



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_KERR MCGEE 19-3 PAD

P_KERR-MCGEE 11-3

P_KERR-MCGEE 11-3

Plan: PLAN #1 1-15-10 RHS

Standard Planning Report

15 January, 2010





P_KERR-MCGEE 11-3
COLORADO NORTHERN ZONE - 83
SECTION 3 T1N R68W
1111 FWL 1980 FSL
LAT: 40° 4' 39.828 N
LONG: 104° 59' 41.888 W



Azimuths to True North
Magnetic North: 9.15°
Magnetic Field
Strength: 53083.2aT
Dip Angle: 66.80°
Date: 1/15/2010
Model: IGRF2010

WELL DETAILS: P_KERR-MCGEE 11-3

+N/-S	+E/-W	Northing	Ground Level: Easting	5042.00 Latitude	Longitude	Slot
0.00	0.00	1271564.38	3141324.22	40° 4' 39.828 N	104° 59' 41.888 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	
1572.60	10.45	73.02	1569.71	13.88	45.46	2.00	73.02	47.54	
6062.69	10.45	73.02	5985.29	251.71	824.53	0.00	0.00	862.10	
6585.29	0.00	0.00	6505.00	265.59	870.00	2.00	180.00	909.63	
8425.29	0.00	0.00	8345.00	265.59	870.00	0.00	0.00	909.63	PBHL_KERR-MCGEE 11-3(1980 FSL 1980 FWL)50°TGT RAD

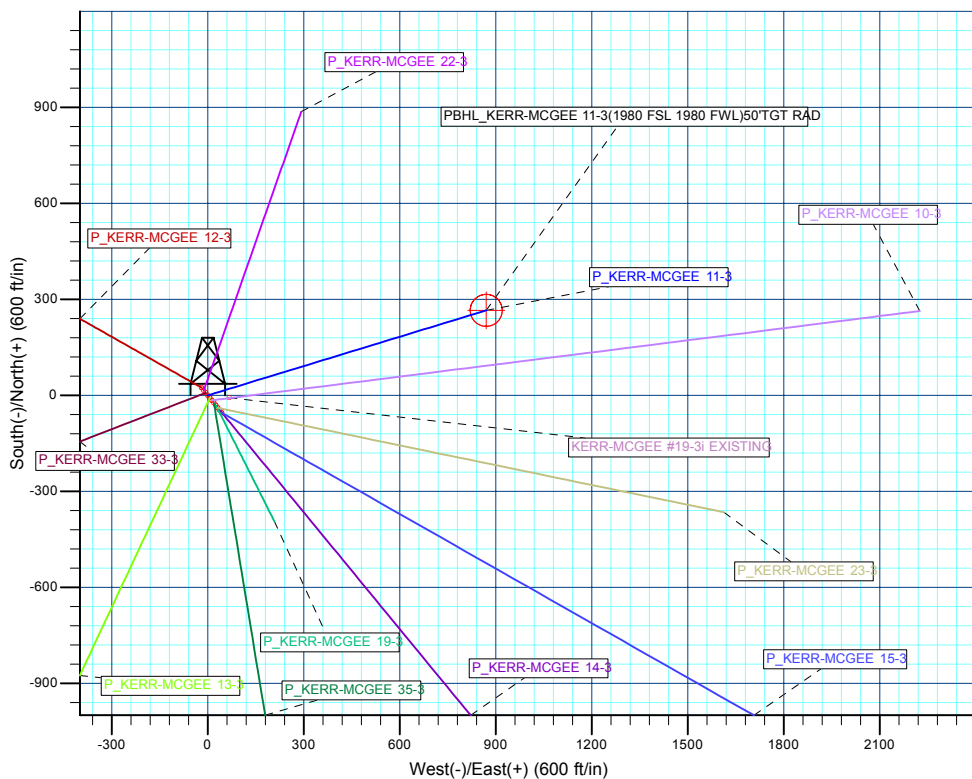
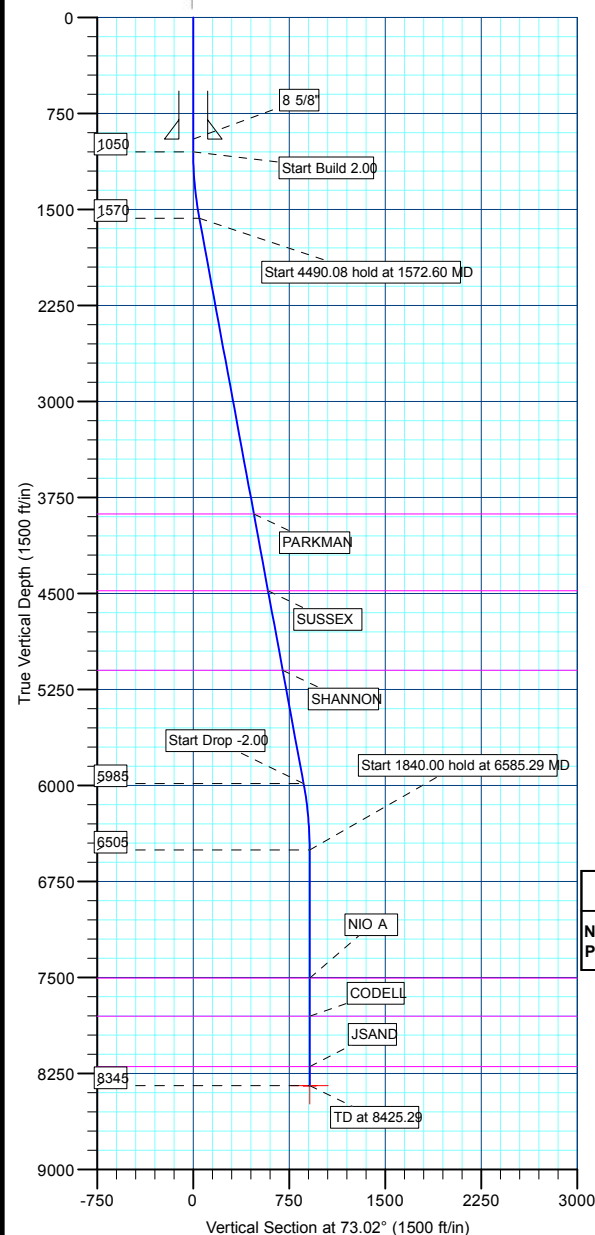
CASING DETAILS

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

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3880.00	3921.88	PARKMAN
4480.00	4532.00	SUSSEX
5100.00	5162.46	SHANNON
7505.00	7585.29	NIO A
7804.00	7884.29	CODELL
8196.00	8276.29	JSAND

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	8345.00	265.59	870.00	1271834.92	3142192.69	40° 4' 42.452 N	104° 59' 30.696 W	Circle (Radius: 50.00)

Plan: PLAN #1 1-15-10 RHS (P_KERR-MCGEE 11-3/P_KERR-MCGEE 11-3)

Created By: Robert H. Scott

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 11-3		
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:						Northing:			1,271,548.81 ft			Latitude:			40° 4' 39.673 N		
From:			Lat/Long			Easting:			3,141,336.90ft			Longitude:			104° 59' 41.726 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.33 °		

Well	P_KERR-MCGEE 11-3					
Well Position	+N/-S	15.65 ft	Northing:	1,271,564.38 ft	Latitude:	40° 4' 39.828 N
	+E/-W	-12.59 ft	Easting:	3,141,324.22 ft	Longitude:	104° 59' 41.888 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,042.00 ft

Wellbore	P_KERR-MCGEE 11-3				
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	73.02

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	
1,572.60	10.45	73.02	1,569.71	13.88	45.46	2.00	2.00	0.00	73.02	
6,062.69	10.45	73.02	5,985.29	251.71	824.53	0.00	0.00	0.00	0.00	
6,585.29	0.00	0.00	6,505.00	265.59	870.00	2.00	-2.00	0.00	180.00	
8,425.29	0.00	0.00	8,345.00	265.59	870.00	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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 11-3		
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	73.02	1,100.00	0.13	0.42	0.44	2.00	2.00	0.00
1,200.00	3.00	73.02	1,199.93	1.15	3.76	3.93	2.00	2.00	0.00
1,300.00	5.00	73.02	1,299.68	3.18	10.43	10.90	2.00	2.00	0.00
1,400.00	7.00	73.02	1,399.13	6.23	20.42	21.35	2.00	2.00	0.00
1,500.00	9.00	73.02	1,498.15	10.30	33.73	35.27	2.00	2.00	0.00
Start 4490.08 hold at 1572.60 MD									
1,572.60	10.45	73.02	1,569.71	13.88	45.46	47.54	2.00	2.00	0.00
1,600.00	10.45	73.02	1,596.65	15.33	50.22	52.51	0.00	0.00	0.00
1,700.00	10.45	73.02	1,694.99	20.63	67.57	70.65	0.00	0.00	0.00
1,800.00	10.45	73.02	1,793.33	25.92	84.92	88.79	0.00	0.00	0.00
1,900.00	10.45	73.02	1,891.67	31.22	102.27	106.93	0.00	0.00	0.00
2,000.00	10.45	73.02	1,990.01	36.52	119.62	125.07	0.00	0.00	0.00
2,100.00	10.45	73.02	2,088.36	41.81	136.97	143.21	0.00	0.00	0.00
2,200.00	10.45	73.02	2,186.70	47.11	154.32	161.35	0.00	0.00	0.00
2,300.00	10.45	73.02	2,285.04	52.41	171.67	179.49	0.00	0.00	0.00
2,400.00	10.45	73.02	2,383.38	57.70	189.02	197.64	0.00	0.00	0.00
2,500.00	10.45	73.02	2,481.72	63.00	206.38	215.78	0.00	0.00	0.00
2,600.00	10.45	73.02	2,580.06	68.30	223.73	233.92	0.00	0.00	0.00
2,700.00	10.45	73.02	2,678.40	73.59	241.08	252.06	0.00	0.00	0.00
2,800.00	10.45	73.02	2,776.74	78.89	258.43	270.20	0.00	0.00	0.00
2,900.00	10.45	73.02	2,875.08	84.19	275.78	288.34	0.00	0.00	0.00
3,000.00	10.45	73.02	2,973.42	89.48	293.13	306.48	0.00	0.00	0.00
3,100.00	10.45	73.02	3,071.76	94.78	310.48	324.63	0.00	0.00	0.00
3,200.00	10.45	73.02	3,170.10	100.08	327.83	342.77	0.00	0.00	0.00
3,300.00	10.45	73.02	3,268.44	105.37	345.18	360.91	0.00	0.00	0.00
3,400.00	10.45	73.02	3,366.78	110.67	362.53	379.05	0.00	0.00	0.00
3,500.00	10.45	73.02	3,465.12	115.97	379.88	397.19	0.00	0.00	0.00
3,600.00	10.45	73.02	3,563.47	121.26	397.24	415.33	0.00	0.00	0.00
3,700.00	10.45	73.02	3,661.81	126.56	414.59	433.47	0.00	0.00	0.00
3,800.00	10.45	73.02	3,760.15	131.86	431.94	451.62	0.00	0.00	0.00
3,900.00	10.45	73.02	3,858.49	137.16	449.29	469.76	0.00	0.00	0.00
PARKMAN									
3,921.88	10.45	73.02	3,880.00	138.31	453.08	473.72	0.00	0.00	0.00
4,000.00	10.45	73.02	3,956.83	142.45	466.64	487.90	0.00	0.00	0.00
4,100.00	10.45	73.02	4,055.17	147.75	483.99	506.04	0.00	0.00	0.00
4,200.00	10.45	73.02	4,153.51	153.05	501.34	524.18	0.00	0.00	0.00
4,300.00	10.45	73.02	4,251.85	158.34	518.69	542.32	0.00	0.00	0.00
4,400.00	10.45	73.02	4,350.19	163.64	536.04	560.46	0.00	0.00	0.00
4,500.00	10.45	73.02	4,448.53	168.94	553.39	578.60	0.00	0.00	0.00
SUSSEX									
4,532.00	10.45	73.02	4,480.00	170.63	558.95	584.41	0.00	0.00	0.00
4,600.00	10.45	73.02	4,546.87	174.23	570.74	596.75	0.00	0.00	0.00
4,700.00	10.45	73.02	4,645.21	179.53	588.09	614.89	0.00	0.00	0.00
4,800.00	10.45	73.02	4,743.55	184.83	605.45	633.03	0.00	0.00	0.00
4,900.00	10.45	73.02	4,841.89	190.12	622.80	651.17	0.00	0.00	0.00
5,000.00	10.45	73.02	4,940.24	195.42	640.15	669.31	0.00	0.00	0.00
5,100.00	10.45	73.02	5,038.58	200.72	657.50	687.45	0.00	0.00	0.00
SHANNON									
5,162.46	10.45	73.02	5,100.00	204.02	668.34	698.78	0.00	0.00	0.00
5,200.00	10.45	73.02	5,136.92	206.01	674.85	705.59	0.00	0.00	0.00
5,300.00	10.45	73.02	5,235.26	211.31	692.20	723.74	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 11-3		
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	10.45	73.02	5,333.60	216.61	709.55	741.88	0.00	0.00	0.00
5,500.00	10.45	73.02	5,431.94	221.90	726.90	760.02	0.00	0.00	0.00
5,600.00	10.45	73.02	5,530.28	227.20	744.25	778.16	0.00	0.00	0.00
5,700.00	10.45	73.02	5,628.62	232.50	761.60	796.30	0.00	0.00	0.00
5,800.00	10.45	73.02	5,726.96	237.79	778.95	814.44	0.00	0.00	0.00
5,900.00	10.45	73.02	5,825.30	243.09	796.31	832.58	0.00	0.00	0.00
6,000.00	10.45	73.02	5,923.64	248.39	813.66	850.72	0.00	0.00	0.00
Start Drop -2.00									
6,062.69	10.45	73.02	5,985.29	251.71	824.53	862.10	0.00	0.00	0.00
6,100.00	9.71	73.02	6,022.03	253.61	830.78	868.63	2.00	-2.00	0.00
6,200.00	7.71	73.02	6,120.87	258.03	845.25	883.76	2.00	-2.00	0.00
6,300.00	5.71	73.02	6,220.18	261.44	856.42	895.44	2.00	-2.00	0.00
6,400.00	3.71	73.02	6,319.84	263.84	864.27	903.64	2.00	-2.00	0.00
6,500.00	1.71	73.02	6,419.72	265.22	868.78	908.36	2.00	-2.00	0.00
Start 1840.00 hold at 6585.29 MD									
6,585.29	0.00	0.00	6,505.00	265.59	870.00	909.63	2.00	-2.00	0.00
6,600.00	0.00	0.00	6,519.71	265.59	870.00	909.63	0.00	0.00	0.00
6,700.00	0.00	0.00	6,619.71	265.59	870.00	909.63	0.00	0.00	0.00
6,800.00	0.00	0.00	6,719.71	265.59	870.00	909.63	0.00	0.00	0.00
6,900.00	0.00	0.00	6,819.71	265.59	870.00	909.63	0.00	0.00	0.00
7,000.00	0.00	0.00	6,919.71	265.59	870.00	909.63	0.00	0.00	0.00
7,100.00	0.00	0.00	7,019.71	265.59	870.00	909.63	0.00	0.00	0.00
7,200.00	0.00	0.00	7,119.71	265.59	870.00	909.63	0.00	0.00	0.00
7,300.00	0.00	0.00	7,219.71	265.59	870.00	909.63	0.00	0.00	0.00
7,400.00	0.00	0.00	7,319.71	265.59	870.00	909.63	0.00	0.00	0.00
7,500.00	0.00	0.00	7,419.71	265.59	870.00	909.63	0.00	0.00	0.00
NIO A									
7,585.29	0.00	0.00	7,505.00	265.59	870.00	909.63	0.00	0.00	0.00
7,600.00	0.00	0.00	7,519.71	265.59	870.00	909.63	0.00	0.00	0.00
7,700.00	0.00	0.00	7,619.71	265.59	870.00	909.63	0.00	0.00	0.00
7,800.00	0.00	0.00	7,719.71	265.59	870.00	909.63	0.00	0.00	0.00
CODELL									
7,884.29	0.00	0.00	7,804.00	265.59	870.00	909.63	0.00	0.00	0.00
7,900.00	0.00	0.00	7,819.71	265.59	870.00	909.63	0.00	0.00	0.00
8,000.00	0.00	0.00	7,919.71	265.59	870.00	909.63	0.00	0.00	0.00
8,100.00	0.00	0.00	8,019.71	265.59	870.00	909.63	0.00	0.00	0.00
8,200.00	0.00	0.00	8,119.71	265.59	870.00	909.63	0.00	0.00	0.00
JSAND									
8,276.29	0.00	0.00	8,196.00	265.59	870.00	909.63	0.00	0.00	0.00
8,300.00	0.00	0.00	8,219.71	265.59	870.00	909.63	0.00	0.00	0.00
8,400.00	0.00	0.00	8,319.71	265.59	870.00	909.63	0.00	0.00	0.00
PBHL_KERR-MCGEE 11-3(1980 FSL 1980 FWL)50'TGT RAD									
8,425.29	0.00	0.00	8,345.00	265.59	870.00	909.63	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 11-3		
Design:	PLAN #1 1-15-10 RHS		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
PBHL_KERR-MCGEE	0.00	0.00	8,345.00	265.59	870.00	1,271,834.92	3,142,192.69	40° 4' 42.452 N	104° 59' 30.696 W
- plan hits target center									
- Circle (radius 50.00)									

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

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(ft)	(ft)	Name	Lithology	(°)	(°)
	3,921.88	3,880.00	PARKMAN			
	4,532.00	4,480.00	SUSSEX			
	5,162.46	5,100.00	SHANNON			
	7,585.29	7,505.00	NIO A			
	7,884.29	7,804.00	CODELL			
	8,276.29	8,196.00	JSAND			

Plan Annotations					
	Measured Depth	Vertical Depth	Local Coordinates		
	(ft)	(ft)	+N/-S	+E/-W	Comment
	(ft)	(ft)	(ft)	(ft)	
	1,050.00	1,050.00	0.00	0.00	Start Build 2.00
	1,572.60	1,569.71	13.88	45.46	Start 4490.08 hold at 1572.60 MD
	6,062.69	5,985.29	251.71	824.53	Start Drop -2.00
	6,585.29	6,505.00	265.59	870.00	Start 1840.00 hold at 6585.29 MD
	8,425.29	8,345.00	265.59	870.00	TD at 8425.29



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_KERR MCGEE 19-3 PAD
P_KERR-MCGEE 11-3**

**P_KERR-MCGEE 11-3
PLAN #1 1-15-10 RHS**

Anticollision Report

15 January, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	8,425.29	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	1,651.45	1,641.25	26.50	-40.91	0.393	Level 1, CC, SF
KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3	1,700.00	1,688.99	27.92	-41.44	0.403	Level 1, ES
P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN	1,050.00	1,050.00	20.08	-21.85	0.479	Level 1, CC
P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN	1,100.00	1,099.82	20.15	-23.02	0.467	Level 1, SF
P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN	1,400.00	1,398.68	23.36	-23.87	0.495	Level 1, ES
P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN	1,050.00	1,050.00	30.38	25.92	6.808	CC, ES
P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN	1,100.00	1,099.50	30.95	26.27	6.617	SF
P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN	1,050.00	1,050.00	10.28	5.82	2.305	CC
P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN	1,100.00	1,099.91	10.34	5.68	2.216	ES, SF
P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN	1,050.00	1,050.00	60.01	55.55	13.450	CC, ES
P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN	1,300.00	1,294.31	67.32	61.87	12.358	SF
P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN	1,050.00	1,050.00	70.10	65.64	15.713	CC, ES
P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN	1,300.00	1,294.16	76.20	70.74	13.948	SF
P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN	1,050.00	1,050.00	39.91	35.45	8.945	CC, ES
P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN	1,200.00	1,197.82	42.44	37.40	8.410	SF
P_KERR-MCGEE 22-3 - P_KERR-MCGEE 22-3 - PLAN	1,050.00	1,050.00	20.10	15.64	4.505	CC, ES
P_KERR-MCGEE 22-3 - P_KERR-MCGEE 22-3 - PLAN	1,100.00	1,099.81	20.49	15.81	4.378	SF
P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN	1,050.00	1,050.00	50.01	45.55	11.209	CC
P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN	1,100.00	1,099.33	50.18	45.51	10.743	ES
P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN	1,400.00	1,395.05	58.66	52.73	9.896	SF
P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN	1,050.00	1,050.00	10.11	5.64	2.265	CC, ES
P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN	1,100.00	1,099.94	10.41	5.74	2.229	SF
P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN	1,050.00	1,050.00	30.10	25.64	6.746	CC, ES
P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN	1,200.00	1,198.42	32.46	27.42	6.435	SF

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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
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	96.22	-7.29	66.88	67.54				
100.00	100.00	94.00	94.00	0.10	1.88	96.22	-7.29	66.88	67.28	65.30	1.98	34.055	
200.00	200.00	194.00	194.00	0.32	5.76	96.22	-7.29	66.88	67.28	61.20	6.08	11.065	
300.00	300.00	294.00	294.00	0.55	9.76	96.22	-7.29	66.88	67.28	56.97	10.31	6.528	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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
400.00	400.00	394.00	394.00	0.77	13.76	96.22	-7.29	66.88	67.28	52.75	14.53	4.630	
500.00	500.00	494.00	494.00	0.99	17.76	96.22	-7.29	66.88	67.28	48.52	18.75	3.587	
600.00	600.00	594.00	594.00	1.22	21.76	96.22	-7.29	66.88	67.28	44.30	22.98	2.928	
700.00	700.00	694.00	694.00	1.44	25.76	96.22	-7.29	66.88	67.28	40.07	27.20	2.473	
800.00	800.00	794.00	794.00	1.67	29.76	96.22	-7.29	66.88	67.28	35.85	31.43	2.141	
900.00	900.00	894.00	894.00	1.89	33.76	96.22	-7.29	66.88	67.28	31.62	35.65	1.887	
1,000.00	1,000.00	994.00	994.00	2.12	37.76	96.22	-7.29	66.88	67.28	27.40	39.88	1.687	
1,050.00	1,050.00	1,044.00	1,044.00	2.23	39.76	96.22	-7.29	66.88	67.28	25.29	41.99	1.602	
1,100.00	1,100.00	1,094.00	1,094.00	2.34	41.76	23.34	-7.29	66.88	66.88	22.78	44.09	1.517	
1,200.00	1,199.93	1,193.93	1,193.93	2.55	45.76	24.61	-7.29	66.88	63.69	15.44	48.25	1.320 Level 3	
1,300.00	1,299.68	1,293.68	1,293.68	2.77	49.75	27.57	-7.29	66.88	57.42	5.07	52.35	1.097 Level 2	
1,400.00	1,399.13	1,393.13	1,393.13	3.00	53.73	33.40	-7.29	66.88	48.38	-8.02	56.41	0.858 Level 1	
1,500.00	1,498.15	1,492.15	1,492.15	3.26	57.69	45.28	-7.29	66.88	37.52	-23.01	60.53	0.620 Level 1	
1,572.60	1,569.71	1,563.71	1,563.71	3.46	60.55	62.04	-7.29	66.88	30.11	-33.64	63.75	0.472 Level 1	
1,600.00	1,596.65	1,590.65	1,590.65	3.54	61.63	70.89	-7.29	66.88	28.09	-36.96	65.05	0.432 Level 1	
1,651.45	1,647.25	1,641.25	1,641.25	3.71	63.65	90.00	-7.29	66.88	26.50	-40.91	67.41	0.393 Level 1, CC, SF	
1,700.00	1,694.99	1,688.99	1,688.99	3.86	65.56	108.10	-7.29	66.88	27.92	-41.44	69.36	0.403 Level 1, ES	
1,800.00	1,793.33	1,787.33	1,787.33	4.19	69.49	135.01	-7.29	66.88	37.79	-35.24	73.03	0.517 Level 1	
1,900.00	1,891.67	1,885.67	1,885.67	4.53	73.43	149.14	-7.29	66.88	52.30	-24.53	76.83	0.681 Level 1	
2,000.00	1,990.01	1,984.01	1,984.01	4.88	77.36	156.92	-7.29	66.88	68.56	-12.22	80.78	0.849 Level 1	
2,100.00	2,088.36	2,082.36	2,082.36	5.25	81.29	161.68	-7.29	66.88	85.58	0.78	84.80	1.009 Level 2	
2,200.00	2,186.70	2,180.70	2,180.70	5.61	85.23	164.85	-7.29	66.88	102.98	14.12	88.86	1.159 Level 2	
2,300.00	2,285.04	2,279.04	2,279.04	5.99	89.16	167.10	-7.29	66.88	120.60	27.67	92.94	1.298 Level 3	
2,400.00	2,383.38	2,377.38	2,377.38	6.36	93.10	168.78	-7.29	66.88	138.36	41.33	97.03	1.426 Level 3	
2,500.00	2,481.72	2,475.72	2,475.72	6.75	97.03	170.07	-7.29	66.88	156.20	55.08	101.13	1.545	
2,600.00	2,580.06	2,574.06	2,574.06	7.13	100.96	171.10	-7.29	66.88	174.11	68.88	105.23	1.655	
2,700.00	2,678.40	2,672.40	2,672.40	7.52	104.90	171.94	-7.29	66.88	192.06	82.72	109.34	1.757	
2,800.00	2,776.74	2,770.74	2,770.74	7.91	108.83	172.63	-7.29	66.88	210.04	96.59	113.45	1.851	
2,900.00	2,875.08	2,869.08	2,869.08	8.30	112.76	173.22	-7.29	66.88	228.05	110.49	117.56	1.940	
3,000.00	2,973.42	2,967.42	2,967.42	8.69	116.70	173.72	-7.29	66.88	246.08	124.40	121.67	2.022	
3,100.00	3,071.76	3,065.76	3,065.76	9.09	120.63	174.15	-7.29	66.88	264.12	138.33	125.79	2.100	
3,200.00	3,170.10	3,164.10	3,164.10	9.48	124.56	174.52	-7.29	66.88	282.17	152.27	129.90	2.172	
3,300.00	3,268.44	3,262.44	3,262.44	9.88	128.50	174.85	-7.29	66.88	300.24	166.22	134.02	2.240	
3,400.00	3,366.78	3,360.78	3,360.78	10.28	132.43	175.15	-7.29	66.88	318.32	180.17	138.14	2.304	
3,500.00	3,465.12	3,459.12	3,459.12	10.68	136.36	175.41	-7.29	66.88	336.40	194.14	142.26	2.365	
3,600.00	3,563.47	3,557.47	3,557.47	11.08	140.30	175.64	-7.29	66.88	354.48	208.10	146.38	2.422	
3,700.00	3,661.81	3,655.81	3,655.81	11.48	144.23	175.85	-7.29	66.88	372.58	222.08	150.50	2.476	
3,800.00	3,760.15	3,754.15	3,754.15	11.88	148.17	176.05	-7.29	66.88	390.68	236.05	154.62	2.527	
3,900.00	3,858.49	3,852.49	3,852.49	12.28	152.10	176.22	-7.29	66.88	408.78	250.03	158.74	2.575	
4,000.00	3,956.83	3,950.83	3,950.83	12.68	156.03	176.38	-7.29	66.88	426.88	264.02	162.87	2.621	
4,100.00	4,055.17	4,049.17	4,049.17	13.08	159.97	176.53	-7.29	66.88	444.99	278.00	166.99	2.665	
4,200.00	4,153.51	4,147.51	4,147.51	13.49	163.90	176.66	-7.29	66.88	463.10	291.99	171.11	2.706	
4,300.00	4,251.85	4,245.85	4,245.85	13.89	167.83	176.79	-7.29	66.88	481.21	305.98	175.23	2.746	
4,400.00	4,350.19	4,344.19	4,344.19	14.29	171.77	176.91	-7.29	66.88	499.33	319.97	179.36	2.784	
4,500.00	4,448.53	4,442.53	4,442.53	14.70	175.70	177.02	-7.29	66.88	517.44	333.96	183.48	2.820	
4,600.00	4,546.87	4,540.87	4,540.87	15.10	179.63	177.12	-7.29	66.88	535.56	347.96	187.60	2.855	
4,700.00	4,645.21	4,639.21	4,639.21	15.50	183.57	177.21	-7.29	66.88	553.68	361.96	191.73	2.888	
4,800.00	4,743.55	4,737.55	4,737.55	15.91	187.50	177.30	-7.29	66.88	571.80	375.95	195.85	2.920	
4,900.00	4,841.89	4,835.89	4,835.89	16.31	191.44	177.38	-7.29	66.88	589.93	389.95	199.97	2.950	
5,000.00	4,940.24	4,934.24	4,934.24	16.72	195.37	177.46	-7.29	66.88	608.05	403.95	204.10	2.979	
5,100.00	5,038.58	5,032.58	5,032.58	17.12	199.30	177.53	-7.29	66.88	626.17	417.95	208.22	3.007	
5,200.00	5,136.92	5,130.92	5,130.92	17.53	203.24	177.60	-7.29	66.88	644.30	431.95	212.35	3.034	

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 - KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3i EXISTING												Offset Well Error:	0.00 ft
Survey Program: 0-UNKNOWN													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,300.00	5,235.26	5,229.26	5,229.26	17.94	207.17	177.67	-7.29	66.88	662.43	445.95	216.47	3.060	
5,400.00	5,333.60	5,327.60	5,327.60	18.34	211.10	177.73	-7.29	66.88	680.55	459.96	220.60	3.085	
5,500.00	5,431.94	5,425.94	5,425.94	18.75	215.04	177.79	-7.29	66.88	698.68	473.96	224.72	3.109	
5,600.00	5,530.28	5,524.28	5,524.28	19.15	218.97	177.85	-7.29	66.88	716.81	487.96	228.85	3.132	
5,700.00	5,628.62	5,622.62	5,622.62	19.56	222.90	177.90	-7.29	66.88	734.94	501.97	232.97	3.155	
5,800.00	5,726.96	5,720.96	5,720.96	19.97	226.84	177.95	-7.29	66.88	753.07	515.97	237.10	3.176	
5,900.00	5,825.30	5,819.30	5,819.30	20.37	230.77	178.00	-7.29	66.88	771.20	529.98	241.22	3.197	
6,000.00	5,923.64	5,917.64	5,917.64	20.78	234.71	178.04	-7.29	66.88	789.33	543.98	245.35	3.217	
6,062.69	5,985.29	5,979.29	5,979.29	21.03	237.17	178.07	-7.29	66.88	800.70	552.76	247.94	3.229	
6,100.00	6,022.03	6,016.03	6,016.03	21.17	238.64	178.09	-7.29	66.88	807.22	557.27	249.95	3.230	
6,200.00	6,120.87	6,114.87	6,114.87	21.45	242.59	178.14	-7.29	66.88	822.35	567.03	255.32	3.221	
6,300.00	6,220.18	6,214.18	6,214.18	21.69	246.57	178.17	-7.29	66.88	834.02	573.58	260.44	3.202	
6,400.00	6,319.84	6,313.84	6,313.84	21.89	250.55	178.19	-7.29	66.88	842.22	576.95	265.27	3.175	
6,500.00	6,419.72	6,413.72	6,413.72	22.06	254.55	178.21	-7.29	66.88	846.94	577.14	269.80	3.139	
6,585.29	6,505.00	6,499.00	6,499.00	22.17	257.96	-108.77	-7.29	66.88	848.21	574.80	273.41	3.102	
6,600.00	6,519.71	6,513.71	6,513.71	22.19	258.55	-108.77	-7.29	66.88	848.21	574.19	274.02	3.095	
6,700.00	6,619.71	6,613.71	6,613.71	22.33	262.55	-108.77	-7.29	66.88	848.21	570.00	278.21	3.049	
6,800.00	6,719.71	6,713.71	6,713.71	22.47	266.55	-108.77	-7.29	66.88	848.21	565.80	282.40	3.004	
6,900.00	6,819.71	6,813.71	6,813.71	22.61	270.55	-108.77	-7.29	66.88	848.21	561.61	286.60	2.960	
7,000.00	6,919.71	6,913.71	6,913.71	22.76	274.55	-108.77	-7.29	66.88	848.21	557.42	290.79	2.917	
7,100.00	7,019.71	7,013.71	7,013.71	22.90	278.55	-108.77	-7.29	66.88	848.21	553.22	294.99	2.875	
7,200.00	7,119.71	7,113.71	7,113.71	23.05	282.55	-108.77	-7.29	66.88	848.21	549.03	299.18	2.835	
7,300.00	7,219.71	7,213.71	7,213.71	23.20	286.55	-108.77	-7.29	66.88	848.21	544.83	303.38	2.796	
7,400.00	7,319.71	7,313.71	7,313.71	23.34	290.55	-108.77	-7.29	66.88	848.21	540.63	307.57	2.758	
7,500.00	7,419.71	7,413.71	7,413.71	23.49	294.55	-108.77	-7.29	66.88	848.21	536.44	311.77	2.721	
7,600.00	7,519.71	7,513.71	7,513.71	23.64	298.55	-108.77	-7.29	66.88	848.21	532.24	315.97	2.684	
7,700.00	7,619.71	7,613.71	7,613.71	23.80	302.55	-108.77	-7.29	66.88	848.21	528.04	320.17	2.649	
7,800.00	7,719.71	7,713.71	7,713.71	23.95	306.55	-108.77	-7.29	66.88	848.21	523.84	324.37	2.615	
7,900.00	7,819.71	7,813.71	7,813.71	24.10	310.55	-108.77	-7.29	66.88	848.21	519.64	328.57	2.582	
8,000.00	7,919.71	7,913.71	7,913.71	24.26	314.55	-108.77	-7.29	66.88	848.21	515.44	332.77	2.549	
8,100.00	8,019.71	8,013.71	8,013.71	24.42	318.55	-108.77	-7.29	66.88	848.21	511.24	336.97	2.517	
8,200.00	8,119.71	8,113.71	8,113.71	24.57	322.55	-108.77	-7.29	66.88	848.21	507.04	341.17	2.486	
8,300.00	8,219.71	8,213.71	8,213.71	24.73	326.55	-108.77	-7.29	66.88	848.21	502.83	345.37	2.456	
8,400.00	8,319.71	8,313.71	8,313.71	24.89	330.55	-108.77	-7.29	66.88	848.21	498.63	349.58	2.426	
8,425.29	8,345.00	8,339.00	8,339.00	24.93	331.56	-108.77	-7.29	66.88	848.21	497.57	350.64	2.419	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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		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	141.17	-15.65	12.59	20.08				
100.00	100.00	100.00	100.00	0.10	1.70	141.17	-15.65	12.59	20.08	18.29	1.80	11.186	
200.00	200.00	200.00	200.00	0.32	5.70	141.17	-15.65	12.59	20.08	14.06	6.02	3.336	
300.00	300.00	300.00	300.00	0.55	9.70	141.17	-15.65	12.59	20.08	9.84	10.25	1.960	
400.00	400.00	400.00	400.00	0.77	13.70	141.17	-15.65	12.59	20.08	5.62	14.47	1.388 Level 3	
500.00	500.00	500.00	500.00	0.99	17.70	141.17	-15.65	12.59	20.08	1.39	18.69	1.074 Level 2	
600.00	600.00	600.00	600.00	1.22	21.70	141.17	-15.65	12.59	20.08	-2.83	22.92	0.876 Level 1	
700.00	700.00	700.00	700.00	1.44	25.70	141.17	-15.65	12.59	20.08	-7.06	27.14	0.740 Level 1	
800.00	800.00	800.00	800.00	1.67	29.70	141.17	-15.65	12.59	20.08	-11.28	31.37	0.640 Level 1	
900.00	900.00	900.00	900.00	1.89	33.70	141.17	-15.65	12.59	20.08	-15.51	35.59	0.564 Level 1	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	37.70	141.17	-15.65	12.59	20.08	-19.73	39.82	0.504 Level 1	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	39.70	141.17	-15.65	12.59	20.08	-21.85	41.93	0.479 Level 1, CC	
1,100.00	1,100.00	1,099.82	1,099.81	2.34	40.83	68.25	-15.59	13.02	20.15	-23.02	43.17	0.467 Level 1, SF	
1,200.00	1,199.93	1,199.45	1,199.38	2.55	41.62	69.00	-15.16	16.46	20.68	-23.48	44.16	0.468 Level 1	
1,300.00	1,299.68	1,299.07	1,298.76	2.77	42.78	70.41	-14.29	23.33	21.74	-23.77	45.51	0.478 Level 1	
1,400.00	1,399.13	1,398.68	1,397.82	3.00	44.29	72.26	-12.99	33.62	23.36	-23.87	47.23	0.495 Level 1, ES	
1,500.00	1,498.15	1,498.28	1,496.45	3.26	46.15	74.37	-11.27	47.32	25.54	-23.77	49.31	0.518 Level 1	
1,572.60	1,569.71	1,570.58	1,567.72	3.46	47.75	75.94	-9.74	59.39	27.49	-23.60	51.10	0.538 Level 1	
1,600.00	1,596.65	1,597.85	1,594.52	3.54	48.35	76.28	-9.11	64.41	28.34	-23.44	51.78	0.547 Level 1	
1,700.00	1,694.99	1,697.33	1,691.83	3.86	50.89	73.78	-6.53	84.84	32.34	-22.20	54.54	0.593 Level 1	
1,800.00	1,793.33	1,796.49	1,788.07	4.19	53.74	67.25	-3.54	108.54	38.13	-19.33	57.46	0.664 Level 1	
1,900.00	1,891.67	1,895.09	1,882.89	4.53	56.90	59.13	-0.15	135.37	46.44	-14.00	60.44	0.768 Level 1	
2,000.00	1,990.01	1,992.92	1,975.99	4.88	60.35	51.25	3.61	165.16	57.91	-5.52	63.44	0.913 Level 1	
2,100.00	2,088.36	2,089.75	2,067.08	5.25	64.06	44.51	7.72	197.75	72.86	6.41	66.46	1.096 Level 2	
2,200.00	2,186.70	2,185.39	2,155.90	5.61	68.03	39.06	12.15	232.91	91.36	21.85	69.51	1.314 Level 3	
2,300.00	2,285.04	2,279.95	2,242.52	5.99	72.22	34.77	16.90	270.53	113.32	40.74	72.58	1.561	
2,400.00	2,383.38	2,376.88	2,330.78	6.36	76.77	31.57	21.92	310.30	136.95	61.11	75.83	1.806	
2,500.00	2,481.72	2,473.82	2,419.04	6.75	81.44	29.31	26.94	350.06	160.86	81.68	79.18	2.032	
2,600.00	2,580.06	2,570.75	2,507.30	7.13	86.25	27.64	31.95	389.82	184.94	102.34	82.60	2.239	
2,700.00	2,678.40	2,667.68	2,595.56	7.52	91.15	26.35	36.97	429.58	209.14	123.06	86.08	2.430	
2,800.00	2,776.74	2,764.62	2,683.82	7.91	96.15	25.33	41.99	469.35	233.42	143.79	89.62	2.604	
2,900.00	2,875.08	2,861.55	2,772.07	8.30	101.22	24.50	47.01	509.11	257.75	164.54	93.21	2.765	
3,000.00	2,973.42	2,958.48	2,860.33	8.69	106.36	23.82	52.02	548.87	282.13	185.29	96.84	2.913	
3,100.00	3,071.76	3,055.41	2,948.59	9.09	111.55	23.24	57.04	588.63	306.54	206.03	100.50	3.050	
3,200.00	3,170.10	3,152.35	3,036.85	9.48	116.79	22.75	62.06	628.40	330.97	226.77	104.20	3.176	
3,300.00	3,268.44	3,249.28	3,125.11	9.88	122.08	22.33	67.08	668.16	355.42	247.50	107.92	3.293	
3,400.00	3,366.78	3,346.21	3,213.37	10.28	127.40	21.96	72.09	707.92	379.89	268.22	111.67	3.402	
3,500.00	3,465.12	3,443.15	3,301.63	10.68	132.75	21.64	77.11	747.69	404.37	288.93	115.44	3.503	
3,600.00	3,563.47	3,540.08	3,389.89	11.08	138.13	21.35	82.13	787.45	428.87	309.63	119.23	3.597	
3,700.00	3,661.81	3,637.01	3,478.15	11.48	143.54	21.09	87.15	827.21	453.37	330.33	123.04	3.685	
3,800.00	3,760.15	3,733.95	3,566.41	11.88	148.97	20.86	92.16	866.97	477.88	351.01	126.87	3.767	
3,900.00	3,858.49	3,830.88	3,654.67	12.28	154.42	20.65	97.18	906.74	502.39	371.69	130.71	3.844	
4,000.00	3,956.83	3,927.81	3,742.93	12.68	159.89	20.47	102.20	946.50	526.91	392.35	134.56	3.916	
4,100.00	4,055.17	4,024.74	3,831.19	13.08	165.38	20.29	107.22	986.26	551.44	413.01	138.43	3.984	
4,200.00	4,153.51	4,121.68	3,919.45	13.49	170.88	20.14	112.24	1,026.02	575.97	433.66	142.31	4.047	
4,300.00	4,251.85	4,218.61	4,007.71	13.89	176.39	19.99	117.25	1,065.79	600.50	454.31	146.20	4.108	
4,400.00	4,350.19	4,315.54	4,095.97	14.29	181.92	19.86	122.27	1,105.55	625.04	474.95	150.10	4.164	
4,500.00	4,448.53	4,412.48	4,184.23	14.70	187.46	19.74	127.29	1,145.31	649.58	495.58	154.00	4.218	
4,600.00	4,546.87	4,509.41	4,272.49	15.10	193.01	19.62	132.31	1,185.07	674.13	516.21	157.92	4.269	
4,700.00	4,645.21	4,606.34	4,360.75	15.50	198.57	19.52	137.32	1,224.84	698.67	536.83	161.84	4.317	
4,800.00	4,743.55	4,703.28	4,449.01	15.91	204.13	19.42	142.34	1,264.60	723.22	557.44	165.78	4.363	
4,900.00	4,841.89	4,800.21	4,537.27	16.31	209.71	19.33	147.36	1,304.36	747.77	578.06	169.71	4.406	

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	4,940.24	4,897.14	4,625.53	16.72	215.29	19.24	152.38	1,344.12	772.32	598.66	173.66	4.447	
5,100.00	5,038.58	4,994.07	4,713.79	17.12	220.88	19.16	157.39	1,383.89	796.87	619.27	177.61	4.487	
5,200.00	5,136.92	5,091.01	4,802.05	17.53	226.47	19.08	162.41	1,423.65	821.43	639.87	181.56	4.524	
5,300.00	5,235.26	5,187.94	4,890.31	17.94	232.07	19.01	167.43	1,463.41	845.98	660.46	185.52	4.560	
5,400.00	5,333.60	5,284.87	4,978.57	18.34	237.68	18.94	172.45	1,503.18	870.54	681.05	189.49	4.594	
5,500.00	5,431.94	5,381.81	5,066.82	18.75	243.29	18.88	177.46	1,542.94	895.10	701.64	193.46	4.627	
5,600.00	5,530.28	5,478.74	5,155.08	19.15	248.90	18.82	182.48	1,582.70	919.66	722.23	197.43	4.658	
5,700.00	5,628.62	5,575.67	5,243.34	19.56	254.52	18.76	187.50	1,622.46	944.22	742.81	201.41	4.688	
5,800.00	5,726.96	5,672.61	5,331.60	19.97	260.15	18.71	192.52	1,662.23	968.78	763.39	205.39	4.717	
5,900.00	5,825.30	5,769.54	5,419.86	20.37	265.78	18.66	197.53	1,701.99	993.34	783.97	209.37	4.744	
6,000.00	5,923.64	5,866.47	5,508.12	20.78	271.41	18.61	202.55	1,741.75	1,017.90	804.54	213.36	4.771	
6,062.69	5,985.29	5,927.24	5,563.45	21.03	274.94	18.58	205.70	1,766.68	1,033.30	817.44	215.86	4.787	
6,100.00	6,022.03	5,963.35	5,596.33	21.17	277.04	18.62	207.57	1,781.49	1,042.68	825.68	217.01	4.805	
6,200.00	6,120.87	6,059.51	5,683.89	21.45	282.63	18.70	212.54	1,820.94	1,070.04	850.22	219.82	4.868	
6,300.00	6,220.18	6,154.69	5,770.56	21.69	288.17	18.75	217.47	1,859.98	1,100.56	878.29	222.27	4.951	
6,400.00	6,319.84	6,248.78	5,856.22	21.89	293.65	18.78	222.34	1,898.58	1,134.22	909.87	224.35	5.055	
6,500.00	6,419.72	6,341.65	5,940.78	22.06	299.06	18.78	227.15	1,936.67	1,170.99	944.93	226.06	5.180	
6,585.29	6,505.00	6,419.81	6,011.95	22.17	303.61	91.79	231.19	1,968.74	1,204.78	977.58	227.21	5.303	
6,600.00	6,519.71	6,440.02	6,030.37	22.19	304.78	91.73	232.23	1,976.98	1,210.78	982.86	227.92	5.312	
6,700.00	6,619.71	6,600.74	6,178.85	22.33	313.80	91.26	239.93	2,037.97	1,248.67	1,015.01	233.66	5.344	
6,800.00	6,719.71	6,768.64	6,337.38	22.47	322.56	90.88	246.84	2,092.75	1,281.27	1,041.42	239.85	5.342	
6,900.00	6,819.71	6,942.99	6,505.13	22.61	330.97	90.58	252.78	2,139.79	1,308.24	1,061.79	246.45	5.308	
7,000.00	6,919.71	7,122.80	6,680.83	22.76	338.90	90.35	257.55	2,177.60	1,329.27	1,075.88	253.39	5.246	
7,100.00	7,019.71	7,306.86	6,862.79	22.90	346.24	90.20	260.99	2,204.90	1,344.11	1,083.49	260.62	5.157	
7,200.00	7,119.71	7,493.77	7,048.99	23.05	352.87	90.11	262.99	2,220.71	1,352.57	1,084.51	268.06	5.046	
7,300.00	7,219.71	7,664.56	7,219.71	23.20	357.34	90.09	263.49	2,224.66	1,354.67	1,080.91	273.76	4.948	
7,400.00	7,319.71	7,764.56	7,319.71	23.34	358.20	90.09	263.49	2,224.66	1,354.67	1,079.50	275.16	4.923	
7,500.00	7,419.71	7,864.56	7,419.71	23.49	359.11	90.09	263.49	2,224.66	1,354.67	1,078.05	276.62	4.897	
7,600.00	7,519.71	7,964.56	7,519.71	23.64	360.06	90.09	263.49	2,224.66	1,354.67	1,076.54	278.13	4.871	
7,700.00	7,619.71	8,064.56	7,619.71	23.80	361.05	90.09	263.49	2,224.66	1,354.67	1,074.97	279.69	4.843	
7,800.00	7,719.71	8,164.56	7,719.71	23.95	362.09	90.09	263.49	2,224.66	1,354.67	1,073.35	281.32	4.815	
7,900.00	7,819.71	8,264.56	7,819.71	24.10	363.16	90.09	263.49	2,224.66	1,354.67	1,071.68	282.99	4.787	
8,000.00	7,919.71	8,364.56	7,919.71	24.26	364.28	90.09	263.49	2,224.66	1,354.67	1,069.95	284.72	4.758	
8,100.00	8,019.71	8,464.56	8,019.71	24.42	365.44	90.09	263.49	2,224.66	1,354.67	1,068.17	286.50	4.728	
8,200.00	8,119.71	8,564.56	8,119.71	24.57	366.63	90.09	263.49	2,224.66	1,354.67	1,066.34	288.33	4.698	
8,300.00	8,219.71	8,664.56	8,219.71	24.73	367.87	90.09	263.49	2,224.66	1,354.67	1,064.46	290.21	4.668	
8,400.00	8,319.71	8,764.56	8,319.71	24.89	369.15	90.09	263.49	2,224.66	1,354.67	1,062.53	292.13	4.637	
8,425.29	8,345.00	8,789.85	8,345.00	24.93	369.47	90.09	263.49	2,224.66	1,354.67	1,062.04	292.63	4.629	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	-38.79	23.68	-19.03	30.38				
100.00	100.00	100.00	100.00	0.10	0.10	-38.79	23.68	-19.03	30.38	30.19	0.19	158.998	
200.00	200.00	200.00	200.00	0.32	0.32	-38.79	23.68	-19.03	30.38	29.74	0.64	47.420	
300.00	300.00	300.00	300.00	0.55	0.55	-38.79	23.68	-19.03	30.38	29.29	1.09	27.866	
400.00	400.00	400.00	400.00	0.77	0.77	-38.79	23.68	-19.03	30.38	28.84	1.54	19.730	
500.00	500.00	500.00	500.00	0.99	0.99	-38.79	23.68	-19.03	30.38	28.39	1.99	15.271	
600.00	600.00	600.00	600.00	1.22	1.22	-38.79	23.68	-19.03	30.38	27.94	2.44	12.456	
700.00	700.00	700.00	700.00	1.44	1.44	-38.79	23.68	-19.03	30.38	27.49	2.89	10.517	
800.00	800.00	800.00	800.00	1.67	1.67	-38.79	23.68	-19.03	30.38	27.04	3.34	9.101	
900.00	900.00	900.00	900.00	1.89	1.89	-38.79	23.68	-19.03	30.38	26.59	3.79	8.021	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-38.79	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	-38.79	23.68	-19.03	30.38	25.92	4.46	6.808 CC, ES	
1,100.00	1,100.00	1,099.50	1,099.50	2.34	2.34	-112.84	23.89	-19.40	30.95	26.27	4.68	6.617 SF	
1,200.00	1,199.93	1,198.20	1,198.13	2.55	2.55	-119.78	25.57	-22.36	35.80	30.71	5.09	7.031	
1,300.00	1,299.68	1,296.00	1,295.70	2.77	2.77	-128.96	28.88	-28.21	46.58	41.07	5.51	8.459	
1,400.00	1,399.13	1,393.89	1,393.16	3.00	3.00	-136.72	33.40	-36.19	63.08	57.16	5.92	10.656	
1,500.00	1,498.15	1,491.56	1,490.39	3.26	3.23	-142.64	37.96	-44.25	83.11	76.78	6.33	13.125	
1,572.60	1,569.71	1,562.00	1,560.51	3.46	3.41	-146.05	41.26	-50.06	99.80	93.17	6.63	15.050	
1,600.00	1,596.65	1,588.49	1,586.88	3.54	3.47	-147.22	42.50	-52.25	106.46	99.71	6.75	15.768	
1,700.00	1,694.99	1,685.20	1,683.16	3.86	3.72	-150.48	47.02	-60.23	131.03	123.84	7.20	18.207	
1,800.00	1,793.33	1,781.92	1,779.43	4.19	3.97	-152.71	51.54	-68.22	155.88	148.23	7.65	20.375	
1,900.00	1,891.67	1,878.63	1,875.71	4.53	4.22	-154.33	56.06	-76.20	180.89	172.78	8.11	22.303	
2,000.00	1,990.01	1,975.34	1,971.99	4.88	4.47	-155.55	60.58	-84.18	206.01	197.43	8.58	24.022	
2,100.00	2,088.36	2,072.05	2,068.26	5.25	4.73	-156.51	65.10	-92.16	231.19	222.15	9.04	25.561	
2,200.00	2,186.70	2,168.77	2,164.54	5.61	4.99	-157.28	69.62	-100.15	256.42	246.90	9.52	26.943	
2,300.00	2,285.04	2,265.48	2,260.82	5.99	5.25	-157.91	74.14	-108.13	281.69	271.70	9.99	28.189	
2,400.00	2,383.38	2,362.19	2,357.09	6.36	5.52	-158.44	78.66	-116.11	306.98	296.51	10.47	29.318	
2,500.00	2,481.72	2,458.91	2,453.37	6.75	5.78	-158.89	83.19	-124.09	332.30	321.34	10.95	30.344	
2,600.00	2,580.06	2,555.62	2,549.65	7.13	6.04	-159.27	87.71	-132.08	357.63	346.19	11.43	31.280	
2,700.00	2,678.40	2,652.33	2,645.92	7.52	6.31	-159.60	92.23	-140.06	382.97	371.05	11.92	32.138	
2,800.00	2,776.74	2,749.04	2,742.20	7.91	6.58	-159.90	96.75	-148.04	408.32	395.92	12.40	32.925	
2,900.00	2,875.08	2,845.76	2,838.48	8.30	6.85	-160.15	101.27	-156.02	433.69	420.80	12.89	33.650	
3,000.00	2,973.42	2,942.47	2,934.75	8.69	7.11	-160.38	105.79	-164.00	459.06	445.68	13.38	34.321	
3,100.00	3,071.76	3,039.18	3,031.03	9.09	7.38	-160.59	110.31	-171.99	484.43	470.57	13.86	34.942	
3,200.00	3,170.10	3,135.90	3,127.31	9.48	7.65	-160.77	114.83	-179.97	509.81	495.46	14.35	35.519	
3,300.00	3,268.44	3,232.61	3,223.58	9.88	7.92	-160.94	119.36	-187.95	535.20	520.36	14.84	36.056	
3,400.00	3,366.78	3,329.32	3,319.86	10.28	8.19	-161.09	123.88	-195.93	560.59	545.26	15.33	36.557	
3,500.00	3,465.12	3,426.03	3,416.14	10.68	8.46	-161.23	128.40	-203.92	585.98	570.16	15.83	37.026	
3,600.00	3,563.47	3,522.75	3,512.41	11.08	8.73	-161.36	132.92	-211.90	611.38	595.06	16.32	37.465	
3,700.00	3,661.81	3,619.46	3,608.69	11.48	9.01	-161.48	137.44	-219.88	636.78	619.97	16.81	37.878	
3,800.00	3,760.15	3,716.17	3,704.97	11.88	9.28	-161.59	141.96	-227.86	662.18	644.88	17.30	38.266	
3,900.00	3,858.49	3,812.88	3,801.24	12.28	9.55	-161.69	146.48	-235.85	687.58	669.79	17.80	38.632	
4,000.00	3,956.83	3,909.60	3,897.52	12.68	9.82	-161.78	151.00	-243.83	712.99	694.70	18.29	38.977	
4,100.00	4,055.17	4,006.31	3,993.80	13.08	10.09	-161.87	155.52	-251.81	738.40	719.61	18.79	39.303	
4,200.00	4,153.51	4,103.02	4,090.07	13.49	10.37	-161.95	160.05	-259.79	763.80	744.52	19.28	39.612	
4,300.00	4,251.85	4,199.74	4,186.35	13.89	10.64	-162.02	164.57	-267.78	789.21	769.44	19.78	39.905	
4,400.00	4,350.19	4,296.45	4,282.63	14.29	10.91	-162.09	169.09	-275.76	814.63	794.35	20.27	40.183	
4,500.00	4,448.53	4,393.16	4,378.90	14.70	11.18	-162.16	173.61	-283.74	840.04	819.27	20.77	40.447	
4,600.00	4,546.87	4,489.87	4,475.18	15.10	11.46	-162.22	178.13	-291.72	865.45	844.18	21.26	40.698	
4,700.00	4,645.21	4,586.59	4,571.46	15.50	11.73	-162.28	182.65	-299.71	890.86	869.10	21.76	40.938	
4,800.00	4,743.55	4,683.30	4,667.73	15.91	12.00	-162.34	187.17	-307.69	916.28	894.02	22.26	41.166	
4,900.00	4,841.89	4,780.01	4,764.01	16.31	12.28	-162.39	191.69	-315.67	941.69	918.94	22.75	41.384	

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 12-3 - P_KERR-MCGEE 12-3 - 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	4,940.24	4,876.73	4,860.29	16.72	12.55	-162.44	196.22	-323.65	967.11	943.86	23.25	41.593	
5,100.00	5,038.58	4,973.44	4,956.57	17.12	12.83	-162.49	200.74	-331.63	992.53	968.78	23.75	41.792	
5,200.00	5,136.92	5,070.15	5,052.84	17.53	13.10	-162.54	205.26	-339.62	1,017.94	993.70	24.25	41.983	
5,300.00	5,235.26	5,166.86	5,149.12	17.94	13.37	-162.58	209.78	-347.60	1,043.36	1,018.62	24.74	42.166	
5,400.00	5,333.60	5,263.58	5,245.40	18.34	13.65	-162.62	214.30	-355.58	1,068.78	1,043.54	25.24	42.342	
5,500.00	5,431.94	5,360.29	5,341.67	18.75	13.92	-162.66	218.82	-363.56	1,094.20	1,068.46	25.74	42.511	
5,600.00	5,530.28	5,457.00	5,437.95	19.15	14.20	-162.70	223.34	-371.55	1,119.62	1,093.38	26.24	42.672	
5,700.00	5,628.62	5,553.71	5,534.23	19.56	14.47	-162.73	227.86	-379.53	1,145.04	1,118.30	26.74	42.828	
5,800.00	5,726.96	5,650.43	5,630.50	19.97	14.75	-162.77	232.38	-387.51	1,170.46	1,143.23	27.23	42.978	
5,900.00	5,825.30	5,747.14	5,726.78	20.37	15.02	-162.80	236.91	-395.49	1,195.88	1,168.15	27.73	43.122	
6,000.00	5,923.64	5,843.85	5,823.06	20.78	15.29	-162.83	241.43	-403.48	1,221.30	1,193.07	28.23	43.261	
6,062.69	5,985.29	5,904.48	5,883.41	21.03	15.47	-162.85	244.26	-408.48	1,237.24	1,208.69	28.54	43.346	
6,100.00	6,022.03	5,940.62	5,919.39	21.17	15.57	-162.91	245.95	-411.46	1,246.50	1,217.74	28.76	43.339	
6,200.00	6,120.87	6,038.03	6,016.36	21.45	15.85	-163.04	250.50	-419.50	1,269.09	1,239.79	29.30	43.313	
6,300.00	6,220.18	6,136.13	6,114.02	21.69	16.12	-163.09	255.09	-427.60	1,288.42	1,258.62	29.80	43.231	
6,400.00	6,319.84	6,234.81	6,212.25	21.89	16.41	-163.08	259.70	-435.74	1,304.46	1,274.20	30.27	43.098	
6,500.00	6,419.72	6,375.92	6,352.88	22.06	16.73	-162.99	265.36	-445.72	1,316.21	1,285.46	30.74	42.811	
6,585.29	6,505.00	6,518.08	6,494.95	22.17	16.97	-89.91	267.71	-449.87	1,319.91	1,288.79	31.12	42.411	
6,600.00	6,519.71	6,542.65	6,519.51	22.19	17.01	-89.91	267.76	-449.97	1,319.97	1,288.78	31.19	42.321	
6,700.00	6,619.71	6,642.84	6,619.71	22.33	17.19	-89.91	267.76	-449.97	1,319.97	1,288.40	31.57	41.815	
6,800.00	6,719.71	6,742.84	6,719.71	22.47	17.37	-89.91	267.76	-449.97	1,319.97	1,288.02	31.95	41.310	
6,900.00	6,819.71	6,842.84	6,819.71	22.61	17.56	-89.91	267.76	-449.97	1,319.97	1,287.63	32.34	40.814	
7,000.00	6,919.71	6,942.84	6,919.71	22.76	17.74	-89.91	267.76	-449.97	1,319.97	1,287.24	32.73	40.328	
7,100.00	7,019.71	7,042.84	7,019.71	22.90	17.93	-89.91	267.76	-449.97	1,319.97	1,286.85	33.12	39.852	
7,200.00	7,119.71	7,142.84	7,119.71	23.05	18.12	-89.91	267.76	-449.97	1,319.97	1,286.45	33.51	39.385	
7,300.00	7,219.71	7,242.84	7,219.71	23.20	18.31	-89.91	267.76	-449.97	1,319.97	1,286.06	33.91	38.928	
7,400.00	7,319.71	7,342.84	7,319.71	23.34	18.50	-89.91	267.76	-449.97	1,319.97	1,285.67	34.30	38.479	
7,500.00	7,419.71	7,442.84	7,419.71	23.49	18.69	-89.91	267.76	-449.97	1,319.97	1,285.27	34.70	38.039	
7,600.00	7,519.71	7,542.84	7,519.71	23.64	18.88	-89.91	267.76	-449.97	1,319.97	1,284.87	35.10	37.608	
7,700.00	7,619.71	7,642.84	7,619.71	23.80	19.07	-89.91	267.76	-449.97	1,319.97	1,284.47	35.50	37.185	
7,800.00	7,719.71	7,742.84	7,719.71	23.95	19.26	-89.91	267.76	-449.97	1,319.97	1,284.07	35.90	36.771	
7,900.00	7,819.71	7,842.84	7,819.71	24.10	19.45	-89.91	267.76	-449.97	1,319.97	1,283.67	36.30	36.364	
8,000.00	7,919.71	7,942.84	7,919.71	24.26	19.65	-89.91	267.76	-449.97	1,319.97	1,283.27	36.70	35.965	
8,100.00	8,019.71	8,042.84	8,019.71	24.42	19.84	-89.91	267.76	-449.97	1,319.97	1,282.86	37.10	35.574	
8,200.00	8,119.71	8,142.84	8,119.71	24.57	20.04	-89.91	267.76	-449.97	1,319.97	1,282.46	37.51	35.190	
8,300.00	8,219.71	8,242.84	8,219.71	24.73	20.23	-89.91	267.76	-449.97	1,319.97	1,282.05	37.91	34.814	
8,400.00	8,319.71	8,342.84	8,319.71	24.89	20.43	-89.91	267.76	-449.97	1,319.97	1,281.65	38.32	34.445	
8,425.29	8,345.00	8,368.13	8,345.00	24.93	20.48	-89.91	267.76	-449.97	1,319.97	1,281.54	38.42	34.352	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	141.25	-8.02	6.44	10.28				
100.00	100.00	100.00	100.00	0.10	0.10	141.25	-8.02	6.44	10.28	10.09	0.19	53.818	
200.00	200.00	200.00	200.00	0.32	0.32	141.25	-8.02	6.44	10.28	9.64	0.64	16.051	
300.00	300.00	300.00	300.00	0.55	0.55	141.25	-8.02	6.44	10.28	9.19	1.09	9.432	
400.00	400.00	400.00	400.00	0.77	0.77	141.25	-8.02	6.44	10.28	8.74	1.54	6.678	
500.00	500.00	500.00	500.00	0.99	0.99	141.25	-8.02	6.44	10.28	8.29	1.99	5.169	
600.00	600.00	600.00	600.00	1.22	1.22	141.25	-8.02	6.44	10.28	7.84	2.44	4.216	
700.00	700.00	700.00	700.00	1.44	1.44	141.25	-8.02	6.44	10.28	7.39	2.89	3.560	
800.00	800.00	800.00	800.00	1.67	1.67	141.25	-8.02	6.44	10.28	6.94	3.34	3.080	
900.00	900.00	900.00	900.00	1.89	1.89	141.25	-8.02	6.44	10.28	6.49	3.79	2.715	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.25	-8.02	6.44	10.28	6.05	4.24	2.427	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.25	-8.02	6.44	10.28	5.82	4.46	2.305 CC	
1,050.09	1,050.09	1,050.09	1,050.09	2.23	2.23	141.25	-8.02	6.44	10.28	5.82	4.46	2.304	
1,100.00	1,100.00	1,099.91	1,099.91	2.34	2.33	72.63	-8.41	6.25	10.34	5.68	4.67	2.216 ES, SF	
1,200.00	1,199.93	1,199.42	1,199.35	2.55	2.50	102.20	-11.55	4.78	12.75	7.70	5.05	2.524	
1,300.00	1,299.68	1,298.03	1,297.72	2.77	2.69	128.75	-17.73	1.88	22.68	17.24	5.44	4.170	
1,400.00	1,399.13	1,395.17	1,394.33	3.00	2.89	140.83	-26.82	-2.38	40.44	34.62	5.83	6.943	
1,500.00	1,498.15	1,490.29	1,488.56	3.26	3.11	146.32	-38.59	-7.89	64.93	58.71	6.22	10.443	
1,572.60	1,569.71	1,557.81	1,555.15	3.46	3.29	148.50	-48.66	-12.61	86.58	80.08	6.51	13.307	
1,600.00	1,596.65	1,582.94	1,579.87	3.54	3.36	149.16	-52.78	-14.54	95.47	88.84	6.62	14.414	
1,700.00	1,694.99	1,673.49	1,668.57	3.86	3.63	150.49	-69.21	-22.24	129.75	122.69	7.06	18.370	
1,800.00	1,793.33	1,765.53	1,758.29	4.19	3.95	151.02	-87.82	-30.96	166.11	158.59	7.52	22.077	
1,900.00	1,891.67	1,858.63	1,849.03	4.53	4.30	151.35	-106.73	-39.83	202.59	194.59	8.00	25.320	
2,000.00	1,990.01	1,951.74	1,939.76	4.88	4.67	151.57	-125.65	-48.70	239.07	230.58	8.49	28.158	
2,100.00	2,088.36	2,044.84	2,030.49	5.25	5.05	151.74	-144.57	-57.56	275.55	266.57	8.99	30.654	
2,200.00	2,186.70	2,137.95	2,121.22	5.61	5.44	151.87	-163.48	-66.43	312.04	302.54	9.50	32.859	
2,300.00	2,285.04	2,231.05	2,211.95	5.99	5.84	151.97	-182.40	-75.29	348.53	338.51	10.01	34.815	
2,400.00	2,383.38	2,324.16	2,302.68	6.36	6.24	152.06	-201.32	-84.16	385.01	374.48	10.53	36.559	
2,500.00	2,481.72	2,417.26	2,393.41	6.75	6.66	152.13	-220.23	-93.03	421.50	410.44	11.06	38.121	
2,600.00	2,580.06	2,510.36	2,484.14	7.13	7.07	152.18	-239.15	-101.89	457.99	446.40	11.59	39.525	
2,700.00	2,678.40	2,603.47	2,574.87	7.52	7.49	152.23	-258.07	-110.76	494.48	482.35	12.12	40.794	
2,800.00	2,776.74	2,696.57	2,665.60	7.91	7.92	152.28	-276.98	-119.63	530.96	518.31	12.66	41.944	
2,900.00	2,875.08	2,789.68	2,756.33	8.30	8.35	152.31	-295.90	-128.49	567.45	554.25	13.20	42.990	
3,000.00	2,973.42	2,882.78	2,847.06	8.69	8.78	152.34	-314.82	-137.36	603.94	590.20	13.74	43.945	
3,100.00	3,071.76	2,975.89	2,937.79	9.09	9.21	152.37	-333.73	-146.22	640.43	626.14	14.29	44.821	
3,200.00	3,170.10	3,068.99	3,028.52	9.48	9.64	152.40	-352.65	-155.09	676.92	662.08	14.84	45.625	
3,300.00	3,268.44	3,162.10	3,119.25	9.88	10.08	152.42	-371.57	-163.96	713.41	698.02	15.39	46.367	
3,400.00	3,366.78	3,255.20	3,209.98	10.28	10.52	152.44	-390.48	-172.82	749.90	733.96	15.94	47.053	
3,500.00	3,465.12	3,348.31	3,300.71	10.68	10.96	152.46	-409.40	-181.69	786.39	769.90	16.49	47.689	
3,600.00	3,563.47	3,441.41	3,391.44	11.08	11.39	152.48	-428.32	-190.55	822.88	805.83	17.04	48.279	
3,700.00	3,661.81	3,534.52	3,482.17	11.48	11.84	152.49	-447.24	-199.42	859.37	841.77	17.60	48.829	
3,800.00	3,760.15	3,627.62	3,572.90	11.88	12.28	152.51	-466.15	-208.29	895.86	877.70	18.16	49.343	
3,900.00	3,858.49	3,720.72	3,663.63	12.28	12.72	152.52	-485.07	-217.15	932.35	913.63	18.71	49.823	
4,000.00	3,956.83	3,813.83	3,754.36	12.68	13.16	152.53	-503.99	-226.02	968.84	949.57	19.27	50.273	
4,100.00	4,055.17	3,906.93	3,845.09	13.08	13.60	152.55	-522.90	-234.88	1,005.33	985.50	19.83	50.695	
4,200.00	4,153.51	4,000.04	3,935.82	13.49	14.05	152.56	-541.82	-243.75	1,041.82	1,021.43	20.39	51.093	
4,300.00	4,251.85	4,093.14	4,026.55	13.89	14.49	152.57	-560.74	-252.62	1,078.31	1,057.36	20.95	51.467	
4,400.00	4,350.19	4,186.25	4,117.29	14.29	14.94	152.58	-579.65	-261.48	1,114.80	1,093.28	21.51	51.820	
4,500.00	4,448.53	4,279.35	4,208.02	14.70	15.38	152.58	-598.57	-270.35	1,151.29	1,129.21	22.07	52.154	
4,600.00	4,546.87	4,372.46	4,298.75	15.10	15.83	152.59	-617.49	-279.22	1,187.78	1,165.14	22.64	52.470	
4,700.00	4,645.21	4,465.56	4,389.48	15.50	16.27	152.60	-636.40	-288.08	1,224.27	1,201.07	23.20	52.769	
4,800.00	4,743.55	4,558.67	4,480.21	15.91	16.72	152.61	-655.32	-296.95	1,260.76	1,236.99	23.76	53.053	

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	
4,900.00	4,841.89	4,651.77	4,570.94	16.31	17.17	152.61	-674.24	-305.81	1,297.25	1,272.92	24.33	53.323	
5,000.00	4,940.24	4,744.87	4,661.67	16.72	17.61	152.62	-693.15	-314.68	1,333.74	1,308.85	24.89	53.580	
5,100.00	5,038.58	4,837.98	4,752.40	17.12	18.06	152.63	-712.07	-323.55	1,370.23	1,344.77	25.46	53.825	
5,200.00	5,136.92	4,931.08	4,843.13	17.53	18.51	152.63	-730.99	-332.41	1,406.72	1,380.70	26.02	54.058	
5,300.00	5,235.26	5,024.19	4,933.86	17.94	18.96	152.64	-749.90	-341.28	1,443.21	1,416.62	26.59	54.281	
5,400.00	5,333.60	5,117.29	5,024.59	18.34	19.40	152.64	-768.82	-350.14	1,479.70	1,452.54	27.15	54.494	
5,500.00	5,431.94	5,210.40	5,115.32	18.75	19.85	152.65	-787.74	-359.01	1,516.19	1,488.47	27.72	54.697	
5,600.00	5,530.28	5,303.50	5,206.05	19.15	20.30	152.65	-806.65	-367.88	1,552.68	1,524.39	28.29	54.892	
5,700.00	5,628.62	5,396.61	5,296.78	19.56	20.75	152.66	-825.57	-376.74	1,589.17	1,560.32	28.85	55.078	
5,800.00	5,726.96	5,489.71	5,387.51	19.97	21.20	152.66	-844.49	-385.61	1,625.66	1,596.24	29.42	55.257	
5,900.00	5,825.30	5,582.82	5,478.24	20.37	21.65	152.67	-863.40	-394.47	1,662.15	1,632.16	29.99	55.429	
6,000.00	5,923.64	5,675.92	5,568.97	20.78	22.10	152.67	-882.32	-403.34	1,698.64	1,668.08	30.55	55.594	
6,062.69	5,985.29	5,734.28	5,625.85	21.03	22.38	152.67	-894.18	-408.90	1,721.51	1,690.60	30.91	55.694	
6,100.00	6,022.03	5,769.10	5,659.78	21.17	22.55	152.80	-901.25	-412.21	1,734.93	1,703.76	31.17	55.660	
6,200.00	6,120.87	5,863.15	5,751.43	21.45	23.00	153.08	-920.36	-421.17	1,768.88	1,737.07	31.81	55.611	
6,300.00	6,220.18	5,958.17	5,844.03	21.69	23.46	153.28	-939.67	-430.22	1,799.89	1,767.48	32.41	55.537	
6,400.00	6,319.84	6,147.73	6,029.65	21.89	24.11	153.29	-974.34	-446.47	1,826.29	1,793.14	33.15	55.098	
6,500.00	6,419.72	6,392.61	6,272.43	22.06	24.71	153.24	-1,002.76	-459.79	1,842.44	1,808.56	33.88	54.385	
6,585.29	6,505.00	6,605.85	6,485.37	22.17	25.03	-133.76	-1,012.14	-464.19	1,847.44	1,813.04	34.40	53.703	
6,600.00	6,519.71	6,640.19	6,519.71	22.19	25.07	-133.76	-1,012.31	-464.27	1,847.51	1,813.02	34.48	53.580	
6,700.00	6,619.71	6,740.19	6,619.71	22.33	25.18	-133.76	-1,012.31	-464.27	1,847.51	1,812.69	34.81	53.068	
6,800.00	6,719.71	6,840.19	6,719.71	22.47	25.29	-133.76	-1,012.31	-464.27	1,847.51	1,812.36	35.14	52.575	
6,900.00	6,819.71	6,940.19	6,819.71	22.61	25.39	-133.76	-1,012.31	-464.27	1,847.51	1,812.04	35.47	52.086	
7,000.00	6,919.71	7,040.19	6,919.71	22.76	25.50	-133.76	-1,012.31	-464.27	1,847.51	1,811.70	35.80	51.603	
7,100.00	7,019.71	7,140.19	7,019.71	22.90	25.61	-133.76	-1,012.31	-464.27	1,847.51	1,811.37	36.14	51.125	
7,200.00	7,119.71	7,240.19	7,119.71	23.05	25.72	-133.76	-1,012.31	-464.27	1,847.51	1,811.03	36.47	50.652	
7,300.00	7,219.71	7,340.19	7,219.71	23.20	25.83	-133.76	-1,012.31	-464.27	1,847.51	1,810.69	36.81	50.185	
7,400.00	7,319.71	7,440.19	7,319.71	23.34	25.94	-133.76	-1,012.31	-464.27	1,847.51	1,810.35	37.16	49.723	
7,500.00	7,419.71	7,540.19	7,419.71	23.49	26.05	-133.76	-1,012.31	-464.27	1,847.51	1,810.01	37.50	49.267	
7,600.00	7,519.71	7,640.19	7,519.71	23.64	26.17	-133.76	-1,012.31	-464.27	1,847.51	1,809.66	37.85	48.816	
7,700.00	7,619.71	7,740.19	7,619.71	23.80	26.28	-133.76	-1,012.31	-464.27	1,847.51	1,809.31	38.20	48.370	
7,800.00	7,719.71	7,840.19	7,719.71	23.95	26.40	-133.76	-1,012.31	-464.27	1,847.51	1,808.96	38.55	47.930	
7,900.00	7,819.71	7,940.19	7,819.71	24.10	26.52	-133.76	-1,012.31	-464.27	1,847.51	1,808.61	38.90	47.496	
8,000.00	7,919.71	8,040.19	7,919.71	24.26	26.64	-133.76	-1,012.31	-464.27	1,847.51	1,808.25	39.25	47.067	
8,100.00	8,019.71	8,140.19	8,019.71	24.42	26.77	-133.76	-1,012.31	-464.27	1,847.51	1,807.90	39.61	46.643	
8,200.00	8,119.71	8,240.19	8,119.71	24.57	26.89	-133.76	-1,012.31	-464.27	1,847.51	1,807.54	39.97	46.225	
8,300.00	8,219.71	8,340.19	8,219.71	24.73	27.01	-133.76	-1,012.31	-464.27	1,847.51	1,807.18	40.33	45.812	
8,400.00	8,319.71	8,440.19	8,319.71	24.89	27.14	-133.76	-1,012.31	-464.27	1,847.51	1,806.82	40.69	45.405	
8,425.29	8,345.00	8,465.48	8,345.00	24.93	27.17	-133.76	-1,012.31	-464.27	1,847.51	1,806.72	40.78	45.303	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	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	1,098.97	1,098.97	2.34	2.33	68.33	-46.95	38.04	60.27	55.61	4.67	12.916	
1,200.00	1,199.93	1,196.80	1,196.74	2.55	2.50	71.16	-49.53	40.17	62.48	57.43	5.05	12.375	
1,300.00	1,299.68	1,294.31	1,294.02	2.77	2.69	76.20	-54.67	44.39	67.32	61.87	5.45	12.358 SF	
1,400.00	1,399.13	1,391.30	1,390.49	3.00	2.90	82.42	-62.31	50.67	75.42	69.55	5.87	12.847	
1,500.00	1,498.15	1,487.55	1,485.85	3.26	3.12	88.74	-72.39	58.95	87.32	80.99	6.33	13.795	
1,572.60	1,569.71	1,556.87	1,554.23	3.46	3.31	92.96	-81.18	66.17	98.51	91.82	6.69	14.719	
1,600.00	1,596.65	1,582.90	1,579.83	3.54	3.38	94.45	-84.80	69.16	103.29	96.45	6.83	15.112	
1,700.00	1,694.99	1,677.41	1,672.41	3.86	3.68	98.40	-99.49	81.23	122.98	115.60	7.38	16.670	
1,800.00	1,793.33	1,771.00	1,763.41	4.19	4.03	100.54	-116.35	95.08	145.74	137.78	7.96	18.319	
1,900.00	1,891.67	1,865.10	1,854.21	4.53	4.42	101.54	-135.45	110.78	171.04	162.47	8.57	19.957	
2,000.00	1,990.01	1,961.68	1,947.23	4.88	4.86	102.20	-155.52	127.27	196.89	187.67	9.22	21.349	
2,100.00	2,088.36	2,058.26	2,040.25	5.25	5.32	102.70	-175.59	143.77	222.76	212.87	9.90	22.511	
2,200.00	2,186.70	2,154.84	2,133.27	5.61	5.80	103.10	-195.66	160.26	248.65	238.06	10.59	23.485	
2,300.00	2,285.04	2,251.42	2,226.29	5.99	6.29	103.42	-215.73	176.75	274.54	263.25	11.29	24.310	
2,400.00	2,383.38	2,348.00	2,319.30	6.36	6.79	103.69	-235.79	193.25	300.44	288.43	12.01	25.013	
2,500.00	2,481.72	2,444.58	2,412.32	6.75	7.30	103.91	-255.86	209.74	326.35	313.61	12.74	25.616	
2,600.00	2,580.06	2,541.15	2,505.34	7.13	7.81	104.11	-275.93	226.24	352.25	338.78	13.48	26.139	
2,700.00	2,678.40	2,637.73	2,598.36	7.52	8.33	104.27	-296.00	242.73	378.17	363.95	14.22	26.594	
2,800.00	2,776.74	2,734.31	2,691.38	7.91	8.85	104.42	-316.07	259.22	404.08	389.11	14.97	26.993	
2,900.00	2,875.08	2,830.89	2,784.40	8.30	9.38	104.54	-336.14	275.72	430.00	414.27	15.73	27.345	
3,000.00	2,973.42	2,927.47	2,877.42	8.69	9.91	104.66	-356.21	292.21	455.92	439.43	16.48	27.657	
3,100.00	3,071.76	3,024.05	2,970.44	9.09	10.44	104.76	-376.28	308.71	481.84	464.59	17.25	27.936	
3,200.00	3,170.10	3,120.63	3,063.46	9.48	10.97	104.85	-396.35	325.20	507.76	489.74	18.01	28.186	
3,300.00	3,268.44	3,217.21	3,156.48	9.88	11.51	104.93	-416.42	341.69	533.68	514.90	18.78	28.411	
3,400.00	3,366.78	3,313.79	3,249.50	10.28	12.05	105.00	-436.49	358.19	559.61	540.05	19.56	28.614	
3,500.00	3,465.12	3,410.37	3,342.52	10.68	12.59	105.07	-456.56	374.68	585.53	565.20	20.33	28.799	
3,600.00	3,563.47	3,506.94	3,435.54	11.08	13.13	105.13	-476.63	391.18	611.45	590.35	21.11	28.967	
3,700.00	3,661.81	3,603.52	3,528.56	11.48	13.67	105.19	-496.70	407.67	637.38	615.49	21.89	29.122	
3,800.00	3,760.15	3,700.10	3,621.58	11.88	14.21	105.24	-516.77	424.16	663.31	640.64	22.67	29.263	
3,900.00	3,858.49	3,796.68	3,714.60	12.28	14.75	105.29	-536.84	440.66	689.23	665.78	23.45	29.393	
4,000.00	3,956.83	3,893.26	3,807.62	12.68	15.30	105.33	-556.90	457.15	715.16	690.93	24.23	29.513	
4,100.00	4,055.17	3,989.84	3,900.64	13.08	15.84	105.38	-576.97	473.65	741.09	716.07	25.02	29.625	
4,200.00	4,153.51	4,086.42	3,993.66	13.49	16.39	105.41	-597.04	490.14	767.01	741.21	25.80	29.728	
4,300.00	4,251.85	4,183.00	4,086.68	13.89	16.93	105.45	-617.11	506.63	792.94	766.35	26.59	29.824	
4,400.00	4,350.19	4,279.58	4,179.70	14.29	17.48	105.49	-637.18	523.13	818.87	791.50	27.37	29.913	
4,500.00	4,448.53	4,376.16	4,272.72	14.70	18.03	105.52	-657.25	539.62	844.80	816.64	28.16	29.997	
4,600.00	4,546.87	4,472.74	4,365.74	15.10	18.57	105.55	-677.32	556.12	870.73	841.78	28.95	30.075	
4,700.00	4,645.21	4,569.31	4,458.76	15.50	19.12	105.58	-697.39	572.61	896.66	866.92	29.74	30.149	
4,800.00	4,743.55	4,665.89	4,551.78	15.91	19.67	105.60	-717.46	589.10	922.59	892.05	30.53	30.218	
4,900.00	4,841.89	4,762.47	4,644.80	16.31	20.22	105.63	-737.53	605.60	948.52	917.19	31.32	30.283	

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 14-3 - P_KERR-MCGEE 14-3 - 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	4,940.24	4,859.05	4,737.82	16.72	20.77	105.65	-757.60	622.09	974.44	942.33	32.11	30.344	
5,100.00	5,038.58	4,955.63	4,830.84	17.12	21.31	105.67	-777.67	638.59	1,000.37	967.47	32.91	30.402	
5,200.00	5,136.92	5,052.21	4,923.86	17.53	21.86	105.70	-797.74	655.08	1,026.30	992.61	33.70	30.456	
5,300.00	5,235.26	5,148.79	5,016.88	17.94	22.41	105.72	-817.81	671.57	1,052.23	1,017.74	34.49	30.508	
5,400.00	5,333.60	5,245.37	5,109.90	18.34	22.96	105.74	-837.88	688.07	1,078.16	1,042.88	35.28	30.557	
5,500.00	5,431.94	5,341.95	5,202.92	18.75	23.51	105.75	-857.95	704.56	1,104.09	1,068.02	36.08	30.604	
5,600.00	5,530.28	5,438.53	5,295.94	19.15	24.06	105.77	-878.02	721.06	1,130.02	1,093.15	36.87	30.648	
5,700.00	5,628.62	5,535.10	5,388.96	19.56	24.61	105.79	-898.08	737.55	1,155.95	1,118.29	37.67	30.690	
5,800.00	5,726.96	5,631.68	5,481.98	19.97	25.16	105.80	-918.15	754.04	1,181.88	1,143.43	38.46	30.731	
5,900.00	5,825.30	5,728.26	5,575.00	20.37	25.71	105.82	-938.22	770.54	1,207.82	1,168.56	39.25	30.769	
6,000.00	5,923.64	5,824.84	5,668.02	20.78	26.26	105.84	-958.29	787.03	1,233.75	1,193.70	40.05	30.805	
6,062.69	5,985.29	5,885.38	5,726.33	21.03	26.61	105.84	-970.87	797.37	1,250.00	1,209.45	40.55	30.828	
6,100.00	6,022.03	5,935.59	5,774.76	21.17	26.83	106.03	-981.08	805.76	1,259.46	1,218.57	40.89	30.800	
6,200.00	6,120.87	6,083.73	5,918.92	21.45	27.38	106.46	-1,007.38	827.37	1,281.55	1,239.83	41.72	30.718	
6,300.00	6,220.18	6,234.58	6,067.32	21.69	27.85	106.78	-1,028.21	844.49	1,298.73	1,256.29	42.44	30.603	
6,400.00	6,319.84	6,387.51	6,219.01	21.89	28.22	107.00	-1,043.13	856.76	1,310.88	1,267.83	43.04	30.455	
6,500.00	6,419.72	6,541.82	6,372.89	22.06	28.49	107.12	-1,051.83	863.91	1,317.89	1,274.37	43.52	30.280	
6,585.29	6,505.00	6,673.97	6,505.00	22.17	28.66	-179.82	-1,054.19	865.84	1,319.78	1,275.94	43.84	30.102	
6,600.00	6,519.71	6,688.68	6,519.71	22.19	28.67	-179.82	-1,054.19	865.84	1,319.78	1,275.90	43.88	30.076	
6,700.00	6,619.71	6,788.68	6,619.71	22.33	28.77	-179.82	-1,054.19	865.84	1,319.78	1,275.63	44.15	29.893	
6,800.00	6,719.71	6,888.68	6,719.71	22.47	28.86	-179.82	-1,054.19	865.84	1,319.78	1,275.36	44.42	29.712	
6,900.00	6,819.71	6,988.68	6,819.71	22.61	28.96	-179.82	-1,054.19	865.84	1,319.78	1,275.09	44.69	29.530	
7,000.00	6,919.71	7,088.68	6,919.71	22.76	29.06	-179.82	-1,054.19	865.84	1,319.78	1,274.81	44.97	29.349	
7,100.00	7,019.71	7,188.68	7,019.71	22.90	29.16	-179.82	-1,054.19	865.84	1,319.78	1,274.53	45.25	29.168	
7,200.00	7,119.71	7,288.68	7,119.71	23.05	29.26	-179.82	-1,054.19	865.84	1,319.78	1,274.25	45.53	28.988	
7,300.00	7,219.71	7,388.68	7,219.71	23.20	29.36	-179.82	-1,054.19	865.84	1,319.78	1,273.97	45.81	28.808	
7,400.00	7,319.71	7,488.68	7,319.71	23.34	29.47	-179.82	-1,054.19	865.84	1,319.78	1,273.68	46.10	28.629	
7,500.00	7,419.71	7,588.68	7,419.71	23.49	29.57	-179.82	-1,054.19	865.84	1,319.78	1,273.39	46.39	28.450	
7,600.00	7,519.71	7,688.68	7,519.71	23.64	29.68	-179.82	-1,054.19	865.84	1,319.78	1,273.10	46.68	28.272	
7,700.00	7,619.71	7,788.68	7,619.71	23.80	29.79	-179.82	-1,054.19	865.84	1,319.78	1,272.81	46.98	28.095	
7,800.00	7,719.71	7,888.68	7,719.71	23.95	29.90	-179.82	-1,054.19	865.84	1,319.78	1,272.51	47.27	27.919	
7,900.00	7,819.71	7,988.68	7,819.71	24.10	30.01	-179.82	-1,054.19	865.84	1,319.78	1,272.21	47.57	27.743	
8,000.00	7,919.71	8,088.68	7,919.71	24.26	30.12	-179.82	-1,054.19	865.84	1,319.78	1,271.91	47.87	27.568	
8,100.00	8,019.71	8,188.68	8,019.71	24.42	30.23	-179.82	-1,054.19	865.84	1,319.78	1,271.60	48.18	27.395	
8,200.00	8,119.71	8,288.68	8,119.71	24.57	30.35	-179.82	-1,054.19	865.84	1,319.78	1,271.30	48.48	27.222	
8,300.00	8,219.71	8,388.68	8,219.71	24.73	30.46	-179.82	-1,054.19	865.84	1,319.78	1,270.99	48.79	27.050	
8,400.00	8,319.71	8,488.68	8,319.71	24.89	30.58	-179.82	-1,054.19	865.84	1,319.78	1,270.68	49.10	26.879	
8,425.29	8,345.00	8,513.97	8,345.00	24.93	30.61	-179.82	-1,054.19	865.84	1,319.78	1,270.60	49.18	26.836	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	141.19	-54.63	43.93	70.10				
100.00	100.00	100.00	100.00	0.10	0.10	141.19	-54.63	43.93	70.10	69.91	0.19	366.937	
200.00	200.00	200.00	200.00	0.32	0.32	141.19	-54.63	43.93	70.10	69.46	0.64	109.437	
300.00	300.00	300.00	300.00	0.55	0.55	141.19	-54.63	43.93	70.10	69.01	1.09	64.309	
400.00	400.00	400.00	400.00	0.77	0.77	141.19	-54.63	43.93	70.10	68.56	1.54	45.532	
500.00	500.00	500.00	500.00	0.99	0.99	141.19	-54.63	43.93	70.10	68.11	1.99	35.243	
600.00	600.00	600.00	600.00	1.22	1.22	141.19	-54.63	43.93	70.10	67.67	2.44	28.746	
700.00	700.00	700.00	700.00	1.44	1.44	141.19	-54.63	43.93	70.10	67.22	2.89	24.272	
800.00	800.00	800.00	800.00	1.67	1.67	141.19	-54.63	43.93	70.10	66.77	3.34	21.003	
900.00	900.00	900.00	900.00	1.89	1.89	141.19	-54.63	43.93	70.10	66.32	3.79	18.510	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.19	-54.63	43.93	70.10	65.87	4.24	16.546	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.19	-54.63	43.93	70.10	65.64	4.46	15.713 CC, ES	
1,100.00	1,100.00	1,098.89	1,098.88	2.34	2.33	68.36	-54.84	44.30	70.34	65.67	4.67	15.067	
1,200.00	1,199.93	1,196.60	1,196.54	2.55	2.51	69.86	-56.48	47.19	72.25	67.19	5.06	14.283	
1,300.00	1,299.68	1,294.16	1,293.86	2.77	2.71	72.62	-59.77	52.97	76.20	70.74	5.46	13.948 SF	
1,400.00	1,399.13	1,391.45	1,390.65	3.00	2.92	76.22	-64.68	61.60	82.44	76.55	5.89	13.989	
1,500.00	1,498.15	1,488.38	1,486.67	3.26	3.16	80.21	-71.18	73.03	91.18	84.82	6.36	14.333	
1,572.60	1,569.71	1,558.47	1,555.80	3.46	3.35	83.11	-76.88	83.06	99.21	92.48	6.74	14.726	
1,600.00	1,596.65	1,584.85	1,581.75	3.54	3.43	84.17	-79.24	87.21	102.63	95.75	6.89	14.907	
1,700.00	1,694.99	1,680.86	1,675.78	3.86	3.74	86.83	-88.83	104.07	116.97	109.51	7.46	15.687	
1,800.00	1,793.33	1,776.28	1,768.52	4.19	4.10	87.96	-99.90	123.53	133.93	125.86	8.07	16.597	
1,900.00	1,891.67	1,870.88	1,859.69	4.53	4.51	88.01	-112.37	145.47	153.32	144.60	8.72	17.588	
2,000.00	1,990.01	1,964.49	1,949.03	4.88	4.97	87.36	-126.17	169.74	175.10	165.70	9.39	18.638	
2,100.00	2,088.36	2,056.91	2,036.31	5.25	5.49	86.26	-141.21	196.18	199.28	189.18	10.09	19.742	
2,200.00	2,186.70	2,147.99	2,121.30	5.61	6.06	84.91	-157.38	224.61	225.90	215.09	10.81	20.899	
2,300.00	2,285.04	2,237.56	2,203.84	5.99	6.69	83.43	-174.58	254.85	255.02	243.48	11.54	22.108	
2,400.00	2,383.38	2,325.51	2,283.79	6.36	7.35	81.92	-192.70	286.71	286.64	274.38	12.26	23.377	
2,500.00	2,481.72	2,418.82	2,367.88	6.75	8.12	80.43	-212.68	321.86	319.84	306.82	13.02	24.556	
2,600.00	2,580.06	2,512.84	2,452.61	7.13	8.90	79.22	-232.83	357.29	353.22	339.42	13.80	25.603	
2,700.00	2,678.40	2,606.87	2,537.34	7.52	9.70	78.21	-252.98	392.72	386.71	372.14	14.57	26.537	
2,800.00	2,776.74	2,700.89	2,622.07	7.91	10.51	77.36	-273.13	428.15	420.29	404.94	15.35	27.374	
2,900.00	2,875.08	2,794.92	2,706.80	8.30	11.33	76.64	-293.28	463.58	453.94	437.80	16.14	28.126	
3,000.00	2,973.42	2,888.94	2,791.53	8.69	12.16	76.01	-313.42	499.01	487.65	470.72	16.93	28.805	
3,100.00	3,071.76	2,982.96	2,876.26	9.09	12.99	75.47	-333.57	534.43	521.40	503.68	17.72	29.421	
3,200.00	3,170.10	3,076.99	2,961.00	9.48	13.83	74.99	-353.72	569.86	555.19	536.67	18.52	29.982	
3,300.00	3,268.44	3,171.01	3,045.73	9.88	14.66	74.57	-373.87	605.29	589.01	569.69	19.31	30.495	
3,400.00	3,366.78	3,265.04	3,130.46	10.28	15.51	74.20	-394.01	640.72	622.85	602.74	20.11	30.965	
3,500.00	3,465.12	3,359.06	3,215.19	10.68	16.35	73.86	-414.16	676.15	656.72	635.80	20.92	31.397	
3,600.00	3,563.47	3,453.08	3,299.92	11.08	17.20	73.55	-434.31	711.58	690.60	668.88	21.72	31.795	
3,700.00	3,661.81	3,547.11	3,384.65	11.48	18.05	73.28	-454.46	747.01	724.50	701.98	22.53	32.164	
3,800.00	3,760.15	3,641.13	3,469.39	11.88	18.90	73.03	-474.61	782.43	758.41	735.08	23.33	32.506	
3,900.00	3,858.49	3,735.16	3,554.12	12.28	19.75	72.80	-494.75	817.86	792.34	768.20	24.14	32.823	
4,000.00	3,956.83	3,829.18	3,638.85	12.68	20.60	72.59	-514.90	853.29	826.27	801.32	24.95	33.119	
4,100.00	4,055.17	3,923.21	3,723.58	13.08	21.46	72.39	-535.05	888.72	860.22	834.46	25.76	33.395	
4,200.00	4,153.51	4,017.23	3,808.31	13.49	22.31	72.21	-555.20	924.15	894.17	867.60	26.57	33.654	
4,300.00	4,251.85	4,111.25	3,893.04	13.89	23.17	72.04	-575.35	959.58	928.13	900.75	27.38	33.896	
4,400.00	4,350.19	4,205.28	3,977.77	14.29	24.03	71.89	-595.49	995.01	962.09	933.90	28.19	34.124	
4,500.00	4,448.53	4,299.30	4,062.51	14.70	24.89	71.75	-615.64	1,030.44	996.07	967.06	29.01	34.338	
4,600.00	4,546.87	4,393.33	4,147.24	15.10	25.74	71.61	-635.79	1,065.86	1,030.04	1,000.22	29.82	34.540	
4,700.00	4,645.21	4,487.35	4,231.97	15.50	26.60	71.48	-655.94	1,101.29	1,064.02	1,033.39	30.64	34.731	
4,800.00	4,743.55	4,581.38	4,316.70	15.91	27.46	71.37	-676.09	1,136.72	1,098.01	1,066.56	31.45	34.911	
4,900.00	4,841.89	4,675.40	4,401.43	16.31	28.32	71.26	-696.23	1,172.15	1,132.00	1,099.73	32.27	35.082	

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,940.24	4,769.42	4,486.16	16.72	29.18	71.15	-716.38	1,207.58	1,165.99	1,132.91	33.08	35.244	
5,100.00	5,038.58	4,863.45	4,570.89	17.12	30.04	71.05	-736.53	1,243.01	1,199.99	1,166.09	33.90	35.398	
5,200.00	5,136.92	4,957.47	4,655.63	17.53	30.91	70.96	-756.68	1,278.44	1,233.99	1,199.27	34.72	35.544	
5,300.00	5,235.26	5,051.50	4,740.36	17.94	31.77	70.87	-776.83	1,313.86	1,267.99	1,232.46	35.54	35.683	
5,400.00	5,333.60	5,145.52	4,825.09	18.34	32.63	70.79	-796.97	1,349.29	1,302.00	1,265.64	36.35	35.815	
5,500.00	5,431.94	5,239.54	4,909.82	18.75	33.49	70.71	-817.12	1,384.72	1,336.00	1,298.83	37.17	35.942	
5,600.00	5,530.28	5,333.57	4,994.55	19.15	34.35	70.63	-837.27	1,420.15	1,370.01	1,332.02	37.99	36.062	
5,700.00	5,628.62	5,427.59	5,079.28	19.56	35.22	70.56	-857.42	1,455.58	1,404.02	1,365.22	38.81	36.178	
5,800.00	5,726.96	5,521.62	5,164.01	19.97	36.08	70.49	-877.56	1,491.01	1,438.04	1,398.41	39.63	36.288	
5,900.00	5,825.30	5,615.64	5,248.75	20.37	36.94	70.43	-897.71	1,526.44	1,472.05	1,431.60	40.45	36.394	
6,000.00	5,923.64	5,709.67	5,333.48	20.78	37.81	70.36	-917.86	1,561.87	1,506.07	1,464.80	41.27	36.495	
6,062.69	5,985.29	5,768.61	5,386.59	21.03	38.35	70.33	-930.49	1,584.07	1,527.39	1,485.61	41.78	36.557	
6,100.00	6,022.03	5,803.66	5,418.18	21.17	38.67	70.55	-938.00	1,597.28	1,540.16	1,498.02	42.14	36.545	
6,200.00	6,120.87	5,897.24	5,502.51	21.45	39.53	71.09	-958.05	1,632.54	1,575.14	1,532.11	43.03	36.604	
6,300.00	6,220.18	5,990.21	5,586.30	21.69	40.38	71.54	-977.98	1,667.58	1,611.19	1,567.34	43.86	36.739	
6,400.00	6,319.84	6,082.46	5,669.43	21.89	41.23	71.90	-997.75	1,702.34	1,648.33	1,603.71	44.62	36.945	
6,500.00	6,419.72	6,173.88	5,751.81	22.06	42.07	72.19	-1,017.33	1,736.78	1,686.55	1,641.24	45.31	37.219	
6,585.29	6,505.00	6,251.11	5,821.41	22.17	42.78	145.42	-1,033.88	1,765.88	1,720.04	1,674.18	45.86	37.505	
6,600.00	6,519.71	6,264.36	5,833.35	22.19	42.90	145.33	-1,036.72	1,770.88	1,725.89	1,679.98	45.90	37.599	
6,700.00	6,619.71	6,354.48	5,914.56	22.33	43.73	144.73	-1,056.03	1,804.83	1,765.74	1,719.54	46.20	38.223	
6,800.00	6,719.71	6,502.86	6,049.01	22.47	44.97	143.82	-1,087.05	1,859.37	1,805.08	1,758.51	46.57	38.764	
6,900.00	6,819.71	6,729.46	6,259.91	22.61	46.35	142.71	-1,127.95	1,931.30	1,838.94	1,791.95	46.99	39.135	
7,000.00	6,919.71	6,969.22	6,489.42	22.76	47.52	141.85	-1,162.12	1,991.38	1,865.74	1,818.29	47.45	39.322	
7,100.00	7,019.71	7,219.69	6,734.46	22.90	48.40	141.25	-1,187.55	2,036.10	1,884.88	1,836.96	47.92	39.335	
7,200.00	7,119.71	7,477.56	6,990.44	23.05	48.97	140.91	-1,202.58	2,062.53	1,895.88	1,847.50	48.38	39.187	
7,300.00	7,219.71	7,707.01	7,219.71	23.20	49.21	140.83	-1,206.38	2,069.20	1,898.62	1,849.83	48.79	38.913	
7,400.00	7,319.71	7,807.01	7,319.71	23.34	49.28	140.83	-1,206.38	2,069.20	1,898.62	1,849.56	49.06	38.701	
7,500.00	7,419.71	7,907.01	7,419.71	23.49	49.35	140.83	-1,206.38	2,069.20	1,898.62	1,849.29	49.33	38.490	
7,600.00	7,519.71	8,007.01	7,519.71	23.64	49.41	140.83	-1,206.38	2,069.20	1,898.62	1,849.02	49.60	38.278	
7,700.00	7,619.71	8,107.01	7,619.71	23.80	49.48	140.83	-1,206.38	2,069.20	1,898.62	1,848.74	49.88	38.067	
7,800.00	7,719.71	8,207.01	7,719.71	23.95	49.55	140.83	-1,206.38	2,069.20	1,898.62	1,848.47	50.15	37.857	
7,900.00	7,819.71	8,307.01	7,819.71	24.10	49.62	140.83	-1,206.38	2,069.20	1,898.62	1,848.19	50.43	37.647	
8,000.00	7,919.71	8,407.01	7,919.71	24.26	49.70	140.83	-1,206.38	2,069.20	1,898.62	1,847.90	50.71	37.437	
8,100.00	8,019.71	8,507.01	8,019.71	24.42	49.77	140.83	-1,206.38	2,069.20	1,898.62	1,847.62	51.00	37.229	
8,200.00	8,119.71	8,607.01	8,119.71	24.57	49.84	140.83	-1,206.38	2,069.20	1,898.62	1,847.33	51.29	37.020	
8,300.00	8,219.71	8,707.01	8,219.71	24.73	49.92	140.83	-1,206.38	2,069.20	1,898.62	1,847.04	51.57	36.813	
8,400.00	8,319.71	8,807.01	8,319.71	24.89	49.99	140.83	-1,206.38	2,069.20	1,898.62	1,846.75	51.87	36.606	
8,425.29	8,345.00	8,832.30	8,345.00	24.93	50.01	140.83	-1,206.38	2,069.20	1,898.62	1,846.68	51.94	36.554	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	140.87	-30.96	25.19	39.91				
100.00	100.00	100.00	100.00	0.10	0.10	140.87	-30.96	25.19	39.91	39.72	0.19	208.895	
200.00	200.00	200.00	200.00	0.32	0.32	140.87	-30.96	25.19	39.91	39.27	0.64	62.302	
300.00	300.00	300.00	300.00	0.55	0.55	140.87	-30.96	25.19	39.91	38.82	1.09	36.610	
400.00	400.00	400.00	400.00	0.77	0.77	140.87	-30.96	25.19	39.91	38.37	1.54	25.921	
500.00	500.00	500.00	500.00	0.99	0.99	140.87	-30.96	25.19	39.91	37.92	1.99	20.063	
600.00	600.00	600.00	600.00	1.22	1.22	140.87	-30.96	25.19	39.91	37.47	2.44	16.365	
700.00	700.00	700.00	700.00	1.44	1.44	140.87	-30.96	25.19	39.91	37.02	2.89	13.818	
800.00	800.00	800.00	800.00	1.67	1.67	140.87	-30.96	25.19	39.91	36.57	3.34	11.957	
900.00	900.00	900.00	900.00	1.89	1.89	140.87	-30.96	25.19	39.91	36.12	3.79	10.538	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	140.87	-30.96	25.19	39.91	35.67	4.24	9.420	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	140.87	-30.96	25.19	39.91	35.45	4.46	8.945 CC, ES	
1,100.00	1,100.00	1,099.32	1,099.32	2.34	2.33	68.54	-31.34	25.38	40.17	35.50	4.67	8.608	
1,200.00	1,199.93	1,197.82	1,197.76	2.55	2.50	73.75	-34.36	26.90	42.44	37.40	5.05	8.410 SF	
1,300.00	1,299.68	1,296.29	1,296.00	2.77	2.69	82.50	-40.31	29.90	47.80	42.35	5.45	8.778	
1,400.00	1,399.13	1,395.58	1,394.99	3.00	2.89	92.82	-47.15	33.35	55.08	49.21	5.87	9.382	
1,500.00	1,498.15	1,494.49	1,493.61	3.26	3.10	103.47	-53.96	36.78	64.49	58.17	6.32	10.197	
1,572.60	1,569.71	1,566.00	1,564.90	3.46	3.25	110.87	-58.89	39.27	73.19	66.52	6.67	10.974	
1,600.00	1,596.65	1,592.92	1,591.74	3.54	3.31	113.51	-60.74	40.20	76.89	70.09	6.80	11.304	
1,700.00	1,694.99	1,691.21	1,689.74	3.86	3.54	121.24	-67.51	43.62	91.49	84.20	7.29	12.546	
1,800.00	1,793.33	1,789.49	1,787.73	4.19	3.76	126.79	-74.29	47.03	107.28	99.49	7.79	13.773	
1,900.00	1,891.67	1,887.78	1,885.72	4.53	4.00	130.90	-81.06	50.44	123.80	115.51	8.29	14.934	
2,000.00	1,990.01	1,986.06	1,983.71	4.88	4.24	134.03	-87.83	53.86	140.81	132.01	8.80	16.008	
2,100.00	2,088.36	2,084.35	2,081.71	5.25	4.48	136.49	-94.60	57.27	158.13	148.82	9.31	16.993	
2,200.00	2,186.70	2,182.63	2,179.70	5.61	4.72	138.46	-101.37	60.68	175.68	165.86	9.82	17.893	
2,300.00	2,285.04	2,280.92	2,277.69	5.99	4.97	140.07	-108.14	64.10	193.40	183.06	10.34	18.707	
2,400.00	2,383.38	2,379.21	2,375.68	6.36	5.21	141.42	-114.91	67.51	211.23	200.37	10.86	19.448	
2,500.00	2,481.72	2,477.49	2,473.68	6.75	5.46	142.55	-121.68	70.92	229.17	217.78	11.39	20.124	
2,600.00	2,580.06	2,575.78	2,571.67	7.13	5.72	143.52	-128.45	74.34	247.18	235.26	11.92	20.742	
2,700.00	2,678.40	2,674.06	2,669.66	7.52	5.97	144.35	-135.22	77.75	265.25	252.80	12.45	21.309	
2,800.00	2,776.74	2,772.35	2,767.65	7.91	6.22	145.08	-141.99	81.17	283.36	270.38	12.98	21.831	
2,900.00	2,875.08	2,870.63	2,865.65	8.30	6.48	145.73	-148.76	84.58	301.52	288.00	13.51	22.311	
3,000.00	2,973.42	2,968.92	2,963.64	8.69	6.73	146.29	-155.53	87.99	319.70	305.65	14.05	22.755	
3,100.00	3,071.76	3,067.20	3,061.63	9.09	6.99	146.80	-162.30	91.41	337.92	323.33	14.59	23.166	
3,200.00	3,170.10	3,165.49	3,159.62	9.48	7.25	147.26	-169.07	94.82	356.16	341.03	15.13	23.547	
3,300.00	3,268.44	3,263.77	3,257.62	9.88	7.51	147.67	-175.85	98.23	374.41	358.75	15.66	23.902	
3,400.00	3,366.78	3,362.06	3,355.61	10.28	7.77	148.04	-182.62	101.65	392.69	376.48	16.20	24.233	
3,500.00	3,465.12	3,460.34	3,453.60	10.68	8.03	148.38	-189.39	105.06	410.98	394.23	16.75	24.542	
3,600.00	3,563.47	3,558.63	3,551.59	11.08	8.28	148.69	-196.16	108.47	429.28	411.99	17.29	24.832	
3,700.00	3,661.81	3,656.92	3,649.59	11.48	8.55	148.98	-202.93	111.89	447.59	429.76	17.83	25.103	
3,800.00	3,760.15	3,755.20	3,747.58	11.88	8.81	149.24	-209.70	115.30	465.92	447.54	18.37	25.358	
3,900.00	3,858.49	3,853.49	3,845.57	12.28	9.07	149.49	-216.47	118.71	484.25	465.33	18.92	25.598	
4,000.00	3,956.83	3,951.77	3,943.56	12.68	9.33	149.71	-223.24	122.13	502.59	483.13	19.46	25.825	
4,100.00	4,055.17	4,050.06	4,041.55	13.08	9.59	149.92	-230.01	125.54	520.93	500.93	20.01	26.038	
4,200.00	4,153.51	4,148.34	4,139.55	13.49	9.85	150.12	-236.78	128.96	539.29	518.74	20.55	26.240	
4,300.00	4,251.85	4,246.63	4,237.54	13.89	10.11	150.30	-243.55	132.37	557.65	536.55	21.10	26.432	
4,400.00	4,350.19	4,344.91	4,335.53	14.29	10.38	150.47	-250.32	135.78	576.01	554.37	21.64	26.613	
4,500.00	4,448.53	4,443.20	4,433.52	14.70	10.64	150.63	-257.09	139.20	594.38	572.19	22.19	26.786	
4,600.00	4,546.87	4,541.48	4,531.52	15.10	10.90	150.78	-263.86	142.61	612.75	590.01	22.74	26.949	
4,700.00	4,645.21	4,639.77	4,629.51	15.50	11.17	150.92	-270.64	146.02	631.13	607.84	23.28	27.105	
4,800.00	4,743.55	4,738.05	4,727.50	15.91	11.43	151.06	-277.41	149.44	649.51	625.68	23.83	27.254	
4,900.00	4,841.89	4,836.34	4,825.49	16.31	11.69	151.19	-284.18	152.85	667.89	643.51	24.38	27.396	

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	4,940.24	4,934.62	4,923.49	16.72	11.96	151.31	-290.95	156.26	686.28	661.35	24.93	27.531	
5,100.00	5,038.58	5,032.91	5,021.48	17.12	12.22	151.42	-297.72	159.68	704.67	679.19	25.48	27.660	
5,200.00	5,136.92	5,131.20	5,119.47	17.53	12.48	151.53	-304.49	163.09	723.06	697.03	26.02	27.784	
5,300.00	5,235.26	5,229.48	5,217.46	17.94	12.75	151.63	-311.26	166.51	741.45	714.88	26.57	27.903	
5,400.00	5,333.60	5,327.77	5,315.46	18.34	13.01	151.73	-318.03	169.92	759.85	732.73	27.12	28.016	
5,500.00	5,431.94	5,426.05	5,413.45	18.75	13.28	151.82	-324.80	173.33	778.25	750.57	27.67	28.125	
5,600.00	5,530.28	5,524.34	5,511.44	19.15	13.54	151.91	-331.57	176.75	796.64	768.43	28.22	28.230	
5,700.00	5,628.62	5,622.62	5,609.43	19.56	13.80	151.99	-338.34	180.16	815.05	786.28	28.77	28.331	
5,800.00	5,726.96	5,720.91	5,707.43	19.97	14.07	152.07	-345.11	183.57	833.45	804.13	29.32	28.427	
5,900.00	5,825.30	5,819.19	5,805.42	20.37	14.33	152.15	-351.88	186.99	851.86	821.99	29.87	28.520	
6,000.00	5,923.64	5,917.48	5,903.41	20.78	14.60	152.22	-358.65	190.40	870.26	839.84	30.42	28.610	
6,062.69	5,985.29	5,979.09	5,964.84	21.03	14.76	152.27	-362.90	192.54	881.80	851.04	30.76	28.664	
6,100.00	6,022.03	6,015.80	6,001.44	21.17	14.86	152.35	-365.43	193.82	888.46	857.48	30.98	28.678	
6,200.00	6,120.87	6,114.55	6,099.90	21.45	15.13	152.48	-372.23	197.25	904.20	872.70	31.51	28.697	
6,300.00	6,220.18	6,213.72	6,198.77	21.69	15.40	152.47	-379.06	200.69	916.89	884.88	32.01	28.644	
6,400.00	6,319.84	6,313.40	6,298.15	21.89	15.66	152.34	-385.93	204.15	926.51	894.03	32.48	28.524	
6,500.00	6,419.72	6,424.25	6,408.82	22.06	15.90	152.17	-391.58	207.00	932.44	899.56	32.89	28.353	
6,585.29	6,505.00	6,519.11	6,503.65	22.17	16.07	-134.86	-393.37	207.91	934.13	900.97	33.16	28.172	
6,600.00	6,519.71	6,535.17	6,519.71	22.19	16.10	-134.87	-393.40	207.92	934.14	900.93	33.21	28.127	
6,700.00	6,619.71	6,635.17	6,619.71	22.33	16.27	-134.87	-393.40	207.92	934.14	900.58	33.56	27.836	
6,800.00	6,719.71	6,735.17	6,719.71	22.47	16.43	-134.87	-393.40	207.92	934.14	900.24	33.90	27.556	
6,900.00	6,819.71	6,835.17	6,819.71	22.61	16.59	-134.87	-393.40	207.92	934.14	899.89	34.24	27.280	
7,000.00	6,919.71	6,935.17	6,919.71	22.76	16.76	-134.87	-393.40	207.92	934.14	899.55	34.59	27.008	
7,100.00	7,019.71	7,035.17	7,019.71	22.90	16.92	-134.87	-393.40	207.92	934.14	899.20	34.94	26.739	
7,200.00	7,119.71	7,135.17	7,119.71	23.05	17.09	-134.87	-393.40	207.92	934.14	898.85	35.29	26.474	
7,300.00	7,219.71	7,235.17	7,219.71	23.20	17.26	-134.87	-393.40	207.92	934.14	898.50	35.64	26.212	
7,400.00	7,319.71	7,335.17	7,319.71	23.34	17.43	-134.87	-393.40	207.92	934.14	898.15	35.99	25.954	
7,500.00	7,419.71	7,435.17	7,419.71	23.49	17.60	-134.87	-393.40	207.92	934.14	897.79	36.35	25.700	
7,600.00	7,519.71	7,535.17	7,519.71	23.64	17.77	-134.87	-393.40	207.92	934.14	897.43	36.71	25.449	
7,700.00	7,619.71	7,635.17	7,619.71	23.80	17.94	-134.87	-393.40	207.92	934.14	897.07	37.07	25.201	
7,800.00	7,719.71	7,735.17	7,719.71	23.95	18.12	-134.87	-393.40	207.92	934.14	896.71	37.43	24.957	
7,900.00	7,819.71	7,835.17	7,819.71	24.10	18.29	-134.87	-393.40	207.92	934.14	896.34	37.79	24.716	
8,000.00	7,919.71	7,935.17	7,919.71	24.26	18.47	-134.87	-393.40	207.92	934.14	895.98	38.16	24.479	
8,100.00	8,019.71	8,035.17	8,019.71	24.42	18.65	-134.87	-393.40	207.92	934.14	895.61	38.53	24.245	
8,200.00	8,119.71	8,135.17	8,119.71	24.57	18.83	-134.87	-393.40	207.92	934.14	895.24	38.90	24.015	
8,300.00	8,219.71	8,235.17	8,219.71	24.73	19.01	-134.87	-393.40	207.92	934.14	894.87	39.27	23.788	
8,400.00	8,319.71	8,335.17	8,319.71	24.89	19.19	-134.87	-393.40	207.92	934.14	894.49	39.64	23.564	
8,425.29	8,345.00	8,360.46	8,345.00	24.93	19.23	-134.87	-393.40	207.92	934.14	894.40	39.74	23.508	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 22-3 - P_KERR-MCGEE 22-3 - 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		
0.00	0.00	0.00	0.00	0.00	0.00	-38.80	15.66	-12.59	20.10					
100.00	100.00	100.00	100.00	0.10	0.10	-38.80	15.66	-12.59	20.10	19.91	0.19	105.197		
200.00	200.00	200.00	200.00	0.32	0.32	-38.80	15.66	-12.59	20.10	19.46	0.64	31.375		
300.00	300.00	300.00	300.00	0.55	0.55	-38.80	15.66	-12.59	20.10	19.01	1.09	18.437		
400.00	400.00	400.00	400.00	0.77	0.77	-38.80	15.66	-12.59	20.10	18.56	1.54	13.054		
500.00	500.00	500.00	500.00	0.99	0.99	-38.80	15.66	-12.59	20.10	18.11	1.99	10.104		
600.00	600.00	600.00	600.00	1.22	1.22	-38.80	15.66	-12.59	20.10	17.66	2.44	8.241		
700.00	700.00	700.00	700.00	1.44	1.44	-38.80	15.66	-12.59	20.10	17.21	2.89	6.959		
800.00	800.00	800.00	800.00	1.67	1.67	-38.80	15.66	-12.59	20.10	16.76	3.34	6.021		
900.00	900.00	900.00	900.00	1.89	1.89	-38.80	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	-38.80	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	-38.80	15.66	-12.59	20.10	15.64	4.46	4.505 CC, ES		
1,100.00	1,100.00	1,099.81	1,099.81	2.34	2.34	-111.91	16.07	-12.45	20.49	15.81	4.68	4.378 SF		
1,200.00	1,199.93	1,199.36	1,199.29	2.55	2.56	-112.54	19.34	-11.31	23.63	18.52	5.11	4.624		
1,300.00	1,299.68	1,298.69	1,298.38	2.77	2.79	-113.39	25.85	-9.03	29.90	24.35	5.55	5.391		
1,400.00	1,399.13	1,397.66	1,396.80	3.00	3.02	-114.12	35.55	-5.63	39.29	33.29	6.00	6.548		
1,500.00	1,498.15	1,496.12	1,494.32	3.26	3.27	-114.62	48.38	-1.14	51.79	45.30	6.49	7.985		
1,572.60	1,569.71	1,567.21	1,564.40	3.46	3.47	-114.87	59.61	2.78	62.78	55.92	6.86	9.146		
1,600.00	1,596.65	1,594.10	1,590.84	3.54	3.54	-114.94	64.26	4.41	67.28	60.26	7.02	9.589		
1,700.00	1,694.99	1,692.74	1,687.80	3.86	3.85	-115.10	81.37	10.40	83.73	76.13	7.60	11.024		
1,800.00	1,793.33	1,791.38	1,784.76	4.19	4.16	-115.20	98.49	16.38	100.18	91.98	8.20	12.214		
1,900.00	1,891.67	1,890.01	1,881.71	4.53	4.50	-115.27	115.60	22.37	116.63	107.80	8.83	13.207		
2,000.00	1,990.01	1,988.65	1,978.67	4.88	4.84	-115.33	132.72	28.36	133.09	123.61	9.48	14.040		
2,100.00	2,088.36	2,087.29	2,075.62	5.25	5.19	-115.37	149.84	34.35	149.54	139.40	10.14	14.747		
2,200.00	2,186.70	2,185.92	2,172.58	5.61	5.54	-115.40	166.95	40.34	166.00	155.18	10.81	15.349		
2,300.00	2,285.04	2,284.56	2,269.53	5.99	5.90	-115.43	184.07	46.33	182.45	170.95	11.50	15.868		
2,400.00	2,383.38	2,383.20	2,366.49	6.36	6.27	-115.45	201.19	52.31	198.90	186.71	12.19	16.317		
2,500.00	2,481.72	2,481.84	2,463.45	6.75	6.64	-115.47	218.30	58.30	215.36	202.47	12.89	16.710		
2,600.00	2,580.06	2,580.47	2,560.40	7.13	7.01	-115.49	235.42	64.29	231.81	218.22	13.59	17.055		
2,700.00	2,678.40	2,679.11	2,657.36	7.52	7.39	-115.51	252.54	70.28	248.26	233.96	14.30	17.360		
2,800.00	2,776.74	2,777.75	2,754.31	7.91	7.77	-115.52	269.65	76.27	264.72	249.70	15.01	17.631		
2,900.00	2,875.08	2,876.38	2,851.27	8.30	8.15	-115.53	286.77	82.26	281.17	265.44	15.73	17.873		
3,000.00	2,973.42	2,975.02	2,948.23	8.69	8.53	-115.54	303.89	88.24	297.63	281.17	16.45	18.091		
3,100.00	3,071.76	3,073.66	3,045.18	9.09	8.92	-115.55	321.00	94.23	314.08	296.90	17.17	18.288		
3,200.00	3,170.10	3,172.30	3,142.14	9.48	9.30	-115.56	338.12	100.22	330.53	312.63	17.90	18.466		
3,300.00	3,268.44	3,270.93	3,239.09	9.88	9.69	-115.57	355.23	106.21	346.99	328.36	18.63	18.628		
3,400.00	3,366.78	3,369.57	3,336.05	10.28	10.08	-115.57	372.35	112.20	363.44	344.08	19.36	18.776		
3,500.00	3,465.12	3,468.21	3,433.00	10.68	10.46	-115.58	389.47	118.19	379.89	359.81	20.09	18.912		
3,600.00	3,563.47	3,566.84	3,529.96	11.08	10.85	-115.58	406.58	124.17	396.35	375.53	20.82	19.037		
3,700.00	3,661.81	3,665.48	3,626.92	11.48	11.24	-115.59	423.70	130.16	412.80	391.25	21.55	19.152		
3,800.00	3,760.15	3,764.12	3,723.87	11.88	11.63	-115.59	440.82	136.15	429.26	406.97	22.29	19.258		
3,900.00	3,858.49	3,862.75	3,820.83	12.28	12.02	-115.60	457.93	142.14	445.71	422.68	23.03	19.357		
4,000.00	3,956.83	3,961.39	3,917.78	12.68	12.42	-115.60	475.05	148.13	462.16	438.40	23.76	19.449		
4,100.00	4,055.17	4,060.03	4,014.74	13.08	12.81	-115.61	492.17	154.12	478.62	454.12	24.50	19.534		
4,200.00	4,153.51	4,158.67	4,111.70	13.49	13.20	-115.61	509.28	160.10	495.07	469.83	25.24	19.614		
4,300.00	4,251.85	4,257.30	4,208.65	13.89	13.59	-115.61	526.40	166.09	511.53	485.55	25.98	19.689		
4,400.00	4,350.19	4,355.94	4,305.61	14.29	13.99	-115.62	543.52	172.08	527.98	501.26	26.72	19.759		
4,500.00	4,448.53	4,454.58	4,402.56	14.70	14.38	-115.62	560.63	178.07	544.43	516.97	27.46	19.825		
4,600.00	4,546.87	4,553.21	4,499.52	15.10	14.77	-115.62	577.75	184.06	560.89	532.68	28.20	19.887		
4,700.00	4,645.21	4,651.85	4,596.48	15.50	15.17	-115.63	594.87	190.05	577.34	548.39	28.95	19.945		
4,800.00	4,743.55	4,750.49	4,693.43	15.91	15.56	-115.63	611.98	196.03	593.79	564.11	29.69	20.001		
4,900.00	4,841.89	4,849.13	4,790.39	16.31	15.96	-115.63	629.10	202.02	610.25	579.82	30.43	20.053		

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 22-3 - P_KERR-MCGEE 22-3 - 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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
							+N/-S (ft)	+E/-W (ft)					
5,000.00	4,940.24	4,947.76	4,887.34	16.72	16.35	-115.63	646.21	208.01	626.70	595.53	31.18	20.102	
5,100.00	5,038.58	5,046.40	4,984.30	17.12	16.75	-115.63	663.33	214.00	643.16	611.24	31.92	20.149	
5,200.00	5,136.92	5,145.04	5,081.25	17.53	17.14	-115.64	680.45	219.99	659.61	626.95	32.66	20.193	
5,300.00	5,235.26	5,243.67	5,178.21	17.94	17.54	-115.64	697.56	225.98	676.06	642.65	33.41	20.236	
5,400.00	5,333.60	5,342.31	5,275.17	18.34	17.93	-115.64	714.68	231.96	692.52	658.36	34.15	20.276	
5,500.00	5,431.94	5,440.95	5,372.12	18.75	18.33	-115.64	731.80	237.95	708.97	674.07	34.90	20.314	
5,600.00	5,530.28	5,539.58	5,469.08	19.15	18.73	-115.64	748.91	243.94	725.43	689.78	35.65	20.351	
5,700.00	5,628.62	5,638.22	5,566.03	19.56	19.12	-115.65	766.03	249.93	741.88	705.49	36.39	20.386	
5,800.00	5,726.96	5,736.86	5,662.99	19.97	19.52	-115.65	783.15	255.92	758.33	721.20	37.14	20.419	
5,900.00	5,825.30	5,835.50	5,759.95	20.37	19.92	-115.65	800.26	261.91	774.79	736.90	37.88	20.451	
6,000.00	5,923.64	5,934.13	5,856.90	20.78	20.31	-115.65	817.38	267.89	791.24	752.61	38.63	20.482	
6,062.69	5,985.29	5,995.97	5,917.68	21.03	20.56	-115.65	828.11	271.65	801.56	762.46	39.10	20.500	
6,100.00	6,022.03	6,032.79	5,953.87	21.17	20.71	-115.75	834.50	273.88	807.59	768.21	39.38	20.508	
6,200.00	6,120.87	6,141.33	6,060.73	21.45	21.08	-115.86	852.46	280.17	822.36	782.32	40.04	20.539	
6,300.00	6,220.18	6,255.96	6,174.24	21.69	21.39	-115.92	867.47	285.42	833.92	793.32	40.60	20.539	
6,400.00	6,319.84	6,371.26	6,288.97	21.89	21.66	-115.96	878.24	289.19	842.12	801.04	41.08	20.499	
6,500.00	6,419.72	6,487.01	6,404.51	22.06	21.87	-115.97	884.66	291.43	846.92	805.45	41.47	20.421	
6,585.29	6,505.00	6,585.92	6,503.40	22.17	22.01	-42.94	886.65	292.13	848.32	806.58	41.74	20.324	
6,600.00	6,519.71	6,602.23	6,519.71	22.19	22.03	-42.94	886.67	292.14	848.33	806.55	41.78	20.304	
6,700.00	6,619.71	6,702.23	6,619.71	22.33	22.17	-42.94	886.67	292.14	848.33	806.26	42.08	20.162	
6,800.00	6,719.71	6,802.23	6,719.71	22.47	22.31	-42.94	886.67	292.14	848.33	805.96	42.37	20.020	
6,900.00	6,819.71	6,902.23	6,819.71	22.61	22.46	-42.94	886.67	292.14	848.33	805.66	42.67	19.879	
7,000.00	6,919.71	7,002.23	6,919.71	22.76	22.60	-42.94	886.67	292.14	848.33	805.36	42.98	19.739	
7,100.00	7,019.71	7,102.23	7,019.71	22.90	22.75	-42.94	886.67	292.14	848.33	805.05	43.28	19.600	
7,200.00	7,119.71	7,202.23	7,119.71	23.05	22.89	-42.94	886.67	292.14	848.33	804.74	43.59	19.461	
7,300.00	7,219.71	7,302.23	7,219.71	23.20	23.04	-42.94	886.67	292.14	848.33	804.43	43.90	19.324	
7,400.00	7,319.71	7,402.23	7,319.71	23.34	23.19	-42.94	886.67	292.14	848.33	804.12	44.21	19.187	
7,500.00	7,419.71	7,502.23	7,419.71	23.49	23.34	-42.94	886.67	292.14	848.33	803.80	44.53	19.052	
7,600.00	7,519.71	7,602.23	7,519.71	23.64	23.49	-42.94	886.67	292.14	848.33	803.49	44.85	18.917	
7,700.00	7,619.71	7,702.23	7,619.71	23.80	23.64	-42.94	886.67	292.14	848.33	803.17	45.17	18.783	
7,800.00	7,719.71	7,802.23	7,719.71	23.95	23.80	-42.94	886.67	292.14	848.33	802.85	45.49	18.650	
7,900.00	7,819.71	7,902.23	7,819.71	24.10	23.95	-42.94	886.67	292.14	848.33	802.52	45.81	18.518	
8,000.00	7,919.71	8,002.23	7,919.71	24.26	24.11	-42.94	886.67	292.14	848.33	802.20	46.14	18.387	
8,039.70	7,959.41	8,041.93	7,959.41	24.32	24.17	-42.94	886.67	292.14	848.33	802.07	46.27	18.336	
8,100.00	8,019.71	8,057.52	7,975.00	24.42	24.20	-42.94	886.67	292.14	849.51	803.12	46.39	18.312	
8,200.00	8,119.71	8,057.52	7,975.00	24.57	24.20	-42.94	886.67	292.14	860.59	814.03	46.55	18.486	
8,300.00	8,219.71	8,057.52	7,975.00	24.73	24.20	-42.94	886.67	292.14	882.92	836.20	46.72	18.899	
8,400.00	8,319.71	8,057.52	7,975.00	24.89	24.20	-42.94	886.67	292.14	915.69	868.81	46.88	19.532	
8,425.29	8,345.00	8,057.52	7,975.00	24.93	24.20	-42.94	886.67	292.14	925.51	878.59	46.92	19.723	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft) +E/-W (ft)		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	141.19	-38.97	31.34	50.01				
100.00	100.00	100.00	100.00	0.10	0.10	141.19	-38.97	31.34	50.01	49.82	0.19	261.774	
200.00	200.00	200.00	200.00	0.32	0.32	141.19	-38.97	31.34	50.01	49.37	0.64	78.073	
300.00	300.00	300.00	300.00	0.55	0.55	141.19	-38.97	31.34	50.01	48.92	1.09	45.878	
400.00	400.00	400.00	400.00	0.77	0.77	141.19	-38.97	31.34	50.01	48.47	1.54	32.483	
500.00	500.00	500.00	500.00	0.99	0.99	141.19	-38.97	31.34	50.01	48.02	1.99	25.142	
600.00	600.00	600.00	600.00	1.22	1.22	141.19	-38.97	31.34	50.01	47.57	2.44	20.508	
700.00	700.00	700.00	700.00	1.44	1.44	141.19	-38.97	31.34	50.01	47.12	2.89	17.316	
800.00	800.00	800.00	800.00	1.67	1.67	141.19	-38.97	31.34	50.01	46.67	3.34	14.984	
900.00	900.00	900.00	900.00	1.89	1.89	141.19	-38.97	31.34	50.01	46.22	3.79	13.205	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.19	-38.97	31.34	50.01	45.78	4.24	11.804	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.19	-38.97	31.34	50.01	45.55	4.46	11.209 CC	
1,100.00	1,100.00	1,099.33	1,099.33	2.34	2.33	68.32	-39.06	31.76	50.18	45.51	4.67	10.743 ES	
1,200.00	1,199.93	1,197.98	1,197.92	2.55	2.53	69.44	-39.75	35.08	51.55	46.48	5.07	10.166	
1,300.00	1,299.68	1,296.57	1,296.27	2.77	2.73	71.50	-41.12	41.73	54.35	48.86	5.49	9.907	
1,400.00	1,399.13	1,395.05	1,394.22	3.00	2.95	74.21	-43.17	51.67	58.66	52.73	5.93	9.896 SF	
1,500.00	1,498.15	1,493.39	1,491.62	3.26	3.20	77.23	-45.90	64.88	64.58	58.17	6.41	10.073	
1,572.60	1,569.71	1,564.67	1,561.91	3.46	3.40	79.46	-48.29	76.50	69.92	63.12	6.80	10.280	
1,600.00	1,596.65	1,591.54	1,588.32	3.54	3.48	80.23	-49.29	81.32	72.20	65.24	6.96	10.380	
1,700.00	1,694.99	1,689.47	1,684.18	3.86	3.80	81.44	-53.34	100.95	81.87	74.32	7.55	10.840	
1,800.00	1,793.33	1,786.99	1,778.88	4.19	4.17	80.72	-58.03	123.67	93.59	85.40	8.19	11.428	
1,900.00	1,891.67	1,883.86	1,872.13	4.53	4.60	78.77	-63.33	149.36	107.42	98.56	8.85	12.132	
2,000.00	1,990.01	1,979.88	1,963.64	4.88	5.08	76.12	-69.21	177.85	123.55	114.01	9.54	12.956	
2,100.00	2,088.36	2,075.69	2,053.95	5.25	5.62	73.16	-75.67	209.15	142.12	131.89	10.22	13.901	
2,200.00	2,186.70	2,173.54	2,145.89	5.61	6.22	70.61	-82.44	241.95	161.64	150.71	10.93	14.790	
2,300.00	2,285.04	2,271.39	2,237.84	5.99	6.84	68.61	-89.21	274.75	181.41	169.77	11.64	15.588	
2,400.00	2,383.38	2,369.24	2,329.78	6.36	7.47	67.00	-95.98	307.55	201.35	189.00	12.35	16.300	
2,500.00	2,481.72	2,467.09	2,421.72	6.75	8.11	65.68	-102.75	340.35	221.41	208.34	13.07	16.939	
2,600.00	2,580.06	2,564.94	2,513.66	7.13	8.77	64.59	-109.52	373.15	241.57	227.78	13.79	17.512	
2,700.00	2,678.40	2,662.79	2,605.60	7.52	9.43	63.66	-116.29	405.95	261.80	247.28	14.52	18.030	
2,800.00	2,776.74	2,760.64	2,697.54	7.91	10.09	62.86	-123.06	438.75	282.09	266.84	15.25	18.497	
2,900.00	2,875.08	2,858.50	2,789.48	8.30	10.77	62.17	-129.83	471.55	302.42	286.44	15.98	18.922	
3,000.00	2,973.42	2,956.35	2,881.42	8.69	11.44	61.57	-136.60	504.35	322.79	306.07	16.72	19.309	
3,100.00	3,071.76	3,054.20	2,973.36	9.09	12.12	61.04	-143.37	537.15	343.19	325.74	17.45	19.663	
3,200.00	3,170.10	3,152.05	3,065.30	9.48	12.80	60.57	-150.14	569.95	363.61	345.42	18.19	19.988	
3,300.00	3,268.44	3,249.90	3,157.24	9.88	13.49	60.15	-156.91	602.75	384.06	365.13	18.93	20.286	
3,400.00	3,366.78	3,347.75	3,249.18	10.28	14.18	59.77	-163.68	635.55	404.52	384.85	19.67	20.561	
3,500.00	3,465.12	3,445.60	3,341.13	10.68	14.86	59.43	-170.45	668.35	425.00	404.58	20.42	20.816	
3,600.00	3,563.47	3,543.45	3,433.07	11.08	15.55	59.12	-177.22	701.15	445.49	424.33	21.16	21.052	
3,700.00	3,661.81	3,641.30	3,525.01	11.48	16.25	58.83	-183.99	733.95	465.99	444.09	21.91	21.272	
3,800.00	3,760.15	3,739.15	3,616.95	11.88	16.94	58.58	-190.76	766.75	486.51	463.85	22.65	21.477	
3,900.00	3,858.49	3,837.00	3,708.89	12.28	17.63	58.34	-197.53	799.55	507.03	483.63	23.40	21.668	
4,000.00	3,956.83	3,934.85	3,800.83	12.68	18.33	58.12	-204.30	832.35	527.56	503.41	24.15	21.847	
4,100.00	4,055.17	4,032.70	3,892.77	13.08	19.02	57.91	-211.07	865.15	548.09	523.20	24.90	22.014	
4,200.00	4,153.51	4,130.56	3,984.71	13.49	19.72	57.72	-217.84	897.95	568.64	542.99	25.65	22.172	
4,300.00	4,251.85	4,228.41	4,076.65	13.89	20.41	57.55	-224.61	930.75	589.18	562.79	26.40	22.320	
4,400.00	4,350.19	4,326.26	4,168.59	14.29	21.11	57.39	-231.38	963.55	609.74	582.59	27.15	22.460	
4,500.00	4,448.53	4,424.11	4,260.53	14.70	21.81	57.23	-238.15	996.35	630.29	602.39	27.90	22.592	
4,600.00	4,546.87	4,521.96	4,352.47	15.10	22.51	57.09	-244.92	1,029.15	650.85	622.20	28.65	22.717	
4,700.00	4,645.21	4,619.81	4,444.42	15.50	23.21	56.95	-251.69	1,061.95	671.42	642.02	29.40	22.835	
4,800.00	4,743.55	4,717.66	4,536.36	15.91	23.91	56.83	-258.46	1,094.75	691.99	661.83	30.16	22.947	
4,900.00	4,841.89	4,815.51	4,628.30	16.31	24.61	56.71	-265.23	1,127.55	712.56	681.65	30.91	23.053	

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 23-3 - P_KERR-MCGEE 23-3 - 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	4,940.24	4,913.36	4,720.24	16.72	25.30	56.60	-272.00	1,160.35	733.13	701.47	31.66	23.155	
5,100.00	5,038.58	5,011.21	4,812.18	17.12	26.01	56.49	-278.76	1,193.15	753.71	721.29	32.42	23.251	
5,200.00	5,136.92	5,109.06	4,904.12	17.53	26.71	56.39	-285.53	1,225.95	774.29	741.12	33.17	23.343	
5,300.00	5,235.26	5,206.91	4,996.06	17.94	27.41	56.29	-292.30	1,258.75	794.87	760.94	33.92	23.430	
5,400.00	5,333.60	5,304.77	5,088.00	18.34	28.11	56.20	-299.07	1,291.55	815.45	780.77	34.68	23.514	
5,500.00	5,431.94	5,402.62	5,179.94	18.75	28.81	56.12	-305.84	1,324.35	836.04	800.60	35.43	23.594	
5,600.00	5,530.28	5,500.47	5,271.88	19.15	29.51	56.03	-312.61	1,357.15	856.62	820.43	36.19	23.670	
5,700.00	5,628.62	5,598.32	5,363.82	19.56	30.21	55.96	-319.38	1,389.95	877.21	840.27	36.95	23.743	
5,800.00	5,726.96	5,696.17	5,455.76	19.97	30.91	55.88	-326.15	1,422.75	897.80	860.10	37.70	23.814	
5,900.00	5,825.30	5,808.82	5,561.77	20.37	31.66	55.81	-333.86	1,460.07	918.09	879.59	38.50	23.846	
6,000.00	5,923.64	5,946.77	5,693.26	20.78	32.35	55.89	-342.28	1,500.89	935.02	895.66	39.36	23.756	
6,062.69	5,985.29	6,034.14	5,777.51	21.03	32.74	56.03	-346.95	1,523.52	943.48	903.56	39.91	23.638	
6,100.00	6,022.03	6,086.37	5,828.21	21.17	32.95	56.21	-349.50	1,535.84	947.85	907.62	40.23	23.561	
6,200.00	6,120.87	6,227.01	5,965.76	21.45	33.46	56.62	-355.41	1,564.51	957.97	917.00	40.96	23.386	
6,300.00	6,220.18	6,368.45	6,105.36	21.69	33.86	56.93	-359.98	1,586.63	965.68	924.11	41.58	23.225	
6,400.00	6,319.84	6,510.46	6,246.49	21.89	34.18	57.15	-363.16	1,602.03	970.97	928.89	42.08	23.075	
6,500.00	6,419.72	6,652.83	6,388.58	22.06	34.40	57.29	-364.92	1,610.57	973.80	931.34	42.45	22.938	
6,585.29	6,505.00	6,769.28	6,505.00	22.17	34.51	130.36	-365.30	1,612.43	974.28	931.60	42.68	22.827	
6,600.00	6,519.71	6,783.99	6,519.71	22.19	34.53	130.36	-365.30	1,612.43	974.28	931.57	42.72	22.807	
6,700.00	6,619.71	6,883.99	6,619.71	22.33	34.61	130.36	-365.30	1,612.43	974.28	931.29	42.99	22.660	
6,800.00	6,719.71	6,983.99	6,719.71	22.47	34.70	130.36	-365.30	1,612.43	974.28	931.01	43.27	22.514	
6,900.00	6,819.71	7,083.99	6,819.71	22.61	34.79	130.36	-365.30	1,612.43	974.28	930.73	43.56	22.369	
7,000.00	6,919.71	7,183.99	6,919.71	22.76	34.89	130.36	-365.30	1,612.43	974.28	930.44	43.84	22.224	
7,100.00	7,019.71	7,283.99	7,019.71	22.90	34.98	130.36	-365.30	1,612.43	974.28	930.16	44.13	22.079	
7,200.00	7,119.71	7,383.99	7,119.71	23.05	35.07	130.36	-365.30	1,612.43	974.28	929.87	44.42	21.935	
7,300.00	7,219.71	7,483.99	7,219.71	23.20	35.17	130.36	-365.30	1,612.43	974.28	929.58	44.71	21.791	
7,400.00	7,319.71	7,583.99	7,319.71	23.34	35.27	130.36	-365.30	1,612.43	974.28	929.28	45.00	21.649	
7,500.00	7,419.71	7,683.99	7,419.71	23.49	35.36	130.36	-365.30	1,612.43	974.28	928.98	45.30	21.506	
7,600.00	7,519.71	7,783.99	7,519.71	23.64	35.46	130.36	-365.30	1,612.43	974.28	928.68	45.60	21.365	
7,700.00	7,619.71	7,883.99	7,619.71	23.80	35.56	130.36	-365.30	1,612.43	974.28	928.38	45.90	21.224	
7,800.00	7,719.71	7,983.99	7,719.71	23.95	35.67	130.36	-365.30	1,612.43	974.28	928.08	46.21	21.084	
7,900.00	7,819.71	8,083.99	7,819.71	24.10	35.77	130.36	-365.30	1,612.43	974.28	927.77	46.52	20.945	
8,000.00	7,919.71	8,183.99	7,919.71	24.26	35.87	130.36	-365.30	1,612.43	974.28	927.46	46.83	20.806	
8,100.00	8,019.71	8,283.99	8,019.71	24.42	35.98	130.36	-365.30	1,612.43	974.28	927.15	47.14	20.669	
8,200.00	8,119.71	8,383.99	8,119.71	24.57	36.08	130.36	-365.30	1,612.43	974.28	926.83	47.45	20.532	
8,300.00	8,219.71	8,483.99	8,219.71	24.73	36.19	130.36	-365.30	1,612.43	974.28	926.52	47.77	20.396	
8,400.00	8,319.71	8,583.99	8,319.71	24.89	36.30	130.36	-365.30	1,612.43	974.28	926.20	48.09	20.261	
8,425.29	8,345.00	8,609.28	8,345.00	24.93	36.33	130.36	-365.30	1,612.43	974.28	926.12	48.17	20.227	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	-37.53	8.01	-6.16	10.11				
100.00	100.00	100.00	100.00	0.10	0.10	-37.53	8.01	-6.16	10.11	9.91	0.19	52.896	
200.00	200.00	200.00	200.00	0.32	0.32	-37.53	8.01	-6.16	10.11	9.47	0.64	15.776	
300.00	300.00	300.00	300.00	0.55	0.55	-37.53	8.01	-6.16	10.11	9.02	1.09	9.270	
400.00	400.00	400.00	400.00	0.77	0.77	-37.53	8.01	-6.16	10.11	8.57	1.54	6.564	
500.00	500.00	500.00	500.00	0.99	0.99	-37.53	8.01	-6.16	10.11	8.12	1.99	5.080	
600.00	600.00	600.00	600.00	1.22	1.22	-37.53	8.01	-6.16	10.11	7.67	2.44	4.144	
700.00	700.00	700.00	700.00	1.44	1.44	-37.53	8.01	-6.16	10.11	7.22	2.89	3.499	
800.00	800.00	800.00	800.00	1.67	1.67	-37.53	8.01	-6.16	10.11	6.77	3.34	3.028	
900.00	900.00	900.00	900.00	1.89	1.89	-37.53	8.01	-6.16	10.11	6.32	3.79	2.668	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-37.53	8.01	-6.16	10.11	5.87	4.24	2.385	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-37.53	8.01	-6.16	10.11	5.64	4.46	2.265 CC, ES	
1,100.00	1,100.00	1,099.94	1,099.93	2.34	2.33	-115.10	7.86	-6.56	10.41	5.74	4.67	2.229 SF	
1,200.00	1,199.93	1,199.44	1,199.38	2.55	2.52	-140.96	6.61	-9.79	14.61	9.55	5.06	2.887	
1,300.00	1,299.68	1,297.87	1,297.56	2.77	2.73	-160.76	4.14	-16.15	26.68	21.23	5.45	4.895	
1,400.00	1,399.13	1,394.54	1,393.71	3.00	2.94	-169.89	0.54	-25.45	46.54	40.71	5.83	7.981	
1,500.00	1,498.15	1,488.82	1,487.10	3.26	3.17	-174.26	-4.11	-37.43	73.44	67.24	6.21	11.828	
1,572.60	1,569.71	1,555.44	1,552.82	3.46	3.36	-176.09	-8.06	-47.62	97.12	90.64	6.48	14.990	
1,600.00	1,596.65	1,580.30	1,577.27	3.54	3.43	-176.63	-9.67	-51.79	106.80	100.21	6.59	16.206	
1,700.00	1,694.99	1,673.67	1,669.07	3.86	3.72	-178.01	-15.84	-67.71	142.49	135.48	7.01	20.324	
1,800.00	1,793.33	1,767.04	1,760.87	4.19	4.03	-178.84	-22.02	-83.64	178.22	170.79	7.44	23.958	
1,900.00	1,891.67	1,860.41	1,852.66	4.53	4.35	-179.40	-28.19	-99.56	213.98	206.11	7.87	27.175	
2,000.00	1,990.01	1,953.79	1,944.46	4.88	4.68	-179.79	-34.36	-115.49	249.75	241.44	8.31	30.036	
2,100.00	2,088.36	2,047.16	2,036.26	5.25	5.02	179.91	-40.53	-131.41	285.53	276.77	8.76	32.592	
2,200.00	2,186.70	2,140.53	2,128.05	5.61	5.36	179.68	-46.71	-147.34	321.31	312.10	9.21	34.884	
2,300.00	2,285.04	2,233.90	2,219.85	5.99	5.72	179.50	-52.88	-163.26	357.10	347.43	9.66	36.950	
2,400.00	2,383.38	2,327.27	2,311.65	6.36	6.08	179.35	-59.05	-179.19	392.89	382.76	10.12	38.819	
2,500.00	2,481.72	2,420.65	2,403.44	6.75	6.44	179.23	-65.22	-195.11	428.68	418.10	10.58	40.515	
2,600.00	2,580.06	2,514.02	2,495.24	7.13	6.80	179.12	-71.40	-211.04	464.47	453.43	11.04	42.062	
2,700.00	2,678.40	2,607.39	2,587.04	7.52	7.17	179.03	-77.57	-226.97	500.26	488.75	11.51	43.477	
2,800.00	2,776.74	2,700.76	2,678.83	7.91	7.54	178.95	-83.74	-242.89	536.06	524.08	11.97	44.775	
2,900.00	2,875.08	2,794.13	2,770.63	8.30	7.92	178.88	-89.91	-258.82	571.85	559.41	12.44	45.969	
3,000.00	2,973.42	2,887.51	2,862.43	8.69	8.29	178.82	-96.09	-274.74	607.65	594.74	12.91	47.072	
3,100.00	3,071.76	2,980.88	2,954.22	9.09	8.67	178.77	-102.26	-290.67	643.44	630.06	13.38	48.092	
3,200.00	3,170.10	3,074.25	3,046.02	9.48	9.04	178.72	-108.43	-306.59	679.24	665.39	13.85	49.039	
3,300.00	3,268.44	3,167.62	3,137.82	9.88	9.42	178.67	-114.60	-322.52	715.04	700.71	14.32	49.920	
3,400.00	3,366.78	3,260.99	3,229.61	10.28	9.80	178.64	-120.78	-338.44	750.83	736.04	14.80	50.742	
3,500.00	3,465.12	3,354.37	3,321.41	10.68	10.18	178.60	-126.95	-354.37	786.63	771.36	15.27	51.510	
3,600.00	3,563.47	3,447.74	3,413.21	11.08	10.57	178.57	-133.12	-370.29	822.43	806.68	15.75	52.228	
3,700.00	3,661.81	3,541.11	3,505.00	11.48	10.95	178.54	-139.29	-386.22	858.23	842.00	16.22	52.903	
3,800.00	3,760.15	3,634.48	3,596.80	11.88	11.33	178.51	-145.47	-402.14	894.02	877.32	16.70	53.536	
3,900.00	3,858.49	3,727.85	3,688.60	12.28	11.72	178.48	-151.64	-418.07	929.82	912.65	17.18	54.133	
4,000.00	3,956.83	3,821.23	3,780.39	12.68	12.10	178.46	-157.81	-433.99	965.62	947.97	17.65	54.696	
4,100.00	4,055.17	3,914.60	3,872.19	13.08	12.49	178.44	-163.98	-449.92	1,001.42	983.29	18.13	55.227	
4,200.00	4,153.51	4,007.97	3,963.99	13.49	12.87	178.42	-170.15	-465.84	1,037.22	1,018.61	18.61	55.730	
4,300.00	4,251.85	4,101.34	4,055.78	13.89	13.26	178.40	-176.33	-481.77	1,073.02	1,053.93	19.09	56.206	
4,400.00	4,350.19	4,194.71	4,147.58	14.29	13.64	178.38	-182.50	-497.69	1,108.82	1,089.25	19.57	56.658	
4,500.00	4,448.53	4,288.09	4,239.38	14.70	14.03	178.37	-188.67	-513.62	1,144.61	1,124.56	20.05	57.087	
4,600.00	4,546.87	4,381.46	4,331.17	15.10	14.42	178.35	-194.84	-529.54	1,180.41	1,159.88	20.53	57.495	
4,700.00	4,645.21	4,474.83	4,422.97	15.50	14.80	178.33	-201.02	-545.47	1,216.21	1,195.20	21.01	57.883	
4,800.00	4,743.55	4,568.20	4,514.77	15.91	15.19	178.32	-207.19	-561.39	1,252.01	1,230.52	21.49	58.253	
4,900.00	4,841.89	4,661.57	4,606.56	16.31	15.58	178.31	-213.36	-577.32	1,287.81	1,265.84	21.97	58.607	

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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 33-3 - P_KERR-MCGEE 33-3 - 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	4,940.24	4,754.95	4,698.36	16.72	15.97	178.30	-219.53	-593.24	1,323.61	1,301.16	22.46	58.944	
5,100.00	5,038.58	4,848.32	4,790.16	17.12	16.36	178.28	-225.71	-609.17	1,359.41	1,336.47	22.94	59.267	
5,200.00	5,136.92	4,941.69	4,881.95	17.53	16.74	178.27	-231.88	-625.10	1,395.21	1,371.79	23.42	59.575	
5,300.00	5,235.26	5,035.06	4,973.75	17.94	17.13	178.26	-238.05	-641.02	1,431.01	1,407.11	23.90	59.871	
5,400.00	5,333.60	5,128.43	5,065.55	18.34	17.52	178.25	-244.22	-656.95	1,466.81	1,442.42	24.38	60.155	
5,500.00	5,431.94	5,221.81	5,157.34	18.75	17.91	178.24	-250.40	-672.87	1,502.61	1,477.74	24.87	60.427	
5,600.00	5,530.28	5,315.18	5,249.14	19.15	18.30	178.23	-256.57	-688.80	1,538.41	1,513.06	25.35	60.688	
5,700.00	5,628.62	5,408.55	5,340.94	19.56	18.69	178.22	-262.74	-704.72	1,574.21	1,548.37	25.83	60.939	
5,800.00	5,726.96	5,501.92	5,432.73	19.97	19.08	178.22	-268.91	-720.65	1,610.01	1,583.69	26.32	61.180	
5,900.00	5,825.30	5,595.29	5,524.53	20.37	19.47	178.21	-275.09	-736.57	1,645.81	1,619.01	26.80	61.413	
6,000.00	5,923.64	5,688.67	5,616.33	20.78	19.86	178.20	-281.26	-752.50	1,681.61	1,654.32	27.28	61.637	
6,062.69	5,985.29	5,747.20	5,673.87	21.03	20.10	178.20	-285.13	-762.48	1,704.05	1,676.46	27.59	61.773	
6,100.00	6,022.03	5,782.12	5,708.21	21.17	20.25	178.20	-287.44	-768.44	1,717.18	1,689.36	27.82	61.732	
6,200.00	6,120.87	5,876.54	5,801.03	21.45	20.64	178.21	-293.68	-784.54	1,750.12	1,721.73	28.39	61.648	
6,300.00	6,220.18	5,972.04	5,894.92	21.69	21.04	178.22	-299.99	-800.83	1,779.74	1,750.81	28.93	61.526	
6,400.00	6,319.84	6,068.52	5,989.78	21.89	21.44	178.22	-306.37	-817.28	1,806.02	1,776.59	29.43	61.370	
6,500.00	6,419.72	6,165.86	6,085.47	22.06	21.85	178.21	-312.80	-833.89	1,828.91	1,799.02	29.89	61.182	
6,585.29	6,505.00	6,249.47	6,167.67	22.17	22.20	-108.77	-318.33	-848.15	1,845.74	1,815.48	30.26	60.991	
6,600.00	6,519.71	6,263.93	6,181.88	22.19	22.26	-108.77	-319.29	-850.61	1,848.43	1,818.10	30.33	60.952	
6,700.00	6,619.71	6,362.24	6,278.54	22.33	22.67	-108.80	-325.78	-867.38	1,866.71	1,835.94	30.77	60.672	
6,800.00	6,719.71	6,460.56	6,375.19	22.47	23.08	-108.82	-332.28	-884.15	1,884.98	1,853.77	31.21	60.398	
6,900.00	6,819.71	6,558.87	6,471.85	22.61	23.49	-108.84	-338.78	-900.92	1,903.26	1,871.61	31.65	60.130	
7,000.00	6,919.71	6,657.18	6,568.50	22.76	23.90	-108.87	-345.28	-917.68	1,921.54	1,889.44	32.10	59.867	
7,100.00	7,019.71	6,755.49	6,665.15	22.90	24.32	-108.89	-351.78	-934.45	1,939.82	1,907.27	32.54	59.611	
7,200.00	7,119.71	6,853.81	6,761.81	23.05	24.73	-108.91	-358.28	-951.22	1,958.09	1,925.11	32.99	59.360	
7,300.00	7,219.71	6,952.12	6,858.46	23.20	25.14	-108.93	-364.78	-967.99	1,976.37	1,942.94	33.43	59.114	
7,400.00	7,319.71	7,050.43	6,955.12	23.34	25.55	-108.95	-371.28	-984.75	1,994.65	1,960.77	33.88	58.873	
7,500.00	7,419.71	7,279.86	7,181.66	23.49	26.23	-108.99	-384.27	-1,018.28	2,011.11	1,976.54	34.57	58.179	
7,600.00	7,519.71	7,615.64	7,516.64	23.64	26.81	-109.01	-391.56	-1,037.08	2,017.13	1,981.76	35.37	57.030	
7,700.00	7,619.71	7,718.71	7,619.71	23.80	26.94	-109.01	-391.56	-1,037.08	2,017.13	1,981.37	35.75	56.418	
7,800.00	7,719.71	7,818.71	7,719.71	23.95	27.06	-109.01	-391.56	-1,037.08	2,017.13	1,981.00	36.13	55.829	
7,900.00	7,819.71	7,918.71	7,819.71	24.10	27.19	-109.01	-391.56	-1,037.08	2,017.13	1,980.62	36.51	55.250	
8,000.00	7,919.71	8,018.71	7,919.71	24.26	27.32	-109.01	-391.56	-1,037.08	2,017.13	1,980.24	36.89	54.681	
8,044.71	7,964.42	8,063.42	7,964.42	24.33	27.37	-109.01	-391.56	-1,037.08	2,017.13	1,980.07	37.06	54.429	
8,100.00	8,019.71	8,079.00	7,980.00	24.42	27.39	-109.01	-391.56	-1,037.08	2,017.52	1,980.32	37.20	54.236	
8,200.00	8,119.71	8,079.00	7,980.00	24.57	27.39	-109.01	-391.56	-1,037.08	2,021.96	1,984.56	37.40	54.062	
8,300.00	8,219.71	8,079.00	7,980.00	24.73	27.39	-109.01	-391.56	-1,037.08	2,031.32	1,993.72	37.60	54.021	
8,400.00	8,319.71	8,079.00	7,980.00	24.89	27.39	-109.01	-391.56	-1,037.08	2,045.53	2,007.73	37.81	54.107	
8,425.29	8,345.00	8,079.00	7,980.00	24.93	27.39	-109.01	-391.56	-1,037.08	2,049.88	2,012.03	37.86	54.148	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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	140.79	-23.32	19.03	30.10				
100.00	100.00	100.00	100.00	0.10	0.10	140.79	-23.32	19.03	30.10	29.91	0.19	157.550	
200.00	200.00	200.00	200.00	0.32	0.32	140.79	-23.32	19.03	30.10	29.46	0.64	46.989	
300.00	300.00	300.00	300.00	0.55	0.55	140.79	-23.32	19.03	30.10	29.01	1.09	27.612	
400.00	400.00	400.00	400.00	0.77	0.77	140.79	-23.32	19.03	30.10	28.56	1.54	19.550	
500.00	500.00	500.00	500.00	0.99	0.99	140.79	-23.32	19.03	30.10	28.11	1.99	15.132	
600.00	600.00	600.00	600.00	1.22	1.22	140.79	-23.32	19.03	30.10	27.66	2.44	12.343	
700.00	700.00	700.00	700.00	1.44	1.44	140.79	-23.32	19.03	30.10	27.21	2.89	10.422	
800.00	800.00	800.00	800.00	1.67	1.67	140.79	-23.32	19.03	30.10	26.76	3.34	9.018	
900.00	900.00	900.00	900.00	1.89	1.89	140.79	-23.32	19.03	30.10	26.31	3.79	7.948	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	140.79	-23.32	19.03	30.10	25.86	4.24	7.104	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	140.79	-23.32	19.03	30.10	25.64	4.46	6.746 CC, ES	
1,100.00	1,100.00	1,099.54	1,099.54	2.34	2.33	68.92	-23.74	19.10	30.32	25.65	4.67	6.497	
1,200.00	1,199.93	1,198.42	1,198.35	2.55	2.50	77.49	-27.12	19.65	32.46	27.42	5.04	6.435 SF	
1,300.00	1,299.68	1,296.69	1,296.39	2.77	2.68	90.95	-33.80	20.75	38.53	33.09	5.44	7.082	
1,400.00	1,399.13	1,393.98	1,393.15	3.00	2.88	103.83	-43.68	22.37	50.31	44.45	5.85	8.592	
1,500.00	1,498.15	1,489.89	1,488.17	3.26	3.10	113.36	-56.59	24.48	68.25	61.97	6.29	10.857	
1,572.60	1,569.71	1,558.48	1,555.82	3.46	3.28	118.25	-67.74	26.31	84.98	78.36	6.62	12.845	
1,600.00	1,596.65	1,584.13	1,581.04	3.54	3.35	119.79	-72.32	27.06	91.99	85.24	6.74	13.638	
1,700.00	1,694.99	1,676.89	1,671.90	3.86	3.63	123.41	-90.74	30.08	119.75	112.52	7.24	16.546	
1,800.00	1,793.33	1,768.18	1,760.69	4.19	3.96	125.09	-111.69	33.51	150.49	142.73	7.76	19.398	
1,900.00	1,891.67	1,857.86	1,847.20	4.53	4.33	125.73	-134.99	37.33	183.90	175.60	8.30	22.150	
2,000.00	1,990.01	1,945.80	1,931.27	4.88	4.74	125.79	-160.41	41.50	219.85	210.98	8.87	24.788	
2,100.00	2,088.36	2,031.88	2,012.77	5.25	5.18	125.52	-187.75	45.98	258.25	248.80	9.45	27.321	
2,200.00	2,186.70	2,120.79	2,096.23	5.61	5.69	125.09	-217.99	50.94	298.58	288.52	10.07	29.661	
2,300.00	2,285.04	2,212.20	2,181.97	5.99	6.24	124.74	-249.25	56.06	339.10	328.39	10.70	31.682	
2,400.00	2,383.38	2,303.60	2,267.72	6.36	6.80	124.46	-280.51	61.18	379.62	368.26	11.35	33.441	
2,500.00	2,481.72	2,395.01	2,353.46	6.75	7.38	124.23	-311.77	66.31	420.14	408.13	12.01	34.981	
2,600.00	2,580.06	2,486.42	2,439.21	7.13	7.96	124.05	-343.03	71.43	460.67	448.00	12.68	36.336	
2,700.00	2,678.40	2,577.83	2,524.95	7.52	8.56	123.89	-374.29	76.55	501.21	487.86	13.35	37.536	
2,800.00	2,776.74	2,669.24	2,610.70	7.91	9.16	123.76	-405.54	81.68	541.75	527.71	14.03	38.604	
2,900.00	2,875.08	2,760.65	2,696.44	8.30	9.77	123.65	-436.80	86.80	582.29	567.57	14.72	39.559	
3,000.00	2,973.42	2,852.06	2,782.19	8.69	10.38	123.55	-468.06	91.93	622.83	607.42	15.41	40.417	
3,100.00	3,071.76	2,943.46	2,867.93	9.09	10.99	123.46	-499.32	97.05	663.37	647.26	16.10	41.191	
3,200.00	3,170.10	3,034.87	2,953.68	9.48	11.61	123.38	-530.58	102.17	703.91	687.11	16.80	41.893	
3,300.00	3,268.44	3,126.28	3,039.42	9.88	12.22	123.32	-561.84	107.30	744.46	726.95	17.50	42.531	
3,400.00	3,366.78	3,217.69	3,125.16	10.28	12.84	123.25	-593.10	112.42	785.00	766.79	18.21	43.114	
3,500.00	3,465.12	3,309.10	3,210.91	10.68	13.47	123.20	-624.36	117.54	825.55	806.63	18.91	43.648	
3,600.00	3,563.47	3,400.51	3,296.65	11.08	14.09	123.15	-655.62	122.67	866.09	846.47	19.62	44.138	
3,700.00	3,661.81	3,491.92	3,382.40	11.48	14.72	123.10	-686.87	127.79	906.64	886.31	20.33	44.590	
3,800.00	3,760.15	3,583.32	3,468.14	11.88	15.35	123.06	-718.13	132.91	947.19	926.14	21.04	45.008	
3,900.00	3,858.49	3,674.73	3,553.89	12.28	15.97	123.02	-749.39	138.04	987.74	965.98	21.76	45.395	
4,000.00	3,956.83	3,766.14	3,639.63	12.68	16.60	122.99	-780.65	143.16	1,028.29	1,005.81	22.47	45.755	
4,100.00	4,055.17	3,857.55	3,725.38	13.08	17.23	122.95	-811.91	148.28	1,068.83	1,045.64	23.19	46.090	
4,200.00	4,153.51	3,948.96	3,811.12	13.49	17.86	122.92	-843.17	153.41	1,109.38	1,085.48	23.91	46.403	
4,300.00	4,251.85	4,040.37	3,896.87	13.89	18.50	122.90	-874.43	158.53	1,149.93	1,125.31	24.63	46.695	
4,400.00	4,350.19	4,131.78	3,982.61	14.29	19.13	122.87	-905.69	163.66	1,190.48	1,165.14	25.35	46.970	
4,500.00	4,448.53	4,223.18	4,068.36	14.70	19.76	122.84	-936.95	168.78	1,231.03	1,204.96	26.07	47.227	
4,600.00	4,546.87	4,314.59	4,154.10	15.10	20.39	122.82	-968.21	173.90	1,271.58	1,244.79	26.79	47.469	
4,700.00	4,645.21	4,406.00	4,239.85	15.50	21.03	122.80	-999.46	179.03	1,312.13	1,284.62	27.51	47.697	
4,800.00	4,743.55	4,497.41	4,325.59	15.91	21.66	122.78	-1,030.72	184.15	1,352.68	1,324.45	28.23	47.913	
4,900.00	4,841.89	4,588.82	4,411.33	16.31	22.30	122.76	-1,061.98	189.27	1,393.23	1,364.27	28.96	48.116	

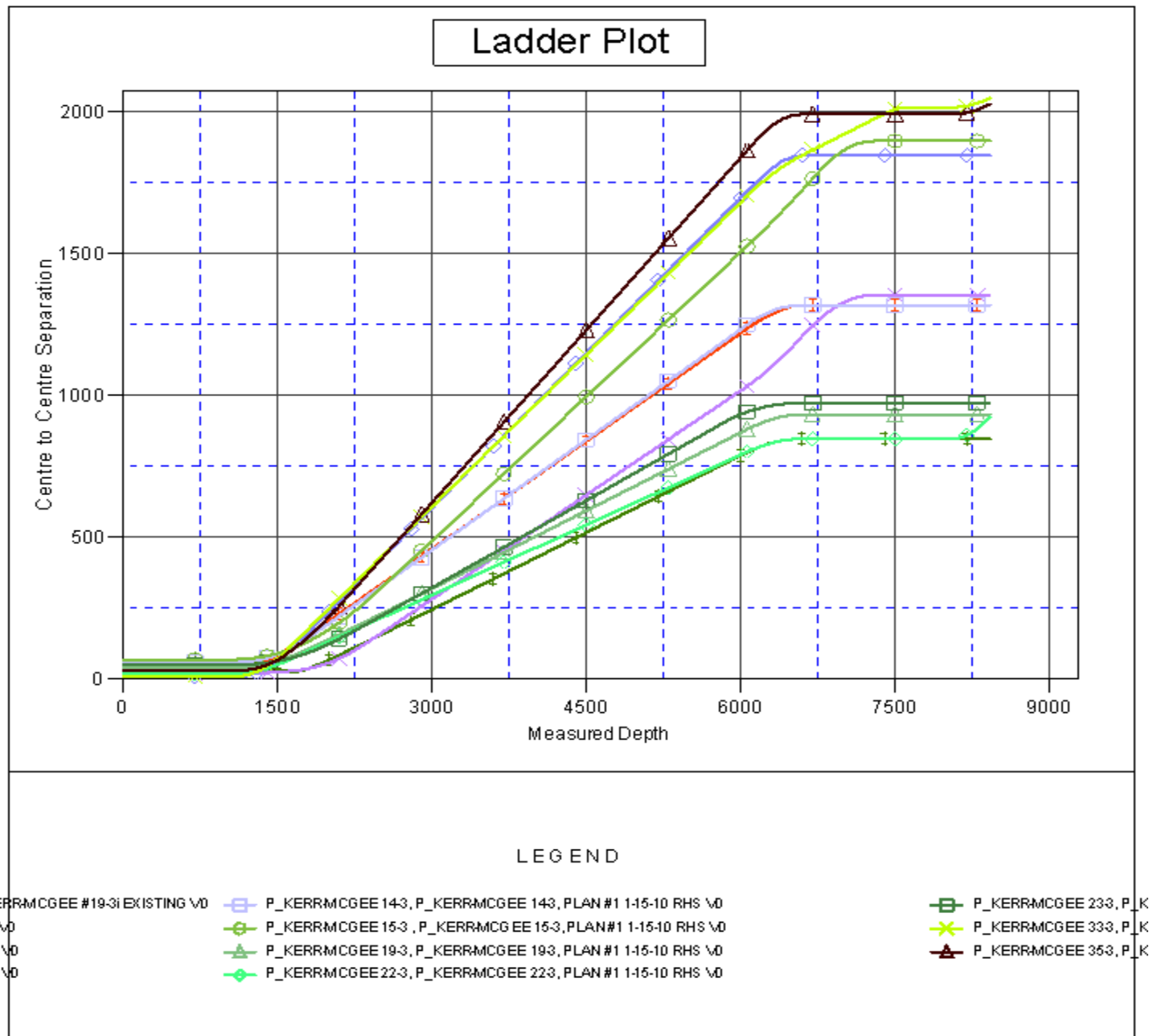
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 35-3 - P_KERR-MCGEE 35-3 - 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	4,940.24	4,680.23	4,497.08	16.72	22.93	122.74	-1,093.24	194.40	1,433.78	1,404.10	29.68	48.309	
5,100.00	5,038.58	4,771.64	4,582.82	17.12	23.57	122.73	-1,124.50	199.52	1,474.33	1,443.93	30.40	48.491	
5,200.00	5,136.92	4,863.04	4,668.57	17.53	24.20	122.71	-1,155.76	204.64	1,514.88	1,483.75	31.13	48.664	
5,300.00	5,235.26	4,954.45	4,754.31	17.94	24.84	122.69	-1,187.02	209.77	1,555.43	1,523.58	31.85	48.829	
5,400.00	5,333.60	5,045.86	4,840.06	18.34	25.47	122.68	-1,218.28	214.89	1,595.98	1,563.40	32.58	48.986	
5,500.00	5,431.94	5,137.27	4,925.80	18.75	26.11	122.67	-1,249.54	220.02	1,636.53	1,603.23	33.31	49.135	
5,600.00	5,530.28	5,228.68	5,011.55	19.15	26.75	122.65	-1,280.79	225.14	1,677.08	1,643.05	34.03	49.277	
5,700.00	5,628.62	5,320.09	5,097.29	19.56	27.38	122.64	-1,312.05	230.26	1,717.63	1,682.87	34.76	49.413	
5,800.00	5,726.96	5,411.49	5,183.04	19.97	28.02	122.63	-1,343.31	235.39	1,758.18	1,722.70	35.49	49.543	
5,900.00	5,825.30	5,502.90	5,268.78	20.37	28.66	122.62	-1,374.57	240.51	1,798.74	1,762.52	36.22	49.667	
6,000.00	5,923.64	5,594.31	5,354.53	20.78	29.29	122.61	-1,405.83	245.63	1,839.29	1,802.34	36.94	49.786	
6,062.69	5,985.29	5,651.61	5,408.28	21.03	29.69	122.60	-1,425.42	248.84	1,864.71	1,827.31	37.40	49.858	
6,100.00	6,022.03	5,685.77	5,440.32	21.17	29.93	122.87	-1,437.11	250.76	1,879.72	1,841.98	37.74	49.807	
6,200.00	6,120.87	5,800.64	5,548.16	21.45	30.69	123.45	-1,476.15	257.16	1,918.66	1,880.01	38.64	49.650	
6,300.00	6,220.18	6,039.16	5,776.04	21.69	31.74	123.76	-1,545.45	268.52	1,951.34	1,911.60	39.75	49.095	
6,400.00	6,319.84	6,290.42	6,021.51	21.89	32.60	123.95	-1,597.95	277.12	1,974.84	1,934.12	40.72	48.504	
6,500.00	6,419.72	6,550.65	6,279.65	22.06	33.21	124.06	-1,629.74	282.33	1,988.57	1,947.07	41.50	47.921	
6,585.29	6,505.00	6,776.23	6,505.00	22.17	33.50	-162.89	-1,638.50	283.77	1,992.29	1,950.28	42.01	47.429	
6,600.00	6,519.71	6,790.94	6,519.71	22.19	33.51	-162.89	-1,638.50	283.77	1,992.29	1,950.24	42.05	47.385	
6,700.00	6,619.71	6,890.94	6,619.71	22.33	33.59	-162.89	-1,638.50	283.77	1,992.29	1,949.97	42.32	47.079	
6,800.00	6,719.71	6,990.94	6,719.71	22.47	33.67	-162.89	-1,638.50	283.77	1,992.29	1,949.70	42.59	46.776	
6,900.00	6,819.71	7,090.94	6,819.71	22.61	33.74	-162.89	-1,638.50	283.77	1,992.29	1,949.42	42.87	46.472	
7,000.00	6,919.71	7,190.94	6,919.71	22.76	33.82	-162.89	-1,638.50	283.77	1,992.29	1,949.14	43.15	46.170	
7,100.00	7,019.71	7,290.94	7,019.71	22.90	33.90	-162.89	-1,638.50	283.77	1,992.29	1,948.85	43.43	45.869	
7,200.00	7,119.71	7,390.94	7,119.71	23.05	33.98	-162.89	-1,638.50	283.77	1,992.29	1,948.57	43.72	45.569	
7,300.00	7,219.71	7,490.94	7,219.71	23.20	34.07	-162.89	-1,638.50	283.77	1,992.29	1,948.28	44.01	45.270	
7,400.00	7,319.71	7,590.94	7,319.71	23.34	34.15	-162.89	-1,638.50	283.77	1,992.29	1,947.99	44.30	44.972	
7,500.00	7,419.71	7,690.94	7,419.71	23.49	34.24	-162.89	-1,638.50	283.77	1,992.29	1,947.69	44.60	44.675	
7,600.00	7,519.71	7,790.94	7,519.71	23.64	34.32	-162.89	-1,638.50	283.77	1,992.29	1,947.40	44.89	44.380	
7,700.00	7,619.71	7,890.94	7,619.71	23.80	34.41	-162.89	-1,638.50	283.77	1,992.29	1,947.10	45.19	44.086	
7,800.00	7,719.71	7,990.94	7,719.71	23.95	34.50	-162.89	-1,638.50	283.77	1,992.29	1,946.80	45.49	43.794	
7,900.00	7,819.71	8,090.94	7,819.71	24.10	34.59	-162.89	-1,638.50	283.77	1,992.29	1,946.49	45.80	43.503	
8,000.00	7,919.71	8,190.94	7,919.71	24.26	34.68	-162.89	-1,638.50	283.77	1,992.29	1,946.19	46.10	43.214	
8,026.40	7,946.11	8,217.34	7,946.11	24.30	34.71	-162.89	-1,638.50	283.77	1,992.29	1,946.10	46.18	43.137	
8,100.00	8,019.71	8,236.23	7,965.00	24.42	34.72	-162.89	-1,638.50	283.77	1,993.04	1,946.71	46.33	43.014	
8,200.00	8,119.71	8,236.23	7,965.00	24.57	34.72	-162.89	-1,638.50	283.77	1,998.29	1,951.78	46.50	42.971	
8,300.00	8,219.71	8,236.23	7,965.00	24.73	34.72	-162.89	-1,638.50	283.77	2,008.50	1,961.83	46.67	43.035	
8,400.00	8,319.71	8,236.23	7,965.00	24.89	34.72	-162.89	-1,638.50	283.77	2,023.62	1,976.78	46.84	43.201	
8,425.29	8,345.00	8,236.23	7,965.00	24.93	34.72	-162.89	-1,638.50	283.77	2,028.21	1,981.32	46.89	43.259	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 11-3
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 11-3
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 11-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 11-3	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 11-3
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°

