



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_KERR MCGEE 19-3 PAD

P_KERR-MCGEE 12-3

P_KERR-MCGEE 12-3

Plan: PLAN #1 1-15-10 RHS

Standard Planning Report

15 January, 2010





P. KERR-MCGEE 12-3
COLORADO NORTHERN ZONE - 83
SECTION 3 T1N R68W
1737 FSL 1092 FWL
LAT: 40° 4' 40.062 N
LONG: 104° 59' 42.133 W



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

WELL DETAILS: P_KERR-MCGEE 12-3

+N/-S	+E/-W	Northing	Ground Level: Easting	Latitude	Longitude	Slot
0.00	0.00	1271587.95	3141305.06	40° 4' 40.062 N	104° 59' 42.133 W	

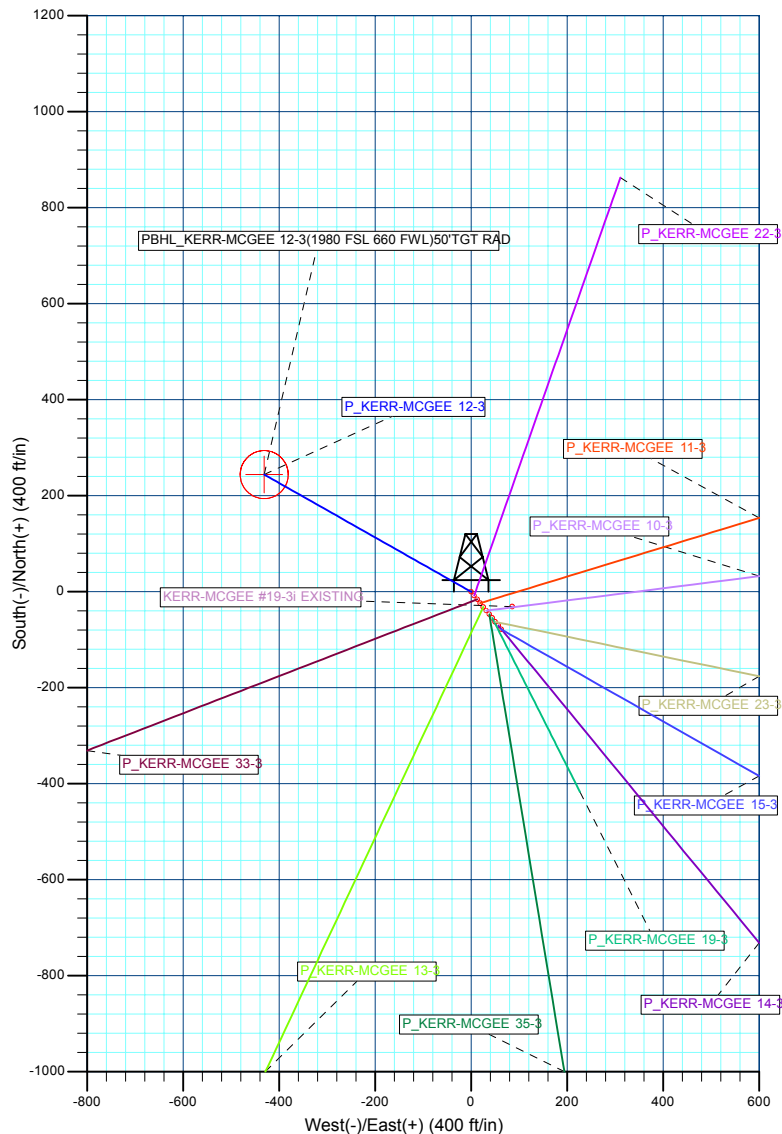
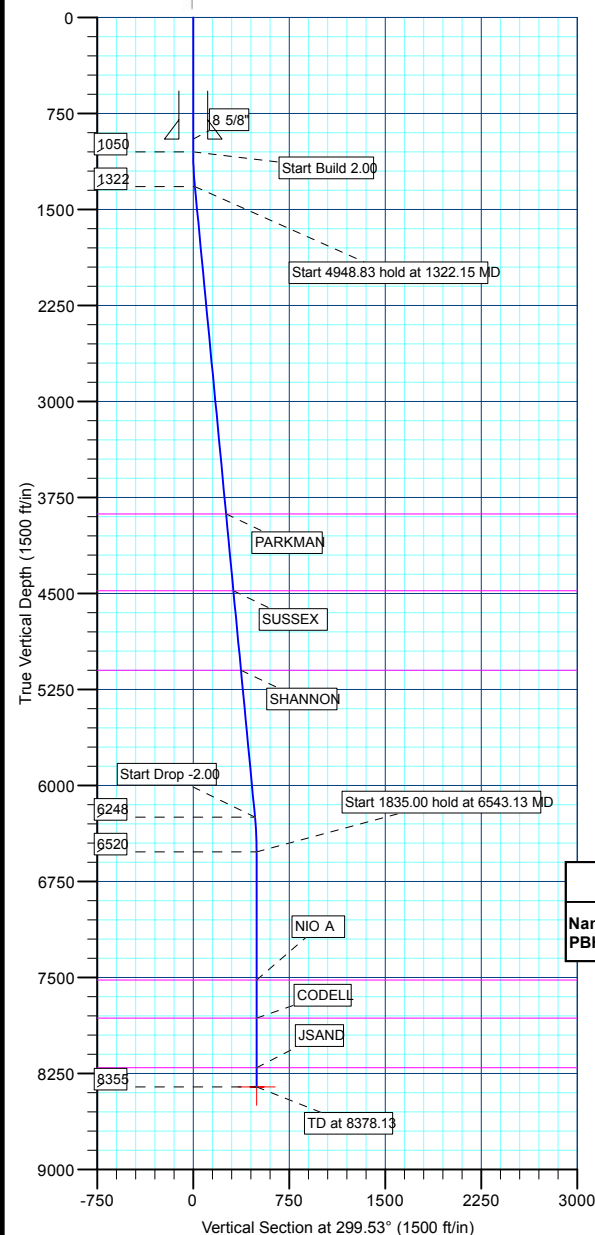
SECTION DETAILS

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	
1322.15	5.44	299.53	1321.74	6.37	-11.24	2.00	299.53	12.92	
6270.98	5.44	299.53	6248.26	237.72	-419.70	0.00	0.00	482.35	
6543.13	0.00	0.00	6520.00	244.08	-430.94	2.00	180.00	495.26	
8378.13	0.00	0.00	8355.00	244.08	-430.94	0.00	0.00	495.26	PBHL_KERR-MCGEE 12-3(1980 FSL 660 FWL)50'TGT RAD

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3880.00	3892.00	PARKMAN
4480.00	4494.71	SUSSEX
5100.00	5117.52	SHANNON
7520.00	7543.13	NIO A
7819.00	7842.13	CODELL
8206.00	8229.13	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	8355.00	244.09	-430.94	1271829.58	3140872.73	40° 4' 42.474 N	104° 59' 47.677 W	Circle (Radius: 50.00)

CASING DETAILS

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

Plan: PLAN #1 1-15-10 RHS (P_KERR-MCGEE 12-3 /P_KERR-MCGEE 12-3)

Created By: Robert H. Scott

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 12-3		
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 12-3					
Well Position	+N/-S	39.33 ft	Northing:	1,271,587.95 ft	Latitude:	40° 4' 40.062 N
	+E/-W	-31.62 ft	Easting:	3,141,305.06 ft	Longitude:	104° 59' 42.133 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,042.00 ft

Wellbore	P_KERR-MCGEE 12-3				
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	299.53	

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	
1,322.15	5.44	299.53	1,321.74	6.37	-11.24	2.00	2.00	0.00	299.53	
6,270.98	5.44	299.53	6,248.26	237.72	-419.70	0.00	0.00	0.00	0.00	
6,543.13	0.00	0.00	6,520.00	244.08	-430.94	2.00	-2.00	0.00	180.00	
8,378.13	0.00	0.00	8,355.00	244.08	-430.94	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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 12-3		
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	299.53	1,100.00	0.22	-0.38	0.44	2.00	2.00	0.00
1,200.00	3.00	299.53	1,199.93	1.93	-3.42	3.93	2.00	2.00	0.00
1,300.00	5.00	299.53	1,299.68	5.37	-9.49	10.90	2.00	2.00	0.00
Start 4948.83 hold at 1322.15 MD									
1,322.15	5.44	299.53	1,321.74	6.37	-11.24	12.92	2.00	2.00	0.00
1,400.00	5.44	299.53	1,399.24	10.01	-17.67	20.30	0.00	0.00	0.00
1,500.00	5.44	299.53	1,498.79	14.68	-25.92	29.79	0.00	0.00	0.00
1,600.00	5.44	299.53	1,598.34	19.36	-34.17	39.27	0.00	0.00	0.00
1,700.00	5.44	299.53	1,697.89	24.03	-42.43	48.76	0.00	0.00	0.00
1,800.00	5.44	299.53	1,797.44	28.70	-50.68	58.24	0.00	0.00	0.00
1,900.00	5.44	299.53	1,896.99	33.38	-58.93	67.73	0.00	0.00	0.00
2,000.00	5.44	299.53	1,996.53	38.05	-67.19	77.22	0.00	0.00	0.00
2,100.00	5.44	299.53	2,096.08	42.73	-75.44	86.70	0.00	0.00	0.00
2,200.00	5.44	299.53	2,195.63	47.40	-83.69	96.19	0.00	0.00	0.00
2,300.00	5.44	299.53	2,295.18	52.08	-91.95	105.67	0.00	0.00	0.00
2,400.00	5.44	299.53	2,394.73	56.75	-100.20	115.16	0.00	0.00	0.00
2,500.00	5.44	299.53	2,494.28	61.43	-108.46	124.64	0.00	0.00	0.00
2,600.00	5.44	299.53	2,593.83	66.10	-116.71	134.13	0.00	0.00	0.00
2,700.00	5.44	299.53	2,693.38	70.78	-124.96	143.62	0.00	0.00	0.00
2,800.00	5.44	299.53	2,792.93	75.45	-133.22	153.10	0.00	0.00	0.00
2,900.00	5.44	299.53	2,892.48	80.13	-141.47	162.59	0.00	0.00	0.00
3,000.00	5.44	299.53	2,992.03	84.80	-149.72	172.07	0.00	0.00	0.00
3,100.00	5.44	299.53	3,091.57	89.48	-157.98	181.56	0.00	0.00	0.00
3,200.00	5.44	299.53	3,191.12	94.15	-166.23	191.04	0.00	0.00	0.00
3,300.00	5.44	299.53	3,290.67	98.83	-174.49	200.53	0.00	0.00	0.00
3,400.00	5.44	299.53	3,390.22	103.50	-182.74	210.02	0.00	0.00	0.00
3,500.00	5.44	299.53	3,489.77	108.18	-190.99	219.50	0.00	0.00	0.00
3,600.00	5.44	299.53	3,589.32	112.85	-199.25	228.99	0.00	0.00	0.00
3,700.00	5.44	299.53	3,688.87	117.53	-207.50	238.47	0.00	0.00	0.00
3,800.00	5.44	299.53	3,788.42	122.20	-215.75	247.96	0.00	0.00	0.00
PARKMAN									
3,892.00	5.44	299.53	3,880.00	126.50	-223.35	256.68	0.00	0.00	0.00
3,900.00	5.44	299.53	3,887.97	126.88	-224.01	257.44	0.00	0.00	0.00
4,000.00	5.44	299.53	3,987.52	131.55	-232.26	266.93	0.00	0.00	0.00
4,100.00	5.44	299.53	4,087.07	136.23	-240.51	276.41	0.00	0.00	0.00
4,200.00	5.44	299.53	4,186.61	140.90	-248.77	285.90	0.00	0.00	0.00
4,300.00	5.44	299.53	4,286.16	145.58	-257.02	295.39	0.00	0.00	0.00
4,400.00	5.44	299.53	4,385.71	150.25	-265.28	304.87	0.00	0.00	0.00
SUSSEX									
4,494.71	5.44	299.53	4,480.00	154.68	-273.09	313.86	0.00	0.00	0.00
4,500.00	5.44	299.53	4,485.26	154.93	-273.53	314.36	0.00	0.00	0.00
4,600.00	5.44	299.53	4,584.81	159.60	-281.78	323.84	0.00	0.00	0.00
4,700.00	5.44	299.53	4,684.36	164.28	-290.04	333.33	0.00	0.00	0.00
4,800.00	5.44	299.53	4,783.91	168.95	-298.29	342.81	0.00	0.00	0.00
4,900.00	5.44	299.53	4,883.46	173.63	-306.54	352.30	0.00	0.00	0.00
5,000.00	5.44	299.53	4,983.01	178.30	-314.80	361.79	0.00	0.00	0.00
5,100.00	5.44	299.53	5,082.56	182.97	-323.05	371.27	0.00	0.00	0.00
SHANNON									
5,117.52	5.44	299.53	5,100.00	183.79	-324.50	372.93	0.00	0.00	0.00
5,200.00	5.44	299.53	5,182.11	187.65	-331.31	380.76	0.00	0.00	0.00
5,300.00	5.44	299.53	5,281.65	192.32	-339.56	390.24	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 12-3		
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	5.44	299.53	5,381.20	197.00	-347.81	399.73	0.00	0.00	0.00
5,500.00	5.44	299.53	5,480.75	201.67	-356.07	409.21	0.00	0.00	0.00
5,600.00	5.44	299.53	5,580.30	206.35	-364.32	418.70	0.00	0.00	0.00
5,700.00	5.44	299.53	5,679.85	211.02	-372.57	428.19	0.00	0.00	0.00
5,800.00	5.44	299.53	5,779.40	215.70	-380.83	437.67	0.00	0.00	0.00
5,900.00	5.44	299.53	5,878.95	220.37	-389.08	447.16	0.00	0.00	0.00
6,000.00	5.44	299.53	5,978.50	225.05	-397.34	456.64	0.00	0.00	0.00
6,100.00	5.44	299.53	6,078.05	229.72	-405.59	466.13	0.00	0.00	0.00
6,200.00	5.44	299.53	6,177.60	234.40	-413.84	475.61	0.00	0.00	0.00
Start Drop -2.00									
6,270.98	5.44	299.53	6,248.26	237.72	-419.70	482.35	0.00	0.00	0.00
6,300.00	4.86	299.53	6,277.16	239.00	-421.97	484.95	2.00	-2.00	0.00
6,400.00	2.86	299.53	6,376.93	242.32	-427.83	491.69	2.00	-2.00	0.00
6,500.00	0.86	299.53	6,476.87	243.92	-430.66	494.94	2.00	-2.00	0.00
Start 1835.00 hold at 6543.13 MD									
6,543.13	0.00	0.00	6,520.00	244.08	-430.94	495.26	2.00	-2.00	0.00
6,600.00	0.00	0.00	6,576.87	244.08	-430.94	495.26	0.00	0.00	0.00
6,700.00	0.00	0.00	6,676.87	244.08	-430.94	495.26	0.00	0.00	0.00
6,800.00	0.00	0.00	6,776.87	244.08	-430.94	495.26	0.00	0.00	0.00
6,900.00	0.00	0.00	6,876.87	244.08	-430.94	495.26	0.00	0.00	0.00
7,000.00	0.00	0.00	6,976.87	244.08	-430.94	495.26	0.00	0.00	0.00
7,100.00	0.00	0.00	7,076.87	244.08	-430.94	495.26	0.00	0.00	0.00
7,200.00	0.00	0.00	7,176.87	244.08	-430.94	495.26	0.00	0.00	0.00
7,300.00	0.00	0.00	7,276.87	244.08	-430.94	495.26	0.00	0.00	0.00
7,400.00	0.00	0.00	7,376.87	244.08	-430.94	495.26	0.00	0.00	0.00
7,500.00	0.00	0.00	7,476.87	244.08	-430.94	495.26	0.00	0.00	0.00
NIO A									
7,543.13	0.00	0.00	7,520.00	244.08	-430.94	495.26	0.00	0.00	0.00
7,600.00	0.00	0.00	7,576.87	244.08	-430.94	495.26	0.00	0.00	0.00
7,700.00	0.00	0.00	7,676.87	244.08	-430.94	495.26	0.00	0.00	0.00
7,800.00	0.00	0.00	7,776.87	244.08	-430.94	495.26	0.00	0.00	0.00
CODELL									
7,842.13	0.00	0.00	7,819.00	244.08	-430.94	495.26	0.00	0.00	0.00
7,900.00	0.00	0.00	7,876.87	244.08	-430.94	495.26	0.00	0.00	0.00
8,000.00	0.00	0.00	7,976.87	244.08	-430.94	495.26	0.00	0.00	0.00
8,100.00	0.00	0.00	8,076.87	244.08	-430.94	495.26	0.00	0.00	0.00
8,200.00	0.00	0.00	8,176.87	244.08	-430.94	495.26	0.00	0.00	0.00
JSAND									
8,229.13	0.00	0.00	8,206.00	244.08	-430.94	495.26	0.00	0.00	0.00
8,300.00	0.00	0.00	8,276.87	244.08	-430.94	495.26	0.00	0.00	0.00
PBHL_KERR-MCGEE 12-3(1980 FSL 660 FWL)50'TGT RAD									
8,378.13	0.00	0.00	8,355.00	244.08	-430.94	495.26	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_KERR-MCGEE	0.00	0.00	8,355.00	244.09	-430.94	1,271,829.58	3,140,872.73	40° 4' 42.474 N	104° 59' 47.677 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 12-3		
Design:	PLAN #1 1-15-10 RHS		

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

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,892.00	3,880.00	PARKMAN				
4,494.71	4,480.00	SUSSEX				
5,117.52	5,100.00	SHANNON				
7,543.13	7,520.00	NIO A				
7,842.13	7,819.00	CODELL				
8,229.13	8,206.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,050.00	1,050.00	0.00	0.00	Start Build 2.00	
1,322.15	1,321.74	6.37	-11.24	Start 4948.83 hold at 1322.15 MD	
6,270.98	6,248.26	237.72	-419.70	Start Drop -2.00	
6,543.13	6,520.00	244.08	-430.94	Start 1835.00 hold at 6543.13 MD	
8,378.13	8,355.00	244.08	-430.94	TD at 8378.13	



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_KERR MCGEE 19-3 PAD
P_KERR-MCGEE 12-3**

**P_KERR-MCGEE 12-3
PLAN #1 1-15-10 RHS**

Anticollision Report

15 January, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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	8,378.13	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	1,050.00	1,044.00	91.32	49.33	2.175	CC
KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3	1,200.00	1,193.93	95.19	46.94	1.973	ES
KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3	8,378.13	8,349.00	585.48	234.97	1.670	SF
P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN	1,050.00	1,050.00	50.46	8.53	1.203	Level 2, CC
P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN	1,100.00	1,099.53	51.10	7.93	1.184	Level 2, ES, SF
P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN	1,050.00	1,050.00	30.38	25.92	6.808	CC, ES
P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN	1,100.00	1,099.79	30.95	26.27	6.618	SF
P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN	1,050.00	1,050.00	40.66	36.20	9.113	CC, ES
P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN	1,100.00	1,099.68	41.26	36.59	8.838	SF
P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN	1,050.00	1,050.00	90.38	85.92	20.258	CC, ES
P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN	1,200.00	1,195.04	97.84	92.80	19.389	SF
P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN	1,050.00	1,050.00	100.48	96.02	22.521	CC, ES
P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN	1,200.00	1,194.88	107.69	102.64	21.301	SF
P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN	1,050.00	1,050.00	70.29	65.82	15.754	CC, ES
P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN	1,100.00	1,098.82	71.11	66.44	15.239	SF
P_KERR-MCGEE 22-3 - P_KERR-MCGEE 22-3 - PLAN	1,050.00	1,050.00	10.28	5.82	2.304	CC
P_KERR-MCGEE 22-3 - P_KERR-MCGEE 22-3 - PLAN	1,100.00	1,100.09	10.47	5.78	2.235	ES, SF
P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN	1,050.00	1,050.00	80.39	75.93	18.018	CC, ES
P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN	1,200.00	1,196.44	87.08	82.01	17.180	SF
P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN	1,050.00	1,050.00	20.27	15.81	4.544	CC, ES
P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN	1,100.00	1,100.11	20.55	15.87	4.397	SF
P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN	1,050.00	1,050.00	60.48	56.01	13.555	CC, ES
P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN	1,100.00	1,099.09	61.25	56.59	13.128	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					Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation		Separation Factor
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
0.00	0.00	0.00	0.00	0.00	0.00	109.82	-30.96	85.91	91.52				
100.00	100.00	94.00	94.00	0.10	1.88	109.82	-30.96	85.91	91.32	89.34	1.98	46.225	
200.00	200.00	194.00	194.00	0.32	5.76	109.82	-30.96	85.91	91.32	85.24	6.08	15.019	
300.00	300.00	294.00	294.00	0.55	9.76	109.82	-30.96	85.91	91.32	81.01	10.31	8.862	
400.00	400.00	394.00	394.00	0.77	13.76	109.82	-30.96	85.91	91.32	76.79	14.53	6.285	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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							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		
500.00	500.00	494.00	494.00	0.99	17.76	109.82	-30.96	85.91	91.32	72.56	18.75	4.869		
600.00	600.00	594.00	594.00	1.22	21.76	109.82	-30.96	85.91	91.32	68.34	22.98	3.974		
700.00	700.00	694.00	694.00	1.44	25.76	109.82	-30.96	85.91	91.32	64.11	27.20	3.357		
800.00	800.00	794.00	794.00	1.67	29.76	109.82	-30.96	85.91	91.32	59.89	31.43	2.906		
900.00	900.00	894.00	894.00	1.89	33.76	109.82	-30.96	85.91	91.32	55.67	35.65	2.561		
1,000.00	1,000.00	994.00	994.00	2.12	37.76	109.82	-30.96	85.91	91.32	51.44	39.88	2.290		
1,050.00	1,050.00	1,044.00	1,044.00	2.23	39.76	109.82	-30.96	85.91	91.32	49.33	41.99	2.175 CC		
1,100.00	1,100.00	1,094.00	1,094.00	2.34	41.76	170.34	-30.96	85.91	91.75	47.65	44.10	2.081		
1,200.00	1,199.93	1,193.93	1,193.93	2.55	45.76	170.68	-30.96	85.91	95.19	46.94	48.25	1.973 ES		
1,300.00	1,299.68	1,293.68	1,293.68	2.78	49.75	171.29	-30.96	85.91	102.08	49.75	52.33	1.951		
1,322.15	1,321.74	1,315.74	1,315.74	2.83	50.63	171.45	-30.96	85.91	104.07	50.85	53.23	1.955		
1,400.00	1,399.24	1,393.24	1,393.24	3.01	53.73	172.02	-30.96	85.91	111.38	54.90	56.48	1.972		
1,500.00	1,498.79	1,492.79	1,492.79	3.25	57.71	172.64	-30.96	85.91	120.78	60.12	60.66	1.991		
1,600.00	1,598.34	1,592.34	1,592.34	3.50	61.69	173.18	-30.96	85.91	130.20	65.35	64.85	2.008		
1,700.00	1,697.89	1,691.89	1,691.89	3.76	65.68	173.64	-30.96	85.91	139.62	70.59	69.03	2.023		
1,800.00	1,797.44	1,791.44	1,791.44	4.01	69.66	174.04	-30.96	85.91	149.05	75.83	73.22	2.036		
1,900.00	1,896.99	1,890.99	1,890.99	4.28	73.64	174.40	-30.96	85.91	158.49	81.08	77.41	2.047		
2,000.00	1,996.53	1,990.53	1,990.53	4.54	77.62	174.72	-30.96	85.91	167.93	86.33	81.60	2.058		
2,100.00	2,096.08	2,090.08	2,090.08	4.81	81.60	175.00	-30.96	85.91	177.38	91.59	85.79	2.068		
2,200.00	2,195.63	2,189.63	2,189.63	5.08	85.59	175.25	-30.96	85.91	186.83	96.85	89.98	2.076		
2,300.00	2,295.18	2,289.18	2,289.18	5.35	89.57	175.48	-30.96	85.91	196.29	102.11	94.17	2.084		
2,400.00	2,394.73	2,388.73	2,388.73	5.62	93.55	175.69	-30.96	85.91	205.75	107.38	98.37	2.092		
2,500.00	2,494.28	2,488.28	2,488.28	5.89	97.53	175.88	-30.96	85.91	215.21	112.65	102.56	2.098		
2,600.00	2,593.83	2,587.83	2,587.83	6.17	101.51	176.05	-30.96	85.91	224.67	117.91	106.75	2.105		
2,700.00	2,693.38	2,687.38	2,687.38	6.44	105.50	176.21	-30.96	85.91	234.13	123.19	110.95	2.110		
2,800.00	2,792.93	2,786.93	2,786.93	6.72	109.48	176.36	-30.96	85.91	243.60	128.46	115.14	2.116		
2,900.00	2,892.48	2,886.48	2,886.48	7.00	113.46	176.50	-30.96	85.91	253.07	133.73	119.34	2.121		
3,000.00	2,992.03	2,986.03	2,986.03	7.27	117.44	176.62	-30.96	85.91	262.54	139.00	123.53	2.125		
3,100.00	3,091.57	3,085.57	3,085.57	7.55	121.42	176.74	-30.96	85.91	272.01	144.28	127.73	2.130		
3,200.00	3,191.12	3,185.12	3,185.12	7.83	125.40	176.85	-30.96	85.91	281.48	149.55	131.92	2.134		
3,300.00	3,290.67	3,284.67	3,284.67	8.11	129.39	176.95	-30.96	85.91	290.95	154.83	136.12	2.137		
3,400.00	3,390.22	3,384.22	3,384.22	8.39	133.37	177.05	-30.96	85.91	300.42	160.11	140.32	2.141		
3,500.00	3,489.77	3,483.77	3,483.77	8.67	137.35	177.14	-30.96	85.91	309.89	165.38	144.51	2.144		
3,600.00	3,589.32	3,583.32	3,583.32	8.95	141.33	177.22	-30.96	85.91	319.37	170.66	148.71	2.148		
3,700.00	3,688.87	3,682.87	3,682.87	9.23	145.31	177.30	-30.96	85.91	328.84	175.94	152.90	2.151		
3,800.00	3,788.42	3,782.42	3,782.42	9.51	149.30	177.38	-30.96	85.91	338.32	181.22	157.10	2.154		
3,900.00	3,887.97	3,881.97	3,881.97	9.79	153.28	177.45	-30.96	85.91	347.80	186.50	161.30	2.156		
4,000.00	3,987.52	3,981.52	3,981.52	10.08	157.26	177.52	-30.96	85.91	357.27	191.78	165.49	2.159		
4,100.00	4,087.07	4,081.07	4,081.07	10.36	161.24	177.58	-30.96	85.91	366.75	197.06	169.69	2.161		
4,200.00	4,186.61	4,180.61	4,180.61	10.64	165.22	177.64	-30.96	85.91	376.23	202.34	173.89	2.164		
4,300.00	4,286.16	4,280.16	4,280.16	10.92	169.21	177.70	-30.96	85.91	385.70	207.62	178.08	2.166		
4,400.00	4,385.71	4,379.71	4,379.71	11.20	173.19	177.76	-30.96	85.91	395.18	212.90	182.28	2.168		
4,500.00	4,485.26	4,479.26	4,479.26	11.49	177.17	177.81	-30.96	85.91	404.66	218.18	186.48	2.170		
4,600.00	4,584.81	4,578.81	4,578.81	11.77	181.15	177.86	-30.96	85.91	414.14	223.46	190.68	2.172		
4,700.00	4,684.36	4,678.36	4,678.36	12.05	185.13	177.91	-30.96	85.91	423.62	228.75	194.87	2.174		
4,800.00	4,783.91	4,777.91	4,777.91	12.34	189.12	177.95	-30.96	85.91	433.10	234.03	199.07	2.176		
4,900.00	4,883.46	4,877.46	4,877.46	12.62	193.10	178.00	-30.96	85.91	442.58	239.31	203.27	2.177		
5,000.00	4,983.01	4,977.01	4,977.01	12.90	197.08	178.04	-30.96	85.91	452.06	244.59	207.47	2.179		
5,100.00	5,082.56	5,076.56	5,076.56	13.18	201.06	178.08	-30.96	85.91	461.54	249.88	211.66	2.181		
5,200.00	5,182.11	5,176.11	5,176.11	13.47	205.04	178.12	-30.96	85.91	471.02	255.16	215.86	2.182		
5,300.00	5,281.65	5,275.65	5,275.65	13.75	209.03	178.16	-30.96	85.91	480.50	260.44	220.06	2.184		
5,400.00	5,381.20	5,375.20	5,375.20	14.04	213.01	178.19	-30.96	85.91	489.98	265.73	224.26	2.185		

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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
5,500.00	5,480.75	5,474.75	5,474.75	14.32	216.99	178.23	-30.96	85.91	499.46	271.01	228.45	2.186	
5,600.00	5,580.30	5,574.30	5,574.30	14.60	220.97	178.26	-30.96	85.91	508.94	276.29	232.65	2.188	
5,700.00	5,679.85	5,673.85	5,673.85	14.89	224.95	178.29	-30.96	85.91	518.43	281.58	236.85	2.189	
5,800.00	5,779.40	5,773.40	5,773.40	15.17	228.94	178.32	-30.96	85.91	527.91	286.86	241.05	2.190	
5,900.00	5,878.95	5,872.95	5,872.95	15.45	232.92	178.35	-30.96	85.91	537.39	292.14	245.24	2.191	
6,000.00	5,978.50	5,972.50	5,972.50	15.74	236.90	178.38	-30.96	85.91	546.87	297.43	249.44	2.192	
6,100.00	6,078.05	6,072.05	6,072.05	16.02	240.88	178.41	-30.96	85.91	556.35	302.71	253.64	2.193	
6,200.00	6,177.60	6,171.60	6,171.60	16.31	244.86	178.43	-30.96	85.91	565.83	308.00	257.84	2.195	
6,270.98	6,248.26	6,242.26	6,242.26	16.51	247.69	178.45	-30.96	85.91	572.57	311.75	260.82	2.195	
6,300.00	6,277.16	6,271.16	6,271.16	16.58	248.85	178.46	-30.96	85.91	575.17	312.92	262.25	2.193	
6,400.00	6,376.93	6,370.93	6,370.93	16.78	252.84	178.48	-30.96	85.91	581.90	314.92	266.99	2.180	
6,500.00	6,476.87	6,470.87	6,470.87	16.95	256.83	178.49	-30.96	85.91	585.15	313.73	271.42	2.156	
6,543.13	6,520.00	6,514.00	6,514.00	17.01	258.56	118.02	-30.96	85.91	585.48	312.24	273.24	2.143	
6,600.00	6,576.87	6,570.87	6,570.87	17.11	260.83	118.02	-30.96	85.91	585.48	309.86	275.62	2.124	
6,700.00	6,676.87	6,670.87	6,670.87	17.29	264.83	118.02	-30.96	85.91	585.48	305.65	279.83	2.092	
6,800.00	6,776.87	6,770.87	6,770.87	17.48	268.83	118.02	-30.96	85.91	585.48	301.44	284.04	2.061	
6,900.00	6,876.87	6,870.87	6,870.87	17.66	272.83	118.02	-30.96	85.91	585.48	297.23	288.25	2.031	
7,000.00	6,976.87	6,970.87	6,970.87	17.85	276.83	118.02	-30.96	85.91	585.48	293.02	292.46	2.002	
7,100.00	7,076.87	7,070.87	7,070.87	18.04	280.83	118.02	-30.96	85.91	585.48	288.81	296.67	1.974	
7,200.00	7,176.87	7,170.87	7,170.87	18.22	284.83	118.02	-30.96	85.91	585.48	284.60	300.88	1.946	
7,300.00	7,276.87	7,270.87	7,270.87	18.41	288.83	118.02	-30.96	85.91	585.48	280.39	305.09	1.919	
7,400.00	7,376.87	7,370.87	7,370.87	18.60	292.83	118.02	-30.96	85.91	585.48	276.18	309.30	1.893	
7,500.00	7,476.87	7,470.87	7,470.87	18.79	296.83	118.02	-30.96	85.91	585.48	271.97	313.51	1.867	
7,600.00	7,576.87	7,570.87	7,570.87	18.99	300.83	118.02	-30.96	85.91	585.48	267.76	317.72	1.843	
7,700.00	7,676.87	7,670.87	7,670.87	19.18	304.83	118.02	-30.96	85.91	585.48	263.54	321.93	1.819	
7,800.00	7,776.87	7,770.87	7,770.87	19.37	308.83	118.02	-30.96	85.91	585.48	259.33	326.15	1.795	
7,900.00	7,876.87	7,870.87	7,870.87	19.57	312.83	118.02	-30.96	85.91	585.48	255.12	330.36	1.772	
8,000.00	7,976.87	7,970.87	7,970.87	19.76	316.83	118.02	-30.96	85.91	585.48	250.90	334.57	1.750	
8,100.00	8,076.87	8,070.87	8,070.87	19.95	320.83	118.02	-30.96	85.91	585.48	246.69	338.79	1.728	
8,200.00	8,176.87	8,170.87	8,170.87	20.15	324.83	118.02	-30.96	85.91	585.48	242.48	343.00	1.707	
8,300.00	8,276.87	8,270.87	8,270.87	20.35	328.83	118.02	-30.96	85.91	585.48	238.26	347.21	1.686	
8,378.13	8,355.00	8,349.00	8,349.00	20.50	331.96	118.02	-30.96	85.91	585.48	234.97	350.51	1.670 SF	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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						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	141.20	-39.33	31.62	50.46				
100.00	100.00	100.00	100.00	0.10	1.70	141.20	-39.33	31.62	50.46	48.67	1.80	28.104	
200.00	200.00	200.00	200.00	0.32	5.70	141.20	-39.33	31.62	50.46	44.44	6.02	8.382	
300.00	300.00	300.00	300.00	0.55	9.70	141.20	-39.33	31.62	50.46	40.22	10.25	4.925	
400.00	400.00	400.00	400.00	0.77	13.70	141.20	-39.33	31.62	50.46	35.99	14.47	3.487	
500.00	500.00	500.00	500.00	0.99	17.70	141.20	-39.33	31.62	50.46	31.77	18.69	2.699	
600.00	600.00	600.00	600.00	1.22	21.70	141.20	-39.33	31.62	50.46	27.54	22.92	2.202	
700.00	700.00	700.00	700.00	1.44	25.70	141.20	-39.33	31.62	50.46	23.32	27.14	1.859	
800.00	800.00	800.00	800.00	1.67	29.70	141.20	-39.33	31.62	50.46	19.09	31.37	1.609	
900.00	900.00	900.00	900.00	1.89	33.70	141.20	-39.33	31.62	50.46	14.87	35.59	1.418 Level 3	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	37.70	141.20	-39.33	31.62	50.46	10.64	39.82	1.267 Level 3	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	39.70	141.20	-39.33	31.62	50.46	8.53	41.93	1.203 Level 2, CC	
1,100.00	1,100.00	1,099.53	1,099.53	2.34	40.83	-158.91	-39.27	32.05	51.10	7.93	43.16	1.184 Level 2, ES, SF	
1,200.00	1,199.93	1,198.27	1,198.20	2.55	41.61	-163.08	-38.84	35.43	56.35	12.22	44.12	1.277 Level 3	
1,300.00	1,299.68	1,296.05	1,295.74	2.78	42.74	-169.37	-38.00	42.10	67.51	22.14	45.37	1.488 Level 3	
1,322.15	1,321.74	1,317.52	1,317.13	2.83	43.05	-170.81	-37.76	44.00	70.86	25.16	45.70	1.551	
1,400.00	1,399.24	1,392.47	1,391.65	3.01	44.19	-175.56	-36.77	51.91	84.17	37.19	46.98	1.792	
1,500.00	1,498.79	1,487.61	1,485.91	3.25	45.95	179.26	-35.15	64.72	104.23	55.35	48.88	2.132	
1,600.00	1,598.34	1,581.29	1,578.25	3.50	47.99	175.01	-33.18	80.36	127.59	76.61	50.98	2.503	
1,700.00	1,697.89	1,673.37	1,668.46	3.76	50.27	171.54	-30.87	98.64	154.21	100.97	53.24	2.896	
1,800.00	1,797.44	1,763.69	1,756.33	4.01	52.79	168.70	-28.25	119.37	183.98	128.38	55.61	3.309	
1,900.00	1,896.99	1,852.13	1,841.69	4.28	55.52	166.35	-25.36	142.31	216.81	158.77	58.04	3.735	
2,000.00	1,996.53	1,938.58	1,924.40	4.54	58.42	164.39	-22.21	167.25	252.58	192.06	60.52	4.174	
2,100.00	2,096.08	2,022.96	2,004.37	4.81	61.48	162.74	-18.84	193.97	291.18	228.17	63.01	4.621	
2,200.00	2,195.63	2,105.21	2,081.51	5.08	64.68	161.34	-15.27	222.26	332.50	267.02	65.49	5.077	
2,300.00	2,295.18	2,185.26	2,155.78	5.35	68.03	160.13	-11.53	251.89	376.43	308.48	67.95	5.539	
2,400.00	2,394.73	2,263.09	2,227.16	5.62	71.46	159.10	-7.65	282.66	422.86	352.48	70.38	6.008	
2,500.00	2,494.28	2,349.45	2,305.79	5.89	75.47	158.11	-3.18	318.07	470.77	397.69	73.08	6.442	
2,600.00	2,593.83	2,436.94	2,385.46	6.17	79.65	157.29	1.35	353.96	518.79	442.94	75.85	6.839	
2,700.00	2,693.38	2,524.44	2,465.13	6.44	83.94	156.61	5.88	389.85	566.87	488.21	78.66	7.207	
2,800.00	2,792.93	2,611.94	2,544.80	6.72	88.31	156.04	10.41	425.75	615.01	533.50	81.51	7.545	
2,900.00	2,892.48	2,699.44	2,624.47	7.00	92.77	155.55	14.94	461.64	663.19	578.80	84.39	7.859	
3,000.00	2,992.03	2,786.94	2,704.14	7.27	97.31	155.13	19.47	497.53	711.40	624.10	87.30	8.149	
3,100.00	3,091.57	2,874.43	2,783.81	7.55	101.90	154.76	24.00	533.42	759.63	669.39	90.24	8.418	
3,200.00	3,191.12	2,961.93	2,863.48	7.83	106.54	154.43	28.53	569.32	807.89	714.68	93.21	8.668	
3,300.00	3,290.67	3,049.43	2,943.14	8.11	111.23	154.14	33.05	605.21	856.17	759.97	96.20	8.900	
3,400.00	3,390.22	3,136.93	3,022.81	8.39	115.96	153.88	37.58	641.10	904.46	805.25	99.21	9.117	
3,500.00	3,489.77	3,224.43	3,102.48	8.67	120.72	153.65	42.11	676.99	952.76	850.52	102.24	9.319	
3,600.00	3,589.32	3,311.92	3,182.15	8.95	125.51	153.44	46.64	712.89	1,001.08	895.79	105.28	9.508	
3,700.00	3,688.87	3,399.42	3,261.82	9.23	130.33	153.25	51.17	748.78	1,049.40	941.05	108.35	9.685	
3,800.00	3,788.42	3,486.92	3,341.49	9.51	135.18	153.07	55.70	784.67	1,097.73	986.30	111.43	9.851	
3,900.00	3,887.97	3,574.42	3,421.16	9.79	140.05	152.91	60.23	820.56	1,146.07	1,031.55	114.52	10.007	
4,000.00	3,987.52	3,661.91	3,500.83	10.08	144.93	152.77	64.76	856.45	1,194.42	1,076.79	117.63	10.154	
4,100.00	4,087.07	3,749.41	3,580.49	10.36	149.84	152.63	69.29	892.35	1,242.77	1,122.02	120.75	10.292	
4,200.00	4,186.61	3,836.91	3,660.16	10.64	154.76	152.51	73.82	928.24	1,291.12	1,167.25	123.88	10.423	
4,300.00	4,286.16	3,924.41	3,739.83	10.92	159.70	152.39	78.35	964.13	1,339.48	1,212.47	127.02	10.546	
4,400.00	4,385.71	4,011.91	3,819.50	11.20	164.65	152.28	82.87	1,000.02	1,387.85	1,257.68	130.17	10.662	
4,500.00	4,485.26	4,099.40	3,899.17	11.49	169.61	152.18	87.40	1,035.92	1,436.21	1,302.89	133.32	10.772	
4,600.00	4,584.81	4,186.90	3,978.84	11.77	174.59	152.09	91.93	1,071.81	1,484.58	1,348.10	136.49	10.877	
4,700.00	4,684.36	4,274.40	4,058.51	12.05	179.57	152.00	96.46	1,107.70	1,532.96	1,393.29	139.66	10.976	
4,800.00	4,783.91	4,361.90	4,138.18	12.34	184.57	151.92	100.99	1,143.59	1,581.33	1,438.49	142.85	11.070	
4,900.00	4,883.46	4,449.40	4,217.84	12.62	189.57	151.84	105.52	1,179.49	1,629.71	1,483.68	146.03	11.160	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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	
5,000.00	4,983.01	4,536.89	4,297.51	12.90	194.58	151.77	110.05	1,215.38	1,678.09	1,528.87	149.23	11.245	
5,100.00	5,082.56	4,624.39	4,377.18	13.18	199.60	151.70	114.58	1,251.27	1,726.48	1,574.05	152.43	11.327	
5,200.00	5,182.11	4,711.89	4,456.85	13.47	204.63	151.63	119.11	1,287.16	1,774.86	1,619.23	155.63	11.404	
5,300.00	5,281.65	4,799.39	4,536.52	13.75	209.66	151.57	123.64	1,323.05	1,823.25	1,664.40	158.84	11.478	
5,400.00	5,381.20	4,886.89	4,616.19	14.04	214.70	151.51	128.17	1,358.95	1,871.63	1,709.57	162.06	11.549	
5,500.00	5,480.75	4,974.38	4,695.86	14.32	219.74	151.46	132.70	1,394.84	1,920.02	1,754.74	165.28	11.617	
5,600.00	5,580.30	5,061.88	4,775.53	14.60	224.79	151.40	137.22	1,430.73	1,968.41	1,799.91	168.51	11.682	
5,700.00	5,679.85	5,149.38	4,855.19	14.89	229.84	151.35	141.75	1,466.62	2,016.81	1,845.07	171.73	11.744	
5,800.00	5,779.40	5,236.88	4,934.86	15.17	234.90	151.30	146.28	1,502.52	2,065.20	1,890.23	174.97	11.803	
5,900.00	5,878.95	5,324.37	5,014.53	15.45	239.96	151.26	150.81	1,538.41	2,113.59	1,935.39	178.20	11.861	
6,000.00	5,978.50	5,411.87	5,094.20	15.74	245.03	151.21	155.34	1,574.30	2,161.99	1,980.54	181.44	11.915	
6,100.00	6,078.05	5,499.37	5,173.87	16.02	250.10	151.17	159.87	1,610.19	2,210.38	2,025.70	184.69	11.968	
6,200.00	6,177.60	5,586.87	5,253.54	16.31	255.17	151.13	164.40	1,646.09	2,258.78	2,070.85	187.93	12.019	
6,270.98	6,248.26	5,648.97	5,310.09	16.51	258.78	151.10	167.61	1,671.56	2,293.13	2,102.89	190.24	12.054	
6,300.00	6,277.16	5,674.43	5,333.26	16.58	260.25	151.24	168.93	1,682.00	2,307.06	2,115.14	191.93	12.020	
6,400.00	6,376.93	5,763.04	5,413.94	16.78	265.40	151.67	173.52	1,718.35	2,353.33	2,155.65	197.68	11.904	
6,500.00	6,476.87	5,852.96	5,495.82	16.95	270.62	152.01	178.17	1,755.24	2,396.86	2,193.50	203.36	11.786	
6,543.13	6,520.00	5,892.12	5,531.48	17.01	272.90	91.66	180.20	1,771.30	2,414.77	2,209.00	205.78	11.735	
6,600.00	6,576.87	5,943.90	5,578.62	17.11	275.91	91.58	182.88	1,792.54	2,438.06	2,230.34	207.71	11.738	
6,700.00	6,676.87	6,034.95	5,661.53	17.29	281.20	91.43	187.59	1,829.89	2,479.01	2,267.87	211.14	11.741	
6,800.00	6,776.87	6,126.01	5,744.43	17.48	286.50	91.29	192.31	1,867.24	2,519.97	2,305.41	214.56	11.745	
6,900.00	6,876.87	6,217.06	5,827.34	17.66	291.80	91.15	197.02	1,904.59	2,560.95	2,342.95	217.99	11.748	
7,000.00	6,976.87	6,308.11	5,910.24	17.85	297.10	91.02	201.73	1,941.94	2,601.93	2,380.51	221.42	11.751	
7,100.00	7,076.87	6,399.16	5,993.15	18.04	302.41	90.89	206.45	1,979.29	2,642.93	2,418.08	224.86	11.754	
7,200.00	7,176.87	7,333.10	6,888.86	18.22	347.20	90.14	237.69	2,226.88	2,673.39	2,413.38	260.01	10.282	
7,300.00	7,276.87	7,721.72	7,276.87	18.41	357.83	90.09	239.81	2,243.69	2,674.64	2,401.95	272.68	9.809	
7,400.00	7,376.87	7,821.72	7,376.87	18.60	358.72	90.09	239.81	2,243.69	2,674.64	2,400.51	274.13	9.757	
7,500.00	7,476.87	7,921.72	7,476.87	18.79	359.65	90.09	239.81	2,243.69	2,674.64	2,399.01	275.63	9.704	
7,600.00	7,576.87	8,021.72	7,576.87	18.99	360.62	90.09	239.81	2,243.69	2,674.64	2,397.45	277.18	9.649	
7,700.00	7,676.87	8,121.72	7,676.87	19.18	361.64	90.09	239.81	2,243.69	2,674.64	2,395.84	278.80	9.594	
7,800.00	7,776.87	8,221.72	7,776.87	19.37	362.70	90.09	239.81	2,243.69	2,674.64	2,394.18	280.46	9.537	
7,900.00	7,876.87	8,321.72	7,876.87	19.57	363.80	90.09	239.81	2,243.69	2,674.64	2,392.46	282.18	9.479	
8,000.00	7,976.87	8,421.72	7,976.87	19.76	364.94	90.09	239.81	2,243.69	2,674.64	2,390.69	283.95	9.419	
8,100.00	8,076.87	8,521.72	8,076.87	19.95	366.12	90.09	239.81	2,243.69	2,674.64	2,388.87	285.77	9.359	
8,200.00	8,176.87	8,621.72	8,176.87	20.15	367.33	90.09	239.81	2,243.69	2,674.64	2,387.00	287.64	9.299	
8,300.00	8,276.87	8,721.72	8,276.87	20.35	368.59	90.09	239.81	2,243.69	2,674.64	2,385.08	289.56	9.237	
8,350.31	8,327.18	8,772.03	8,327.18	20.44	369.24	90.09	239.81	2,243.69	2,674.64	2,384.09	290.54	9.206	
8,378.13	8,355.00	8,794.85	8,350.00	20.50	369.54	90.09	239.81	2,243.69	2,674.64	2,383.64	291.00	9.191	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	141.21	-23.68	19.03	30.38				
100.00	100.00	100.00	100.00	0.10	0.10	141.21	-23.68	19.03	30.38	30.19	0.19	158.998	
200.00	200.00	200.00	200.00	0.32	0.32	141.21	-23.68	19.03	30.38	29.74	0.64	47.420	
300.00	300.00	300.00	300.00	0.55	0.55	141.21	-23.68	19.03	30.38	29.29	1.09	27.866	
400.00	400.00	400.00	400.00	0.77	0.77	141.21	-23.68	19.03	30.38	28.84	1.54	19.730	
500.00	500.00	500.00	500.00	0.99	0.99	141.21	-23.68	19.03	30.38	28.39	1.99	15.271	
600.00	600.00	600.00	600.00	1.22	1.22	141.21	-23.68	19.03	30.38	27.94	2.44	12.456	
700.00	700.00	700.00	700.00	1.44	1.44	141.21	-23.68	19.03	30.38	27.49	2.89	10.517	
800.00	800.00	800.00	800.00	1.67	1.67	141.21	-23.68	19.03	30.38	27.04	3.34	9.101	
900.00	900.00	900.00	900.00	1.89	1.89	141.21	-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	141.21	-23.68	19.03	30.38	26.14	4.24	7.170	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.21	-23.68	19.03	30.38	25.92	4.46	6.808 CC, ES	
1,100.00	1,100.00	1,099.79	1,099.79	2.34	2.34	-159.35	-23.55	19.44	30.95	26.27	4.68	6.618 SF	
1,200.00	1,199.93	1,199.07	1,199.00	2.55	2.55	-166.38	-22.55	22.74	35.84	30.75	5.09	7.041	
1,300.00	1,299.68	1,297.44	1,297.13	2.78	2.76	-175.68	-20.56	29.24	46.68	41.18	5.50	8.489	
1,322.15	1,321.74	1,319.05	1,318.65	2.83	2.81	-177.60	-19.99	31.10	49.97	44.38	5.59	8.941	
1,400.00	1,399.24	1,394.52	1,393.69	3.01	2.99	176.50	-17.64	38.82	63.13	57.21	5.92	10.665	
1,500.00	1,498.79	1,490.36	1,488.63	3.25	3.23	170.57	-13.82	51.34	82.97	76.62	6.35	13.066	
1,600.00	1,598.34	1,585.18	1,582.08	3.50	3.50	165.98	-9.13	66.68	106.05	99.26	6.79	15.627	
1,700.00	1,697.89	1,681.89	1,677.19	3.76	3.80	162.70	-4.01	83.46	130.62	123.38	7.24	18.052	
1,800.00	1,797.44	1,778.61	1,772.30	4.01	4.12	160.45	1.11	100.24	155.46	147.77	7.69	20.214	
1,900.00	1,896.99	1,875.32	1,867.40	4.28	4.45	158.83	6.24	117.02	180.47	172.32	8.15	22.140	
2,000.00	1,996.53	1,972.03	1,962.51	4.54	4.79	157.60	11.36	133.80	205.58	196.97	8.62	23.861	
2,100.00	2,096.08	2,068.75	2,057.62	4.81	5.13	156.64	16.48	150.58	230.77	221.68	9.08	25.402	
2,200.00	2,195.63	2,165.46	2,152.73	5.08	5.49	155.87	21.60	167.36	256.00	246.44	9.56	26.789	
2,300.00	2,295.18	2,262.17	2,247.84	5.35	5.85	155.23	26.73	184.14	281.26	271.23	10.03	28.041	
2,400.00	2,394.73	2,358.88	2,342.94	5.62	6.21	154.70	31.85	200.92	306.56	296.05	10.51	29.176	
2,500.00	2,494.28	2,455.60	2,438.05	5.89	6.58	154.25	36.97	217.70	331.87	320.88	10.99	30.209	
2,600.00	2,593.83	2,552.31	2,533.16	6.17	6.95	153.87	42.09	234.48	357.20	345.73	11.47	31.152	
2,700.00	2,693.38	2,649.02	2,628.27	6.44	7.32	153.53	47.22	251.26	382.54	370.59	11.95	32.016	
2,800.00	2,792.93	2,745.74	2,723.38	6.72	7.70	153.24	52.34	268.04	407.90	395.47	12.43	32.810	
2,900.00	2,892.48	2,842.45	2,818.48	7.00	8.07	152.98	57.46	284.82	433.26	420.34	12.92	33.542	
3,000.00	2,992.03	2,939.16	2,913.59	7.27	8.45	152.75	62.58	301.60	458.63	445.23	13.40	34.219	
3,100.00	3,091.57	3,035.87	3,008.70	7.55	8.83	152.55	67.71	318.38	484.01	470.12	13.89	34.847	
3,200.00	3,191.12	3,132.59	3,103.81	7.83	9.22	152.36	72.83	335.16	509.39	495.01	14.38	35.430	
3,300.00	3,290.67	3,229.30	3,198.92	8.11	9.60	152.20	77.95	351.94	534.77	519.91	14.87	35.973	
3,400.00	3,390.22	3,326.01	3,294.02	8.39	9.98	152.04	83.07	368.72	560.16	544.81	15.36	36.480	
3,500.00	3,489.77	3,422.72	3,389.13	8.67	10.37	151.90	88.20	385.51	585.56	569.71	15.85	36.955	
3,600.00	3,589.32	3,519.44	3,484.24	8.95	10.75	151.78	93.32	402.29	610.95	594.62	16.34	37.399	
3,700.00	3,688.87	3,616.15	3,579.35	9.23	11.14	151.66	98.44	419.07	636.35	619.53	16.83	37.817	
3,800.00	3,788.42	3,712.86	3,674.46	9.51	11.53	151.55	103.57	435.85	661.75	644.44	17.32	38.210	
3,900.00	3,887.97	3,809.58	3,769.56	9.79	11.91	151.45	108.69	452.63	687.16	669.35	17.81	38.581	
4,000.00	3,987.52	3,906.29	3,864.67	10.08	12.30	151.36	113.81	469.41	712.56	694.26	18.30	38.931	
4,100.00	4,087.07	4,003.00	3,959.78	10.36	12.69	151.27	118.93	486.19	737.97	719.17	18.80	39.262	
4,200.00	4,186.61	4,099.71	4,054.89	10.64	13.08	151.19	124.06	502.97	763.38	744.09	19.29	39.575	
4,300.00	4,286.16	4,196.43	4,150.00	10.92	13.47	151.11	129.18	519.75	788.79	769.00	19.78	39.872	
4,400.00	4,385.71	4,293.14	4,245.10	11.20	13.86	151.04	134.30	536.53	814.20	793.92	20.28	40.154	
4,500.00	4,485.26	4,389.85	4,340.21	11.49	14.25	150.97	139.42	553.31	839.61	818.84	20.77	40.422	
4,600.00	4,584.81	4,486.57	4,435.32	11.77	14.64	150.91	144.55	570.09	865.02	843.76	21.27	40.677	
4,700.00	4,684.36	4,583.28	4,530.43	12.05	15.03	150.85	149.67	586.87	890.44	868.68	21.76	40.920	
4,800.00	4,783.91	4,679.99	4,625.54	12.34	15.42	150.80	154.79	603.65	915.85	893.60	22.26	41.152	
4,900.00	4,883.46	4,776.70	4,720.64	12.62	15.81	150.74	159.91	620.43	941.27	918.52	22.75	41.373	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN #1 1-15-10												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,983.01	4,873.42	4,815.75	12.90	16.21	150.69	165.04	637.21	966.68	943.44	23.25	41.585	
5,100.00	5,082.56	4,970.13	4,910.86	13.18	16.60	150.65	170.16	653.99	992.10	968.36	23.74	41.787	
5,200.00	5,182.11	5,066.84	5,005.97	13.47	16.99	150.60	175.28	670.77	1,017.52	993.28	24.24	41.981	
5,300.00	5,281.65	5,163.55	5,101.08	13.75	17.38	150.56	180.40	687.55	1,042.93	1,018.20	24.73	42.167	
5,400.00	5,381.20	5,260.27	5,196.18	14.04	17.77	150.52	185.53	704.33	1,068.35	1,043.12	25.23	42.345	
5,500.00	5,480.75	5,356.98	5,291.29	14.32	18.17	150.48	190.65	721.12	1,093.77	1,068.05	25.73	42.517	
5,600.00	5,580.30	5,453.69	5,386.40	14.60	18.56	150.44	195.77	737.90	1,119.19	1,092.97	26.22	42.681	
5,700.00	5,679.85	5,550.41	5,481.51	14.89	18.95	150.40	200.89	754.68	1,144.61	1,117.89	26.72	42.839	
5,800.00	5,779.40	5,647.12	5,576.62	15.17	19.35	150.37	206.02	771.46	1,170.03	1,142.82	27.22	42.992	
5,900.00	5,878.95	5,743.83	5,671.72	15.45	19.74	150.34	211.14	788.24	1,195.45	1,167.74	27.71	43.138	
6,000.00	5,978.50	5,840.54	5,766.83	15.74	20.13	150.31	216.26	805.02	1,220.87	1,192.66	28.21	43.280	
6,100.00	6,078.05	5,937.26	5,861.94	16.02	20.52	150.28	221.39	821.80	1,246.30	1,217.59	28.71	43.416	
6,200.00	6,177.60	6,033.97	5,957.05	16.31	20.92	150.25	226.51	838.58	1,271.72	1,242.51	29.20	43.548	
6,270.98	6,248.26	6,132.78	6,054.37	16.51	21.26	150.23	231.50	854.92	1,289.29	1,259.68	29.61	43.543	
6,300.00	6,277.16	6,182.57	6,103.60	16.58	21.40	150.30	233.66	862.00	1,295.65	1,265.84	29.81	43.463	
6,400.00	6,376.93	6,357.24	6,277.19	16.78	21.81	150.47	239.26	880.35	1,311.98	1,281.54	30.44	43.107	
6,500.00	6,476.87	6,535.03	6,454.74	16.95	22.11	150.56	241.78	888.60	1,319.45	1,288.46	30.99	42.578	
6,543.13	6,520.00	6,600.29	6,520.00	17.01	22.19	90.09	241.91	889.03	1,319.97	1,288.78	31.19	42.319	
6,600.00	6,576.87	6,657.16	6,576.87	17.11	22.27	90.09	241.91	889.03	1,319.97	1,288.57	31.40	42.035	
6,700.00	6,676.87	6,757.16	6,676.87	17.29	22.41	90.09	241.91	889.03	1,319.97	1,288.18	31.79	41.525	
6,800.00	6,776.87	6,857.16	6,776.87	17.48	22.55	90.09	241.91	889.03	1,319.97	1,287.79	32.17	41.025	
6,900.00	6,876.87	6,957.16	6,876.87	17.66	22.70	90.09	241.91	889.03	1,319.97	1,287.41	32.56	40.535	
7,000.00	6,976.87	7,057.16	6,976.87	17.85	22.84	90.09	241.91	889.03	1,319.97	1,287.01	32.95	40.055	
7,100.00	7,076.87	7,157.16	7,076.87	18.04	22.99	90.09	241.91	889.03	1,319.97	1,286.62	33.35	39.584	
7,200.00	7,176.87	7,257.16	7,176.87	18.22	23.13	90.09	241.91	889.03	1,319.97	1,286.23	33.74	39.123	
7,300.00	7,276.87	7,357.16	7,276.87	18.41	23.28	90.09	241.91	889.03	1,319.97	1,285.83	34.13	38.670	
7,400.00	7,376.87	7,457.16	7,376.87	18.60	23.43	90.09	241.91	889.03	1,319.97	1,285.44	34.53	38.227	
7,500.00	7,476.87	7,557.16	7,476.87	18.79	23.58	90.09	241.91	889.03	1,319.97	1,285.04	34.93	37.792	
7,600.00	7,576.87	7,657.16	7,576.87	18.99	23.73	90.09	241.91	889.03	1,319.97	1,284.64	35.33	37.366	
7,700.00	7,676.87	7,757.16	7,676.87	19.18	23.88	90.09	241.91	889.03	1,319.97	1,284.24	35.73	36.947	
7,800.00	7,776.87	7,857.16	7,776.87	19.37	24.04	90.09	241.91	889.03	1,319.97	1,283.84	36.13	36.537	
7,900.00	7,876.87	7,957.16	7,876.87	19.57	24.19	90.09	241.91	889.03	1,319.97	1,283.44	36.53	36.135	
8,000.00	7,976.87	8,057.16	7,976.87	19.76	24.35	90.09	241.91	889.03	1,319.97	1,283.04	36.93	35.741	
8,100.00	8,076.87	8,157.16	8,076.87	19.95	24.51	90.09	241.91	889.03	1,319.97	1,282.63	37.34	35.354	
8,200.00	8,176.87	8,257.16	8,176.87	20.15	24.67	90.09	241.91	889.03	1,319.97	1,282.23	37.74	34.974	
8,300.00	8,276.87	8,357.16	8,276.87	20.35	24.82	90.09	241.91	889.03	1,319.97	1,281.82	38.15	34.602	
8,348.27	8,325.13	8,405.42	8,325.13	20.44	24.90	90.09	241.91	889.03	1,319.97	1,281.63	38.34	34.425	
8,378.13	8,355.00	8,425.29	8,345.00	20.50	24.93	90.09	241.91	889.03	1,320.01	1,281.56	38.45	34.335	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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	141.22	-31.70	25.46	40.66				
100.00	100.00	100.00	100.00	0.10	0.10	141.22	-31.70	25.46	40.66	40.47	0.19	212.815	
200.00	200.00	200.00	200.00	0.32	0.32	141.22	-31.70	25.46	40.66	40.02	0.64	63.471	
300.00	300.00	300.00	300.00	0.55	0.55	141.22	-31.70	25.46	40.66	39.57	1.09	37.298	
400.00	400.00	400.00	400.00	0.77	0.77	141.22	-31.70	25.46	40.66	39.12	1.54	26.408	
500.00	500.00	500.00	500.00	0.99	0.99	141.22	-31.70	25.46	40.66	38.67	1.99	20.440	
600.00	600.00	600.00	600.00	1.22	1.22	141.22	-31.70	25.46	40.66	38.22	2.44	16.672	
700.00	700.00	700.00	700.00	1.44	1.44	141.22	-31.70	25.46	40.66	37.77	2.89	14.077	
800.00	800.00	800.00	800.00	1.67	1.67	141.22	-31.70	25.46	40.66	37.32	3.34	12.181	
900.00	900.00	900.00	900.00	1.89	1.89	141.22	-31.70	25.46	40.66	36.87	3.79	10.735	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.22	-31.70	25.46	40.66	36.42	4.24	9.596	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.22	-31.70	25.46	40.66	36.20	4.46	9.113 CC, ES	
1,100.00	1,100.00	1,099.68	1,099.68	2.34	2.33	-157.99	-32.09	25.28	41.26	36.59	4.67	8.838 SF	
1,200.00	1,199.93	1,198.85	1,198.78	2.55	2.50	-155.73	-35.20	23.82	46.07	41.02	5.05	9.123	
1,300.00	1,299.68	1,297.44	1,297.14	2.78	2.69	-152.39	-41.37	20.93	55.82	50.38	5.44	10.259	
1,322.15	1,321.74	1,319.17	1,318.77	2.83	2.73	-151.63	-43.14	20.10	58.67	53.14	5.53	10.607	
1,400.00	1,399.24	1,395.20	1,394.37	3.01	2.89	-148.77	-50.51	16.65	69.73	63.87	5.86	11.901	
1,500.00	1,498.79	1,492.11	1,490.35	3.25	3.11	-144.66	-62.52	11.02	86.00	79.70	6.30	13.647	
1,600.00	1,598.34	1,587.95	1,584.79	3.50	3.37	-140.55	-77.30	4.09	104.83	98.06	6.77	15.496	
1,700.00	1,697.89	1,682.54	1,677.42	3.76	3.66	-136.70	-94.67	-4.05	126.42	119.17	7.25	17.446	
1,800.00	1,797.44	1,778.88	1,771.30	4.01	4.00	-133.39	-114.21	-13.21	150.04	142.29	7.75	19.367	
1,900.00	1,896.99	1,875.72	1,865.68	4.28	4.37	-130.96	-133.88	-22.43	174.04	165.78	8.26	21.073	
2,000.00	1,996.53	1,972.57	1,960.06	4.54	4.75	-129.12	-153.56	-31.65	198.27	189.49	8.78	22.587	
2,100.00	2,096.08	2,069.42	2,054.43	4.81	5.15	-127.67	-173.24	-40.87	222.65	213.34	9.30	23.933	
2,200.00	2,195.63	2,166.26	2,148.81	5.08	5.56	-126.52	-192.91	-50.10	247.13	237.30	9.83	25.133	
2,300.00	2,295.18	2,263.11	2,243.19	5.35	5.98	-125.57	-212.59	-59.32	271.70	261.33	10.37	26.207	
2,400.00	2,394.73	2,359.96	2,337.57	5.62	6.40	-124.78	-232.27	-68.54	296.32	285.41	10.91	27.171	
2,500.00	2,494.28	2,456.80	2,431.94	5.89	6.83	-124.11	-251.95	-77.76	320.99	309.54	11.45	28.041	
2,600.00	2,593.83	2,553.65	2,526.32	6.17	7.27	-123.53	-271.62	-86.99	345.69	333.70	11.99	28.828	
2,700.00	2,693.38	2,650.50	2,620.70	6.44	7.71	-123.03	-291.30	-96.21	370.42	357.88	12.54	29.543	
2,800.00	2,792.93	2,747.34	2,715.07	6.72	8.15	-122.60	-310.98	-105.43	395.17	382.09	13.09	30.195	
2,900.00	2,892.48	2,844.19	2,809.45	7.00	8.60	-122.21	-330.65	-114.65	419.95	406.31	13.64	30.792	
3,000.00	2,992.03	2,941.04	2,903.83	7.27	9.05	-121.87	-350.33	-123.88	444.73	430.54	14.19	31.340	
3,100.00	3,091.57	3,037.88	2,998.21	7.55	9.50	-121.57	-370.01	-133.10	469.54	454.79	14.74	31.844	
3,200.00	3,191.12	3,134.73	3,092.58	7.83	9.95	-121.29	-389.69	-142.32	494.35	479.05	15.30	32.310	
3,300.00	3,290.67	3,231.58	3,186.96	8.11	10.41	-121.04	-409.36	-151.54	519.17	503.32	15.86	32.741	
3,400.00	3,390.22	3,328.42	3,281.34	8.39	10.86	-120.82	-429.04	-160.77	544.00	527.59	16.41	33.141	
3,500.00	3,489.77	3,425.27	3,375.71	8.67	11.32	-120.61	-448.72	-169.99	568.84	551.87	16.97	33.513	
3,600.00	3,589.32	3,522.12	3,470.09	8.95	11.78	-120.42	-468.39	-179.21	593.69	576.15	17.53	33.861	
3,700.00	3,688.87	3,618.96	3,564.47	9.23	12.24	-120.25	-488.07	-188.43	618.54	600.44	18.09	34.185	
3,800.00	3,788.42	3,715.81	3,658.85	9.51	12.69	-120.09	-507.75	-197.66	643.39	624.74	18.65	34.489	
3,900.00	3,887.97	3,812.66	3,753.22	9.79	13.16	-119.94	-527.43	-206.88	668.25	649.04	19.22	34.774	
4,000.00	3,987.52	3,909.50	3,847.60	10.08	13.62	-119.80	-547.10	-216.10	693.12	673.34	19.78	35.043	
4,100.00	4,087.07	4,006.35	3,941.98	10.36	14.08	-119.68	-566.78	-225.32	717.98	697.64	20.34	35.295	
4,200.00	4,186.61	4,103.20	4,036.35	10.64	14.54	-119.56	-586.46	-234.55	742.85	721.95	20.91	35.533	
4,300.00	4,286.16	4,200.04	4,130.73	10.92	15.00	-119.44	-606.13	-243.77	767.73	746.26	21.47	35.758	
4,400.00	4,385.71	4,296.89	4,225.11	11.20	15.47	-119.34	-625.81	-252.99	792.60	770.57	22.03	35.971	
4,500.00	4,485.26	4,393.74	4,319.49	11.49	15.93	-119.24	-645.49	-262.21	817.48	794.88	22.60	36.173	
4,600.00	4,584.81	4,490.59	4,413.86	11.77	16.39	-119.15	-665.17	-271.44	842.36	819.19	23.16	36.364	
4,700.00	4,684.36	4,587.43	4,508.24	12.05	16.86	-119.06	-684.84	-280.66	867.24	843.51	23.73	36.546	
4,800.00	4,783.91	4,684.28	4,602.62	12.34	17.32	-118.98	-704.52	-289.88	892.12	867.83	24.30	36.719	
4,900.00	4,883.46	4,781.13	4,696.99	12.62	17.79	-118.90	-724.20	-299.10	917.01	892.15	24.86	36.883	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		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	4,983.01	4,877.97	4,791.37	12.90	18.25	-118.83	-743.87	-308.33	941.90	916.47	25.43	37.040	
5,100.00	5,082.56	4,974.82	4,885.75	13.18	18.72	-118.76	-763.55	-317.55	966.79	940.79	26.00	37.190	
5,200.00	5,182.11	5,071.67	4,980.13	13.47	19.19	-118.69	-783.23	-326.77	991.68	965.11	26.56	37.333	
5,300.00	5,281.65	5,168.51	5,074.50	13.75	19.65	-118.63	-802.91	-335.99	1,016.57	989.44	27.13	37.470	
5,400.00	5,381.20	5,265.36	5,168.88	14.04	20.12	-118.57	-822.58	-345.22	1,041.46	1,013.76	27.70	37.601	
5,500.00	5,480.75	5,362.21	5,263.26	14.32	20.58	-118.51	-842.26	-354.44	1,066.35	1,038.09	28.27	37.726	
5,600.00	5,580.30	5,459.05	5,357.63	14.60	21.05	-118.45	-861.94	-363.66	1,091.24	1,062.41	28.83	37.847	
5,700.00	5,679.85	5,555.90	5,452.01	14.89	21.52	-118.40	-881.61	-372.88	1,116.14	1,086.74	29.40	37.962	
5,800.00	5,779.40	5,652.75	5,546.39	15.17	21.98	-118.35	-901.29	-382.10	1,141.04	1,111.07	29.97	38.073	
5,900.00	5,878.95	5,749.59	5,640.77	15.45	22.45	-118.30	-920.97	-391.33	1,165.93	1,135.39	30.54	38.179	
6,000.00	5,978.50	5,846.44	5,735.14	15.74	22.92	-118.26	-940.65	-400.55	1,190.83	1,159.72	31.11	38.282	
6,100.00	6,078.05	5,943.29	5,829.52	16.02	23.39	-118.21	-960.32	-409.77	1,215.73	1,184.05	31.68	38.381	
6,200.00	6,177.60	6,042.71	5,955.89	16.31	23.89	-118.18	-985.57	-421.60	1,239.97	1,207.67	32.30	38.393	
6,270.98	6,248.26	6,187.84	6,069.22	16.51	24.23	-118.24	-1,003.96	-430.23	1,254.56	1,221.80	32.77	38.288	
6,300.00	6,277.16	6,235.41	6,116.26	16.58	24.35	-118.37	-1,010.36	-433.22	1,259.72	1,226.75	32.97	38.208	
6,400.00	6,376.93	6,401.28	6,281.07	16.78	24.72	-118.71	-1,027.10	-441.07	1,273.11	1,239.52	33.59	37.907	
6,500.00	6,476.87	6,569.17	6,448.69	16.95	24.99	-118.87	-1,035.23	-444.88	1,279.54	1,245.44	34.10	37.522	
6,543.13	6,520.00	6,640.48	6,520.00	17.01	25.07	-179.36	-1,035.99	-445.24	1,280.15	1,245.85	34.30	37.324	
6,600.00	6,576.87	6,697.35	6,576.87	17.11	25.14	-179.36	-1,035.99	-445.24	1,280.15	1,245.67	34.48	37.122	
6,700.00	6,676.87	6,797.35	6,676.87	17.29	25.24	-179.36	-1,035.99	-445.24	1,280.15	1,245.33	34.82	36.761	
6,800.00	6,776.87	6,897.35	6,776.87	17.48	25.35	-179.36	-1,035.99	-445.24	1,280.15	1,244.99	35.17	36.404	
6,900.00	6,876.87	6,997.35	6,876.87	17.66	25.45	-179.36	-1,035.99	-445.24	1,280.15	1,244.64	35.51	36.052	
7,000.00	6,976.87	7,097.35	6,976.87	17.85	25.56	-179.36	-1,035.99	-445.24	1,280.15	1,244.30	35.85	35.704	
7,100.00	7,076.87	7,197.35	7,076.87	18.04	25.67	-179.36	-1,035.99	-445.24	1,280.15	1,243.95	36.20	35.360	
7,200.00	7,176.87	7,297.35	7,176.87	18.22	25.78	-179.36	-1,035.99	-445.24	1,280.15	1,243.60	36.55	35.022	
7,300.00	7,276.87	7,397.35	7,276.87	18.41	25.89	-179.36	-1,035.99	-445.24	1,280.15	1,243.25	36.91	34.687	
7,400.00	7,376.87	7,497.35	7,376.87	18.60	26.00	-179.36	-1,035.99	-445.24	1,280.15	1,242.89	37.26	34.357	
7,500.00	7,476.87	7,597.35	7,476.87	18.79	26.12	-179.36	-1,035.99	-445.24	1,280.15	1,242.53	37.62	34.032	
7,600.00	7,576.87	7,697.35	7,576.87	18.99	26.23	-179.36	-1,035.99	-445.24	1,280.15	1,242.18	37.97	33.711	
7,700.00	7,676.87	7,797.35	7,676.87	19.18	26.35	-179.36	-1,035.99	-445.24	1,280.15	1,241.82	38.34	33.394	
7,800.00	7,776.87	7,897.35	7,776.87	19.37	26.47	-179.36	-1,035.99	-445.24	1,280.15	1,241.45	38.70	33.081	
7,900.00	7,876.87	7,997.35	7,876.87	19.57	26.59	-179.36	-1,035.99	-445.24	1,280.15	1,241.09	39.06	32.773	
8,000.00	7,976.87	8,097.35	7,976.87	19.76	26.71	-179.36	-1,035.99	-445.24	1,280.15	1,240.72	39.43	32.469	
8,100.00	8,076.87	8,197.35	8,076.87	19.95	26.84	-179.36	-1,035.99	-445.24	1,280.15	1,240.36	39.79	32.170	
8,200.00	8,176.87	8,297.35	8,176.87	20.15	26.96	-179.36	-1,035.99	-445.24	1,280.15	1,239.99	40.16	31.874	
8,300.00	8,276.87	8,397.35	8,276.87	20.35	27.09	-179.36	-1,035.99	-445.24	1,280.15	1,239.62	40.53	31.583	
8,348.27	8,325.13	8,445.61	8,325.13	20.44	27.15	-179.36	-1,035.99	-445.24	1,280.15	1,239.44	40.71	31.444	
8,378.13	8,355.00	8,465.48	8,345.00	20.50	27.17	-179.36	-1,035.99	-445.24	1,280.19	1,239.38	40.81	31.372	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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	141.06	-70.30	56.81	90.38				
100.00	100.00	100.00	100.00	0.10	0.10	141.06	-70.30	56.81	90.38	90.19	0.19	473.087	
200.00	200.00	200.00	200.00	0.32	0.32	141.06	-70.30	56.81	90.38	89.74	0.64	141.096	
300.00	300.00	300.00	300.00	0.55	0.55	141.06	-70.30	56.81	90.38	89.29	1.09	82.912	
400.00	400.00	400.00	400.00	0.77	0.77	141.06	-70.30	56.81	90.38	88.84	1.54	58.704	
500.00	500.00	500.00	500.00	0.99	0.99	141.06	-70.30	56.81	90.38	88.39	1.99	45.438	
600.00	600.00	600.00	600.00	1.22	1.22	141.06	-70.30	56.81	90.38	87.95	2.44	37.062	
700.00	700.00	700.00	700.00	1.44	1.44	141.06	-70.30	56.81	90.38	87.50	2.89	31.294	
800.00	800.00	800.00	800.00	1.67	1.67	141.06	-70.30	56.81	90.38	87.05	3.34	27.079	
900.00	900.00	900.00	900.00	1.89	1.89	141.06	-70.30	56.81	90.38	86.60	3.79	23.865	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.06	-70.30	56.81	90.38	86.15	4.24	21.333	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.06	-70.30	56.81	90.38	85.92	4.46	20.258 CC, ES	
1,100.00	1,100.00	1,098.46	1,098.45	2.34	2.33	-158.56	-70.62	57.07	91.21	86.55	4.67	19.547	
1,200.00	1,199.93	1,195.04	1,194.98	2.55	2.50	-159.25	-73.14	59.14	97.84	92.80	5.05	19.389 SF	
1,300.00	1,299.68	1,290.65	1,290.37	2.78	2.69	-160.37	-78.11	63.22	111.09	105.66	5.43	20.468	
1,322.15	1,321.74	1,311.63	1,311.27	2.83	2.73	-160.64	-79.52	64.39	114.92	109.41	5.51	20.848	
1,400.00	1,399.24	1,384.87	1,384.11	3.01	2.88	-161.57	-85.40	69.22	129.93	124.10	5.82	22.316	
1,500.00	1,498.79	1,477.80	1,476.21	3.25	3.10	-162.42	-94.93	77.05	152.08	145.85	6.23	24.428	
1,600.00	1,598.34	1,569.29	1,566.45	3.50	3.35	-162.97	-106.56	86.61	177.37	170.74	6.63	26.738	
1,700.00	1,697.89	1,659.20	1,654.62	3.76	3.62	-163.32	-120.15	97.78	205.72	198.67	7.05	29.197	
1,800.00	1,797.44	1,747.38	1,740.51	4.01	3.94	-163.52	-135.56	110.44	237.02	229.56	7.46	31.766	
1,900.00	1,896.99	1,834.07	1,824.32	4.28	4.28	-163.63	-152.68	124.51	271.20	263.32	7.88	34.423	
2,000.00	1,996.53	1,927.57	1,914.37	4.54	4.70	-163.69	-172.11	140.47	306.66	298.34	8.32	36.850	
2,100.00	2,096.08	2,021.07	2,004.42	4.81	5.14	-163.74	-191.54	156.44	342.13	333.36	8.77	39.011	
2,200.00	2,195.63	2,114.57	2,094.48	5.08	5.60	-163.78	-210.96	172.41	377.59	368.37	9.22	40.935	
2,300.00	2,295.18	2,208.06	2,184.53	5.35	6.07	-163.82	-230.39	188.38	413.06	403.38	9.68	42.657	
2,400.00	2,394.73	2,301.56	2,274.58	5.62	6.55	-163.85	-249.82	204.35	448.53	438.38	10.15	44.203	
2,500.00	2,494.28	2,395.06	2,364.64	5.89	7.03	-163.87	-269.25	220.31	483.99	473.38	10.61	45.597	
2,600.00	2,593.83	2,488.56	2,454.69	6.17	7.53	-163.89	-288.68	236.28	519.46	508.37	11.09	46.858	
2,700.00	2,693.38	2,582.06	2,544.74	6.44	8.03	-163.91	-308.11	252.25	554.92	543.36	11.56	48.006	
2,800.00	2,792.93	2,675.56	2,634.80	6.72	8.53	-163.93	-327.54	268.22	590.39	578.35	12.04	49.053	
2,900.00	2,892.48	2,769.06	2,724.85	7.00	9.04	-163.94	-346.97	284.19	625.86	613.34	12.51	50.012	
3,000.00	2,992.03	2,862.56	2,814.91	7.27	9.55	-163.96	-366.40	300.16	661.32	648.33	12.99	50.893	
3,100.00	3,091.57	2,956.06	2,904.96	7.55	10.06	-163.97	-385.83	316.12	696.79	683.31	13.48	51.704	
3,200.00	3,191.12	3,049.56	2,995.01	7.83	10.58	-163.98	-405.26	332.09	732.26	718.29	13.96	52.453	
3,300.00	3,290.67	3,143.06	3,085.07	8.11	11.10	-163.99	-424.69	348.06	767.72	753.28	14.45	53.147	
3,400.00	3,390.22	3,236.56	3,175.12	8.39	11.62	-164.00	-444.12	364.03	803.19	788.26	14.93	53.792	
3,500.00	3,489.77	3,330.06	3,265.17	8.67	12.14	-164.01	-463.55	380.00	838.65	823.24	15.42	54.392	
3,600.00	3,589.32	3,423.56	3,355.23	8.95	12.66	-164.01	-482.98	395.96	874.12	858.21	15.91	54.951	
3,700.00	3,688.87	3,517.06	3,445.28	9.23	13.18	-164.02	-502.41	411.93	909.59	893.19	16.40	55.474	
3,800.00	3,788.42	3,610.55	3,535.33	9.51	13.71	-164.03	-521.84	427.90	945.05	928.17	16.89	55.964	
3,900.00	3,887.97	3,704.05	3,625.39	9.79	14.23	-164.03	-541.27	443.87	980.52	963.14	17.38	56.424	
4,000.00	3,987.52	3,797.55	3,715.44	10.08	14.76	-164.04	-560.69	459.84	1,015.99	998.12	17.87	56.856	
4,100.00	4,087.07	3,891.05	3,805.49	10.36	15.28	-164.04	-580.12	475.80	1,051.45	1,033.09	18.36	57.263	
4,200.00	4,186.61	3,984.55	3,895.55	10.64	15.81	-164.05	-599.55	491.77	1,086.92	1,068.06	18.85	57.647	
4,300.00	4,286.16	4,078.05	3,985.60	10.92	16.34	-164.05	-618.98	507.74	1,122.39	1,103.04	19.35	58.010	
4,400.00	4,385.71	4,171.55	4,075.65	11.20	16.87	-164.06	-638.41	523.71	1,157.85	1,138.01	19.84	58.353	
4,500.00	4,485.26	4,265.05	4,165.71	11.49	17.40	-164.06	-657.84	539.68	1,193.32	1,172.98	20.34	58.678	
4,600.00	4,584.81	4,358.55	4,255.76	11.77	17.93	-164.06	-677.27	555.64	1,228.78	1,207.95	20.83	58.987	
4,700.00	4,684.36	4,452.05	4,345.82	12.05	18.46	-164.07	-696.70	571.61	1,264.25	1,242.92	21.33	59.280	
4,800.00	4,783.91	4,545.55	4,435.87	12.34	18.99	-164.07	-716.13	587.58	1,299.72	1,277.90	21.82	59.559	
4,900.00	4,883.46	4,639.05	4,525.92	12.62	19.52	-164.07	-735.56	603.55	1,335.18	1,312.87	22.32	59.824	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,983.01	4,732.55	4,615.98	12.90	20.05	-164.08	-754.99	619.52	1,370.65	1,347.84	22.81	60.077	
5,100.00	5,082.56	4,826.05	4,706.03	13.18	20.58	-164.08	-774.42	635.48	1,406.12	1,382.81	23.31	60.319	
5,200.00	5,182.11	4,919.55	4,796.08	13.47	21.11	-164.08	-793.85	651.45	1,441.58	1,417.78	23.81	60.549	
5,300.00	5,281.65	5,013.04	4,886.14	13.75	21.64	-164.08	-813.28	667.42	1,477.05	1,452.74	24.31	60.770	
5,400.00	5,381.20	5,106.54	4,976.19	14.04	22.17	-164.09	-832.71	683.39	1,512.52	1,487.71	24.80	60.981	
5,500.00	5,480.75	5,200.04	5,066.24	14.32	22.70	-164.09	-852.14	699.36	1,547.98	1,522.68	25.30	61.184	
5,600.00	5,580.30	5,293.54	5,156.30	14.60	23.24	-164.09	-871.57	715.32	1,583.45	1,557.65	25.80	61.377	
5,700.00	5,679.85	5,387.04	5,246.35	14.89	23.77	-164.09	-890.99	731.29	1,618.92	1,592.62	26.30	61.563	
5,800.00	5,779.40	5,480.54	5,336.40	15.17	24.30	-164.09	-910.42	747.26	1,654.38	1,627.59	26.80	61.742	
5,900.00	5,878.95	5,574.04	5,426.46	15.45	24.83	-164.10	-929.85	763.23	1,689.85	1,662.56	27.29	61.914	
6,000.00	5,978.50	5,667.54	5,516.51	15.74	25.37	-164.10	-949.28	779.20	1,725.32	1,697.52	27.79	62.079	
6,100.00	6,078.05	5,761.04	5,606.57	16.02	25.90	-164.10	-968.71	795.16	1,760.78	1,732.49	28.29	62.238	
6,200.00	6,177.60	5,854.54	5,696.62	16.31	26.43	-164.10	-988.14	811.13	1,796.25	1,767.46	28.79	62.391	
6,270.98	6,248.26	5,967.62	5,805.78	16.51	26.95	-164.11	-1,010.93	829.86	1,821.07	1,791.83	29.25	62.266	
6,300.00	6,277.16	6,042.99	5,879.11	16.58	27.24	-164.17	-1,024.40	840.93	1,830.17	1,800.64	29.53	61.972	
6,400.00	6,376.93	6,313.12	6,145.10	16.78	28.05	-164.31	-1,060.33	870.46	1,853.70	1,823.26	30.44	60.891	
6,500.00	6,476.87	6,594.07	6,425.11	16.95	28.57	-164.39	-1,077.01	884.17	1,864.48	1,833.24	31.24	59.673	
6,543.13	6,520.00	6,688.97	6,520.00	17.01	28.67	135.13	-1,077.87	884.87	1,865.19	1,833.67	31.52	59.179	
6,600.00	6,576.87	6,745.84	6,576.87	17.11	28.73	135.13	-1,077.87	884.87	1,865.19	1,833.47	31.72	58.808	
6,700.00	6,676.87	6,845.84	6,676.87	17.29	28.82	135.13	-1,077.87	884.87	1,865.19	1,833.10	32.08	58.138	
6,800.00	6,776.87	6,945.84	6,776.87	17.48	28.92	135.13	-1,077.87	884.87	1,865.19	1,832.74	32.45	57.479	
6,900.00	6,876.87	7,045.84	6,876.87	17.66	29.02	135.13	-1,077.87	884.87	1,865.19	1,832.37	32.82	56.832	
7,000.00	6,976.87	7,145.84	6,976.87	17.85	29.11	135.13	-1,077.87	884.87	1,865.19	1,831.99	33.19	56.196	
7,100.00	7,076.87	7,245.84	7,076.87	18.04	29.22	135.13	-1,077.87	884.87	1,865.19	1,831.62	33.56	55.572	
7,200.00	7,176.87	7,345.84	7,176.87	18.22	29.32	135.13	-1,077.87	884.87	1,865.19	1,831.25	33.94	54.958	
7,300.00	7,276.87	7,445.84	7,276.87	18.41	29.42	135.13	-1,077.87	884.87	1,865.19	1,830.87	34.32	54.355	
7,400.00	7,376.87	7,545.84	7,376.87	18.60	29.53	135.13	-1,077.87	884.87	1,865.19	1,830.49	34.69	53.762	
7,500.00	7,476.87	7,645.84	7,476.87	18.79	29.63	135.13	-1,077.87	884.87	1,865.19	1,830.11	35.07	53.180	
7,600.00	7,576.87	7,745.84	7,576.87	18.99	29.74	135.13	-1,077.87	884.87	1,865.19	1,829.73	35.45	52.608	
7,700.00	7,676.87	7,845.84	7,676.87	19.18	29.85	135.13	-1,077.87	884.87	1,865.19	1,829.35	35.84	52.045	
7,800.00	7,776.87	7,945.84	7,776.87	19.37	29.96	135.13	-1,077.87	884.87	1,865.19	1,828.96	36.22	51.493	
7,900.00	7,876.87	8,045.84	7,876.87	19.57	30.07	135.13	-1,077.87	884.87	1,865.19	1,828.58	36.61	50.950	
8,000.00	7,976.87	8,145.84	7,976.87	19.76	30.18	135.13	-1,077.87	884.87	1,865.19	1,828.19	37.00	50.417	
8,100.00	8,076.87	8,245.84	8,076.87	19.95	30.30	135.13	-1,077.87	884.87	1,865.19	1,827.80	37.38	49.893	
8,200.00	8,176.87	8,345.84	8,176.87	20.15	30.41	135.13	-1,077.87	884.87	1,865.19	1,827.41	37.77	49.378	
8,300.00	8,276.87	8,445.84	8,276.87	20.35	30.53	135.13	-1,077.87	884.87	1,865.19	1,827.02	38.16	48.872	
8,378.13	8,355.00	8,523.97	8,355.00	20.50	30.62	135.13	-1,077.87	884.87	1,865.19	1,826.71	38.47	48.483	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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	141.20	-78.31	62.96	100.48				
100.00	100.00	100.00	100.00	0.10	0.10	141.20	-78.31	62.96	100.48	100.29	0.19	525.934	
200.00	200.00	200.00	200.00	0.32	0.32	141.20	-78.31	62.96	100.48	99.84	0.64	156.858	
300.00	300.00	300.00	300.00	0.55	0.55	141.20	-78.31	62.96	100.48	99.39	1.09	92.174	
400.00	400.00	400.00	400.00	0.77	0.77	141.20	-78.31	62.96	100.48	98.94	1.54	65.262	
500.00	500.00	500.00	500.00	0.99	0.99	141.20	-78.31	62.96	100.48	98.49	1.99	50.514	
600.00	600.00	600.00	600.00	1.22	1.22	141.20	-78.31	62.96	100.48	98.04	2.44	41.202	
700.00	700.00	700.00	700.00	1.44	1.44	141.20	-78.31	62.96	100.48	97.59	2.89	34.789	
800.00	800.00	800.00	800.00	1.67	1.67	141.20	-78.31	62.96	100.48	97.14	3.34	30.104	
900.00	900.00	900.00	900.00	1.89	1.89	141.20	-78.31	62.96	100.48	96.69	3.79	26.531	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.20	-78.31	62.96	100.48	96.24	4.24	23.716	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.20	-78.31	62.96	100.48	96.02	4.46	22.521 CC, ES	
1,100.00	1,100.00	1,098.41	1,098.40	2.34	2.33	-158.50	-78.51	63.32	101.28	96.61	4.67	21.695	
1,200.00	1,199.93	1,194.88	1,194.82	2.55	2.51	-159.74	-80.12	66.15	107.69	102.64	5.06	21.301 SF	
1,300.00	1,299.68	1,290.34	1,290.06	2.78	2.70	-161.83	-83.29	71.72	120.61	115.17	5.44	22.157	
1,322.15	1,321.74	1,311.29	1,310.93	2.83	2.75	-162.34	-84.19	73.31	124.37	118.84	5.53	22.492	
1,400.00	1,399.24	1,384.38	1,383.62	3.01	2.91	-164.18	-87.94	79.91	139.13	133.29	5.84	23.809	
1,500.00	1,498.79	1,477.09	1,475.51	3.25	3.13	-166.26	-94.02	90.59	161.03	154.78	6.25	25.761	
1,600.00	1,598.34	1,568.33	1,565.51	3.50	3.38	-168.04	-101.42	103.61	186.15	179.48	6.66	27.945	
1,700.00	1,697.89	1,657.95	1,653.40	3.76	3.66	-169.52	-110.08	118.83	214.40	207.32	7.07	30.310	
1,800.00	1,797.44	1,745.84	1,739.01	4.01	3.98	-170.76	-119.88	136.06	245.69	238.20	7.49	32.812	
1,900.00	1,896.99	1,831.86	1,822.19	4.28	4.33	-171.80	-130.72	155.13	279.91	272.01	7.90	35.417	
2,000.00	1,996.53	1,915.94	1,902.82	4.54	4.72	-172.67	-142.51	175.86	316.96	308.64	8.32	38.099	
2,100.00	2,096.08	2,000.00	1,982.68	4.81	5.15	-173.42	-155.46	198.64	356.73	347.99	8.74	40.815	
2,200.00	2,195.63	2,077.99	2,056.07	5.08	5.61	-174.02	-168.51	221.58	399.11	389.95	9.16	43.589	
2,300.00	2,295.18	2,155.85	2,128.59	5.35	6.11	-174.54	-182.51	246.20	444.00	434.42	9.58	46.366	
2,400.00	2,394.73	2,231.57	2,198.35	5.62	6.64	-174.99	-197.06	271.79	491.29	481.29	9.99	49.158	
2,500.00	2,494.28	2,305.12	2,265.35	5.89	7.19	-175.38	-212.06	298.17	540.88	530.47	10.41	51.961	
2,600.00	2,593.83	2,385.20	2,337.58	6.17	7.84	-175.75	-229.16	328.22	592.29	581.44	10.85	54.593	
2,700.00	2,693.38	2,470.80	2,414.72	6.44	8.55	-176.08	-247.50	360.48	643.90	632.59	11.31	56.935	
2,800.00	2,792.93	2,556.40	2,491.86	6.72	9.27	-176.36	-265.84	392.73	695.52	683.75	11.77	59.076	
2,900.00	2,892.48	2,642.00	2,569.00	7.00	10.00	-176.61	-284.19	424.98	747.15	734.91	12.24	61.036	
3,000.00	2,992.03	2,727.59	2,646.14	7.27	10.75	-176.82	-302.53	457.24	798.79	786.08	12.71	62.835	
3,100.00	3,091.57	2,813.19	2,723.27	7.55	11.49	-177.01	-320.87	489.49	850.44	837.25	13.19	64.489	
3,200.00	3,191.12	2,898.79	2,800.41	7.83	12.24	-177.18	-339.21	521.75	902.09	888.43	13.67	66.014	
3,300.00	3,290.67	2,984.39	2,877.55	8.11	13.00	-177.33	-357.55	554.00	953.75	939.61	14.15	67.418	
3,400.00	3,390.22	3,069.99	2,954.69	8.39	13.76	-177.46	-375.90	586.25	1,005.42	990.79	14.63	68.721	
3,500.00	3,489.77	3,155.59	3,031.83	8.67	14.53	-177.58	-394.24	618.51	1,057.08	1,041.97	15.12	69.931	
3,600.00	3,589.32	3,241.19	3,108.97	8.95	15.29	-177.69	-412.58	650.76	1,108.75	1,093.15	15.60	71.057	
3,700.00	3,688.87	3,326.78	3,186.10	9.23	16.06	-177.79	-430.92	683.02	1,160.43	1,144.33	16.09	72.107	
3,800.00	3,788.42	3,412.38	3,263.24	9.51	16.83	-177.88	-449.27	715.27	1,212.10	1,195.52	16.58	73.089	
3,900.00	3,887.97	3,497.98	3,340.38	9.79	17.60	-177.96	-467.61	747.52	1,263.78	1,246.70	17.08	74.007	
4,000.00	3,987.52	3,583.58	3,417.52	10.08	18.38	-178.04	-485.95	779.78	1,315.46	1,297.89	17.57	74.868	
4,100.00	4,087.07	3,669.18	3,494.66	10.36	19.15	-178.11	-504.29	812.03	1,367.14	1,349.07	18.07	75.676	
4,200.00	4,186.61	3,754.78	3,571.80	10.64	19.93	-178.18	-522.64	844.28	1,418.82	1,400.26	18.56	76.437	
4,300.00	4,286.16	3,840.38	3,648.94	10.92	20.71	-178.24	-540.98	876.54	1,470.50	1,451.44	19.06	77.154	
4,400.00	4,385.71	3,925.97	3,726.07	11.20	21.48	-178.29	-559.32	908.79	1,522.19	1,502.63	19.56	77.832	
4,500.00	4,485.26	4,011.57	3,803.21	11.49	22.26	-178.35	-577.66	941.05	1,573.87	1,553.82	20.06	78.472	
4,600.00	4,584.81	4,097.17	3,880.35	11.77	23.04	-178.40	-596.01	973.30	1,625.56	1,605.00	20.56	79.078	
4,700.00	4,684.36	4,182.77	3,957.49	12.05	23.82	-178.44	-614.35	1,005.55	1,677.25	1,656.19	21.06	79.652	
4,800.00	4,783.91	4,268.37	4,034.63	12.34	24.60	-178.49	-632.69	1,037.81	1,728.93	1,707.37	21.56	80.197	
4,900.00	4,883.46	4,353.97	4,111.77	12.62	25.39	-178.53	-651.03	1,070.06	1,780.62	1,758.56	22.06	80.715	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,983.01	4,439.57	4,188.91	12.90	26.17	-178.57	-669.38	1,102.32	1,832.31	1,809.75	22.56	81.208	
5,100.00	5,082.56	4,525.16	4,266.04	13.18	26.95	-178.61	-687.72	1,134.57	1,884.00	1,860.93	23.07	81.677	
5,200.00	5,182.11	4,610.76	4,343.18	13.47	27.73	-178.64	-706.06	1,166.82	1,935.69	1,912.12	23.57	82.125	
5,300.00	5,281.65	4,696.36	4,420.32	13.75	28.52	-178.67	-724.40	1,199.08	1,987.38	1,963.31	24.07	82.552	
5,400.00	5,381.20	4,781.96	4,497.46	14.04	29.30	-178.71	-742.75	1,231.33	2,039.07	2,014.49	24.58	82.960	
5,500.00	5,480.75	4,867.56	4,574.60	14.32	30.08	-178.74	-761.09	1,263.58	2,090.76	2,065.68	25.08	83.350	
5,600.00	5,580.30	4,953.16	4,651.74	14.60	30.87	-178.76	-779.43	1,295.84	2,142.46	2,116.87	25.59	83.724	
5,700.00	5,679.85	5,038.76	4,728.88	14.89	31.65	-178.79	-797.77	1,328.09	2,194.15	2,168.05	26.10	84.082	
5,800.00	5,779.40	5,124.35	4,806.01	15.17	32.44	-178.82	-816.12	1,360.35	2,245.84	2,219.24	26.60	84.425	
5,900.00	5,878.95	5,209.95	4,883.15	15.45	33.22	-178.84	-834.46	1,392.60	2,297.54	2,270.43	27.11	84.754	
6,000.00	5,978.50	5,295.55	4,960.29	15.74	34.00	-178.87	-852.80	1,424.85	2,349.23	2,321.61	27.61	85.071	
6,100.00	6,078.05	5,381.15	5,037.43	16.02	34.79	-178.89	-871.14	1,457.11	2,400.92	2,372.80	28.12	85.375	
6,200.00	6,177.60	5,466.75	5,114.57	16.31	35.58	-178.91	-889.49	1,489.36	2,452.62	2,423.99	28.63	85.667	
6,270.98	6,248.26	5,527.51	5,169.32	16.51	36.13	-178.92	-902.50	1,512.26	2,489.31	2,460.32	28.99	85.868	
6,300.00	6,277.16	5,552.42	5,191.78	16.58	36.36	-178.94	-907.84	1,521.64	2,504.18	2,474.98	29.20	85.747	
6,400.00	6,376.93	5,639.41	5,270.17	16.78	37.16	-178.98	-926.48	1,554.42	2,553.50	2,523.59	29.90	85.395	
6,500.00	6,476.87	5,728.07	5,350.06	16.95	37.97	-179.01	-945.48	1,587.83	2,599.74	2,569.17	30.58	85.023	
6,543.13	6,520.00	5,766.79	5,384.96	17.01	38.33	120.50	-953.78	1,602.42	2,618.73	2,587.87	30.86	84.851	
6,600.00	6,576.87	5,818.04	5,431.14	17.11	38.80	120.49	-964.76	1,621.73	2,643.38	2,612.23	31.15	84.873	
6,700.00	6,676.87	5,908.16	5,512.35	17.29	39.63	120.48	-984.07	1,655.69	2,686.72	2,655.06	31.66	84.868	
6,800.00	6,776.87	5,998.27	5,593.56	17.48	40.46	120.47	-1,003.38	1,689.64	2,730.07	2,697.89	32.17	84.861	
6,900.00	6,876.87	6,088.39	5,674.77	17.66	41.28	120.45	-1,022.69	1,723.60	2,773.41	2,740.72	32.68	84.853	
7,000.00	6,976.87	6,178.51	5,755.98	17.85	42.11	120.44	-1,042.00	1,757.55	2,816.75	2,783.55	33.20	84.843	
7,100.00	7,076.87	6,268.62	5,837.19	18.04	42.94	120.43	-1,061.31	1,791.51	2,860.10	2,826.38	33.71	84.832	
7,200.00	7,176.87	6,358.74	5,918.40	18.22	43.77	120.42	-1,080.63	1,825.47	2,903.44	2,869.21	34.23	84.820	
7,300.00	7,276.87	7,764.17	7,276.87	18.41	49.25	120.33	-1,230.05	2,088.23	2,918.78	2,881.08	37.70	77.414	
7,400.00	7,376.87	7,864.17	7,376.87	18.60	49.32	120.33	-1,230.05	2,088.23	2,918.78	2,880.73	38.05	76.705	
7,500.00	7,476.87	7,964.17	7,476.87	18.79	49.38	120.33	-1,230.05	2,088.23	2,918.78	2,880.38	38.40	76.005	
7,600.00	7,576.87	8,064.17	7,576.87	18.99	49.45	120.33	-1,230.05	2,088.23	2,918.78	2,880.03	38.75	75.314	
7,700.00	7,676.87	8,164.17	7,676.87	19.18	49.52	120.33	-1,230.05	2,088.23	2,918.78	2,879.67	39.11	74.632	
7,800.00	7,776.87	8,264.17	7,776.87	19.37	49.59	120.33	-1,230.05	2,088.23	2,918.78	2,879.32	39.46	73.959	
7,900.00	7,876.87	8,364.17	7,876.87	19.57	49.67	120.33	-1,230.05	2,088.23	2,918.78	2,878.96	39.82	73.296	
8,000.00	7,976.87	8,464.17	7,976.87	19.76	49.74	120.33	-1,230.05	2,088.23	2,918.78	2,878.60	40.18	72.641	
8,100.00	8,076.87	8,564.17	8,076.87	19.95	49.81	120.33	-1,230.05	2,088.23	2,918.78	2,878.24	40.54	71.995	
8,200.00	8,176.87	8,664.17	8,176.87	20.15	49.88	120.33	-1,230.05	2,088.23	2,918.78	2,877.88	40.90	71.357	
8,300.00	8,276.87	8,764.17	8,276.87	20.35	49.96	120.33	-1,230.05	2,088.23	2,918.78	2,877.51	41.27	70.729	
8,378.13	8,355.00	8,842.30	8,355.00	20.50	50.02	120.33	-1,230.05	2,088.23	2,918.78	2,877.23	41.55	70.244	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	141.02	-54.64	44.21	70.29				
100.00	100.00	100.00	100.00	0.10	0.10	141.02	-54.64	44.21	70.29	70.09	0.19	367.891	
200.00	200.00	200.00	200.00	0.32	0.32	141.02	-54.64	44.21	70.29	69.65	0.64	109.722	
300.00	300.00	300.00	300.00	0.55	0.55	141.02	-54.64	44.21	70.29	69.20	1.09	64.476	
400.00	400.00	400.00	400.00	0.77	0.77	141.02	-54.64	44.21	70.29	68.75	1.54	45.651	
500.00	500.00	500.00	500.00	0.99	0.99	141.02	-54.64	44.21	70.29	68.30	1.99	35.334	
600.00	600.00	600.00	600.00	1.22	1.22	141.02	-54.64	44.21	70.29	67.85	2.44	28.821	
700.00	700.00	700.00	700.00	1.44	1.44	141.02	-54.64	44.21	70.29	67.40	2.89	24.335	
800.00	800.00	800.00	800.00	1.67	1.67	141.02	-54.64	44.21	70.29	66.95	3.34	21.058	
900.00	900.00	900.00	900.00	1.89	1.89	141.02	-54.64	44.21	70.29	66.50	3.79	18.558	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.02	-54.64	44.21	70.29	66.05	4.24	16.589	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.02	-54.64	44.21	70.29	65.82	4.46	15.754 CC, ES	
1,100.00	1,100.00	1,098.82	1,098.81	2.34	2.33	-158.56	-55.01	44.40	71.11	66.44	4.67	15.239 SF	
1,200.00	1,199.93	1,196.13	1,196.07	2.55	2.50	-158.91	-57.96	45.89	77.68	72.64	5.04	15.401	
1,300.00	1,299.68	1,293.16	1,292.87	2.78	2.68	-159.46	-63.77	48.82	90.70	85.28	5.43	16.719	
1,322.15	1,321.74	1,315.03	1,314.68	2.83	2.72	-159.63	-65.28	49.58	94.24	88.73	5.51	17.100	
1,400.00	1,399.24	1,391.82	1,391.24	3.01	2.88	-160.25	-70.57	52.25	106.98	101.15	5.83	18.358	
1,500.00	1,498.79	1,490.46	1,489.59	3.25	3.09	-160.87	-77.36	55.67	123.34	117.10	6.24	19.763	
1,600.00	1,598.34	1,589.10	1,587.94	3.50	3.30	-161.34	-84.16	59.10	139.72	133.06	6.66	20.971	
1,700.00	1,697.89	1,687.75	1,686.29	3.76	3.53	-161.71	-90.95	62.52	156.11	149.02	7.09	22.018	
1,800.00	1,797.44	1,786.39	1,784.64	4.01	3.76	-162.01	-97.75	65.95	172.50	164.98	7.52	22.931	
1,900.00	1,896.99	1,885.03	1,882.99	4.28	3.99	-162.26	-104.54	69.38	188.90	180.94	7.96	23.732	
2,000.00	1,996.53	1,983.68	1,981.34	4.54	4.23	-162.47	-111.34	72.80	205.30	196.90	8.40	24.440	
2,100.00	2,096.08	2,082.32	2,079.69	4.81	4.47	-162.65	-118.14	76.23	221.70	212.85	8.84	25.069	
2,200.00	2,195.63	2,180.97	2,178.03	5.08	4.72	-162.80	-124.93	79.65	238.10	228.81	9.29	25.630	
2,300.00	2,295.18	2,279.61	2,276.38	5.35	4.96	-162.94	-131.73	83.08	254.51	244.77	9.74	26.135	
2,400.00	2,394.73	2,378.25	2,374.73	5.62	5.21	-163.05	-138.52	86.51	270.91	260.72	10.19	26.589	
2,500.00	2,494.28	2,476.90	2,473.08	5.89	5.46	-163.16	-145.32	89.93	287.32	276.68	10.64	27.001	
2,600.00	2,593.83	2,575.54	2,571.43	6.17	5.72	-163.25	-152.11	93.36	303.72	292.63	11.09	27.376	
2,700.00	2,693.38	2,674.18	2,669.78	6.44	5.97	-163.33	-158.91	96.78	320.13	308.58	11.55	27.718	
2,800.00	2,792.93	2,772.83	2,768.13	6.72	6.22	-163.41	-165.70	100.21	336.54	324.53	12.01	28.031	
2,900.00	2,892.48	2,871.47	2,866.48	7.00	6.48	-163.48	-172.50	103.64	352.95	340.49	12.46	28.319	
3,000.00	2,992.03	2,970.12	2,964.83	7.27	6.74	-163.54	-179.29	107.06	369.36	356.44	12.92	28.585	
3,100.00	3,091.57	3,068.76	3,063.18	7.55	7.00	-163.60	-186.09	110.49	385.77	372.39	13.38	28.830	
3,200.00	3,191.12	3,167.40	3,161.53	7.83	7.25	-163.65	-192.88	113.91	402.18	388.34	13.84	29.058	
3,300.00	3,290.67	3,266.05	3,259.88	8.11	7.51	-163.70	-199.68	117.34	418.59	404.29	14.30	29.270	
3,400.00	3,390.22	3,364.69	3,358.23	8.39	7.77	-163.74	-206.48	120.77	435.00	420.24	14.76	29.467	
3,500.00	3,489.77	3,463.33	3,456.58	8.67	8.03	-163.78	-213.27	124.19	451.41	436.19	15.22	29.651	
3,600.00	3,589.32	3,561.98	3,554.93	8.95	8.29	-163.82	-220.07	127.62	467.82	452.14	15.69	29.823	
3,700.00	3,688.87	3,660.62	3,653.28	9.23	8.55	-163.86	-226.86	131.05	484.23	468.09	16.15	29.985	
3,800.00	3,788.42	3,759.27	3,751.63	9.51	8.82	-163.89	-233.66	134.47	500.65	484.03	16.61	30.137	
3,900.00	3,887.97	3,857.91	3,849.98	9.79	9.08	-163.92	-240.45	137.90	517.06	499.98	17.08	30.280	
4,000.00	3,987.52	3,956.55	3,948.33	10.08	9.34	-163.95	-247.25	141.32	533.47	515.93	17.54	30.414	
4,100.00	4,087.07	4,055.20	4,046.68	10.36	9.60	-163.98	-254.04	144.75	549.88	531.88	18.00	30.542	
4,200.00	4,186.61	4,153.84	4,145.03	10.64	9.87	-164.00	-260.84	148.18	566.29	547.82	18.47	30.662	
4,300.00	4,286.16	4,252.48	4,243.38	10.92	10.13	-164.03	-267.63	151.60	582.71	563.77	18.93	30.776	
4,400.00	4,385.71	4,351.13	4,341.73	11.20	10.39	-164.05	-274.43	155.03	599.12	579.72	19.40	30.884	
4,500.00	4,485.26	4,449.77	4,440.08	11.49	10.66	-164.07	-281.22	158.45	615.53	595.67	19.86	30.986	
4,600.00	4,584.81	4,548.41	4,538.43	11.77	10.92	-164.09	-288.02	161.88	631.94	611.61	20.33	31.084	
4,700.00	4,684.36	4,647.06	4,636.78	12.05	11.18	-164.11	-294.82	165.31	648.36	627.56	20.80	31.177	
4,800.00	4,783.91	4,745.70	4,735.13	12.34	11.45	-164.13	-301.61	168.73	664.77	643.51	21.26	31.265	
4,900.00	4,883.46	4,844.35	4,833.48	12.62	11.71	-164.15	-308.41	172.16	681.18	659.45	21.73	31.350	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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	4,983.01	4,942.99	4,931.83	12.90	11.98	-164.17	-315.20	175.58	697.59	675.40	22.19	31.430	
5,100.00	5,082.56	5,041.63	5,030.18	13.18	12.24	-164.18	-322.00	179.01	714.01	691.35	22.66	31.507	
5,200.00	5,182.11	5,140.28	5,128.53	13.47	12.51	-164.20	-328.79	182.44	730.42	707.29	23.13	31.581	
5,300.00	5,281.65	5,238.92	5,226.88	13.75	12.77	-164.22	-335.59	185.86	746.83	723.24	23.60	31.652	
5,400.00	5,381.20	5,337.56	5,325.23	14.04	13.04	-164.23	-342.38	189.29	763.25	739.18	24.06	31.719	
5,500.00	5,480.75	5,436.21	5,423.58	14.32	13.30	-164.24	-349.18	192.71	779.66	755.13	24.53	31.784	
5,600.00	5,580.30	5,534.85	5,521.92	14.60	13.57	-164.26	-355.97	196.14	796.07	771.08	25.00	31.847	
5,700.00	5,679.85	5,633.50	5,620.27	14.89	13.83	-164.27	-362.77	199.57	812.49	787.02	25.46	31.907	
5,800.00	5,779.40	5,732.14	5,718.62	15.17	14.10	-164.28	-369.56	202.99	828.90	802.97	25.93	31.964	
5,900.00	5,878.95	5,830.78	5,816.97	15.45	14.36	-164.29	-376.36	206.42	845.31	818.91	26.40	32.020	
6,000.00	5,978.50	5,929.43	5,915.32	15.74	14.63	-164.30	-383.15	209.84	861.72	834.86	26.87	32.073	
6,100.00	6,078.05	6,028.07	6,013.67	16.02	14.90	-164.31	-389.95	213.27	878.14	850.80	27.34	32.125	
6,200.00	6,177.60	6,126.71	6,112.02	16.31	15.16	-164.32	-396.75	216.70	894.55	866.75	27.80	32.174	
6,270.98	6,248.26	6,196.73	6,181.83	16.51	15.35	-164.33	-401.57	219.13	906.20	878.07	28.14	32.209	
6,300.00	6,277.16	6,225.38	6,210.40	16.58	15.43	-164.36	-403.54	220.12	910.83	882.54	28.28	32.204	
6,400.00	6,376.93	6,330.25	6,314.96	16.78	15.70	-164.39	-410.71	223.74	924.57	895.82	28.75	32.160	
6,500.00	6,476.87	6,474.36	6,458.90	16.95	15.99	-164.38	-416.55	226.68	932.01	902.80	29.22	31.898	
6,543.13	6,520.00	6,535.46	6,520.00	17.01	16.10	135.14	-417.08	226.95	932.71	903.31	29.41	31.717	
6,600.00	6,576.87	6,592.33	6,576.87	17.11	16.20	135.14	-417.08	226.95	932.71	903.09	29.63	31.483	
6,700.00	6,676.87	6,692.33	6,676.87	17.29	16.36	135.14	-417.08	226.95	932.71	902.70	30.01	31.078	
6,800.00	6,776.87	6,792.33	6,776.87	17.48	16.52	135.14	-417.08	226.95	932.71	902.32	30.40	30.683	
6,900.00	6,876.87	6,892.33	6,876.87	17.66	16.68	135.14	-417.08	226.95	932.71	901.93	30.79	30.296	
7,000.00	6,976.87	6,992.33	6,976.87	17.85	16.85	135.14	-417.08	226.95	932.71	901.54	31.18	29.917	
7,100.00	7,076.87	7,092.33	7,076.87	18.04	17.02	135.14	-417.08	226.95	932.71	901.15	31.57	29.546	
7,200.00	7,176.87	7,192.33	7,176.87	18.22	17.18	135.14	-417.08	226.95	932.71	900.75	31.96	29.182	
7,300.00	7,276.87	7,292.33	7,276.87	18.41	17.35	135.14	-417.08	226.95	932.71	900.36	32.36	28.826	
7,400.00	7,376.87	7,392.33	7,376.87	18.60	17.52	135.14	-417.08	226.95	932.71	899.96	32.75	28.478	
7,500.00	7,476.87	7,492.33	7,476.87	18.79	17.70	135.14	-417.08	226.95	932.71	899.56	33.15	28.137	
7,600.00	7,576.87	7,592.33	7,576.87	18.99	17.87	135.14	-417.08	226.95	932.71	899.17	33.55	27.802	
7,700.00	7,676.87	7,692.33	7,676.87	19.18	18.04	135.14	-417.08	226.95	932.71	898.77	33.95	27.475	
7,800.00	7,776.87	7,792.33	7,776.87	19.37	18.22	135.14	-417.08	226.95	932.71	898.36	34.35	27.154	
7,900.00	7,876.87	7,892.33	7,876.87	19.57	18.39	135.14	-417.08	226.95	932.71	897.96	34.75	26.840	
8,000.00	7,976.87	7,992.33	7,976.87	19.76	18.57	135.14	-417.08	226.95	932.71	897.56	35.15	26.532	
8,100.00	8,076.87	8,092.33	8,076.87	19.95	18.75	135.14	-417.08	226.95	932.71	897.15	35.56	26.230	
8,200.00	8,176.87	8,192.33	8,176.87	20.15	18.93	135.14	-417.08	226.95	932.71	896.75	35.96	25.934	
8,300.00	8,276.87	8,292.33	8,276.87	20.35	19.11	135.14	-417.08	226.95	932.71	896.34	36.37	25.644	
8,378.13	8,355.00	8,370.46	8,355.00	20.50	19.25	135.14	-417.08	226.95	932.71	896.02	36.69	25.421	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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	141.23	-8.01	6.44	10.28				
100.00	100.00	100.00	100.00	0.10	0.10	141.23	-8.01	6.44	10.28	10.09	0.19	53.800	
200.00	200.00	200.00	200.00	0.32	0.32	141.23	-8.01	6.44	10.28	9.64	0.64	16.046	
300.00	300.00	300.00	300.00	0.55	0.55	141.23	-8.01	6.44	10.28	9.19	1.09	9.429	
400.00	400.00	400.00	400.00	0.77	0.77	141.23	-8.01	6.44	10.28	8.74	1.54	6.676	
500.00	500.00	500.00	500.00	0.99	0.99	141.23	-8.01	6.44	10.28	8.29	1.99	5.167	
600.00	600.00	600.00	600.00	1.22	1.22	141.23	-8.01	6.44	10.28	7.84	2.44	4.215	
700.00	700.00	700.00	700.00	1.44	1.44	141.23	-8.01	6.44	10.28	7.39	2.89	3.559	
800.00	800.00	800.00	800.00	1.67	1.67	141.23	-8.01	6.44	10.28	6.94	3.34	3.079	
900.00	900.00	900.00	900.00	1.89	1.89	141.23	-8.01	6.44	10.28	6.49	3.79	2.714	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.23	-8.01	6.44	10.28	6.04	4.24	2.426	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.23	-8.01	6.44	10.28	5.82	4.46	2.304 CC	
1,100.00	1,100.00	1,100.09	1,100.09	2.34	2.34	-161.21	-7.60	6.58	10.47	5.78	4.68	2.235 ES, SF	
1,200.00	1,199.93	1,200.12	1,200.05	2.55	2.57	179.69	-4.30	7.73	12.78	7.67	5.11	2.500	
1,300.00	1,299.68	1,299.69	1,299.38	2.78	2.79	159.46	2.25	10.03	19.76	14.23	5.54	3.570	
1,322.15	1,321.74	1,321.66	1,321.26	2.83	2.84	156.14	4.13	10.69	22.05	16.41	5.63	3.914	
1,400.00	1,399.24	1,398.62	1,397.76	3.01	3.02	146.57	11.98	13.43	31.20	25.21	5.99	5.212	
1,500.00	1,498.79	1,496.82	1,495.01	3.25	3.27	137.02	24.81	17.92	45.15	38.70	6.46	6.994	
1,600.00	1,598.34	1,594.29	1,591.03	3.50	3.55	129.60	40.61	23.45	61.85	54.90	6.94	8.907	
1,700.00	1,697.89	1,692.45	1,687.52	3.76	3.85	124.69	57.64	29.41	79.98	72.54	7.45	10.740	
1,800.00	1,797.44	1,790.61	1,784.01	4.01	4.16	121.60	74.68	35.37	98.48	90.52	7.96	12.374	
1,900.00	1,896.99	1,888.78	1,880.49	4.28	4.49	119.50	91.71	41.33	117.16	108.68	8.48	13.821	
2,000.00	1,996.53	1,986.94	1,976.98	4.54	4.83	117.97	108.75	47.29	135.95	126.95	9.00	15.105	
2,100.00	2,096.08	2,085.10	2,073.47	4.81	5.18	116.81	125.78	53.25	154.82	145.29	9.53	16.246	
2,200.00	2,195.63	2,183.26	2,169.96	5.08	5.53	115.91	142.81	59.20	173.73	163.67	10.06	17.265	
2,300.00	2,295.18	2,281.43	2,266.45	5.35	5.89	115.18	159.85	65.16	192.68	182.08	10.60	18.178	
2,400.00	2,394.73	2,379.59	2,362.94	5.62	6.26	114.58	176.88	71.12	211.65	200.51	11.14	18.999	
2,500.00	2,494.28	2,477.75	2,459.43	5.89	6.63	114.09	193.92	77.08	230.63	218.95	11.68	19.742	
2,600.00	2,593.83	2,575.91	2,555.92	6.17	7.00	113.66	210.95	83.04	249.64	237.41	12.23	20.416	
2,700.00	2,693.38	2,674.08	2,652.41	6.44	7.37	113.30	227.98	89.00	268.65	255.88	12.77	21.031	
2,800.00	2,792.93	2,772.24	2,748.90	6.72	7.75	112.98	245.02	94.96	287.67	274.35	13.32	21.592	
2,900.00	2,892.48	2,870.40	2,845.39	7.00	8.13	112.71	262.05	100.92	306.70	292.83	13.87	22.107	
3,000.00	2,992.03	2,968.56	2,941.88	7.27	8.51	112.47	279.09	106.88	325.74	311.32	14.43	22.581	
3,100.00	3,091.57	3,066.73	3,038.37	7.55	8.89	112.25	296.12	112.84	344.78	329.80	14.98	23.018	
3,200.00	3,191.12	3,164.89	3,134.86	7.83	9.27	112.05	313.16	118.80	363.83	348.30	15.53	23.423	
3,300.00	3,290.67	3,263.05	3,231.35	8.11	9.66	111.88	330.19	124.76	382.88	366.79	16.09	23.799	
3,400.00	3,390.22	3,361.21	3,327.84	8.39	10.04	111.72	347.22	130.72	401.93	385.29	16.64	24.148	
3,500.00	3,489.77	3,459.38	3,424.32	8.67	10.43	111.58	364.26	136.68	420.99	403.78	17.20	24.474	
3,600.00	3,589.32	3,557.54	3,520.81	8.95	10.82	111.45	381.29	142.64	440.04	422.28	17.76	24.778	
3,700.00	3,688.87	3,655.70	3,617.30	9.23	11.20	111.33	398.33	148.60	459.10	440.78	18.32	25.063	
3,800.00	3,788.42	3,753.86	3,713.79	9.51	11.59	111.21	415.36	154.56	478.16	459.29	18.88	25.331	
3,900.00	3,887.97	3,852.03	3,810.28	9.79	11.98	111.11	432.39	160.52	497.23	477.79	19.44	25.582	
4,000.00	3,987.52	3,950.19	3,906.77	10.08	12.37	111.02	449.43	166.48	516.29	496.29	20.00	25.819	
4,100.00	4,087.07	4,048.35	4,003.26	10.36	12.76	110.93	466.46	172.44	535.36	514.80	20.56	26.042	
4,200.00	4,186.61	4,146.51	4,099.75	10.64	13.15	110.85	483.50	178.40	554.42	533.31	21.12	26.253	
4,300.00	4,286.16	4,244.68	4,196.24	10.92	13.54	110.77	500.53	184.35	573.49	551.81	21.68	26.453	
4,400.00	4,385.71	4,342.84	4,292.73	11.20	13.93	110.70	517.56	190.31	592.56	570.32	22.24	26.642	
4,500.00	4,485.26	4,441.00	4,389.22	11.49	14.33	110.63	534.60	196.27	611.63	588.83	22.80	26.821	
4,600.00	4,584.81	4,539.16	4,485.71	11.77	14.72	110.57	551.63	202.23	630.70	607.33	23.37	26.992	
4,700.00	4,684.36	4,637.33	4,582.20	12.05	15.11	110.51	568.67	208.19	649.77	625.84	23.93	27.154	
4,800.00	4,783.91	4,735.49	4,678.69	12.34	15.50	110.45	585.70	214.15	668.84	644.35	24.49	27.308	
4,900.00	4,883.46	4,833.65	4,775.18	12.62	15.90	110.40	602.73	220.11	687.92	662.86	25.06	27.455	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,983.01	4,931.81	4,871.66	12.90	16.29	110.35	619.77	226.07	706.99	681.37	25.62	27.596	
5,100.00	5,082.56	5,029.98	4,968.15	13.18	16.68	110.30	636.80	232.03	726.06	699.88	26.18	27.730	
5,200.00	5,182.11	5,128.14	5,064.64	13.47	17.08	110.26	653.84	237.99	745.14	718.39	26.75	27.859	
5,300.00	5,281.65	5,226.30	5,161.13	13.75	17.47	110.22	670.87	243.95	764.21	736.90	27.31	27.981	
5,400.00	5,381.20	5,324.46	5,257.62	14.04	17.86	110.17	687.91	249.91	783.28	755.41	27.88	28.099	
5,500.00	5,480.75	5,422.63	5,354.11	14.32	18.26	110.14	704.94	255.87	802.36	773.92	28.44	28.212	
5,600.00	5,580.30	5,520.79	5,450.60	14.60	18.65	110.10	721.97	261.83	821.43	792.43	29.01	28.320	
5,700.00	5,679.85	5,618.95	5,547.09	14.89	19.05	110.06	739.01	267.79	840.51	810.94	29.57	28.424	
5,800.00	5,779.40	5,717.11	5,643.58	15.17	19.44	110.03	756.04	273.75	859.59	829.45	30.14	28.524	
5,900.00	5,878.95	5,815.27	5,740.07	15.45	19.83	110.00	773.08	279.71	878.66	847.96	30.70	28.621	
6,000.00	5,978.50	5,913.44	5,836.56	15.74	20.23	109.97	790.11	285.67	897.74	866.47	31.27	28.713	
6,100.00	6,078.05	6,011.60	5,933.05	16.02	20.62	109.94	807.14	291.63	916.81	884.98	31.83	28.802	
6,200.00	6,177.60	6,126.15	6,045.75	16.31	21.04	109.92	826.47	298.39	935.52	903.11	32.42	28.859	
6,270.98	6,248.26	6,223.82	6,142.36	16.51	21.31	110.01	840.02	303.13	946.82	913.98	32.84	28.835	
6,300.00	6,277.16	6,264.00	6,182.23	16.58	21.41	110.14	844.69	304.76	950.79	917.78	33.01	28.804	
6,400.00	6,376.93	6,403.44	6,321.06	16.78	21.72	110.47	856.79	309.00	961.04	927.51	33.53	28.661	
6,500.00	6,476.87	6,543.86	6,461.34	16.95	21.95	110.63	862.52	311.00	965.90	931.92	33.97	28.431	
6,543.13	6,520.00	6,602.52	6,520.00	17.01	22.03	50.17	862.99	311.17	966.32	932.18	34.14	28.304	
6,600.00	6,576.87	6,659.39	6,576.87	17.11	22.11	50.17	862.99	311.17	966.32	931.98	34.34	28.140	
6,700.00	6,676.87	6,759.39	6,676.87	17.29	22.25	50.17	862.99	311.17	966.32	931.62	34.70	27.845	
6,800.00	6,776.87	6,859.39	6,776.87	17.48	22.40	50.17	862.99	311.17	966.32	931.25	35.07	27.554	
6,900.00	6,876.87	6,959.39	6,876.87	17.66	22.54	50.17	862.99	311.17	966.32	930.88	35.44	27.268	
7,000.00	6,976.87	7,059.39	6,976.87	17.85	22.68	50.17	862.99	311.17	966.32	930.51	35.81	26.987	
7,100.00	7,076.87	7,159.39	7,076.87	18.04	22.83	50.17	862.99	311.17	966.32	930.14	36.18	26.709	
7,200.00	7,176.87	7,259.39	7,176.87	18.22	22.98	50.17	862.99	311.17	966.32	929.77	36.55	26.436	
7,300.00	7,276.87	7,359.39	7,276.87	18.41	23.13	50.17	862.99	311.17	966.32	929.39	36.93	26.168	
7,400.00	7,376.87	7,459.39	7,376.87	18.60	23.28	50.17	862.99	311.17	966.32	929.01	37.30	25.903	
7,500.00	7,476.87	7,559.39	7,476.87	18.79	23.43	50.17	862.99	311.17	966.32	928.64	37.68	25.643	
7,600.00	7,576.87	7,659.39	7,576.87	18.99	23.58	50.17	862.99	311.17	966.32	928.26	38.06	25.387	
7,700.00	7,676.87	7,759.39	7,676.87	19.18	23.73	50.17	862.99	311.17	966.32	927.87	38.44	25.135	
7,800.00	7,776.87	7,859.39	7,776.87	19.37	23.89	50.17	862.99	311.17	966.32	927.49	38.83	24.888	
7,900.00	7,876.87	7,959.39	7,876.87	19.57	24.04	50.17	862.99	311.17	966.32	927.11	39.21	24.644	
7,966.03	7,942.90	8,025.42	7,942.90	19.69	24.15	50.17	862.99	311.17	966.32	926.85	39.47	24.485	
8,000.00	7,976.87	8,057.52	7,975.00	19.76	24.20	50.17	862.99	311.17	966.32	926.73	39.59	24.406	
8,100.00	8,076.87	8,057.52	7,975.00	19.95	24.20	50.17	862.99	311.17	971.67	931.88	39.79	24.420	
8,200.00	8,176.87	8,057.52	7,975.00	20.15	24.20	50.17	862.99	311.17	987.18	947.19	39.99	24.687	
8,300.00	8,276.87	8,057.52	7,975.00	20.35	24.20	50.17	862.99	311.17	1,012.37	972.19	40.19	25.192	
8,378.13	8,355.00	8,057.52	7,975.00	20.50	24.20	50.17	862.99	311.17	1,038.35	998.01	40.34	25.739	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	141.20	-62.65	50.37	80.39				
100.00	100.00	100.00	100.00	0.10	0.10	141.20	-62.65	50.37	80.39	80.20	0.19	420.771	
200.00	200.00	200.00	200.00	0.32	0.32	141.20	-62.65	50.37	80.39	79.75	0.64	125.493	
300.00	300.00	300.00	300.00	0.55	0.55	141.20	-62.65	50.37	80.39	79.30	1.09	73.744	
400.00	400.00	400.00	400.00	0.77	0.77	141.20	-62.65	50.37	80.39	78.85	1.54	52.213	
500.00	500.00	500.00	500.00	0.99	0.99	141.20	-62.65	50.37	80.39	78.40	1.99	40.413	
600.00	600.00	600.00	600.00	1.22	1.22	141.20	-62.65	50.37	80.39	77.95	2.44	32.964	
700.00	700.00	700.00	700.00	1.44	1.44	141.20	-62.65	50.37	80.39	77.50	2.89	27.833	
800.00	800.00	800.00	800.00	1.67	1.67	141.20	-62.65	50.37	80.39	77.05	3.34	24.085	
900.00	900.00	900.00	900.00	1.89	1.89	141.20	-62.65	50.37	80.39	76.60	3.79	21.226	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.20	-62.65	50.37	80.39	76.15	4.24	18.974	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.20	-62.65	50.37	80.39	75.93	4.46	18.018 CC, ES	
1,100.00	1,100.00	1,098.93	1,098.92	2.34	2.33	-158.62	-62.74	50.78	81.12	76.45	4.67	17.366	
1,200.00	1,199.93	1,196.44	1,196.38	2.55	2.52	-160.79	-63.41	54.04	87.08	82.01	5.07	17.180 SF	
1,300.00	1,299.68	1,292.95	1,292.66	2.78	2.72	-164.31	-64.73	60.45	99.28	93.81	5.47	18.164	
1,322.15	1,321.74	1,314.12	1,313.75	2.83	2.77	-165.16	-65.11	62.29	102.85	97.30	5.55	18.521	
1,400.00	1,399.24	1,388.02	1,387.24	3.01	2.94	-168.14	-66.68	69.88	117.00	111.12	5.87	19.917	
1,500.00	1,498.79	1,481.77	1,480.14	3.25	3.17	-171.56	-69.22	82.18	138.10	131.81	6.29	21.955	
1,600.00	1,598.34	1,574.03	1,571.11	3.50	3.43	-174.50	-72.31	97.18	162.47	155.76	6.71	24.217	
1,700.00	1,697.89	1,664.66	1,659.95	3.76	3.72	-176.99	-75.93	114.70	190.05	182.92	7.13	26.654	
1,800.00	1,797.44	1,753.51	1,746.46	4.01	4.04	-179.09	-80.02	134.54	220.75	213.19	7.55	29.223	
1,900.00	1,896.99	1,840.49	1,830.49	4.28	4.41	179.14	-84.56	156.50	254.45	246.47	7.98	31.889	
2,000.00	1,996.53	1,925.48	1,911.91	4.54	4.80	177.65	-89.48	180.37	291.05	282.64	8.41	34.627	
2,100.00	2,096.08	2,008.41	1,990.64	4.81	5.24	176.38	-94.76	205.92	330.43	321.60	8.83	37.416	
2,200.00	2,195.63	2,094.12	2,071.27	5.08	5.73	175.25	-100.63	234.36	372.21	362.94	9.27	40.145	
2,300.00	2,295.18	2,184.56	2,156.25	5.35	6.29	174.28	-106.88	264.68	414.43	404.70	9.73	42.594	
2,400.00	2,394.73	2,275.01	2,241.24	5.62	6.86	173.49	-113.14	295.00	456.73	446.54	10.19	44.812	
2,500.00	2,494.28	2,365.46	2,326.22	5.89	7.44	172.83	-119.40	325.31	499.10	488.44	10.66	46.825	
2,600.00	2,593.83	2,455.90	2,411.20	6.17	8.04	172.27	-125.66	355.63	541.51	530.38	11.13	48.657	
2,700.00	2,693.38	2,546.35	2,496.19	6.44	8.64	171.80	-131.91	385.95	583.95	572.35	11.60	50.330	
2,800.00	2,792.93	2,636.80	2,581.17	6.72	9.25	171.39	-138.17	416.27	626.43	614.35	12.08	51.862	
2,900.00	2,892.48	2,727.24	2,666.15	7.00	9.87	171.03	-144.43	446.58	668.92	656.36	12.56	53.268	
3,000.00	2,992.03	2,817.69	2,751.14	7.27	10.49	170.71	-150.69	476.90	711.44	698.40	13.04	54.563	
3,100.00	3,091.57	2,908.13	2,836.12	7.55	11.11	170.43	-156.94	507.22	753.97	740.45	13.52	55.759	
3,200.00	3,191.12	2,998.58	2,921.11	7.83	11.74	170.18	-163.20	537.54	796.51	782.51	14.01	56.864	
3,300.00	3,290.67	3,089.03	3,006.09	8.11	12.36	169.96	-169.46	567.86	839.07	824.57	14.49	57.890	
3,400.00	3,390.22	3,179.47	3,091.07	8.39	13.00	169.75	-175.72	598.17	881.63	866.65	14.98	58.843	
3,500.00	3,489.77	3,269.92	3,176.06	8.67	13.63	169.57	-181.97	628.49	924.21	908.73	15.47	59.732	
3,600.00	3,589.32	3,360.37	3,261.04	8.95	14.26	169.40	-188.23	658.81	966.79	950.82	15.96	60.561	
3,700.00	3,688.87	3,450.81	3,346.02	9.23	14.90	169.25	-194.49	689.13	1,009.37	992.92	16.46	61.338	
3,800.00	3,788.42	3,541.26	3,431.01	9.51	15.54	169.10	-200.75	719.45	1,051.97	1,035.02	16.95	62.066	
3,900.00	3,887.97	3,631.71	3,515.99	9.79	16.18	168.97	-207.00	749.76	1,094.56	1,077.12	17.44	62.750	
4,000.00	3,987.52	3,722.15	3,600.98	10.08	16.82	168.85	-213.26	780.08	1,137.17	1,119.23	17.94	63.393	
4,100.00	4,087.07	3,812.60	3,685.96	10.36	17.46	168.74	-219.52	810.40	1,179.77	1,161.34	18.43	63.999	
4,200.00	4,186.61	3,903.05	3,770.94	10.64	18.10	168.64	-225.78	840.72	1,222.38	1,203.45	18.93	64.571	
4,300.00	4,286.16	3,993.49	3,855.93	10.92	18.74	168.54	-232.03	871.03	1,264.99	1,245.56	19.43	65.112	
4,400.00	4,385.71	4,083.94	3,940.91	11.20	19.39	168.45	-238.29	901.35	1,307.61	1,287.68	19.93	65.623	
4,500.00	4,485.26	4,174.39	4,025.89	11.49	20.03	168.36	-244.55	931.67	1,350.22	1,329.80	20.42	66.108	
4,600.00	4,584.81	4,264.83	4,110.88	11.77	20.67	168.28	-250.81	961.99	1,392.84	1,371.92	20.92	66.569	
4,700.00	4,684.36	4,355.28	4,195.86	12.05	21.32	168.21	-257.06	992.31	1,435.47	1,414.04	21.42	67.006	
4,800.00	4,783.91	4,445.73	4,280.85	12.34	21.96	168.14	-263.32	1,022.62	1,478.09	1,456.17	21.92	67.422	
4,900.00	4,883.46	4,536.17	4,365.83	12.62	22.61	168.07	-269.58	1,052.94	1,520.71	1,498.29	22.42	67.818	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
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	4,983.01	4,626.62	4,450.81	12.90	23.26	168.01	-275.84	1,083.26	1,563.34	1,540.42	22.92	68.196	
5,100.00	5,082.56	4,717.07	4,535.80	13.18	23.90	167.95	-282.09	1,113.58	1,605.97	1,582.54	23.43	68.557	
5,200.00	5,182.11	4,807.51	4,620.78	13.47	24.55	167.89	-288.35	1,143.90	1,648.60	1,624.67	23.93	68.902	
5,300.00	5,281.65	4,897.96	4,705.76	13.75	25.19	167.84	-294.61	1,174.21	1,691.23	1,666.80	24.43	69.231	
5,400.00	5,381.20	4,988.40	4,790.75	14.04	25.84	167.79	-300.87	1,204.53	1,733.86	1,708.93	24.93	69.547	
5,500.00	5,480.75	5,078.85	4,875.73	14.32	26.49	167.74	-307.12	1,234.85	1,776.50	1,751.06	25.43	69.849	
5,600.00	5,580.30	5,169.30	4,960.72	14.60	27.14	167.69	-313.38	1,265.17	1,819.13	1,793.19	25.94	70.139	
5,700.00	5,679.85	5,259.74	5,045.70	14.89	27.78	167.65	-319.64	1,295.48	1,861.76	1,835.33	26.44	70.417	
5,800.00	5,779.40	5,350.19	5,130.68	15.17	28.43	167.60	-325.89	1,325.80	1,904.40	1,877.46	26.94	70.684	
5,900.00	5,878.95	5,440.64	5,215.67	15.45	29.08	167.56	-332.15	1,356.12	1,947.04	1,919.59	27.45	70.941	
6,000.00	5,978.50	5,531.08	5,300.65	15.74	29.73	167.52	-338.41	1,386.44	1,989.68	1,961.73	27.95	71.188	
6,100.00	6,078.05	5,621.53	5,385.64	16.02	30.38	167.49	-344.67	1,416.76	2,032.31	2,003.86	28.45	71.426	
6,200.00	6,177.60	5,711.98	5,470.62	16.31	31.03	167.45	-350.92	1,447.07	2,074.95	2,046.00	28.96	71.655	
6,270.98	6,248.26	5,829.71	5,581.55	16.51	31.77	167.41	-358.89	1,485.68	2,104.97	2,075.51	29.46	71.458	
6,300.00	6,277.16	5,930.29	5,677.44	16.58	32.27	167.43	-365.02	1,515.37	2,116.07	2,086.23	29.84	70.910	
6,400.00	6,376.93	6,299.63	6,037.29	16.78	33.68	167.49	-381.61	1,595.74	2,144.64	2,113.55	31.09	68.985	
6,500.00	6,476.87	6,692.86	6,428.59	16.95	34.44	167.53	-388.83	1,630.75	2,156.88	2,124.73	32.15	67.094	
6,543.13	6,520.00	6,784.28	6,520.00	17.01	34.53	107.06	-388.98	1,631.46	2,157.38	2,124.95	32.42	66.543	
6,600.00	6,576.87	6,841.15	6,576.87	17.11	34.58	107.06	-388.98	1,631.46	2,157.38	2,124.76	32.62	66.140	
6,700.00	6,676.87	6,941.15	6,676.87	17.29	34.66	107.06	-388.98	1,631.46	2,157.38	2,124.39	32.98	65.409	
6,800.00	6,776.87	7,041.15	6,776.87	17.48	34.76	107.06	-388.98	1,631.46	2,157.38	2,124.03	33.35	64.691	
6,900.00	6,876.87	7,141.15	6,876.87	17.66	34.85	107.06	-388.98	1,631.46	2,157.38	2,123.66	33.72	63.985	
7,000.00	6,976.87	7,241.15	6,976.87	17.85	34.94	107.06	-388.98	1,631.46	2,157.38	2,123.29	34.09	63.291	
7,100.00	7,076.87	7,341.15	7,076.87	18.04	35.03	107.06	-388.98	1,631.46	2,157.38	2,122.92	34.46	62.608	
7,200.00	7,176.87	7,441.15	7,176.87	18.22	35.13	107.06	-388.98	1,631.46	2,157.38	2,122.54	34.83	61.937	
7,300.00	7,276.87	7,541.15	7,276.87	18.41	35.23	107.06	-388.98	1,631.46	2,157.38	2,122.17	35.21	61.277	
7,400.00	7,376.87	7,641.15	7,376.87	18.60	35.32	107.06	-388.98	1,631.46	2,157.38	2,121.79	35.58	60.629	
7,500.00	7,476.87	7,741.15	7,476.87	18.79	35.42	107.06	-388.98	1,631.46	2,157.38	2,121.41	35.96	59.991	
7,600.00	7,576.87	7,841.15	7,576.87	18.99	35.52	107.06	-388.98	1,631.46	2,157.38	2,121.03	36.34	59.365	
7,700.00	7,676.87	7,941.15	7,676.87	19.18	35.62	107.06	-388.98	1,631.46	2,157.38	2,120.65	36.72	58.748	
7,800.00	7,776.87	8,041.15	7,776.87	19.37	35.72	107.06	-388.98	1,631.46	2,157.38	2,120.27	37.10	58.143	
7,900.00	7,876.87	8,141.15	7,876.87	19.57	35.83	107.06	-388.98	1,631.46	2,157.38	2,119.89	37.49	57.547	
8,000.00	7,976.87	8,241.15	7,976.87	19.76	35.93	107.06	-388.98	1,631.46	2,157.38	2,119.50	37.87	56.962	
8,100.00	8,076.87	8,341.15	8,076.87	19.95	36.04	107.06	-388.98	1,631.46	2,157.38	2,119.11	38.26	56.386	
8,200.00	8,176.87	8,441.15	8,176.87	20.15	36.14	107.06	-388.98	1,631.46	2,157.38	2,118.73	38.65	55.820	
8,300.00	8,276.87	8,541.15	8,276.87	20.35	36.25	107.06	-388.98	1,631.46	2,157.38	2,118.34	39.04	55.263	
8,378.13	8,355.00	8,619.28	8,355.00	20.50	36.34	107.06	-388.98	1,631.46	2,157.38	2,118.03	39.34	54.835	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	140.59	-15.66	12.87	20.27				
100.00	100.00	100.00	100.00	0.10	0.10	140.59	-15.66	12.87	20.27	20.08	0.19	106.121	
200.00	200.00	200.00	200.00	0.32	0.32	140.59	-15.66	12.87	20.27	19.63	0.64	31.650	
300.00	300.00	300.00	300.00	0.55	0.55	140.59	-15.66	12.87	20.27	19.18	1.09	18.599	
400.00	400.00	400.00	400.00	0.77	0.77	140.59	-15.66	12.87	20.27	18.73	1.54	13.168	
500.00	500.00	500.00	500.00	0.99	0.99	140.59	-15.66	12.87	20.27	18.29	1.99	10.192	
600.00	600.00	600.00	600.00	1.22	1.22	140.59	-15.66	12.87	20.27	17.84	2.44	8.314	
700.00	700.00	700.00	700.00	1.44	1.44	140.59	-15.66	12.87	20.27	17.39	2.89	7.020	
800.00	800.00	800.00	800.00	1.67	1.67	140.59	-15.66	12.87	20.27	16.94	3.34	6.074	
900.00	900.00	900.00	900.00	1.89	1.89	140.59	-15.66	12.87	20.27	16.49	3.79	5.353	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	140.59	-15.66	12.87	20.27	16.04	4.24	4.785	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	140.59	-15.66	12.87	20.27	15.81	4.46	4.544 CC, ES	
1,100.00	1,100.00	1,100.11	1,100.11	2.34	2.33	-158.22	-15.82	12.46	20.55	15.87	4.67	4.397 SF	
1,200.00	1,199.93	1,200.26	1,200.19	2.55	2.53	-153.06	-17.09	9.20	22.83	17.75	5.07	4.500	
1,300.00	1,299.68	1,300.20	1,299.89	2.78	2.73	-145.43	-19.61	2.69	27.79	22.30	5.49	5.064	
1,322.15	1,321.74	1,322.31	1,321.90	2.83	2.78	-143.72	-20.34	0.81	29.30	23.71	5.59	5.245	
1,400.00	1,399.24	1,399.85	1,398.98	3.01	2.95	-137.06	-23.37	-7.02	35.04	29.10	5.94	5.898	
1,500.00	1,498.79	1,499.06	1,497.22	3.25	3.20	-127.24	-28.36	-19.88	43.49	37.06	6.43	6.764	
1,600.00	1,598.34	1,597.76	1,594.44	3.50	3.48	-117.41	-34.50	-35.74	54.02	47.08	6.95	7.777	
1,700.00	1,697.89	1,696.73	1,691.74	3.76	3.79	-110.06	-41.05	-52.62	66.16	58.68	7.48	8.848	
1,800.00	1,797.44	1,795.70	1,789.04	4.01	4.12	-105.04	-47.59	-69.50	79.03	71.02	8.01	9.863	
1,900.00	1,896.99	1,894.67	1,886.34	4.28	4.47	-101.44	-54.13	-86.38	92.33	83.78	8.55	10.797	
2,000.00	1,996.53	1,993.64	1,983.64	4.54	4.82	-98.76	-60.67	-103.26	105.90	96.80	9.09	11.644	
2,100.00	2,096.08	2,092.60	2,080.94	4.81	5.19	-96.68	-67.22	-120.14	119.65	110.00	9.64	12.409	
2,200.00	2,195.63	2,191.57	2,178.24	5.08	5.56	-95.04	-73.76	-137.02	133.52	123.32	10.19	13.099	
2,300.00	2,295.18	2,290.54	2,275.53	5.35	5.93	-93.70	-80.30	-153.90	147.47	136.73	10.75	13.723	
2,400.00	2,394.73	2,389.51	2,372.83	5.62	6.32	-92.60	-86.84	-170.78	161.49	150.19	11.30	14.288	
2,500.00	2,494.28	2,488.48	2,470.13	5.89	6.70	-91.67	-93.39	-187.66	175.57	163.70	11.86	14.801	
2,600.00	2,593.83	2,587.44	2,567.43	6.17	7.09	-90.88	-99.93	-204.53	189.68	177.25	12.42	15.269	
2,700.00	2,693.38	2,686.41	2,664.73	6.44	7.49	-90.20	-106.47	-221.41	203.82	190.83	12.99	15.696	
2,800.00	2,792.93	2,785.38	2,762.03	6.72	7.88	-89.61	-113.01	-238.29	217.98	204.43	13.55	16.087	
2,900.00	2,892.48	2,884.35	2,859.32	7.00	8.28	-89.09	-119.56	-255.17	232.17	218.05	14.12	16.447	
3,000.00	2,992.03	2,983.32	2,956.62	7.27	8.68	-88.63	-126.10	-272.05	246.37	231.68	14.68	16.779	
3,100.00	3,091.57	3,082.29	3,053.92	7.55	9.08	-88.22	-132.64	-288.93	260.58	245.33	15.25	17.086	
3,200.00	3,191.12	3,181.25	3,151.22	7.83	9.48	-87.85	-139.18	-305.81	274.81	258.99	15.82	17.370	
3,300.00	3,290.67	3,280.22	3,248.52	8.11	9.88	-87.52	-145.72	-322.69	289.05	272.65	16.39	17.634	
3,400.00	3,390.22	3,379.19	3,345.82	8.39	10.29	-87.22	-152.27	-339.57	303.29	286.33	16.96	17.879	
3,500.00	3,489.77	3,478.16	3,443.11	8.67	10.69	-86.94	-158.81	-356.45	317.55	300.01	17.54	18.109	
3,600.00	3,589.32	3,577.13	3,540.41	8.95	11.10	-86.69	-165.35	-373.33	331.81	313.70	18.11	18.323	
3,700.00	3,688.87	3,676.09	3,637.71	9.23	11.50	-86.46	-171.89	-390.21	346.07	327.39	18.68	18.524	
3,800.00	3,788.42	3,775.06	3,735.01	9.51	11.91	-86.25	-178.44	-407.09	360.34	341.08	19.26	18.713	
3,900.00	3,887.97	3,874.03	3,832.31	9.79	12.32	-86.06	-184.98	-423.97	374.62	354.78	19.83	18.890	
4,000.00	3,987.52	3,973.00	3,929.61	10.08	12.73	-85.88	-191.52	-440.85	388.89	368.49	20.41	19.058	
4,100.00	4,087.07	4,071.97	4,026.90	10.36	13.14	-85.71	-198.06	-457.73	403.18	382.19	20.98	19.215	
4,200.00	4,186.61	4,170.94	4,124.20	10.64	13.54	-85.55	-204.61	-474.61	417.46	395.90	21.56	19.365	
4,300.00	4,286.16	4,269.90	4,221.50	10.92	13.95	-85.41	-211.15	-491.49	431.75	409.62	22.13	19.506	
4,400.00	4,385.71	4,368.87	4,318.80	11.20	14.36	-85.27	-217.69	-508.37	446.04	423.33	22.71	19.640	
4,500.00	4,485.26	4,467.84	4,416.10	11.49	14.77	-85.14	-224.23	-525.25	460.33	437.04	23.29	19.767	
4,600.00	4,584.81	4,566.81	4,513.40	11.77	15.19	-85.02	-230.77	-542.13	474.63	450.76	23.87	19.887	
4,700.00	4,684.36	4,665.78	4,610.70	12.05	15.60	-84.91	-237.32	-559.01	488.93	464.48	24.44	20.002	
4,800.00	4,783.91	4,764.74	4,707.99	12.34	16.01	-84.80	-243.86	-575.89	503.22	478.20	25.02	20.111	
4,900.00	4,883.46	4,863.71	4,805.29	12.62	16.42	-84.70	-250.40	-592.77	517.52	491.92	25.60	20.216	

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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN #1 1-15-10												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,983.01	4,962.68	4,902.59	12.90	16.83	-84.60	-256.94	-609.65	531.83	505.65	26.18	20.315	
5,100.00	5,082.56	5,061.65	4,999.89	13.18	17.24	-84.51	-263.49	-626.53	546.13	519.37	26.76	20.410	
5,200.00	5,182.11	5,160.62	5,097.19	13.47	17.65	-84.43	-270.03	-643.41	560.43	533.10	27.34	20.501	
5,300.00	5,281.65	5,259.59	5,194.49	13.75	18.07	-84.35	-276.57	-660.29	574.74	546.82	27.92	20.588	
5,400.00	5,381.20	5,358.55	5,291.78	14.04	18.48	-84.27	-283.11	-677.16	589.05	560.55	28.50	20.672	
5,500.00	5,480.75	5,457.52	5,389.08	14.32	18.89	-84.19	-289.66	-694.04	603.36	574.28	29.07	20.752	
5,600.00	5,580.30	5,556.49	5,486.38	14.60	19.31	-84.12	-296.20	-710.92	617.66	588.01	29.65	20.829	
5,700.00	5,679.85	5,655.46	5,583.68	14.89	19.72	-84.06	-302.74	-727.80	631.97	601.74	30.23	20.903	
5,800.00	5,779.40	5,754.43	5,680.98	15.17	20.13	-83.99	-309.28	-744.68	646.28	615.47	30.81	20.974	
5,900.00	5,878.95	5,853.39	5,778.28	15.45	20.54	-83.93	-315.83	-761.56	660.60	629.20	31.39	21.042	
6,000.00	5,978.50	5,952.36	5,875.57	15.74	20.96	-83.87	-322.37	-778.44	674.91	642.93	31.97	21.108	
6,100.00	6,078.05	6,051.33	5,972.87	16.02	21.37	-83.81	-328.91	-795.32	689.22	656.67	32.55	21.171	
6,200.00	6,177.60	6,150.30	6,070.17	16.31	21.78	-83.76	-335.45	-812.20	703.53	670.40	33.14	21.232	
6,270.98	6,248.26	6,220.55	6,139.23	16.51	22.08	-83.72	-340.10	-824.18	713.69	680.15	33.55	21.274	
6,300.00	6,277.16	6,249.26	6,167.47	16.58	22.20	-83.78	-341.99	-829.08	717.86	684.15	33.71	21.293	
6,400.00	6,376.93	6,348.13	6,264.66	16.78	22.61	-83.81	-348.53	-845.94	732.48	698.27	34.21	21.410	
6,500.00	6,476.87	6,446.76	6,361.63	16.95	23.02	-83.59	-355.05	-862.77	747.51	712.86	34.65	21.574	
6,543.13	6,520.00	6,489.20	6,403.36	17.01	23.20	-143.89	-357.86	-870.00	754.13	719.31	34.82	21.659	
6,600.00	6,576.87	6,545.11	6,458.32	17.11	23.44	-143.47	-361.55	-879.54	762.95	727.92	35.02	21.783	
6,700.00	6,676.87	6,643.42	6,554.97	17.29	23.85	-142.76	-368.05	-896.31	778.54	743.14	35.40	21.991	
6,800.00	6,776.87	6,741.73	6,651.63	17.48	24.26	-142.07	-374.55	-913.08	794.26	758.47	35.78	22.196	
6,900.00	6,876.87	6,840.05	6,748.28	17.66	24.67	-141.41	-381.05	-929.84	810.08	773.91	36.17	22.399	
7,000.00	6,976.87	6,938.36	6,844.94	17.85	25.08	-140.77	-387.55	-946.61	826.00	789.45	36.55	22.600	
7,100.00	7,076.87	7,036.67	6,941.59	18.04	25.49	-140.16	-394.05	-963.38	842.02	805.09	36.93	22.798	
7,200.00	7,176.87	7,150.08	7,053.18	18.22	25.90	-139.50	-401.34	-982.20	857.76	820.44	37.32	22.982	
7,300.00	7,276.87	7,285.14	7,186.90	18.41	26.25	-138.91	-408.17	-999.83	870.15	832.43	37.72	23.070	
7,400.00	7,376.87	7,421.72	7,322.87	18.60	26.53	-138.52	-412.76	-1,011.66	878.40	840.29	38.12	23.046	
7,500.00	7,476.87	7,559.20	7,460.20	18.79	26.74	-138.33	-415.01	-1,017.45	882.42	843.91	38.51	22.913	
7,600.00	7,576.87	7,675.87	7,576.87	18.99	26.89	-138.32	-415.24	-1,018.06	882.84	843.95	38.89	22.702	
7,700.00	7,676.87	7,775.87	7,676.87	19.18	27.01	-138.32	-415.24	-1,018.06	882.84	843.59	39.25	22.495	
7,800.00	7,776.87	7,875.87	7,776.87	19.37	27.14	-138.32	-415.24	-1,018.06	882.84	843.24	39.60	22.292	
7,900.00	7,876.87	7,975.87	7,876.87	19.57	27.26	-138.32	-415.24	-1,018.06	882.84	842.88	39.96	22.091	
8,000.00	7,976.87	8,075.87	7,976.87	19.76	27.39	-138.32	-415.24	-1,018.06	882.84	842.51	40.33	21.892	
8,100.00	8,076.87	8,079.00	7,980.00	19.95	27.39	-138.32	-415.24	-1,018.06	888.14	847.61	40.53	21.915	
8,200.00	8,176.87	8,079.00	7,980.00	20.15	27.39	-138.32	-415.24	-1,018.06	904.52	863.80	40.72	22.211	
8,300.00	8,276.87	8,079.00	7,980.00	20.35	27.39	-138.32	-415.24	-1,018.06	931.42	890.50	40.92	22.762	
8,378.13	8,355.00	8,079.00	7,980.00	20.50	27.39	-138.32	-415.24	-1,018.06	959.18	918.11	41.07	23.352	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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	141.00	-47.00	38.06	60.48				
100.00	100.00	100.00	100.00	0.10	0.10	141.00	-47.00	38.06	60.48	60.29	0.19	316.545	
200.00	200.00	200.00	200.00	0.32	0.32	141.00	-47.00	38.06	60.48	59.84	0.64	94.408	
300.00	300.00	300.00	300.00	0.55	0.55	141.00	-47.00	38.06	60.48	59.39	1.09	55.477	
400.00	400.00	400.00	400.00	0.77	0.77	141.00	-47.00	38.06	60.48	58.94	1.54	39.279	
500.00	500.00	500.00	500.00	0.99	0.99	141.00	-47.00	38.06	60.48	58.49	1.99	30.403	
600.00	600.00	600.00	600.00	1.22	1.22	141.00	-47.00	38.06	60.48	58.04	2.44	24.799	
700.00	700.00	700.00	700.00	1.44	1.44	141.00	-47.00	38.06	60.48	57.59	2.89	20.939	
800.00	800.00	800.00	800.00	1.67	1.67	141.00	-47.00	38.06	60.48	57.14	3.34	18.119	
900.00	900.00	900.00	900.00	1.89	1.89	141.00	-47.00	38.06	60.48	56.69	3.79	15.968	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	141.00	-47.00	38.06	60.48	56.24	4.24	14.274	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	141.00	-47.00	38.06	60.48	56.01	4.46	13.555 CC, ES	
1,100.00	1,100.00	1,099.09	1,099.09	2.34	2.33	-158.47	-47.42	38.13	61.25	56.59	4.67	13.128 SF	
1,200.00	1,199.93	1,196.98	1,196.91	2.55	2.50	-158.08	-50.72	38.67	67.47	62.43	5.04	13.382	
1,300.00	1,299.68	1,294.02	1,293.73	2.78	2.67	-157.48	-57.25	39.74	79.87	74.45	5.42	14.729	
1,322.15	1,321.74	1,315.35	1,314.97	2.83	2.72	-157.33	-59.12	40.04	83.45	77.94	5.51	15.150	
1,400.00	1,399.24	1,389.86	1,389.06	3.01	2.87	-156.70	-66.87	41.31	97.43	91.61	5.82	16.734	
1,500.00	1,498.79	1,484.54	1,482.88	3.25	3.08	-155.48	-79.46	43.38	117.97	111.74	6.24	18.920	
1,600.00	1,598.34	1,577.90	1,574.92	3.50	3.33	-154.06	-94.86	45.90	141.44	134.78	6.66	21.238	
1,700.00	1,697.89	1,669.77	1,664.94	3.76	3.61	-152.61	-112.90	48.86	167.83	160.74	7.09	23.657	
1,800.00	1,797.44	1,760.00	1,752.75	4.01	3.93	-151.22	-133.38	52.22	197.12	189.58	7.54	26.151	
1,900.00	1,896.99	1,848.46	1,838.16	4.28	4.29	-149.92	-156.10	55.94	229.25	221.27	7.99	28.699	
2,000.00	1,996.53	1,935.04	1,921.03	4.54	4.68	-148.73	-180.84	60.00	264.18	255.74	8.45	31.282	
2,100.00	2,096.08	2,019.64	2,001.24	4.81	5.11	-147.65	-207.40	64.35	301.83	292.92	8.91	33.892	
2,200.00	2,195.63	2,106.57	2,082.89	5.08	5.61	-146.64	-236.81	69.17	341.84	332.46	9.38	36.433	
2,300.00	2,295.18	2,197.88	2,168.55	5.35	6.15	-145.77	-268.03	74.29	382.29	372.41	9.88	38.696	
2,400.00	2,394.73	2,289.20	2,254.21	5.62	6.71	-145.08	-299.26	79.41	422.79	412.41	10.38	40.722	
2,500.00	2,494.28	2,380.52	2,339.87	5.89	7.29	-144.50	-330.49	84.52	463.34	452.45	10.89	42.545	
2,600.00	2,593.83	2,471.84	2,425.53	6.17	7.87	-144.02	-361.72	89.64	503.92	492.52	11.40	44.192	
2,700.00	2,693.38	2,563.16	2,511.19	6.44	8.46	-143.61	-392.95	94.76	544.53	532.61	11.92	45.684	
2,800.00	2,792.93	2,654.48	2,596.85	6.72	9.06	-143.26	-424.18	99.88	585.16	572.72	12.44	47.040	
2,900.00	2,892.48	2,745.80	2,682.52	7.00	9.67	-142.95	-455.41	105.00	625.80	612.84	12.96	48.278	
3,000.00	2,992.03	2,837.12	2,768.18	7.27	10.28	-142.68	-486.63	110.12	666.46	652.97	13.49	49.411	
3,100.00	3,091.57	2,928.44	2,853.84	7.55	10.89	-142.44	-517.86	115.24	707.13	693.11	14.02	50.452	
3,200.00	3,191.12	3,019.76	2,939.50	7.83	11.50	-142.22	-549.09	120.35	747.80	733.26	14.55	51.410	
3,300.00	3,290.67	3,111.08	3,025.16	8.11	12.12	-142.03	-580.32	125.47	788.49	773.41	15.08	52.294	
3,400.00	3,390.22	3,202.40	3,110.82	8.39	12.74	-141.86	-611.55	130.59	829.18	813.57	15.61	53.113	
3,500.00	3,489.77	3,293.72	3,196.48	8.67	13.36	-141.70	-642.78	135.71	869.88	853.73	16.15	53.873	
3,600.00	3,589.32	3,385.04	3,282.14	8.95	13.99	-141.56	-674.00	140.83	910.58	893.89	16.68	54.580	
3,700.00	3,688.87	3,476.36	3,367.81	9.23	14.61	-141.43	-705.23	145.95	951.28	934.06	17.22	55.239	
3,800.00	3,788.42	3,567.68	3,453.47	9.51	15.24	-141.31	-736.46	151.07	991.99	974.23	17.76	55.855	
3,900.00	3,887.97	3,659.00	3,539.13	9.79	15.87	-141.20	-767.69	156.18	1,032.71	1,014.41	18.30	56.431	
4,000.00	3,987.52	3,750.32	3,624.79	10.08	16.49	-141.10	-798.92	161.30	1,073.42	1,054.58	18.84	56.972	
4,100.00	4,087.07	3,841.64	3,710.45	10.36	17.12	-141.01	-830.15	166.42	1,114.14	1,094.76	19.38	57.481	
4,200.00	4,186.61	3,932.96	3,796.11	10.64	17.75	-140.92	-861.38	171.54	1,154.86	1,134.94	19.93	57.959	
4,300.00	4,286.16	4,024.28	3,881.77	10.92	18.38	-140.84	-892.60	176.66	1,195.59	1,175.12	20.47	58.410	
4,400.00	4,385.71	4,115.60	3,967.43	11.20	19.02	-140.76	-923.83	181.78	1,236.31	1,215.30	21.01	58.837	
4,500.00	4,485.26	4,206.91	4,053.10	11.49	19.65	-140.69	-955.06	186.90	1,277.04	1,255.48	21.56	59.240	
4,600.00	4,584.81	4,298.23	4,138.76	11.77	20.28	-140.62	-986.29	192.01	1,317.77	1,295.67	22.10	59.621	
4,700.00	4,684.36	4,389.55	4,224.42	12.05	20.91	-140.56	-1,017.52	197.13	1,358.50	1,335.85	22.65	59.983	
4,800.00	4,783.91	4,480.87	4,310.08	12.34	21.55	-140.50	-1,048.75	202.25	1,399.23	1,376.04	23.19	60.327	
4,900.00	4,883.46	4,572.19	4,395.74	12.62	22.18	-140.44	-1,079.97	207.37	1,439.96	1,416.22	23.74	60.654	

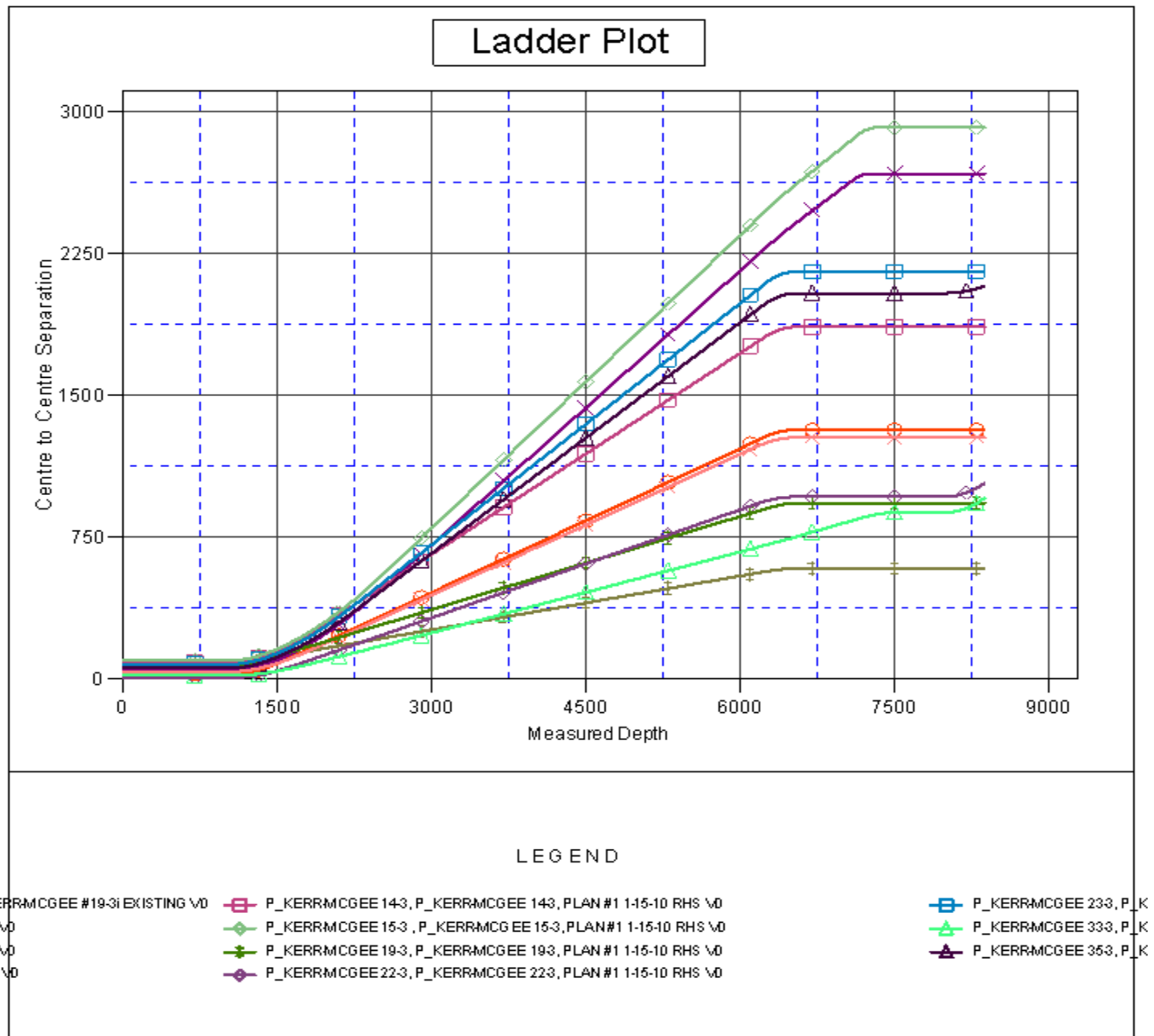
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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	4,983.01	4,663.51	4,481.40	12.90	22.81	-140.39	-1,111.20	212.49	1,480.70	1,456.41	24.29	60.965	
5,100.00	5,082.56	4,754.83	4,567.06	13.18	23.45	-140.34	-1,142.43	217.61	1,521.43	1,496.59	24.84	61.261	
5,200.00	5,182.11	4,846.15	4,652.72	13.47	24.08	-140.29	-1,173.66	222.73	1,562.17	1,536.78	25.38	61.544	
5,300.00	5,281.65	4,937.47	4,738.38	13.75	24.72	-140.25	-1,204.89	227.84	1,602.90	1,576.97	25.93	61.814	
5,400.00	5,381.20	5,028.79	4,824.05	14.04	25.35	-140.20	-1,236.12	232.96	1,643.64	1,617.16	26.48	62.072	
5,500.00	5,480.75	5,120.11	4,909.71	14.32	25.99	-140.16	-1,267.35	238.08	1,684.38	1,657.35	27.03	62.319	
5,600.00	5,580.30	5,211.43	4,995.37	14.60	26.63	-140.12	-1,298.57	243.20	1,725.11	1,697.54	27.58	62.556	
5,700.00	5,679.85	5,302.75	5,081.03	14.89	27.26	-140.09	-1,329.80	248.32	1,765.85	1,737.73	28.13	62.783	
5,800.00	5,779.40	5,394.07	5,166.69	15.17	27.90	-140.05	-1,361.03	253.44	1,806.59	1,777.92	28.68	63.000	
5,900.00	5,878.95	5,485.39	5,252.35	15.45	28.53	-140.02	-1,392.26	258.56	1,847.33	1,818.11	29.23	63.209	
6,000.00	5,978.50	5,576.71	5,338.01	15.74	29.17	-139.99	-1,423.49	263.68	1,888.07	1,858.30	29.78	63.410	
6,100.00	6,078.05	5,668.03	5,423.67	16.02	29.81	-139.96	-1,454.72	268.79	1,928.82	1,898.49	30.33	63.603	
6,200.00	6,177.60	5,759.35	5,509.34	16.31	30.44	-139.93	-1,485.94	273.91	1,969.56	1,938.68	30.88	63.789	
6,270.98	6,248.26	5,956.86	5,696.75	16.51	31.40	-139.91	-1,547.33	283.97	1,996.43	1,964.82	31.61	63.163	
6,300.00	6,277.16	6,043.60	5,780.33	16.58	31.76	-140.04	-1,570.24	287.73	2,005.95	1,973.99	31.96	62.766	
6,400.00	6,376.93	6,356.17	6,086.44	16.78	32.78	-140.39	-1,631.84	297.83	2,030.63	1,997.57	33.06	61.431	
6,500.00	6,476.87	6,683.11	6,411.90	16.95	33.40	-140.56	-1,660.69	302.55	2,041.90	2,007.93	33.97	60.115	
6,543.13	6,520.00	6,791.23	6,520.00	17.01	33.51	158.95	-1,662.18	302.80	2,042.60	2,008.35	34.25	59.634	
6,600.00	6,576.87	6,848.10	6,576.87	17.11	33.56	158.95	-1,662.18	302.80	2,042.60	2,008.17	34.43	59.319	
6,700.00	6,676.87	6,948.10	6,676.87	17.29	33.63	158.95	-1,662.18	302.80	2,042.60	2,007.83	34.77	58.744	
6,800.00	6,776.87	7,048.10	6,776.87	17.48	33.71	158.95	-1,662.18	302.80	2,042.60	2,007.49	35.11	58.176	
6,900.00	6,876.87	7,148.10	6,876.87	17.66	33.79	158.95	-1,662.18	302.80	2,042.60	2,007.15	35.45	57.616	
7,000.00	6,976.87	7,248.10	6,976.87	17.85	33.87	158.95	-1,662.18	302.80	2,042.60	2,006.80	35.80	57.062	
7,100.00	7,076.87	7,348.10	7,076.87	18.04	33.95	158.95	-1,662.18	302.80	2,042.60	2,006.46	36.14	56.516	
7,200.00	7,176.87	7,448.10	7,176.87	18.22	34.03	158.95	-1,662.18	302.80	2,042.60	2,006.11	36.49	55.976	
7,300.00	7,276.87	7,548.10	7,276.87	18.41	34.12	158.95	-1,662.18	302.80	2,042.60	2,005.76	36.84	55.444	
7,400.00	7,376.87	7,648.10	7,376.87	18.60	34.20	158.95	-1,662.18	302.80	2,042.60	2,005.41	37.19	54.919	
7,500.00	7,476.87	7,748.10	7,476.87	18.79	34.29	158.95	-1,662.18	302.80	2,042.60	2,005.05	37.55	54.401	
7,600.00	7,576.87	7,848.10	7,576.87	18.99	34.37	158.95	-1,662.18	302.80	2,042.60	2,004.70	37.90	53.890	
7,700.00	7,676.87	7,948.10	7,676.87	19.18	34.46	158.95	-1,662.18	302.80	2,042.60	2,004.34	38.26	53.386	
7,800.00	7,776.87	8,048.10	7,776.87	19.37	34.55	158.95	-1,662.18	302.80	2,042.60	2,003.98	38.62	52.888	
7,900.00	7,876.87	8,148.10	7,876.87	19.57	34.64	158.95	-1,662.18	302.80	2,042.60	2,003.62	38.98	52.398	
7,962.18	7,939.05	8,210.28	7,939.05	19.69	34.70	158.95	-1,662.18	302.80	2,042.60	2,003.39	39.21	52.096	
8,000.00	7,976.87	8,236.23	7,965.00	19.76	34.72	158.95	-1,662.18	302.80	2,042.63	2,003.31	39.33	51.940	
8,100.00	8,076.87	8,236.23	7,965.00	19.95	34.72	158.95	-1,662.18	302.80	2,045.66	2,006.13	39.53	51.747	
8,200.00	8,176.87	8,236.23	7,965.00	20.15	34.72	158.95	-1,662.18	302.80	2,053.56	2,013.82	39.74	51.678	
8,300.00	8,276.87	8,236.23	7,965.00	20.35	34.72	158.95	-1,662.18	302.80	2,066.27	2,026.33	39.94	51.729	
8,378.13	8,355.00	8,236.23	7,965.00	20.50	34.72	158.95	-1,662.18	302.80	2,079.50	2,039.39	40.11	51.851	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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 12-3
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 12-3
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 12-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 12-3	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 12-3
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°

