



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_KERR MCGEE 19-3 PAD

P_KERR-MCGEE 22-3

P_KERR-MCGEE 22-3

Plan: PLAN #1 1-15-10 RHS

Standard Planning Report

15 January, 2010





P_KERR-MCGEE 22-3
COLORADO NORTHERN ZONE - 83
SECTION 3 T1N R68W
1729 FSL 1098 FWL
LAT: 40° 4' 39.983 N
LONG: 104° 59' 42.050 W



Azimuths to True North
Magnetic North: 9.15°

Magnetic Field
Strength: 53083.2nT
Dip Angle: 66.80°
Date: 1/15/2010
Model: IGRF2010

WELL DETAILS: P_KERR-MCGEE 22-3

+N/-S	+E/-W	Northing	Ground Level: Easting	5042.00 Latitude	Longitude	Slot
0.00	0.00	1271579.97	3141311.54	40° 4' 39.983 N	104° 59' 42.050 W	

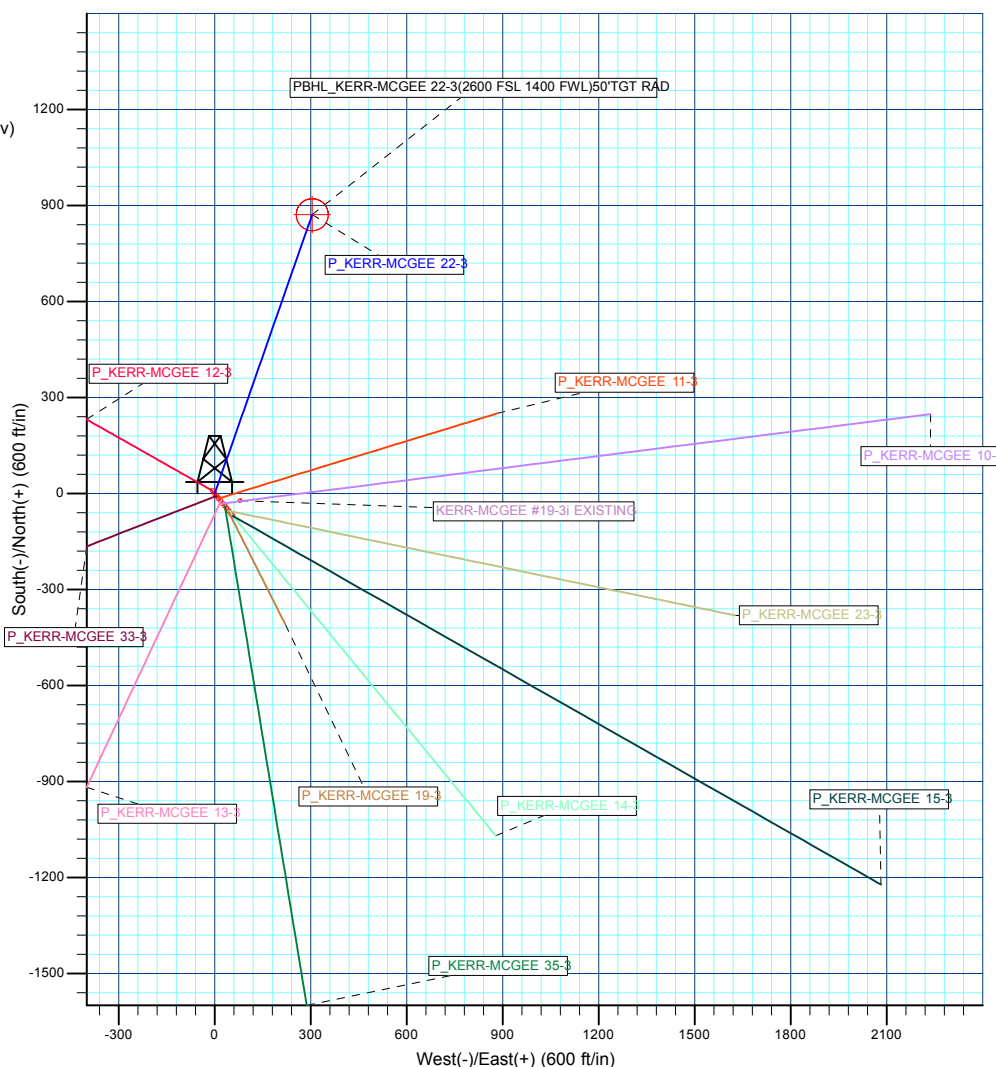
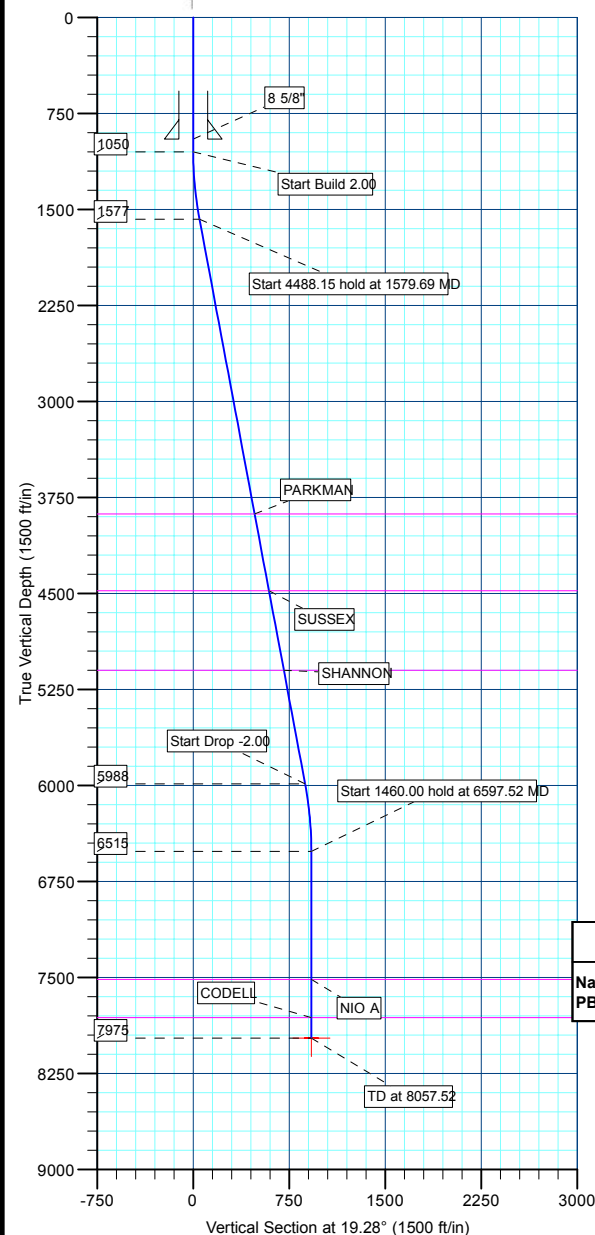
SECTION DETAILS

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	
1050.00	0.00	0.00	1050.00	0.00	0.00	0.00	0.00	0.00	
1579.69	10.59	19.28	1576.67	46.09	16.12	2.00	19.28	48.83	
6067.84	10.59	19.28	5988.33	824.92	288.60	0.00	0.00	873.95	
6597.52	0.00	0.00	6515.00	871.01	304.73	2.00	180.00	922.77	
8057.52	0.00	0.00	7975.00	871.01	304.73	0.00	0.00	922.77	PBHL_KERR-MCGEE 22-3(2600 FSL 1400 FWL)50°TGT RAD

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3880.00	3922.95	PARKMAN
4480.00	4533.36	SUSSEX
5100.00	5164.11	SHANNON
7515.00	7597.52	NIO A
7814.00	7896.52	CODELL

KB ELEV:WELL @ 5057.00ft (Original Well Elev)
3RD ELEV: 5042.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7975.00	871.01	304.73	1272452.70	3141611.30	40° 4' 48.590 N	104° 59' 38.130 W	Circle (Radius: 50.00)

CASING DETAILS

TVD	MD	Name	Size
950.00	950.00	8 5/8"	8.62

Plan: PLAN #1 1-15-10 RHS (P_KERR-MCGEE 22-3/P_KERR-MCGEE 22-3)

Created By: Robert H. Scott

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site:	WELD_KERR MCGEE 19-3 PAD	North Reference:	True
Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 22-3		
Design:	PLAN #1 1-15-10 RHS		

Project	COLORADO NORTHERN ZONE - 83, 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_KERR MCGEE 19-3 PAD, SECTION 3 T1N R68W							
Site Position: From: Position Uncertainty:			Lat/Long 0.00 ft			Northing:		1,271,548.81 ft		Latitude:		40° 4' 39.673 N	
						Easting:		3,141,336.90 ft		Longitude:		104° 59' 41.726 W	
						Slot Radius:		in		Grid Convergence:		0.33 °	

Well	P_KERR-MCGEE 22-3					
Well Position	+N/-S	31.31 ft	Northing:	1,271,579.97 ft	Latitude:	40° 4' 39.983 N
	+E/-W	-25.19 ft	Easting:	3,141,311.54 ft	Longitude:	104° 59' 42.050 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,042.00 ft

Wellbore	P_KERR-MCGEE 22-3				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/15/2010	9.15	66.80	53,083

Design	PLAN #1 1-15-10 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	19.28

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,579.69	10.59	19.28	1,576.67	46.09	16.12	2.00	2.00	0.00	19.28	
6,067.84	10.59	19.28	5,988.33	824.92	288.60	0.00	0.00	0.00	0.00	
6,597.52	0.00	0.00	6,515.00	871.01	304.73	2.00	-2.00	0.00	180.00	
8,057.52	0.00	0.00	7,975.00	871.01	304.73	0.00	0.00	0.00	0.00	PBHL_KERR-MCG

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site:	WELD_KERR MCGEE 19-3 PAD	North Reference:	True
Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 22-3		
Design:	PLAN #1 1-15-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Start Build 2.00									
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	1.00	19.28	1,100.00	0.41	0.14	0.44	2.00	2.00	0.00
1,200.00	3.00	19.28	1,199.93	3.71	1.30	3.93	2.00	2.00	0.00
1,300.00	5.00	19.28	1,299.68	10.29	3.60	10.90	2.00	2.00	0.00
1,400.00	7.00	19.28	1,399.13	20.16	7.05	21.35	2.00	2.00	0.00
1,500.00	9.00	19.28	1,498.15	33.29	11.65	35.27	2.00	2.00	0.00
Start 4488.15 hold at 1579.69 MD									
1,579.69	10.59	19.28	1,576.67	46.09	16.12	48.83	2.00	2.00	0.00
1,600.00	10.59	19.28	1,596.64	49.61	17.36	52.56	0.00	0.00	0.00
1,700.00	10.59	19.28	1,694.94	66.97	23.43	70.95	0.00	0.00	0.00
1,800.00	10.59	19.28	1,793.23	84.32	29.50	89.33	0.00	0.00	0.00
1,900.00	10.59	19.28	1,891.53	101.67	35.57	107.72	0.00	0.00	0.00
2,000.00	10.59	19.28	1,989.82	119.03	41.64	126.10	0.00	0.00	0.00
2,100.00	10.59	19.28	2,088.12	136.38	47.71	144.49	0.00	0.00	0.00
2,200.00	10.59	19.28	2,186.41	153.73	53.78	162.87	0.00	0.00	0.00
2,300.00	10.59	19.28	2,284.71	171.09	59.86	181.25	0.00	0.00	0.00
2,400.00	10.59	19.28	2,383.01	188.44	65.93	199.64	0.00	0.00	0.00
2,500.00	10.59	19.28	2,481.30	205.79	72.00	218.02	0.00	0.00	0.00
2,600.00	10.59	19.28	2,579.60	223.14	78.07	236.41	0.00	0.00	0.00
2,700.00	10.59	19.28	2,677.89	240.50	84.14	254.79	0.00	0.00	0.00
2,800.00	10.59	19.28	2,776.19	257.85	90.21	273.18	0.00	0.00	0.00
2,900.00	10.59	19.28	2,874.48	275.20	96.28	291.56	0.00	0.00	0.00
3,000.00	10.59	19.28	2,972.78	292.56	102.35	309.94	0.00	0.00	0.00
3,100.00	10.59	19.28	3,071.07	309.91	108.42	328.33	0.00	0.00	0.00
3,200.00	10.59	19.28	3,169.37	327.26	114.50	346.71	0.00	0.00	0.00
3,300.00	10.59	19.28	3,267.67	344.62	120.57	365.10	0.00	0.00	0.00
3,400.00	10.59	19.28	3,365.96	361.97	126.64	383.48	0.00	0.00	0.00
3,500.00	10.59	19.28	3,464.26	379.32	132.71	401.87	0.00	0.00	0.00
3,600.00	10.59	19.28	3,562.55	396.67	138.78	420.25	0.00	0.00	0.00
3,700.00	10.59	19.28	3,660.85	414.03	144.85	438.63	0.00	0.00	0.00
3,800.00	10.59	19.28	3,759.14	431.38	150.92	457.02	0.00	0.00	0.00
3,900.00	10.59	19.28	3,857.44	448.73	156.99	475.40	0.00	0.00	0.00
PARKMAN									
3,922.95	10.59	19.28	3,880.00	452.72	158.39	479.62	0.00	0.00	0.00
4,000.00	10.59	19.28	3,955.73	466.09	163.06	493.79	0.00	0.00	0.00
4,100.00	10.59	19.28	4,054.03	483.44	169.14	512.17	0.00	0.00	0.00
4,200.00	10.59	19.28	4,152.33	500.79	175.21	530.56	0.00	0.00	0.00
4,300.00	10.59	19.28	4,250.62	518.14	181.28	548.94	0.00	0.00	0.00
4,400.00	10.59	19.28	4,348.92	535.50	187.35	567.32	0.00	0.00	0.00
4,500.00	10.59	19.28	4,447.21	552.85	193.42	585.71	0.00	0.00	0.00
SUSSEX									
4,533.36	10.59	19.28	4,480.00	558.64	195.44	591.84	0.00	0.00	0.00
4,600.00	10.59	19.28	4,545.51	570.20	199.49	604.09	0.00	0.00	0.00
4,700.00	10.59	19.28	4,643.80	587.56	205.56	622.48	0.00	0.00	0.00
4,800.00	10.59	19.28	4,742.10	604.91	211.63	640.86	0.00	0.00	0.00
4,900.00	10.59	19.28	4,840.39	622.26	217.70	659.25	0.00	0.00	0.00
5,000.00	10.59	19.28	4,938.69	639.62	223.78	677.63	0.00	0.00	0.00
5,100.00	10.59	19.28	5,036.99	656.97	229.85	696.02	0.00	0.00	0.00
SHANNON									
5,164.11	10.59	19.28	5,100.00	668.09	233.74	707.80	0.00	0.00	0.00
5,200.00	10.59	19.28	5,135.28	674.32	235.92	714.40	0.00	0.00	0.00
5,300.00	10.59	19.28	5,233.58	691.67	241.99	732.78	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site:	WELD_KERR MCGEE 19-3 PAD	North Reference:	True
Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 22-3		
Design:	PLAN #1 1-15-10 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)
5,400.00	10.59	19.28	5,331.87	709.03	248.06	751.17	0.00	0.00	0.00
5,500.00	10.59	19.28	5,430.17	726.38	254.13	769.55	0.00	0.00	0.00
5,600.00	10.59	19.28	5,528.46	743.73	260.20	787.94	0.00	0.00	0.00
5,700.00	10.59	19.28	5,626.76	761.09	266.27	806.32	0.00	0.00	0.00
5,800.00	10.59	19.28	5,725.05	778.44	272.34	824.71	0.00	0.00	0.00
5,900.00	10.59	19.28	5,823.35	795.79	278.41	843.09	0.00	0.00	0.00
6,000.00	10.59	19.28	5,921.65	813.15	284.49	861.47	0.00	0.00	0.00
Start Drop -2.00									
6,067.84	10.59	19.28	5,988.33	824.92	288.60	873.95	0.00	0.00	0.00
6,100.00	9.95	19.28	6,019.97	830.33	290.50	879.68	2.00	-2.00	0.00
6,200.00	7.95	19.28	6,118.75	845.02	295.64	895.24	2.00	-2.00	0.00
6,300.00	5.95	19.28	6,218.01	856.44	299.63	907.34	2.00	-2.00	0.00
6,400.00	3.95	19.28	6,317.63	864.58	302.48	915.97	2.00	-2.00	0.00
6,500.00	1.95	19.28	6,417.50	869.44	304.18	921.11	2.00	-2.00	0.00
Start 1460.00 hold at 6597.52 MD									
6,597.52	0.00	0.00	6,515.00	871.01	304.73	922.77	2.00	-2.00	-19.77
6,600.00	0.00	0.00	6,517.48	871.01	304.73	922.77	0.00	0.00	0.00
6,700.00	0.00	0.00	6,617.48	871.01	304.73	922.77	0.00	0.00	0.00
6,800.00	0.00	0.00	6,717.48	871.01	304.73	922.77	0.00	0.00	0.00
6,900.00	0.00	0.00	6,817.48	871.01	304.73	922.77	0.00	0.00	0.00
7,000.00	0.00	0.00	6,917.48	871.01	304.73	922.77	0.00	0.00	0.00
7,100.00	0.00	0.00	7,017.48	871.01	304.73	922.77	0.00	0.00	0.00
7,200.00	0.00	0.00	7,117.48	871.01	304.73	922.77	0.00	0.00	0.00
7,300.00	0.00	0.00	7,217.48	871.01	304.73	922.77	0.00	0.00	0.00
7,400.00	0.00	0.00	7,317.48	871.01	304.73	922.77	0.00	0.00	0.00
7,500.00	0.00	0.00	7,417.48	871.01	304.73	922.77	0.00	0.00	0.00
NIO A									
7,597.52	0.00	0.00	7,515.00	871.01	304.73	922.77	0.00	0.00	0.00
7,600.00	0.00	0.00	7,517.48	871.01	304.73	922.77	0.00	0.00	0.00
7,700.00	0.00	0.00	7,617.48	871.01	304.73	922.77	0.00	0.00	0.00
7,800.00	0.00	0.00	7,717.48	871.01	304.73	922.77	0.00	0.00	0.00
CODELL									
7,896.52	0.00	0.00	7,814.00	871.01	304.73	922.77	0.00	0.00	0.00
7,900.00	0.00	0.00	7,817.48	871.01	304.73	922.77	0.00	0.00	0.00
8,000.00	0.00	0.00	7,917.48	871.01	304.73	922.77	0.00	0.00	0.00
PBHL_KERR-MCGEE 22-3(2600 FSL 1400 FWL)50°TGT RAD									
8,057.52	0.00	0.00	7,975.00	871.01	304.73	922.77	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_KERR-MCGEE	0.00	0.00	7,975.00	871.01	304.73	1,272,452.70	3,141,611.30	40° 4' 48.590 N	104° 59' 38.130 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site:	WELD_KERR MCGEE 19-3 PAD	North Reference:	True
Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 22-3		
Design:	PLAN #1 1-15-10 RHS		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
950.00	950.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,922.95	3,880.00	PARKMAN				
4,533.36	4,480.00	SUSSEX				
5,164.11	5,100.00	SHANNON				
7,597.52	7,515.00	NIO A				
7,896.52	7,814.00	CODELL				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,050.00	1,050.00	0.00	0.00	Start Build 2.00	
1,579.69	1,576.67	46.09	16.12	Start 4488.15 hold at 1579.69 MD	
6,067.84	5,988.33	824.92	288.60	Start Drop -2.00	
6,597.52	6,515.00	871.01	304.73	Start 1460.00 hold at 6597.52 MD	
8,057.52	7,975.00	871.01	304.73	TD at 8057.52	



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_KERR MCGEE 19-3 PAD
P_KERR-MCGEE 22-3**

**P_KERR-MCGEE 22-3
PLAN #1 1-15-10 RHS**

Anticollision Report

15 January, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 1-15-10 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	1/15/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,057.52	PLAN #1 1-15-10 RHS (P_KERR-MCGEE	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_KERR MCGEE 19-3 PAD						
KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3	1,212.06	1,205.98	82.59	33.76	1.691	CC
KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3	1,500.00	1,492.15	88.11	27.22	1.447	Level 3, ES, SF
P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN	1,050.00	1,050.00	40.18	-1.75	0.958	Level 1, CC
P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN	1,100.00	1,099.63	40.64	-2.53	0.941	Level 1, ES, SF
P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN	1,050.00	1,050.00	20.10	15.64	4.505	CC, ES
P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN	1,100.00	1,099.87	20.49	15.81	4.378	SF
P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN	1,050.00	1,050.00	10.28	5.82	2.304	CC
P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN	1,100.00	1,099.83	10.47	5.78	2.235	ES, SF
P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN	1,050.00	1,050.00	30.38	25.92	6.809	CC, ES
P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN	1,100.00	1,099.75	30.81	26.14	6.596	SF
P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN	1,050.00	1,050.00	80.11	75.64	17.954	CC, ES
P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN	1,200.00	1,195.63	86.05	80.98	16.990	SF
P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN	1,050.00	1,050.00	90.20	85.74	20.217	CC, ES
P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN	1,200.00	1,195.51	95.84	90.76	18.887	SF
P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN	1,050.00	1,050.00	60.01	55.55	13.450	CC, ES
P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN	1,100.00	1,098.98	60.66	55.99	12.989	SF
P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN	1,050.00	1,050.00	70.11	65.65	15.714	CC, ES
P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN	1,200.00	1,197.05	75.16	70.07	14.774	SF
P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN	1,050.00	1,050.00	10.00	5.54	2.241	CC
P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN	1,100.00	1,100.04	10.11	5.43	2.162	ES, SF
P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN	1,050.00	1,050.00	50.20	45.74	11.251	CC, ES
P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN	1,100.00	1,099.24	50.80	46.13	10.880	SF

Offset Design										WELD_KERR MCGEE 19-3 PAD - KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3i EXISTING				Offset Site Error:		0.00 ft	
Survey Program:										0-UNKNOWN				Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
0.00	0.00	0.00	0.00	0.00	0.00	106.11	-22.95	79.47	82.94								
100.00	100.00	94.00	94.00	0.10	1.88	106.11	-22.95	79.47	82.72	80.74	1.98	41.872					
200.00	200.00	194.00	194.00	0.32	5.76	106.11	-22.95	79.47	82.72	76.64	6.08	13.605					
300.00	300.00	294.00	294.00	0.55	9.76	106.11	-22.95	79.47	82.72	72.42	10.31	8.027					
400.00	400.00	394.00	394.00	0.77	13.76	106.11	-22.95	79.47	82.72	68.19	14.53	5.693					
500.00	500.00	494.00	494.00	0.99	17.76	106.11	-22.95	79.47	82.72	63.97	18.75	4.411					

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 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
600.00	600.00	594.00	594.00	1.22	21.76	106.11	-22.95	79.47	82.72	59.74	22.98	3.600	
700.00	700.00	694.00	694.00	1.44	25.76	106.11	-22.95	79.47	82.72	55.52	27.20	3.041	
800.00	800.00	794.00	794.00	1.67	29.76	106.11	-22.95	79.47	82.72	51.29	31.43	2.632	
900.00	900.00	894.00	894.00	1.89	33.76	106.11	-22.95	79.47	82.72	47.07	35.65	2.320	
1,000.00	1,000.00	994.00	994.00	2.12	37.76	106.11	-22.95	79.47	82.72	42.84	39.88	2.074	
1,050.00	1,050.00	1,044.00	1,044.00	2.23	39.76	106.11	-22.95	79.47	82.72	40.73	41.99	1.970	
1,100.00	1,100.00	1,094.00	1,094.00	2.34	41.76	87.13	-22.95	79.47	82.70	38.59	44.10	1.875	
1,200.00	1,199.93	1,193.93	1,193.93	2.57	45.76	89.55	-22.95	79.47	82.60	34.27	48.32	1.709	
1,212.06	1,211.98	1,205.98	1,205.98	2.59	46.24	90.00	-22.95	79.47	82.59	33.76	48.83	1.691 CC	
1,300.00	1,299.68	1,293.68	1,293.68	2.79	49.75	94.36	-22.95	79.47	82.83	30.30	52.54	1.577	
1,400.00	1,399.13	1,393.13	1,393.13	3.03	53.73	101.39	-22.95	79.47	84.28	27.54	56.74	1.485 Level 3	
1,500.00	1,498.15	1,492.15	1,492.15	3.28	57.69	110.15	-22.95	79.47	88.11	27.22	60.89	1.447 Level 3, ES, SF	
1,579.69	1,576.67	1,570.67	1,570.67	3.50	60.83	117.77	-22.95	79.47	93.70	29.59	64.11	1.461 Level 3	
1,600.00	1,596.64	1,590.64	1,590.64	3.56	61.63	119.73	-22.95	79.47	95.52	30.59	64.93	1.471 Level 3	
1,700.00	1,694.94	1,688.94	1,688.94	3.87	65.56	128.30	-22.95	79.47	105.95	36.99	68.97	1.536	
1,800.00	1,793.23	1,787.23	1,787.23	4.19	69.49	135.25	-22.95	79.47	118.34	45.34	73.00	1.621	
1,900.00	1,891.53	1,885.53	1,885.53	4.53	73.42	140.83	-22.95	79.47	132.13	55.10	77.03	1.715	
2,000.00	1,989.82	1,983.82	1,983.82	4.88	77.35	145.34	-22.95	79.47	146.93	65.85	81.08	1.812	
2,100.00	2,088.12	2,082.12	2,082.12	5.23	81.28	149.01	-22.95	79.47	162.46	77.33	85.14	1.908	
2,200.00	2,186.41	2,180.41	2,180.41	5.59	85.22	152.04	-22.95	79.47	178.54	89.34	89.20	2.002	
2,300.00	2,284.71	2,278.71	2,278.71	5.96	89.15	154.56	-22.95	79.47	195.02	101.75	93.28	2.091	
2,400.00	2,383.01	2,377.01	2,377.01	6.33	93.08	156.69	-22.95	79.47	211.82	114.47	97.36	2.176	
2,500.00	2,481.30	2,475.30	2,475.30	6.71	97.01	158.51	-22.95	79.47	228.86	127.42	101.44	2.256	
2,600.00	2,579.60	2,573.60	2,573.60	7.09	100.94	160.08	-22.95	79.47	246.10	140.57	105.53	2.332	
2,700.00	2,677.89	2,671.89	2,671.89	7.47	104.88	161.44	-22.95	79.47	263.49	153.86	109.63	2.404	
2,800.00	2,776.19	2,770.19	2,770.19	7.86	108.81	162.63	-22.95	79.47	281.00	167.28	113.72	2.471	
2,900.00	2,874.48	2,868.48	2,868.48	8.24	112.74	163.68	-22.95	79.47	298.63	180.80	117.83	2.534	
3,000.00	2,972.78	2,966.78	2,966.78	8.63	116.67	164.61	-22.95	79.47	316.33	194.41	121.93	2.594	
3,100.00	3,071.07	3,065.07	3,065.07	9.02	120.60	165.45	-22.95	79.47	334.12	208.08	126.03	2.651	
3,200.00	3,169.37	3,163.37	3,163.37	9.41	124.53	166.20	-22.95	79.47	351.96	221.82	130.14	2.704	
3,300.00	3,267.67	3,261.67	3,261.67	9.80	128.47	166.88	-22.95	79.47	369.85	235.61	134.25	2.755	
3,400.00	3,365.96	3,359.96	3,359.96	10.19	132.40	167.50	-22.95	79.47	387.80	249.44	138.36	2.803	
3,500.00	3,464.26	3,458.26	3,458.26	10.59	136.33	168.06	-22.95	79.47	405.78	263.31	142.47	2.848	
3,600.00	3,562.55	3,556.55	3,556.55	10.98	140.26	168.57	-22.95	79.47	423.79	277.21	146.58	2.891	
3,700.00	3,660.85	3,654.85	3,654.85	11.38	144.19	169.04	-22.95	79.47	441.84	291.15	150.69	2.932	
3,800.00	3,759.14	3,753.14	3,753.14	11.77	148.13	169.48	-22.95	79.47	459.91	305.11	154.81	2.971	
3,900.00	3,857.44	3,851.44	3,851.44	12.17	152.06	169.88	-22.95	79.47	478.01	319.09	158.92	3.008	
4,000.00	3,955.73	3,949.73	3,949.73	12.57	155.99	170.25	-22.95	79.47	496.13	333.09	163.04	3.043	
4,100.00	4,054.03	4,048.03	4,048.03	12.97	159.92	170.60	-22.95	79.47	514.26	347.11	167.15	3.077	
4,200.00	4,152.33	4,146.33	4,146.33	13.36	163.85	170.92	-22.95	79.47	532.42	361.15	171.27	3.109	
4,300.00	4,250.62	4,244.62	4,244.62	13.76	167.78	171.23	-22.95	79.47	550.59	375.20	175.38	3.139	
4,400.00	4,348.92	4,342.92	4,342.92	14.16	171.72	171.51	-22.95	79.47	568.77	389.27	179.50	3.169	
4,500.00	4,447.21	4,441.21	4,441.21	14.56	175.65	171.77	-22.95	79.47	586.97	403.35	183.62	3.197	
4,600.00	4,545.51	4,539.51	4,539.51	14.96	179.58	172.02	-22.95	79.47	605.17	417.44	187.74	3.224	
4,700.00	4,643.80	4,637.80	4,637.80	15.36	183.51	172.26	-22.95	79.47	623.39	431.53	191.86	3.249	
4,800.00	4,742.10	4,736.10	4,736.10	15.76	187.44	172.48	-22.95	79.47	641.62	445.64	195.97	3.274	
4,900.00	4,840.39	4,834.39	4,834.39	16.16	191.38	172.69	-22.95	79.47	659.85	459.76	200.09	3.298	
5,000.00	4,938.69	4,932.69	4,932.69	16.56	195.31	172.88	-22.95	79.47	678.10	473.88	204.21	3.321	
5,100.00	5,036.99	5,030.99	5,030.99	16.96	199.24	173.07	-22.95	79.47	696.35	488.02	208.33	3.342	
5,200.00	5,135.28	5,129.28	5,129.28	17.36	203.17	173.25	-22.95	79.47	714.61	502.15	212.45	3.364	
5,300.00	5,233.58	5,227.58	5,227.58	17.76	207.10	173.42	-22.95	79.47	732.87	516.30	216.57	3.384	
5,400.00	5,331.87	5,325.87	5,325.87	18.17	211.03	173.58	-22.95	79.47	751.14	530.45	220.69	3.404	

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3i EXISTING												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
5,500.00	5,430.17	5,424.17	5,424.17	18.57	214.97	173.73	-22.95	79.47	769.42	544.60	224.81	3.422	
5,600.00	5,528.46	5,522.46	5,522.46	18.97	218.90	173.88	-22.95	79.47	787.70	558.76	228.93	3.441	
5,700.00	5,626.76	5,620.76	5,620.76	19.37	222.83	174.02	-22.95	79.47	805.98	572.93	233.05	3.458	
5,800.00	5,725.05	5,719.05	5,719.05	19.77	226.76	174.15	-22.95	79.47	824.27	587.10	237.18	3.475	
5,900.00	5,823.35	5,817.35	5,817.35	20.17	230.69	174.28	-22.95	79.47	842.56	601.27	241.30	3.492	
6,000.00	5,921.65	5,915.65	5,915.65	20.58	234.63	174.40	-22.95	79.47	860.86	615.45	245.42	3.508	
6,067.84	5,988.33	5,982.33	5,982.33	20.85	237.29	174.48	-22.95	79.47	873.28	625.06	248.21	3.518	
6,100.00	6,019.97	6,013.97	6,013.97	20.96	238.56	174.53	-22.95	79.47	878.99	629.03	249.95	3.517	
6,200.00	6,118.75	6,112.75	6,112.75	21.25	242.51	174.65	-22.95	79.47	894.48	639.13	255.34	3.503	
6,300.00	6,218.01	6,212.01	6,212.01	21.50	246.48	174.74	-22.95	79.47	906.53	646.05	260.48	3.480	
6,400.00	6,317.63	6,311.63	6,311.63	21.72	250.47	174.81	-22.95	79.47	915.12	649.78	265.34	3.449	
6,500.00	6,417.50	6,411.50	6,411.50	21.89	254.46	174.85	-22.95	79.47	920.25	650.35	269.89	3.410	
6,597.52	6,515.00	6,509.00	6,509.00	22.03	258.36	-165.86	-22.95	79.47	921.90	647.87	274.03	3.364	
6,600.00	6,517.48	6,511.48	6,511.48	22.03	258.46	-165.86	-22.95	79.47	921.90	647.77	274.13	3.363	
6,700.00	6,617.48	6,611.48	6,611.48	22.17	262.46	-165.86	-22.95	79.47	921.90	643.57	278.33	3.312	
6,800.00	6,717.48	6,711.48	6,711.48	22.31	266.46	-165.86	-22.95	79.47	921.90	639.36	282.53	3.263	
6,900.00	6,817.48	6,811.48	6,811.48	22.45	270.46	-165.86	-22.95	79.47	921.90	635.16	286.74	3.215	
7,000.00	6,917.48	6,911.48	6,911.48	22.60	274.46	-165.86	-22.95	79.47	921.90	630.96	290.94	3.169	
7,100.00	7,017.48	7,011.48	7,011.48	22.74	278.46	-165.86	-22.95	79.47	921.90	626.76	295.14	3.124	
7,200.00	7,117.48	7,111.48	7,111.48	22.89	282.46	-165.86	-22.95	79.47	921.90	622.55	299.35	3.080	
7,300.00	7,217.48	7,211.48	7,211.48	23.04	286.46	-165.86	-22.95	79.47	921.90	618.35	303.55	3.037	
7,400.00	7,317.48	7,311.48	7,311.48	23.19	290.46	-165.86	-22.95	79.47	921.90	614.14	307.76	2.996	
7,500.00	7,417.48	7,411.48	7,411.48	23.34	294.46	-165.86	-22.95	79.47	921.90	609.94	311.96	2.955	
7,600.00	7,517.48	7,511.48	7,511.48	23.49	298.46	-165.86	-22.95	79.47	921.90	605.73	316.17	2.916	
7,700.00	7,617.48	7,611.48	7,611.48	23.64	302.46	-165.86	-22.95	79.47	921.90	601.53	320.37	2.878	
7,800.00	7,717.48	7,711.48	7,711.48	23.80	306.46	-165.86	-22.95	79.47	921.90	597.32	324.58	2.840	
7,900.00	7,817.48	7,811.48	7,811.48	23.95	310.46	-165.86	-22.95	79.47	921.90	593.11	328.79	2.804	
8,000.00	7,917.48	7,911.48	7,911.48	24.11	314.46	-165.86	-22.95	79.47	921.90	588.90	332.99	2.769	
8,057.52	7,975.00	7,969.00	7,969.00	24.20	316.76	-165.86	-22.95	79.47	921.90	586.48	335.41	2.749	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 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
0.00	0.00	0.00	0.00	0.00	0.00	141.19	-31.31	25.19	40.18				
100.00	100.00	100.00	100.00	0.10	1.70	141.19	-31.31	25.19	40.18	38.39	1.80	22.380	
200.00	200.00	200.00	200.00	0.32	5.70	141.19	-31.31	25.19	40.18	34.16	6.02	6.675	
300.00	300.00	300.00	300.00	0.55	9.70	141.19	-31.31	25.19	40.18	29.94	10.25	3.922	
400.00	400.00	400.00	400.00	0.77	13.70	141.19	-31.31	25.19	40.18	25.71	14.47	2.777	
500.00	500.00	500.00	500.00	0.99	17.70	141.19	-31.31	25.19	40.18	21.49	18.69	2.149	
600.00	600.00	600.00	600.00	1.22	21.70	141.19	-31.31	25.19	40.18	17.26	22.92	1.753	
700.00	700.00	700.00	700.00	1.44	25.70	141.19	-31.31	25.19	40.18	13.04	27.14	1.480	Level 3
800.00	800.00	800.00	800.00	1.67	29.70	141.19	-31.31	25.19	40.18	8.81	31.37	1.281	Level 3
900.00	900.00	900.00	900.00	1.89	33.70	141.19	-31.31	25.19	40.18	4.59	35.59	1.129	Level 2
1,000.00	1,000.00	1,000.00	1,000.00	2.12	37.70	141.19	-31.31	25.19	40.18	0.36	39.82	1.009	Level 2
1,050.00	1,050.00	1,050.00	1,050.00	2.23	39.70	141.19	-31.31	25.19	40.18	-1.75	41.93	0.958	Level 1, CC
1,100.00	1,100.00	1,099.63	1,099.63	2.34	40.83	121.90	-31.26	25.61	40.64	-2.53	43.17	0.941	Level 1, ES, SF
1,200.00	1,199.93	1,198.79	1,198.73	2.57	41.62	121.86	-30.83	29.02	44.30	0.13	44.17	1.003	Level 2
1,300.00	1,299.68	1,297.66	1,297.35	2.79	42.76	121.78	-29.97	35.80	51.61	6.08	45.52	1.134	Level 2
1,400.00	1,399.13	1,396.04	1,395.19	3.03	44.25	121.66	-28.70	45.89	62.54	15.32	47.21	1.325	Level 3
1,500.00	1,498.15	1,493.73	1,491.96	3.28	46.07	121.52	-27.02	59.21	77.06	27.83	49.23	1.565	
1,579.69	1,576.67	1,570.98	1,568.11	3.50	47.76	121.38	-25.40	72.05	91.17	40.11	51.06	1.785	
1,600.00	1,596.64	1,590.58	1,587.38	3.56	48.19	121.37	-24.94	75.64	95.09	43.54	51.55	1.845	
1,700.00	1,694.94	1,686.63	1,681.40	3.87	50.61	120.51	-22.49	95.08	115.41	61.21	54.21	2.129	
1,800.00	1,793.23	1,781.79	1,773.85	4.19	53.32	118.76	-19.67	117.41	137.54	80.44	57.10	2.409	
1,900.00	1,891.53	1,875.86	1,864.46	4.53	56.28	116.57	-16.51	142.47	161.64	101.46	60.18	2.686	
2,000.00	1,989.82	1,968.66	1,952.99	4.88	59.49	114.20	-13.03	170.07	187.85	124.45	63.41	2.963	
2,100.00	2,088.12	2,060.03	2,039.23	5.23	62.92	111.79	-9.25	200.01	216.32	149.59	66.72	3.242	
2,200.00	2,186.41	2,149.81	2,123.00	5.59	66.54	109.44	-5.20	232.08	247.13	177.03	70.09	3.526	
2,300.00	2,284.71	2,237.89	2,204.14	5.96	70.33	107.20	-0.92	266.05	280.34	206.87	73.47	3.816	
2,400.00	2,383.01	2,328.46	2,286.69	6.33	74.48	105.07	3.75	303.03	315.60	238.59	77.01	4.098	
2,500.00	2,481.30	2,421.35	2,371.26	6.71	78.89	103.29	8.56	341.13	351.34	270.67	80.67	4.355	
2,600.00	2,579.60	2,514.24	2,455.84	7.09	83.43	101.84	13.37	379.23	387.33	302.95	84.37	4.591	
2,700.00	2,677.89	2,607.13	2,540.42	7.47	88.07	100.64	18.17	417.34	423.49	335.37	88.12	4.806	
2,800.00	2,776.19	2,700.02	2,625.00	7.86	92.80	99.62	22.98	455.44	459.80	367.89	91.90	5.003	
2,900.00	2,874.48	2,792.91	2,709.57	8.24	97.62	98.75	27.79	493.54	496.21	400.49	95.73	5.184	
3,000.00	2,972.78	2,885.79	2,794.15	8.63	102.50	98.00	32.60	531.65	532.71	433.13	99.58	5.350	
3,100.00	3,071.07	2,978.68	2,878.73	9.02	107.43	97.34	37.41	569.75	569.28	465.82	103.46	5.503	
3,200.00	3,169.37	3,071.57	2,963.31	9.41	112.42	96.77	42.21	607.86	605.90	498.54	107.36	5.644	
3,300.00	3,267.67	3,164.46	3,047.88	9.80	117.45	96.26	47.02	645.96	642.57	531.29	111.29	5.774	
3,400.00	3,365.96	3,257.35	3,132.46	10.19	122.52	95.80	51.83	684.06	679.29	564.05	115.23	5.895	
3,500.00	3,464.26	3,350.24	3,217.04	10.59	127.62	95.39	56.64	722.17	716.03	596.83	119.20	6.007	
3,600.00	3,562.55	3,443.13	3,301.62	10.98	132.75	95.03	61.45	760.27	752.80	629.62	123.18	6.111	
3,700.00	3,660.85	3,536.02	3,386.19	11.38	137.91	94.69	66.26	798.37	789.60	662.42	127.18	6.208	
3,800.00	3,759.14	3,628.91	3,470.77	11.77	143.09	94.39	71.06	836.48	826.42	695.23	131.20	6.299	
3,900.00	3,857.44	3,721.80	3,555.35	12.17	148.29	94.11	75.87	874.58	863.26	728.04	135.22	6.384	
4,000.00	3,955.73	3,814.68	3,639.93	12.57	153.51	93.85	80.68	912.69	900.11	760.85	139.26	6.463	
4,100.00	4,054.03	3,907.57	3,724.50	12.97	158.75	93.61	85.49	950.79	936.98	793.67	143.31	6.538	
4,200.00	4,152.33	4,000.46	3,809.08	13.36	164.00	93.40	90.30	988.89	973.86	826.49	147.37	6.608	
4,300.00	4,250.62	4,093.35	3,893.66	13.76	169.27	93.19	95.10	1,027.00	1,010.76	859.31	151.44	6.674	
4,400.00	4,348.92	4,186.24	3,978.24	14.16	174.55	93.01	99.91	1,065.10	1,047.66	892.14	155.52	6.736	
4,500.00	4,447.21	4,279.13	4,062.81	14.56	179.84	92.83	104.72	1,103.20	1,084.57	924.96	159.61	6.795	
4,600.00	4,545.51	4,372.02	4,147.39	14.96	185.15	92.67	109.53	1,141.31	1,121.49	957.79	163.70	6.851	
4,700.00	4,643.80	4,464.91	4,231.97	15.36	190.46	92.51	114.34	1,179.41	1,158.42	990.61	167.80	6.903	
4,800.00	4,742.10	4,557.80	4,316.54	15.76	195.78	92.37	119.15	1,217.52	1,195.35	1,023.44	171.91	6.953	
4,900.00	4,840.39	4,650.68	4,401.12	16.16	201.11	92.24	123.95	1,255.62	1,232.29	1,056.26	176.03	7.001	

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN #1 1-15-10												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	4,938.69	4,743.57	4,485.70	16.56	206.45	92.11	128.76	1,293.72	1,269.24	1,089.09	180.15	7.046	
5,100.00	5,036.99	4,836.46	4,570.28	16.96	211.79	91.99	133.57	1,331.83	1,306.19	1,121.92	184.27	7.088	
5,200.00	5,135.28	4,929.35	4,654.85	17.36	217.14	91.87	138.38	1,369.93	1,343.14	1,154.74	188.40	7.129	
5,300.00	5,233.58	5,022.24	4,739.43	17.76	222.50	91.77	143.19	1,408.03	1,380.10	1,187.57	192.53	7.168	
5,400.00	5,331.87	5,115.13	4,824.01	18.17	227.86	91.67	148.00	1,446.14	1,417.07	1,220.39	196.67	7.205	
5,500.00	5,430.17	5,208.02	4,908.59	18.57	233.23	91.57	152.80	1,484.24	1,454.03	1,253.22	200.82	7.241	
5,600.00	5,528.46	5,300.91	4,993.16	18.97	238.60	91.48	157.61	1,522.35	1,491.00	1,286.04	204.96	7.275	
5,700.00	5,626.76	5,393.80	5,077.74	19.37	243.98	91.39	162.42	1,560.45	1,527.98	1,318.86	209.11	7.307	
5,800.00	5,725.05	5,486.68	5,162.32	19.77	249.36	91.31	167.23	1,598.55	1,564.95	1,351.69	213.27	7.338	
5,900.00	5,823.35	5,579.57	5,246.90	20.17	254.75	91.23	172.04	1,636.66	1,601.93	1,384.51	217.42	7.368	
6,000.00	5,921.65	5,672.46	5,331.47	20.58	260.14	91.15	176.84	1,674.76	1,638.92	1,417.33	221.58	7.396	
6,067.84	5,988.33	5,735.48	5,388.85	20.85	263.80	91.10	180.11	1,700.61	1,664.00	1,439.60	224.41	7.415	
6,100.00	6,019.97	5,765.35	5,416.05	20.96	265.53	91.33	181.65	1,712.86	1,675.90	1,449.87	226.03	7.414	
6,200.00	6,118.75	5,858.15	5,500.55	21.25	270.92	91.95	186.46	1,750.93	1,712.82	1,481.84	230.98	7.416	
6,300.00	6,218.01	5,950.76	5,584.87	21.50	276.31	92.46	191.25	1,788.92	1,749.66	1,513.85	235.82	7.420	
6,400.00	6,317.63	6,043.06	5,668.91	21.72	281.67	92.85	196.03	1,826.78	1,786.42	1,545.90	240.52	7.427	
6,500.00	6,417.50	6,134.94	5,752.57	21.89	287.02	93.15	200.78	1,864.47	1,823.11	1,578.03	245.08	7.439	
6,597.52	6,515.00	6,224.02	5,833.68	22.03	292.21	112.63	205.39	1,901.01	1,858.86	1,609.49	249.37	7.454	
6,600.00	6,517.48	6,226.28	5,835.74	22.03	292.34	112.62	205.51	1,901.94	1,859.77	1,610.33	249.44	7.456	
6,700.00	6,617.48	6,317.33	5,918.64	22.17	297.64	112.01	210.22	1,939.29	1,896.52	1,644.02	252.51	7.511	
6,800.00	6,717.48	6,408.38	6,001.55	22.31	302.95	111.43	214.94	1,976.64	1,933.46	1,677.89	255.57	7.565	
6,900.00	6,817.48	6,622.04	6,198.77	22.45	314.93	110.22	225.21	2,058.02	1,968.22	1,705.55	262.67	7.493	
7,000.00	6,917.48	6,874.70	6,439.09	22.60	327.77	109.16	234.94	2,135.17	1,995.98	1,724.66	271.32	7.357	
7,100.00	7,017.48	7,140.24	6,697.99	22.74	339.62	108.41	242.27	2,193.28	2,015.93	1,735.24	280.70	7.182	
7,200.00	7,117.48	7,414.81	6,970.21	22.89	350.16	107.98	246.67	2,228.10	2,027.52	1,736.86	290.66	6.976	
7,300.00	7,217.48	7,662.33	7,217.48	23.04	357.32	107.87	247.82	2,237.26	2,030.52	1,731.68	298.84	6.795	
7,400.00	7,317.48	7,762.33	7,317.48	23.19	358.18	107.87	247.82	2,237.26	2,030.52	1,730.34	300.18	6.764	
7,500.00	7,417.48	7,862.33	7,417.48	23.34	359.09	107.87	247.82	2,237.26	2,030.52	1,728.95	301.57	6.733	
7,600.00	7,517.48	7,962.33	7,517.48	23.49	360.04	107.87	247.82	2,237.26	2,030.52	1,727.51	303.01	6.701	
7,700.00	7,617.48	8,062.33	7,617.48	23.64	361.03	107.87	247.82	2,237.26	2,030.52	1,726.01	304.51	6.668	
7,800.00	7,717.48	8,162.33	7,717.48	23.80	362.07	107.87	247.82	2,237.26	2,030.52	1,724.46	306.06	6.634	
7,900.00	7,817.48	8,262.33	7,817.48	23.95	363.14	107.87	247.82	2,237.26	2,030.52	1,722.87	307.65	6.600	
8,000.00	7,917.48	8,362.33	7,917.48	24.11	364.25	107.87	247.82	2,237.26	2,030.52	1,721.22	309.30	6.565	
8,057.52	7,975.00	8,419.85	7,975.00	24.20	364.91	107.87	247.82	2,237.26	2,030.52	1,720.25	310.27	6.544	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design		WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN #1 1-15-10										Offset Site Error:		0.00 ft	
Survey Program: 0-MWD												Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis		Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.00	0.00	0.00	0.00	0.00	0.00	141.20	-15.66	12.59	20.10						
100.00	100.00	100.00	100.00	0.10	0.10	141.20	-15.66	12.59	20.10	19.91	0.19	105.197			
200.00	200.00	200.00	200.00	0.32	0.32	141.20	-15.66	12.59	20.10	19.46	0.64	31.375			
300.00	300.00	300.00	300.00	0.55	0.55	141.20	-15.66	12.59	20.10	19.01	1.09	18.437			
400.00	400.00	400.00	400.00	0.77	0.77	141.20	-15.66	12.59	20.10	18.56	1.54	13.054			
500.00	500.00	500.00	500.00	0.99	0.99	141.20	-15.66	12.59	20.10	18.11	1.99	10.104			
600.00	600.00	600.00	600.00	1.22	1.22	141.20	-15.66	12.59	20.10	17.66	2.44	8.241			
700.00	700.00	700.00	700.00	1.44	1.44	141.20	-15.66	12.59	20.10	17.21	2.89	6.959			
800.00	800.00	800.00	800.00	1.67	1.67	141.20	-15.66	12.59	20.10	16.76	3.34	6.021			
900.00	900.00	900.00	900.00	1.89	1.89	141.20	-15.66	12.59	20.10	16.31	3.79	5.307			
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.20	-15.66	12.59	20.10	15.86	4.24	4.744			
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.20	-15.66	12.59	20.10	15.64	4.46	4.505 CC, ES			
1,100.00	1,100.00	1,099.87	1,099.86	2.34	2.34	121.82	-15.54	13.01	20.49	15.81	4.68	4.378 SF			
1,200.00	1,199.93	1,199.53	1,199.46	2.57	2.55	121.13	-14.52	16.32	23.63	18.52	5.11	4.625			
1,300.00	1,299.68	1,298.97	1,298.65	2.79	2.76	120.17	-12.51	22.93	29.91	24.36	5.55	5.394			
1,400.00	1,399.13	1,398.04	1,397.18	3.03	2.99	119.28	-9.50	32.79	39.31	33.31	6.00	6.553			
1,500.00	1,498.15	1,496.60	1,494.80	3.28	3.25	118.54	-5.52	45.82	51.82	45.34	6.48	7.993			
1,579.69	1,576.67	1,574.71	1,571.78	3.50	3.47	118.06	-1.67	58.42	63.99	57.09	6.90	9.273			
1,600.00	1,596.64	1,594.75	1,591.49	3.56	3.53	118.02	-0.61	61.90	67.33	60.31	7.01	9.599			
1,700.00	1,694.94	1,693.39	1,688.49	3.87	3.84	117.87	4.61	79.01	83.78	76.19	7.59	11.033			
1,800.00	1,793.23	1,792.02	1,785.49	4.19	4.16	117.76	9.84	96.13	100.23	92.03	8.20	12.222			
1,900.00	1,891.53	1,890.66	1,882.49	4.53	4.50	117.69	15.06	113.24	116.69	107.86	8.83	13.213			
2,000.00	1,989.82	1,989.30	1,979.49	4.88	4.85	117.64	20.29	130.36	133.14	123.66	9.48	14.047			
2,100.00	2,088.12	2,087.93	2,076.49	5.23	5.20	117.59	25.51	147.47	149.60	139.45	10.14	14.752			
2,200.00	2,186.41	2,186.57	2,173.49	5.59	5.56	117.56	30.74	164.59	166.05	155.23	10.81	15.354			
2,300.00	2,284.71	2,285.21	2,270.49	5.96	5.93	117.53	35.96	181.70	182.50	171.00	11.50	15.872			
2,400.00	2,383.01	2,383.85	2,367.49	6.33	6.30	117.51	41.18	198.81	198.96	186.77	12.19	16.322			
2,500.00	2,481.30	2,482.48	2,464.49	6.71	6.68	117.49	46.41	215.93	215.41	202.52	12.89	16.714			
2,600.00	2,579.60	2,581.12	2,561.49	7.09	7.06	117.47	51.63	233.04	231.86	218.27	13.59	17.058			
2,700.00	2,677.89	2,679.76	2,658.49	7.47	7.44	117.45	56.86	250.16	248.32	234.02	14.30	17.363			
2,800.00	2,776.19	2,778.39	2,755.49	7.86	7.82	117.44	62.08	267.27	264.77	249.76	15.01	17.634			
2,900.00	2,874.48	2,877.03	2,852.49	8.24	8.21	117.43	67.31	284.39	281.22	265.49	15.73	17.876			
3,000.00	2,972.78	2,975.67	2,949.49	8.63	8.60	117.42	72.53	301.50	297.68	281.23	16.45	18.094			
3,100.00	3,071.07	3,074.30	3,046.49	9.02	8.99	117.41	77.76	318.61	314.13	296.96	17.17	18.290			
3,200.00	3,169.37	3,172.94	3,143.49	9.41	9.38	117.40	82.98	335.73	330.59	312.69	17.90	18.468			
3,300.00	3,267.67	3,271.58	3,240.49	9.80	9.77	117.40	88.21	352.84	347.04	328.41	18.63	18.630			
3,400.00	3,365.96	3,370.22	3,337.49	10.19	10.16	117.39	93.43	369.96	363.49	344.14	19.36	18.779			
3,500.00	3,464.26	3,468.85	3,434.49	10.59	10.55	117.38	98.65	387.07	379.95	359.86	20.09	18.914			
3,600.00	3,562.55	3,567.49	3,531.49	10.98	10.95	117.38	103.88	404.19	396.40	375.58	20.82	19.039			
3,700.00	3,660.85	3,666.13	3,628.50	11.38	11.34	117.37	109.10	421.30	412.86	391.30	21.55	19.154			
3,800.00	3,759.14	3,764.76	3,725.50	11.77	11.74	117.37	114.33	438.42	429.31	407.02	22.29	19.261			
3,900.00	3,857.44	3,863.40	3,822.50	12.17	12.13	117.36	119.55	455.53	445.76	422.74	23.03	19.359			
4,000.00	3,955.73	3,962.04	3,919.50	12.57	12.53	117.36	124.78	472.64	462.22	438.45	23.76	19.451			
4,100.00	4,054.03	4,060.68	4,016.50	12.97	12.92	117.35	130.00	489.76	478.67	454.17	24.50	19.537			
4,200.00	4,152.33	4,159.31	4,113.50	13.36	13.32	117.35	135.23	506.87	495.12	469.88	25.24	19.616			
4,300.00	4,250.62	4,257.95	4,210.50	13.76	13.72	117.35	140.45	523.99	511.58	485.60	25.98	19.691			
4,400.00	4,348.92	4,356.59	4,307.50	14.16	14.12	117.34	145.68	541.10	528.03	501.31	26.72	19.761			
4,500.00	4,447.21	4,455.22	4,404.50	14.56	14.51	117.34	150.90	558.22	544.49	517.02	27.46	19.827			
4,600.00	4,545.51	4,553.86	4,501.50	14.96	14.91	117.34	156.12	575.33	560.94	532.74	28.20	19.889			
4,700.00	4,643.80	4,652.50	4,598.50	15.36	15.31	117.34	161.35	592.45	577.39	548.45	28.95	19.948			
4,800.00	4,742.10	4,751.13	4,695.50	15.76	15.71	117.33	166.57	609.56	593.85	564.16	29.69	20.003			
4,900.00	4,840.39	4,849.77	4,792.50	16.16	16.11	117.33	171.80	626.67	610.30	579.87	30.43	20.055			

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN #1 1-15-10												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,938.69	4,948.41	4,889.50	16.56	16.51	117.33	177.02	643.79	626.76	595.58	31.18	20.104	
5,100.00	5,036.99	5,047.05	4,986.50	16.96	16.91	117.33	182.25	660.90	643.21	611.29	31.92	20.151	
5,200.00	5,135.28	5,145.68	5,083.50	17.36	17.31	117.32	187.47	678.02	659.66	627.00	32.66	20.196	
5,300.00	5,233.58	5,244.32	5,180.50	17.76	17.71	117.32	192.70	695.13	676.12	642.71	33.41	20.238	
5,400.00	5,331.87	5,342.96	5,277.50	18.17	18.11	117.32	197.92	712.25	692.57	658.42	34.15	20.278	
5,500.00	5,430.17	5,441.59	5,374.50	18.57	18.51	117.32	203.15	729.36	709.03	674.13	34.90	20.316	
5,600.00	5,528.46	5,540.23	5,471.50	18.97	18.91	117.32	208.37	746.47	725.48	689.83	35.64	20.353	
5,700.00	5,626.76	5,638.87	5,568.50	19.37	19.31	117.32	213.59	763.59	741.93	705.54	36.39	20.388	
5,800.00	5,725.05	5,737.51	5,665.50	19.77	19.71	117.31	218.82	780.70	758.39	721.25	37.14	20.421	
5,900.00	5,823.35	5,836.14	5,762.50	20.17	20.11	117.31	224.04	797.82	774.84	736.96	37.88	20.453	
6,000.00	5,921.65	5,934.78	5,859.50	20.58	20.51	117.31	229.27	814.93	791.29	752.66	38.63	20.484	
6,067.84	5,988.33	6,001.69	5,925.31	20.85	20.79	117.31	232.81	826.54	802.46	763.32	39.14	20.504	
6,100.00	6,019.97	6,033.43	5,956.52	20.96	20.92	117.39	234.49	832.05	807.67	768.29	39.38	20.510	
6,200.00	6,118.75	6,142.17	6,063.64	21.25	21.28	117.53	239.94	849.88	822.40	782.36	40.04	20.538	
6,300.00	6,218.01	6,255.81	6,176.24	21.50	21.58	117.62	244.40	864.49	833.91	793.30	40.60	20.537	
6,400.00	6,317.63	6,370.08	6,289.99	21.72	21.83	117.70	247.56	874.86	842.08	801.00	41.08	20.497	
6,500.00	6,417.50	6,484.76	6,404.49	21.89	22.03	117.75	249.41	880.90	846.89	805.41	41.47	20.420	
6,597.52	6,515.00	6,595.29	6,515.00	22.03	22.18	137.06	249.92	882.59	848.33	806.56	41.77	20.310	
6,600.00	6,517.48	6,597.77	6,517.48	22.03	22.19	137.06	249.92	882.59	848.33	806.56	41.78	20.307	
6,700.00	6,617.48	6,697.77	6,617.48	22.17	22.33	137.06	249.92	882.59	848.33	806.26	42.07	20.165	
6,800.00	6,717.48	6,797.77	6,717.48	22.31	22.47	137.06	249.92	882.59	848.33	805.97	42.37	20.023	
6,900.00	6,817.48	6,897.77	6,817.48	22.45	22.61	137.06	249.92	882.59	848.33	805.67	42.67	19.882	
7,000.00	6,917.48	6,997.77	6,917.48	22.60	22.75	137.06	249.92	882.59	848.33	805.36	42.97	19.742	
7,100.00	7,017.48	7,097.77	7,017.48	22.74	22.90	137.06	249.92	882.59	848.33	805.06	43.28	19.603	
7,200.00	7,117.48	7,197.77	7,117.48	22.89	23.04	137.06	249.92	882.59	848.33	804.75	43.58	19.465	
7,300.00	7,217.48	7,297.77	7,217.48	23.04	23.19	137.06	249.92	882.59	848.33	804.44	43.89	19.327	
7,400.00	7,317.48	7,397.77	7,317.48	23.19	23.34	137.06	249.92	882.59	848.33	804.13	44.21	19.190	
7,500.00	7,417.48	7,497.77	7,417.48	23.34	23.49	137.06	249.92	882.59	848.33	803.81	44.52	19.055	
7,600.00	7,517.48	7,597.77	7,517.48	23.49	23.64	137.06	249.92	882.59	848.33	803.49	44.84	18.920	
7,700.00	7,617.48	7,697.77	7,617.48	23.64	23.79	137.06	249.92	882.59	848.33	803.17	45.16	18.786	
7,800.00	7,717.48	7,797.77	7,717.48	23.80	23.95	137.06	249.92	882.59	848.33	802.85	45.48	18.653	
7,900.00	7,817.48	7,897.77	7,817.48	23.95	24.10	137.06	249.92	882.59	848.33	802.53	45.80	18.521	
8,000.00	7,917.48	7,997.77	7,917.48	24.11	24.26	137.06	249.92	882.59	848.33	802.20	46.13	18.390	
8,057.52	7,975.00	8,055.29	7,975.00	24.20	24.35	137.06	249.92	882.59	848.33	802.01	46.32	18.315	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						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	-38.77	8.01	-6.44	10.28				
100.00	100.00	100.00	100.00	0.10	0.10	-38.77	8.01	-6.44	10.28	10.09	0.19	53.800	
200.00	200.00	200.00	200.00	0.32	0.32	-38.77	8.01	-6.44	10.28	9.64	0.64	16.046	
300.00	300.00	300.00	300.00	0.55	0.55	-38.77	8.01	-6.44	10.28	9.19	1.09	9.429	
400.00	400.00	400.00	400.00	0.77	0.77	-38.77	8.01	-6.44	10.28	8.74	1.54	6.676	
500.00	500.00	500.00	500.00	0.99	0.99	-38.77	8.01	-6.44	10.28	8.29	1.99	5.167	
600.00	600.00	600.00	600.00	1.22	1.22	-38.77	8.01	-6.44	10.28	7.84	2.44	4.215	
700.00	700.00	700.00	700.00	1.44	1.44	-38.77	8.01	-6.44	10.28	7.39	2.89	3.559	
800.00	800.00	800.00	800.00	1.67	1.67	-38.77	8.01	-6.44	10.28	6.94	3.34	3.079	
900.00	900.00	900.00	900.00	1.89	1.89	-38.77	8.01	-6.44	10.28	6.49	3.79	2.714	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-38.77	8.01	-6.44	10.28	6.04	4.24	2.426	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-38.77	8.01	-6.44	10.28	5.82	4.46	2.304 CC	
1,100.00	1,100.00	1,099.83	1,099.83	2.34	2.34	-60.95	8.23	-6.81	10.47	5.78	4.68	2.235 ES, SF	
1,200.00	1,199.93	1,199.33	1,199.27	2.57	2.55	-79.89	9.93	-9.82	12.76	7.65	5.11	2.495	
1,300.00	1,299.68	1,298.40	1,298.09	2.79	2.77	-99.97	13.32	-15.80	19.70	14.15	5.55	3.550	
1,400.00	1,399.13	1,397.42	1,396.67	3.03	3.00	-112.79	17.90	-23.89	31.12	25.13	5.99	5.193	
1,500.00	1,498.15	1,496.23	1,495.04	3.28	3.24	-122.28	22.52	-32.04	45.11	38.66	6.45	6.996	
1,579.69	1,576.67	1,574.62	1,573.08	3.50	3.44	-128.30	26.18	-38.51	58.26	51.44	6.82	8.544	
1,600.00	1,596.64	1,594.57	1,592.93	3.56	3.49	-129.67	27.12	-40.16	61.87	54.96	6.92	8.945	
1,700.00	1,694.94	1,692.73	1,690.65	3.87	3.74	-134.58	31.70	-48.26	80.01	72.60	7.41	10.795	
1,800.00	1,793.23	1,790.89	1,788.37	4.19	3.99	-137.66	36.29	-56.36	98.50	90.59	7.92	12.440	
1,900.00	1,891.53	1,889.05	1,886.09	4.53	4.25	-139.77	40.88	-64.47	117.19	108.75	8.43	13.895	
2,000.00	1,989.82	1,987.22	1,983.81	4.88	4.51	-141.29	45.47	-72.57	135.98	127.02	8.96	15.182	
2,100.00	2,088.12	2,085.38	2,081.53	5.23	4.77	-142.45	50.06	-80.67	154.84	145.36	9.48	16.326	
2,200.00	2,186.41	2,183.54	2,179.25	5.59	5.03	-143.35	54.65	-88.77	173.76	163.74	10.02	17.345	
2,300.00	2,284.71	2,281.70	2,276.97	5.96	5.30	-144.08	59.24	-96.87	192.70	182.15	10.55	18.258	
2,400.00	2,383.01	2,379.87	2,374.69	6.33	5.56	-144.68	63.83	-104.98	211.67	200.58	11.09	19.079	
2,500.00	2,481.30	2,478.03	2,472.41	6.71	5.83	-145.17	68.42	-113.08	230.66	219.02	11.64	19.820	
2,600.00	2,579.60	2,576.19	2,570.13	7.09	6.10	-145.60	73.00	-121.18	249.66	237.48	12.18	20.492	
2,700.00	2,677.89	2,674.35	2,667.85	7.47	6.37	-145.96	77.59	-129.28	268.68	255.95	12.73	21.104	
2,800.00	2,776.19	2,772.52	2,765.57	7.86	6.64	-146.27	82.18	-137.38	287.70	274.42	13.28	21.663	
2,900.00	2,874.48	2,870.68	2,863.29	8.24	6.91	-146.55	86.77	-145.49	306.73	292.90	13.83	22.176	
3,000.00	2,972.78	2,968.84	2,961.01	8.63	7.19	-146.79	91.36	-153.59	325.77	311.38	14.38	22.647	
3,100.00	3,071.07	3,067.00	3,058.73	9.02	7.46	-147.01	95.95	-161.69	344.81	329.87	14.94	23.082	
3,200.00	3,169.37	3,165.17	3,156.45	9.41	7.73	-147.21	100.54	-169.79	363.86	348.36	15.49	23.484	
3,300.00	3,267.67	3,263.33	3,254.17	9.80	8.01	-147.38	105.13	-177.89	382.90	366.85	16.05	23.858	
3,400.00	3,365.96	3,361.49	3,351.89	10.19	8.28	-147.54	109.72	-186.00	401.96	385.35	16.61	24.205	
3,500.00	3,464.26	3,459.65	3,449.61	10.59	8.56	-147.68	114.31	-194.10	421.01	403.85	17.16	24.528	
3,600.00	3,562.55	3,557.82	3,547.33	10.98	8.83	-147.81	118.89	-202.20	440.07	422.35	17.72	24.830	
3,700.00	3,660.85	3,655.98	3,645.05	11.38	9.11	-147.93	123.48	-210.30	459.13	440.85	18.28	25.113	
3,800.00	3,759.14	3,754.14	3,742.77	11.77	9.38	-148.04	128.07	-218.40	478.19	459.35	18.84	25.379	
3,900.00	3,857.44	3,852.30	3,840.49	12.17	9.66	-148.15	132.66	-226.51	497.25	477.85	19.40	25.628	
4,000.00	3,955.73	3,950.47	3,938.21	12.57	9.94	-148.24	137.25	-234.61	516.32	496.35	19.96	25.863	
4,100.00	4,054.03	4,048.63	4,035.92	12.97	10.21	-148.33	141.84	-242.71	535.38	514.86	20.53	26.084	
4,200.00	4,152.33	4,146.79	4,133.64	13.36	10.49	-148.41	146.43	-250.81	554.45	533.36	21.09	26.293	
4,300.00	4,250.62	4,244.95	4,231.36	13.76	10.77	-148.49	151.02	-258.92	573.52	551.87	21.65	26.491	
4,400.00	4,348.92	4,343.12	4,329.08	14.16	11.04	-148.56	155.61	-267.02	592.59	570.38	22.21	26.679	
4,500.00	4,447.21	4,441.28	4,426.80	14.56	11.32	-148.63	160.19	-275.12	611.66	588.88	22.78	26.856	
4,600.00	4,545.51	4,539.44	4,524.52	14.96	11.60	-148.69	164.78	-283.22	630.73	607.39	23.34	27.025	
4,700.00	4,643.80	4,637.60	4,622.24	15.36	11.88	-148.75	169.37	-291.32	649.80	625.90	23.90	27.186	
4,800.00	4,742.10	4,735.77	4,719.96	15.76	12.15	-148.81	173.96	-299.43	668.87	644.40	24.47	27.339	
4,900.00	4,840.39	4,833.93	4,817.68	16.16	12.43	-148.86	178.55	-307.53	687.94	662.91	25.03	27.484	

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,938.69	4,932.09	4,915.40	16.56	12.71	-148.91	183.14	-315.63	707.01	681.42	25.59	27.623	
5,100.00	5,036.99	5,030.25	5,013.12	16.96	12.99	-148.96	187.73	-323.73	726.09	699.93	26.16	27.756	
5,200.00	5,135.28	5,128.42	5,110.84	17.36	13.27	-149.00	192.32	-331.83	745.16	718.44	26.72	27.883	
5,300.00	5,233.58	5,226.58	5,208.56	17.76	13.54	-149.04	196.91	-339.94	764.24	736.95	27.29	28.005	
5,400.00	5,331.87	5,324.74	5,306.28	18.17	13.82	-149.08	201.50	-348.04	783.31	755.46	27.85	28.121	
5,500.00	5,430.17	5,422.90	5,404.00	18.57	14.10	-149.12	206.08	-356.14	802.39	773.97	28.42	28.233	
5,600.00	5,528.46	5,521.06	5,501.72	18.97	14.38	-149.16	210.67	-364.24	821.46	792.48	28.99	28.340	
5,700.00	5,626.76	5,619.23	5,599.44	19.37	14.66	-149.20	215.26	-372.34	840.54	810.98	29.55	28.443	
5,800.00	5,725.05	5,717.39	5,697.16	19.77	14.94	-149.23	219.85	-380.45	859.61	829.49	30.12	28.542	
5,900.00	5,823.35	5,815.55	5,794.88	20.17	15.21	-149.26	224.44	-388.55	878.69	848.01	30.68	28.637	
6,000.00	5,921.65	5,913.71	5,892.60	20.58	15.49	-149.29	229.03	-396.65	897.76	866.52	31.25	28.729	
6,067.84	5,988.33	5,980.31	5,958.89	20.85	15.68	-149.31	232.14	-402.15	910.71	879.07	31.63	28.789	
6,100.00	6,019.97	6,011.91	5,990.35	20.96	15.77	-149.38	233.62	-404.75	916.69	884.86	31.83	28.799	
6,200.00	6,118.75	6,110.50	6,088.50	21.25	16.05	-149.49	238.23	-412.89	933.34	900.94	32.39	28.813	
6,300.00	6,218.01	6,209.52	6,187.07	21.50	16.33	-149.46	242.86	-421.06	947.02	914.09	32.93	28.763	
6,400.00	6,317.63	6,313.83	6,290.94	21.72	16.61	-149.30	247.58	-429.40	957.63	924.21	33.42	28.657	
6,500.00	6,417.50	6,426.84	6,403.74	21.89	16.82	-149.16	250.93	-435.32	964.16	930.35	33.81	28.515	
6,597.52	6,515.00	6,537.46	6,514.33	22.03	17.00	-129.83	252.09	-437.37	966.32	932.19	34.12	28.318	
6,600.00	6,517.48	6,540.27	6,517.14	22.03	17.01	-129.83	252.10	-437.38	966.32	932.19	34.13	28.311	
6,700.00	6,617.48	6,640.61	6,617.48	22.17	17.18	-129.83	252.10	-437.38	966.32	931.83	34.49	28.020	
6,800.00	6,717.48	6,740.61	6,717.48	22.31	17.37	-129.83	252.10	-437.38	966.32	931.47	34.85	27.727	
6,900.00	6,817.48	6,840.61	6,817.48	22.45	17.55	-129.83	252.10	-437.38	966.32	931.10	35.22	27.438	
7,000.00	6,917.48	6,940.61	6,917.48	22.60	17.74	-129.83	252.10	-437.38	966.32	930.73	35.59	27.153	
7,100.00	7,017.48	7,040.61	7,017.48	22.74	17.92	-129.83	252.10	-437.38	966.32	930.36	35.96	26.873	
7,200.00	7,117.48	7,140.61	7,117.48	22.89	18.11	-129.83	252.10	-437.38	966.32	929.99	36.33	26.598	
7,300.00	7,217.48	7,240.61	7,217.48	23.04	18.30	-129.83	252.10	-437.38	966.32	929.61	36.70	26.327	
7,400.00	7,317.48	7,340.61	7,317.48	23.19	18.49	-129.83	252.10	-437.38	966.32	929.24	37.08	26.060	
7,500.00	7,417.48	7,440.61	7,417.48	23.34	18.68	-129.83	252.10	-437.38	966.32	928.86	37.46	25.797	
7,600.00	7,517.48	7,540.61	7,517.48	23.49	18.87	-129.83	252.10	-437.38	966.32	928.48	37.84	25.539	
7,700.00	7,617.48	7,640.61	7,617.48	23.64	19.06	-129.83	252.10	-437.38	966.32	928.10	38.22	25.285	
7,800.00	7,717.48	7,740.61	7,717.48	23.80	19.26	-129.83	252.10	-437.38	966.32	927.72	38.60	25.034	
7,900.00	7,817.48	7,840.61	7,817.48	23.95	19.45	-129.83	252.10	-437.38	966.32	927.34	38.98	24.788	
8,000.00	7,917.48	7,940.61	7,917.48	24.11	19.64	-129.83	252.10	-437.38	966.32	926.95	39.37	24.546	
8,057.52	7,975.00	7,998.13	7,975.00	24.20	19.76	-129.83	252.10	-437.38	966.32	926.73	39.59	24.408	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												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 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	141.22	-23.68	19.03	30.38				
100.00	100.00	100.00	100.00	0.10	0.10	141.22	-23.68	19.03	30.38	30.19	0.19	159.015	
200.00	200.00	200.00	200.00	0.32	0.32	141.22	-23.68	19.03	30.38	29.74	0.64	47.425	
300.00	300.00	300.00	300.00	0.55	0.55	141.22	-23.68	19.03	30.38	29.29	1.09	27.869	
400.00	400.00	400.00	400.00	0.77	0.77	141.22	-23.68	19.03	30.38	28.84	1.54	19.732	
500.00	500.00	500.00	500.00	0.99	0.99	141.22	-23.68	19.03	30.38	28.39	1.99	15.273	
600.00	600.00	600.00	600.00	1.22	1.22	141.22	-23.68	19.03	30.38	27.94	2.44	12.457	
700.00	700.00	700.00	700.00	1.44	1.44	141.22	-23.68	19.03	30.38	27.49	2.89	10.518	
800.00	800.00	800.00	800.00	1.67	1.67	141.22	-23.68	19.03	30.38	27.04	3.34	9.102	
900.00	900.00	900.00	900.00	1.89	1.89	141.22	-23.68	19.03	30.38	26.59	3.79	8.022	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.22	-23.68	19.03	30.38	26.14	4.24	7.170	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.22	-23.68	19.03	30.38	25.92	4.46	6.809 CC, ES	
1,100.00	1,100.00	1,099.75	1,099.75	2.34	2.33	123.33	-24.07	18.85	30.81	26.14	4.67	6.596 SF	
1,200.00	1,199.93	1,198.90	1,198.83	2.57	2.50	133.09	-27.19	17.39	34.85	29.78	5.07	6.879	
1,300.00	1,299.68	1,296.98	1,296.67	2.79	2.69	146.38	-33.32	14.51	45.05	39.59	5.46	8.248	
1,400.00	1,399.13	1,393.31	1,392.49	3.03	2.88	157.29	-42.29	10.31	62.88	57.02	5.85	10.741	
1,500.00	1,498.15	1,487.27	1,485.57	3.28	3.10	164.63	-53.84	4.89	88.29	82.06	6.24	14.157	
1,579.69	1,576.67	1,560.07	1,557.38	3.50	3.29	168.54	-64.69	-0.19	113.62	107.09	6.54	17.385	
1,600.00	1,596.64	1,578.32	1,575.33	3.56	3.34	169.37	-67.67	-1.59	120.70	114.08	6.62	18.238	
1,700.00	1,694.94	1,666.86	1,662.11	3.87	3.61	172.47	-83.59	-9.05	157.48	150.45	7.03	22.404	
1,800.00	1,793.23	1,756.86	1,749.85	4.19	3.92	174.59	-101.72	-17.55	196.74	189.29	7.45	26.406	
1,900.00	1,891.53	1,848.54	1,839.19	4.53	4.26	176.05	-120.35	-26.28	236.34	228.46	7.88	29.981	
2,000.00	1,989.82	1,940.23	1,928.54	4.88	4.62	177.09	-138.98	-35.01	276.04	267.71	8.32	33.169	
2,100.00	2,088.12	2,031.91	2,017.89	5.23	4.99	177.87	-157.60	-43.74	315.79	307.02	8.77	36.022	
2,200.00	2,186.41	2,123.60	2,107.24	5.59	5.38	178.48	-176.23	-52.47	355.58	346.36	9.22	38.582	
2,300.00	2,284.71	2,215.28	2,196.58	5.96	5.77	178.96	-194.86	-61.20	395.40	385.73	9.67	40.889	
2,400.00	2,383.01	2,306.97	2,285.93	6.33	6.17	179.36	-213.49	-69.93	435.23	425.10	10.13	42.976	
2,500.00	2,481.30	2,398.66	2,375.28	6.71	6.57	179.68	-232.12	-78.66	475.08	464.49	10.59	44.870	
2,600.00	2,579.60	2,490.34	2,464.62	7.09	6.98	179.96	-250.75	-87.39	514.94	503.89	11.05	46.594	
2,700.00	2,677.89	2,582.03	2,553.97	7.47	7.40	-179.80	-269.37	-96.12	554.82	543.30	11.52	48.170	
2,800.00	2,776.19	2,673.71	2,643.32	7.86	7.81	-179.59	-288.00	-104.86	594.69	582.71	11.99	49.615	
2,900.00	2,874.48	2,765.40	2,732.67	8.24	8.24	-179.41	-306.63	-113.59	634.58	622.12	12.46	50.944	
3,000.00	2,972.78	2,857.08	2,822.01	8.63	8.66	-179.25	-325.26	-122.32	674.47	661.54	12.93	52.170	
3,100.00	3,071.07	2,948.77	2,911.36	9.02	9.08	-179.11	-343.89	-131.05	714.36	700.96	13.40	53.304	
3,200.00	3,169.37	3,040.45	3,000.71	9.41	9.51	-178.99	-362.52	-139.78	754.25	740.38	13.88	54.355	
3,300.00	3,267.67	3,132.14	3,090.05	9.80	9.94	-178.87	-381.14	-148.51	794.15	779.80	14.35	55.332	
3,400.00	3,365.96	3,223.82	3,179.40	10.19	10.37	-178.77	-399.77	-157.24	834.05	819.22	14.83	56.243	
3,500.00	3,464.26	3,315.51	3,268.75	10.59	10.80	-178.68	-418.40	-165.97	873.95	858.65	15.31	57.092	
3,600.00	3,562.55	3,407.19	3,358.10	10.98	11.23	-178.59	-437.03	-174.70	913.86	898.07	15.79	57.887	
3,700.00	3,660.85	3,498.88	3,447.44	11.38	11.67	-178.51	-455.66	-183.43	953.76	937.50	16.27	58.632	
3,800.00	3,759.14	3,590.56	3,536.79	11.77	12.10	-178.44	-474.29	-192.16	993.67	976.92	16.75	59.332	
3,900.00	3,857.44	3,682.25	3,626.14	12.17	12.54	-178.38	-492.91	-200.90	1,033.58	1,016.35	17.23	59.990	
4,000.00	3,955.73	3,773.93	3,715.48	12.57	12.97	-178.32	-511.54	-209.63	1,073.49	1,055.78	17.71	60.610	
4,100.00	4,054.03	3,865.62	3,804.83	12.97	13.41	-178.26	-530.17	-218.36	1,113.40	1,095.20	18.19	61.196	
4,200.00	4,152.33	3,957.30	3,894.18	13.36	13.84	-178.21	-548.80	-227.09	1,153.31	1,134.63	18.68	61.749	
4,300.00	4,250.62	4,048.99	3,983.53	13.76	14.28	-178.16	-567.43	-235.82	1,193.22	1,174.06	19.16	62.273	
4,400.00	4,348.92	4,140.67	4,072.87	14.16	14.72	-178.11	-586.06	-244.55	1,233.13	1,213.49	19.65	62.769	
4,500.00	4,447.21	4,232.36	4,162.22	14.56	15.16	-178.07	-604.69	-253.28	1,273.05	1,252.92	20.13	63.241	
4,600.00	4,545.51	4,324.04	4,251.57	14.96	15.60	-178.03	-623.31	-262.01	1,312.96	1,292.35	20.62	63.688	
4,700.00	4,643.80	4,415.73	4,340.92	15.36	16.04	-177.99	-641.94	-270.74	1,352.88	1,331.78	21.10	64.115	
4,800.00	4,742.10	4,507.41	4,430.26	15.76	16.48	-177.95	-660.57	-279.47	1,392.79	1,371.20	21.59	64.521	
4,900.00	4,840.39	4,599.10	4,519.61	16.16	16.91	-177.92	-679.20	-288.21	1,432.71	1,410.63	22.07	64.908	

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,938.69	4,690.78	4,608.96	16.56	17.35	-177.88	-697.83	-296.94	1,472.62	1,450.06	22.56	65.277	
5,100.00	5,036.99	4,782.47	4,698.30	16.96	17.80	-177.85	-716.46	-305.67	1,512.54	1,489.49	23.05	65.630	
5,200.00	5,135.28	4,874.15	4,787.65	17.36	18.24	-177.83	-735.08	-314.40	1,552.46	1,528.92	23.53	65.968	
5,300.00	5,233.58	4,965.84	4,877.00	17.76	18.68	-177.80	-753.71	-323.13	1,592.37	1,568.35	24.02	66.291	
5,400.00	5,331.87	5,057.52	4,966.35	18.17	19.12	-177.77	-772.34	-331.86	1,632.29	1,607.78	24.51	66.601	
5,500.00	5,430.17	5,149.21	5,055.69	18.57	19.56	-177.75	-790.97	-340.59	1,672.21	1,647.21	25.00	66.898	
5,600.00	5,528.46	5,240.90	5,145.04	18.97	20.00	-177.72	-809.60	-349.32	1,712.12	1,686.64	25.48	67.183	
5,700.00	5,626.76	5,332.58	5,234.39	19.37	20.44	-177.70	-828.23	-358.05	1,752.04	1,726.07	25.97	67.457	
5,800.00	5,725.05	5,424.27	5,323.73	19.77	20.88	-177.68	-846.85	-366.78	1,791.96	1,765.50	26.46	67.721	
5,900.00	5,823.35	5,515.95	5,413.08	20.17	21.32	-177.66	-865.48	-375.51	1,831.88	1,804.93	26.95	67.974	
6,000.00	5,921.65	5,607.64	5,502.43	20.58	21.77	-177.64	-884.11	-384.25	1,871.80	1,844.36	27.44	68.218	
6,067.84	5,988.33	5,669.83	5,563.04	20.85	22.07	-177.63	-896.75	-390.17	1,898.88	1,871.11	27.77	68.379	
6,100.00	6,019.97	5,699.39	5,591.85	20.96	22.21	-177.63	-902.75	-392.98	1,911.55	1,883.57	27.98	68.325	
6,200.00	6,118.75	5,792.18	5,682.27	21.25	22.66	-177.64	-921.61	-401.82	1,948.82	1,920.25	28.57	68.202	
6,300.00	6,218.01	5,886.21	5,773.90	21.50	23.11	-177.65	-940.71	-410.77	1,982.84	1,953.70	29.14	68.050	
6,400.00	6,317.63	5,981.36	5,866.62	21.72	23.57	-177.64	-960.04	-419.83	2,013.56	1,983.89	29.67	67.872	
6,500.00	6,417.50	6,291.58	6,171.95	21.89	24.49	-177.59	-1,008.98	-442.77	2,036.34	2,005.76	30.59	66.580	
6,597.52	6,515.00	6,628.05	6,507.57	22.03	25.06	-158.28	-1,027.96	-451.66	2,044.08	2,012.68	31.40	65.095	
6,600.00	6,517.48	6,636.66	6,516.18	22.03	25.07	-158.28	-1,027.97	-451.67	2,044.08	2,012.66	31.42	65.055	
6,700.00	6,617.48	6,737.96	6,617.48	22.17	25.18	-158.28	-1,027.97	-451.67	2,044.08	2,012.29	31.80	64.285	
6,800.00	6,717.48	6,837.96	6,717.48	22.31	25.28	-158.28	-1,027.97	-451.67	2,044.08	2,011.92	32.17	63.549	
6,900.00	6,817.48	6,937.96	6,817.48	22.45	25.39	-158.28	-1,027.97	-451.67	2,044.08	2,011.55	32.54	62.825	
7,000.00	6,917.48	7,037.96	6,917.48	22.60	25.50	-158.28	-1,027.97	-451.67	2,044.08	2,011.17	32.91	62.114	
7,100.00	7,017.48	7,137.96	7,017.48	22.74	25.60	-158.28	-1,027.97	-451.67	2,044.08	2,010.80	33.28	61.415	
7,200.00	7,117.48	7,237.96	7,117.48	22.89	25.71	-158.28	-1,027.97	-451.67	2,044.08	2,010.42	33.66	60.729	
7,300.00	7,217.48	7,337.96	7,217.48	23.04	25.82	-158.28	-1,027.97	-451.67	2,044.08	2,010.05	34.04	60.054	
7,400.00	7,317.48	7,437.96	7,317.48	23.19	25.94	-158.28	-1,027.97	-451.67	2,044.08	2,009.67	34.42	59.392	
7,500.00	7,417.48	7,537.96	7,417.48	23.34	26.05	-158.28	-1,027.97	-451.67	2,044.08	2,009.28	34.80	58.741	
7,600.00	7,517.48	7,637.96	7,517.48	23.49	26.17	-158.28	-1,027.97	-451.67	2,044.08	2,008.90	35.18	58.102	
7,700.00	7,617.48	7,737.96	7,617.48	23.64	26.28	-158.28	-1,027.97	-451.67	2,044.08	2,008.52	35.57	57.474	
7,800.00	7,717.48	7,837.96	7,717.48	23.80	26.40	-158.28	-1,027.97	-451.67	2,044.08	2,008.13	35.95	56.857	
7,900.00	7,817.48	7,937.96	7,817.48	23.95	26.52	-158.28	-1,027.97	-451.67	2,044.08	2,007.74	36.34	56.251	
8,000.00	7,917.48	8,037.96	7,917.48	24.11	26.64	-158.28	-1,027.97	-451.67	2,044.08	2,007.36	36.73	55.656	
8,057.52	7,975.00	8,095.48	7,975.00	24.20	26.71	-158.28	-1,027.97	-451.67	2,044.08	2,007.13	36.95	55.318	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN #1 1-15-10													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	141.04	-62.29	50.37	80.11				
100.00	100.00	100.00	100.00	0.10	0.10	141.04	-62.29	50.37	80.11	79.91	0.19	419.287	
200.00	200.00	200.00	200.00	0.32	0.32	141.04	-62.29	50.37	80.11	79.46	0.64	125.051	
300.00	300.00	300.00	300.00	0.55	0.55	141.04	-62.29	50.37	80.11	79.02	1.09	73.483	
400.00	400.00	400.00	400.00	0.77	0.77	141.04	-62.29	50.37	80.11	78.57	1.54	52.028	
500.00	500.00	500.00	500.00	0.99	0.99	141.04	-62.29	50.37	80.11	78.12	1.99	40.271	
600.00	600.00	600.00	600.00	1.22	1.22	141.04	-62.29	50.37	80.11	77.67	2.44	32.847	
700.00	700.00	700.00	700.00	1.44	1.44	141.04	-62.29	50.37	80.11	77.22	2.89	27.735	
800.00	800.00	800.00	800.00	1.67	1.67	141.04	-62.29	50.37	80.11	76.77	3.34	24.000	
900.00	900.00	900.00	900.00	1.89	1.89	141.04	-62.29	50.37	80.11	76.32	3.79	21.151	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.04	-62.29	50.37	80.11	75.87	4.24	18.907	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.04	-62.29	50.37	80.11	75.64	4.46	17.954 CC, ES	
1,100.00	1,100.00	1,098.63	1,098.63	2.34	2.33	122.00	-62.61	50.63	80.76	76.09	4.67	17.293	
1,200.00	1,199.93	1,195.63	1,195.56	2.57	2.50	123.80	-65.15	52.72	86.05	80.98	5.06	16.990 SF	
1,300.00	1,299.68	1,291.85	1,291.56	2.79	2.69	126.78	-70.17	56.85	96.82	91.36	5.46	17.721	
1,400.00	1,399.13	1,386.80	1,386.02	3.03	2.89	130.12	-77.56	62.93	113.33	107.46	5.87	19.311	
1,500.00	1,498.15	1,480.01	1,478.39	3.28	3.11	133.23	-87.17	70.82	135.66	129.38	6.28	21.599	
1,579.69	1,576.67	1,552.75	1,550.17	3.50	3.30	135.36	-96.28	78.31	157.60	150.99	6.62	23.820	
1,600.00	1,596.64	1,571.06	1,568.19	3.56	3.35	135.91	-98.80	80.37	163.73	157.02	6.71	24.413	
1,700.00	1,694.94	1,660.24	1,655.63	3.87	3.63	137.99	-112.31	91.48	195.75	188.58	7.16	27.332	
1,800.00	1,793.23	1,747.67	1,740.79	4.19	3.94	139.23	-127.60	104.04	230.68	223.05	7.63	30.229	
1,900.00	1,891.53	1,833.52	1,823.79	4.53	4.28	139.95	-144.55	117.98	268.34	260.23	8.11	33.083	
2,000.00	1,989.82	1,925.63	1,912.50	4.88	4.69	140.44	-163.69	133.71	307.22	298.59	8.63	35.618	
2,100.00	2,088.12	2,017.73	2,001.21	5.23	5.13	140.82	-182.83	149.44	346.11	336.96	9.15	37.825	
2,200.00	2,186.41	2,109.83	2,089.92	5.59	5.57	141.13	-201.97	165.17	385.02	375.33	9.69	39.748	
2,300.00	2,284.71	2,201.94	2,178.63	5.96	6.04	141.38	-221.11	180.90	423.93	413.70	10.23	41.432	
2,400.00	2,383.01	2,294.04	2,267.34	6.33	6.51	141.58	-240.25	196.63	462.85	452.07	10.79	42.914	
2,500.00	2,481.30	2,386.15	2,356.05	6.71	6.99	141.76	-259.39	212.36	501.78	490.43	11.35	44.225	
2,600.00	2,579.60	2,478.25	2,444.76	7.09	7.47	141.91	-278.53	228.09	540.70	528.79	11.91	45.391	
2,700.00	2,677.89	2,570.35	2,533.47	7.47	7.97	142.04	-297.67	243.82	579.63	567.15	12.48	46.434	
2,800.00	2,776.19	2,662.46	2,622.18	7.86	8.46	142.15	-316.80	259.55	618.56	605.51	13.06	47.370	
2,900.00	2,874.48	2,754.56	2,710.89	8.24	8.96	142.25	-335.94	275.27	657.50	643.86	13.64	48.214	
3,000.00	2,972.78	2,846.67	2,799.60	8.63	9.46	142.34	-355.08	291.00	696.43	682.21	14.22	48.978	
3,100.00	3,071.07	2,938.77	2,888.31	9.02	9.97	142.42	-374.22	306.73	735.37	720.56	14.80	49.673	
3,200.00	3,169.37	3,030.87	2,977.02	9.41	10.48	142.49	-393.36	322.46	774.31	758.91	15.39	50.306	
3,300.00	3,267.67	3,122.98	3,065.73	9.80	10.99	142.55	-412.50	338.19	813.24	797.26	15.98	50.886	
3,400.00	3,365.96	3,215.08	3,154.43	10.19	11.50	142.61	-431.64	353.92	852.18	835.61	16.57	51.418	
3,500.00	3,464.26	3,307.19	3,243.14	10.59	12.01	142.67	-450.78	369.65	891.12	873.96	17.17	51.907	
3,600.00	3,562.55	3,399.29	3,331.85	10.98	12.52	142.71	-469.92	385.38	930.06	912.30	17.76	52.359	
3,700.00	3,660.85	3,491.39	3,420.56	11.38	13.04	142.76	-489.06	401.11	969.01	950.65	18.36	52.778	
3,800.00	3,759.14	3,583.50	3,509.27	11.77	13.56	142.80	-508.20	416.84	1,007.95	988.99	18.96	53.166	
3,900.00	3,857.44	3,675.60	3,597.98	12.17	14.07	142.84	-527.34	432.57	1,046.89	1,027.33	19.56	53.527	
4,000.00	3,955.73	3,767.70	3,686.69	12.57	14.59	142.88	-546.48	448.30	1,085.83	1,065.67	20.16	53.864	
4,100.00	4,054.03	3,859.81	3,775.40	12.97	15.11	142.91	-565.62	464.03	1,124.77	1,104.01	20.76	54.179	
4,200.00	4,152.33	3,951.91	3,864.11	13.36	15.63	142.94	-584.76	479.76	1,163.72	1,142.35	21.36	54.473	
4,300.00	4,250.62	4,044.02	3,952.82	13.76	16.15	142.97	-603.90	495.49	1,202.66	1,180.69	21.97	54.750	
4,400.00	4,348.92	4,136.12	4,041.53	14.16	16.67	143.00	-623.04	511.22	1,241.60	1,219.03	22.57	55.009	
4,500.00	4,447.21	4,228.22	4,130.24	14.56	17.19	143.02	-642.17	526.95	1,280.55	1,257.37	23.18	55.254	
4,600.00	4,545.51	4,320.33	4,218.95	14.96	17.71	143.05	-661.31	542.68	1,319.49	1,295.71	23.78	55.484	
4,700.00	4,643.80	4,412.43	4,307.66	15.36	18.23	143.07	-680.45	558.41	1,358.44	1,334.05	24.39	55.702	
4,800.00	4,742.10	4,504.54	4,396.37	15.76	18.75	143.09	-699.59	574.14	1,397.38	1,372.38	24.99	55.908	
4,900.00	4,840.39	4,596.64	4,485.08	16.16	19.28	143.11	-718.73	589.87	1,436.32	1,410.72	25.60	56.103	

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						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	4,938.69	4,688.74	4,573.79	16.56	19.80	143.13	-737.87	605.60	1,475.27	1,449.06	26.21	56.288	
5,100.00	5,036.99	4,780.85	4,662.50	16.96	20.32	143.15	-757.01	621.33	1,514.21	1,487.40	26.82	56.463	
5,200.00	5,135.28	4,872.95	4,751.21	17.36	20.84	143.16	-776.15	637.06	1,553.16	1,525.73	27.43	56.630	
5,300.00	5,233.58	4,965.05	4,839.92	17.76	21.37	143.18	-795.29	652.79	1,592.10	1,564.07	28.04	56.789	
5,400.00	5,331.87	5,057.16	4,928.63	18.17	21.89	143.20	-814.43	668.52	1,631.05	1,602.40	28.65	56.940	
5,500.00	5,430.17	5,149.26	5,017.33	18.57	22.41	143.21	-833.57	684.25	1,669.99	1,640.74	29.25	57.084	
5,600.00	5,528.46	5,241.37	5,106.04	18.97	22.94	143.23	-852.71	699.98	1,708.94	1,679.07	29.87	57.222	
5,700.00	5,626.76	5,333.47	5,194.75	19.37	23.46	143.24	-871.85	715.71	1,747.88	1,717.41	30.48	57.354	
5,800.00	5,725.05	5,425.57	5,283.46	19.77	23.99	143.25	-890.99	731.44	1,786.83	1,755.74	31.09	57.480	
5,900.00	5,823.35	5,517.68	5,372.17	20.17	24.51	143.26	-910.13	747.17	1,825.77	1,794.08	31.70	57.600	
6,000.00	5,921.65	5,609.78	5,460.88	20.58	25.04	143.28	-929.27	762.90	1,864.72	1,832.41	32.31	57.716	
6,067.84	5,988.33	5,672.26	5,521.06	20.85	25.39	143.28	-942.25	773.57	1,891.14	1,858.42	32.72	57.792	
6,100.00	6,019.97	5,701.94	5,549.65	20.96	25.56	143.45	-948.42	778.64	1,903.53	1,870.56	32.97	57.734	
6,200.00	6,118.75	5,794.90	5,639.18	21.25	26.09	143.87	-967.74	794.51	1,940.34	1,906.66	33.68	57.609	
6,300.00	6,218.01	5,888.82	5,729.63	21.50	26.63	144.19	-987.25	810.55	1,974.52	1,940.17	34.35	57.482	
6,400.00	6,317.63	5,979.76	5,819.76	21.72	27.58	144.22	-1,032.34	847.60	2,002.40	1,967.08	35.32	56.691	
6,500.00	6,417.50	6,070.71	5,910.71	21.89	28.30	144.24	-1,061.46	871.54	2,019.02	1,982.85	36.17	55.824	
6,597.52	6,515.00	6,163.97	6,003.97	22.03	28.67	163.53	-1,069.85	878.44	2,023.88	1,987.09	36.79	55.011	
6,600.00	6,517.48	6,166.45	6,006.45	22.03	28.67	163.53	-1,069.85	878.44	2,023.88	1,987.08	36.80	54.999	
6,700.00	6,617.48	6,266.45	6,106.45	22.17	28.76	163.53	-1,069.85	878.44	2,023.88	1,986.76	37.12	54.525	
6,800.00	6,717.48	6,366.45	6,206.45	22.31	28.86	163.53	-1,069.85	878.44	2,023.88	1,986.44	37.44	54.056	
6,900.00	6,817.48	6,466.45	6,306.45	22.45	28.96	163.53	-1,069.85	878.44	2,023.88	1,986.11	37.77	53.591	
7,000.00	6,917.48	6,566.45	6,406.45	22.60	29.06	163.53	-1,069.85	878.44	2,023.88	1,985.78	38.09	53.131	
7,100.00	7,017.48	6,666.45	6,506.45	22.74	29.16	163.53	-1,069.85	878.44	2,023.88	1,985.45	38.42	52.675	
7,200.00	7,117.48	6,766.45	6,606.45	22.89	29.26	163.53	-1,069.85	878.44	2,023.88	1,985.12	38.75	52.224	
7,300.00	7,217.48	6,866.45	6,706.45	23.04	29.36	163.53	-1,069.85	878.44	2,023.88	1,984.79	39.09	51.777	
7,400.00	7,317.48	6,966.45	6,806.45	23.19	29.46	163.53	-1,069.85	878.44	2,023.88	1,984.45	39.42	51.335	
7,500.00	7,417.48	7,066.45	6,906.45	23.34	29.57	163.53	-1,069.85	878.44	2,023.88	1,984.11	39.76	50.897	
7,600.00	7,517.48	7,166.45	7,006.45	23.49	29.68	163.53	-1,069.85	878.44	2,023.88	1,983.77	40.10	50.465	
7,700.00	7,617.48	7,266.45	7,106.45	23.64	29.78	163.53	-1,069.85	878.44	2,023.88	1,983.43	40.45	50.037	
7,800.00	7,717.48	7,366.45	7,206.45	23.80	29.89	163.53	-1,069.85	878.44	2,023.88	1,983.08	40.79	49.613	
7,900.00	7,817.48	7,466.45	7,306.45	23.95	30.00	163.53	-1,069.85	878.44	2,023.88	1,982.74	41.14	49.195	
8,000.00	7,917.48	7,566.45	7,406.45	24.11	30.12	163.53	-1,069.85	878.44	2,023.88	1,982.39	41.49	48.781	
8,057.52	7,975.00	7,624.97	7,464.97	24.20	30.18	163.53	-1,069.85	878.44	2,023.88	1,982.19	41.69	48.545	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN #1 1-15-10													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	141.20	-70.29	56.53	90.20				
100.00	100.00	100.00	100.00	0.10	0.10	141.20	-70.29	56.53	90.20	90.01	0.19	472.134	
200.00	200.00	200.00	200.00	0.32	0.32	141.20	-70.29	56.53	90.20	89.56	0.64	140.812	
300.00	300.00	300.00	300.00	0.55	0.55	141.20	-70.29	56.53	90.20	89.11	1.09	82.745	
400.00	400.00	400.00	400.00	0.77	0.77	141.20	-70.29	56.53	90.20	88.66	1.54	58.586	
500.00	500.00	500.00	500.00	0.99	0.99	141.20	-70.29	56.53	90.20	88.21	1.99	45.346	
600.00	600.00	600.00	600.00	1.22	1.22	141.20	-70.29	56.53	90.20	87.76	2.44	36.988	
700.00	700.00	700.00	700.00	1.44	1.44	141.20	-70.29	56.53	90.20	87.31	2.89	31.231	
800.00	800.00	800.00	800.00	1.67	1.67	141.20	-70.29	56.53	90.20	86.86	3.34	27.025	
900.00	900.00	900.00	900.00	1.89	1.89	141.20	-70.29	56.53	90.20	86.41	3.79	23.817	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.20	-70.29	56.53	90.20	85.97	4.24	21.290	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.20	-70.29	56.53	90.20	85.74	4.46	20.217 CC, ES	
1,100.00	1,100.00	1,098.57	1,098.57	2.34	2.33	122.03	-70.50	56.88	90.83	86.15	4.67	19.441	
1,200.00	1,199.93	1,195.51	1,195.44	2.57	2.51	122.94	-72.12	59.74	95.84	90.76	5.07	18.887 SF	
1,300.00	1,299.68	1,291.84	1,291.56	2.79	2.71	124.48	-75.34	65.40	105.91	100.43	5.48	19.319	
1,400.00	1,399.13	1,387.19	1,386.41	3.03	2.91	126.28	-80.09	73.76	121.08	115.18	5.90	20.525	
1,500.00	1,498.15	1,481.18	1,479.56	3.28	3.14	128.02	-86.30	84.68	141.36	135.03	6.33	22.329	
1,579.69	1,576.67	1,554.88	1,552.27	3.50	3.34	129.25	-92.23	95.10	161.13	154.45	6.69	24.089	
1,600.00	1,596.64	1,573.49	1,570.58	3.56	3.40	129.60	-93.87	97.99	166.64	159.85	6.79	24.559	
1,700.00	1,694.94	1,664.30	1,659.60	3.87	3.68	130.77	-102.73	113.56	195.37	188.09	7.28	26.849	
1,800.00	1,793.23	1,753.68	1,746.62	4.19	4.01	131.24	-112.80	131.27	226.69	218.90	7.79	29.097	
1,900.00	1,891.53	1,841.49	1,831.46	4.53	4.37	131.25	-124.00	150.97	260.49	252.16	8.33	31.285	
2,000.00	1,989.82	1,927.60	1,913.94	4.88	4.78	130.97	-136.23	172.47	296.69	287.81	8.88	33.408	
2,100.00	2,088.12	2,011.93	1,993.96	5.23	5.22	130.50	-149.38	195.60	335.25	325.80	9.45	35.469	
2,200.00	2,186.41	2,094.38	2,071.40	5.59	5.71	129.92	-163.36	220.18	376.12	366.08	10.04	37.465	
2,300.00	2,284.71	2,174.88	2,146.19	5.96	6.24	129.28	-178.07	246.05	419.24	408.60	10.64	39.390	
2,400.00	2,383.01	2,253.37	2,218.29	6.33	6.80	128.61	-193.41	273.02	464.57	453.31	11.26	41.272	
2,500.00	2,481.30	2,329.83	2,287.68	6.71	7.39	127.93	-209.28	300.92	512.04	500.17	11.87	43.133	
2,600.00	2,579.60	2,416.26	2,365.57	7.09	8.09	127.21	-227.80	333.49	560.71	548.17	12.54	44.706	
2,700.00	2,677.89	2,503.41	2,444.11	7.47	8.82	126.60	-246.47	366.33	609.45	596.23	13.22	46.095	
2,800.00	2,776.19	2,590.56	2,522.64	7.86	9.56	126.08	-265.15	399.17	658.23	644.32	13.91	47.324	
2,900.00	2,874.48	2,677.71	2,601.18	8.24	10.31	125.63	-283.82	432.01	707.05	692.44	14.60	48.420	
3,000.00	2,972.78	2,764.86	2,679.72	8.63	11.07	125.24	-302.50	464.84	755.89	740.59	15.30	49.404	
3,100.00	3,071.07	2,852.01	2,758.25	9.02	11.83	124.90	-321.17	497.68	804.76	788.76	16.00	50.291	
3,200.00	3,169.37	2,939.16	2,836.79	9.41	12.60	124.59	-339.85	530.52	853.65	836.94	16.71	51.093	
3,300.00	3,267.67	3,026.31	2,915.33	9.80	13.37	124.32	-358.52	563.36	902.56	885.14	17.42	51.822	
3,400.00	3,365.96	3,113.46	2,993.86	10.19	14.15	124.08	-377.20	596.20	951.48	933.35	18.13	52.487	
3,500.00	3,464.26	3,200.61	3,072.40	10.59	14.93	123.86	-395.87	629.04	1,000.41	981.57	18.84	53.095	
3,600.00	3,562.55	3,287.76	3,150.93	10.98	15.71	123.66	-414.55	661.87	1,049.35	1,029.79	19.56	53.652	
3,700.00	3,660.85	3,374.91	3,229.47	11.38	16.49	123.48	-433.22	694.71	1,098.30	1,078.02	20.28	54.164	
3,800.00	3,759.14	3,462.06	3,308.01	11.77	17.28	123.31	-451.90	727.55	1,147.26	1,126.26	21.00	54.637	
3,900.00	3,857.44	3,549.21	3,386.54	12.17	18.07	123.16	-470.57	760.39	1,196.22	1,174.50	21.72	55.076	
4,000.00	3,955.73	3,636.36	3,465.08	12.57	18.86	123.02	-489.25	793.23	1,245.19	1,222.75	22.44	55.483	
4,100.00	4,054.03	3,723.51	3,543.62	12.97	19.65	122.89	-507.92	826.07	1,294.17	1,271.00	23.17	55.861	
4,200.00	4,152.33	3,810.66	3,622.15	13.36	20.44	122.77	-526.60	858.90	1,343.15	1,319.26	23.89	56.214	
4,300.00	4,250.62	3,897.81	3,700.69	13.76	21.23	122.66	-545.27	891.74	1,392.13	1,367.51	24.62	56.544	
4,400.00	4,348.92	3,984.96	3,779.23	14.16	22.02	122.55	-563.95	924.58	1,441.12	1,415.77	25.35	56.853	
4,500.00	4,447.21	4,072.11	3,857.76	14.56	22.81	122.46	-582.62	957.42	1,490.11	1,464.04	26.08	57.142	
4,600.00	4,545.51	4,159.26	3,936.30	14.96	23.61	122.37	-601.30	990.26	1,539.11	1,512.30	26.81	57.414	
4,700.00	4,643.80	4,246.41	4,014.84	15.36	24.40	122.28	-619.97	1,023.10	1,588.11	1,560.57	27.54	57.671	
4,800.00	4,742.10	4,333.55	4,093.37	15.76	25.20	122.20	-638.65	1,055.93	1,637.11	1,608.84	28.27	57.912	
4,900.00	4,840.39	4,420.70	4,171.91	16.16	25.99	122.12	-657.32	1,088.77	1,686.11	1,657.11	29.00	58.140	

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,938.69	4,507.85	4,250.45	16.56	26.79	122.05	-676.00	1,121.61	1,735.11	1,705.38	29.73	58.356	
5,100.00	5,036.99	4,595.00	4,328.98	16.96	27.59	121.98	-694.67	1,154.45	1,784.12	1,753.65	30.47	58.561	
5,200.00	5,135.28	4,682.15	4,407.52	17.36	28.39	121.92	-713.34	1,187.29	1,833.13	1,801.93	31.20	58.755	
5,300.00	5,233.58	4,769.30	4,486.06	17.76	29.18	121.86	-732.02	1,220.13	1,882.14	1,850.21	31.93	58.939	
5,400.00	5,331.87	4,856.45	4,564.59	18.17	29.98	121.80	-750.69	1,252.96	1,931.15	1,898.48	32.67	59.114	
5,500.00	5,430.17	4,943.60	4,643.13	18.57	30.78	121.75	-769.37	1,285.80	1,980.16	1,946.76	33.40	59.280	
5,600.00	5,528.46	5,030.75	4,721.66	18.97	31.58	121.70	-788.04	1,318.64	2,029.18	1,995.04	34.14	59.439	
5,700.00	5,626.76	5,117.90	4,800.20	19.37	32.38	121.65	-806.72	1,351.48	2,078.19	2,043.32	34.87	59.591	
5,800.00	5,725.05	5,205.05	4,878.74	19.77	33.18	121.60	-825.39	1,384.32	2,127.21	2,091.60	35.61	59.736	
5,900.00	5,823.35	5,292.20	4,957.27	20.17	33.97	121.55	-844.07	1,417.16	2,176.23	2,139.88	36.35	59.874	
6,000.00	5,921.65	5,379.35	5,035.81	20.58	34.77	121.51	-862.74	1,449.99	2,225.25	2,188.16	37.08	60.006	
6,067.84	5,988.33	5,438.47	5,089.09	20.85	35.32	121.48	-875.41	1,472.27	2,258.50	2,220.92	37.58	60.093	
6,100.00	6,019.97	5,466.55	5,114.39	20.96	35.57	121.77	-881.43	1,482.85	2,274.18	2,236.26	37.92	59.968	
6,200.00	6,118.75	5,554.35	5,193.51	21.25	36.38	122.58	-900.24	1,515.93	2,321.88	2,282.97	38.91	59.673	
6,300.00	6,218.01	5,642.86	5,273.27	21.50	37.19	123.27	-919.21	1,549.28	2,367.93	2,328.08	39.85	59.426	
6,400.00	6,317.63	5,731.96	5,353.57	21.72	38.01	123.84	-938.30	1,582.86	2,412.30	2,371.57	40.72	59.234	
6,500.00	6,417.50	5,821.55	5,434.31	21.89	38.83	124.30	-957.50	1,616.62	2,454.97	2,413.43	41.54	59.099	
6,597.52	6,515.00	5,909.29	5,513.38	22.03	39.64	143.94	-976.30	1,649.68	2,494.93	2,452.66	42.27	59.026	
6,600.00	6,517.48	5,911.52	5,515.39	22.03	39.66	143.93	-976.78	1,650.52	2,495.93	2,453.65	42.28	59.033	
6,700.00	6,617.48	6,001.64	5,596.60	22.17	40.49	143.54	-996.09	1,684.48	2,536.13	2,493.37	42.75	59.320	
6,800.00	6,717.48	6,091.76	5,677.81	22.31	41.32	143.15	-1,015.40	1,718.43	2,576.43	2,533.21	43.22	59.605	
6,900.00	6,817.48	6,181.87	5,759.02	22.45	42.14	142.78	-1,034.71	1,752.39	2,616.83	2,573.14	43.69	59.889	
7,000.00	6,917.48	6,271.99	5,840.23	22.60	42.97	142.42	-1,054.02	1,786.34	2,657.33	2,613.16	44.16	60.171	
7,100.00	7,017.48	6,362.11	5,921.44	22.74	43.80	142.06	-1,073.33	1,820.30	2,697.91	2,653.28	44.63	60.450	
7,200.00	7,117.48	6,880.85	6,404.15	22.89	47.13	140.51	-1,166.30	1,983.77	2,734.70	2,688.52	46.18	59.218	
7,300.00	7,217.48	7,704.78	7,217.48	23.04	49.21	139.67	-1,222.04	2,081.79	2,745.69	2,697.97	47.72	57.539	
7,400.00	7,317.48	7,804.78	7,317.48	23.19	49.28	139.67	-1,222.04	2,081.79	2,745.69	2,697.69	48.00	57.207	
7,500.00	7,417.48	7,904.78	7,417.48	23.34	49.34	139.67	-1,222.04	2,081.79	2,745.69	2,697.41	48.27	56.876	
7,600.00	7,517.48	8,004.78	7,517.48	23.49	49.41	139.67	-1,222.04	2,081.79	2,745.69	2,697.13	48.56	56.546	
7,700.00	7,617.48	8,104.78	7,617.48	23.64	49.48	139.67	-1,222.04	2,081.79	2,745.69	2,696.84	48.84	56.217	
7,800.00	7,717.48	8,204.78	7,717.48	23.80	49.55	139.67	-1,222.04	2,081.79	2,745.69	2,696.56	49.13	55.890	
7,900.00	7,817.48	8,304.78	7,817.48	23.95	49.62	139.67	-1,222.04	2,081.79	2,745.69	2,696.27	49.42	55.563	
8,000.00	7,917.48	8,404.78	7,917.48	24.11	49.69	139.67	-1,222.04	2,081.79	2,745.69	2,695.98	49.71	55.237	
8,057.52	7,975.00	8,462.30	7,975.00	24.20	49.74	139.67	-1,222.04	2,081.79	2,745.69	2,695.81	49.88	55.050	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	140.98	-46.62	37.78	60.01				
100.00	100.00	100.00	100.00	0.10	0.10	140.98	-46.62	37.78	60.01	59.82	0.19	314.091	
200.00	200.00	200.00	200.00	0.32	0.32	140.98	-46.62	37.78	60.01	59.37	0.64	93.676	
300.00	300.00	300.00	300.00	0.55	0.55	140.98	-46.62	37.78	60.01	58.92	1.09	55.047	
400.00	400.00	400.00	400.00	0.77	0.77	140.98	-46.62	37.78	60.01	58.47	1.54	38.975	
500.00	500.00	500.00	500.00	0.99	0.99	140.98	-46.62	37.78	60.01	58.02	1.99	30.167	
600.00	600.00	600.00	600.00	1.22	1.22	140.98	-46.62	37.78	60.01	57.57	2.44	24.606	
700.00	700.00	700.00	700.00	1.44	1.44	140.98	-46.62	37.78	60.01	57.12	2.89	20.776	
800.00	800.00	800.00	800.00	1.67	1.67	140.98	-46.62	37.78	60.01	56.67	3.34	17.978	
900.00	900.00	900.00	900.00	1.89	1.89	140.98	-46.62	37.78	60.01	56.22	3.79	15.844	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	140.98	-46.62	37.78	60.01	55.77	4.24	14.163	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	140.98	-46.62	37.78	60.01	55.55	4.46	13.450 CC, ES	
1,100.00	1,100.00	1,098.98	1,098.98	2.34	2.33	122.12	-47.00	37.97	60.66	55.99	4.67	12.989 SF	
1,200.00	1,199.93	1,196.66	1,196.59	2.57	2.50	125.14	-49.97	39.47	65.95	60.89	5.06	13.029	
1,300.00	1,299.68	1,294.05	1,293.76	2.79	2.68	129.89	-55.82	42.41	76.89	71.43	5.46	14.085	
1,400.00	1,399.13	1,392.64	1,392.06	3.03	2.88	135.01	-62.61	45.84	91.68	85.81	5.87	15.631	
1,500.00	1,498.15	1,490.62	1,489.75	3.28	3.09	139.81	-69.36	49.24	109.64	103.37	6.27	17.473	
1,579.69	1,576.67	1,568.18	1,567.08	3.50	3.26	143.25	-74.70	51.94	126.35	119.75	6.60	19.134	
1,600.00	1,596.64	1,587.89	1,586.73	3.56	3.30	144.11	-76.06	52.62	130.90	124.21	6.69	19.561	
1,700.00	1,694.94	1,684.91	1,683.46	3.87	3.52	147.58	-82.74	55.99	153.64	146.51	7.14	21.531	
1,800.00	1,793.23	1,781.93	1,780.19	4.19	3.75	150.15	-89.43	59.36	176.78	169.19	7.59	23.300	
1,900.00	1,891.53	1,878.95	1,876.92	4.53	3.98	152.13	-96.11	62.73	200.17	192.13	8.04	24.885	
2,000.00	1,989.82	1,975.96	1,973.64	4.88	4.21	153.70	-102.79	66.10	223.75	215.25	8.51	26.306	
2,100.00	2,088.12	2,072.98	2,070.37	5.23	4.45	154.96	-109.48	69.47	247.46	238.48	8.97	27.583	
2,200.00	2,186.41	2,170.00	2,167.10	5.59	4.69	156.01	-116.16	72.84	271.25	261.81	9.44	28.734	
2,300.00	2,284.71	2,267.02	2,263.83	5.96	4.93	156.89	-122.84	76.21	295.12	285.21	9.91	29.774	
2,400.00	2,383.01	2,364.04	2,360.56	6.33	5.18	157.63	-129.53	79.58	319.05	308.66	10.39	30.718	
2,500.00	2,481.30	2,461.06	2,457.29	6.71	5.42	158.27	-136.21	82.95	343.02	332.16	10.86	31.577	
2,600.00	2,579.60	2,558.07	2,554.02	7.09	5.67	158.83	-142.90	86.32	367.02	355.68	11.34	32.362	
2,700.00	2,677.89	2,655.09	2,650.75	7.47	5.92	159.32	-149.58	89.69	391.06	379.24	11.82	33.081	
2,800.00	2,776.19	2,752.11	2,747.48	7.86	6.17	159.75	-156.26	93.05	415.12	402.81	12.30	33.742	
2,900.00	2,874.48	2,849.13	2,844.20	8.24	6.42	160.14	-162.95	96.42	439.19	426.41	12.79	34.352	
3,000.00	2,972.78	2,946.15	2,940.93	8.63	6.67	160.48	-169.63	99.79	463.29	450.02	13.27	34.915	
3,100.00	3,071.07	3,043.16	3,037.66	9.02	6.93	160.79	-176.31	103.16	487.40	473.64	13.75	35.436	
3,200.00	3,169.37	3,140.18	3,134.39	9.41	7.18	161.08	-183.00	106.53	511.52	497.28	14.24	35.921	
3,300.00	3,267.67	3,237.20	3,231.12	9.80	7.44	161.33	-189.68	109.90	535.65	520.92	14.73	36.372	
3,400.00	3,365.96	3,334.22	3,327.85	10.19	7.69	161.57	-196.36	113.27	559.79	544.57	15.21	36.794	
3,500.00	3,464.26	3,431.24	3,424.58	10.59	7.95	161.78	-203.05	116.64	583.94	568.24	15.70	37.187	
3,600.00	3,562.55	3,528.25	3,521.31	10.98	8.20	161.98	-209.73	120.01	608.09	591.90	16.19	37.557	
3,700.00	3,660.85	3,625.27	3,618.04	11.38	8.46	162.16	-216.41	123.38	632.26	615.57	16.68	37.903	
3,800.00	3,759.14	3,722.29	3,714.76	11.77	8.72	162.33	-223.10	126.75	656.42	639.25	17.17	38.229	
3,900.00	3,857.44	3,819.31	3,811.49	12.17	8.98	162.49	-229.78	130.12	680.60	662.94	17.66	38.536	
4,000.00	3,955.73	3,916.33	3,908.22	12.57	9.23	162.64	-236.46	133.49	704.77	686.62	18.15	38.826	
4,100.00	4,054.03	4,013.34	4,004.95	12.97	9.49	162.77	-243.15	136.86	728.96	710.31	18.64	39.100	
4,200.00	4,152.33	4,110.36	4,101.68	13.36	9.75	162.90	-249.83	140.23	753.14	734.00	19.14	39.359	
4,300.00	4,250.62	4,207.38	4,198.41	13.76	10.01	163.02	-256.51	143.60	777.33	757.70	19.63	39.604	
4,400.00	4,348.92	4,304.40	4,295.14	14.16	10.27	163.13	-263.20	146.97	801.52	781.40	20.12	39.837	
4,500.00	4,447.21	4,401.42	4,391.87	14.56	10.53	163.24	-269.88	150.34	825.71	805.10	20.61	40.059	
4,600.00	4,545.51	4,498.43	4,488.60	14.96	10.79	163.34	-276.56	153.71	849.91	828.81	21.11	40.270	
4,700.00	4,643.80	4,595.45	4,585.32	15.36	11.05	163.44	-283.25	157.08	874.11	852.51	21.60	40.470	
4,800.00	4,742.10	4,692.47	4,682.05	15.76	11.31	163.52	-289.93	160.45	898.31	876.22	22.09	40.662	
4,900.00	4,840.39	4,789.49	4,778.78	16.16	11.57	163.61	-296.61	163.82	922.51	899.93	22.59	40.844	

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,938.69	4,886.51	4,875.51	16.56	11.83	163.69	-303.30	167.19	946.72	923.64	23.08	41.019	
5,100.00	5,036.99	4,983.52	4,972.24	16.96	12.09	163.77	-309.98	170.56	970.93	947.35	23.57	41.186	
5,200.00	5,135.28	5,080.54	5,068.97	17.36	12.35	163.84	-316.66	173.93	995.13	971.06	24.07	41.346	
5,300.00	5,233.58	5,177.56	5,165.70	17.76	12.61	163.91	-323.35	177.29	1,019.34	994.78	24.56	41.499	
5,400.00	5,331.87	5,274.58	5,262.43	18.17	12.87	163.97	-330.03	180.66	1,043.55	1,018.50	25.06	41.646	
5,500.00	5,430.17	5,371.60	5,359.16	18.57	13.13	164.04	-336.71	184.03	1,067.77	1,042.21	25.55	41.787	
5,600.00	5,528.46	5,468.61	5,455.89	18.97	13.39	164.10	-343.40	187.40	1,091.98	1,065.93	26.05	41.922	
5,700.00	5,626.76	5,565.63	5,552.61	19.37	13.65	164.16	-350.08	190.77	1,116.19	1,089.65	26.54	42.053	
5,800.00	5,725.05	5,662.65	5,649.34	19.77	13.91	164.21	-356.76	194.14	1,140.41	1,113.37	27.04	42.178	
5,900.00	5,823.35	5,759.67	5,746.07	20.17	14.17	164.26	-363.45	197.51	1,164.63	1,137.09	27.53	42.298	
6,000.00	5,921.65	5,856.69	5,842.80	20.58	14.43	164.31	-370.13	200.88	1,188.84	1,160.81	28.03	42.415	
6,067.84	5,988.33	5,922.50	5,908.42	20.85	14.61	164.35	-374.66	203.17	1,205.27	1,176.91	28.37	42.491	
6,100.00	6,019.97	5,953.75	5,939.57	20.96	14.70	164.40	-376.82	204.25	1,212.89	1,184.34	28.55	42.485	
6,200.00	6,118.75	6,051.40	6,036.93	21.25	14.96	164.53	-383.54	207.64	1,234.42	1,205.35	29.07	42.466	
6,300.00	6,218.01	6,149.71	6,134.95	21.50	15.22	164.60	-390.32	211.06	1,252.65	1,223.10	29.55	42.386	
6,400.00	6,317.63	6,248.58	6,233.52	21.72	15.49	164.60	-397.13	214.49	1,267.57	1,237.57	30.00	42.251	
6,500.00	6,417.50	6,370.74	6,355.37	21.89	15.79	164.53	-404.99	218.46	1,278.82	1,248.37	30.45	41.999	
6,597.52	6,515.00	6,529.20	6,513.74	22.03	16.08	-176.24	-409.06	220.51	1,282.84	1,251.97	30.87	41.551	
6,600.00	6,517.48	6,532.94	6,517.48	22.03	16.09	-176.24	-409.07	220.51	1,282.84	1,251.96	30.89	41.536	
6,700.00	6,617.48	6,632.94	6,617.48	22.17	16.26	-176.24	-409.07	220.51	1,282.84	1,251.57	31.27	41.027	
6,800.00	6,717.48	6,732.94	6,717.48	22.31	16.42	-176.24	-409.07	220.51	1,282.84	1,251.20	31.64	40.541	
6,900.00	6,817.48	6,832.94	6,817.48	22.45	16.59	-176.24	-409.07	220.51	1,282.84	1,250.82	32.02	40.064	
7,000.00	6,917.48	6,932.94	6,917.48	22.60	16.75	-176.24	-409.07	220.51	1,282.84	1,250.44	32.40	39.596	
7,100.00	7,017.48	7,032.94	7,017.48	22.74	16.92	-176.24	-409.07	220.51	1,282.84	1,250.06	32.78	39.137	
7,200.00	7,117.48	7,132.94	7,117.48	22.89	17.08	-176.24	-409.07	220.51	1,282.84	1,249.68	33.16	38.686	
7,300.00	7,217.48	7,232.94	7,217.48	23.04	17.25	-176.24	-409.07	220.51	1,282.84	1,249.30	33.54	38.244	
7,400.00	7,317.48	7,332.94	7,317.48	23.19	17.42	-176.24	-409.07	220.51	1,282.84	1,248.91	33.93	37.809	
7,500.00	7,417.48	7,432.94	7,417.48	23.34	17.59	-176.24	-409.07	220.51	1,282.84	1,248.52	34.32	37.383	
7,600.00	7,517.48	7,532.94	7,517.48	23.49	17.77	-176.24	-409.07	220.51	1,282.84	1,248.14	34.70	36.964	
7,700.00	7,617.48	7,632.94	7,617.48	23.64	17.94	-176.24	-409.07	220.51	1,282.84	1,247.75	35.09	36.554	
7,800.00	7,717.48	7,732.94	7,717.48	23.80	18.11	-176.24	-409.07	220.51	1,282.84	1,247.35	35.49	36.151	
7,900.00	7,817.48	7,832.94	7,817.48	23.95	18.29	-176.24	-409.07	220.51	1,282.84	1,246.96	35.88	35.755	
8,000.00	7,917.48	7,932.94	7,917.48	24.11	18.47	-176.24	-409.07	220.51	1,282.84	1,246.57	36.27	35.366	
8,057.52	7,975.00	7,990.46	7,975.00	24.20	18.57	-176.24	-409.07	220.51	1,282.84	1,246.34	36.50	35.146	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	141.20	-54.64	43.93	70.11				
100.00	100.00	100.00	100.00	0.10	0.10	141.20	-54.64	43.93	70.11	69.92	0.19	366.971	
200.00	200.00	200.00	200.00	0.32	0.32	141.20	-54.64	43.93	70.11	69.47	0.64	109.448	
300.00	300.00	300.00	300.00	0.55	0.55	141.20	-54.64	43.93	70.11	69.02	1.09	64.315	
400.00	400.00	400.00	400.00	0.77	0.77	141.20	-54.64	43.93	70.11	68.57	1.54	45.537	
500.00	500.00	500.00	500.00	0.99	0.99	141.20	-54.64	43.93	70.11	68.12	1.99	35.246	
600.00	600.00	600.00	600.00	1.22	1.22	141.20	-54.64	43.93	70.11	67.67	2.44	28.749	
700.00	700.00	700.00	700.00	1.44	1.44	141.20	-54.64	43.93	70.11	67.22	2.89	24.274	
800.00	800.00	800.00	800.00	1.67	1.67	141.20	-54.64	43.93	70.11	66.77	3.34	21.005	
900.00	900.00	900.00	900.00	1.89	1.89	141.20	-54.64	43.93	70.11	66.32	3.79	18.512	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.20	-54.64	43.93	70.11	65.87	4.24	16.548	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.20	-54.64	43.93	70.11	65.65	4.46	15.714 CC, ES	
1,100.00	1,100.00	1,099.07	1,099.07	2.34	2.33	121.98	-54.72	44.35	70.67	66.00	4.68	15.116	
1,200.00	1,199.93	1,197.05	1,196.99	2.57	2.53	122.49	-55.40	47.63	75.16	70.07	5.09	14.774 SF	
1,300.00	1,299.68	1,294.58	1,294.29	2.79	2.73	123.33	-56.75	54.15	84.13	78.63	5.51	15.280	
1,400.00	1,399.13	1,391.37	1,390.56	3.03	2.95	124.27	-58.74	63.83	97.58	91.64	5.94	16.434	
1,500.00	1,498.15	1,487.13	1,485.44	3.28	3.19	125.13	-61.37	76.53	115.46	109.07	6.39	18.070	
1,579.69	1,576.67	1,562.53	1,559.80	3.50	3.40	125.71	-63.88	88.71	132.84	126.07	6.77	19.617	
1,600.00	1,596.64	1,581.61	1,578.57	3.56	3.45	125.90	-64.58	92.10	137.67	130.80	6.87	20.027	
1,700.00	1,694.94	1,674.93	1,669.99	3.87	3.75	126.18	-68.36	110.42	162.80	155.40	7.40	21.990	
1,800.00	1,793.23	1,767.08	1,759.61	4.19	4.10	125.72	-72.68	131.37	190.15	182.19	7.97	23.872	
1,900.00	1,891.53	1,857.88	1,847.22	4.53	4.48	124.82	-77.51	154.76	219.72	211.16	8.56	25.675	
2,000.00	1,989.82	1,947.20	1,932.60	4.88	4.92	123.68	-82.80	180.41	251.53	242.35	9.18	27.408	
2,100.00	2,088.12	2,034.89	2,015.60	5.23	5.39	122.41	-88.52	208.11	285.60	275.78	9.82	29.095	
2,200.00	2,186.41	2,126.89	2,102.07	5.59	5.93	121.12	-94.88	238.91	321.24	310.74	10.50	30.596	
2,300.00	2,284.71	2,220.09	2,189.63	5.96	6.51	120.07	-101.33	270.15	357.03	345.83	11.20	31.879	
2,400.00	2,383.01	2,313.28	2,277.19	6.33	7.11	119.21	-107.77	301.39	392.91	381.00	11.91	32.988	
2,500.00	2,481.30	2,406.47	2,364.76	6.71	7.71	118.49	-114.22	332.63	428.86	416.23	12.63	33.952	
2,600.00	2,579.60	2,499.67	2,452.32	7.09	8.33	117.89	-120.67	363.86	464.85	451.49	13.36	34.796	
2,700.00	2,677.89	2,592.86	2,539.89	7.47	8.95	117.37	-127.12	395.10	500.88	486.79	14.09	35.539	
2,800.00	2,776.19	2,686.05	2,627.45	7.86	9.59	116.92	-133.56	426.34	536.95	522.11	14.83	36.197	
2,900.00	2,874.48	2,779.25	2,715.02	8.24	10.22	116.52	-140.01	457.58	573.04	557.46	15.58	36.784	
3,000.00	2,972.78	2,872.44	2,802.58	8.63	10.86	116.18	-146.46	488.82	609.14	592.82	16.33	37.309	
3,100.00	3,071.07	2,965.63	2,890.15	9.02	11.51	115.87	-152.91	520.06	645.27	628.19	17.08	37.783	
3,200.00	3,169.37	3,058.83	2,977.71	9.41	12.15	115.59	-159.35	551.30	681.41	663.58	17.83	38.210	
3,300.00	3,267.67	3,152.02	3,065.28	9.80	12.80	115.35	-165.80	582.53	717.57	698.98	18.59	38.598	
3,400.00	3,365.96	3,245.21	3,152.84	10.19	13.46	115.12	-172.25	613.77	753.73	734.38	19.35	38.952	
3,500.00	3,464.26	3,338.41	3,240.41	10.59	14.11	114.92	-178.70	645.01	789.90	769.79	20.11	39.276	
3,600.00	3,562.55	3,431.60	3,327.97	10.98	14.77	114.73	-185.14	676.25	826.08	805.21	20.88	39.573	
3,700.00	3,660.85	3,524.79	3,415.53	11.38	15.42	114.56	-191.59	707.49	862.27	840.63	21.64	39.846	
3,800.00	3,759.14	3,617.99	3,503.10	11.77	16.08	114.41	-198.04	738.73	898.47	876.06	22.41	40.098	
3,900.00	3,857.44	3,711.18	3,590.66	12.17	16.74	114.26	-204.49	769.97	934.67	911.49	23.17	40.332	
4,000.00	3,955.73	3,804.37	3,678.23	12.57	17.40	114.13	-210.93	801.20	970.87	946.93	23.94	40.548	
4,100.00	4,054.03	3,897.57	3,765.79	12.97	18.06	114.01	-217.38	832.44	1,007.08	982.37	24.71	40.750	
4,200.00	4,152.33	3,990.76	3,853.36	13.36	18.72	113.89	-223.83	863.68	1,043.29	1,017.81	25.48	40.938	
4,300.00	4,250.62	4,083.95	3,940.92	13.76	19.39	113.78	-230.28	894.92	1,079.51	1,053.25	26.26	41.113	
4,400.00	4,348.92	4,177.15	4,028.49	14.16	20.05	113.68	-236.72	926.16	1,115.73	1,088.70	27.03	41.278	
4,500.00	4,447.21	4,270.34	4,116.05	14.56	20.71	113.59	-243.17	957.40	1,151.95	1,124.14	27.80	41.432	
4,600.00	4,545.51	4,363.53	4,203.62	14.96	21.38	113.50	-249.62	988.64	1,188.17	1,159.59	28.58	41.577	
4,700.00	4,643.80	4,456.73	4,291.18	15.36	22.04	113.42	-256.07	1,019.87	1,224.40	1,195.05	29.35	41.714	
4,800.00	4,742.10	4,549.92	4,378.75	15.76	22.71	113.34	-262.51	1,051.11	1,260.63	1,230.50	30.13	41.843	
4,900.00	4,840.39	4,643.11	4,466.31	16.16	23.37	113.27	-268.96	1,082.35	1,296.86	1,265.95	30.90	41.965	

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN #1 1-15-10												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	4,938.69	4,736.30	4,553.87	16.56	24.04	113.20	-275.41	1,113.59	1,333.09	1,301.41	31.68	42.080	
5,100.00	5,036.99	4,829.50	4,641.44	16.96	24.71	113.13	-281.86	1,144.83	1,369.32	1,336.87	32.46	42.189	
5,200.00	5,135.28	4,922.69	4,729.00	17.36	25.37	113.07	-288.30	1,176.07	1,405.56	1,372.32	33.23	42.292	
5,300.00	5,233.58	5,015.88	4,816.57	17.76	26.04	113.01	-294.75	1,207.31	1,441.79	1,407.78	34.01	42.391	
5,400.00	5,331.87	5,109.08	4,904.13	18.17	26.71	112.95	-301.20	1,238.54	1,478.03	1,443.24	34.79	42.484	
5,500.00	5,430.17	5,202.27	4,991.70	18.57	27.37	112.90	-307.65	1,269.78	1,514.27	1,478.70	35.57	42.573	
5,600.00	5,528.46	5,295.46	5,079.26	18.97	28.04	112.84	-314.09	1,301.02	1,550.51	1,514.16	36.35	42.658	
5,700.00	5,626.76	5,388.66	5,166.83	19.37	28.71	112.80	-320.54	1,332.26	1,586.75	1,549.63	37.13	42.739	
5,800.00	5,725.05	5,481.85	5,254.39	19.77	29.38	112.75	-326.99	1,363.50	1,623.00	1,585.09	37.91	42.817	
5,900.00	5,823.35	5,575.04	5,341.96	20.17	30.04	112.70	-333.44	1,394.74	1,659.24	1,620.55	38.69	42.891	
6,000.00	5,921.65	5,668.24	5,429.52	20.58	30.71	112.66	-339.88	1,425.98	1,695.48	1,656.02	39.47	42.961	
6,067.84	5,988.33	5,731.46	5,488.92	20.85	31.17	112.63	-344.26	1,447.17	1,720.07	1,680.08	39.99	43.008	
6,100.00	6,019.97	5,766.64	5,521.99	20.96	31.41	112.84	-346.69	1,458.94	1,731.66	1,691.33	40.32	42.945	
6,200.00	6,118.75	5,862.98	5,708.84	21.25	32.42	113.33	-358.85	1,517.87	1,763.85	1,722.38	41.48	42.528	
6,300.00	6,218.01	6,167.42	5,907.30	21.50	33.25	113.70	-368.74	1,565.76	1,789.04	1,746.56	42.48	42.112	
6,400.00	6,317.63	6,378.27	6,115.09	21.72	33.89	113.96	-375.91	1,600.51	1,806.85	1,763.52	43.33	41.702	
6,500.00	6,417.50	6,593.40	6,329.21	21.89	34.32	114.13	-380.02	1,620.43	1,816.99	1,773.00	43.99	41.305	
6,597.52	6,515.00	6,779.28	6,515.00	22.03	34.52	133.48	-380.97	1,625.02	1,819.51	1,775.08	44.43	40.956	
6,600.00	6,517.48	6,781.75	6,517.48	22.03	34.52	133.48	-380.97	1,625.02	1,819.51	1,775.08	44.43	40.951	
6,700.00	6,617.48	6,881.75	6,617.48	22.17	34.61	133.48	-380.97	1,625.02	1,819.51	1,774.81	44.70	40.703	
6,800.00	6,717.48	6,981.75	6,717.48	22.31	34.70	133.48	-380.97	1,625.02	1,819.51	1,774.54	44.98	40.456	
6,900.00	6,817.48	7,081.75	6,817.48	22.45	34.79	133.48	-380.97	1,625.02	1,819.51	1,774.26	45.25	40.209	
7,000.00	6,917.48	7,181.75	6,917.48	22.60	34.88	133.48	-380.97	1,625.02	1,819.51	1,773.98	45.53	39.963	
7,100.00	7,017.48	7,281.75	7,017.48	22.74	34.98	133.48	-380.97	1,625.02	1,819.51	1,773.70	45.81	39.717	
7,200.00	7,117.48	7,381.75	7,117.48	22.89	35.07	133.48	-380.97	1,625.02	1,819.51	1,773.41	46.10	39.472	
7,300.00	7,217.48	7,481.75	7,217.48	23.04	35.17	133.48	-380.97	1,625.02	1,819.51	1,773.13	46.38	39.228	
7,400.00	7,317.48	7,581.75	7,317.48	23.19	35.26	133.48	-380.97	1,625.02	1,819.51	1,772.84	46.67	38.984	
7,500.00	7,417.48	7,681.75	7,417.48	23.34	35.36	133.48	-380.97	1,625.02	1,819.51	1,772.55	46.96	38.742	
7,600.00	7,517.48	7,781.75	7,517.48	23.49	35.46	133.48	-380.97	1,625.02	1,819.51	1,772.25	47.26	38.501	
7,700.00	7,617.48	7,881.75	7,617.48	23.64	35.56	133.48	-380.97	1,625.02	1,819.51	1,771.95	47.56	38.260	
7,800.00	7,717.48	7,981.75	7,717.48	23.80	35.66	133.48	-380.97	1,625.02	1,819.51	1,771.66	47.86	38.021	
7,900.00	7,817.48	8,081.75	7,817.48	23.95	35.77	133.48	-380.97	1,625.02	1,819.51	1,771.35	48.16	37.783	
8,000.00	7,917.48	8,181.75	7,917.48	24.11	35.87	133.48	-380.97	1,625.02	1,819.51	1,771.05	48.46	37.546	
8,057.52	7,975.00	8,239.28	7,975.00	24.20	35.93	133.48	-380.97	1,625.02	1,819.51	1,770.87	48.64	37.411	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	139.92	-7.65	6.44	10.00				
100.00	100.00	100.00	100.00	0.10	0.10	139.92	-7.65	6.44	10.00	9.81	0.19	52.327	
200.00	200.00	200.00	200.00	0.32	0.32	139.92	-7.65	6.44	10.00	9.36	0.64	15.606	
300.00	300.00	300.00	300.00	0.55	0.55	139.92	-7.65	6.44	10.00	8.91	1.09	9.171	
400.00	400.00	400.00	400.00	0.77	0.77	139.92	-7.65	6.44	10.00	8.46	1.54	6.493	
500.00	500.00	500.00	500.00	0.99	0.99	139.92	-7.65	6.44	10.00	8.01	1.99	5.026	
600.00	600.00	600.00	600.00	1.22	1.22	139.92	-7.65	6.44	10.00	7.56	2.44	4.099	
700.00	700.00	700.00	700.00	1.44	1.44	139.92	-7.65	6.44	10.00	7.11	2.89	3.461	
800.00	800.00	800.00	800.00	1.67	1.67	139.92	-7.65	6.44	10.00	6.66	3.34	2.995	
900.00	900.00	900.00	900.00	1.89	1.89	139.92	-7.65	6.44	10.00	6.21	3.79	2.640	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	139.92	-7.65	6.44	10.00	5.76	4.24	2.360	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	139.92	-7.65	6.44	10.00	5.54	4.46	2.241 CC	
1,100.00	1,100.00	1,100.04	1,100.04	2.34	2.33	125.12	-7.81	6.03	10.11	5.43	4.68	2.162 ES, SF	
1,200.00	1,199.93	1,199.83	1,199.76	2.57	2.53	154.03	-9.07	2.78	12.86	7.77	5.09	2.528	
1,300.00	1,299.68	1,298.72	1,298.41	2.79	2.73	179.01	-11.55	-3.62	23.04	17.54	5.49	4.193	
1,400.00	1,399.13	1,396.15	1,395.30	3.03	2.94	-169.48	-15.20	-13.04	40.84	34.94	5.90	6.922	
1,500.00	1,498.15	1,491.57	1,489.82	3.28	3.18	-164.06	-19.92	-25.23	65.28	58.97	6.31	10.351	
1,579.69	1,576.67	1,565.84	1,563.06	3.50	3.39	-161.60	-24.39	-36.75	89.15	82.52	6.63	13.445	
1,600.00	1,596.64	1,584.74	1,581.64	3.56	3.44	-161.15	-25.63	-39.95	95.77	89.05	6.72	14.248	
1,700.00	1,694.94	1,679.19	1,674.50	3.87	3.74	-159.56	-31.87	-56.06	128.48	121.29	7.18	17.888	
1,800.00	1,793.23	1,773.65	1,767.36	4.19	4.05	-158.62	-38.12	-72.17	161.24	153.58	7.65	21.068	
1,900.00	1,891.53	1,868.10	1,860.22	4.53	4.37	-157.99	-44.36	-88.28	194.03	185.89	8.13	23.853	
2,000.00	1,989.82	1,962.55	1,953.08	4.88	4.71	-157.55	-50.61	-104.39	226.83	218.20	8.62	26.303	
2,100.00	2,088.12	2,057.01	2,045.94	5.23	5.05	-157.22	-56.85	-120.50	259.64	250.52	9.12	28.469	
2,200.00	2,186.41	2,151.46	2,138.80	5.59	5.41	-156.96	-63.09	-136.61	292.46	282.83	9.62	30.393	
2,300.00	2,284.71	2,245.92	2,231.67	5.96	5.76	-156.76	-69.34	-152.72	325.28	315.15	10.13	32.111	
2,400.00	2,383.01	2,340.37	2,324.53	6.33	6.13	-156.59	-75.58	-168.83	358.10	347.46	10.64	33.651	
2,500.00	2,481.30	2,434.83	2,417.39	6.71	6.49	-156.45	-81.83	-184.94	390.93	379.77	11.16	35.038	
2,600.00	2,579.60	2,529.28	2,510.25	7.09	6.86	-156.33	-88.07	-201.05	423.76	412.08	11.68	36.293	
2,700.00	2,677.89	2,623.74	2,603.11	7.47	7.24	-156.23	-94.31	-217.16	456.59	444.39	12.20	37.432	
2,800.00	2,776.19	2,718.19	2,695.97	7.86	7.61	-156.14	-100.56	-233.27	489.42	476.70	12.72	38.470	
2,900.00	2,874.48	2,812.65	2,788.83	8.24	7.99	-156.07	-106.80	-249.38	522.25	509.00	13.25	39.420	
3,000.00	2,972.78	2,907.10	2,881.69	8.63	8.37	-156.00	-113.05	-265.49	555.08	541.31	13.78	40.291	
3,100.00	3,071.07	3,001.55	2,974.55	9.02	8.75	-155.94	-119.29	-281.60	587.92	573.61	14.31	41.093	
3,200.00	3,169.37	3,096.01	3,067.41	9.41	9.13	-155.89	-125.53	-297.71	620.75	605.91	14.84	41.833	
3,300.00	3,267.67	3,190.46	3,160.27	9.80	9.52	-155.84	-131.78	-313.82	653.59	638.21	15.37	42.518	
3,400.00	3,365.96	3,284.92	3,253.13	10.19	9.90	-155.79	-138.02	-329.93	686.42	670.51	15.91	43.153	
3,500.00	3,464.26	3,379.37	3,346.00	10.59	10.29	-155.75	-144.26	-346.04	719.25	702.81	16.44	43.745	
3,600.00	3,562.55	3,473.83	3,438.86	10.98	10.67	-155.72	-150.51	-362.15	752.09	735.11	16.98	44.296	
3,700.00	3,660.85	3,568.28	3,531.72	11.38	11.06	-155.69	-156.75	-378.26	784.93	767.41	17.52	44.811	
3,800.00	3,759.14	3,662.74	3,624.58	11.77	11.45	-155.65	-163.00	-394.37	817.76	799.71	18.05	45.294	
3,900.00	3,857.44	3,757.19	3,717.44	12.17	11.84	-155.63	-169.24	-410.48	850.60	832.00	18.59	45.747	
4,000.00	3,955.73	3,851.65	3,810.30	12.57	12.23	-155.60	-175.48	-426.59	883.43	864.30	19.13	46.172	
4,100.00	4,054.03	3,946.10	3,903.16	12.97	12.62	-155.58	-181.73	-442.70	916.27	896.60	19.67	46.573	
4,200.00	4,152.33	4,040.55	3,996.02	13.36	13.01	-155.55	-187.97	-458.81	949.11	928.89	20.22	46.950	
4,300.00	4,250.62	4,135.01	4,088.88	13.76	13.40	-155.53	-194.22	-474.92	981.94	961.19	20.76	47.307	
4,400.00	4,348.92	4,229.46	4,181.74	14.16	13.79	-155.51	-200.46	-491.03	1,014.78	993.48	21.30	47.645	
4,500.00	4,447.21	4,323.92	4,274.60	14.56	14.18	-155.50	-206.70	-507.14	1,047.62	1,025.77	21.84	47.964	
4,600.00	4,545.51	4,418.37	4,367.47	14.96	14.57	-155.48	-212.95	-523.25	1,080.45	1,058.07	22.38	48.268	
4,700.00	4,643.80	4,512.83	4,460.33	15.36	14.96	-155.46	-219.19	-539.36	1,113.29	1,090.36	22.93	48.556	
4,800.00	4,742.10	4,607.28	4,553.19	15.76	15.35	-155.45	-225.44	-555.47	1,146.13	1,122.65	23.47	48.830	
4,900.00	4,840.39	4,701.74	4,646.05	16.16	15.75	-155.43	-231.68	-571.58	1,178.96	1,154.95	24.02	49.090	

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_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN #1 1-15-10												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,938.69	4,796.19	4,738.91	16.56	16.14	-155.42	-237.92	-587.69	1,211.80	1,187.24	24.56	49.339	
5,100.00	5,036.99	4,890.65	4,831.77	16.96	16.53	-155.41	-244.17	-603.80	1,244.64	1,219.53	25.11	49.576	
5,200.00	5,135.28	4,985.10	4,924.63	17.36	16.92	-155.39	-250.41	-619.91	1,277.47	1,251.82	25.65	49.803	
5,300.00	5,233.58	5,079.55	5,017.49	17.76	17.32	-155.38	-256.66	-636.02	1,310.31	1,284.11	26.20	50.019	
5,400.00	5,331.87	5,174.01	5,110.35	18.17	17.71	-155.37	-262.90	-652.13	1,343.15	1,316.41	26.74	50.226	
5,500.00	5,430.17	5,268.46	5,203.21	18.57	18.10	-155.36	-269.14	-668.24	1,375.99	1,348.70	27.29	50.425	
5,600.00	5,528.46	5,362.92	5,296.07	18.97	18.50	-155.35	-275.39	-684.35	1,408.82	1,380.99	27.83	50.615	
5,700.00	5,626.76	5,457.37	5,388.94	19.37	18.89	-155.34	-281.63	-700.46	1,441.66	1,413.28	28.38	50.798	
5,800.00	5,725.05	5,551.83	5,481.80	19.77	19.29	-155.33	-287.88	-716.57	1,474.50	1,445.57	28.93	50.973	
5,900.00	5,823.35	5,646.28	5,574.66	20.17	19.68	-155.32	-294.12	-732.67	1,507.34	1,477.86	29.47	51.142	
6,000.00	5,921.65	5,740.74	5,667.52	20.58	20.07	-155.31	-300.36	-748.78	1,540.17	1,510.15	30.02	51.304	
6,067.84	5,988.33	5,804.81	5,730.51	20.85	20.34	-155.31	-304.60	-759.71	1,562.45	1,532.06	30.39	51.411	
6,100.00	6,019.97	5,835.24	5,760.43	20.96	20.47	-155.39	-306.61	-764.90	1,572.85	1,542.25	30.61	51.389	
6,200.00	6,118.75	5,930.51	5,854.09	21.25	20.87	-155.61	-312.91	-781.15	1,603.22	1,571.99	31.22	51.348	
6,300.00	6,218.01	6,026.66	5,948.61	21.50	21.27	-155.74	-319.26	-797.55	1,630.54	1,598.74	31.80	51.275	
6,400.00	6,317.63	6,123.57	6,043.90	21.72	21.67	-155.79	-325.67	-814.08	1,654.79	1,622.46	32.34	51.175	
6,500.00	6,417.50	6,221.14	6,139.82	21.89	22.08	-155.77	-332.12	-830.72	1,675.96	1,643.14	32.83	51.053	
6,597.52	6,515.00	6,316.80	6,233.86	22.03	22.48	-136.40	-338.44	-847.04	1,693.63	1,660.36	33.26	50.914	
6,600.00	6,517.48	6,319.24	6,236.26	22.03	22.49	-136.39	-338.61	-847.45	1,694.04	1,660.76	33.28	50.910	
6,700.00	6,617.48	6,417.55	6,332.91	22.17	22.90	-136.13	-345.10	-864.22	1,710.66	1,676.92	33.74	50.706	
6,800.00	6,717.48	6,515.86	6,429.57	22.31	23.31	-135.88	-351.60	-880.99	1,727.31	1,693.11	34.20	50.510	
6,900.00	6,817.48	6,614.17	6,526.22	22.45	23.72	-135.63	-358.10	-897.76	1,743.99	1,709.33	34.66	50.320	
7,000.00	6,917.48	6,712.49	6,622.87	22.60	24.14	-135.38	-364.60	-914.52	1,760.71	1,725.59	35.12	50.136	
7,100.00	7,017.48	6,810.80	6,719.53	22.74	24.55	-135.14	-371.10	-931.29	1,777.46	1,741.88	35.58	49.959	
7,200.00	7,117.48	6,909.11	6,816.18	22.89	24.96	-134.90	-377.60	-948.06	1,794.23	1,758.20	36.04	49.787	
7,300.00	7,217.48	7,007.43	6,912.84	23.04	25.37	-134.67	-384.10	-964.83	1,811.04	1,774.54	36.50	49.620	
7,400.00	7,317.48	7,123.88	7,027.36	23.19	25.82	-134.40	-391.74	-984.54	1,827.81	1,790.82	36.99	49.411	
7,500.00	7,417.48	7,365.76	7,267.10	23.34	26.42	-134.02	-403.15	-1,013.98	1,839.86	1,802.18	37.68	48.828	
7,600.00	7,517.48	7,611.32	7,512.32	23.49	26.81	-133.88	-407.22	-1,024.48	1,844.09	1,805.80	38.29	48.158	
7,700.00	7,617.48	7,716.48	7,617.48	23.64	26.94	-133.88	-407.22	-1,024.49	1,844.10	1,805.44	38.66	47.701	
7,800.00	7,717.48	7,816.48	7,717.48	23.80	27.06	-133.88	-407.22	-1,024.49	1,844.10	1,805.08	39.02	47.261	
7,900.00	7,817.48	7,916.48	7,817.48	23.95	27.19	-133.88	-407.22	-1,024.49	1,844.10	1,804.72	39.38	46.827	
8,000.00	7,917.48	8,016.48	7,917.48	24.11	27.31	-133.88	-407.22	-1,024.49	1,844.10	1,804.36	39.74	46.399	
8,057.52	7,975.00	8,074.00	7,975.00	24.20	27.39	-133.88	-407.22	-1,024.49	1,844.10	1,804.15	39.95	46.155	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	140.95	-38.99	31.62	50.20				
100.00	100.00	100.00	100.00	0.10	0.10	140.95	-38.99	31.62	50.20	50.01	0.19	262.745	
200.00	200.00	200.00	200.00	0.32	0.32	140.95	-38.99	31.62	50.20	49.56	0.64	78.363	
300.00	300.00	300.00	300.00	0.55	0.55	140.95	-38.99	31.62	50.20	49.11	1.09	46.048	
400.00	400.00	400.00	400.00	0.77	0.77	140.95	-38.99	31.62	50.20	48.66	1.54	32.603	
500.00	500.00	500.00	500.00	0.99	0.99	140.95	-38.99	31.62	50.20	48.21	1.99	25.235	
600.00	600.00	600.00	600.00	1.22	1.22	140.95	-38.99	31.62	50.20	47.76	2.44	20.584	
700.00	700.00	700.00	700.00	1.44	1.44	140.95	-38.99	31.62	50.20	47.31	2.89	17.380	
800.00	800.00	800.00	800.00	1.67	1.67	140.95	-38.99	31.62	50.20	46.86	3.34	15.039	
900.00	900.00	900.00	900.00	1.89	1.89	140.95	-38.99	31.62	50.20	46.41	3.79	13.254	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	140.95	-38.99	31.62	50.20	45.96	4.24	11.848	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	140.95	-38.99	31.62	50.20	45.74	4.46	11.251 CC, ES	
1,100.00	1,100.00	1,099.24	1,099.23	2.34	2.33	122.31	-39.40	31.69	50.80	46.13	4.67	10.880 SF	
1,200.00	1,199.93	1,197.38	1,197.31	2.57	2.50	126.89	-42.73	32.23	55.86	50.80	5.06	11.039	
1,300.00	1,299.68	1,294.54	1,294.24	2.79	2.68	133.81	-49.28	33.31	66.79	61.33	5.45	12.247	
1,400.00	1,399.13	1,390.09	1,389.29	3.03	2.87	140.59	-58.88	34.88	84.37	78.52	5.85	14.428	
1,500.00	1,498.15	1,483.45	1,481.79	3.28	3.08	146.04	-71.28	36.92	108.82	102.58	6.24	17.441	
1,579.69	1,576.67	1,555.92	1,553.29	3.50	3.27	149.35	-82.96	38.83	133.10	126.55	6.55	20.325	
1,600.00	1,596.64	1,574.11	1,571.19	3.56	3.32	150.12	-86.17	39.35	139.89	133.25	6.63	21.091	
1,700.00	1,694.94	1,662.44	1,657.79	3.87	3.59	153.00	-103.34	42.17	175.32	168.27	7.05	24.860	
1,800.00	1,793.23	1,748.68	1,741.77	4.19	3.89	154.85	-122.65	45.33	213.86	206.38	7.48	28.599	
1,900.00	1,891.53	1,832.73	1,823.03	4.53	4.22	156.07	-143.85	48.81	255.25	247.34	7.91	32.276	
2,000.00	1,989.82	1,914.55	1,901.49	4.88	4.58	156.90	-166.75	52.56	299.32	290.97	8.34	35.878	
2,100.00	2,088.12	1,994.09	1,977.09	5.23	4.98	157.45	-191.12	56.56	345.92	337.14	8.78	39.395	
2,200.00	2,186.41	2,072.36	2,050.81	5.59	5.41	157.83	-217.10	60.82	394.91	385.69	9.22	42.814	
2,300.00	2,284.71	2,158.98	2,132.05	5.96	5.92	158.15	-246.71	65.67	444.85	435.16	9.70	45.884	
2,400.00	2,383.01	2,245.59	2,213.29	6.33	6.44	158.40	-276.33	70.52	494.81	484.64	10.17	48.640	
2,500.00	2,481.30	2,332.20	2,294.54	6.71	6.98	158.60	-305.95	75.38	544.77	534.11	10.66	51.119	
2,600.00	2,579.60	2,418.81	2,375.78	7.09	7.53	158.77	-335.57	80.23	594.73	583.59	11.15	53.357	
2,700.00	2,677.89	2,505.42	2,457.03	7.47	8.09	158.91	-365.19	85.09	644.70	633.06	11.64	55.384	
2,800.00	2,776.19	2,592.03	2,538.27	7.86	8.65	159.04	-394.81	89.94	694.67	682.53	12.14	57.224	
2,900.00	2,874.48	2,678.64	2,619.52	8.24	9.22	159.14	-424.42	94.80	744.64	732.00	12.64	58.902	
3,000.00	2,972.78	2,765.25	2,700.76	8.63	9.80	159.24	-454.04	99.65	794.61	781.47	13.15	60.436	
3,100.00	3,071.07	2,851.86	2,782.01	9.02	10.37	159.32	-483.66	104.51	844.59	830.93	13.66	61.844	
3,200.00	3,169.37	2,938.48	2,863.25	9.41	10.96	159.39	-513.28	109.36	894.56	880.40	14.17	63.139	
3,300.00	3,267.67	3,025.09	2,944.50	9.80	11.54	159.46	-542.90	114.22	944.54	929.86	14.68	64.334	
3,400.00	3,365.96	3,111.70	3,025.74	10.19	12.12	159.52	-572.52	119.07	994.52	979.32	15.20	65.439	
3,500.00	3,464.26	3,198.31	3,106.98	10.59	12.71	159.57	-602.13	123.93	1,044.50	1,028.78	15.72	66.464	
3,600.00	3,562.55	3,284.92	3,188.23	10.98	13.30	159.62	-631.75	128.78	1,094.48	1,078.24	16.23	67.415	
3,700.00	3,660.85	3,371.53	3,269.47	11.38	13.89	159.66	-661.37	133.64	1,144.46	1,127.70	16.76	68.301	
3,800.00	3,759.14	3,458.14	3,350.72	11.77	14.49	159.70	-690.99	138.49	1,194.44	1,177.16	17.28	69.129	
3,900.00	3,857.44	3,544.75	3,431.96	12.17	15.08	159.74	-720.61	143.34	1,244.42	1,226.61	17.80	69.903	
4,000.00	3,955.73	3,631.36	3,513.21	12.57	15.68	159.77	-750.23	148.20	1,294.40	1,276.07	18.33	70.628	
4,100.00	4,054.03	3,717.98	3,594.45	12.97	16.27	159.80	-779.84	153.05	1,344.38	1,325.53	18.85	71.309	
4,200.00	4,152.33	3,804.59	3,675.70	13.36	16.87	159.83	-809.46	157.91	1,394.36	1,374.98	19.38	71.949	
4,300.00	4,250.62	3,891.20	3,756.94	13.76	17.47	159.86	-839.08	162.76	1,444.34	1,424.43	19.91	72.552	
4,400.00	4,348.92	3,977.81	3,838.18	14.16	18.06	159.89	-868.70	167.62	1,494.32	1,473.89	20.44	73.120	
4,500.00	4,447.21	4,064.42	3,919.43	14.56	18.66	159.91	-898.32	172.47	1,544.31	1,523.34	20.97	73.658	
4,600.00	4,545.51	4,151.03	4,000.67	14.96	19.26	159.93	-927.94	177.33	1,594.29	1,572.79	21.50	74.166	
4,700.00	4,643.80	4,237.64	4,081.92	15.36	19.86	159.95	-957.55	182.18	1,644.27	1,622.24	22.03	74.648	
4,800.00	4,742.10	4,324.25	4,163.16	15.76	20.46	159.97	-987.17	187.04	1,694.25	1,671.70	22.56	75.105	
4,900.00	4,840.39	4,410.86	4,244.41	16.16	21.06	159.99	-1,016.79	191.89	1,744.24	1,721.15	23.09	75.540	

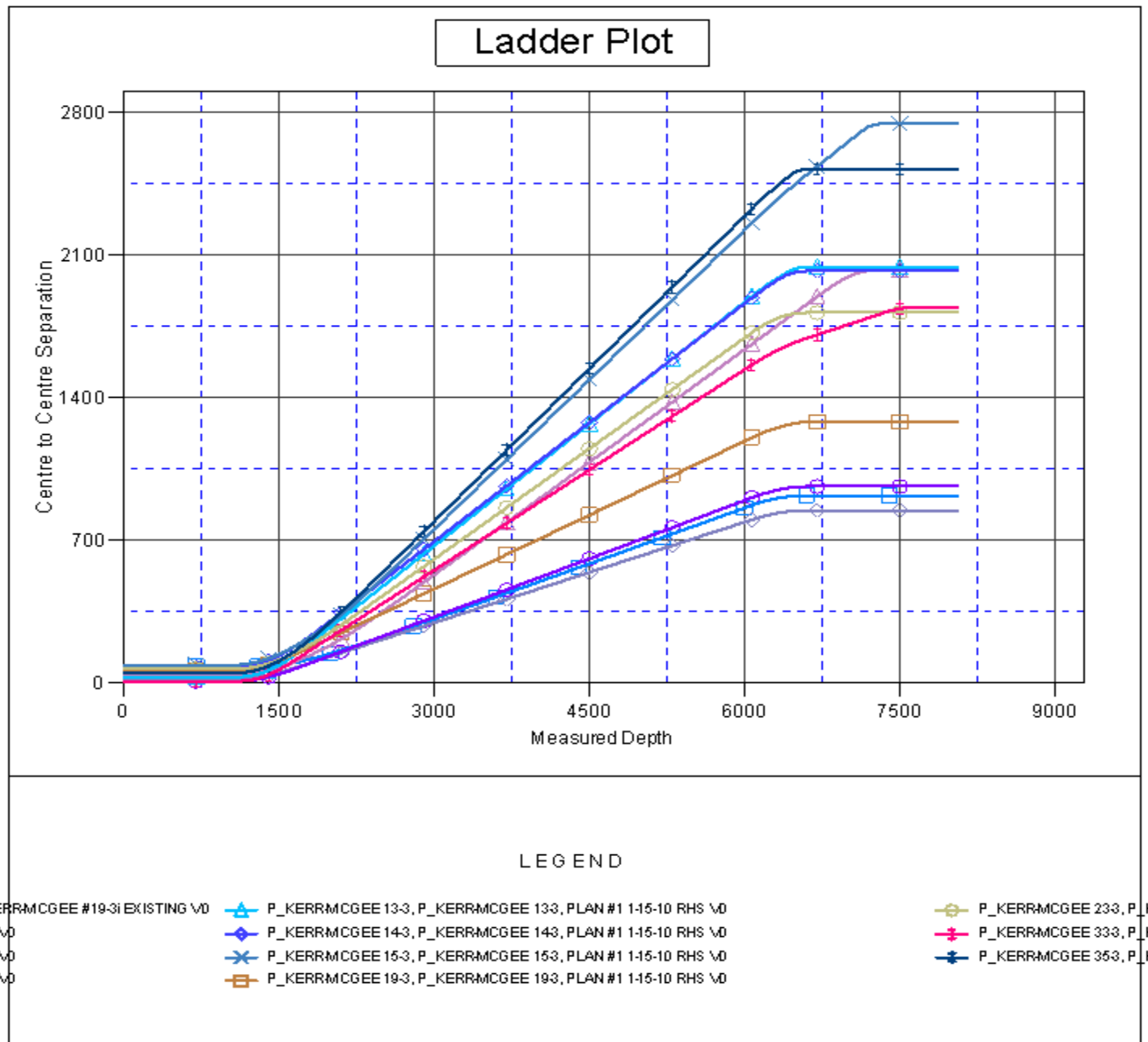
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,938.69	4,497.47	4,325.65	16.56	21.66	160.01	-1,046.41	196.75	1,794.22	1,770.60	23.62	75.953	
5,100.00	5,036.99	4,584.09	4,406.90	16.96	22.26	160.03	-1,076.03	201.60	1,844.20	1,820.05	24.16	76.346	
5,200.00	5,135.28	4,670.70	4,488.14	17.36	22.86	160.04	-1,105.65	206.46	1,894.19	1,869.50	24.69	76.720	
5,300.00	5,233.58	4,757.31	4,569.38	17.76	23.47	160.06	-1,135.26	211.31	1,944.17	1,918.95	25.22	77.078	
5,400.00	5,331.87	4,843.92	4,650.63	18.17	24.07	160.07	-1,164.88	216.16	1,994.15	1,968.40	25.76	77.420	
5,500.00	5,430.17	4,930.53	4,731.87	18.57	24.67	160.08	-1,194.50	221.02	2,044.14	2,017.84	26.29	77.746	
5,600.00	5,528.46	5,017.14	4,813.12	18.97	25.27	160.10	-1,224.12	225.87	2,094.12	2,067.29	26.83	78.059	
5,700.00	5,626.76	5,103.75	4,894.36	19.37	25.88	160.11	-1,253.74	230.73	2,144.10	2,116.74	27.36	78.358	
5,800.00	5,725.05	5,190.36	4,975.61	19.77	26.48	160.12	-1,283.36	235.58	2,194.09	2,166.19	27.90	78.645	
5,900.00	5,823.35	5,276.97	5,056.85	20.17	27.08	160.13	-1,312.97	240.44	2,244.07	2,215.64	28.43	78.921	
6,000.00	5,921.65	5,363.59	5,138.10	20.58	27.68	160.14	-1,342.59	245.29	2,294.06	2,265.08	28.97	79.185	
6,067.84	5,988.33	5,422.34	5,193.21	20.85	28.09	160.15	-1,362.68	248.59	2,327.96	2,298.63	29.33	79.358	
6,100.00	6,019.97	5,450.28	5,219.42	20.96	28.29	160.28	-1,372.24	250.15	2,343.89	2,314.32	29.57	79.254	
6,200.00	6,118.75	5,538.20	5,301.90	21.25	28.90	160.62	-1,402.31	255.08	2,391.52	2,361.24	30.27	79.001	
6,300.00	6,218.01	5,627.63	5,385.78	21.50	29.53	160.90	-1,432.89	260.09	2,436.22	2,405.28	30.94	78.741	
6,400.00	6,317.63	5,718.46	5,470.98	21.72	30.16	161.13	-1,463.95	265.18	2,477.95	2,446.38	31.57	78.482	
6,500.00	6,417.50	6,120.64	5,855.12	21.89	32.05	161.03	-1,580.46	284.28	2,513.70	2,480.73	32.97	76.237	
6,597.52	6,515.00	6,786.23	6,515.00	22.03	33.51	-179.81	-1,654.17	296.36	2,525.19	2,490.66	34.53	73.133	
6,600.00	6,517.48	6,788.71	6,517.48	22.03	33.51	-179.81	-1,654.17	296.36	2,525.19	2,490.65	34.54	73.116	
6,700.00	6,617.48	6,888.71	6,617.48	22.17	33.59	-179.81	-1,654.17	296.36	2,525.19	2,490.31	34.87	72.411	
6,800.00	6,717.48	6,988.71	6,717.48	22.31	33.66	-179.81	-1,654.17	296.36	2,525.19	2,489.98	35.21	71.716	
6,900.00	6,817.48	7,088.71	6,817.48	22.45	33.74	-179.81	-1,654.17	296.36	2,525.19	2,489.64	35.55	71.030	
7,000.00	6,917.48	7,188.71	6,917.48	22.60	33.82	-179.81	-1,654.17	296.36	2,525.19	2,489.29	35.89	70.352	
7,100.00	7,017.48	7,288.71	7,017.48	22.74	33.90	-179.81	-1,654.17	296.36	2,525.19	2,488.95	36.24	69.682	
7,200.00	7,117.48	7,388.71	7,117.48	22.89	33.98	-179.81	-1,654.17	296.36	2,525.19	2,488.60	36.59	69.021	
7,300.00	7,217.48	7,488.71	7,217.48	23.04	34.07	-179.81	-1,654.17	296.36	2,525.19	2,488.25	36.93	68.369	
7,400.00	7,317.48	7,588.71	7,317.48	23.19	34.15	-179.81	-1,654.17	296.36	2,525.19	2,487.90	37.29	67.725	
7,500.00	7,417.48	7,688.71	7,417.48	23.34	34.24	-179.81	-1,654.17	296.36	2,525.19	2,487.55	37.64	67.089	
7,600.00	7,517.48	7,788.71	7,517.48	23.49	34.32	-179.81	-1,654.17	296.36	2,525.19	2,487.19	37.99	66.462	
7,700.00	7,617.48	7,888.71	7,617.48	23.64	34.41	-179.81	-1,654.17	296.36	2,525.19	2,486.84	38.35	65.843	
7,800.00	7,717.48	7,988.71	7,717.48	23.80	34.50	-179.81	-1,654.17	296.36	2,525.19	2,486.48	38.71	65.232	
7,900.00	7,817.48	8,088.71	7,817.48	23.95	34.59	-179.81	-1,654.17	296.36	2,525.19	2,486.12	39.07	64.630	
8,000.00	7,917.48	8,188.71	7,917.48	24.11	34.68	-179.81	-1,654.17	296.36	2,525.19	2,485.75	39.43	64.036	
8,034.31	7,951.79	8,223.02	7,951.79	24.16	34.71	-179.81	-1,654.17	296.36	2,525.19	2,485.63	39.56	63.834	
8,057.52	7,975.00	8,236.23	7,965.00	24.20	34.72	-179.81	-1,654.17	296.36	2,525.21	2,485.58	39.63	63.724	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

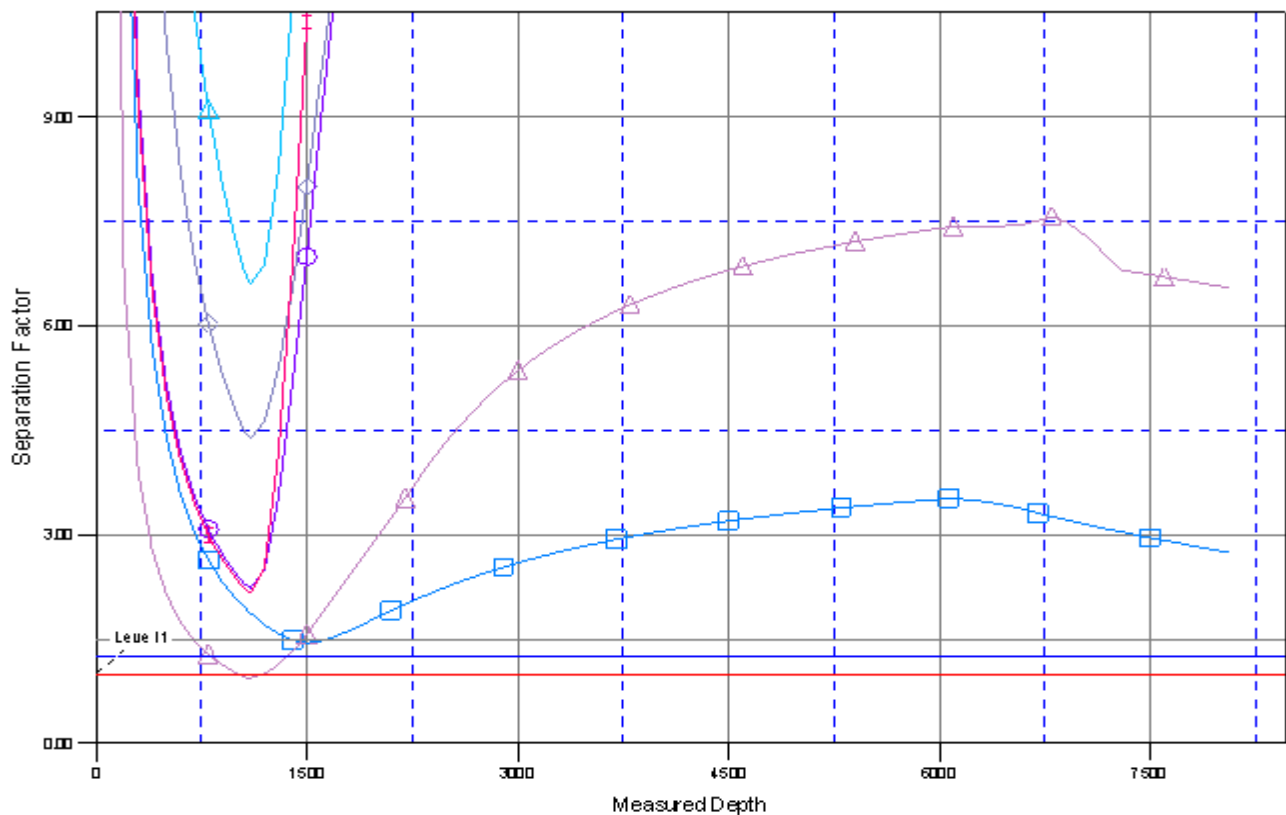
Reference Depths are relative to WELL @ 5057.00ft (Original Well Elev) Coordinates are relative to: P_KERR-MCGEE 22-3
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.33°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5057.00ft (Original Well Elev)
Reference Site:	WELD_KERR MCGEE 19-3 PAD	MD Reference:	WELL @ 5057.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_KERR-MCGEE 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 22-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5057.00ft (Original Well Elev) Coordinates are relative to: P_KERR-MCGEE 22-3
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: 0.33°

Separation Factor Plot



LEGEND

P_KERRMCGEE #19-3i EXISTING \0	P_KERRMCGEE 13-3, P_KERRMCGEE 133, PLAN #1 1-15-10 RHS \0	P_KERRMCGEE 233, P_K
P_KERRMCGEE 14-3, P_KERRMCGEE 143, PLAN #1 1-15-10 RHS \0	P_KERRMCGEE 333, P_K	
P_KERRMCGEE 15-3, P_KERRMCGEE 153, PLAN #1 1-15-10 RHS \0	P_KERRMCGEE 353, P_K	
P_KERRMCGEE 19-3, P_KERRMCGEE 193, PLAN #1 1-15-10 RHS \0		