-14-09 RHS (P_BOULTER 37-21/P_BOULTER 37-21)

Created By: Robert H. Scott



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site:	WELD_BOULTER 2 PAD	North Reference:	True
Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BOULTER 37-21		
Design:	PLAN #2 09-14-09 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_BOULTER 2 PAD, SECTION 21 T4N R65W			
Site Position:		Northing:	1,351,836.66 ft	Latitude:	40° 17' 46.284 N
From:	Lat/Long	Easting:	3,232,582.47 ft	Longitude:	104° 39' 58.212 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.54 °

Well	P_BOULTER 37-21					
Well Position	+N/-S	-29.15 ft	Northing:	1,351,807.49 ft	Latitude:	40° 17' 45.996 N
	+E/-W	-2.79 ft	Easting:	3,232,579.95 ft	Longitude:	104° 39' 58.248 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,871.00 ft

Wellbore	P_BOULTER 37-21				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/1/2009	9.01	67.05	53,294

Design	PLAN #2 09-14-09 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	161.65

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	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,946.84	24.94	161.65	1,907.85	-253.50	84.08	2.00	2.00	0.00	161.65	
5,513.67	24.94	161.65	5,142.15	-1,680.87	557.53	0.00	0.00	0.00	0.00	
6,760.51	0.00	0.00	6,350.00	-1,934.36	641.61	2.00	-2.00	0.00	180.00	
8,313.51	0.00	0.00	7,903.00	-1,934.36	641.61	0.00	0.00	0.00	0.00	PBHL_37-21(60' FS



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site:	WELD_BOULTER 2 PAD	North Reference:	True
Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BOULTER 37-21		
Design:	PLAN #2 09-14-09 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									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	2.00	161.65	799.98	-1.66	0.55	1.75	2.00	2.00	0.00
900.00	4.00	161.65	899.84	-6.62	2.20	6.98	2.00	2.00	0.00
1,000.00	6.00	161.65	999.45	-14.90	4.94	15.69	2.00	2.00	0.00
1,100.00	8.00	161.65	1,098.70	-26.46	8.78	27.88	2.00	2.00	0.00
1,200.00	10.00	161.65	1,197.47	-41.31	13.70	43.52	2.00	2.00	0.00
1,300.00	12.00	161.65	1,295.62	-59.42	19.71	62.60	2.00	2.00	0.00
1,400.00	14.00	161.65	1,393.06	-80.77	26.79	85.10	2.00	2.00	0.00
1,500.00	16.00	161.65	1,489.64	-105.33	34.94	110.98	2.00	2.00	0.00
1,600.00	18.00	161.65	1,585.27	-133.08	44.14	140.21	2.00	2.00	0.00
1,700.00	20.00	161.65	1,679.82	-163.98	54.39	172.77	2.00	2.00	0.00
1,800.00	22.00	161.65	1,773.17	-198.00	65.67	208.60	2.00	2.00	0.00
1,900.00	24.00	161.65	1,865.21	-235.08	77.97	247.67	2.00	2.00	0.00
Start 3566.82 hold at 1946.84 MD									
1,946.84	24.94	161.65	1,907.85	-253.50	84.08	267.08	2.00	2.00	0.00
2,000.00	24.94	161.65	1,956.05	-274.77	91.14	289.49	0.00	0.00	0.00
2,100.00	24.94	161.65	2,046.73	-314.79	104.41	331.65	0.00	0.00	0.00
2,200.00	24.94	161.65	2,137.41	-354.80	117.68	373.81	0.00	0.00	0.00
2,300.00	24.94	161.65	2,228.08	-394.82	130.96	415.97	0.00	0.00	0.00
2,400.00	24.94	161.65	2,318.76	-434.84	144.23	458.14	0.00	0.00	0.00
2,500.00	24.94	161.65	2,409.44	-474.86	157.51	500.30	0.00	0.00	0.00
2,600.00	24.94	161.65	2,500.12	-514.88	170.78	542.46	0.00	0.00	0.00
2,700.00	24.94	161.65	2,590.79	-554.89	184.05	584.62	0.00	0.00	0.00
2,800.00	24.94	161.65	2,681.47	-594.91	197.33	626.78	0.00	0.00	0.00
2,900.00	24.94	161.65	2,772.15	-634.93	210.60	668.95	0.00	0.00	0.00
3,000.00	24.94	161.65	2,862.82	-674.95	223.87	711.11	0.00	0.00	0.00
3,100.00	24.94	161.65	2,953.50	-714.97	237.15	753.27	0.00	0.00	0.00
3,200.00	24.94	161.65	3,044.18	-754.98	250.42	795.43	0.00	0.00	0.00
3,300.00	24.94	161.65	3,134.86	-795.00	263.69	837.59	0.00	0.00	0.00
3,400.00	24.94	161.65	3,225.53	-835.02	276.97	879.75	0.00	0.00	0.00
3,500.00	24.94	161.65	3,316.21	-875.04	290.24	921.92	0.00	0.00	0.00
3,600.00	24.94	161.65	3,406.89	-915.06	303.51	964.08	0.00	0.00	0.00
3,700.00	24.94	161.65	3,497.57	-955.07	316.79	1,006.24	0.00	0.00	0.00
3,800.00	24.94	161.65	3,588.24	-995.09	330.06	1,048.40	0.00	0.00	0.00
3,900.00	24.94	161.65	3,678.92	-1,035.11	343.33	1,090.56	0.00	0.00	0.00
4,000.00	24.94	161.65	3,769.60	-1,075.13	356.61	1,132.73	0.00	0.00	0.00
PARKMAN TOP									
4,048.97	24.94	161.65	3,814.00	-1,094.72	363.11	1,153.37	0.00	0.00	0.00
4,100.00	24.94	161.65	3,860.27	-1,115.15	369.88	1,174.89	0.00	0.00	0.00
4,200.00	24.94	161.65	3,950.95	-1,155.16	383.16	1,217.05	0.00	0.00	0.00
4,300.00	24.94	161.65	4,041.63	-1,195.18	396.43	1,259.21	0.00	0.00	0.00
4,400.00	24.94	161.65	4,132.31	-1,235.20	409.70	1,301.37	0.00	0.00	0.00
4,500.00	24.94	161.65	4,222.98	-1,275.22	422.98	1,343.54	0.00	0.00	0.00
4,600.00	24.94	161.65	4,313.66	-1,315.24	436.25	1,385.70	0.00	0.00	0.00
4,700.00	24.94	161.65	4,404.34	-1,355.25	449.52	1,427.86	0.00	0.00	0.00
4,800.00	24.94	161.65	4,495.02	-1,395.27	462.80	1,470.02	0.00	0.00	0.00
SUSSEX TOP									
4,891.52	24.94	161.65	4,578.00	-1,431.89	474.94	1,508.61	0.00	0.00	0.00
4,900.00	24.94	161.65	4,585.69	-1,435.29	476.07	1,512.18	0.00	0.00	0.00
5,000.00	24.94	161.65	4,676.37	-1,475.31	489.34	1,554.35	0.00	0.00	0.00
5,100.00	24.94	161.65	4,767.05	-1,515.33	502.62	1,596.51	0.00	0.00	0.00
5,200.00	24.94	161.65	4,857.73	-1,555.34	515.89	1,638.67	0.00	0.00	0.00



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site:	WELD_BOULTER 2 PAD	North Reference:	True
Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BOULTER 37-21		
Design:	PLAN #2 09-14-09 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	24.94	161.65	4,948.40	-1,595.36	529.16	1,680.83	0.00	0.00	0.00
5,400.00	24.94	161.65	5,039.08	-1,635.38	542.44	1,722.99	0.00	0.00	0.00
5,500.00	24.94	161.65	5,129.76	-1,675.40	555.71	1,765.16	0.00	0.00	0.00
Start Drop -2.00									
5,513.67	24.94	161.65	5,142.15	-1,680.87	557.53	1,770.92	0.00	0.00	0.00
5,600.00	23.21	161.65	5,220.97	-1,714.29	568.61	1,806.13	2.00	-2.00	0.00
5,700.00	21.21	161.65	5,313.55	-1,750.17	580.51	1,843.93	2.00	-2.00	0.00
5,800.00	19.21	161.65	5,407.38	-1,782.96	591.39	1,878.48	2.00	-2.00	0.00
5,900.00	17.21	161.65	5,502.37	-1,812.62	601.22	1,909.72	2.00	-2.00	0.00
6,000.00	15.21	161.65	5,598.39	-1,839.11	610.01	1,937.64	2.00	-2.00	0.00
6,100.00	13.21	161.65	5,695.33	-1,862.41	617.74	1,962.19	2.00	-2.00	0.00
6,200.00	11.21	161.65	5,793.06	-1,882.48	624.40	1,983.33	2.00	-2.00	0.00
6,300.00	9.21	161.65	5,891.47	-1,899.31	629.98	2,001.06	2.00	-2.00	0.00
6,400.00	7.21	161.65	5,990.44	-1,912.86	634.48	2,015.34	2.00	-2.00	0.00
6,500.00	5.21	161.65	6,089.85	-1,923.13	637.88	2,026.16	2.00	-2.00	0.00
6,600.00	3.21	161.65	6,189.57	-1,930.10	640.19	2,033.50	2.00	-2.00	0.00
6,700.00	1.21	161.65	6,289.49	-1,933.76	641.41	2,037.35	2.00	-2.00	0.00
Start 1553.00 hold at 6760.51 MD									
6,760.51	0.00	0.00	6,350.00	-1,934.36	641.61	2,037.99	2.00	-2.00	0.00
6,800.00	0.00	0.00	6,389.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
6,900.00	0.00	0.00	6,489.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,000.00	0.00	0.00	6,589.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,100.00	0.00	0.00	6,689.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,200.00	0.00	0.00	6,789.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,300.00	0.00	0.00	6,889.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
NIO A TOP									
7,388.51	0.00	0.00	6,978.00	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,400.00	0.00	0.00	6,989.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,500.00	0.00	0.00	7,089.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,600.00	0.00	0.00	7,189.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
CODELL TOP									
7,688.51	0.00	0.00	7,278.00	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,700.00	0.00	0.00	7,289.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,800.00	0.00	0.00	7,389.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
7,900.00	0.00	0.00	7,489.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
8,000.00	0.00	0.00	7,589.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
8,100.00	0.00	0.00	7,689.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
JSAND TOP									
8,163.51	0.00	0.00	7,753.00	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
8,200.00	0.00	0.00	7,789.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
8,300.00	0.00	0.00	7,889.49	-1,934.36	641.61	2,037.99	0.00	0.00	0.00
PBHL_37-21(60' FSL, 1350' FEL)50' TGT RAD									
8,313.51	0.00	0.00	7,903.00	-1,934.36	641.61	2,037.99	0.00	0.00	0.00



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site:	WELD_BOULTER 2 PAD	North Reference:	True
Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BOULTER 37-21		
Design:	PLAN #2 09-14-09 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_37-21(60' FSL, - plan hits target center - Circle (radius 50.00)	0.00	0.00	7,903.00	-1,934.36	641.61	1,349,879.25	3,233,239.72	40° 17' 26.880 N	104° 39' 49.968 W

Casing Points					
Measured Depth	Vertical Depth		Name	Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
600.00	600.00	8 5/8"		8.62	11.00

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
4,048.97	3,814.00	PARKMAN TOP				
4,891.52	4,578.00	SUSSEX TOP				
7,388.51	6,978.00	NIO A TOP				
7,688.51	7,278.00	CODELL TOP				
8,163.51	7,753.00	JSAND TOP				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
700.00	700.00	0.00	0.00	Start Build 2.00	
1,946.84	1,907.85	-253.50	84.08	Start 3566.82 hold at 1946.84 MD	
5,513.67	5,142.15	-1,680.87	557.53	Start Drop -2.00	
6,760.51	6,350.00	-1,934.36	641.61	Start 1553.00 hold at 6760.51 MD	
8,313.51	7,903.00	-1,934.36	641.61	TD at 8313.51	



US ROCKIES REGION PLANNING

**KERR MCGEE OIL & GAS ONSHORE LP
WELD_BOULTER 2 PAD
P_BOULTER 37-21**

**P_BOULTER 37-21
PLAN #2 09-14-09 RHS**

Anticollision Report

14 September, 2009





Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #2 09-14-09 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 9/14/2009			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,313.51	PLAN #2 09-14-09 RHS (P_BOULTER 37	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_BOULTER 2 PAD						
BOULTER 23-21 EXISTING WELL - BOULTER 23-21 E:	700.00	700.00	60.00	32.85	2.210	CC
BOULTER 23-21 EXISTING WELL - BOULTER 23-21 E:	1,000.00	999.45	65.08	25.41	1.641	ES
BOULTER 23-21 EXISTING WELL - BOULTER 23-21 E:	1,100.00	1,098.70	71.19	27.42	1.627	SF
BOULTER 24-21 EXISTING WELL - BOULTER 24-21 E:	836.56	836.51	106.20	73.33	3.231	CC
BOULTER 24-21 EXISTING WELL - BOULTER 24-21 E:	1,100.00	1,098.70	109.02	65.13	2.484	ES
BOULTER 24-21 EXISTING WELL - BOULTER 24-21 E:	1,300.00	1,295.62	121.66	69.57	2.336	SF
HSR_WILLENBORG 10-21 EXISTING WELL - HSR_WIL	1,166.56	1,164.50	67.58	20.85	1.446	Level 3, CC
HSR_WILLENBORG 10-21 EXISTING WELL - HSR_WIL	1,200.00	1,197.47	67.81	19.68	1.409	Level 3, ES
HSR_WILLENBORG 10-21 EXISTING WELL - HSR_WIL	1,300.00	1,295.62	71.95	19.71	1.377	Level 3, SF
P_BOULTER 21-21 - P_BOULTER 21-21 - PLAN #2 09-	700.00	700.00	29.28	26.40	10.139	CC, ES
P_BOULTER 21-21 - P_BOULTER 21-21 - PLAN #2 09-	800.00	798.95	32.50	29.19	9.830	SF

Offset Design WELD_BOULTER 2 PAD - BOULTER 23-21 EXISTING WELL - BOULTER 23-21 EXISTING WELL - B												
Survey Program: 0-UNKNOWN												
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Separation Factor		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)	
0.00	0.00	0.00	0.00	0.00	0.00	59.73	30.25	51.81	60.00			
100.00	100.00	100.00	100.00	0.10	1.70	59.73	30.25	51.81	60.00	58.20	1.80	33.414
200.00	200.00	200.00	200.00	0.32	5.70	59.73	30.25	51.81	60.00	53.98	6.02	9.966
300.00	300.00	300.00	300.00	0.55	9.70	59.73	30.25	51.81	60.00	49.75	10.25	5.856
400.00	400.00	400.00	400.00	0.77	13.70	59.73	30.25	51.81	60.00	45.53	14.47	4.146
500.00	500.00	500.00	500.00	0.99	17.70	59.73	30.25	51.81	60.00	41.30	18.69	3.209
600.00	600.00	600.00	600.00	1.22	21.70	59.73	30.25	51.81	60.00	37.08	22.92	2.618
700.00	700.00	700.00	700.00	1.44	25.70	59.73	30.25	51.81	60.00	32.85	27.14	2.210 CC
800.00	799.98	799.98	799.98	1.64	29.70	-103.54	30.25	51.81	60.38	29.04	31.34	1.927
900.00	899.84	899.84	899.84	1.82	33.69	-108.22	30.25	51.81	61.82	26.31	35.51	1.741
1,000.00	999.45	999.45	999.45	2.03	37.68	-115.45	30.25	51.81	65.08	25.41	39.67	1.641 ES
1,100.00	1,098.70	1,098.70	1,098.70	2.26	41.65	-124.19	30.25	51.81	71.19	27.42	43.77	1.627 SF
1,200.00	1,197.47	1,197.47	1,197.47	2.54	45.60	-133.17	30.25	51.81	81.07	33.32	47.76	1.698
1,300.00	1,295.62	1,295.62	1,295.62	2.86	49.52	-141.33	30.25	51.81	95.24	43.65	51.59	1.846
1,400.00	1,393.06	1,393.06	1,393.06	3.24	53.42	-148.18	30.25	51.81	113.80	58.56	55.24	2.060
1,500.00	1,489.64	1,489.64	1,489.64	3.69	57.29	-153.67	30.25	51.81	136.63	77.91	58.71	2.327

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_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BOULTER 2 PAD - BOULTER 23-21 EXISTING WELL - BOULTER 23-21 EXISTING WELL - B												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance								Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
1,600.00	1,585.27	1,585.27	1,585.27	4.20	61.11	-157.98	30.25	51.81	163.51	101.51	62.00	2.637	
1,700.00	1,679.82	1,679.82	1,679.82	4.77	64.89	-161.36	30.25	51.81	194.25	129.15	65.10	2.984	
1,800.00	1,773.17	1,773.17	1,773.17	5.42	68.63	-164.01	30.25	51.81	228.66	160.66	68.00	3.363	
1,900.00	1,865.21	1,865.21	1,865.21	6.13	72.31	-166.12	30.25	51.81	266.61	195.92	70.69	3.772	
1,946.84	1,907.85	1,907.85	1,907.85	6.49	74.01	-166.96	30.25	51.81	285.57	213.69	71.88	3.973	
2,000.00	1,956.05	1,956.05	1,956.05	6.90	75.94	-167.90	30.25	51.81	307.54	233.79	73.75	4.170	
2,100.00	2,046.73	2,046.73	2,046.73	7.70	79.57	-169.34	30.25	51.81	349.02	271.73	77.29	4.516	
2,200.00	2,137.41	2,137.41	2,137.41	8.50	83.20	-170.48	30.25	51.81	390.64	309.78	80.86	4.831	
2,300.00	2,228.08	2,228.08	2,228.08	9.31	86.82	-171.41	30.25	51.81	432.37	347.92	84.45	5.120	
2,400.00	2,318.76	2,318.76	2,318.76	10.13	90.45	-172.17	30.25	51.81	474.18	386.13	88.05	5.385	
2,500.00	2,409.44	2,409.44	2,409.44	10.96	94.08	-172.80	30.25	51.81	516.04	424.39	91.66	5.630	
2,600.00	2,500.12	2,500.12	2,500.12	11.78	97.70	-173.35	30.25	51.81	557.95	462.68	95.28	5.856	
2,700.00	2,590.79	2,590.79	2,590.79	12.62	101.33	-173.81	30.25	51.81	599.90	501.00	98.90	6.066	
2,800.00	2,681.47	2,681.47	2,681.47	13.45	104.96	-174.22	30.25	51.81	641.87	539.34	102.53	6.261	
2,900.00	2,772.15	2,772.15	2,772.15	14.29	108.59	-174.57	30.25	51.81	683.87	577.71	106.16	6.442	
3,000.00	2,862.82	2,862.82	2,862.82	15.12	112.21	-174.89	30.25	51.81	725.88	616.09	109.79	6.611	
3,100.00	2,953.50	2,953.50	2,953.50	15.96	115.84	-175.17	30.25	51.81	767.91	654.48	113.43	6.770	
3,200.00	3,044.18	3,044.18	3,044.18	16.80	119.47	-175.42	30.25	51.81	809.96	692.89	117.07	6.918	
3,300.00	3,134.86	3,134.86	3,134.86	17.64	123.09	-175.64	30.25	51.81	852.01	731.30	120.72	7.058	
3,400.00	3,225.53	3,225.53	3,225.53	18.49	126.72	-175.85	30.25	51.81	894.08	769.72	124.36	7.189	
3,500.00	3,316.21	3,316.21	3,316.21	19.33	130.35	-176.04	30.25	51.81	936.16	808.15	128.01	7.313	
3,600.00	3,406.89	3,406.89	3,406.89	20.17	133.98	-176.21	30.25	51.81	978.24	846.58	131.65	7.430	
3,700.00	3,497.57	3,497.57	3,497.57	21.02	137.60	-176.36	30.25	51.81	1,020.33	885.03	135.30	7.541	
3,800.00	3,588.24	3,588.24	3,588.24	21.86	141.23	-176.51	30.25	51.81	1,062.42	923.47	138.95	7.646	
3,900.00	3,678.92	3,678.92	3,678.92	22.71	144.86	-176.64	30.25	51.81	1,104.52	961.92	142.60	7.745	
4,000.00	3,769.60	3,769.60	3,769.60	23.55	148.48	-176.76	30.25	51.81	1,146.63	1,000.37	146.25	7.840	
4,100.00	3,860.27	3,860.27	3,860.27	24.40	152.11	-176.88	30.25	51.81	1,188.74	1,038.83	149.91	7.930	
4,200.00	3,950.95	3,950.95	3,950.95	25.25	155.74	-176.99	30.25	51.81	1,230.85	1,077.29	153.56	8.015	
4,300.00	4,041.63	4,041.63	4,041.63	26.09	159.37	-177.09	30.25	51.81	1,272.96	1,115.75	157.21	8.097	
4,400.00	4,132.31	4,132.31	4,132.31	26.94	162.99	-177.18	30.25	51.81	1,315.08	1,154.21	160.87	8.175	
4,500.00	4,222.98	4,222.98	4,222.98	27.79	166.62	-177.27	30.25	51.81	1,357.20	1,192.68	164.52	8.249	
4,600.00	4,313.66	4,313.66	4,313.66	28.64	170.25	-177.35	30.25	51.81	1,399.33	1,231.15	168.18	8.320	
4,700.00	4,404.34	4,404.34	4,404.34	29.49	173.87	-177.43	30.25	51.81	1,441.45	1,269.62	171.83	8.389	
4,800.00	4,495.02	4,495.02	4,495.02	30.33	177.50	-177.50	30.25	51.81	1,483.58	1,308.09	175.49	8.454	
4,900.00	4,585.69	4,585.69	4,585.69	31.18	181.13	-177.57	30.25	51.81	1,525.71	1,346.56	179.15	8.517	
5,000.00	4,676.37	4,676.37	4,676.37	32.03	184.75	-177.63	30.25	51.81	1,567.84	1,385.04	182.80	8.577	
5,100.00	4,767.05	4,767.05	4,767.05	32.88	188.38	-177.70	30.25	51.81	1,609.97	1,423.51	186.46	8.634	
5,200.00	4,857.73	4,857.73	4,857.73	33.73	192.01	-177.75	30.25	51.81	1,652.11	1,461.99	190.12	8.690	
5,300.00	4,948.40	4,948.40	4,948.40	34.58	195.64	-177.81	30.25	51.81	1,694.25	1,500.47	193.78	8.743	
5,400.00	5,039.08	5,039.08	5,039.08	35.43	199.26	-177.86	30.25	51.81	1,736.38	1,538.95	197.43	8.795	
5,500.00	5,129.76	5,129.76	5,129.76	36.28	202.89	-177.91	30.25	51.81	1,778.52	1,577.43	201.09	8.844	
5,513.67	5,142.15	5,142.15	5,142.15	36.39	203.39	-177.92	30.25	51.81	1,784.28	1,582.69	201.59	8.851	
5,600.00	5,220.97	5,220.97	5,220.97	37.01	206.54	-177.99	30.25	51.81	1,819.48	1,612.21	207.27	8.778	
5,700.00	5,313.55	5,313.55	5,313.55	37.57	210.24	-178.06	30.25	51.81	1,857.26	1,643.49	213.76	8.688	
5,800.00	5,407.38	5,407.38	5,407.38	38.10	214.00	-178.12	30.25	51.81	1,891.78	1,671.66	220.13	8.594	
5,900.00	5,502.37	5,502.37	5,502.37	38.58	217.79	-178.17	30.25	51.81	1,923.02	1,696.68	226.33	8.496	
6,000.00	5,598.39	5,598.39	5,598.39	39.01	221.64	-178.21	30.25	51.81	1,950.92	1,718.55	232.37	8.396	
6,100.00	5,695.33	5,695.33	5,695.33	39.41	225.51	-178.25	30.25	51.81	1,975.46	1,737.24	238.21	8.293	
6,200.00	5,793.06	5,793.06	5,793.06	39.75	229.42	-178.28	30.25	51.81	1,996.59	1,752.75	243.84	8.188	
6,300.00	5,891.47	5,891.47	5,891.47	40.05	233.36	-178.31	30.25	51.81	2,014.31	1,765.07	249.24	8.082	
6,400.00	5,990.44	5,990.44	5,990.44	40.31	237.32	-178.33	30.25	51.81	2,028.59	1,774.20	254.38	7.975	
6,500.00	6,089.85	6,089.85	6,089.85	40.51	241.29	-178.34	30.25	51.81	2,039.40	1,780.15	259.25	7.867	

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_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BOULTER 2 PAD - BOULTER 23-21 EXISTING WELL - BOULTER 23-21 EXISTING WELL - B(Offset Site Error:		0.00 ft	
Survey Program: 0-UNKNOWN										Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)		Separation Factor
6,600.00	6,189.57	6,189.57	6,189.57	40.67	245.28	-178.35	30.25	51.81	2,046.74	1,782.91	263.82	7.758	
6,700.00	6,289.49	6,289.49	6,289.49	40.78	249.28	-178.36	30.25	51.81	2,050.59	1,782.51	268.08	7.649	
6,760.51	6,350.00	6,350.00	6,350.00	40.83	251.70	-16.71	30.25	51.81	2,051.23	1,780.73	270.50	7.583	
6,800.00	6,389.49	6,389.49	6,389.49	40.86	253.28	-16.71	30.25	51.81	2,051.23	1,779.09	272.14	7.537	
6,900.00	6,489.49	6,489.49	6,489.49	40.92	257.28	-16.71	30.25	51.81	2,051.23	1,774.96	276.27	7.425	
7,000.00	6,589.49	6,589.49	6,589.49	40.98	261.28	-16.71	30.25	51.81	2,051.23	1,770.83	280.40	7.315	
7,100.00	6,689.49	6,689.49	6,689.49	41.04	265.28	-16.71	30.25	51.81	2,051.23	1,766.69	284.54	7.209	
7,200.00	6,789.49	6,789.49	6,789.49	41.11	269.28	-16.71	30.25	51.81	2,051.23	1,762.55	288.68	7.106	
7,300.00	6,889.49	6,889.49	6,889.49	41.17	273.28	-16.71	30.25	51.81	2,051.23	1,758.42	292.81	7.005	
7,400.00	6,989.49	6,989.49	6,989.49	41.24	277.28	-16.71	30.25	51.81	2,051.23	1,754.27	296.96	6.908	
7,500.00	7,089.49	7,089.49	7,089.49	41.30	281.28	-16.71	30.25	51.81	2,051.23	1,750.13	301.10	6.813	
7,600.00	7,189.49	7,189.49	7,189.49	41.37	285.28	-16.71	30.25	51.81	2,051.23	1,745.99	305.24	6.720	
7,700.00	7,289.49	7,289.49	7,289.49	41.44	289.28	-16.71	30.25	51.81	2,051.23	1,741.84	309.39	6.630	
7,800.00	7,389.49	7,389.49	7,389.49	41.51	293.28	-16.71	30.25	51.81	2,051.23	1,737.70	313.53	6.542	
7,900.00	7,489.49	7,489.49	7,489.49	41.58	297.28	-16.71	30.25	51.81	2,051.23	1,733.55	317.68	6.457	
8,000.00	7,589.49	7,589.49	7,589.49	41.66	301.28	-16.71	30.25	51.81	2,051.23	1,729.40	321.83	6.374	
8,100.00	7,689.49	7,689.49	7,689.49	41.73	305.28	-16.71	30.25	51.81	2,051.23	1,725.25	325.98	6.293	
8,200.00	7,789.49	7,789.49	7,789.49	41.80	309.28	-16.71	30.25	51.81	2,051.23	1,721.10	330.13	6.213	
8,300.00	7,889.49	7,889.49	7,889.49	41.88	313.28	-16.71	30.25	51.81	2,051.23	1,716.95	334.28	6.136	
8,313.51	7,903.00	7,903.00	7,903.00	41.89	313.82	-16.71	30.25	51.81	2,051.23	1,716.38	334.85	6.126	



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BOULTER 2 PAD - BOULTER 24-21 EXISTING WELL - BOULTER 24-21 EXISTING WELL - B												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	73.41	30.34	101.82	106.25				
100.00	100.00	100.00	100.00	0.10	1.70	73.41	30.34	101.82	106.25	104.45	1.80	59.174	
200.00	200.00	200.00	200.00	0.32	5.70	73.41	30.34	101.82	106.25	100.23	6.02	17.648	
300.00	300.00	300.00	300.00	0.55	9.70	73.41	30.34	101.82	106.25	96.00	10.25	10.371	
400.00	400.00	400.00	400.00	0.77	13.70	73.41	30.34	101.82	106.25	91.78	14.47	7.343	
500.00	500.00	500.00	500.00	0.99	17.70	73.41	30.34	101.82	106.25	87.55	18.69	5.683	
600.00	600.00	600.00	600.00	1.22	21.70	73.41	30.34	101.82	106.25	83.33	22.92	4.636	
700.00	700.00	700.00	700.00	1.44	25.70	73.41	30.34	101.82	106.25	79.10	27.14	3.914	
800.00	799.98	799.98	799.98	1.64	29.70	-89.19	30.34	101.82	106.21	74.87	31.34	3.389	
836.56	836.51	836.51	836.51	1.71	31.16	-90.00	30.34	101.82	106.20	73.33	32.87	3.231 CC	
900.00	899.84	899.84	899.84	1.82	33.69	-92.00	30.34	101.82	106.26	70.75	35.52	2.992	
1,000.00	999.45	999.45	999.45	2.03	37.68	-96.64	30.34	101.82	106.92	67.22	39.70	2.693	
1,100.00	1,098.70	1,098.70	1,098.70	2.26	41.65	-102.93	30.34	101.82	109.02	65.13	43.89	2.484 ES	
1,200.00	1,197.47	1,197.47	1,197.47	2.54	45.60	-110.48	30.34	101.82	113.58	65.54	48.04	2.364	
1,300.00	1,295.62	1,295.62	1,295.62	2.86	49.52	-118.66	30.34	101.82	121.66	69.57	52.09	2.336 SF	
1,400.00	1,393.06	1,393.06	1,393.06	3.24	53.42	-126.79	30.34	101.82	134.08	78.11	55.96	2.396	
1,500.00	1,489.64	1,489.64	1,489.64	3.69	57.29	-134.28	30.34	101.82	151.27	91.66	59.61	2.538	
1,600.00	1,585.27	1,585.27	1,585.27	4.20	61.11	-140.81	30.34	101.82	173.31	110.30	63.01	2.751	
1,700.00	1,679.82	1,679.82	1,679.82	4.77	64.89	-146.31	30.34	101.82	200.03	133.87	66.16	3.023	
1,800.00	1,773.17	1,773.17	1,773.17	5.42	68.63	-150.85	30.34	101.82	231.18	162.10	69.09	3.346	
1,900.00	1,865.21	1,865.21	1,865.21	6.13	72.31	-154.56	30.34	101.82	266.49	194.72	71.78	3.713	
1,946.84	1,907.85	1,907.85	1,907.85	6.49	74.01	-156.06	30.34	101.82	284.39	211.44	72.96	3.898	
2,000.00	1,956.05	1,956.05	1,956.05	6.90	75.94	-157.75	30.34	101.82	305.30	230.56	74.74	4.085	
2,100.00	2,046.73	2,046.73	2,046.73	7.70	79.57	-160.37	30.34	101.82	345.14	266.99	78.15	4.417	
2,200.00	2,137.41	2,137.41	2,137.41	8.50	83.20	-162.46	30.34	101.82	385.47	303.87	81.61	4.724	
2,300.00	2,228.08	2,228.08	2,228.08	9.31	86.82	-164.16	30.34	101.82	426.16	341.06	85.11	5.007	
2,400.00	2,318.76	2,318.76	2,318.76	10.13	90.45	-165.56	30.34	101.82	467.11	378.48	88.64	5.270	
2,500.00	2,409.44	2,409.44	2,409.44	10.96	94.08	-166.74	30.34	101.82	508.26	416.07	92.19	5.513	
2,600.00	2,500.12	2,500.12	2,500.12	11.78	97.70	-167.75	30.34	101.82	549.56	453.81	95.76	5.739	
2,700.00	2,590.79	2,590.79	2,590.79	12.62	101.33	-168.61	30.34	101.82	590.99	491.65	99.34	5.949	
2,800.00	2,681.47	2,681.47	2,681.47	13.45	104.96	-169.36	30.34	101.82	632.51	529.58	102.93	6.145	
2,900.00	2,772.15	2,772.15	2,772.15	14.29	108.59	-170.02	30.34	101.82	674.11	567.58	106.53	6.328	
3,000.00	2,862.82	2,862.82	2,862.82	15.12	112.21	-170.61	30.34	101.82	715.77	605.63	110.14	6.499	
3,100.00	2,953.50	2,953.50	2,953.50	15.96	115.84	-171.12	30.34	101.82	757.50	643.74	113.76	6.659	
3,200.00	3,044.18	3,044.18	3,044.18	16.80	119.47	-171.59	30.34	101.82	799.26	681.89	117.38	6.809	
3,300.00	3,134.86	3,134.86	3,134.86	17.64	123.09	-172.01	30.34	101.82	841.07	720.07	121.00	6.951	
3,400.00	3,225.53	3,225.53	3,225.53	18.49	126.72	-172.39	30.34	101.82	882.91	758.28	124.63	7.084	
3,500.00	3,316.21	3,316.21	3,316.21	19.33	130.35	-172.73	30.34	101.82	924.78	796.52	128.26	7.210	
3,600.00	3,406.89	3,406.89	3,406.89	20.17	133.98	-173.05	30.34	101.82	966.68	834.78	131.89	7.329	
3,700.00	3,497.57	3,497.57	3,497.57	21.02	137.60	-173.34	30.34	101.82	1,008.59	873.07	135.53	7.442	
3,800.00	3,588.24	3,588.24	3,588.24	21.86	141.23	-173.61	30.34	101.82	1,050.53	911.36	139.17	7.549	
3,900.00	3,678.92	3,678.92	3,678.92	22.71	144.86	-173.85	30.34	101.82	1,092.48	949.68	142.81	7.650	
4,000.00	3,769.60	3,769.60	3,769.60	23.55	148.48	-174.08	30.34	101.82	1,134.45	988.01	146.45	7.747	
4,100.00	3,860.27	3,860.27	3,860.27	24.40	152.11	-174.29	30.34	101.82	1,176.44	1,026.35	150.09	7.838	
4,200.00	3,950.95	3,950.95	3,950.95	25.25	155.74	-174.49	30.34	101.82	1,218.43	1,064.70	153.73	7.926	
4,300.00	4,041.63	4,041.63	4,041.63	26.09	159.37	-174.67	30.34	101.82	1,260.44	1,103.06	157.38	8.009	
4,400.00	4,132.31	4,132.31	4,132.31	26.94	162.99	-174.84	30.34	101.82	1,302.46	1,141.43	161.03	8.088	
4,500.00	4,222.98	4,222.98	4,222.98	27.79	166.62	-175.01	30.34	101.82	1,344.48	1,179.81	164.68	8.164	
4,600.00	4,313.66	4,313.66	4,313.66	28.64	170.25	-175.16	30.34	101.82	1,386.52	1,218.19	168.32	8.237	
4,700.00	4,404.34	4,404.34	4,404.34	29.49	173.87	-175.30	30.34	101.82	1,428.56	1,256.58	171.97	8.307	
4,800.00	4,495.02	4,495.02	4,495.02	30.33	177.50	-175.43	30.34	101.82	1,470.61	1,294.98	175.62	8.374	
4,900.00	4,585.69	4,585.69	4,585.69	31.18	181.13	-175.56	30.34	101.82	1,512.66	1,333.39	179.28	8.438	

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_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BOULTER 2 PAD - BOULTER 24-21 EXISTING WELL - BOULTER 24-21 EXISTING WELL - B(Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,676.37	4,676.37	4,676.37	32.03	184.75	-175.68	30.34	101.82	1,554.72	1,371.79	182.93	8.499		
5,100.00	4,767.05	4,767.05	4,767.05	32.88	188.38	-175.80	30.34	101.82	1,596.79	1,410.21	186.58	8.558		
5,200.00	4,857.73	4,857.73	4,857.73	33.73	192.01	-175.90	30.34	101.82	1,638.86	1,448.63	190.23	8.615		
5,300.00	4,948.40	4,948.40	4,948.40	34.58	195.64	-176.01	30.34	101.82	1,680.94	1,487.05	193.89	8.670		
5,400.00	5,039.08	5,039.08	5,039.08	35.43	199.26	-176.10	30.34	101.82	1,723.01	1,525.47	197.54	8.722		
5,500.00	5,129.76	5,129.76	5,129.76	36.28	202.89	-176.20	30.34	101.82	1,765.10	1,563.90	201.19	8.773		
5,513.67	5,142.15	5,142.15	5,142.15	36.39	203.39	-176.21	30.34	101.82	1,770.85	1,569.16	201.69	8.780		
5,600.00	5,220.97	5,220.97	5,220.97	37.01	206.54	-176.33	30.34	101.82	1,806.00	1,598.61	207.39	8.708		
5,700.00	5,313.55	5,313.55	5,313.55	37.57	210.24	-176.46	30.34	101.82	1,843.74	1,629.86	213.87	8.621		
5,800.00	5,407.38	5,407.38	5,407.38	38.10	214.00	-176.57	30.34	101.82	1,878.23	1,658.00	220.22	8.529		
5,900.00	5,502.37	5,502.37	5,502.37	38.58	217.79	-176.66	30.34	101.82	1,909.43	1,683.00	226.42	8.433		
6,000.00	5,598.39	5,598.39	5,598.39	39.01	221.64	-176.74	30.34	101.82	1,937.30	1,704.85	232.45	8.334		
6,100.00	5,695.33	5,695.33	5,695.33	39.41	225.51	-176.81	30.34	101.82	1,961.81	1,723.52	238.29	8.233		
6,200.00	5,793.06	5,793.06	5,793.06	39.75	229.42	-176.87	30.34	101.82	1,982.93	1,739.01	243.91	8.130		
6,300.00	5,891.47	5,891.47	5,891.47	40.05	233.36	-176.92	30.34	101.82	2,000.63	1,751.32	249.30	8.025		
6,400.00	5,990.44	5,990.44	5,990.44	40.31	237.32	-176.95	30.34	101.82	2,014.89	1,760.44	254.44	7.919		
6,500.00	6,089.85	6,089.85	6,089.85	40.51	241.29	-176.98	30.34	101.82	2,025.69	1,766.38	259.31	7.812		
6,600.00	6,189.57	6,189.57	6,189.57	40.67	245.28	-177.00	30.34	101.82	2,033.02	1,769.14	263.88	7.704		
6,700.00	6,289.49	6,289.49	6,289.49	40.78	249.28	-177.01	30.34	101.82	2,036.87	1,768.73	268.14	7.596		
6,760.51	6,350.00	6,350.00	6,350.00	40.83	251.70	-15.36	30.34	101.82	2,037.51	1,766.95	270.56	7.531		
6,800.00	6,389.49	6,389.49	6,389.49	40.86	253.28	-15.36	30.34	101.82	2,037.51	1,765.31	272.20	7.485		
6,900.00	6,489.49	6,489.49	6,489.49	40.92	257.28	-15.36	30.34	101.82	2,037.51	1,761.18	276.33	7.373		
7,000.00	6,589.49	6,589.49	6,589.49	40.98	261.28	-15.36	30.34	101.82	2,037.51	1,757.05	280.46	7.265		
7,100.00	6,689.49	6,689.49	6,689.49	41.04	265.28	-15.36	30.34	101.82	2,037.51	1,752.91	284.60	7.159		
7,200.00	6,789.49	6,789.49	6,789.49	41.11	269.28	-15.36	30.34	101.82	2,037.51	1,748.77	288.73	7.057		
7,300.00	6,889.49	6,889.49	6,889.49	41.17	273.28	-15.36	30.34	101.82	2,037.51	1,744.64	292.87	6.957		
7,400.00	6,989.49	6,989.49	6,989.49	41.24	277.28	-15.36	30.34	101.82	2,037.51	1,740.50	297.01	6.860		
7,500.00	7,089.49	7,089.49	7,089.49	41.30	281.28	-15.36	30.34	101.82	2,037.51	1,736.35	301.15	6.766		
7,600.00	7,189.49	7,189.49	7,189.49	41.37	285.28	-15.36	30.34	101.82	2,037.51	1,732.21	305.30	6.674		
7,700.00	7,289.49	7,289.49	7,289.49	41.44	289.28	-15.36	30.34	101.82	2,037.51	1,728.07	309.44	6.584		
7,800.00	7,389.49	7,389.49	7,389.49	41.51	293.28	-15.36	30.34	101.82	2,037.51	1,723.92	313.59	6.497		
7,900.00	7,489.49	7,489.49	7,489.49	41.58	297.28	-15.36	30.34	101.82	2,037.51	1,719.77	317.74	6.413		
8,000.00	7,589.49	7,589.49	7,589.49	41.66	301.28	-15.36	30.34	101.82	2,037.51	1,715.62	321.89	6.330		
8,100.00	7,689.49	7,689.49	7,689.49	41.73	305.28	-15.36	30.34	101.82	2,037.51	1,711.47	326.04	6.249		
8,200.00	7,789.49	7,789.49	7,789.49	41.80	309.28	-15.36	30.34	101.82	2,037.51	1,707.32	330.19	6.171		
8,300.00	7,889.49	7,889.49	7,889.49	41.88	313.28	-15.36	30.34	101.82	2,037.51	1,703.17	334.34	6.094		
8,313.51	7,903.00	7,903.00	7,903.00	41.89	313.82	-15.36	30.34	101.82	2,037.51	1,702.61	334.90	6.084		



Weatherford International Ltd.
Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (")	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	100.94	-14.71	76.08	77.48				
100.00	100.00	100.00	100.00	0.10	1.70	100.94	-14.71	76.08	77.48	75.69	1.80	43.154	
200.00	200.00	200.00	200.00	0.32	5.70	100.94	-14.71	76.08	77.48	71.46	6.02	12.871	
300.00	300.00	300.00	300.00	0.55	9.70	100.94	-14.71	76.08	77.48	67.24	10.25	7.563	
400.00	400.00	400.00	400.00	0.77	13.70	100.94	-14.71	76.08	77.48	63.01	14.47	5.355	
500.00	500.00	500.00	500.00	0.99	17.70	100.94	-14.71	76.08	77.48	58.79	18.69	4.145	
600.00	600.00	600.00	600.00	1.22	21.70	100.94	-14.71	76.08	77.48	54.56	22.92	3.381	
700.00	700.00	700.00	700.00	1.44	25.70	100.94	-14.71	76.08	77.48	50.34	27.14	2.855	
800.00	799.98	799.98	799.98	1.64	29.70	-61.86	-14.71	76.08	76.65	45.31	31.34	2.446	
900.00	899.84	899.84	899.84	1.82	33.69	-65.46	-14.71	76.08	74.32	38.82	35.50	2.093	
1,000.00	999.45	999.45	999.45	2.03	37.68	-71.90	-14.71	76.08	71.14	31.45	39.68	1.793	
1,100.00	1,098.70	1,098.70	1,098.70	2.26	41.65	-81.64	-14.71	76.08	68.32	24.42	43.90	1.556	
1,166.56	1,164.50	1,164.50	1,164.50	2.45	44.28	-90.00	-14.71	76.08	67.58	20.85	46.73	1.446	Level 3, CC
1,200.00	1,197.47	1,197.47	1,197.47	2.54	45.60	-94.68	-14.71	76.08	67.81	19.68	48.13	1.409	Level 3, ES
1,300.00	1,295.62	1,295.62	1,295.62	2.86	49.52	-109.67	-14.71	76.08	71.95	19.71	52.24	1.377	Level 3, SF
1,400.00	1,393.06	1,393.06	1,393.06	3.24	53.42	-124.12	-14.71	76.08	82.42	26.37	56.05	1.471	Level 3
1,500.00	1,489.64	1,489.64	1,489.64	3.69	57.29	-136.11	-14.71	76.08	99.53	40.01	59.52	1.672	
1,600.00	1,585.27	1,585.27	1,585.27	4.20	61.11	-145.22	-14.71	76.08	122.61	59.89	62.72	1.955	
1,700.00	1,679.82	1,679.82	1,679.82	4.77	64.89	-151.93	-14.71	76.08	150.84	85.12	65.72	2.295	
1,800.00	1,773.17	1,773.17	1,773.17	5.42	68.63	-156.88	-14.71	76.08	183.59	115.06	68.53	2.679	
1,900.00	1,865.21	1,865.21	1,865.21	6.13	72.31	-160.57	-14.71	76.08	220.38	149.24	71.15	3.098	
1,946.84	1,907.85	1,907.85	1,907.85	6.49	74.01	-161.99	-14.71	76.08	238.92	166.62	72.30	3.305	
2,000.00	1,956.05	1,956.05	1,956.05	6.90	75.94	-163.50	-14.71	76.08	260.50	186.38	74.11	3.515	
2,100.00	2,046.73	2,046.73	2,046.73	7.70	79.57	-165.76	-14.71	76.08	301.41	223.84	77.58	3.885	
2,200.00	2,137.41	2,137.41	2,137.41	8.50	83.20	-167.49	-14.71	76.08	342.63	261.54	81.09	4.225	
2,300.00	2,228.08	2,228.08	2,228.08	9.31	86.82	-168.85	-14.71	76.08	384.06	299.42	84.64	4.538	
2,400.00	2,318.76	2,318.76	2,318.76	10.13	90.45	-169.94	-14.71	76.08	425.63	337.42	88.21	4.825	
2,500.00	2,409.44	2,409.44	2,409.44	10.96	94.08	-170.84	-14.71	76.08	467.30	375.51	91.79	5.091	
2,600.00	2,500.12	2,500.12	2,500.12	11.78	97.70	-171.60	-14.71	76.08	509.06	413.66	95.39	5.336	
2,700.00	2,590.79	2,590.79	2,590.79	12.62	101.33	-172.24	-14.71	76.08	550.87	451.87	99.00	5.564	
2,800.00	2,681.47	2,681.47	2,681.47	13.45	104.96	-172.79	-14.71	76.08	592.74	490.12	102.62	5.776	
2,900.00	2,772.15	2,772.15	2,772.15	14.29	108.59	-173.26	-14.71	76.08	634.65	528.41	106.24	5.974	
3,000.00	2,862.82	2,862.82	2,862.82	15.12	112.21	-173.68	-14.71	76.08	676.58	566.72	109.87	6.158	
3,100.00	2,953.50	2,953.50	2,953.50	15.96	115.84	-174.05	-14.71	76.08	718.55	605.05	113.50	6.331	
3,200.00	3,044.18	3,044.18	3,044.18	16.80	119.47	-174.38	-14.71	76.08	760.53	643.40	117.13	6.493	
3,300.00	3,134.86	3,134.86	3,134.86	17.64	123.09	-174.68	-14.71	76.08	802.53	681.77	120.77	6.645	
3,400.00	3,225.53	3,225.53	3,225.53	18.49	126.72	-174.94	-14.71	76.08	844.55	720.15	124.41	6.789	
3,500.00	3,316.21	3,316.21	3,316.21	19.33	130.35	-175.18	-14.71	76.08	886.59	758.54	128.05	6.924	
3,600.00	3,406.89	3,406.89	3,406.89	20.17	133.98	-175.40	-14.71	76.08	928.63	796.94	131.70	7.051	
3,700.00	3,497.57	3,497.57	3,497.57	21.02	137.60	-175.60	-14.71	76.08	970.69	835.35	135.34	7.172	
3,800.00	3,588.24	3,588.24	3,588.24	21.86	141.23	-175.78	-14.71	76.08	1,012.75	873.76	138.99	7.287	
3,900.00	3,678.92	3,678.92	3,678.92	22.71	144.86	-175.95	-14.71	76.08	1,054.82	912.19	142.64	7.395	
4,000.00	3,769.60	3,769.60	3,769.60	23.55	148.48	-176.11	-14.71	76.08	1,096.90	950.62	146.29	7.498	
4,100.00	3,860.27	3,860.27	3,860.27	24.40	152.11	-176.25	-14.71	76.08	1,138.99	989.05	149.94	7.597	
4,200.00	3,950.95	3,950.95	3,950.95	25.25	155.74	-176.38	-14.71	76.08	1,181.08	1,027.49	153.59	7.690	
4,300.00	4,041.63	4,041.63	4,041.63	26.09	159.37	-176.51	-14.71	76.08	1,223.17	1,065.93	157.24	7.779	
4,400.00	4,132.31	4,132.31	4,132.31	26.94	162.99	-176.62	-14.71	76.08	1,265.27	1,104.38	160.89	7.864	
4,500.00	4,222.98	4,222.98	4,222.98	27.79	166.62	-176.73	-14.71	76.08	1,307.38	1,142.83	164.54	7.945	
4,600.00	4,313.66	4,313.66	4,313.66	28.64	170.25	-176.84	-14.71	76.08	1,349.48	1,181.28	168.20	8.023	
4,700.00	4,404.34	4,404.34	4,404.34	29.49	173.87	-176.93	-14.71	76.08	1,391.59	1,219.74	171.85	8.098	
4,800.00	4,495.02	4,495.02	4,495.02	30.33	177.50	-177.02	-14.71	76.08	1,433.71	1,258.20	175.51	8.169	
4,900.00	4,585.69	4,585.69	4,585.69	31.18	181.13	-177.11	-14.71	76.08	1,475.82	1,296.66	179.16	8.237	

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_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,676.37	4,676.37	4,676.37	32.03	184.75	-177.19	-14.71	76.08	1,517.94	1,335.12	182.82	8.303	
5,100.00	4,767.05	4,767.05	4,767.05	32.88	188.38	-177.26	-14.71	76.08	1,560.06	1,373.59	186.48	8.366	
5,200.00	4,857.73	4,857.73	4,857.73	33.73	192.01	-177.33	-14.71	76.08	1,602.19	1,412.05	190.13	8.427	
5,300.00	4,948.40	4,948.40	4,948.40	34.58	195.64	-177.40	-14.71	76.08	1,644.31	1,450.52	193.79	8.485	
5,400.00	5,039.08	5,039.08	5,039.08	35.43	199.26	-177.47	-14.71	76.08	1,686.44	1,488.99	197.45	8.541	
5,500.00	5,129.76	5,129.76	5,129.76	36.28	202.89	-177.53	-14.71	76.08	1,728.57	1,527.46	201.10	8.595	
5,513.67	5,142.15	5,142.15	5,142.15	36.39	203.39	-177.54	-14.71	76.08	1,734.33	1,532.72	201.60	8.603	
5,600.00	5,220.97	5,220.97	5,220.97	37.01	206.54	-177.62	-14.71	76.08	1,769.51	1,562.23	207.29	8.537	
5,700.00	5,313.55	5,313.55	5,313.55	37.57	210.24	-177.70	-14.71	76.08	1,807.29	1,593.50	213.78	8.454	
5,800.00	5,407.38	5,407.38	5,407.38	38.10	214.00	-177.77	-14.71	76.08	1,841.81	1,621.67	220.14	8.366	
5,900.00	5,502.37	5,502.37	5,502.37	38.58	217.79	-177.84	-14.71	76.08	1,873.04	1,646.69	226.35	8.275	
6,000.00	5,598.39	5,598.39	5,598.39	39.01	221.64	-177.89	-14.71	76.08	1,900.93	1,668.55	232.38	8.180	
6,100.00	5,695.33	5,695.33	5,695.33	39.41	225.51	-177.93	-14.71	76.08	1,925.46	1,687.24	238.23	8.082	
6,200.00	5,793.06	5,793.06	5,793.06	39.75	229.42	-177.97	-14.71	76.08	1,946.60	1,702.74	243.86	7.983	
6,300.00	5,891.47	5,891.47	5,891.47	40.05	233.36	-178.00	-14.71	76.08	1,964.31	1,715.06	249.25	7.881	
6,400.00	5,990.44	5,990.44	5,990.44	40.31	237.32	-178.03	-14.71	76.08	1,978.59	1,724.19	254.39	7.778	
6,500.00	6,089.85	6,089.85	6,089.85	40.51	241.29	-178.05	-14.71	76.08	1,989.40	1,730.14	259.26	7.673	
6,600.00	6,189.57	6,189.57	6,189.57	40.67	245.28	-178.06	-14.71	76.08	1,996.73	1,732.90	263.83	7.568	
6,700.00	6,289.49	6,289.49	6,289.49	40.78	249.28	-178.06	-14.71	76.08	2,000.59	1,732.50	268.09	7.462	
6,760.51	6,350.00	6,350.00	6,350.00	40.83	251.70	-16.41	-14.71	76.08	2,001.23	1,730.71	270.51	7.398	
6,800.00	6,389.49	6,389.49	6,389.49	40.86	253.28	-16.41	-14.71	76.08	2,001.23	1,729.08	272.15	7.353	
6,900.00	6,489.49	6,489.49	6,489.49	40.92	257.28	-16.41	-14.71	76.08	2,001.23	1,724.95	276.28	7.243	
7,000.00	6,589.49	6,589.49	6,589.49	40.98	261.28	-16.41	-14.71	76.08	2,001.23	1,720.81	280.41	7.137	
7,100.00	6,689.49	6,689.49	6,689.49	41.04	265.28	-16.41	-14.71	76.08	2,001.23	1,716.68	284.55	7.033	
7,200.00	6,789.49	6,789.49	6,789.49	41.11	269.28	-16.41	-14.71	76.08	2,001.23	1,712.54	288.69	6.932	
7,300.00	6,889.49	6,889.49	6,889.49	41.17	273.28	-16.41	-14.71	76.08	2,001.23	1,708.40	292.82	6.834	
7,400.00	6,989.49	6,989.49	6,989.49	41.24	277.28	-16.41	-14.71	76.08	2,001.23	1,704.26	296.96	6.739	
7,500.00	7,089.49	7,089.49	7,089.49	41.30	281.28	-16.41	-14.71	76.08	2,001.23	1,700.12	301.11	6.646	
7,600.00	7,189.49	7,189.49	7,189.49	41.37	285.28	-16.41	-14.71	76.08	2,001.23	1,695.98	305.25	6.556	
7,700.00	7,289.49	7,289.49	7,289.49	41.44	289.28	-16.41	-14.71	76.08	2,001.23	1,691.83	309.39	6.468	
7,800.00	7,389.49	7,389.49	7,389.49	41.51	293.28	-16.41	-14.71	76.08	2,001.23	1,687.68	313.54	6.383	
7,900.00	7,489.49	7,489.49	7,489.49	41.58	297.28	-16.41	-14.71	76.08	2,001.23	1,683.54	317.69	6.299	
8,000.00	7,589.49	7,589.49	7,589.49	41.66	301.28	-16.41	-14.71	76.08	2,001.23	1,679.39	321.84	6.218	
8,100.00	7,689.49	7,689.49	7,689.49	41.73	305.28	-16.41	-14.71	76.08	2,001.23	1,675.24	325.99	6.139	
8,200.00	7,789.49	7,789.49	7,789.49	41.80	309.28	-16.41	-14.71	76.08	2,001.23	1,671.09	330.14	6.062	
8,300.00	7,889.49	7,889.49	7,889.49	41.88	313.28	-16.41	-14.71	76.08	2,001.23	1,666.93	334.29	5.986	
8,313.51	7,903.00	7,903.00	7,903.00	41.89	313.82	-16.41	-14.71	76.08	2,001.23	1,666.37	334.85	5.976	



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BOULTER 2 PAD - P_BOULTER 21-21 - P_BOULTER 21-21 - PLAN #2 09-14-09 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	5.47	29.15	2.79	29.28				
100.00	100.00	100.00	100.00	0.10	0.10	5.47	29.15	2.79	29.28	29.09	0.19	153.281	
200.00	200.00	200.00	200.00	0.32	0.32	5.47	29.15	2.79	29.28	28.64	0.64	45.715	
300.00	300.00	300.00	300.00	0.55	0.55	5.47	29.15	2.79	29.28	28.19	1.09	26.864	
400.00	400.00	400.00	400.00	0.77	0.77	5.47	29.15	2.79	29.28	27.74	1.54	19.020	
500.00	500.00	500.00	500.00	0.99	0.99	5.47	29.15	2.79	29.28	27.30	1.99	14.722	
600.00	600.00	600.00	600.00	1.22	1.22	5.47	29.15	2.79	29.28	26.85	2.44	12.008	
700.00	700.00	700.00	700.00	1.44	1.44	5.47	29.15	2.79	29.28	26.40	2.89	10.139 CC, ES	
800.00	799.98	798.95	798.93	1.64	1.67	-158.57	30.78	2.28	32.50	29.19	3.31	9.830 SF	
900.00	899.84	897.19	897.03	1.82	1.89	-163.50	35.62	0.75	42.36	38.66	3.70	11.448	
1,000.00	999.45	994.02	993.51	2.03	2.11	-167.98	43.53	-1.74	59.11	55.01	4.10	14.429	
1,100.00	1,098.70	1,088.81	1,087.61	2.26	2.35	-171.17	54.28	-5.13	82.68	78.18	4.49	18.411	
1,200.00	1,197.47	1,180.95	1,178.69	2.54	2.61	-173.29	67.57	-9.31	112.85	107.97	4.88	23.123	
1,300.00	1,295.62	1,269.93	1,266.18	2.86	2.89	-174.70	83.04	-14.19	149.37	144.11	5.27	28.367	
1,400.00	1,393.06	1,355.29	1,349.59	3.24	3.20	-175.66	100.32	-19.64	191.93	186.29	5.64	34.002	
1,500.00	1,489.64	1,436.69	1,428.60	3.69	3.52	-176.32	119.00	-25.52	240.22	234.20	6.02	39.925	
1,600.00	1,585.27	1,513.84	1,502.93	4.20	3.86	-176.80	138.67	-31.72	293.91	287.53	6.38	46.061	
1,700.00	1,679.82	1,586.53	1,572.45	4.77	4.22	-177.15	158.94	-38.11	352.65	345.91	6.74	52.341	
1,800.00	1,773.17	1,654.66	1,637.08	5.42	4.59	-177.41	179.46	-44.57	416.11	409.02	7.09	58.716	
1,900.00	1,865.21	1,718.14	1,696.84	6.13	4.95	-177.60	199.90	-51.01	483.94	476.51	7.43	65.160	
1,946.84	1,907.85	1,746.28	1,723.18	6.49	5.12	-177.67	209.37	-53.99	517.12	509.53	7.58	68.183	
2,000.00	1,956.05	1,777.29	1,752.08	6.90	5.32	-177.78	220.08	-57.37	555.45	547.64	7.82	71.051	
2,100.00	2,046.73	1,833.76	1,804.40	7.70	5.69	-177.95	240.35	-63.76	628.63	620.37	8.26	76.104	
2,200.00	2,137.41	1,887.90	1,854.15	8.50	6.06	-178.09	260.70	-70.17	703.12	694.41	8.70	80.780	
2,300.00	2,228.08	1,942.81	1,904.19	9.31	6.45	-178.21	282.26	-76.96	778.83	769.68	9.16	85.071	
2,400.00	2,318.76	2,003.54	1,959.30	10.13	6.91	-178.32	306.61	-84.63	855.18	845.56	9.62	88.861	
2,500.00	2,409.44	2,068.10	2,017.87	10.96	7.41	-178.42	332.49	-92.79	931.55	921.44	10.11	92.174	
2,600.00	2,500.12	2,132.65	2,076.45	11.78	7.90	-178.50	358.37	-100.94	1,007.91	997.32	10.59	95.153	
2,700.00	2,590.79	2,197.21	2,135.03	12.62	8.41	-178.57	384.25	-109.10	1,084.28	1,073.20	11.08	97.841	
2,800.00	2,681.47	2,261.77	2,193.60	13.45	8.91	-178.64	410.14	-117.26	1,160.64	1,149.07	11.58	100.259	
2,900.00	2,772.15	2,326.32	2,252.18	14.29	9.42	-178.69	436.02	-125.41	1,237.01	1,224.94	12.07	102.460	
3,000.00	2,862.82	2,390.88	2,310.76	15.12	9.94	-178.74	461.90	-133.57	1,313.38	1,300.81	12.57	104.466	
3,100.00	2,953.50	2,455.44	2,369.33	15.96	10.45	-178.78	487.78	-141.72	1,389.74	1,376.67	13.07	106.293	
3,200.00	3,044.18	2,520.00	2,427.91	16.80	10.97	-178.82	513.66	-149.88	1,466.11	1,452.53	13.58	107.974	
3,300.00	3,134.86	2,584.55	2,486.49	17.64	11.49	-178.86	539.54	-158.03	1,542.48	1,528.40	14.08	109.517	
3,400.00	3,225.53	2,649.11	2,545.06	18.49	12.01	-178.89	565.43	-166.19	1,618.85	1,604.26	14.59	110.939	
3,500.00	3,316.21	2,713.67	2,603.64	19.33	12.53	-178.92	591.31	-174.34	1,695.22	1,680.12	15.10	112.256	
3,600.00	3,406.89	2,778.22	2,662.22	20.17	13.05	-178.94	617.19	-182.50	1,771.58	1,755.97	15.61	113.475	
3,700.00	3,497.57	2,842.78	2,720.79	21.02	13.58	-178.97	643.07	-190.65	1,847.95	1,831.83	16.12	114.608	
3,800.00	3,588.24	2,907.34	2,779.37	21.86	14.10	-178.99	668.95	-198.81	1,924.32	1,907.68	16.64	115.665	
3,900.00	3,678.92	2,971.89	2,837.95	22.71	14.63	-179.01	694.83	-206.96	2,000.69	1,983.54	17.15	116.649	
4,000.00	3,769.60	3,036.45	2,896.53	23.55	15.15	-179.03	720.72	-215.12	2,077.06	2,059.39	17.67	117.570	
4,100.00	3,860.27	3,101.01	2,955.10	24.40	15.68	-179.05	746.60	-223.27	2,153.43	2,135.25	18.18	118.435	
4,200.00	3,950.95	3,165.57	3,013.68	25.25	16.21	-179.06	772.48	-231.43	2,229.80	2,211.10	18.70	119.244	
4,300.00	4,041.63	3,230.12	3,072.26	26.09	16.74	-179.08	798.36	-239.58	2,306.17	2,286.95	19.22	120.006	
4,400.00	4,132.31	3,294.68	3,130.83	26.94	17.27	-179.09	824.24	-247.74	2,382.54	2,362.80	19.74	120.724	
4,500.00	4,222.98	3,359.24	3,189.41	27.79	17.80	-179.11	850.12	-255.89	2,458.90	2,438.65	20.25	121.400	
4,600.00	4,313.66	3,423.79	3,247.99	28.64	18.32	-179.12	876.01	-264.05	2,535.27	2,514.50	20.77	122.040	
4,700.00	4,404.34	3,488.35	3,306.56	29.49	18.85	-179.13	901.89	-272.20	2,611.64	2,590.35	21.29	122.646	
4,800.00	4,495.02	3,552.91	3,365.14	30.33	19.39	-179.14	927.77	-280.36	2,688.01	2,666.20	21.82	123.218	
4,900.00	4,585.69	3,617.47	3,423.72	31.18	19.92	-179.15	953.65	-288.51	2,764.38	2,742.05	22.34	123.763	
5,000.00	4,676.37	3,682.02	3,482.29	32.03	20.45	-179.16	979.53	-296.67	2,840.75	2,817.89	22.86	124.279	

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_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BOULTER 2 PAD - P_BOULTER 21-21 - P_BOULTER 21-21 - PLAN #2 09-14-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.00	4,767.05	3,746.58	3,540.87	32.88	20.98	-179.17	1,005.41	-304.82	2,917.12	2,893.74	23.38	124.770	
5,200.00	4,857.73	3,811.14	3,599.45	33.73	21.51	-179.18	1,031.30	-312.98	2,993.49	2,969.59	23.90	125.238	
5,300.00	4,948.40	3,875.69	3,658.02	34.58	22.04	-179.19	1,057.18	-321.13	3,069.86	3,045.43	24.43	125.684	
5,400.00	5,039.08	3,940.25	3,716.60	35.43	22.57	-179.20	1,083.06	-329.29	3,146.23	3,121.28	24.95	126.109	
5,500.00	5,129.76	4,004.81	3,775.18	36.28	23.11	-179.21	1,108.94	-337.44	3,222.60	3,197.13	25.47	126.515	
5,513.67	5,142.15	4,013.63	3,783.18	36.39	23.18	-179.21	1,112.48	-338.56	3,233.04	3,207.49	25.54	126.569	
5,600.00	5,220.97	4,070.35	3,834.65	37.01	23.65	-179.24	1,135.22	-345.72	3,298.12	3,271.88	26.24	125.695	
5,700.00	5,313.55	4,138.46	3,896.45	37.57	24.21	-179.27	1,162.52	-354.33	3,371.33	3,344.32	27.01	124.835	
5,800.00	5,407.38	4,209.09	3,960.54	38.10	24.79	-179.30	1,190.84	-363.25	3,442.11	3,414.37	27.74	124.063	
5,900.00	5,502.37	4,282.14	4,026.82	38.58	25.39	-179.33	1,220.13	-372.48	3,510.39	3,481.94	28.45	123.370	
6,000.00	5,598.39	4,357.54	4,095.23	39.01	26.02	-179.35	1,250.35	-382.00	3,576.08	3,546.95	29.13	122.753	
6,100.00	5,695.33	4,435.18	4,165.68	39.41	26.66	-179.37	1,281.48	-391.81	3,639.10	3,609.32	29.78	122.207	
6,200.00	5,793.06	4,514.97	4,238.08	39.75	27.32	-179.39	1,313.47	-401.89	3,699.37	3,668.98	30.39	121.728	
6,300.00	5,891.47	4,596.81	4,312.34	40.05	27.99	-179.40	1,346.28	-412.23	3,756.82	3,725.85	30.97	121.313	
6,400.00	5,990.44	4,680.61	4,388.38	40.31	28.69	-179.41	1,379.88	-422.81	3,811.37	3,779.87	31.51	120.960	
6,500.00	6,089.85	4,766.26	4,466.10	40.51	29.39	-179.42	1,414.22	-433.63	3,862.97	3,830.96	32.01	120.666	
6,600.00	6,189.57	4,853.67	4,545.40	40.67	30.12	-179.43	1,449.26	-444.67	3,911.55	3,879.07	32.48	120.431	
6,700.00	6,289.49	4,942.71	4,626.20	40.78	30.85	-179.44	1,484.96	-455.92	3,957.05	3,924.15	32.91	120.252	
6,760.51	6,350.00	4,997.34	4,675.77	40.83	31.31	-17.79	1,506.86	-462.82	3,983.07	3,949.92	33.15	120.154	
6,800.00	6,389.49	5,033.17	4,708.28	40.86	31.60	-17.79	1,521.22	-467.35	3,999.66	3,966.34	33.32	120.022	
6,900.00	6,489.49	5,123.91	4,790.61	40.92	32.35	-17.79	1,557.60	-478.81	4,041.70	4,007.94	33.76	119.717	
7,000.00	6,589.49	6,987.46	6,589.49	40.98	39.53	-17.76	1,923.47	-594.09	4,050.90	4,012.75	38.15	106.195	
7,100.00	6,689.49	7,087.46	6,689.49	41.04	39.60	-17.76	1,923.47	-594.09	4,050.90	4,012.46	38.44	105.390	
7,200.00	6,789.49	7,187.46	6,789.49	41.11	39.68	-17.76	1,923.47	-594.09	4,050.90	4,012.17	38.73	104.590	
7,300.00	6,889.49	7,287.46	6,889.49	41.17	39.76	-17.76	1,923.47	-594.09	4,050.90	4,011.87	39.03	103.793	
7,400.00	6,989.49	7,387.46	6,989.49	41.24	39.84	-17.76	1,923.47	-594.09	4,050.90	4,011.57	39.33	103.002	
7,500.00	7,089.49	7,487.46	7,089.49	41.30	39.92	-17.76	1,923.47	-594.09	4,050.90	4,011.27	39.63	102.215	
7,600.00	7,189.49	7,587.46	7,189.49	41.37	40.00	-17.76	1,923.47	-594.09	4,050.90	4,010.96	39.94	101.432	
7,700.00	7,289.49	7,687.46	7,289.49	41.44	40.08	-17.76	1,923.47	-594.09	4,050.90	4,010.66	40.25	100.655	
7,800.00	7,389.49	7,787.46	7,389.49	41.51	40.16	-17.76	1,923.47	-594.09	4,050.90	4,010.34	40.56	99.884	
7,900.00	7,489.49	7,887.46	7,489.49	41.58	40.25	-17.76	1,923.47	-594.09	4,050.90	4,010.03	40.87	99.118	
8,000.00	7,589.49	7,987.46	7,589.49	41.66	40.33	-17.76	1,923.47	-594.09	4,050.90	4,009.71	41.19	98.357	
8,100.00	7,689.49	8,087.46	7,689.49	41.73	40.42	-17.76	1,923.47	-594.09	4,050.90	4,009.40	41.50	97.602	
8,200.00	7,789.49	8,187.46	7,789.49	41.80	40.51	-17.76	1,923.47	-594.09	4,050.90	4,009.08	41.83	96.854	
8,260.56	7,850.05	8,248.02	7,850.05	41.85	40.56	-17.76	1,923.47	-594.09	4,050.90	4,008.88	42.02	96.403	
8,300.00	7,889.49	8,271.97	7,874.00	41.88	40.58	-17.76	1,923.47	-594.09	4,050.93	4,008.81	42.12	96.172	
8,313.51	7,903.00	8,271.97	7,874.00	41.89	40.58	-17.76	1,923.47	-594.09	4,051.00	4,008.86	42.14	96.126	



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
Reference Site:	WELD_BOULTER 2 PAD	MD Reference:	WELL @ 4886.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4886.00ft (Original Well Elev) Coordinates are relative to: P_BOULTER 37-21
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: 0.54°

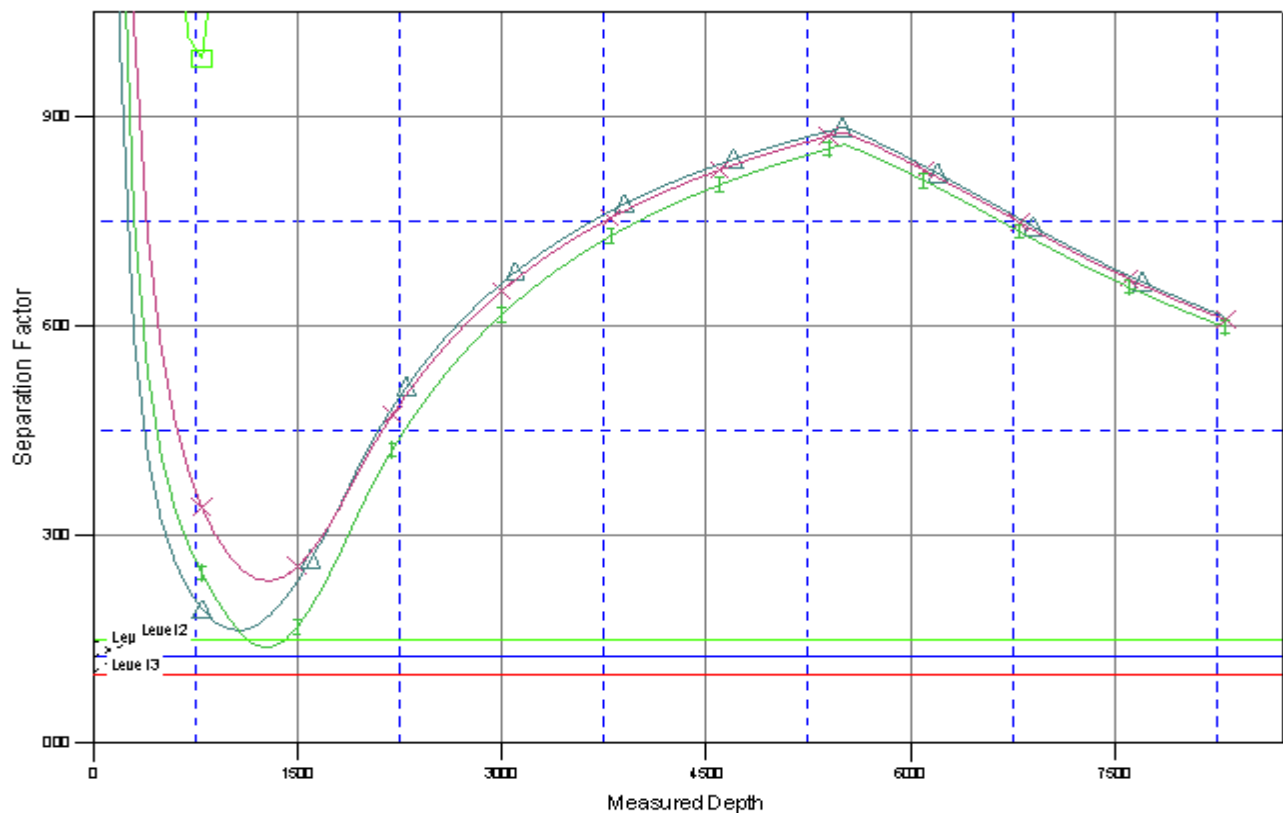




Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BOULTER 37-21
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4886.00ft (Original Well Elev)
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Reference Well:	P_BOULTER 37-21	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BOULTER 37-21	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #2 09-14-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4886.00ft (Original Well Elev)Coordinates are relative to: P_BOULTER 37-21
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: 0.54°

Separation Factor Plot



LEGEND

EXISTING WELL \0 HSR_WILLENB ORG 10-21 EXISTING WELL, HSR_WILLENB ORG 10-21 EXISTING WELL, Design #1 \0
EXISTING WELL \0 P_BOULTER 21-21, P_BOULTER 21-21, PLAN #2 09-14-09 RHS \0