



US ROCKIES REGION PLANNING

**KERR MCGEE OIL & GAS ONSHORE LP
WELD_BURCHFIELD STATE 4 PAD
P_BURCHFIELD STATE 36-16**

P_BURCHFIELD STATE 36-16

Plan: PLAN #1 09-02-09 RHS

Standard Planning Report

02 September, 2009





P_BURCHFIELD STATE 36-16
KERR MCGEE OIL & GAS ONSHORE LP
SECTION 16 T3N R67W
1928 FSL 2052 FEL
LAT: 40° 13' 25.824 N
LONG: 104° 53' 36.708 W



Azimuths to True North
Magnetic North: 9.12°
Magnetic Field
Strength: 53231.8nT
Dip Angle: 66.95°
Date: 9/2/2009
Model: IGRF200510

WELL DETAILS: P_BURCHFIELD STATE 36-16

+N/-S	+E/-W	Northing	Ground Level: Easting	4784.00 Latitude	Longitude	Slot
0.00	0.00	1324966.07	3169345.75	40° 13' 25.824 N	104° 53' 36.708 W	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3500.00	3690.32	PARKMAN
4050.00	4294.31	SUSSEX TOP
6507.00	6892.55	NIO A TOP
7068.00	7453.55	CODELL TOP

SECTION DETAILS

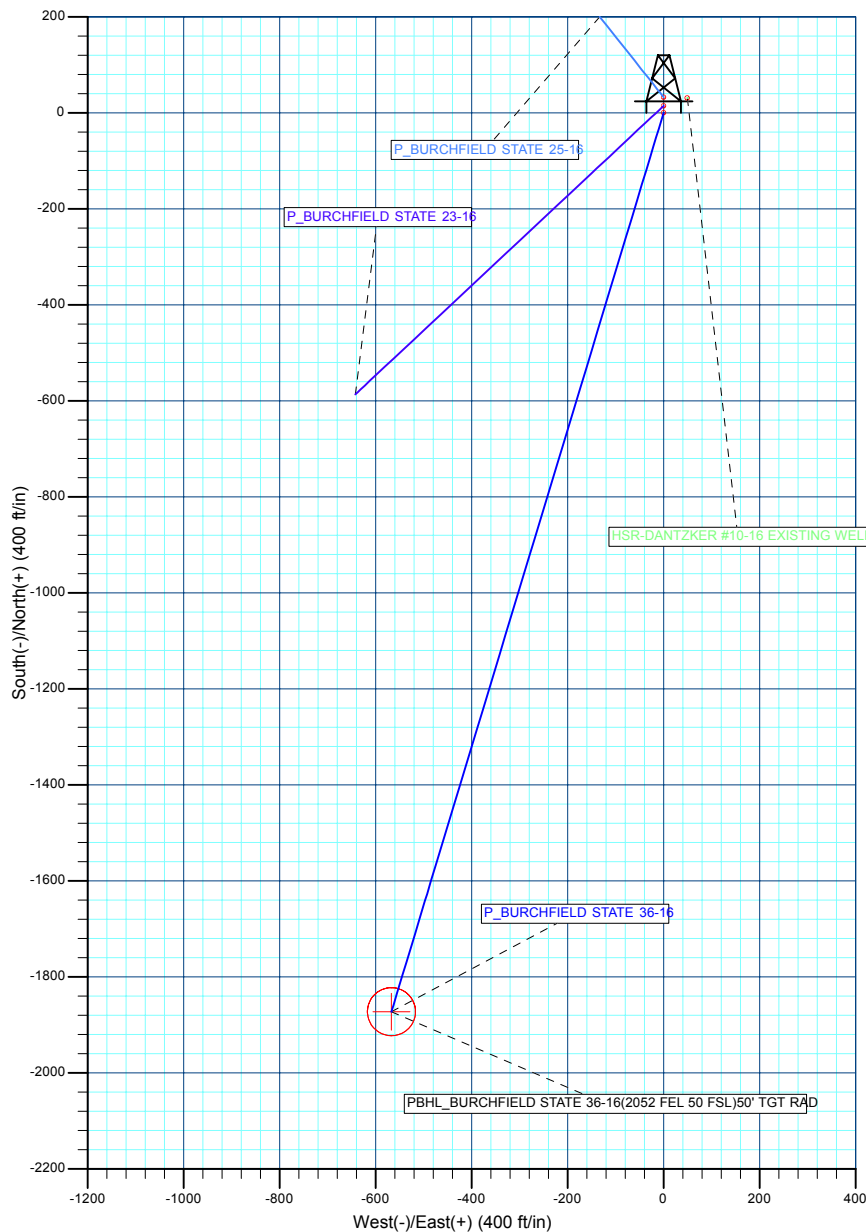
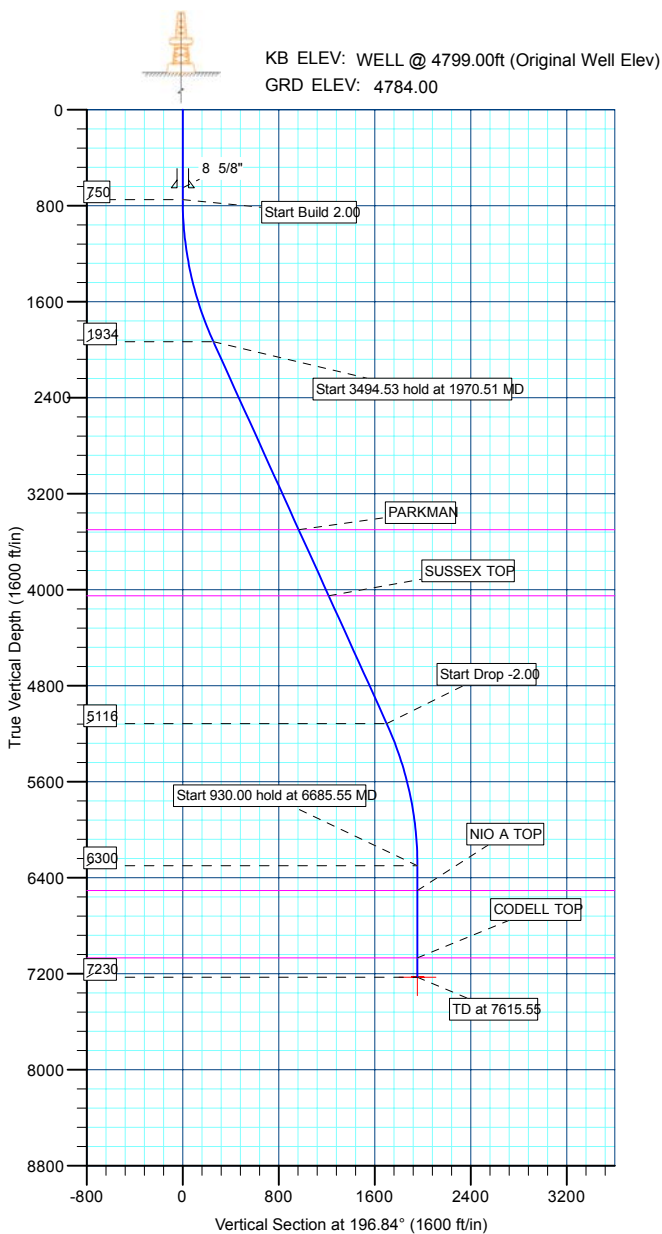
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	
1970.51	24.41	196.84	1933.92	-245.10	-74.21	2.00	196.84	256.08	
5465.04	24.41	196.84	5116.08	-1627.31	-492.68	0.00	0.00	1700.26	
6685.55	0.00	0.00	6300.00	-1872.41	-566.89	2.00	180.00	1956.34	
7615.55	0.00	0.00	7230.00	-1872.41	-566.89	0.00	0.00	1956.34	PBHL_BURCHFIELD STATE 36-16(2052 FEL 50 FSL)50'

CASING DETAILS

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

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7230.00	-1872.40	-566.89	1323089.84	3168791.69	40° 13' 7.320 N	104° 53' 44.016 W	Circle (Radius: 50.00)



Plan: PLAN #1 09-02-09 RHS (P_BURCHFIELD STATE 36-16/P_BURCHFIELD STATE 36-16)

Created By: Robert H. Scott



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BURCHFIELD STATE 36-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site:	WELD_BURCHFIELD STATE 4 PAD	North Reference:	True
Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BURCHFIELD STATE 36-16		
Design:	PLAN #1 09-02-09 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_BURCHFIELD STATE 4 PAD, SECTION 16 T3N R67W			
Site Position:		Northing:	1,324,980.66 ft	Latitude: 40° 13' 25.968 N
From:	Lat/Long	Easting:	3,169,345.65 ft	Longitude: 104° 53' 36.708 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence: 0.39 °

Well	P_BURCHFIELD STATE 36-16			
Well Position	+N/-S	-14.59 ft	Northing:	1,324,966.07 ft
	+E/-W	0.00 ft	Easting:	3,169,345.75 ft
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft
			Ground Level:	4,784.00 ft

Wellbore	P_BURCHFIELD STATE 36-16				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/2/2009	9.12	66.95	53,232

Design	PLAN #1 09-02-09 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	196.84

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	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,970.51	24.41	196.84	1,933.92	-245.10	-74.21	2.00	2.00	0.00	196.84	
5,465.04	24.41	196.84	5,116.08	-1,627.31	-492.68	0.00	0.00	0.00	0.00	
6,685.55	0.00	0.00	6,300.00	-1,872.41	-566.89	2.00	-2.00	0.00	180.00	
7,615.55	0.00	0.00	7,230.00	-1,872.41	-566.89	0.00	0.00	0.00	0.00	PBHL_BURCHFIEL



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BURCHFIELD STATE 36-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site:	WELD_BURCHFIELD STATE 4 PAD	North Reference:	True
Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BURCHFIELD STATE 36-16		
Design:	PLAN #1 09-02-09 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Start Build 2.00									
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	1.00	196.84	800.00	-0.42	-0.13	0.44	2.00	2.00	0.00
900.00	3.00	196.84	899.93	-3.76	-1.14	3.93	2.00	2.00	0.00
1,000.00	5.00	196.84	999.68	-10.43	-3.16	10.90	2.00	2.00	0.00
1,100.00	7.00	196.84	1,099.13	-20.44	-6.19	21.35	2.00	2.00	0.00
1,200.00	9.00	196.84	1,198.15	-33.76	-10.22	35.27	2.00	2.00	0.00
1,300.00	11.00	196.84	1,296.63	-50.38	-15.25	52.63	2.00	2.00	0.00
1,400.00	13.00	196.84	1,394.44	-70.27	-21.28	73.42	2.00	2.00	0.00
1,500.00	15.00	196.84	1,491.46	-93.43	-28.29	97.62	2.00	2.00	0.00
1,600.00	17.00	196.84	1,587.58	-119.81	-36.27	125.18	2.00	2.00	0.00
1,700.00	19.00	196.84	1,682.68	-149.38	-45.23	156.08	2.00	2.00	0.00
1,800.00	21.00	196.84	1,776.65	-182.11	-55.14	190.28	2.00	2.00	0.00
1,900.00	23.00	196.84	1,869.36	-217.97	-65.99	227.74	2.00	2.00	0.00
Start 3494.53 hold at 1970.51 MD									
1,970.51	24.41	196.84	1,933.92	-245.10	-74.21	256.08	2.00	2.00	0.00
2,000.00	24.41	196.84	1,960.78	-256.76	-77.74	268.27	0.00	0.00	0.00
2,100.00	24.41	196.84	2,051.84	-296.31	-89.71	309.60	0.00	0.00	0.00
2,200.00	24.41	196.84	2,142.90	-335.87	-101.69	350.92	0.00	0.00	0.00
2,300.00	24.41	196.84	2,233.96	-375.42	-113.66	392.25	0.00	0.00	0.00
2,400.00	24.41	196.84	2,325.02	-414.98	-125.64	433.58	0.00	0.00	0.00
2,500.00	24.41	196.84	2,416.08	-454.53	-137.61	474.90	0.00	0.00	0.00
2,600.00	24.41	196.84	2,507.14	-494.08	-149.59	516.23	0.00	0.00	0.00
2,700.00	24.41	196.84	2,598.20	-533.64	-161.56	557.56	0.00	0.00	0.00
2,800.00	24.41	196.84	2,689.26	-573.19	-173.54	598.88	0.00	0.00	0.00
2,900.00	24.41	196.84	2,780.32	-612.74	-185.51	640.21	0.00	0.00	0.00
3,000.00	24.41	196.84	2,871.39	-652.30	-197.49	681.54	0.00	0.00	0.00
3,100.00	24.41	196.84	2,962.45	-691.85	-209.46	722.86	0.00	0.00	0.00
3,200.00	24.41	196.84	3,053.51	-731.40	-221.44	764.19	0.00	0.00	0.00
3,300.00	24.41	196.84	3,144.57	-770.96	-233.41	805.52	0.00	0.00	0.00
3,400.00	24.41	196.84	3,235.63	-810.51	-245.39	846.84	0.00	0.00	0.00
3,500.00	24.41	196.84	3,326.69	-850.06	-257.37	888.17	0.00	0.00	0.00
3,600.00	24.41	196.84	3,417.75	-889.62	-269.34	929.50	0.00	0.00	0.00
PARKMAN									
3,690.32	24.41	196.84	3,500.00	-925.34	-280.16	966.82	0.00	0.00	0.00
3,700.00	24.41	196.84	3,508.81	-929.17	-281.32	970.82	0.00	0.00	0.00
3,800.00	24.41	196.84	3,599.87	-968.73	-293.29	1,012.15	0.00	0.00	0.00
3,900.00	24.41	196.84	3,690.93	-1,008.28	-305.27	1,053.48	0.00	0.00	0.00
4,000.00	24.41	196.84	3,782.00	-1,047.83	-317.24	1,094.80	0.00	0.00	0.00
4,100.00	24.41	196.84	3,873.06	-1,087.39	-329.22	1,136.13	0.00	0.00	0.00
4,200.00	24.41	196.84	3,964.12	-1,126.94	-341.19	1,177.46	0.00	0.00	0.00
SUSSEX TOP									
4,294.31	24.41	196.84	4,050.00	-1,164.24	-352.49	1,216.43	0.00	0.00	0.00
4,300.00	24.41	196.84	4,055.18	-1,166.49	-353.17	1,218.78	0.00	0.00	0.00
4,400.00	24.41	196.84	4,146.24	-1,206.05	-365.14	1,260.11	0.00	0.00	0.00
4,500.00	24.41	196.84	4,237.30	-1,245.60	-377.12	1,301.44	0.00	0.00	0.00
4,600.00	24.41	196.84	4,328.36	-1,285.15	-389.09	1,342.76	0.00	0.00	0.00
4,700.00	24.41	196.84	4,419.42	-1,324.71	-401.07	1,384.09	0.00	0.00	0.00
4,800.00	24.41	196.84	4,510.48	-1,364.26	-413.04	1,425.42	0.00	0.00	0.00
4,900.00	24.41	196.84	4,601.54	-1,403.82	-425.02	1,466.74	0.00	0.00	0.00
5,000.00	24.41	196.84	4,692.61	-1,443.37	-436.99	1,508.07	0.00	0.00	0.00
5,100.00	24.41	196.84	4,783.67	-1,482.92	-448.97	1,549.40	0.00	0.00	0.00
5,200.00	24.41	196.84	4,874.73	-1,522.48	-460.94	1,590.72	0.00	0.00	0.00



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Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site:	WELD_BURCHFIELD STATE 4 PAD	North Reference:	True
Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BURCHFIELD STATE 36-16		
Design:	PLAN #1 09-02-09 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	24.41	196.84	4,965.79	-1,562.03	-472.92	1,632.05	0.00	0.00	0.00
5,400.00	24.41	196.84	5,056.85	-1,601.58	-484.89	1,673.38	0.00	0.00	0.00
Start Drop -2.00									
5,465.04	24.41	196.84	5,116.08	-1,627.31	-492.68	1,700.26	0.00	0.00	0.00
5,500.00	23.71	196.84	5,148.00	-1,640.95	-496.81	1,714.51	2.00	-2.00	0.00
5,600.00	21.71	196.84	5,240.24	-1,677.90	-508.00	1,753.12	2.00	-2.00	0.00
5,700.00	19.71	196.84	5,333.77	-1,711.75	-518.25	1,788.48	2.00	-2.00	0.00
5,800.00	17.71	196.84	5,428.48	-1,742.45	-527.54	1,820.56	2.00	-2.00	0.00
5,900.00	15.71	196.84	5,524.25	-1,769.97	-535.87	1,849.31	2.00	-2.00	0.00
6,000.00	13.71	196.84	5,620.97	-1,794.27	-543.23	1,874.70	2.00	-2.00	0.00
6,100.00	11.71	196.84	5,718.52	-1,815.33	-549.61	1,896.71	2.00	-2.00	0.00
6,200.00	9.71	196.84	5,816.77	-1,833.12	-554.99	1,915.29	2.00	-2.00	0.00
6,300.00	7.71	196.84	5,915.61	-1,847.61	-559.38	1,930.44	2.00	-2.00	0.00
6,400.00	5.71	196.84	6,014.92	-1,858.80	-562.77	1,942.12	2.00	-2.00	0.00
6,500.00	3.71	196.84	6,114.58	-1,866.66	-565.15	1,950.33	2.00	-2.00	0.00
6,600.00	1.71	196.84	6,214.46	-1,871.18	-566.52	1,955.06	2.00	-2.00	0.00
Start 930.00 hold at 6685.55 MD									
6,685.55	0.00	0.00	6,300.00	-1,872.41	-566.89	1,956.34	2.00	-2.00	0.00
6,700.00	0.00	0.00	6,314.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
6,800.00	0.00	0.00	6,414.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
NIO A TOP									
6,892.55	0.00	0.00	6,507.00	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
6,900.00	0.00	0.00	6,514.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
7,000.00	0.00	0.00	6,614.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
7,100.00	0.00	0.00	6,714.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
7,200.00	0.00	0.00	6,814.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
7,300.00	0.00	0.00	6,914.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
7,400.00	0.00	0.00	7,014.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
CODELL TOP									
7,453.55	0.00	0.00	7,068.00	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
7,500.00	0.00	0.00	7,114.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
7,600.00	0.00	0.00	7,214.45	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00
PBHL_BURCHFIELD STATE 36-16(2052 FEL 50 FSL)50'									
7,615.55	0.00	0.00	7,230.00	-1,872.41	-566.89	1,956.34	0.00	0.00	0.00

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL_BURCHFIELD	0.00	0.00	7,230.00	-1,872.40	-566.89	1,323,089.84	3,168,791.69	40° 13' 7.320 N	104° 53' 44.016 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points

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



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BURCHFIELD STATE 36-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site:	WELD_BURCHFIELD STATE 4 PAD	North Reference:	True
Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BURCHFIELD STATE 36-16		
Design:	PLAN #1 09-02-09 RHS		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,690.32	3,500.00	PARKMAN			
4,294.31	4,050.00	SUSSEX TOP			
6,892.55	6,507.00	NIO A TOP			
7,453.55	7,068.00	CODELL TOP			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
750.00	750.00	0.00	0.00	Start Build 2.00
1,970.51	1,933.92	-245.10	-74.21	Start 3494.53 hold at 1970.51 MD
5,465.04	5,116.08	-1,627.31	-492.68	Start Drop -2.00
6,685.55	6,300.00	-1,872.41	-566.89	Start 930.00 hold at 6685.55 MD
7,615.55	7,230.00	-1,872.41	-566.89	TD at 7615.55



US ROCKIES REGION PLANNING

**KERR MCGEE OIL & GAS ONSHORE LP
WELD_BURCHFIELD STATE 4 PAD
P_BURCHFIELD STATE 36-16**

**P_BURCHFIELD STATE 36-16
PLAN #1 09-02-09 RHS**

Anticollision Report

02 September, 2009





Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BURCHFIELD STATE 36-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Reference Site:	WELD_BURCHFIELD STATE 4 PAD	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BURCHFIELD STATE 36-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-02-09 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 09-02-09 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 9/2/2009			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	7,615.55	PLAN #1 09-02-09 RHS (P_BURCHFIELD	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_BURCHFIELD STATE 4 PAD						
HSR-DANTZKER #10-16 EXISTING WELL - HSR-DANT	750.00	750.00	58.16	28.91	1.988	CC
HSR-DANTZKER #10-16 EXISTING WELL - HSR-DANT	900.00	899.93	61.17	25.67	1.723	ES
HSR-DANTZKER #10-16 EXISTING WELL - HSR-DANT	1,000.00	999.68	66.76	27.15	1.685	SF
P_BURCHFIELD STATE 23-16 - P_BURCHFIELD STAT	750.00	750.00	14.59	11.46	4.661	CC
P_BURCHFIELD STATE 23-16 - P_BURCHFIELD STAT	800.00	800.17	14.71	11.38	4.419	ES
P_BURCHFIELD STATE 23-16 - P_BURCHFIELD STAT	900.00	900.50	15.75	12.06	4.272	SF
P_BURCHFIELD STATE 25-16 - P_BURCHFIELD STAT	750.00	750.00	32.79	29.68	10.533	CC, ES
P_BURCHFIELD STATE 25-16 - P_BURCHFIELD STAT	800.00	799.54	33.55	30.23	10.102	SF

Offset Design WELD_BURCHFIELD STATE 4 PAD - HSR-DANTZKER #10-16 EXISTING WELL - HSR-DANTZKER #											
Survey Program: 0-UNKNOWN											
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	57.97	30.85	49.31	58.16		
100.00	100.00	100.00	100.00	0.10	1.70	57.97	30.85	49.31	58.16	56.37	1.80
200.00	200.00	200.00	200.00	0.32	5.70	57.97	30.85	49.31	58.16	52.14	6.02
300.00	300.00	300.00	300.00	0.55	9.70	57.97	30.85	49.31	58.16	47.92	10.25
400.00	400.00	400.00	400.00	0.77	13.70	57.97	30.85	49.31	58.16	43.69	14.47
500.00	500.00	500.00	500.00	0.99	17.70	57.97	30.85	49.31	58.16	39.47	18.69
600.00	600.00	600.00	600.00	1.22	21.70	57.97	30.85	49.31	58.16	35.24	22.92
700.00	700.00	700.00	700.00	1.44	25.70	57.97	30.85	49.31	58.16	31.02	27.14
750.00	750.00	750.00	750.00	1.56	27.70	57.97	30.85	49.31	58.16	28.91	29.26
800.00	800.00	800.00	800.00	1.65	29.70	-139.15	30.85	49.31	58.49	27.14	31.35
900.00	899.93	899.93	899.93	1.83	33.70	-141.26	30.85	49.31	61.17	25.67	35.50
1,000.00	999.68	999.68	999.68	2.02	37.69	-144.94	30.85	49.31	66.76	27.15	39.61
1,100.00	1,099.13	1,099.13	1,099.13	2.24	41.67	-149.40	30.85	49.31	75.56	31.91	43.66
1,200.00	1,198.15	1,198.15	1,198.15	2.49	45.63	-153.91	30.85	49.31	87.85	40.24	47.61
1,300.00	1,296.63	1,296.63	1,296.63	2.78	49.57	-158.00	30.85	49.31	103.76	52.32	51.44
1,400.00	1,394.44	1,394.44	1,394.44	3.13	53.48	-161.49	30.85	49.31	123.32	68.19	55.13
1,500.00	1,491.46	1,491.46	1,491.46	3.53	57.36	-164.36	30.85	49.31	146.51	87.85	58.66
1,600.00	1,587.58	1,587.58	1,587.58	4.00	61.20	-166.68	30.85	49.31	173.27	111.23	62.04
1,700.00	1,682.68	1,682.68	1,682.68	4.53	65.01	-168.56	30.85	49.31	203.52	138.29	65.23
1,800.00	1,776.65	1,776.65	1,776.65	5.12	68.77	-170.07	30.85	49.31	237.20	168.97	68.22

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_BURCHFIELD STATE 36-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Reference Site:	WELD_BURCHFIELD STATE 4 PAD	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BURCHFIELD STATE 36-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-02-09 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
1,900.00	1,869.36	1,869.36	1,869.36	5.78	72.47	-171.30	30.85	49.31	274.23	203.22	71.01	3.862	
1,970.51	1,933.92	1,933.92	1,933.92	6.29	75.06	-172.03	30.85	49.31	302.33	229.48	72.85	4.150	
2,000.00	1,960.78	1,960.78	1,960.78	6.51	76.13	-172.33	30.85	49.31	314.42	240.51	73.91	4.254	
2,100.00	2,051.84	2,051.84	2,051.84	7.26	79.77	-173.22	30.85	49.31	355.48	277.95	77.53	4.585	
2,200.00	2,142.90	2,142.90	2,142.90	8.02	83.42	-173.93	30.85	49.31	396.59	315.43	81.15	4.887	
2,300.00	2,233.96	2,233.96	2,233.96	8.80	87.06	-174.50	30.85	49.31	437.74	352.95	84.79	5.163	
2,400.00	2,325.02	2,325.02	2,325.02	9.58	90.70	-174.97	30.85	49.31	478.92	390.49	88.43	5.416	
2,500.00	2,416.08	2,416.08	2,416.08	10.36	94.34	-175.37	30.85	49.31	520.13	428.04	92.08	5.648	
2,600.00	2,507.14	2,507.14	2,507.14	11.15	97.99	-175.71	30.85	49.31	561.35	465.61	95.74	5.864	
2,700.00	2,598.20	2,598.20	2,598.20	11.95	101.63	-176.00	30.85	49.31	602.59	503.19	99.39	6.063	
2,800.00	2,689.26	2,689.26	2,689.26	12.75	105.27	-176.26	30.85	49.31	643.84	540.78	103.05	6.248	
2,900.00	2,780.32	2,780.32	2,780.32	13.54	108.91	-176.49	30.85	49.31	685.09	578.38	106.72	6.420	
3,000.00	2,871.39	2,871.39	2,871.39	14.35	112.56	-176.69	30.85	49.31	726.36	615.98	110.38	6.580	
3,100.00	2,962.45	2,962.45	2,962.45	15.15	116.20	-176.86	30.85	49.31	767.63	653.58	114.05	6.731	
3,200.00	3,053.51	3,053.51	3,053.51	15.95	119.84	-177.02	30.85	49.31	808.91	691.19	117.72	6.871	
3,300.00	3,144.57	3,144.57	3,144.57	16.76	123.48	-177.17	30.85	49.31	850.19	728.80	121.39	7.004	
3,400.00	3,235.63	3,235.63	3,235.63	17.57	127.13	-177.30	30.85	49.31	891.48	766.41	125.06	7.128	
3,500.00	3,326.69	3,326.69	3,326.69	18.37	130.77	-177.42	30.85	49.31	932.77	804.03	128.74	7.245	
3,600.00	3,417.75	3,417.75	3,417.75	19.18	134.41	-177.53	30.85	49.31	974.06	841.65	132.41	7.356	
3,700.00	3,508.81	3,508.81	3,508.81	19.99	138.05	-177.63	30.85	49.31	1,015.36	879.27	136.09	7.461	
3,800.00	3,599.87	3,599.87	3,599.87	20.80	141.69	-177.72	30.85	49.31	1,056.66	916.89	139.76	7.560	
3,900.00	3,690.93	3,690.93	3,690.93	21.61	145.34	-177.81	30.85	49.31	1,097.96	954.52	143.44	7.654	
4,000.00	3,782.00	3,782.00	3,782.00	22.42	148.98	-177.89	30.85	49.31	1,139.26	992.14	147.12	7.744	
4,100.00	3,873.06	3,873.06	3,873.06	23.23	152.62	-177.96	30.85	49.31	1,180.56	1,029.77	150.80	7.829	
4,200.00	3,964.12	3,964.12	3,964.12	24.04	156.26	-178.03	30.85	49.31	1,221.87	1,067.40	154.47	7.910	
4,300.00	4,055.18	4,055.18	4,055.18	24.86	159.91	-178.09	30.85	49.31	1,263.18	1,105.02	158.15	7.987	
4,400.00	4,146.24	4,146.24	4,146.24	25.67	163.55	-178.15	30.85	49.31	1,304.49	1,142.65	161.83	8.061	
4,500.00	4,237.30	4,237.30	4,237.30	26.48	167.19	-178.21	30.85	49.31	1,345.80	1,180.28	165.51	8.131	
4,600.00	4,328.36	4,328.36	4,328.36	27.29	170.83	-178.26	30.85	49.31	1,387.11	1,217.91	169.19	8.198	
4,700.00	4,419.42	4,419.42	4,419.42	28.11	174.48	-178.31	30.85	49.31	1,428.42	1,255.54	172.87	8.263	
4,800.00	4,510.48	4,510.48	4,510.48	28.92	178.12	-178.36	30.85	49.31	1,469.73	1,293.17	176.55	8.324	
4,900.00	4,601.54	4,601.54	4,601.54	29.73	181.76	-178.41	30.85	49.31	1,511.04	1,330.81	180.24	8.384	
5,000.00	4,692.61	4,692.61	4,692.61	30.55	185.40	-178.45	30.85	49.31	1,552.36	1,368.44	183.92	8.441	
5,100.00	4,783.67	4,783.67	4,783.67	31.36	189.05	-178.49	30.85	49.31	1,593.67	1,406.07	187.60	8.495	
5,200.00	4,874.73	4,874.73	4,874.73	32.17	192.69	-178.53	30.85	49.31	1,634.99	1,443.70	191.28	8.548	
5,300.00	4,965.79	4,965.79	4,965.79	32.99	196.33	-178.56	30.85	49.31	1,676.30	1,481.34	194.96	8.598	
5,400.00	5,056.85	5,056.85	5,056.85	33.80	199.97	-178.60	30.85	49.31	1,717.62	1,518.97	198.65	8.647	
5,465.04	5,116.08	5,116.08	5,116.08	34.33	202.34	-178.62	30.85	49.31	1,744.49	1,543.45	201.04	8.677	
5,500.00	5,148.00	5,148.00	5,148.00	34.57	203.62	-178.64	30.85	49.31	1,758.74	1,555.44	203.30	8.651	
5,600.00	5,240.24	5,240.24	5,240.24	35.12	207.31	-178.69	30.85	49.31	1,797.34	1,587.60	209.73	8.570	
5,700.00	5,333.77	5,333.77	5,333.77	35.63	211.05	-178.73	30.85	49.31	1,832.69	1,616.58	216.11	8.480	
5,800.00	5,428.48	5,428.48	5,428.48	36.10	214.84	-178.77	30.85	49.31	1,864.76	1,642.41	222.35	8.387	
5,900.00	5,524.25	5,524.25	5,524.25	36.54	218.67	-178.80	30.85	49.31	1,893.51	1,665.09	228.42	8.290	
6,000.00	5,620.97	5,620.97	5,620.97	36.93	222.54	-178.82	30.85	49.31	1,918.90	1,684.59	234.31	8.190	
6,100.00	5,718.52	5,718.52	5,718.52	37.29	226.44	-178.85	30.85	49.31	1,940.90	1,700.91	239.99	8.087	
6,200.00	5,816.77	5,816.77	5,816.77	37.59	230.37	-178.87	30.85	49.31	1,959.48	1,714.03	245.44	7.983	
6,300.00	5,915.61	5,915.61	5,915.61	37.86	234.32	-178.88	30.85	49.31	1,974.62	1,723.97	250.65	7.878	
6,400.00	6,014.92	6,014.92	6,014.92	38.08	238.30	-178.89	30.85	49.31	1,986.30	1,730.71	255.60	7.771	
6,500.00	6,114.58	6,114.58	6,114.58	38.25	242.28	-178.90	30.85	49.31	1,994.51	1,734.26	260.25	7.664	
6,600.00	6,214.46	6,214.46	6,214.46	38.37	246.28	-178.90	30.85	49.31	1,999.24	1,734.64	264.60	7.556	
6,685.55	6,300.00	6,300.00	6,300.00	38.45	249.70	17.94	30.85	49.31	2,000.52	1,732.45	268.07	7.463	
6,700.00	6,314.45	6,314.45	6,314.45	38.46	250.28	17.94	30.85	49.31	2,000.52	1,731.85	268.67	7.446	

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_BURCHFIELD STATE 36-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Reference Site:	WELD_BURCHFIELD STATE 4 PAD	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BURCHFIELD STATE 36-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-02-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design		WELD_BURCHFIELD STATE 4 PAD - HSR-DANTZKER #10-16 EXISTING WELL - HSR-DANTZKER #										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					
6,800.00	6,414.45	6,414.45	6,414.45	38.52	254.28	17.94	30.85	49.31	2,000.52	1,727.71	272.81	7.333					
6,900.00	6,514.45	6,514.45	6,514.45	38.59	258.28	17.94	30.85	49.31	2,000.52	1,723.58	276.94	7.224					
7,000.00	6,614.45	6,614.45	6,614.45	38.65	262.28	17.94	30.85	49.31	2,000.52	1,719.44	281.08	7.117					
7,100.00	6,714.45	6,714.45	6,714.45	38.72	266.28	17.94	30.85	49.31	2,000.52	1,715.30	285.22	7.014					
7,200.00	6,814.45	6,814.45	6,814.45	38.78	270.28	17.94	30.85	49.31	2,000.52	1,711.16	289.36	6.914					
7,300.00	6,914.45	6,914.45	6,914.45	38.85	274.28	17.94	30.85	49.31	2,000.52	1,707.02	293.50	6.816					
7,400.00	7,014.45	7,014.45	7,014.45	38.92	278.28	17.94	30.85	49.31	2,000.52	1,702.88	297.64	6.721					
7,500.00	7,114.45	7,114.45	7,114.45	38.99	282.28	17.94	30.85	49.31	2,000.52	1,698.73	301.79	6.629					
7,600.00	7,214.45	7,214.45	7,214.45	39.06	286.28	17.94	30.85	49.31	2,000.52	1,694.58	305.94	6.539					
7,615.55	7,230.00	7,230.00	7,230.00	39.08	286.90	17.94	30.85	49.31	2,000.52	1,693.94	306.58	6.525					

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



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BURCHFIELD STATE 36-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Reference Site:	WELD_BURCHFIELD STATE 4 PAD	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BURCHFIELD STATE 36-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-02-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BURCHFIELD STATE 4 PAD - P_BURCHFIELD STATE 23-16 - P_BURCHFIELD STATE 23-16												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.59	0.00	14.59				
100.00	100.00	100.00	100.00	0.10	0.11	0.00	14.59	0.00	14.59	14.38	0.21	70.165	
200.00	200.00	200.00	200.00	0.32	0.34	0.00	14.59	0.00	14.59	13.93	0.66	22.189	
300.00	300.00	300.00	300.00	0.55	0.56	0.00	14.59	0.00	14.59	13.48	1.11	13.178	
400.00	400.00	400.00	400.00	0.77	0.79	0.00	14.59	0.00	14.59	13.03	1.56	9.372	
500.00	500.00	500.00	500.00	0.99	1.01	0.00	14.59	0.00	14.59	12.58	2.01	7.272	
600.00	600.00	600.00	600.00	1.22	1.24	0.00	14.59	0.00	14.59	12.13	2.46	5.941	
700.00	700.00	700.00	700.00	1.44	1.46	0.00	14.59	0.00	14.59	11.68	2.91	5.022	
750.00	750.00	750.00	750.00	1.56	1.57	0.00	14.59	0.00	14.59	11.46	3.13	4.661 CC	
800.00	800.00	800.17	800.17	1.65	1.67	162.40	14.29	-0.32	14.71	11.38	3.33	4.419 ES	
900.00	899.93	900.50	900.43	1.83	1.86	156.79	11.89	-2.89	15.75	12.06	3.69	4.272 SF	
1,000.00	999.68	1,000.74	1,000.42	2.02	2.06	147.71	7.09	-8.01	18.20	14.13	4.07	4.470	
1,100.00	1,099.13	1,100.87	1,099.99	2.24	2.29	138.16	-0.08	-15.67	22.48	17.98	4.50	4.996	
1,200.00	1,198.15	1,200.82	1,198.96	2.49	2.54	130.10	-9.60	-25.85	28.78	23.79	4.99	5.766	
1,300.00	1,296.63	1,300.55	1,297.17	2.78	2.84	124.00	-21.45	-38.51	37.12	31.55	5.57	6.663	
1,400.00	1,394.44	1,400.02	1,394.46	3.13	3.19	119.53	-35.59	-53.61	47.42	41.17	6.25	7.585	
1,500.00	1,491.46	1,499.18	1,490.67	3.53	3.60	116.25	-51.97	-71.12	59.62	52.57	7.05	8.460	
1,600.00	1,587.58	1,598.00	1,585.67	4.00	4.07	113.79	-70.55	-90.97	73.63	65.67	7.96	9.248	
1,700.00	1,682.68	1,696.43	1,679.30	4.53	4.60	111.90	-91.27	-113.11	89.42	80.42	9.00	9.933	
1,800.00	1,776.65	1,794.43	1,771.45	5.12	5.20	110.41	-114.07	-137.48	106.94	96.77	10.17	10.515	
1,900.00	1,869.36	1,892.31	1,862.45	5.78	5.85	109.40	-138.70	-163.80	126.08	114.63	11.45	11.007	
1,970.51	1,933.92	1,961.37	1,926.54	6.29	6.33	109.48	-156.26	-182.56	140.31	127.90	12.40	11.312	
2,000.00	1,960.78	1,990.22	1,953.32	6.51	6.53	109.75	-163.59	-190.39	146.38	133.57	12.81	11.428	
2,100.00	2,051.84	2,088.05	2,044.13	7.26	7.23	110.50	-188.47	-216.97	166.99	152.78	14.21	11.755	
2,200.00	2,142.90	2,185.88	2,134.94	8.02	7.93	111.09	-213.34	-243.55	187.62	172.00	15.62	12.010	
2,300.00	2,233.96	2,283.71	2,225.75	8.80	8.64	111.57	-238.21	-270.13	208.27	191.21	17.05	12.211	
2,400.00	2,325.02	2,381.55	2,316.55	9.58	9.36	111.95	-263.09	-296.70	228.92	210.42	18.50	12.375	
2,500.00	2,416.08	2,479.38	2,407.36	10.36	10.08	112.28	-287.96	-323.28	249.59	229.64	19.95	12.509	
2,600.00	2,507.14	2,577.21	2,498.17	11.15	10.81	112.55	-312.83	-349.86	270.26	248.85	21.41	12.622	
2,700.00	2,598.20	2,675.04	2,588.98	11.95	11.54	112.79	-337.71	-376.44	290.94	268.06	22.88	12.717	
2,800.00	2,689.26	2,772.88	2,679.79	12.75	12.27	112.99	-362.58	-403.02	311.62	287.27	24.35	12.798	
2,900.00	2,780.32	2,870.71	2,770.60	13.54	13.00	113.17	-387.45	-429.59	332.30	306.48	25.82	12.869	
3,000.00	2,871.39	2,968.54	2,861.40	14.35	13.74	113.33	-412.33	-456.17	352.99	325.69	27.30	12.930	
3,100.00	2,962.45	3,066.37	2,952.21	15.15	14.48	113.47	-437.20	-482.75	373.68	344.90	28.78	12.985	
3,200.00	3,053.51	3,164.83	3,043.86	15.95	15.14	113.70	-461.77	-509.01	394.32	364.14	30.18	13.065	
3,300.00	3,144.57	3,263.51	3,136.83	16.76	15.69	114.36	-484.36	-533.15	414.77	383.35	31.42	13.199	
3,400.00	3,235.63	3,361.85	3,230.56	17.57	16.16	115.41	-504.69	-554.86	435.12	402.57	32.55	13.367	
3,500.00	3,326.69	3,459.62	3,324.71	18.37	16.59	116.78	-522.70	-574.11	455.52	421.94	33.59	13.563	
3,600.00	3,417.75	3,556.61	3,418.93	19.18	16.98	118.44	-538.39	-590.87	476.18	441.67	34.51	13.797	
3,700.00	3,508.81	3,652.60	3,512.90	19.99	17.33	120.31	-551.76	-605.17	497.33	462.00	35.32	14.079	
3,800.00	3,599.87	3,747.40	3,606.30	20.80	17.63	122.37	-562.85	-617.01	519.20	483.19	36.01	14.417	
3,900.00	3,690.93	3,840.82	3,698.81	21.61	17.89	124.57	-571.71	-626.48	542.06	505.49	36.58	14.820	
4,000.00	3,782.00	3,932.70	3,790.17	22.42	18.10	126.86	-578.41	-633.63	566.16	529.14	37.01	15.297	
4,100.00	3,873.06	4,022.90	3,880.11	23.23	18.27	129.21	-583.03	-638.57	591.72	554.39	37.32	15.854	
4,200.00	3,964.12	4,111.29	3,968.41	24.04	18.40	131.59	-585.68	-641.41	618.96	581.44	37.52	16.496	
4,300.00	4,055.18	4,198.07	4,055.18	24.86	18.50	133.98	-586.47	-642.25	648.07	610.46	37.61	17.230	
4,400.00	4,146.24	4,289.13	4,146.24	25.67	18.59	136.39	-586.47	-642.25	678.72	641.10	37.62	18.042	
4,500.00	4,237.30	4,380.19	4,237.30	26.48	18.68	138.60	-586.47	-642.25	710.45	672.84	37.62	18.886	
4,600.00	4,328.36	4,471.25	4,328.36	27.29	18.77	140.63	-586.47	-642.25	743.13	705.51	37.62	19.754	
4,700.00	4,419.42	4,562.32	4,419.42	28.11	18.86	142.51	-586.47	-642.25	776.63	739.00	37.63	20.639	
4,800.00	4,510.48	4,653.38	4,510.48	28.92	18.95	144.23	-586.47	-642.25	810.86	773.18	37.68	21.522	
4,900.00	4,601.54	4,744.44	4,601.54	29.73	19.05	145.82	-586.47	-642.25	845.72	807.96	37.76	22.396	

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_BURCHFIELD STATE 36-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Reference Site:	WELD_BURCHFIELD STATE 4 PAD	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BURCHFIELD STATE 36-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-02-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BURCHFIELD STATE 4 PAD - P_BURCHFIELD STATE 23-16 - P_BURCHFIELD STATE 23-16												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	
5,000.00	4,692.61	4,835.50	4,692.61	30.55	19.14	147.30	-586.47	-642.25	881.14	843.27	37.86	23.271	
5,100.00	4,783.67	4,926.56	4,783.67	31.36	19.24	148.66	-586.47	-642.25	917.05	879.06	37.99	24.142	
5,200.00	4,874.73	5,017.62	4,874.73	32.17	19.34	149.92	-586.47	-642.25	953.40	915.28	38.12	25.007	
5,300.00	4,965.79	5,108.68	4,965.79	32.99	19.44	151.10	-586.47	-642.25	990.14	951.86	38.28	25.864	
5,400.00	5,056.85	5,199.74	5,056.85	33.80	19.55	152.19	-586.47	-642.25	1,027.23	988.78	38.46	26.711	
5,465.04	5,116.08	5,258.97	5,116.08	34.33	19.62	152.86	-586.47	-642.25	1,051.53	1,012.95	38.58	27.255	
5,500.00	5,148.00	5,290.89	5,148.00	34.57	19.65	153.33	-586.47	-642.25	1,064.46	1,025.82	38.64	27.550	
5,600.00	5,240.24	5,383.13	5,240.24	35.12	19.76	154.55	-586.47	-642.25	1,099.65	1,060.88	38.78	28.360	
5,700.00	5,333.77	5,476.66	5,333.77	35.63	19.87	155.59	-586.47	-642.25	1,132.09	1,093.15	38.94	29.072	
5,800.00	5,428.48	5,571.37	5,428.48	36.10	19.99	156.49	-586.47	-642.25	1,161.65	1,122.53	39.12	29.694	
5,900.00	5,524.25	5,667.15	5,524.25	36.54	20.10	157.25	-586.47	-642.25	1,188.27	1,148.96	39.31	30.229	
6,000.00	5,620.97	5,763.86	5,620.97	36.93	20.22	157.90	-586.47	-642.25	1,211.85	1,172.35	39.50	30.682	
6,100.00	5,718.52	5,861.41	5,718.52	37.29	20.35	158.44	-586.47	-642.25	1,232.34	1,192.67	39.68	31.059	
6,200.00	5,816.77	5,959.66	5,816.77	37.59	20.47	158.88	-586.47	-642.25	1,249.69	1,209.85	39.85	31.362	
6,300.00	5,915.61	6,058.50	5,915.61	37.86	20.60	159.22	-586.47	-642.25	1,263.86	1,223.86	40.00	31.596	
6,400.00	6,014.92	6,157.81	6,014.92	38.08	20.73	159.49	-586.47	-642.25	1,274.80	1,234.67	40.14	31.763	
6,500.00	6,114.58	6,257.47	6,114.58	38.25	20.86	159.67	-586.47	-642.25	1,282.50	1,242.25	40.25	31.864	
6,600.00	6,214.46	6,357.35	6,214.46	38.37	20.99	159.77	-586.47	-642.25	1,286.94	1,246.60	40.34	31.901	
6,685.55	6,300.00	6,442.89	6,300.00	38.45	21.11	-3.35	-586.47	-642.25	1,288.14	1,247.73	40.41	31.878	
6,700.00	6,314.45	6,457.34	6,314.45	38.46	21.13	-3.35	-586.47	-642.25	1,288.14	1,247.69	40.45	31.846	
6,800.00	6,414.45	6,557.34	6,414.45	38.52	21.27	-3.35	-586.47	-642.25	1,288.14	1,247.42	40.72	31.635	
6,900.00	6,514.45	6,657.34	6,514.45	38.59	21.40	-3.35	-586.47	-642.25	1,288.14	1,247.15	40.99	31.425	
7,000.00	6,614.45	6,757.34	6,614.45	38.65	21.54	-3.35	-586.47	-642.25	1,288.14	1,246.87	41.27	31.214	
7,100.00	6,714.45	6,857.34	6,714.45	38.72	21.69	-3.35	-586.47	-642.25	1,288.14	1,246.59	41.55	31.005	
7,200.00	6,814.45	6,957.34	6,814.45	38.78	21.83	-3.35	-586.47	-642.25	1,288.14	1,246.31	41.83	30.796	
7,300.00	6,914.45	7,057.34	6,914.45	38.85	21.97	-3.35	-586.47	-642.25	1,288.14	1,246.03	42.11	30.587	
7,400.00	7,014.45	7,157.34	7,014.45	38.92	22.12	-3.35	-586.47	-642.25	1,288.14	1,245.74	42.40	30.380	
7,500.00	7,114.45	7,257.34	7,114.45	38.99	22.26	-3.35	-586.47	-642.25	1,288.14	1,245.45	42.69	30.173	
7,600.00	7,214.45	7,357.34	7,214.45	39.06	22.41	-3.35	-586.47	-642.25	1,288.14	1,245.15	42.98	29.967	
7,615.55	7,230.00	7,372.89	7,230.00	39.08	22.44	-3.35	-586.47	-642.25	1,288.14	1,245.11	43.03	29.936	



Weatherford International Ltd.

Anticollision Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BURCHFIELD STATE 36-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Reference Site:	WELD_BURCHFIELD STATE 4 PAD	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BURCHFIELD STATE 36-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-02-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BURCHFIELD STATE 4 PAD - P_BURCHFIELD STATE 25-16 - P_BURCHFIELD STATE 25-16													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	171.628		
200.00	200.00	200.00	200.00	0.32	0.32	0.00	32.79	0.00	32.79	32.15	0.64	51.187		
300.00	300.00	300.00	300.00	0.55	0.55	0.00	32.79	0.00	32.79	31.70	1.09	30.079		
400.00	400.00	400.00	400.00	0.77	0.77	0.00	32.79	0.00	32.79	31.25	1.54	21.297		
500.00	500.00	500.00	500.00	0.99	0.99	0.00	32.79	0.00	32.79	30.80	1.99	16.484		
600.00	600.00	600.00	600.00	1.22	1.22	0.00	32.79	0.00	32.79	30.35	2.44	13.446		
700.00	700.00	700.00	700.00	1.44	1.44	0.00	32.79	0.00	32.79	29.90	2.89	11.353		
750.00	750.00	750.00	750.00	1.56	1.56	0.00	32.79	0.00	32.79	29.68	3.11	10.533 CC, ES		
800.00	800.00	799.54	799.54	1.65	1.67	162.91	33.13	-0.27	33.55	30.23	3.32	10.102 SF		
900.00	899.93	898.35	898.28	1.83	1.88	161.29	35.80	-2.39	39.61	35.90	3.71	10.673		
1,000.00	999.68	996.32	996.02	2.02	2.11	159.16	41.08	-6.57	51.76	47.65	4.11	12.592		
1,100.00	1,099.13	1,092.93	1,092.11	2.24	2.34	157.33	48.86	-12.73	69.95	65.44	4.52	15.483		
1,200.00	1,198.15	1,187.66	1,185.96	2.49	2.59	155.95	58.94	-20.73	94.08	89.15	4.94	19.060		
1,300.00	1,296.63	1,280.07	1,277.05	2.78	2.87	154.91	71.11	-30.38	123.98	118.61	5.37	23.101		
1,400.00	1,394.44	1,369.74	1,364.92	3.13	3.18	154.10	85.12	-41.48	159.46	153.64	5.81	27.434		
1,500.00	1,491.46	1,456.32	1,449.19	3.53	3.51	153.44	100.68	-53.81	200.29	194.02	6.27	31.922		
1,600.00	1,587.58	1,539.52	1,529.57	4.00	3.87	152.85	117.51	-67.15	246.25	239.50	6.75	36.462		
1,700.00	1,682.68	1,619.11	1,605.84	4.53	4.25	152.29	135.31	-81.27	297.08	289.83	7.25	40.973		
1,800.00	1,776.65	1,694.90	1,677.86	5.12	4.65	151.74	153.80	-95.92	352.51	344.75	7.77	45.391		
1,900.00	1,869.36	1,766.77	1,745.55	5.78	5.07	151.18	172.71	-110.91	412.28	403.98	8.31	49.642		
1,970.51	1,933.92	1,815.04	1,790.68	6.29	5.37	150.76	186.16	-121.57	456.88	448.19	8.69	52.549		
2,000.00	1,960.78	1,834.72	1,808.99	6.51	5.50	150.81	191.81	-126.05	476.01	467.13	8.88	53.584		
2,100.00	2,051.84	1,900.00	1,869.36	7.26	5.93	150.90	211.26	-141.47	541.85	532.33	9.53	56.875		
2,200.00	2,142.90	1,963.05	1,927.13	8.02	6.39	150.88	231.07	-157.16	609.14	598.95	10.19	59.780		
2,300.00	2,233.96	2,031.59	1,989.42	8.80	6.91	150.79	253.47	-174.92	677.54	666.65	10.89	62.242		
2,400.00	2,325.02	2,104.44	2,055.59	9.58	7.47	150.71	277.35	-193.86	746.03	734.43	11.61	64.277		
2,500.00	2,416.08	2,177.29	2,121.76	10.36	8.05	150.64	301.24	-212.79	814.53	802.19	12.34	66.009		
2,600.00	2,507.14	2,250.15	2,187.93	11.15	8.63	150.58	325.12	-231.72	883.03	869.95	13.08	67.507		
2,700.00	2,598.20	2,323.00	2,254.10	11.95	9.22	150.53	349.01	-250.66	951.53	937.70	13.83	68.814		
2,800.00	2,689.26	2,395.85	2,320.27	12.75	9.81	150.49	372.90	-269.59	1,020.03	1,005.45	14.58	69.959		
2,900.00	2,780.32	2,468.70	2,386.44	13.54	10.40	150.45	396.78	-288.52	1,088.53	1,073.19	15.34	70.963		
3,000.00	2,871.39	2,541.56	2,452.61	14.35	11.00	150.42	420.67	-307.46	1,157.03	1,140.93	16.10	71.855		
3,100.00	2,962.45	2,614.41	2,518.78	15.15	11.60	150.39	444.55	-326.39	1,225.53	1,208.66	16.87	72.652		
3,200.00	3,053.51	2,687.26	2,584.95	15.95	12.20	150.36	468.44	-345.32	1,294.03	1,276.39	17.64	73.364		
3,300.00	3,144.57	2,760.11	2,651.12	16.76	12.80	150.34	492.32	-364.25	1,362.53	1,344.12	18.41	74.004		
3,400.00	3,235.63	2,832.96	2,717.29	17.57	13.41	150.31	516.21	-383.19	1,431.03	1,411.85	19.19	74.583		
3,500.00	3,326.69	2,905.82	2,783.46	18.37	14.01	150.29	540.10	-402.12	1,499.53	1,479.57	19.96	75.110		
3,600.00	3,417.75	2,978.67	2,849.63	19.18	14.62	150.28	563.98	-421.05	1,568.04	1,547.29	20.74	75.588		
3,700.00	3,508.81	3,093.92	2,954.83	19.99	15.49	150.28	600.85	-450.28	1,635.98	1,614.33	21.65	75.571		
3,800.00	3,599.87	3,247.45	3,097.67	20.80	16.41	150.44	644.91	-485.20	1,700.84	1,678.25	22.59	75.290		
3,900.00	3,690.93	3,413.14	3,254.98	21.61	17.29	150.77	685.65	-517.50	1,761.96	1,738.43	23.53	74.882		
4,000.00	3,782.00	3,591.27	3,427.13	22.42	18.10	151.28	721.43	-545.85	1,818.92	1,794.47	24.45	74.394		
4,100.00	3,873.06	3,781.75	3,613.97	23.23	18.78	151.98	750.33	-568.76	1,871.28	1,845.95	25.33	73.877		
4,200.00	3,964.12	3,984.06	3,814.62	24.04	19.31	152.87	770.30	-584.59	1,918.62	1,892.47	26.15	73.377		
4,300.00	4,055.18	4,197.14	4,027.34	24.86	19.66	153.96	779.28	-591.71	1,960.54	1,933.66	26.88	72.943		
4,400.00	4,146.24	4,316.04	4,146.24	25.67	19.77	154.62	779.59	-591.96	1,998.55	1,971.09	27.46	72.783		
4,500.00	4,237.30	4,407.10	4,237.30	26.48	19.86	155.11	779.59	-591.96	2,036.55	2,008.54	28.02	72.685		
4,600.00	4,328.36	4,498.16	4,328.36	27.29	19.95	155.59	779.59	-591.96	2,074.69	2,046.11	28.57	72.605		
4,700.00	4,419.42	4,589.22	4,419.42	28.11	20.04	156.04	779.59	-591.96	2,112.94	2,083.81	29.13	72.541		
4,800.00	4,510.48	4,680.28	4,510.48	28.92	20.13	156.49	779.59	-591.96	2,151.30	2,121.63	29.68	72.491		
4,900.00	4,601.54	4,771.34	4,601.54	29.73	20.23	156.91	779.59	-591.96	2,189.78	2,159.55	30.22	72.453		

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



Weatherford International Ltd.

Anticollision Report



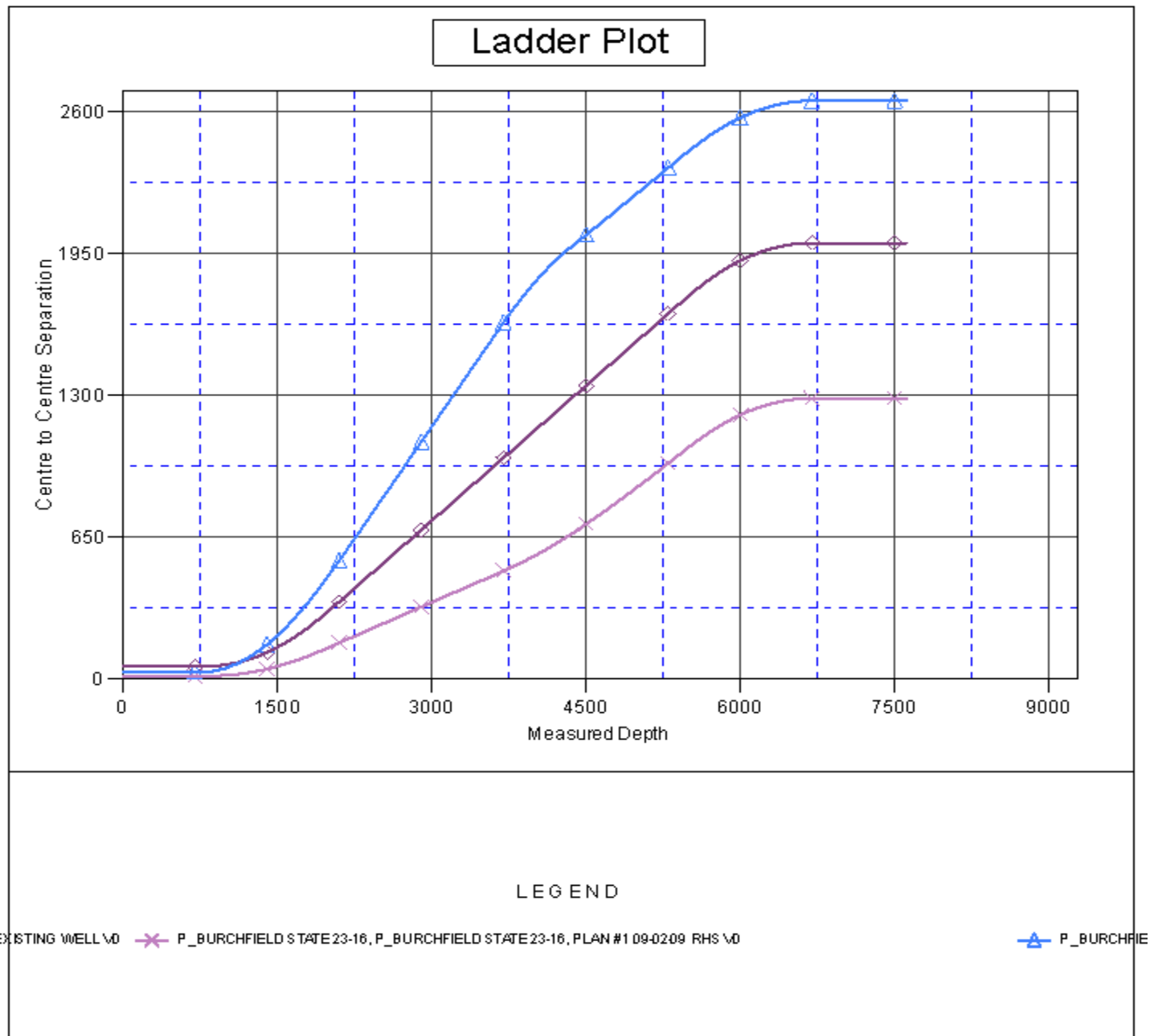
Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BURCHFIELD STATE 36-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
Reference Site:	WELD_BURCHFIELD STATE 4 PAD	MD Reference:	WELL @ 4799.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BURCHFIELD STATE 36-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-02-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_BURCHFIELD STATE 4 PAD - P_BURCHFIELD STATE 25-16 - P_BURCHFIELD STATE 25-16												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	
5,000.00	4,692.61	4,862.40	4,692.61	30.55	20.32	157.32	779.59	-591.96	2,228.35	2,197.59	30.77	72.427	
5,100.00	4,783.67	4,953.46	4,783.67	31.36	20.42	157.72	779.59	-591.96	2,267.03	2,235.72	31.31	72.411	
5,200.00	4,874.73	5,044.52	4,874.73	32.17	20.52	158.10	779.59	-591.96	2,305.79	2,273.94	31.85	72.403	
5,300.00	4,965.79	5,135.59	4,965.79	32.99	20.62	158.48	779.59	-591.96	2,344.64	2,312.26	32.38	72.404	
5,400.00	5,056.85	5,226.65	5,056.85	33.80	20.72	158.84	779.59	-591.96	2,383.58	2,350.66	32.92	72.411	
5,465.04	5,116.08	5,285.87	5,116.08	34.33	20.79	159.07	779.59	-591.96	2,408.95	2,375.68	33.26	72.419	
5,500.00	5,148.00	5,317.79	5,148.00	34.57	20.83	159.29	779.59	-591.96	2,422.41	2,388.88	33.53	72.247	
5,600.00	5,240.24	5,410.04	5,240.24	35.12	20.93	159.88	779.59	-591.96	2,458.92	2,424.69	34.23	71.835	
5,700.00	5,333.77	5,503.57	5,333.77	35.63	21.04	160.39	779.59	-591.96	2,492.43	2,457.53	34.89	71.428	
5,800.00	5,428.48	5,598.28	5,428.48	36.10	21.16	160.85	779.59	-591.96	2,522.86	2,487.34	35.52	71.032	
5,900.00	5,524.25	5,694.05	5,524.25	36.54	21.27	161.24	779.59	-591.96	2,550.18	2,514.08	36.10	70.648	
6,000.00	5,620.97	5,790.77	5,620.97	36.93	21.39	161.58	779.59	-591.96	2,574.32	2,537.69	36.63	70.278	
6,100.00	5,718.52	5,888.31	5,718.52	37.29	21.51	161.87	779.59	-591.96	2,595.27	2,558.15	37.12	69.922	
6,200.00	5,816.77	5,986.56	5,816.77	37.59	21.63	162.10	779.59	-591.96	2,612.97	2,575.42	37.55	69.581	
6,300.00	5,915.61	6,085.41	5,915.61	37.86	21.76	162.30	779.59	-591.96	2,627.40	2,589.47	37.94	69.254	
6,400.00	6,014.92	6,184.72	6,014.92	38.08	21.89	162.44	779.59	-591.96	2,638.55	2,600.28	38.27	68.940	
6,500.00	6,114.58	6,284.37	6,114.58	38.25	22.02	162.54	779.59	-591.96	2,646.38	2,607.83	38.55	68.639	
6,600.00	6,214.46	6,384.26	6,214.46	38.37	22.15	162.60	779.59	-591.96	2,650.90	2,612.11	38.78	68.349	
6,685.55	6,300.00	6,469.80	6,300.00	38.45	22.26	-0.54	779.59	-591.96	2,652.12	2,613.17	38.95	68.099	
6,700.00	6,314.45	6,484.24	6,314.45	38.46	22.28	-0.54	779.59	-591.96	2,652.12	2,613.13	38.99	68.026	
6,800.00	6,414.45	6,584.24	6,414.45	38.52	22.41	-0.54	779.59	-591.96	2,652.12	2,612.84	39.27	67.534	
6,900.00	6,514.45	6,684.24	6,514.45	38.59	22.55	-0.54	779.59	-591.96	2,652.12	2,612.56	39.56	67.044	
7,000.00	6,614.45	6,784.24	6,614.45	38.65	22.69	-0.54	779.59	-591.96	2,652.12	2,612.27	39.85	66.556	
7,100.00	6,714.45	6,884.24	6,714.45	38.72	22.83	-0.54	779.59	-591.96	2,652.12	2,611.97	40.14	66.070	
7,200.00	6,814.45	6,984.24	6,814.45	38.78	22.97	-0.54	779.59	-591.96	2,652.12	2,611.68	40.44	65.587	
7,300.00	6,914.45	7,084.24	6,914.45	38.85	23.11	-0.54	779.59	-591.96	2,652.12	2,611.38	40.73	65.107	
7,400.00	7,014.45	7,184.24	7,014.45	38.92	23.25	-0.54	779.59	-591.96	2,652.12	2,611.08	41.04	64.629	
7,500.00	7,114.45	7,284.24	7,114.45	38.99	23.40	-0.54	779.59	-591.96	2,652.12	2,610.78	41.34	64.155	
7,600.00	7,214.45	7,384.24	7,214.45	39.06	23.54	-0.54	779.59	-591.96	2,652.12	2,610.47	41.65	63.683	
7,615.55	7,230.00	7,399.80	7,230.00	39.08	23.56	-0.54	779.59	-591.96	2,652.12	2,610.42	41.69	63.610	



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Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BURCHFIELD STATE 36-16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BURCHFIELD STATE 36-16	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 09-02-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4799.00ft (Original Well Elev) Coordinates are relative to: P_BURCHFIELD STATE 36-16
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: 0.39°

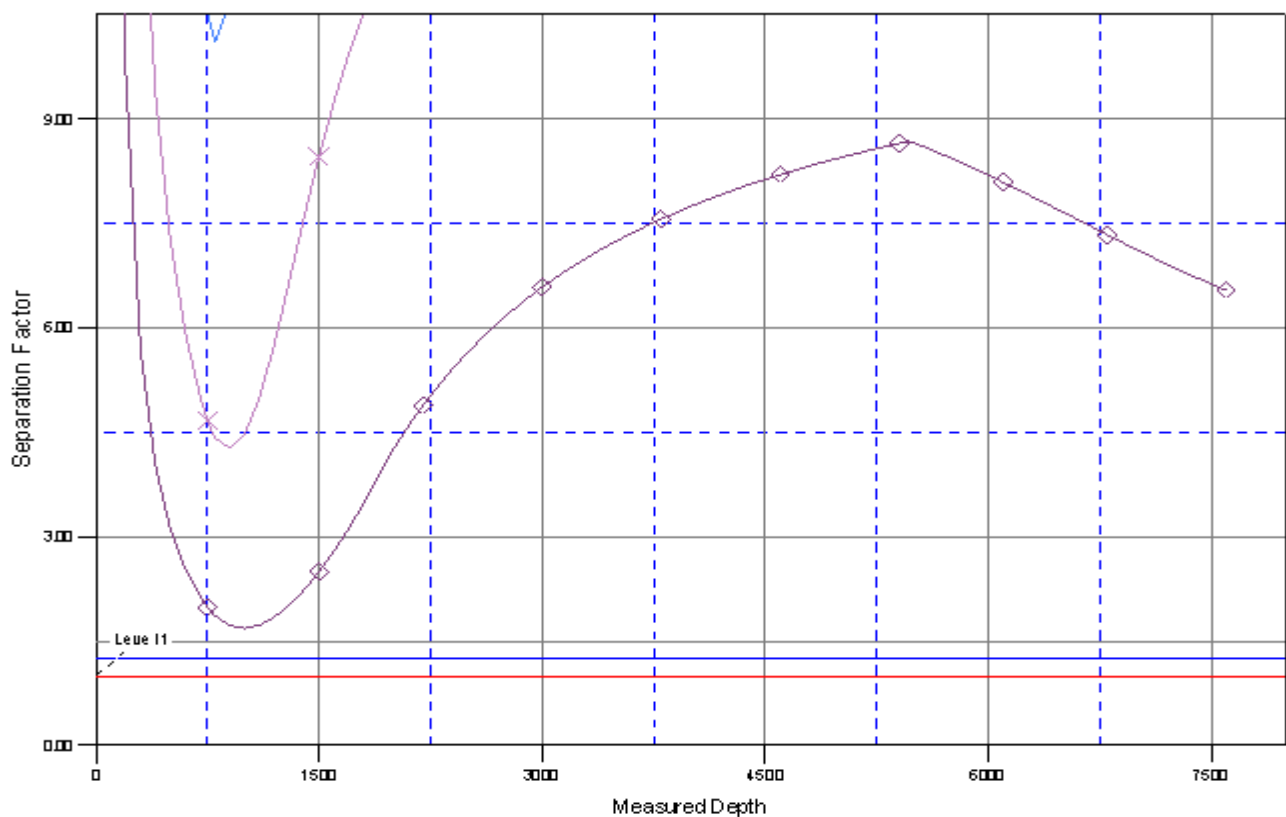




Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BURCHFIELD STATE 36-16
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 4799.00ft (Original Well Elev)
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Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.39°

Separation Factor Plot



LEGEND

EXISTING WELL \O P_BURCHFIELD STATE 23-16, P_BURCHFIELD STATE 23-16, PLAN #1 09-02-09 RHS \O P_BURCHFIELD STATE 36-16